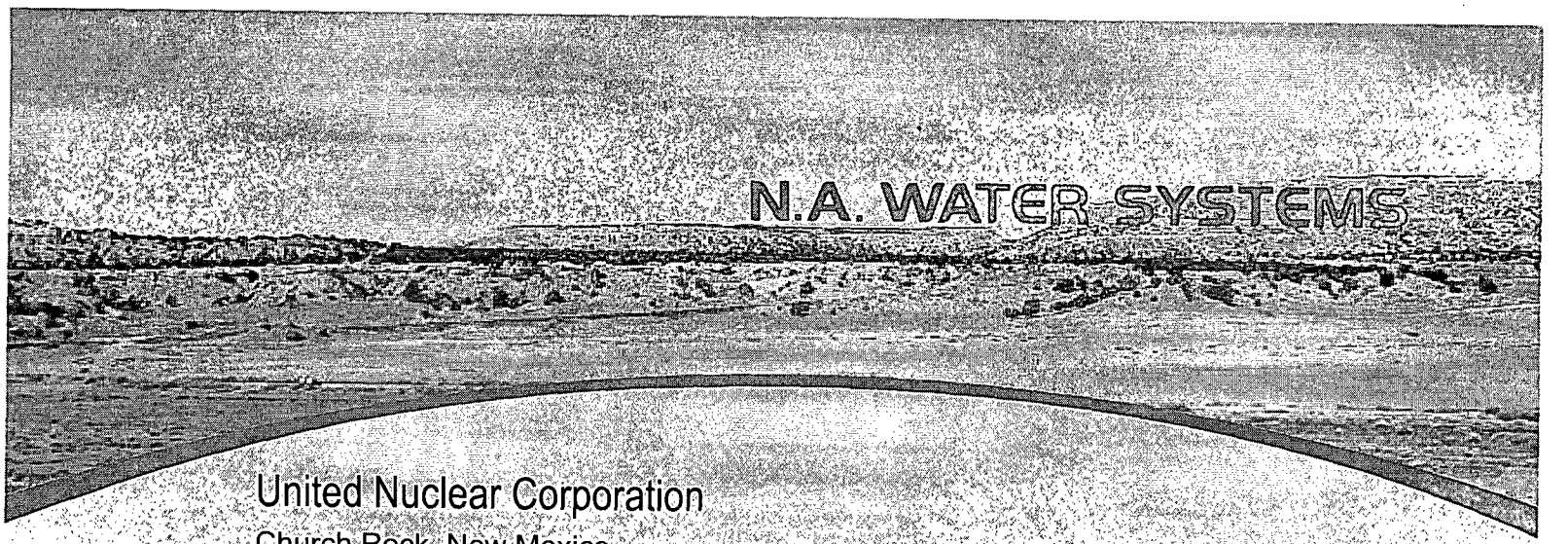

United Nuclear Corporation

Church Rock, New Mexico

Alternate Concentration Limits Application Zone 1 of the Lower Gallup Sandstone Formation

December 2008

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UNITED NUCLEAR CORPORATION
CHURCH ROCK, NEW MEXICO

ALTERNATE CONCENTRATION LIMITS APPLICATION ZONE 1 OF THE LOWER GALLUP SANDSTONE FORMATION

DECEMBER 2008

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Alternate Concentration Limits Application
Zone 1 of the Lower Gallup Sandstone Formation
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Alternate Concentration Limits Application Executive Summary

E.1 Background

E.1.1 Introduction

United Nuclear Corporation (UNC) is applying for Alternate Concentration Limits (ACLs) in the Zone 1 sandstone at their Church Rock mill and tailings disposal area (Site). Zone 1 is the deepest of the three hydrostratigraphic units at the Site that have groundwater impacted by tailings seepage. This ACL application is being submitted to the U.S. Nuclear Regulatory Commission (NRC) and it has been developed in accordance with appropriate NRC regulatory guidance for Title II tailings sites. The Site Source Materials License (License) is SUA-1475.

This ACL application addresses two constituents of concern: nickel in point-of-compliance (POC) well 604, and total trihalomethanes (TTHMs; effectively chloroform) in POC well 614. Both of these monitoring wells are located within Section 2, which is owned by UNC and which contains the tailings disposal area. ACLs are being requested because groundwater in Zone 1 has been remediated to the maximum extent practicable and the contaminants, while present at concentrations exceeding the current Site License Groundwater Protection Standards (GWPS), pose no significant risk to human health or the environment.

The contamination in Zone 1 originated as tailings seepage from Borrow Pit No. 2 in the Central Cell. Previous corrective action in Zone 1 has consisted of source remediation (neutralization and later dewatering and capping of Borrow Pit No. 2), and pumping a series of extraction wells from 1984 through 1999. Remedial pumping systems met their decommissioning criteria due to well yields declining to less than 1 gpm, and the remaining three extraction wells were shut down in 1999. Subsequently, natural processes have controlled the extent and degree of seepage impact in both Section 2 (which contains the tailings disposal area) and Section 1 (off-Site to the east of Section 2).

The seepage impacted area is delineated by low pH, elevated chloride, and elevated levels of metals and radionuclides. The impacted area is limited in extent due to the low transmissivity of the Zone 1 sandstone, and the effective natural attenuation processes occurring downgradient of the former borrow pit. These processes include precipitation, adsorption, degradation, radioactive decay, dispersion, and dilution.

The groundwater that has been impacted by this seepage is anthropogenic and originated with deep-mine dewatering discharge into the alluvium located topographically upgradient of the Site. This mine water discharge ceased in 1986. The mine-discharge water is referred to as post-mining, pre-tailings water and is

considered the background water for the Site in the U.S. Environmental Protection Agency (EPA) Record of Decision (ROD, issued in September 1988). Seepage impacts in Zone 1 have been decreasing since 1989 in response to source remediation and natural geochemical processes. Outside the UNC property boundary there are no exceedances of License GWPS in Zone 1.

E.1.2 Facility Description

UNC operated the Site as a conventional uranium milling operation which was active from 1977 to 1982. Tailings generated by the mill operation were hydraulically deposited over a 100-acre disposal area. The tailings disposal area is subdivided by dikes into three cells identified as the South Cell, Central Cell, and North Cell. The mill has been decommissioned and reclaimed, and the tailings disposal area capped with a low-permeability cover, dewatered, and reclaimed. Reclamation is complete except for the two lined impoundments overlying the South Cell that are used to evaporate recovered groundwater.

The Site has multiple designated hydrostratigraphic units. As part of its CERCLA action, the EPA has designated that the groundwater operable unit consists of the Southwest Alluvium, Zone 1, and Zone 3. These units were not saturated prior to the discharge of mine water to the Pipeline Arroyo, which infiltrated into the alluvium and then into the Zone 1 and Zone 3 sandstone formations.

E.1.3 Extent of Groundwater Contamination

Zone 1 tailings-seepage groundwater impact originated at Borrow Pit No. 2 and has migrated to the east and northeast (see Figure 8). The seepage-impacted area comprises a core zone of low pH located immediately east of the reclaimed borrow pit. The core zone shows elevated concentrations of metals, radionuclides, and TTHMs. The area of seepage impact (approximately 30 acres) extends 1500 feet to the northeast of the former borrow pit, and it has been stable to diminishing over the last 10 years.

E.1.4 Current Groundwater Protection Standards

Site License GWPS and ROD cleanup levels have been established by NRC and EPA, respectively. These standards are summarized in Table 4 and are based on state and federal regulations, health criteria, and background concentrations.

The License GWPS for nickel is 0.05 mg/L; this is the same value found in 10 CFR Appendix A to Part 40. The New Mexico Water Quality Control Commission (NMWQCC) standard for nickel is 0.2 mg/L.

The License GWPS for TTHMs is 0.08 mg/L; this is the same value as the federal Maximum Concentration Level (MCL). The NMWQCC standard for TTHMs is 0.1 mg/L.

E.1.5 Proposed Alternate Concentration Limits

In developing the proposed ACLs, UNC has conducted concentration trend analyses from the final shutoff of Zone 1 pumping wells in July 1999 through October 2007. These analyses address nickel in POC well 604 and TTHMs in POC well 614. In addition, historic groundwater quality has been reviewed for all monitoring wells in Zone 1. Based on these observations, UNC proposes the ACL of 0.4 mg/L for nickel at POC well 604, and the ACL of 0.3 mg/L for TTHMs at POC well 614.

UNC proposes a potential point-of-exposure (POE) along a north-northwest trending vertical plane aligned through POC wells EPA-5 and EPA-7 in Section 1. This is located downgradient of and near the eastern boundary of Section 2. Designation of the potential POE along the eastern boundary of Section 2 (which contains the tailings disposal area) is not feasible because the two POC wells for which the ACLs are being requested (604 and 614) are coincident with this same eastern boundary. The appropriateness of utilizing EPA-5 and EPA-7 as POEs is based on their proximity to the Section 2 boundary (located 250 feet and 190 feet east of the boundary, respectively) and their extensive histories of groundwater quality monitoring.

E.2 Hazard Assessment

E.2.1 Source and Contaminant Characterization

The UNC uranium mill processed uranium ore using the acid-leach solvent extraction process. An estimated 3.5 million tons of tailings were hydraulically deposited in the unlined tailings impoundments. UNC and NRC provided EPA with several tailings analyses used to characterize byproduct solids and liquids (see Table 7). From these analyses, the tailings fluids were characterized as an acidic, high dissolved-solids water with sulfate, ammonia and sodium as principal ions. Metal analyses, particularly aluminum, manganese, and iron were over 1,000 mg/L. Radioactivity as represented by thorium-230 in the tailings ranged to 2.8×10^5 pCi/L.

Borrow Pit No. 2 was used to store tailings liquids from late 1979 to mid-1982, when milling operations shut down. Starting early in 1982, the acidic tailings liquids were neutralized in the pit by adding lime. After milling ceased, the pit was used to store neutralized water generated by corrective action pump-back wells. Later the pit was dewatered and filled with construction debris from the decommissioned mill.

Zone 1 tailings-seepage groundwater impact originated at Borrow Pit No. 2 and has migrated to the east and northeast (see Figure 8). The outer boundary of the impacted area has been delineated by mapping pH and chloride. The seepage-impacted area comprises a core zone of low pH located immediately east of the reclaimed borrow pit. The core zone shows elevated concentrations of metals, radionuclides, and TTHMs. The area of seepage impact (approximately 30 acres)

extends 1500 feet to the northeast of the borrow pit, and it has been stable to diminishing over the last 10 years.

E.2.2 Constituents of Concern

Constituents of concern listed in the ROD are presented in the left column of Table 4. It should be noted that some of these constituents are non-hazardous; for example, sulfate, and total dissolved solids (TDS).

E.2.3 Health and Environmental Risks of Constituents

EPA prepared a Public Health Assessment of the UNC Church Rock Site, which was published as Chapter 4 of the Feasibility Study (August 1988). The ROD indicates that although there was no exposure at that time to local residents from ingestion of groundwater in domestic and livestock wells within four miles of the Site, EPA concluded that adverse health or environmental hazards could result if no action was taken to prevent exposure to groundwater contaminants found at the Site. This conclusion would not change if the human health risk assessment were updated using similar exposure assumptions and new or revised toxicity values, or health-based standards, because these factors have become more conservative over time.

E.3 Exposure Assessment

E.3.1 Transport and Pathway Assessment

The Zone 1 sandstone is hydrologically isolated, bounded above and below by shale and coal aquitards, except where this inclined layer truncates beneath the alluvium. The local groundwater system is anthropogenic, having formed as a result of percolating mine water that was discharged to Pipeline Arroyo alluvium from 1968 to 1986. The anthropogenic groundwater entered Zone 1 in localized areas of contact with the alluvium. The chemistry of the Site groundwater is highly variable due to the short time period (~ 40 years) that the anthropogenic groundwater system has existed and the heterogeneous nature of the local geologic formations with which it is in contact.

Zone 1 natural attenuation processes restrict the migration of constituents and decrease their concentrations. Metals and radionuclides are largely confined to the core zone of the impacted groundwater, where pH is low. As pH rises due to buffering of the seepage by the Zone 1 sandstone and background water, the metals and radionuclides precipitate out of solution and become immobile.

UNC proposes a potential POE along a north-northwest trending vertical plane through POC wells EPA-5 and EPA-7 within Section 1. Trend analyses of constituents indicate they attenuate to within the License standards at these proposed POE wells. This is also the case a short distance upgradient to the

southwest, along the Section 2 property boundary, with the exceptions of nickel at POC well 604 and TTHMs at POC well 614 – these specific constituents are the bases of this ACL application.

UNC has calculated Zone 1 Darcy seepage groundwater velocities for various dates from 1983 to 2007. Over this time period, the groundwater flow direction azimuth has rotated counter-clockwise from 63° to 24°, and the flow rate has decreased from 93 ft/yr to 40 ft/yr (a reduction of 57 percent). The extent of Zone 1 seepage impacts has been stable to diminishing for the last 10 years. In light of the groundwater flow velocities over the last 10 years, the spatial stability of the impacted area empirically indicates the effectiveness of natural processes in reducing constituent concentrations and constraining constituent transport.

E.3.2 Human Exposure Potential

There is no potential for human exposure to Zone 1 groundwater in the property owned by UNC (Sections 2 and 36), except during the quarterly groundwater sampling conducted by UNC personnel. No groundwater supply wells drawing on Zone 1 will be allowed on UNC property, and the same restriction will apply once this property is turned over to the DOE for long-term surveillance monitoring.

E.3.3 Environmental Exposure Potential

No Site groundwater naturally discharges to any bodies of surface water. Current potential effects on the ecology are mainly from the discharge of pumped water from Zone 3, and purged water from quarterly groundwater sampling, into the evaporation ponds on the South Cell. Over the years there have been occasional breaches of the Site fencing resulting in sheep or cattle drinking from the evaporation ponds. These events were rectified by Site staff as soon as they were observed. Recently, key stretches of the Site fencing have been physically bolstered and the frequency of incursions has dropped.

E.4 Corrective Action Assessment

E.4.1 Previous and Current Corrective Action Programs

Previous corrective action in Zone 1 consisted of source remediation (neutralization and later dewatering and capping of Borrow Pit No. 2), and pumping a series of extraction wells from 1984 through 1999. UNC has conducted 17 years of active remediation in Zone 1.

The effectiveness of the former pumping systems was greatly reduced due to declining water levels and decreased contaminant concentrations. Natural attenuation has been the only remediation process used since the cessation of pumping.

E.4.2 Potential Corrective Action Alternatives

Two other corrective action alternatives are considered below: flooding and flushing of the Zone 1 unit. Neither of these alternatives are concluded to be practicable. There are no practicable active corrective actions for controlling, reducing, mitigating, or eliminating groundwater contamination. Zone 1 has already been dewatered to the extent feasible. The most effective alternative considered is to apply ACLs, possibly in conjunction with Institutional Controls (ICs).

Injection-well flooding is inadvisable because it will cause groundwater mounding in the area surrounding the injection wells. This would increase the local hydraulic gradients and the groundwater flow rates. In turn, this would reduce the present efficacy of natural attenuation by reducing the groundwater contact time with the Zone 1 bedrock. The long-term reductions in groundwater levels, in the updip area of Zone 1, have promoted effective natural attenuation by neutralization, adsorption, and degradation.

The low hydraulic conductivity of Zone 1 is problematic. This has been a significant factor in the poor well productivity characteristic of this unit, and the related need to decommission all the former pumping wells. This factor presents significant technical challenges to any attempts to create a long-term injection well field. Furthermore, any such injection wells would have to be located in the easternmost part of Section 2, between the eastern edge of the Central Cell and the property boundary, in order to be located upgradient of the impacted water while on UNC property (see Figures 2 and 8). Such injection locations would very likely result in the displacement of the most impacted water to the east and north-northeast, onto Section 1.

Next we consider the case of flushing of the Zone 1 unit. Again, the low hydraulic conductivity of this bedrock is a significant impediment; it would prohibit the effective application of flushing. Flushing requires coordinating the flow rates of injection wells and extraction wells. The following issues are important to consider: (1) the requirement to keep all injection and extraction wellheads on UNC property; (2) the narrowness of the strip of land between the eastern edge of the Central Cell and the Section 1 boundary (approximately 125 ft measured along an east-west direction); and (3) the groundwater flow direction is toward the north-northeast. Based on these spatial and technical considerations, UNC concludes that flushing of Zone 1 impacted water is not a feasible remedial option. This conclusion is consistent with the results of the recent attempt to create a flushing system in Zone 3 of the Gallup Sandstone. This attempt to inject alkalinity-charged water into the sandstone was terminated because the attainable injection rates were far lower than anticipated (ARCADIS BBL, 2007).

UNC has proposed ICs for Zone 1 groundwater in Section 1, which is Indian Trust Land. They proposed adoption of a basic IC framework that includes an environmental right-of-way and a Tribal Resolution (Davis, Graham & Stubbs,

2001b). It should be noted that Zone 1 hydraulic characteristics are not compatible with the objective of viable supply wells (Earth Tech, 1999a). Also, Zone 1 is entirely unsaturated approximately 800 feet to the east of the seepage-impacted area. Therefore, the proposed ICs for Zone 1 would not affect a viable resource.

E.4.3 Feasibility of Corrective Action Alternatives

Alternative corrective actions were considered in the ROD, but the agencies approved the pump-back system as the most reasonable alternative that was protective of human health and the environment. The ROD required the pump-back system to operate until Borrow Pit No. 2 was dewatered and adequate dissipation of the tailings seepage mound had been achieved. Monitoring data show that the seepage mound is dissipating naturally following the remediation of the borrow pit.

As discussed earlier, there are no practicable active corrective actions for controlling, reducing, mitigating, or eliminating the remaining groundwater contamination. The extent of seepage-impacted water has been stable to diminishing over the last 10 years. The most effective alternative considered is implementation of the proposed ACLs, in conjunction with ongoing attenuation by natural processes.

E.4.4 Costs and Benefits of Correction Action Alternatives

UNC proposes a compliance period of Zone 1 groundwater monitoring of two more years at a quarterly frequency (subsequent to approval of this ACL application). This is sufficient because groundwater quality data covering 19 years (1989 to 2008) is available for many of the existing monitoring wells, and Zone 1 water quality trends are well established. After two more years of quarterly monitoring UNC proposes to reduce the monitoring frequency to once per year, until the Site is closed and turned over to DOE for long-term care.

UNC proposes a remedial alternative of No Further Action (which includes the compliance period monitoring outlined in the previous paragraph), and ACLs, with the possible addition of ICs, if approved. The estimated costs are: (1) $20,000 per year for Zone 1 groundwater monitoring for the first two years, and $8,000 per year for the succeeding years; and (2) implementation of ACLs does not involve direct costs.

Benefits would result from the combined program of No Further Action and ACLs. The addition of ICs in Section 1, if approved, would provide an additional layer of protectiveness, if amenable to other stakeholders. No Further Action encompasses the continuation of natural attenuation processes in Zone 1. Adoption of ACLs will be an important step toward Site closure. It is important to note that there are no exceedances of the GWPS in Section 1.

There are no groundwater supply wells in Zone 1. Off-site supply wells might target potable supplies in underlying formations, principally the Dakota Formation. Off-site wells tapping the deeper Westwater Canyon Member of the Jurassic-age Morrison

Formation may also yield potable supplies where they are not in proximity to uranium mineralization. None of the underlying formations that could potentially yield potable water supplies could be impacted by the Site because of the significant intervening thickness of the Mancos Shale.

E.4.5 As Low as Reasonably Achievable Demonstration

Four Zone 1 pump-back wells were temporarily reactivated in 1991 to demonstrate that As Low as Reasonably Achievable (ALARA) constituent concentrations had been achieved in Zone 1. The ALARA demonstration was conducted in accord with UNC's June 1991 Proposal for Temporary Reactivation of Zone 1 Pumping Wells, which was reviewed and approved by NRC and EPA in July 1991.

Data collected in conjunction with the ALARA demonstration indicate that little mass can be removed due to the low extraction rate of the Zone 1 wells. Extraction pumping had negligible effect on water levels or water quality in this hydrostratigraphic unit. These results are consistent with data previously collected for Zone 1, which has low transmissivity and saturated thickness. These results also support the conclusion of the corrective action assessment that the No Further Action alternative is protective of human health and the environment because the constituents of concern have been removed to levels that are ALARA and there are no exceedances of hazardous constituents in Section 1.

E.4.6 Proposed Implementation Measures

The proposed ACLs could only be exceeded if the effects of natural attenuation were to be reversed. However, monitoring data reveal this outcome to be unlikely because concentrations of regulated constituents have been stable to diminishing for a decade or longer.

The proposed compliance period would continue the current, quarterly groundwater monitoring program for two years, and then would be scaled back to annual monitoring until the Site is transferred to DOE. In the unlikely event that the ACLs are exceeded the quarterly monitoring program would be extended beyond the proposed two-year period.

E.5 Conclusions

Since the termination of pumping, constituent concentrations have progressively reduced through natural geochemical processes (see the detailed discussion of all constituents in the 2007 annual review report, N.A. Water Systems, 2008a). Nickel and chloroform are being immobilized and will not migrate any further. The analysis in this document confirms that the spatial extent of Zone 1 seepage impact is stable to diminishing, and that natural attenuation by neutralization (buffering) and

adsorption is occurring for the metals (including nickel), and that attenuation by degradation, dilution, and dispersion is occurring for chloroform (Table 5).

Hypothetically, one could model the transport processes. Instead, our approach utilizes long-term empirical hydraulic and chemical data to show the actual results of the processes that might have been modeled. This approach is direct and avoids the encumbrances of applying, for example, adsorption coefficients and retardation factors. Such empirical analysis is supported by the STP (NRC, 1996a, p. 17): "When possible, the hydrogeologic characterization should be based on actual measurements and monitoring records . . . Contaminant transport and attenuation estimates can be based on site measurements and monitoring records . . ."

The key conclusions in this ACL application are summarized below:

- There is no nickel or chloroform at concentrations above standards in any Section 1 well.
- The long monitoring history provides more than sufficient time to detect exceedances and to evaluate trends.
- Source area concentrations within Section 2 show decreasing long-term trends.
- Constituent concentrations progressively decrease downgradient.
- Hydraulic gradients and groundwater flow rates are diminishing over time.
- Groundwater quality is expected to continue its improvement at the proposed POE from levels already below Site standards.
- There are no Zone 1 exceedances of the License GWPS in Section 36 (UNC property) or Section 1 (Indian Trust Land property), nor are there exceedances of any hazardous constituents within impacted water outside of Section 2.
- The proposed Zone 1 remedy of No Further Action plus ACLs will be protective of human health and the environment.
- UNC has demonstrated ALARA conditions in Zone 1.

Alternate Concentration Limits Application
Section 1
General Information

1.1 Introduction

The U.S. Nuclear Regulatory Commission (NRC) has authority to review Alternate Concentration Limit (ACL) applications in accordance with the requirements of the following regulatory guidance:

- *Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978* (NRC, June 2003; NUREG-1620, Rev. 1, Final Report (see especially Section 4.3 and Appendix K)); herein referred to as UMTRCA Title II; and
- *10 CFR Part 40, Appendix A – Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material from Ores* (see especially the 19 ACL factors under Criterion 5B(6)).

This ACL application has also been developed in reference to the *Staff Technical Position, Alternate Concentration Limits for Title II Uranium Mills* (STP) (NRC, January 1996a).

The UMTRCA Title II program is directed toward uranium mill sites licensed by the NRC or Agreement States in or after 1978. Title II of the Act provides:

- NRC authority to control radiological and non-radiological hazards.
- EPA authority to set generally applicable standards for both radiological and non-radiological hazards.
- Eventual State or Federal ownership of the disposal sites, under general license from NRC.

Table 1 of the STP reiterates the 19 ACL factors considered in making present and potential hazard findings: nine of these factors concern potential adverse effects on groundwater quality, and the other 10 address potential adverse effects on hydraulically connected surface water quality. We anticipate that the NRC review process will focus primarily on the three hazard-assessment and four corrective-action assessment elements that are discussed in Section 3.2.3 of the STP and summarized in this document. Approval of ACLs as groundwater protection standards requires demonstration that the hazardous constituents in the groundwater will not pose a potential future hazard to human health and the environment if the ACLs are not exceeded. After consideration of practicable corrective actions, ACLs must be demonstrated to be as low as reasonably achievable (ALARA).

This ACL application focuses on two site-related constituents of potential concern that are present in concentrations that exceed federal maximum contaminant levels (MCLs) or background concentrations in Zone 1 groundwater that is immediately downgradient of the central disposal cell, but within UNC property in Section 2: nickel in point-of-compliance (POC) well 604, and total trihalomethanes (effectively chloroform) in POC well 614.

The NRC is the lead federal agency regulating the remediation, reclamation, and closure activities completed at the Church Rock Site, pursuant to Source Materials License No. SUA-1475 (License). Once those activities are completed and the NRC terminates the License, the property will be released and turned over to the United States Department of Energy (DOE) for long-term surveillance monitoring. This transfer is dictated by the UMTRCA Title II program, which directs DOE to stabilize, dispose of, and control uranium mill tailings at inactive mill sites (DOE, 1999).

Under a site-specific 1988 Memorandum of Understanding (MOU) between the EPA and the NRC, the EPA is responsible for offsite groundwater contamination and the NRC is the lead agency for the surface reclamation, source control, and groundwater quality within the license boundaries. The EPA Record of Decision (ROD; 1988c) states on p. 41 that, "Upon approval of a final reclamation plan, both groundwater and source control/surface reclamation remedial actions will be integrated and coordinated to achieve comprehensive reclamation and remediation of the site."

The MOU assigns responsibility to the NRC for the following activities:

- Control of surface erosion and runoff.
- Mill closure.
- Capping of tailings disposal area after dewatering.
- Cleanup of windblown tailings outside the disposal area.
- Pumping and treatment of contaminated groundwater in the tailings disposal area in accordance with EPA's requirements in order to meet both agencies' standards.
- Groundwater monitoring.
- Perpetual care of the closed site under the DOE.

1.2 Facility Description

The United Nuclear Corporation's (UNC) Church Rock mill tailings site ("Site") is located approximately 17 miles northeast of Church Rock, McKinley County, New Mexico (see Figure 1). Figure 2 is a Site map that shows the location of the decommissioned and temporarily idled extraction wells, performance monitoring wells, evaporation ponds, and reclaimed tailings areas. Figure 2 also shows the original Remedial Action Target Areas for each of the three hydrostratigraphic units,

where the impacts of tailings seepage were originally identified and corrective action was implemented (EPA, 1988a). The Zone 1 hydrostratigraphic unit is the subject of this ACL application; the hydrogeology of Zone 1 is discussed later in this section of the application.

Table 1 summarizes the quarterly Zone 1 groundwater performance monitoring program for the 2008 operating year. Water elevations are measured in 15 of the Zone 1 wells and water quality samples are collected from 8 wells. Table 1 also indicates the NRC designations of point-of-compliance (POC) wells: 604 and 614 are within Section 2 (on UNC property); EPA-4, EPA-5, and EPA-7 are within Section 1 (outside of UNC property).

Key background information is summarized in this ACL application. Annual performance reviews of the Site groundwater corrective action are submitted by UNC pursuant to License Condition 30C. Additional background information on Site facilities and activities is available in the annual review reports (Canonie Environmental Services Corp. [Canonie], 1989b, 1990, 1991, 1992, 1993 and 1995; Smith Technology Corporation, 1995 and 1996; Rust Environment and Infrastructure, 1997; Earth Tech, 1998, 1999, 2000e, 2002a and 2002b; USFilter, 2004a; and N.A. Water Systems, 2004, 2005, 2007, and 2008a).

1.2.1 Physical Characteristics

UNC operated the Site as a conventional uranium mill facility from 1977 to 1982. The Site includes a former ore processing mill and tailings disposal area, which cover about 25 and 100 acres, respectively (Figure 2). The tailings disposal area is subdivided by dikes into three cells identified as the South Cell, Central Cell, and North Cell.

Pipeline Canyon runs through the Site from northeast to southwest. Site alluvium occurs along this drainage feature, including its floodplain. Upslope, Pipeline Canyon passes into Pipeline Arroyo (into which deep uranium mine water was formerly discharged). Pipeline Canyon is locally flanked by gentle mesas and land that has been regraded in conjunction with milling and former waste handling activities.

The Site lies in an arid desert climate with an average annual precipitation rate of 10.6 inches per year. The evapotranspiration rate is estimated at 61 inches per year (MWH, 2004). The Site alluvium groundwater flows toward the southwest (in the same direction as the intermittent and seasonal surface water flow along Pipeline Arroyo and Pipeline Canyon).

1.2.2 Site Hydrogeology

The Site is situated on alluvial valley fill and sandstones and shales of Cretaceous age. The stratigraphic units identified in the vicinity of the Site, in descending order, are as follows:

- Southwest Alluvium
- Dilco Member of the Crevasse Canyon Formation
- Gallup Sandstone

  Zone 3, upper sandstone

  Zone 2, shale and coal

  Zone 1, lower sandstone
- Mancos Shale
- Dakota Formation
- Morrison Formation (contains Westwater Canyon Member)

The Mancos Shale, which has very low permeability, acts as an aquitard to prevent or retard the downward migration of groundwater. Deep mine shaft pits indicate that the Mancos Shale is approximately 870 feet thick in the vicinity of the Site.

Geologic mapping shows the sedimentary bedrock layers are overall very gently dipping (inclined) toward the north by 2° to 3° (though the bed contacts undulate and are locally flexured).

The Site has multiple designated hydrostratigraphic units. The EPA has designated that the groundwater operable unit consists of the Southwest Alluvium, Zone 1, and Zone 3. These units were not saturated in the Site vicinity prior to the discharge of mine water to the Pipeline Arroyo, which infiltrated into the alluvium and then into Zone 3 and Zone 1. The mine-discharge water is referred to as post-mining, pre-tailings water and is considered the background water for the Site in the EPA ROD. Seepage from the tailings, which were deposited in the tailings disposal area beginning in 1977 and in accord with industry-standard procedures, impacted this background water. Impact from the tailings seepage has been observed in the alluvium to the west and southwest of the tailings impoundment (Southwest Alluvium) and in Zone 3 and Zone 1 to the north, northeast and east of the impoundment (e.g., EPA, 1988c).

Groundwater in the Southwest Alluvium flows to the southwest along Pipeline Arroyo. Groundwater in Zones 1 and 3 flows to the north to northeast. The source of the water in all three hydrostratigraphic zones is mine-discharge water infiltration. Water levels in all three zones reached their highest levels between 1977 and 1986 and have been steadily declining since the mine water discharge ceased in 1986.

Zone 1 consists of fine- to medium-grained massive sandstone with thin beds of carbonaceous shale and coal. The clay and shale content increases with depth. In the area of the Site the thickness of this unit ranges from 80 to 90 feet. Early hydraulic testing showed that the average permeability of Zone 1 is 10^{-4} cm/s with an average transmissivity of 150 gpd/ft (Canonie, 1987). The transmissivity has been reduced by subsequent drainage.

Figure 3 shows a geologic map of the Site (Canonie, 1987). The subcrop of Zone 1 is shown with the horizontal continuous and dashed lines. Borrow Pits Nos. 1 and 2 are shown along the eastern half of the Central Cell (compare with Figure 2). Figure 4 shows a geologic cross section along line E-E (trending northeast-southwest and located in Figure 3). The Zone 1 sandstone in Figure 4 is labeled as $KguZ_1$. The estimated water levels from May 1986 are shown for Zone 1. Zone 1 dips very gently toward the north. The Zone 1 potentiometric surface is separate from the Zone 3 potentiometric surface because the stratigraphically intervening Zone 2 acts as an aquitard.

Historic water level data for Zone 1 wells through October 2007 are presented in Appendix A. Water levels through time are shown on Figure 5. Water levels for October 2007 are shown on the potentiometric surface map in Figure 6. The equipotential contours on this map indicate that groundwater flow is from the south-southwest to the northeast. There is no measurable recharge occurring in Zone 1. Since the cessation of mine-water discharge in 1986, Zone 1 has been gradually dewatering under the combined influence of earlier pumping and ongoing dissipation of the groundwater mound in the alluvium to the west of Borrow Pit No. 2. Saturated thicknesses calculated from the October 2007 measurements in Zone 1 are presented in Table 2. This table shows that the Zone 1 hydrostratigraphic unit remains completely saturated in most of the downdip wells: 505-A, 502-A, and 412 (in Section 36), and (TWQ)142 and (TWQ)143 (along the northern boundary of Section 36) (see Figure 6). However, during 2007, most of the updip wells continued to show overall decreasing piezometric elevations (usually with small fluctuations), indicating that the Zone 1 potentiometric field continues to become lower as the groundwater further dissipates into unsaturated parts of this bedrock stratigraphic unit.

Changes of piezometric elevations in updip and downdip wells indicate the broad pattern of the shift in the potentiometric field caused by groundwater drainage to the northeast in Zone 1. Groundwater levels in well 504-A have risen gradually and may become fully saturated as groundwater migrates to this portion of the confined Zone 1 hydrostratigraphic unit (see Table 2; Figures 5 and 6; and Appendix A). Similarly, the slowly rising groundwater levels at downdip wells 142, 143, and 412 represent increasing potentiometric levels within these 100-percent saturated parts of the fully confined Zone 1 hydrostratigraphic unit. Long-term decreasing water levels updip to the south-southwest, at locations under less than fully saturated conditions, represent the slow dissipation of head levels there as groundwater continues to flow toward the fully saturated parts of the system.

Earlier groundwater flow in Zone 1 was approximately eastward, reflecting groundwater mounding and recharge within the alluvium to the west and Borrow Pit No. 2. Since the dewatering of Borrow Pit No. 2 and termination of mine water discharge into Pipeline Arroyo, the former mounding has dissipated. Consequently,

water levels in updip areas of Zone 1 have dropped significantly, though the rate of decline has reduced with the dissipation of recharge-induced mounding (see Figure 5). The rate of groundwater drainage is limited by the unit's relatively low transmissivity, and the very low transmissivity of the confining units above and below Zone 1.

1.2.3 Surface Water Conditions

Seasonal and intermittent surface water flows in Pipeline Arroyo and Pipeline Canyon. Pipeline Canyon meets the Puerco River several miles to the south of the Site.

Except for occasional surface runoff during storms and snowmelt, there is no local surface water flow other than Pipeline Canyon. Groundwater present locally in the alluvium infiltrates and recharges the bedrock units. None of the groundwater in Zone 3 or Zone 1 discharges to a surface water body. This means that there are no potential adverse effects on hydraulically connected surface-water quality per 10 CFR Part 40, Appendix A, Criterion 5B(6). The 10 factors cited in the latter regulation, addressing potential surface water impact, are not relevant to the Zone 1 groundwater and are not further considered in this ACL application.

1.2.4 Land and Resource Use in the Area

The Site was historically used to mill uranium and for related activities. Operation of the Northeast Church Rock Mine (location shown on Figure 2) began in 1968. Uranium milling activities started in 1977 and ceased in 1982, and the tailings disposal areas have since been closed in accord with UNC's NRC License for radioactive material. Currently, activities at the Site are limited to operations and maintenance of the groundwater corrective action program and the tailings cap. Six full-time employees work at the Site and there is one employee residence on the Site near the former milling building. Both the residence and the Site use bottled water for drinking. An on-Site well drilled into the Westwater Canyon Member of the Morrison Formation, below the Mancos Shale, supplies other Site uses.

The surrounding lands include the Navajo Reservation, Tribal Trust Land, Indian Allotment Land, and UNC-owned property. These lands are sparsely populated and the primary land use near the Site is grazing for sheep, cattle, and horses. Land use has not changed since the issuance of the ROD.

Four water wells are within a four-mile radius, the nearest being 1.7 miles northeast of the Site; however, nearby residents are reported to use bottled water for drinking (cited from EPA, 2008). Larry Bush (Vice-President of UNC and Site operations manager) stated that he is aware of one windmill well, located approximately 1.5 miles north of the Site, that probably taps the upper sandstone (correlative with the

Zone 3 sandstone) within the Gallup Sandstone. This well water is used only for cattle.

The Fort Defiance Housing Corporation, in conjunction with the U.S. Department of Housing and Urban Development and the Navajo Housing Authority, is planning to develop a 1000-unit housing complex in the vicinity of Springstead (seven miles to the southwest of the Site).

Hydro Resources, Inc., has received approval from NRC for their plan to conduct in-situ leach mining in the area, and it intends to begin mining upon receiving its Underground Injection Control Permit.

1.3 Extent of Groundwater Contamination

1.3.1 History of Groundwater Contamination

The UNC uranium mill was granted a radioactive materials license by the State of New Mexico in May 1977 and operated from June 1977 to May 1982. The mill was designed to process 4,000 tons of ore per day and extracted uranium using conventional crushing, grinding, and acid-leach solvent extraction methods. Uranium ore processed at the Site came from the Northeast Church Rock Mine and the Old Church Rock Mine. The average ore grade processed was approximately 0.12% uranium oxide. The milling of uranium ore produced an acidic slurry of ground waste rock and fluid (tailings) that was pumped to the tailings disposal site. An estimated 3.5 million tons of tailings were hydraulically deposited over a 100-acre disposal area in the tailings impoundments (EPA, 1998).

The North Cell has been the primary source of tailings seepage into the alluvium and Zone 3. However, Zone 1 was not affected by the seepage from the North Cell because it is hydraulically separated from this source by Zone 2.

Two soil borrow pits (Pits Nos. 1 and 2) were present in the eastern half of the Central Cell. Borrow Pit No. 1 was used to dispose of tailings and Borrow Pit No. 2 was used to retain tailings liquids (EPA, 1988c). The liquid stored in Borrow Pit No. 2 was neutralized starting in 1983 and this pit was dewatered by April 1989. However, it has been proposed (Canonie, 1987) that prior to 1983, both borrow pits behaved as a single hydraulic unit and provided a source of acidic seepage to the alluvium, Zone 3, and Zone 1.

1.3.2 Groundwater Contamination

The Northeast Church Rock Mine operated from 1968 through 1982. Water was discharged to the northwest branch of Pipeline Arroyo at a location just north of the mine. Water was also discharged to the arroyo from a nearby mine operated by Quivira (formerly Kerr McGee). Mine water was discharged to the arroyo from March 1969 through February 1986 at an average rate of approximately 3,000 gallons per

minute (gpm). The discharge water locally saturated the previously unsaturated alluvium and the Lower Gallup Sandstone, creating a temporary, artificially high groundwater system in the area immediately surrounding the tailings piles. The Remedial Investigation (RI) estimated that discharge water infiltrated into the alluvium at a rate of 250 gpm (EPA, 1988b). Historical data indicate that, prior to surface water discharges associated with mining and milling operations, a shallow groundwater aquifer did not exist in the area.

The seepage of radioactive and non-radioactive contaminants, and associated constituents, occurred from the tailings disposal cells downward. In some locations the cells are emplaced within alluvium overlying the bedrock; in other locations the cells are in direct contact with the underlying bedrock. The location of the Zone 1 line of cross section in Figures 3 and 4 is to the east of the former borrow pits. The bottom of Borrow Pit No. 2 was in direct contact with the uppermost part of the Zone 1 sandstone.

The tailings seepage impacted all three hydrostratigraphic units at the Site. The distribution of seepage impacts in all three units is shown in Figure 7. Relatively highly impacted groundwater characteristically has relatively low pH (excluding the Southwest Alluvium, which has a relatively high buffering capacity due to the presence of significant matrix carbonate minerals [calcite and dolomite]) and elevated concentrations of sulfate, total dissolved solids (TDS), bicarbonate, chloride, select metals, and select radionuclides. The post-mining, pre-tailings background water, unaffected by tailings seepage, exceeds New Mexico Water Quality Control Commission (NMWQCC) groundwater standards for several constituents, including sulfate and TDS.

Prior to ROD issuance, UNC undertook the following actions under its NRC License. Initial corrective action to address groundwater concerns began with Site-wide tailings seepage investigations and neutralization of the acidic tailings (from 1979 to 1982). Tailings neutralization included the addition of ammonia and lime. The forerunner agency of the New Mexico Environment Department (NMED) required that UNC remediate groundwater in Zone 3 and Zone 1. This remediation, which began in 1982, comprised installing and operating extraction wells to remove tailings fluids, neutralizing the extracted water, and discharging the neutralized water into the tailings disposal cells.

Reclamation and groundwater remediation started in 1986 under the License. A draft reclamation plan was submitted to NRC in 1987 and the final plan was approved in March 1991. The groundwater remediation, required under NRC regulations and the License, was incorporated into the reclamation plan. The corrective action plan (United Nuclear Corporation, 1989a) included cleanup standards for the Site as determined by the NRC.

Under EPA, the Site was placed on the National Priority List in 1983 because tailings seepage impacted groundwater that migrated outside of Section 2. EPA conducted the remedial investigation and feasibility study (RI/FS) field work from March 1984 through August 1987. The objectives of the RI field work were to determine the nature and extent of groundwater contamination in all three hydrostratigraphic units. EPA published the RI and FS reports in August 1988. A Public Health Assessment was included in the FS report.

The RI report concluded that in Zone 1, seepage-impacted groundwater in two areas had migrated northeast and east at least 800 feet from former Borrow Pit No. 2. Contaminants included TDS, acidic pH, nitrates, metals (cadmium, arsenic, and manganese), and radionuclides (thorium, uranium, gross alpha, and gross beta). The earlier depiction of the Zone 1 Remedial Action Target Area in the ROD (EPA, 1988c, their Figure 3-1) was based on exceedances of applicable or relevant and appropriate requirements (ARARs); this area was later refined in the Remedial Design report (Canonie, April 1989, their Figure 3-1) on the basis of pH isoconcentration mapping. Zone 1 has limited buffering capacity and acidic pH can be directly tied to the distribution of tailings seepage.

This refined Zone 1 target area is shown in Figure 2 with two small subareas extending short distances to the east of the eastern margin of the Central Cell. The refined target area in Zone 1 is smaller than, for example, the target area for Zone 3 based on several factors. These factors include the operational history of Borrow Pit No. 2, the low permeability of Zone 1, and the limited area (subcrop) of Zone 1 exposed to tailings liquids. Acidic discharges to Borrow Pit No. 2 occurred only during the period from 1980 to about mid-1982. After mid-1982, all water was neutralized by the addition of lime prior to discharge to the borrow pit so that by 1983, the pH of Borrow Pit No. 2 was neutral. This borrow pit was lined with a 1-foot thick layer of compacted clay. Remedial action also included widespread addition of lime to the tailings disposal cells to neutralize tailings liquids and precipitate metals (United Nuclear Corporation, 1989b).

Since only neutralized water was recharging Zone 1, the acidic water that had previously migrated into Zone 1 was apparently diluted and neutralized (Canonie, 1987; 1989a). During April 1989, Borrow Pit No. 2 was dewatered. Extraction well pumping in Zone 1 was terminated in 1999 and is discussed below in section 4.1 Previous and Current Corrective Action Programs.

Figure 7 shows the distribution of impacted groundwater during October 2007, for all three Site hydrostratigraphic units. Figure 8 provides a closer view of the Zone 1 seepage impact at this same time.

Zone 1 source remediation (neutralization and subsequent dewatering and capping of the borrow pit), continued neutralization of the seepage by natural geochemical processes, and mixing with the background water have reduced concentrations of

most constituents below the Site clean-up standards. However, exceedances of some License constituents still occur in Zone 1 but only within the UNC property boundary (Section 2). Appendix A provides historic constituent concentration data through October 2007. Table 3 summarizes the constituents detected in Zone 1 during October 2007. Constituents whose License GWPS were exceeded on-Site in October 2007 were nickel (Wells 515-A and POC 604) and TTHMs (Wells 515-A and POC 614).

Water quality has continued to improve since shutoff of the pumping wells, indicating that the degree of seepage impact is stable to diminishing. Zone 1 seepage impacts have generally been delineated by chloride concentrations greater than 50 mg/L (Earth Tech, 2000a).

The report *Zone 1 Groundwater Geochemistry* (Earth Tech, 2000a) demonstrates that metals and radionuclides are reduced by natural processes in Zone 1 water as pH increases toward neutral. The acidic "core" of the impacted zone is approximated by the area where pH is inferred to be less than 4.0 (orange area in Figure 8). Figure 9 shows historic pH values for Zone 1 wells through October 2007. Well 604 has persistently shown the lowest pH; as discussed below, it also is the most highly impacted well. However, this well shows a long-term increasing trend in pH values. Figure 9 shows that starting in approximately 1993, acid neutralization and buffering resulted in substantial pH increases in Wells 515-A, 516-A, and EPA-7. Nickel typically does not adsorb sufficiently to reduce its concentration below the GWPS until the pH is approximately 6.5 or more (Earth Tech, 2002d).

The extent of seepage impacts, as delineated by a chloride concentration greater than 50 mg/L, has not changed perceptibly in the past 10 years, including the period since the shutoff of the extraction wells. Nonetheless, many aspects of water quality have continued to improve since shutoff, indicating that the degree of seepage impact is stable to diminishing. Natural processes that reduce constituent concentrations include acid neutralization by (1) reaction with the Zone 1 bedrock (which has a calcite (calcium carbonate) fraction of 0.03 percent (Canonie, 1987, their Table 4.5)); (2) mixing with the neutral background water; (3) precipitation of metals and radionuclides; and (4) adsorption of metals (excluding manganese) and radionuclides. These processes attenuate pH, metals, and other seepage constituents. The relatively low transmissivity of Zone 1 slows migration and increases residence time for the attenuation processes.

Table 3 shows that exceedances of sulfate, TDS, and manganese continue to occur in Section 1, both in a background well (EPA-4) and impacted wells (EPA-5 and EPA-7). None of these three constituents have License GWPS; however, they do have ROD-based cleanup levels (see Table 4). Sulfate and TDS are non-hazardous constituents that have secondary federal MCLs. Subsequent to the ROD, NRC (1996b) evaluated background concentrations for select constituents and proposed revised values of 2125 mg/L for sulfate (the primary component of TDS), 4800 mg/L

for TDS, and 2.8-2.9 mg/L for manganese. However, NRC staff does not support using a manganese background concentration as a remediation standard and stated, "While neutralization of acidic leakage may help to reduce the Mn concentrations, the standard as set in the ROD is probably not achieveable" (1996b, p. 15).

NMED supported the NRC (1996b) proposed background concentrations as Site cleanup standards for sulfate and TDS (and also for a revised nitrate background concentration of 190 mg/L, not further discussed in this ACL application) in a letter to EPA of January 6, 1998. EPA has not formally adopted these revisions.

Table 5 summarizes the predicted performance of the Zone 1 natural attenuation system. This table also indicates whether attainment of Site standards will be met in Section 1 and farther downgradient in Section 36.

Outside the UNC property boundary within Section 1, the post-pumping groundwater quality continues to improve overall (Tables 3 and 4). The October 2007 concentration of cobalt in Well EPA-5, 0.05 mg/L (exactly equal to the EPA and NMED Site standards), means that there are no exceedances of hazardous constituents outside the UNC property boundary within seepage-impacted groundwater (it should be noted that cobalt is not a regulated constituent in either the License or 10 CFR Appendix A to Part 40).

1.4 Current Groundwater Protection Standards

The NRC GWPS are found in License Condition 30B. Table 4 shows both the GWPS and the ROD cleanup levels for the Site.

The License GWPS for nickel is 0.05 mg/L; this is the same value found in 10 CFR Appendix A to Part 40. The NMWQCC standard for nickel is 0.2 mg/L.

The License GWPS for TTHMs is 0.08 mg/L. This is the same value as the federal MCL. The NMWQCC standard for TTHMs is 0.1 mg/L. It should be noted that License Amendment 37 (NRC, August 9, 2006) changed the former chloroform standard to the extant TTHMs standard. This means that prior to October 2006 Site groundwater samples were analyzed and reported for chloroform. Of the four compounds comprising TTHMs, only chloroform is found in Site groundwater.

1.5 Proposed Alternate Concentration Limits

1.5.1 Nickel in Well 604

Figure 10 shows nickel concentrations in all Zone 1 wells from 1989 to October 2007. This chart shows that in October 2007 there were two wells that exceeded the NRC GWPS for nickel, both of which are within Section 2: 515-A and POC 604. Figure 11 shows the inferred extent of nickel exceedances in green.

Figure 12 shows nickel concentrations for POC well 604 from 1989 through October 2007. Both the EPA Site standard for nickel and the NRC GWPS are shown. With the exception of nondetects during January 1996 and April 1997, the concentrations here have always exceeded the GWPS.

Figure 13 shows nickel concentrations for POC well 604 from the final shutoff of Zone 1 pumps in July 1999 through October 2007. This is the most relevant time-frame for the application of trend analysis. The linear best-fit trend line is shown in black on Figure 13 (the equation of this line and its coefficient of determination (R^2) are shown). Although there is a downward trend to the nickel concentrations since shutoff, the coefficient of determination (R^2 = 0.1511) indicates that the correlation between concentration and time is relatively weak. Application of 2nd-order and 3rd-order polynomial best-fit lines (not shown on chart) resulted in correlation coefficients that are still less than 0.2.

Downgradient well EPA-7 has shown nondetects for nickel from April 2003 to July 2008 (Appendix A; Figure 10; Table 6). Downgradient well EPA-5 has shown nondetects for nickel from July 2007 to July 2008 (Appendix A; Figure 10; Table 6). The historic groundwater quality indicates that natural attenuation effectively reduces the nickel concentrations from above the standard within the Section 2 boundary at POC well 604 and well 515-A, to nondetect concentrations at the two closest downgradient wells.

The nickel concentration shown in the last data point from water in well 604 (0.29 mg/L, October 2007) remains well above the GWPS of 0.05 mg/L. During the first three quarters of 2008, the nickel concentrations here were all 0.29 mg/L (Table 6). Although the nickel concentration trend is downward, there is little basis for extrapolating when, if ever, the GWPS would be attained at well 604. Based on the observations discussed in this section, UNC proposes the ACL of 0.4 mg/L for nickel at POC well 604.

Historic groundwater quality monitoring data indicate this proposed ACL concentration does not produce impacts above the GWPS off-Site. The long-term monitoring data provide a solid empirical basis for this statement and they support confident assignment of the proposed ACL of 0.4 mg/L to well 604. The concentration trend in well 604 is downward.

Review of the Zone 1 groundwater velocities (see Section 3.1 Transport and Pathway Assessment, below) indicates that if nickel GWPS exceedances were going to persistently occur in Section 1, then they would have done so by now. Instead, long-term nickel concentrations are declining and below the GWPS in Section 1 POC wells EPA-7 and EPA-5 (see Appendix A and Figure 10). Such empirical observations are better than transport modeling and related projections, and they are better than numeric forecasts of attenuation. Such empirical analysis is supported by the STP (NRC, 1996a, p. 17):

> "When possible, the hydrogeologic characterization should be based on actual measurements and monitoring records... Contaminant transport and attenuation estimates can be based on site measurements and monitoring records..."

UNC's proposed location of the point-of-exposure is discussed below in Section 3.1 Transport and Pathway Assessment.

At the request of EPA, UNC has recently calculated background concentrations for all constituents (data permitting) in all three hydrostratigraphic zones (N.A. Water Systems, 2008b). For Zone 1 the Upper Confidence Limit on the 95th Percentile of the Mean (UCL95) for nickel in background water is 0.0602 mg/L. This background value is based on 230 samples (from 1989 to October 2007), of which 98.7 percent were nondetects. This background value is slightly greater than the GWPS, but well below the proposed ACL value of 0.4 mg/L

1.5.2 TTHMs in Well 614

Appendix A shows that two Zone 1 wells have persistently shown detections of TTHMs (chloroform) above the GWPS of 0.08 mg/L (equal to 80 ug/L): 515-A and POC well 614, both of which are in Section 2. The concentrations measured in October 2007 are shown in Table 3. Since then, during the sampling events for the first three quarters of 2008 (Table 6), these two wells showed the following concentrations, respectively: well 515-A, 0.227 mg/L, 0.0226 mg/L, and 0.107 mg/L; and POC well 614, 0.137 mg/L, 0.210 mg/L, and 0.0636 mg/L.

Figure 14 shows TTHM concentrations for POC well 614 from 1989 through October 2007. The NRC GWPS of 0.08 mg/L is shown. The maximum concentration measured was 0.866 mg/L in April 1994; since this peak the concentrations have markedly declined in stepwise fashion. The most recent "step" started during January 2004; since then, the concentrations have been below the GWPS twice, during January 2005 and July 2006.

Figure 15 shows TTHM concentrations for POC well 614 from the final shutoff of Zone 1 pumps in July 1999 through October 2007. This is the most relevant time-frame for the application of trend analysis. The black best-fit line on this chart is a 2nd-order polynomial that is nearly coincident with a linear best-fit (latter not shown on the chart). The blue best-fit line is a 3rd-order polynomial. Both best-fit lines have coefficients of determination showing a moderate degree of correlation between concentrations and time (R^2 = 0.483 for the 2nd-order line, and R^2 = 0.5334 for the 3rd-order line).

Within Section 2, POC well 604 has typically shown TTHM concentrations well below the GWPS. In October 2007 (Table 3), well 604 showed 7.68 ug/L. Appendix A indicates that TTHM (chloroform) showed an increasing trend from January 2006 to October 2007. Samples from January, April, and July 2008 at this location showed

respective concentrations of 6.44 ug/L, 6.64 ug/L, and 7.64 ug/L (Table 6). All these historic groundwater quality data indicate it is unlikely that concentrations at well 604 will ever exceed the GWPS.

Table 3 indicates well EPA-2 showed a TTHMs concentration of 0.91 ug/L in October 2007. However, this value is considered spurious since (1) the duplicate sample collected at the same time was nondetect for TTHMs, and (2) historic water quality provided in Appendix A indicates no previous detections at this location (nor have there been any detections during the first three quarters of 2008 (Table 6)).

Table 6 indicates low concentrations of TTHMs in well EPA-7 during the first three quarters of 2008; respectively, 0.0006 mg/L, 0.00076 mg/L, and 0.00057 mg/L. These values are slightly higher than the present laboratory reporting limit of 0.0005 mg/L, but two orders below the GWPS of 0.08 mg/L. Appendix A shows that occasional detections as high as .00502 mg/L (October 1996) have been measured over the period from 1989 through October 2007; however, a large number of nondetects characterize this dataset.

The historic groundwater quality indicates that natural attenuation effectively reduces the TTHMs (chloroform) concentrations within the Section 2 boundary at POC well 614 and well 515-A, to nondetect concentrations within all Section 1 wells with the exception of well EPA-7. Concentrations at EPA-7 have varied from nondetects to occasional values that are typically two orders lower than the GWPS.

In Figure 15, the concentration for POC well 614 shown in the last data point (0.182 mg/L, October 2007) was above the GWPS of 0.08 mg/L. The concentrations in January 2008 (0.137 mg/L) and April 2008 (0.21 mg/L) were also above the GWPS. Figure 15 shows two rather recent concentrations that were below the GWPS, during January 2005 and July 2006 (the previous value lower than the GWPS occurred during October 1989), as well as in July 2008 (Table 6). It is possible that concentrations at this location will eventually stabilize to a level below the GWPS, but this cannot be predicted with certainty. Based on the observations discussed in this section, UNC proposes the ACL of 0.3 mg/L for TTHMs at POC well 614

Historic groundwater quality monitoring data indicate this proposed ACL concentration does not produce impacts above the GWPS off-Site. The long-term monitoring data provide a solid empirical basis for this statement and they support confident assignment of the proposed ACL of 0.3 mg/L to well 614. The concentration trend in well 604 is stable to downward.

Review of the Zone 1 groundwater velocities (see Section 3.1 Transport and Pathway Assessment, below) indicates that if TTHM GWPS exceedances were going to persistently occur in Section 1, then they would have done so by now. Instead, long-term TTHM non-detects are observed in Section 1 POC wells EPA-7 and EPA-5 (see Appendix A), and concentrations at EPA-7 have varied from nondetects to occasional values that are typically two orders lower than the GWPS. Such empirical

observations are better than transport modeling and related projections, and they are better than numeric forecasts of attenuation. Such empirical analysis is supported by the STP (NRC, 1996a, p. 17): "When possible, the hydrogeologic characterization should be based on actual measurements and monitoring records . . . Contaminant transport and attenuation estimates can be based on site measurements and monitoring records . . ."

At the request of EPA, UNC has recently calculated background concentrations for all constituents (data permitting) in all three hydrostratigraphic zones (N.A. Water Systems, 2008b). For Zone 1 the UCL95 for TTHMs in background water is found to be "not applicable," meaning that there is no statistically meaningful value that can be determined. Of 234 background water samples analyzed for TTHMs (chloroform), 99.6% were nondetects and the historic maximum and minimum measured concentrations have identical values of 0.0091 mg/L.

Alternate Concentration Limits Application
Section 2
Hazard Assessment

2.1 Source and Contaminant Characterization

The UNC uranium mill was granted a radioactive materials license by the State of New Mexico in May 1977 and operated from June 1977 to May 1982. The mill was designed to process 4,000 tons of ore per day and extracted uranium using conventional crushing, grinding, and acid-leach solvent extraction methods. Uranium ore processed at the Site came from the Northeast Church Rock Mine and the Old Church Rock Mine. The average ore grade processed was approximately 0.12% uranium oxide. The milling of uranium ore produced an acidic slurry of ground waste rock and fluid (tailings) that was pumped to the tailings disposal site. An estimated 3.5 million tons of tailings were hydraulically deposited in the tailings impoundments (EPA, 1998).

The effluent of the milling process consisted of the following waste products: rock from which the uranium had been leached; sulfuric acid and sodium chlorate from the leaching process; organic solvent consisting of kerosene with minor amounts of amine and isodecanol; and ammonium from the stripping process.

Choroform occurs as a degradation product of isodecanol, which was used in small quantities in the mill solvent extraction process. Chloroform breaks down through several steps to form methane. Chloroform and its breakdown products also adsorb to clay and organic particles present in Zone 1.

The uranium milling byproduct materials, which were discharged to unlined ponds on UNC property, are the primary source of contaminants to the alluvium and bedrock units at the Site. Although EPA did not sample tailings solids or liquids during the RI, UNC and NRC provided EPA with several tailings analyses used to characterize byproduct solids and liquids. These data are presented in Table 7. From these analyses, the tailings fluids were characterized as an acidic, high dissolved-solids water with sulfate, ammonia and sodium as principal ions. Metal analyses, particularly aluminum, manganese, and iron were over 1,000 mg/L. Radioactivity as represented by thorium-230 in the tailings ranged as high as 2.8×10^5 pCi/L.

2.2 Constituents of Concern

Constituents of concern listed in the ROD are summarized in the left column of Table 4. It should be noted that some of these constituents are non-hazardous; for example, sulfate, TDS, and chloride (for which the NRC has no GWPS in the License). Nickel and TTHMs are the constituents of interest for this ACL application.

2.3 Health and Environmental Risks of Constituents

The GWPS for TTHMs (0.08 mg/L) is also the federal MCL. The GWPS for nickel (0.05 mg/L) is higher than the federal MCL (0.01 mg/L).

EPA prepared a Public Health Assessment (PHA) of the UNC Church Rock Site, which was published as Chapter 4 of the FS (EPA, 1988b). The ROD indicates that although there was no exposure at that time to local residents from ingestion of groundwater in domestic and livestock wells within four miles of the Site, EPA concluded that adverse health or environmental hazards could result if no action was taken to prevent exposure to groundwater contaminants found at the Site. This conclusion would not change if the human health risk assessment were updated using similar exposure assumptions and new or revised toxicity values, or health-based standards, because these factors have become more conservative over time.

The PHA conclusions are based on the assumed ingestion of groundwater at contaminant concentrations equal to those measured during the 1985 RI sampling events (see Tables 4 and 5 of the ROD), which included a few sampling locations within Section 2 in addition to those in Sections 1, 3, and 36. In the PHA, EPA indicated this assumption was conservative since dilution, dispersion, and natural attenuation were expected to occur if seepage continued to migrate downgradient from the Site and would likely further reduce the concentration of contaminants from the concentrations assumed.

An updated risk assessment is unnecessary for the following reasons:

- There is no reasonably anticipated exposure to any of the seepage-impacted waters in Section 2, which will be included in the License and property transfer from UNC to DOE under UMTRCA Title II.
- There is no reasonably anticipated exposure to the portion of the Zone 3 plume that extends off the UNC property into Section 1 because there is currently less than 5 feet of saturation, which was projected to drain out to pre-mining levels in about 10 years. The decision to eliminate this area as a Zone 3 point-of-exposure is documented in a letter from the NRC (1999b). It should be noted that the Zone 1 sandstone in Section 1 is entirely unsaturated approximately 800 feet to the east of the impacted water. This means that a large part of Section 1 is physically incapable of being a potential point-of-exposure.
- As stated in the PHA, background groundwater concentrations of certain contaminants (for example, combined radium) represent significant proportions of, or for some data exceed, those in impacted groundwater. Therefore the risks associated with tailings seepage impacts for these contaminants have been overstated in the PHA.

The PHA calculated quantitative potential future health risks for carcinogenic effects due to both radionuclides and non-radionuclides and for non-carcinogenic effects.

The PHA assessed exposure to non-carcinogens by comparing the estimated daily intake of four indicator constituents (cadmium, manganese, nickel, and selenium) to the reference dose (RfD) or Acceptable Intake for Chronic Exposure developed at the time of the assessment. The results of the PHA indicated that the potential non-carcinogenic hazard index was greater than one under the future exposure scenario, for both the mean and maximum indicator parameter concentrations for each hydrostratigraphic unit (see Table 8 below).

Table 8
PHA Hazard Index Values

(Source: PHA in EPA Feasibility Study, 1988b)

Hydrostratigraphic Unit	Mean Hazard Index Adult	Maximum Hazard Index Adult	Mean Hazard Index Child	Maximum Hazard Index Child
Southwest Alluvium	5.2	16.2	18.2	56.8
Zone 3	5.5	34.5	13.3	120.7
Zone 1	3.2	13.1	4.6	11.5

The PHA concluded that the potential risk associated with the use of groundwater from Zones 1 and 3 exceeded 10^{-6} and the potential hazard quotient exceeded 1.0. If the risk assessment were to be updated using current data and methods, these conclusions would not change, primarily because toxicity values (i.e., RfDs) have become more conservative since the PHA was prepared.

Based on long-term monitoring data and improved understanding of the Site, the hazard associated with certain Site contaminants likely would be attributable to background conditions. As noted earlier, the background concentration for nickel in Zone 1 is slightly above the GWPS (N.A. Water Systems, 2008b).

Table I of the PHA listed constituents comprising "on-site contamination" based on the RI. This list included chloroform in groundwater with a stated concentration of 26 ug/L. Table II of the PHA listed constituents comprising "off-site contamination" based on sampling of four domestic wells located within four miles of the UNC site; chloroform was excluded from this list. Beyond PHA Table I, the PHA (p. 7 and 8) did not include chloroform in its list of constituents in the discussion of public health implications.

Alternate Concentration Limits Application
Section 3
Exposure Assessment

3.1 Transport and Pathway Assessment

The North Cell has been the primary source of tailings seepage into the alluvium and Zone 3. However, Zone 1 was not affected by the seepage from the North Cell because it is hydraulically separated from this source by Zone 2. Zone 1 of the Gallup Sandstone is hydrologically isolated, bounded above and below by shale and coal aquitards, except where this inclined layer truncates beneath the alluvium.

Two soil borrow pits (Pits Nos. 1 and 2) were present in the eastern half of the Central Cell. Borrow Pit No. 1 was used to dispose of tailings; Borrow Pit No. 2 was used to retain tailings liquids (EPA, 1988c) which were the source of nickel and chloroform that entered Zone 1 (though nickel was also present in the background water). The liquid stored in Borrow Pit No. 2 was neutralized starting in 1983 and this pit was dewatered by April 1989. Seepage from Borrow Pit No. 2 has impacted groundwater in Zone 1 covering an area of about 30 acres (Figure 8).

The local groundwater system is anthropogenic, having formed as the result of percolating mine water that was discharged to Pipeline Arroyo from 1968 to 1986. The anthropogenic groundwater entered Zone 1 in localized areas of contact with the alluvium. The chemistry of the Site groundwater is highly variable due to the short time period (~ 40 years) that the artificial groundwater system has existed and the heterogeneous nature of the local geologic formations with which it is in contact.

An ACL application requires an evaluation of the concentrations at the POC and the point-of-exposure (POE). As noted earlier, Site groundwater does not discharge to any surface waters. The ACL guidance in UMTRCA Title II specifically acknowledges that the POE is the critical point for determining whether groundwater cleanup levels are sufficiently protective of human health and the environment. So long as there is no exposure to hazardous concentrations of groundwater constituents, because of operable attenuation processes, groundwater usage patterns, or ICs, ACLs at the POC may exceed otherwise applicable groundwater cleanup standards.

UNC proposes that the POE be defined as a vertical plane passing downward through the ground along a north-northwest trending line through Section 1 POC wells EPA-5 and EPA-7. This proposed POE would encompass the top and bottom contacts of the confined Zone 1 hydrostratigraphic unit. Natural attenuation processes progressively reduce nickel and TTHM concentrations such that the License GWPS will be met within Sections 1 and 36. This proposed POE could

involve reclassifying POC wells EPA-5 and EPA-7 as POE wells, or reclassifying them as both POE and POC wells.

The proposed POE at well EPA-7 is located 225 feet to the east of the UNC property boundary. The distance from the property boundary decreases to the north-northwest of EPA-7, along the proposed POE ground trace through well EPA-5. Land between the property boundary and the proposed POE is in excess of the land used for disposal of byproduct material (see discussion in the STP, NRC, 1996a, p. 7). In this sense, the proposed POE may be classified as a type of distant POE, though it is not located along a property boundary.

The main basis for proposing this POE is that POC wells 604 and 614 (the subjects of this ACL application) are located along the eastern property boundary of Section 2 (containing the tailings disposal area), which will eventually be turned over to DOE for long-term care. The need for ACLs in these two POC wells means that they cannot be designated as the POE, because as such there is no lateral distance over which natural processes can attenuate nickel and TTHMs. The latter issue was first raised in a letter from UNC to NRC (Earth Tech, 1999b) that proposed the following solution: eliminate Section 1 as a Zone 1 POE and designate the Zone 1 POE along the northern UNC property boundary in Section 36. Followup communications with the NRC indicated that, at that time, they did not agree to eliminate Section 1 as a Zone 1 POE.

Given the need for ACLs in POC wells 604 and 614, UNC is herein proposing the POE through Section 1 wells EPA-7 and EPA-5. A very large body of historic groundwater quality data shows that natural processes successfully reduce the concentrations of nickel and TTHMs, to below the GWPS, over the lateral distances between the property boundary and EPA-7 and EPA-5.

UNC has calculated the Darcy seepage velocities for Zone 1 groundwater during the time periods shown in Table 9. Table 10 shows the wells that were used for the various time periods. The Darcy seepage velocity is equal to the product of the hydraulic conductivity and the hydraulic gradient, divided by the effective porosity. In calculating these groundwater velocities the following hydraulic parameters were used (Canonie, 1987, p. 7; and Canonie, April 14, 1989, Seepage Travel Distance/Time Calculation - Amendment II; Project File): hydraulic conductivity = 1 x 10^{-4} cm/sec (= 103.5 ft/yr); and effective porosity = 0.08 (the average of the range used by Canonie (0.07 to 0.09)). These hydraulic parameters were based on Zone 1 well tests and so they are appropriate for use with hydraulic gradients between wells.

Hydraulic gradients have been relatively uniform over the entirety of Zone 1, within the various time periods selected. For that reason, Table 9 was developed using a best-fit for the hydraulic gradient vector over the areas bracketed by the wells in Table 10. Piezometric maps for Zone 1 over the various time periods are provided in

Appendix B; these maps also show the locations of the various wells that were used as control points.

Table 9 and Appendix B show that in January 1983 the flow-direction azimuth (~ 63°) had a strong easterly component. During the later time periods the flow azimuth gradually rotated to the north, resulting in an azimuth of ~ 24° during October 2007. This indicates that as the formerly higher groundwater mound (sourced by mine discharge water entering the local alluvium) has gradually continued to dissipate over the years, the northerly dip of the Zone 1 sandstone has exerted greater control on the flow direction.

Table 9 shows that the seepage velocities have gradually fallen through time. During January 1983, the groundwater velocity was ~ 93 ft/yr, and by October 2007 the velocity had fallen to ~ 40 ft/yr (a reduction of 57 percent).

It is important to note that the extent of Zone 1 seepage impacts has been stable to diminishing for the last 10 years. Figure 8 shows the inferred extent of seepage impact. Conservatively applying the October 2007 seepage velocity of ~ 40 ft/yr over the last 10 years of groundwater flow suggests that the seepage-impact front might have migrated ~ 400 ft downgradient (this distance would increase if the higher, earlier groundwater velocities were used). If the seepage impact were migrating with the groundwater at this rate, one should expect to find evidence of nickel or chloroform impacts at well EPA-2, which is not the case.

Since the termination of pumping, constituent concentrations have progressively reduced through natural geochemical processes (see the detailed discussion of all constituents in the 2007 annual review report, N.A. Water Systems, 2008a). Nickel and chloroform are being immobilized and will not migrate any further. The analysis in this document confirms that the spatial extent of Zone 1 seepage impact is stable to diminishing, and that natural attenuation by neutralization (buffering) and adsorption is occurring for the metals (including nickel), and that attenuation by degradation, dilution, and dispersion is occurring for chloroform (Table 5).

Hypothetically, one could model the transport processes. Instead, our approach utilizes long-term empirical hydraulic and chemical data to show the actual results of the processes that might have been modeled. This approach is direct and avoids the encumbrances of applying, for example, adsorption coefficients and retardation factors. Such empirical analysis is supported by the STP (NRC, 1996a, p. 17): "When possible, the hydrogeologic characterization should be based on actual measurements and monitoring records . . . Contaminant transport and attenuation estimates can be based on site measurements and monitoring records . . ."

The key conclusions are summarized below:

- There is no nickel or chloroform at concentrations above standards in any Section 1 well.

- The long monitoring history provides more than sufficient time to detect exceedances and to evaluate trends.
- Source area concentrations within Section 2 show decreasing long-term trends.
- Constituent concentrations progressively decrease downgradient.
- Hydraulic gradients and groundwater flow rates are diminishing over time.
- Groundwater quality is expected to continue its improvement at the proposed POE from levels already below Site standards.

3.2 Human Exposure Potential

For human health the following pathways were evaluated:

- Direct ingestion of groundwater.
- Dermal absorption of groundwater (e.g., through bathing).
- Ingestion of groundwater-irrigated produce.

There is no potential for human exposure to Zone 1 groundwater in the property owned by UNC (Sections 2 and 36), except during the quarterly groundwater sampling conducted by UNC personnel. No groundwater supply wells drawing on Zone 1 will be allowed on UNC property, and the same restriction will apply once this property is turned over to the DOE for long-term surveillance monitoring.

Zone 1 groundwater in Section 1 is not a viable water-supply aquifer. The well yields have always been low and the relatively rapid reductions in saturated thickness resulted in the need to decommission former pumping wells in Section 2. Zone 1 in Section 1 is entirely unsaturated approximately 800 feet to the east of the present of the seepage-impacted area. The saturated thickness declines to the east, indicating that a well located through most of Section 1 will have even less water available to pump than that which was formerly tapped in the eastern part of Section 2.

UNC has previously evaluated the scenario of an allottee putting in a potable supply well tapping background water in Section 1 (Earth Tech, 1999a). That analysis evaluated in detail the water usability and treatment, employing reasonable assumptions for water use, water volume, starting and ending water quality for treatment, type of treatment system, and wastewater disposal requirements. In summary, the natural groundwater quality in this portion of Zone 1 is not suitable for a potable water supply even with the use of maximum treatment technology. Groundwater supply development in Section 1 would require drilling a well into an aquifer beneath Zone 1 of the Gallup Sandstone, such as the Dakota Formation, where it may be possible to tap potable quality water with yields sufficient to support a domestic water supply. Neither of these conditions exist in Zone 1 of the Gallup Sandstone in Section 1. In fact, the quality of the background water in this portion of

Zone 1 is so poor that after treatment it would not produce an adequate supply to meet domestic requirements.

EPA reached a similar conclusion about the inaccessibility and unsuitability of Zone 1 for water supply wells: "EPA studies indicate that the physical characteristics of Zone 1 are such that sufficient quantities of water could not be pumped from the sandstone to support volumes required for domestic or livestock purposes. Therefore, Zone 1 would not be a good candidate for locating a domestic or livestock well even if there were no impacts from tailings seepage" (ROD, EPA 1988c, Appendix H Responsiveness Summary, Response to Comment 9 in Section 2, p. 4).

Both UNC and EPA have concluded that Zone 1 in Section 1 is non-viable as a water supply source. This suggests it may be appropriate to eliminate Section 1 as a POE (Earth Tech, 1999a).

3.3 Environmental Exposure Potential

No Site groundwater naturally discharges to any bodies of surface water. Current potential effects on the ecology are mainly from the discharge of pumped water from Zone 3, and purged water from quarterly groundwater sampling, into the evaporation ponds on the Southern Cell. Surface exposures could occur here but Site access is restricted according to the License.

3.4 Consequences of Exposure

The consequences of human exposure to the most contaminated Zone 1 groundwater has been discussed earlier in Section 2.3, Health and Environmental Risks of Constituents. It should be noted that the Section 1 background groundwater quality is not suitable for human consumption (see Section 3.2 Human Exposure Potential).

Alternate Concentration Limits Application
Section 4
Corrective Action Assessment

4.1 Previous and Current Corrective Action Programs

Some aspects of previous corrective action in Zone 1 have been discussed earlier in this document in Section 1.3.2 Groundwater Contamination. Zone 1 corrective action consisted of source remediation (neutralization and later dewatering and capping of Borrow Pit No. 2) and pumping of a series of extraction wells from 1984 through 1999 (Earth Tech, 2002d).

Including the neutralization and removal of the source of seepage impact (tailings liquid in Borrow Pit No. 2), and extraction well pumping, UNC has conducted 17 years of active remediation in Zone 1.

Groundwater corrective action began in 1984 and 1985 with the installation of pump-back systems around the north and east perimeter of the borrow pit. Pump-back well extracted water was neutralized and then placed back into the tailings ponds. These systems were effective in limiting seepage migration as shown by the large quantities of mass extracted. Over the six years that these systems were in operation they removed over 1,300 tons of TDS and 4,700 picoCuries of gross alpha radiation. By 1990 the effectiveness of the pump-back systems was greatly reduced due to declining water levels and decreased contaminant concentrations. On the recommendation of NRC and EPA, UNC switched to a program of selective pumping from relatively highly impacted locations. The mass of contaminants removed by this selective pumping has always been very low compared to earlier efforts, due to low pumping rates and contaminant levels.

Figure 16 summarizes the former pumping programs for Zone 1, including the well systems pumped, the number of wells operating for each system, and the combined annual pumping rates (Earth Tech, 2002d). A maximum combined pumping rate of 14 gpm was achieved by the 17 East and North Cross-Dike Pump-Back wells. The productivity declined steadily over time, and by July 1999, when the system was decommissioned, the three remaining wells were yielding a combined annual average of 0.65 gpm. The three remaining Zone 1 wells (615, 616 and 617; see Figure 8) were decommissioned at the end of July 1999 in accordance with a letter from NRC (1999a), with the concurrence of EPA and NMED.

The mass of chemical constituents removed was calculated for the 10-year period from July 1989 through July 1999. These calculations were presented in the previous annual reviews, and the final summary was presented in the 1999 annual review report (Earth Tech, 1999b). A total of 2.9 million gallons of groundwater had been extracted from Zone 1 when the system was decommissioned. Groundwater

produced from all Site extraction wells is evaporated in two 5-acre evaporation ponds (Figure 2) in conjunction with a spray evaporation system.

Since the termination of pumping, constituent concentrations have progressively reduced through natural geochemical processes (see the detailed discussion of all constituents in the 2007 annual review report, N.A. Water Systems, 2008a). Nickel and chloroform are being immobilized and will not migrate any further. The analysis in this document confirms that the spatial extent of Zone 1 seepage impact is stable to diminishing, and that natural attenuation by neutralization (buffering) and adsorption is occurring for the metals (including nickel), and that attenuation by degradation, dilution, and dispersion is occurring for chloroform (Table 5).

Hypothetically, one could model the transport processes. Instead, our approach utilizes long-term empirical hydraulic and chemical data to show the actual results of the processes that might have been modeled. This approach is direct and avoids the encumbrances of applying, for example, adsorption coefficients and retardation factors. Such empirical analysis is supported by the STP (NRC, 1996a, p. 17): "When possible, the hydrogeologic characterization should be based on actual measurements and monitoring records . . . Contaminant transport and attenuation estimates can be based on site measurements and monitoring records . . ."

The key conclusions are summarized below:

- There is no nickel or chloroform at concentrations above standards in any Section 1 well.
- The long monitoring history provides more than sufficient time to detect exceedances and to evaluate trends.
- Source area concentrations within Section 2 show decreasing long-term trends.
- Constituent concentrations progressively decrease downgradient.
- Hydraulic gradients and groundwater flow rates are diminishing over time.
- Groundwater quality is expected to continue its improvement at the proposed POE from levels already below Site standards.

4.2 Potential Corrective Action Alternatives

Although there is currently no potential impact to human health and the environment because of Zone 1 groundwater downgradient of Section 2, alternative corrective action measures have been considered. However, there are no practicable active corrective actions for controlling, reducing, mitigating, or eliminating groundwater contamination. Flooding and flushing of the Zone 1 unit is considered below. The most effective alternative considered is no further remedial action in conjunction with ACLs.

4.2.1 Flooding and Flushing

The ROD contains remediation contingencies. The contingencies must be understood in the context of the many years of Site groundwater-quality and groundwater-level monitoring data. These data, and performance reviews of past remedial efforts, provide bases for determining achievable remedial Site goals. Key ROD contingencies derive from: (1) the effects of declining saturated thickness (and the related critical losses of former pumping yields); and (2) the potential for aquifer restoration times to be unreasonably long.

Zone 1 has already been dewatered to the extent feasible; the remaining pumping wells were decommissioned in 1999 because their yields were less than the decommissioning limit.

NRC (1996b) has evaluated the statistical basis for establishing background levels and remediation standards for several Site constituents. That report focused on nitrate, sulfate, TDS, manganese, and iron. Natural flushing does not occur because the recharge rate is very low and does not offset the long-term lowering of most well water levels. In principle, flushing with injected fresh water could change the water chemistry and raise the pH (resulting in, for example, the increased potential for precipitation of metals). In consideration of sulfate and TDS, the NRC stated the following conclusion: "Adding fresh water to the system has been considered as a possible remediation strategy. Although fresh water injection may help dilute salts in the system, the staff is concerned that there will be no time at which this proposed activity could cease" (NRC, 1996b, p. 16).

That NRC discussion of flushing apparently referred to the same remedial process that is otherwise known as "flooding." This refers to injection of fresh water in an attempt to dilute, disperse, and displace the impacted water. "Flushing" refers to a combined array of upgradient fresh water injection wells and downgradient extraction wells, toward attempting to displace and extract the impacted water.

Flooding is inadvisable because it will cause groundwater mounding in the area surrounding the injection wells. This would increase the local hydraulic gradients and the groundwater flow rates. In turn, this would reduce the present efficacy of natural attenuation processes by reducing the groundwater contact time with the Zone 1 bedrock. The long-term reductions in groundwater levels, in the updip area of Zone 1, have promoted effective natural attenuation by neutralization and adsorption.

The low hydraulic conductivity of Zone 1 is problematic. This has been a significant factor in the poor well productivity characteristic of this unit, and the related need to decommission all the former pumping wells. This factor presents significant technical challenges to any attempts to create a long-term injection well field. Furthermore, any such injection wells would have to be located in the easternmost part of Section 2, between the eastern edge of the Central Cell and the property boundary, in order to be located updip of the impacted water, while on UNC property (see Figure 2).

Such injection locations would very likely result in the displacement of the most impacted water to the east and north-northeast, onto Section 1.

Next we consider the case of flushing of the Zone 1 unit. Again, the low hydraulic conductivity of this bedrock is a significant impediment; at worst, it would prohibit flushing. Flushing requires coordinating the flow rates of injection wells and extraction wells. The following issues are important to consider: (1) the requirement to keep all injection and extraction wellheads on UNC property; (2) the narrowness of the strip of land between the eastern edge of the Central Cell and the Section 1 boundary (approximately 125 ft measured along an east-west direction); and (3) the groundwater flow direction is toward the north-northeast. Based on these spatial and technical considerations, UNC concludes that flushing of Zone 1 impacted water is not a feasible remedial option. This conclusion is consistent with the results of the recent attempt to create a flushing system in Zone 3 of the Gallup Sandstone. This attempt to inject alkalinity-charged water into the sandstone was terminated because the attainable injection rates were far lower than anticipated (ARCADIS BBL, 2007).

4.2.2 Institutional Controls

UNC has proposed ICs for Zone 1 groundwater in Section 1. Section 1 is Indian Trust Land, and the application of IC measures requires certain action on the part of the Navajo Nation and/or the Bureau of Indian Affairs. Starting in 2000, UNC engaged the Navajo to discuss ICs. In the ensuing eight years, there has been no movement toward the adoption of the basic IC framework that includes an environmental right-of-way and a Tribal Resolution. We refer the reader to letters from Davis, Graham & Stubbs (2000; 2001a; and 2001b) to various Navajo technical and legal representatives. A deed restriction or other legal moratorium on the installation of groundwater supply wells that would tap Zone 1 is an important component of the ICs. However, it should be noted that the hydraulic and chemical characteristics of the Zone 1 hydrostratigraphic unit are not compatible with the objective of productive supply wells. Also, the history of water-level measurements in Section 1 indicates that Zone 1 is entirely unsaturated less than 800 feet to the east of the seepage-impacted area. Therefore, the proposed ICs for Zone 1 would not affect a viable resource.

ICs are retained for application to Sections 2 and 36, which are owned by UNC and eventually will be subject to long-term stewardship under the DOE.

4.2.3 No Further Action

A viable alternative is no further remedial action, in conjunction with ACLs for nickel and TTHMs. Since there is no current or projected risk to human health and the environment because of Site-related contamination in groundwater (or surface water), this alternative would comply with the License GWPS.

4.3 Feasiblity of Corrective Action Alternatives

Alternative corrective actions were considered in the ROD (EPA, 1988c), but the agencies approved the pump-back system (discussed below in Section 4.5 As Low as Reasonably Achievable Demonstration) as the most reasonable alternative that was protective of human health and the environment. The ROD required the pump-back system to operate until Borrow Pit No. 2 was dewatered and adequate dissipation of the tailings seepage mound had been achieved. Monitoring data show that the seepage mound is dissipating naturally following the remediation of the borrow pit.

As discussed earlier in Section 4.2 Potential Corrective Action Alternatives, there are no practicable active corrective actions for controlling, reducing, mitigating, or eliminating the remaining groundwater contamination. The extent of seepage-impacted water has been stable to diminishing over the last 10 years. The most effective alternative considered is no further remedial action in conjunction with ACLs.

4.4 Costs and Benefits of Corrective Action Alternatives

The costs of implementing alternative corrective actions and their benefits must be compared to evaluate the feasibility of an ACL application. UNC proposes a remedial alternative of No Further Action and ACLs.

UNC proposes a compliance period of Zone 1 groundwater monitoring of two more years at a quarterly frequency (subsequent to approval of this ACL application). This is sufficient because groundwater quality data covering 19 years (1989 to 2008) is available for many of the existing monitoring wells, and Zone 1 water quality trends are well established. After two more years of quarterly monitoring UNC proposes to reduce the monitoring frequency to once per year, until the Site is closed and turned over to DOE for long-term care. In addition to NRC concurrence for this proposed compliance period, UNC will seek the agreement of EPA and NMED.

The estimated direct costs of the proposed remedial alternative are:

- $20,000 per year for Zone 1 groundwater quality and water-level monitoring for the first two years of the proposed compliance period. Thereafter, groundwater monitoring on an annual basis is estimated to cost approximately $8,000 per year.
- Implementation of ACLs does not involve direct costs.

Benefits would result from the combined program of No Further Action and ACLs. No Further Action encompasses the continuation of natural attenuation processes in Zone 1. Adoption of ACLs will be an important step toward Site closure. It is important to note that there are no exceedances of the License GWPS in Section 1.

Groundwater levels updip continue to decrease, and at some future time the pressure head driving groundwater flow will be reduced to zero. The irreducible elevation head along the gently inclined base of Zone 1 would of course remain, but there is no feasible method for altering the bedrock dip or removing that water because of the Zone 1 hydraulic properties.

Another consideration may involve the benefits associated with land-value depreciation. This factor is not addressed in the evaluation because DOE will retain ownership of the property in perpetuity.

4.5 As Low as Reasonably Achievable Demonstration

A Zone 1 ALARA demonstration was conducted in accord with UNC's June 1991 Proposal for Temporary Reactivation of Zone 1 Pumping Wells. This proposal was reviewed and approved by NRC and EPA in July 1991 in the form of an amendment to the Corrective Action Plan (UNC, 1989a) and Remedial Design Report (Canonie, 1989a). This ALARA demonstration has been summarized in detail in the 1992 annual review report (Canonie, 1992) and Canonie (1995).

In 1991 four decommissioned Zone 1 pump-back wells (620, 666, 669, and 670) along the perimeter of former Borrow Pit No. 2 were temporarily reactivated to implement the ALARA demonstration program. The four wells were required by NRC and EPA because of their relatively high productivity compared to other Zone 1 pumping wells. The demonstration was conducted from August to December 1991, after which these four wells were shut off (EPA, 1998). The ALARA demonstration program was designed to evaluate and compare different pumping scenarios in Zone 1 regarding their effectiveness in removing contaminant mass and reducing contaminant concentrations. The pumping scenarios to be evaluated with groundwater monitoring data included:

- Operation of the East and North Cross-Dike Systems from 1984 to 1990.
- Operation of the Revised East System from 1990 to 1993.
- Operation of the ALARA demonstration wells from August 1991 to December 1991.

Figure 16 summarizes the historic pumping rates for the various Zone 1 pumping systems over time, including the four wells used for the ALARA demonstration. Figure 17 shows the locations of the ALARA demonstration wells, the Revised East System Wells (615, 616, 617, and EPA-7), and the monitoring wells (515-A, 516-A, 604, 614, and EPA-7) that were sampled in conjunction with the demonstration. Figure 18 shows the East and North Cross-Dike Pump-Back Systems.

To meet the demonstration objectives, data were collected to calculate the mass extracted by the ALARA wells and the Revised East System Wells during the demonstration period. The mass of constituents removed historically by the East and

North Cross-Dike Pump-Back Systems was calculated previously in the 1991 annual review report (Canonie, 1991).

The ALARA demonstration was conducted from August 12 to December 2, 1991. During this period, the ALARA wells averaged a combined pumping rate of 4.93 gpm and the Revised East System wells averaged a combined rate of 0.85 gpm.

Comparison of the water quality data collected at the Revised East System and monitoring wells during the ALARA demonstration, with the data collected prior to the start of the demonstration, showed that no significant changes in water quality occurred during the demonstration period. Copies of the original laboratory analytical reports associated with this task are provided in Appendix C.

Groundwater monitoring after conclusion of the demonstration was provided by sampling and analyses of wells 515-A, 516-A, 604, 614, and EPA-7, as part of the Zone 1 quarterly performance monitoring program. Groundwater quality data were evaluated for the two-year period following the ALARA demonstration in order to properly assess the impact of pumping in Zone 1 because of the low hydraulic conductivity of the sandstone. No significant changes in water quality occurred as a result of extraction pumping.

Data collected in conjunction with the ALARA demonstration indicate that little mass can be removed due to the low extraction rate of the Zone 1 wells. Extraction pumping had negligible effect on water levels or water quality in this hydrostratigraphic unit. These results are consistent with data previously collected for Zone 1, which has low transmissivity and saturated thickness. These results also support the conclusion of the corrective action assessment that the No Further Action alternative is protective of human health and the environment because the constituents of concern have been removed to levels that are ALARA and there are no exceedances of hazardous constituents in Section 1.

Alternate Concentration Limits Application
Section 5
Proposed Alternate Concentration Limits and Implementation Measures

5.1 Proposed Alternate Concentration Limits

Based on concentration trend analyses for the time period subsequent to final pumping shutoff in July 1999, UNC proposes an ACL for nickel of 0.4 mg/L at POC well 604, and an ACL for TTHMs of 0.3 mg/L at POC well 614. Both of these wells are located within the Zone 1 hydrostratigraphic unit along UNC property in Section 2.

5.2 Proposed Implementation Measures

UNC proposes that the POE be defined as a vertical plane passing downward through the ground along a north-northwest trending line through Section 1 POC wells EPA-5 and EPA-7. This proposed POE would encompass the top and bottom contacts of the confined Zone 1 hydrostratigraphic unit. Natural attenuation processes progressively reduce nickel and TTHM concentrations such that the License GWPS will be met within Sections 1 and 36. This proposed POE could involve reclassifying POC wells EPA-5 and EPA-7 as POE wells, or reclassifying them as both POE and POC wells.

The proposed POE at well EPA-7 is located 225 feet to the east of the UNC property boundary. The distance from the property boundary decreases to the north-northwest of EPA-7, along the proposed POE ground trace through well EPA-5. Land between the property boundary and the proposed POE is in excess of the land used for disposal of byproduct material (see discussion in the STP, NRC, 1996a, p. 7). In this sense, the proposed POE may be classified as a type of distant POE, though it is not located along a property boundary.

The main basis for proposing this POE is that POC wells 604 and 614 (the subjects of this ACL application) are located along the eastern property boundary of Section 2 (containing the tailings disposal area), which will eventually be turned over to DOE for long-term care. The need for ACLs in these two POC wells means that they cannot be designated as the POE, because as such there is no lateral distance over which natural processes can attenuate nickel and TTHMs. The latter issue was first raised in a letter from UNC to NRC (Earth Tech, 1999b) that proposed the following solution: eliminate Section 1 as a Zone 1 POE and designate the Zone 1 POE along the northern UNC property boundary in Section 36. Followup communications with the NRC indicated that, at that time, they did not agree to eliminate Section 1 as a Zone 1 POE.

Given the need for ACLs in POC wells 604 and 614, UNC is herein proposing the POE through Section 1 wells EPA-7 and EPA-5. A very large body of historic groundwater quality data shows that natural processes successfully reduce the concentrations of nickel and TTHMs, to below the GWPS, over the lateral distances between the property boundary and EPA-7 and EPA-5.

UNC proposes a remedial alternative for Zone 1 combining the two ACLs requested in this application with No Further Action.

UNC has proposed ICs for Zone 1 groundwater in Section 1. Section 1 is Indian Trust Land, and the application of IC measures requires certain action on the part of the Navajo Nation and/or the Bureau of Indian Affairs. As early as 2000, UNC engaged the Navajo to discuss ICs. In the ensuing eight years, there has been no movement toward the adoption of the basic IC framework that includes an environmental right-of-way and a Tribal Resolution. We refer the reader to letters from Davis, Graham & Stubbs (2000; 2001a; and 2001b) to various Navajo technical and legal representatives. However, it should be noted that (1) the hydraulic and chemical characteristics of the Zone 1 hydrostratigraphic unit are not compatible with the objective of productive supply wells, and (2) Zone 1 is entirely unsaturated approximately 800 feet east of the area of seepage-impacted water. Therefore, the proposed ICs for Zone 1 would not affect a viable resource.

ICs are retained for application to Sections 2 and 36, which are owned by UNC and eventually will be subject to long-term stewardship under the DOE.

UNC proposes a compliance period of Zone 1 groundwater monitoring of two more years at a quarterly frequency (subsequent to approval of this ACL application). This is sufficient because groundwater quality data covering 19 years (1989 to 2008) is available for many of the existing monitoring wells, and water quality trends are well established. After two more years of quarterly monitoring UNC proposes to reduce the monitoring frequency to once per year, until the Site is closed and turned over to DOE for long-term care. In the unlikely event that the ACLs are exceeded, then the quarterly monitoring program would be extended beyond the proposed two-year period.

Alternate Concentration Limits Application
Section 6
Review of Potential Adverse Effects on Groundwater Quality

Site groundwater does not discharge to any bodies of surface water. Therefore, Part B of Table 1 in the STP (NRC, 1996a) is not relevant to this ACL application.

In conducting the hazard demonstration, applicants must address each of the water quality factors presented in Table 1 of the STP. Each of these factors is reviewed next.

1. ***Physical and chemical characteristics of constituents in the residual radioactive material at the site, and their potential for migration.***

The characteristics of chemical constituents in the residual radioactive material at the Church Rock tailings cells have been identified (Table 7). An estimated 3.5 million tons of tailings were disposed in the tailings impoundments (EPA, 1998).

The MOU between the EPA and NRC gave NRC the authority and responsibility for surface reclamation and source control. The ROD stated (p. 41) that, "...Upon approval of a final reclamation plan, both groundwater and source control/surface reclamation remedial actions will be integrated and coordinated to achieve comprehensive reclamation and remediation of the Site." The following discussion provides a background for the source control portion of the remedy, which falls under the purview of NRC's Source Material License.

Source control measures include regrading and recontouring the tailings, placing a low permeability compacted soil cover over the regraded tailings, and constructing drainage swales on and around the reclaimed impoundments. The cover was placed in two stages with an initial interim cover of compacted soil followed by the final cover of compacted soil and rock for erosion protection. The source-control measures were designed to effectively minimize infiltration, seepage, and mobilization of contaminants from the tailings (EPA, 1998).

Reclamation of the South Cell occurred between 1991 and 1996 and included regrading and recontouring of the tailings, placement of the interim cover, and then placement of the final cover. The interim cover comprises 12 inches of compacted soil with average permeability measurements of 3×10^{-8} cm/sec. The final radon cover comprises an additional 6 inches of compacted soil and a 6-inch soil/rock matrix layer for erosion protection. The area of the South Cell occupied by the evaporation ponds will be reclaimed after the groundwater corrective action is complete and the evaporation ponds are no longer needed (EPA, 1998).

The remediation of the North Cell began in 1989 and consisted of regrading and recontouring of the tailings area and placement of 12 inches of compacted soil cover. Similar to the South Cell, the cover eliminated direct contact of surface precipitation with tailings material and minimized future infiltration. Final reclamation of the North Cell was performed in 1993 and consisted of placing a radon cover consisting of an additional 6 inches of compacted soil and a 6-inch soil/rock matrix layer for erosion protection. Drainage swales on the North Cell maximize surface drainage from the cover while controlling the velocity of surface runoff to prevent excessive erosion (EPA, 1998).

Remediation of the Central Cell and Borrow Pit No. 2 occurred between 1989 and 1995. The remediation consisted of dewatering Borrow Pit No. 2, regrading and recontouring the tailings, backfilling the borrow pit with debris from mill decommissioning, and placement of the interim and final cover layers. For the Central Cell, the interim cover was completed in 1991 and the final cover was placed in 1994. Backfilling of Borrow Pit No. 2 occurred from 1991 to 1994. Placement of the interim and final covers was completed in 1994 and 1995, respectively (EPA, 1998).

The results of the Emanation Testing of the Final Radon Cover Over UNC's Church Rock Tailings' Site were reported to the NRC on January 3, 1997 (UNC, 1997). The report documented the tests conducted on September 26, 1996. Sampling included the collection of 115 radon samples from the surface of the radon cover and resulted in an average radon flux for the tailings of 6.46 $pCi/m^2/sec$. All areas were less than the Site License standard of 20 $pCi/m^2/sec$ with the exception of the South Cell in the vicinity of the evaporation ponds, where the radon barrier has not yet been installed.

The Zone 1 natural geochemical system reduces constituent concentrations such that all Site License GWPS are met downgradient outside of the UNC property boundary.

2. Hydrogeological characteristics of the facility and surrounding land.

The Site hydrogeologic system comprises three designated hydrostratigraphic zones: the Southwest Alluvium, the Zone 3 sandstone, and the Zone 1 sandstone. The spatial distribution of seepage impact in all three zones, both within and outside of the UNC property, are shown in Figure 7; a closer view of the impacted area in Zone 1 is shown in Figure 8.

The hydrogeology of Zone 1 has been described earlier in Section 1.2.2 Site Hydrogeology.

3. Quantity of groundwater and the direction and rate of groundwater flow.

The impacted part of Zone 1, on and nearby the UNC property, is not considered a viable aquifer from a resource perspective. The very low transmissivity of the Zone 1 sandstone, the continued lowering of water levels in updip locations (consistently occurring since mine water discharge terminated in 1986), and the negligible rate of natural recharge will prohibit sustained yield from any wells. These factors underpinned the decommissioning of the remaining Zone 1 remedial extraction wells in 1999.

The groundwater velocity in Zone 1 during October 2007 is estimated to be 39.7 ft/yr along a flow direction azimuth of 24°. As the locations updip undergo declining water levels, the groundwater velocities have decreased. Table 9 shows that from 1983 to October 2007 the groundwater velocity has decreased by approximately 57 percent, and the flow direction azimuth has rotated counter-clockwise by approximately 40° (to the present azimuth of 24°).

The estimated volume of contaminated groundwater within Zone 1 is 4.6 million gallons.

4. Proximity and withdrawal rates of groundwater users.

Groundwater use within the UNC property boundary is prohibited. The DOE will maintain ICs to enforce this condition. The Zone 1 sandstone within and near the Site has hydraulic and chemical characteristics that make it non-viable for use as an aquifer. Much of the Zone 1 sandstone in Section 1 is entirely unsaturated.

5. Current and potential future uses of groundwater in the area.

Groundwater is not currently used at the Site. Use restrictions will continue after the UNC property is turned over to DOE for long-term care. The Zone 1 sandstone is hydrologically isolated by upper and lower confining layers. We are not aware of any area groundwater supply wells that tap the Zone 1 sandstone unit. The chemistry of the Zone 1 impacted water and background water are unsuitable for potable supply, and the hydraulic characteristics of the sandstone render it non-viable for a domestic or livestock supply resource. Zone 1 is entirely unsaturated approximately 800 feet to the east of the impacted water in Section 1.

6. Existing quality of groundwater, including other sources of contamination and their cumulative impact on groundwater quality.

Seepage-impacted water has migrated downgradient from Section 2 in all three hydrostratigraphic units at the Site (see Figure 8). October 2007 Zone 1 exceedances of the Site License GWPS are presented in Table 3. Within Section 2 only nickel and TTHMs exceed their License GWPS. There are no Zone 1 exceedances of License GWPS outside of Section 2, nor are there exceedances of any hazardous constituents within impacted water outside of Section 2.

The ROD has defined background water quality as the post-mining, pre-tailings water that originated as mine discharge to Pipeline Arroyo. UNC has recently submitted a new, comprehensive statistical analysis of background water quality for all three Site hydrostratigraphic units as part of the Site-Wide Supplemental Feasibility Study requested by EPA (N.A. Water Systems, 2008b).

For Zone 1 the Upper Confidence Limit on the 95th Percentile of the Mean (UCL95) for nickel in background water is 0.0602 mg/L. This background value is based on 230 samples (from 1989 to October 2007), of which 98.7 percent were nondetects. This background value is slightly greater than the GWPS, but below the proposed nickel ACL value of 0.4 mg/L.

For Zone 1 the UCL95 for TTHMs in background water is found to be "not applicable," since there is no statistically meaningful value that can be determined.

Background water has relatively high concentrations of sulfate, TDS, and other constituents that are not regulated as License GWPS. The background water is not of potable quality (N.A. Water Systems, 2008b) and former EPA evaluation of health risks (see Chapter 4 of the FS, EPA, 1988b) associated with seepage-impacted groundwater overstated the risks because the influence of the background water had not been subtracted. The background water in Zone 1 is prohibitively expensive to treat for domestic use (Earth Tech, 199a). For these reasons there should be no Zone 1 groundwater use in Section 1.

7. Potential for health risks caused by human exposure to waste constituents.

EPA prepared a Public Health Assessment of the UNC Church Rock Site, which was published as Chapter 4 of the FS (EPA, 1988b). The only human health pathway of concern is drinking contaminated groundwater. UNC prohibits groundwater use, as will the DOE once Section 2 is turned over for long-term surveillance monitoring.

The GWPS for nickel and chloroform are met in Section 1, as are all the constituents regulated by the Site License.

8. Potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

The Church Rock mill and tailings site underwent surface reclamation during the 1980s. The mill and all physical structures were removed at that time. The three tailings ponds have been capped and radon barriers have been installed on the North and Central Cells (the South Cell currently contains evaporation ponds, and the radon barrier has not yet been installed there). Regrading controls the surface runoff and erosion near the capped cells. Pumped water from Zone 3, and purged water from quarterly sampling, are discharged into the evaporation ponds on the Southern Cell. Occasional breaches of Site fencing over the years have allowed sheep and cattle to access the evaporation ponds; however, when this activity was observed by

Site personnel the situation was corrected immediately. Stronger and higher fencing has been installed and the frequency of such problems has declined markedly. Potential impacts from the evaporation ponds is managed and controlled within the area of restricted access in perpetuity.

9. Persistence and permanence of potential adverse effects.

The original tailings sources of Site groundwater contamination have been dewatered and capped. Existing contamination in the Zone 1 groundwater is rapidly attenuated downgradient of Section 2, such that there are no exceedances of License GWPS or any hazardous constituents in Section 1. Zone 1 TTHMs are rapidly attenuated by degradation, dilution, and dispersion, and nickel is attenuated by neutralization and adsorption.

Alternate Concentration Limits Application
Section 7
Conclusions

Since the termination of pumping, constituent concentrations have progressively reduced through natural geochemical processes (see the detailed discussion of all constituents in the 2007 annual review report, N.A. Water Systems, 2008a). Nickel and chloroform are being immobilized and will not migrate any further. The analysis in this document confirms that the spatial extent of Zone 1 seepage impact is stable to diminishing, and that natural attenuation by neutralization (buffering) and adsorption is occurring for the metals (including nickel), and that attenuation by degradation, dilution, and dispersion is occurring for chloroform (Table 5).

Hypothetically, one could model the transport processes. Instead, our approach utilizes long-term empirical hydraulic and chemical data to show the actual results of the processes that might have been modeled. This approach is direct and avoids the encumbrances of applying, for example, adsorption coefficients and retardation factors. Such empirical analysis is supported by the STP (NRC, 1996a, p. 17): "When possible, the hydrogeologic characterization should be based on actual measurements and monitoring records . . . Contaminant transport and attenuation estimates can be based on site measurements and monitoring records . . ."

The key conclusions in this ACL application are summarized below:

- There is no nickel or chloroform at concentrations above standards in any Section 1 well.
- The long monitoring history provides more than sufficient time to detect exceedances and to evaluate trends.
- Source area concentrations within Section 2 show decreasing long-term trends.
- Constituent concentrations progressively decrease downgradient.
- Hydraulic gradients and groundwater flow rates are diminishing over time.
- Groundwater quality is expected to continue its improvement at the proposed POE from levels already below Site standards.
- There are no Zone 1 exceedances of the License GWPS in Section 36 (UNC property) or Section 1 (Indian Trust Land property), nor are there exceedances of any hazardous constituents within impacted water outside of Section 2.
- The proposed Zone 1 remedy of No Further Action plus ACLs will be protective of human health and the environment.
- UNC has demonstrated ALARA conditions in Zone 1.

Alternate Concentration Limits Application
Section 8
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Alternate Concentration Limits Application
Section 9
Appendices and Supporting Information

Appendix A Historic Water Elevation and Water Quality Data

Appendix B Potentiometric Surface Maps From 1983 to 2007

Appendix C Laboratory Analytical Reports Associated with the Zone 1 ALARA Demonstration

Table 1
Zone 1 Performance Monitoring Program, 2008 Operating Year
United Nuclear Corporation, Church Rock Site
Church Rock, New Mexico

Well[1]	Water Level[2]	Water Quality[2]	NRC POC	Purpose
Continue Monitoring				
515 A	X	X		Track transition area
604	X	X	Y	Track center of seepage
614	X	X	Y	Track transition area
EPA 2	X	X		Postmining-pretailings background water quality
EPA 4	X	X	Y	Postmining-pretailings background water quality
EPA 5	X	X	Y	Track transition area
EPA 7	X	X	Y	Track transition area, edge of saturation
EPA 8	X			Track edge of saturation
142	X	X		Premining background
143	X			Water level only, use 142
Additional Wells, Not Included In Original Performance Monitoring Program				
505 A	X			Long-term water level for migration path
502 A	X			Long-term water level for migration path
501 A	X			Long-term water level for migration path
504 A	X			Long-term water level for migration path
412	X			Long-term water level for migration path
Total	15	8		

Eliminated From Monitoring				Reason For Elimination
141				No longer useable, plugged during arroyo flooding
516 A			Y	Failed low-flow testing
619				Anomalous water quality and water level
615				Decommissioned pumper, not needed - use 515 A
616				Decommissioned pumper, not needed - use 604
617				Decommissioned pumper, not needed

Notes:
1. No wells within the tailings reclamation cap were included.
2. Water level and water quality monitored on a quarterly basis.

Table 2
Zone 1 Saturated Thickness, October 2007
United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Well	Water Level Measurement Date	Zone 1 Unsaturated Thickness	Zone 1 Saturated Thickness	Zone 1 Percentage Saturated
TWQ-142	10/9/2007	0.00	55.00	100%
TWQ-143	10/11/2007	0.00	52.00	100%
412	10/11/2007	0.00	76.00	100%
501-A	10/11/2007	9.04	55.96	86%
502-A	10/11/2007	0.00	59.00	100%
504-A	10/11/2007	7.51	60.49	89%
505-A	10/11/2007	0.00	46.00	100%
515-A	10/3/2007	25.75	15.25	37%
604	10/3/2007	23.20	21.80	48%
614	10/3/2007	21.54	23.46	52%
EPA-02	10/8/2007	19.64	30.36	61%
EPA-04	10/8/2007	16.78	38.22	69%
EPA-05	10/2/2007	27.51	21.49	44%
EPA-07	10/8/2007	28.40	54.60	66%
EPA-08	10/8/2007	27.01	38.99	59%

Table 3
Detected Constituents in Zone 1, October 2007
United Nuclear Corporation, Church Rock Site
Church Rock, New Mexico

Chemical Name	Annual Review Report Action Level	NRC License Compliance Standards	Unit	0142	0515 A	0604	0614	EPA 2	EPA 2 DUP	EPA 04	EPA 05	EPA 07
aluminum	5		mg/l		0.5	5.7						0.5
ammonia			mg/l	0.15	6.2 D	0.24	72.3 D	0.33	0.32	0.64	8.2 D	0.15
bicarbonate			mg/l	250	217	5	1520	287	348	128	65	598
calcium			mg/l	33.9	436 D	418 D	540 D	344 D	350 D	543 D	431 D	489 D
chloride	250		mg/l	16	255 D	82 D	378 D	20	20	36	69 D	200
cobalt	0.05		mg/l		0.04	0.26					0.05	0.02
gross alpha	15	15	pci/l		4.5	6.1	2.1	1.7	2.5	2.3	2.6	1.6
magnesium			mg/l	17	823 D	794 D	582 D	159 D	162 D	374 D	478 D	898 D
manganese	2.6		mg/l	0.03	16.8	10.8	0.49	1.42	1.39	3.43	1.15	1.96
nickel	0.05	0.05	mg/l		0.21	0.29						
nitrate	190		mg/l	0.3	61 D	75 D	78 D				18.4 D	127 D
pH (field)			su	7.14	5.40	4.86	6.43	6.85	6.78	6.67	5.93	6.19
pH (lab)			su	7.53	5.96	5.11	6.87	7.39	7.15	6.91	6.34	6.70
potassium			mg/l	3.5	15.9	13.7	11.9	6.1	6.2	8.1	10.2	7.8
radium 226			pci/l		1.3	1.7	0.7	1.1	1.4	0.9	1.3	
radium 228			pci/l			2.9	2					
radium 226&228	5	*	pci/l		1.3	4.6	2.7	1.1	1.4	0.9	1.3	
sodium			mg/l	305	445 D	287 D	455 D	185	188	170	119 D	334
sulfate	2125		mg/l	570	4440 D	4410 D	2910 D	1490 D	1470	2840 D	2960 D	4130 D
TDS	4800		mg/l	1090	7880	7160	6490	2600	2670	4520	4880	7820
TTHMs	80	80	ug/l		168	7.68	182	0.91				
uranium	0.3	0.3	mg/l		0.0006	0.0008	0.0508	0.0012	0.0012		0.0015	0.0019

Notes:
Shaded cells indicate exceedances of the annual review report action level.
* Combined radium NRC Site Groundwater Protection Standards are 5.0 pCi/Lfor Zone 3; 5.2 pCi/L for Southwest Alluvium (background); and 9.4 pCi/L for Zone 1 (background).
** TTHMs (total trihalomethanes) include chloroform; TTHMs MCL = 80 ug/L.

Table 4
NRC Source Materials License Groundwater Protection Standards and EPA ROD Cleanup Levels
United Nuclear Corporation, Church Rock Site, New Mexico

Constituent	NRC Source Materials License Compliance Standard	EPA ROD Cleanup Level
Sulfate		2160
Total Dissolved Solids		3170
NO3 as N		30
Manganese		2.6
Chloride		250
Aluminum		5
Antimony		0.014
Arsenic	0.05	0.05
Barium		1
Beryllium	0.05	0.017
Cadmium	0.01	0.01
Chromium		0.05
Cobalt		0.05
Copper		1
Iron		5.5
Lead	0.05	0.05
Mercury		0.002
Molybdenum		1
Nickel	0.05	0.2
Selenium	0.01	0.01
Silver		0.05
Thallium		0.014
Vanadium	0.1	0.7
Zinc		10
TTHMs*	0.08	none
Uranium	0.3	5
Radium 226 and 228	**	5
Lead-210	1 pCi/L	none
Thorium-230	5 pCi/L	15 pCi/L
Gross Alpha	15 pCi/L	15 pCi/L

Notes:
All units = mg/L unless stated otherwise.
ROD = EPA (1988c) Record of Decision.
The left column shows the full list of constituents that are analyzed quarterly; as shown, only some of these have Site NRC standards.
* TTHMs (total trihalomethanes) include chloroform; TTHMs MCL = 0.08 mg/L.
** Combined radium NRC Site Groundwater Protection Standards are 5.0 pCi/L for Zone 3; 5.2 pCi/L for Southwest Alluvium (background); . and 9.4 pCi/L for Zone 1 (background).

Table 5
Predicted Performance of the Zone 1 Natural System
United Nuclear Corporation, Church Rock Site
Church Rock, New Mexico

Constituent	Will Standards Be Met?		Remarks
	Section 1	Section 36	
Manganese	Maybe	Maybe	Dependent on bicarbonate availability
Sulfate	No	No	Limited by calcium availability
TDS	No	No	Governed by sulfate concentration
Metals	Yes	Yes	Attenuated by neutralization and adsorption
Radionuclides	Yes	Yes	Attenuated by neutralization and adsorption
TTHMs	Yes	Yes	Attenuated by dilution and dispersion

Table 6
Chloroform and Nickel Detections in The First Three Quarters of 2008
Zone 1 Monitoring Wells
United Nuclear Corporation
Church Rock Site, New Mexico

Well	Sample Date	Chloroform	Nickel	Total Trihalomethanes
0142	1/22/2008	-0.0005	-0.05	-0.0005
	4/16/2008	-0.0005	-0.05	-0.0005
	7/15/2005	-0.0005	-0.05	-0.0005
0515 A	1/16/2008	0.227	0.24	0.227
	4/9/2008	0.0226	0.27	0.0226
	7/9/2008	0.107	0.25	0.107
0604	1/16/2008	0.00644	0.29	0.00644
	4/9/2008	0.00664	0.29	0.00664
	7/9/2008	0.00764	0.29	0.00764
0614	1/16/2008	0.137	-0.05	0.137
	4/9/2008	0.21	-0.05	0.21
	7/9/2008	0.0636	-0.05	0.0636
EPA 02	1/21/2008	-0.0005	-0.05	-0.0005
	4/14/2008	-0.0005	-0.05	-0.0005
	7/14/2008	-0.0005	-0.05	-0.0005
EPA 04	1/21/2008	-0.0005	-0.05	-0.0005
	4/14/2008	-0.0005	-0.05	-0.0005
	7/14/2008	-0.0005	-0.05	-0.0005
EPA 05	1/21/2008	-0.0005	-0.05	-0.0005
	4/14/2008	-0.0005	-0.05	-0.0005
	7/14/2008	-0.0005	-0.05	-0.0005
EPA 07	1/21/2008	0.0006	-0.05	0.0006
	4/14/2008	0.00076	-0.05	0.00076
	7/14/2008	0.00057	-0.05	0.00057

Notes:
All units are concentrations in mg/L.
Negative (-) analytical results = nondetects indicating the laboratory reporting limit.

Table 7
Probable Tailings Liquid Chemistry
United Nuclear Corporation, Church Rock Site
Church Rock, New Mexico

Parameter	Units	UNC Summary [1]	Well No. 633 [2]	NRC Sample April 1987
pH	S.U.	1 - 3	1.71	3.34
TDS	mg/L	38,462 - 61,932	46,793	58,860
Aluminum	mg/L	1,167 - 2,906	2,880	2,100
Manganese	mg/L	100	100	210
Ammonia	mg/L	1,450 - 5,500	438	5,860
Nitrate	mg/L	75.5 - 282	1.84	<50
Th-230	pCi/L	1,064 - 277,733	NM	13
Conductivity	umhos/cm	NM [3]	17,718	NM
Calcium	mg/L	NM	240	460
Magnesium	mg/L	NM	287	1,100
Sodium	mg/L	NM	526	890
Potassium	mg/L	NM	4	NM
Bicarbonate	mg/L	NM	0	<1
Chloride	mg/L	NM	253	580
Sulfate	mg/L	24,813 - 43,581	28,209	41,000
Arsenic	mg/L	0.024 - 0.208	0.65	<0.60
Selenium	mg/L	0.001 - 0.161	0.29	<1.2
Iron	mg/L	NM	4,350	2,700
Lead	mg/L	NM	0.6	3.34
Cadmium	mg/L	NM	0.013	0.24
Zinc	mg/L	NM	10	20
Molybdenum	mg/L	<0.05 - 0.15	NM	<0.24
Ra-226	pCi/L	13	NM	24 [4]
Ra-228	pCi/L	2.6	NM	not reported

Notes:
This table is Table 3 of the Record of Decision (ROD; EPA, 1988c).
(1) Range for 3 samples collected and analyzed by UNC.
(2) One-time sampling event. Analytical data are also presented in Appendix G of the ROD (EPA, 1988c).
(3) NM = not measured.
(4) Total radium (226 + 228).

Table 9
Zone 1 Darcy Seepage Velocities From Various Time Periods
United Nuclear Corporation, Church Rock Site, New Mexico

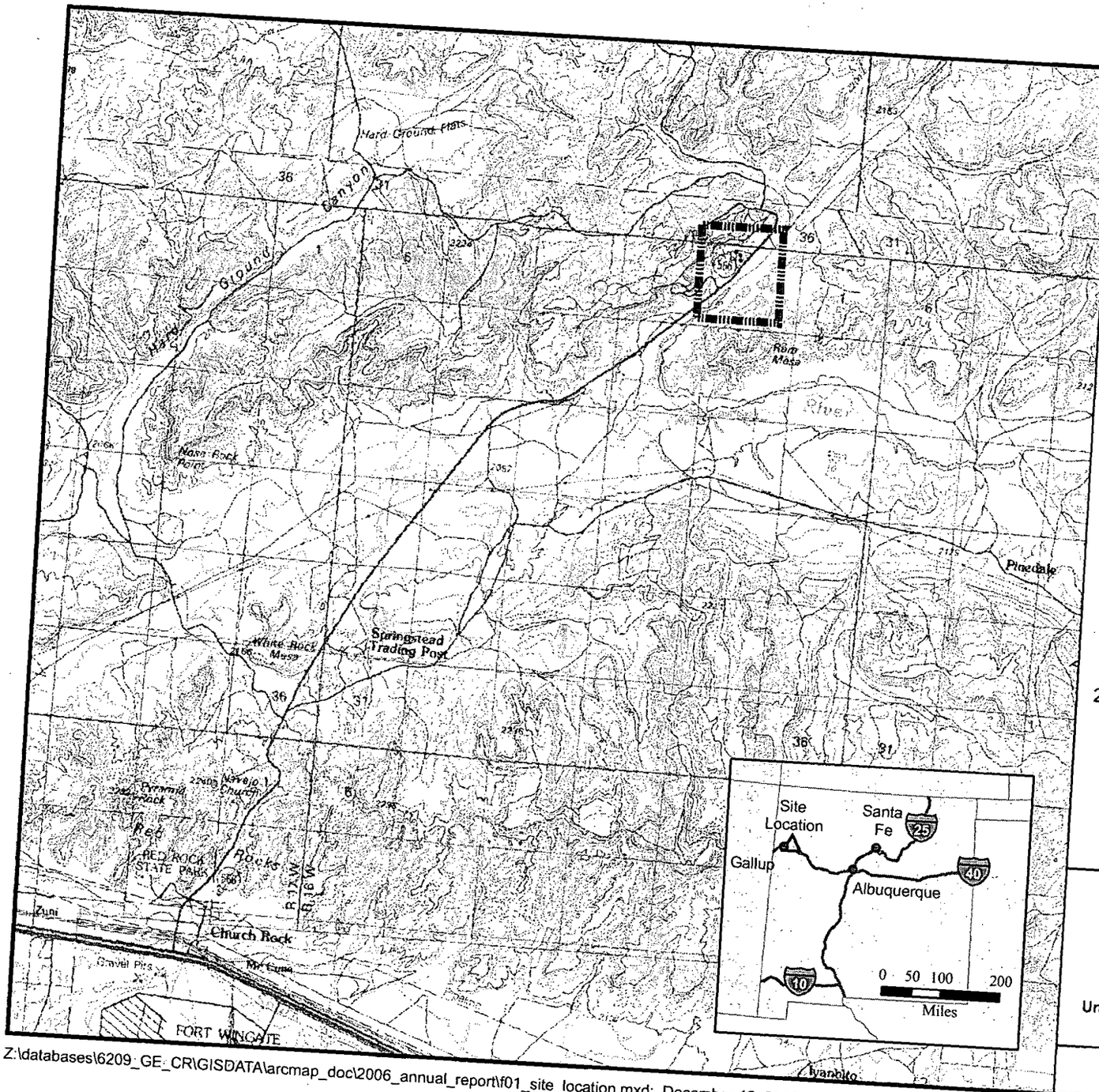
Date	Piezometric Surface Dip (degrees)	Flow Azimuth	Hydraulic Gradient	Estimated Effective Porosity	Estimated Hydraulic Conductivity (ft/yr)	Seepage Velocity (ft/yr)	Standard Error of Fit (ft)
1/15/1983	4.1	62.8	0.0720	0.08	103.5	93.11	5.54
4/15/1988	2.8	47.5	0.0483	0.08	103.5	62.47	5.70
10/15/1994	2.2	40.3	0.0377	0.08	103.5	48.79	4.47
7/15/2003	1.8	27.0	0.0314	0.08	103.5	40.64	3.29
10/15/2007	1.8	23.8	0.0307	0.08	103.5	39.67	3.11

Note:
The standard error of fit refers to differences between well elevations and the fitted planar surface used to estimate the magnitude and direction of the hydraulic gradient.
See Appendix B for piezometric surface maps tied to the above dates.

Table 10
Wells Used to Develop Zone 1 Darcy Seepage Velocities
United Nuclear Corporation, Church Rock Site, New Mexico

1/15/1983	4/15/1988	10/15/1994	7/15/2003	10/15/2007
0501 A	0501 A	0501 A	0501 A	0501 A
0502 A	0502 A	0515 A	0502 A	0502 A
0505 A	0505 A	0516 A	0505 A	0505 A
0515 A	0515 A	0604	0515 A	0515 A
0516 A	0516 A	0614	0604	0604
	0604	0615	0614	0614
	0614	0619	EPA 02	EPA 02
	0616	EPA 02	EPA 04	EPA 04
	0617	EPA 04	EPA 05	EPA 05
	0619	EPA 05	EPA 07	EPA 07
	EPA 02	EPA 08	EPA 08	EPA 08
	EPA 04			
	EPA 05			
	EPA 07			
	EPA 08			

Notes:
Wells used for determining the hydraulic gradients shown for the dates shown here and in Table 8.
See Appendix B for piezometric surface maps showing well locations.



N

LEGEND

Approximate Site Location

NEW MEXICO INSET LEGEND

- Major City
- Church Rock Site Location
- Interstate Highway
- State Boundary

Notes:

1. Topographic basemap taken from the United States Geologic Survey 30x60 minute, 1:100,000 scale, Gallup, New Mexico Topographic Map, 1981.
2. Data for New Mexico Inset map taken from ESRI Data & Maps 2002 CD-ROM set.

1 0.5 0 1
Miles

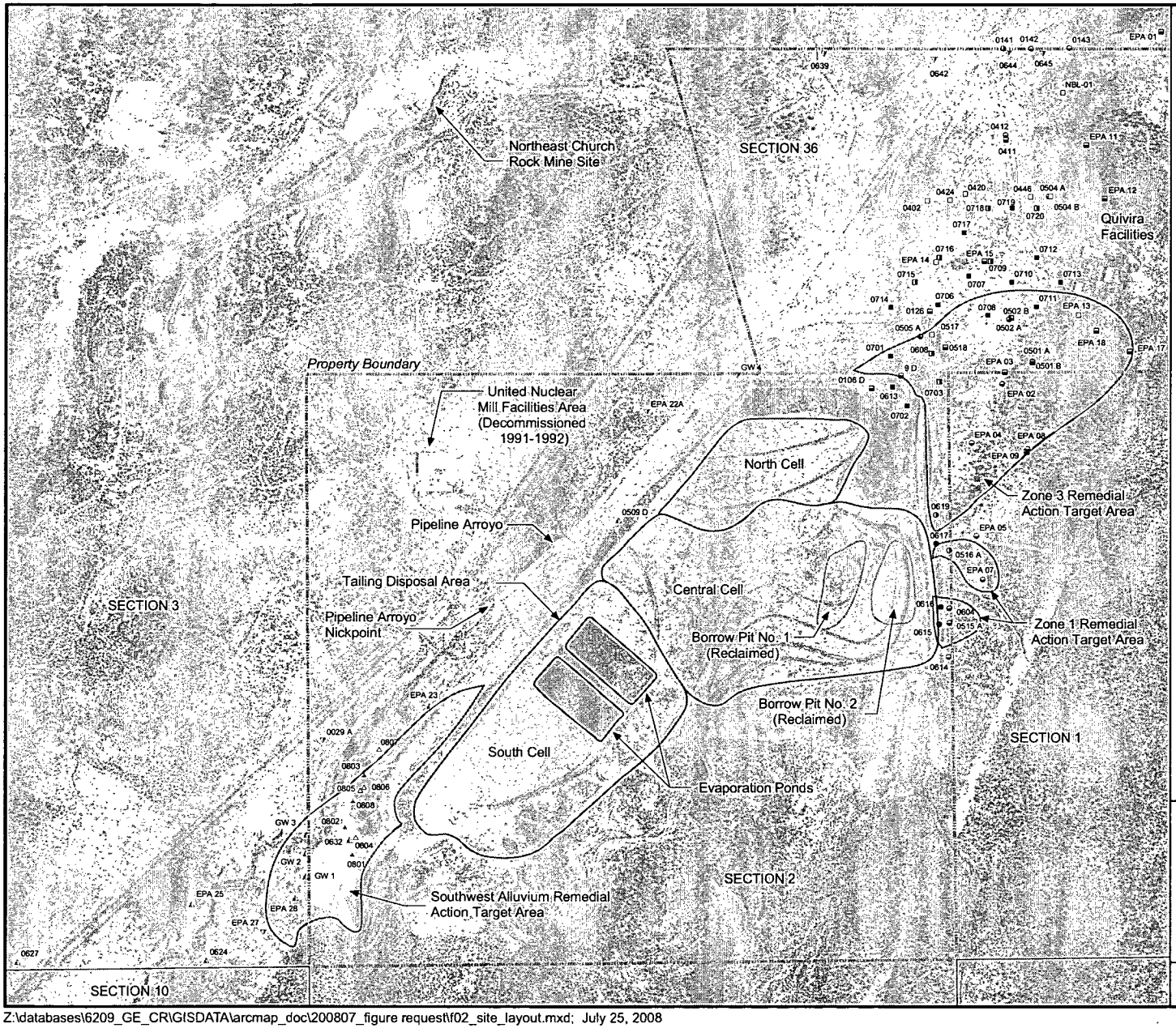
FIGURE 1

Site Location Map

United Nuclear Corporation Church Rock Site, Church Rock, New Mexico

N.A. Water Systems

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\2006_annual_report\f01_site_location.mxd; December 12, 2006



Legend

Southwest Alluvium

- Idled Extraction Well
- Monitoring Well
- Water Level Monitoring Well
- Dry Monitoring Well

Zone 3

- Idled Extraction Well Used for Monitoring
- Decommissioned or Idle Extraction Well
- Monitoring Well
- Dry or Decommissioned Monitoring Well

Zone 1

- Decommissioned Extraction Well
- Decommissioned Monitoring Well
- Monitoring Well

0 400 800 1,600
Feet

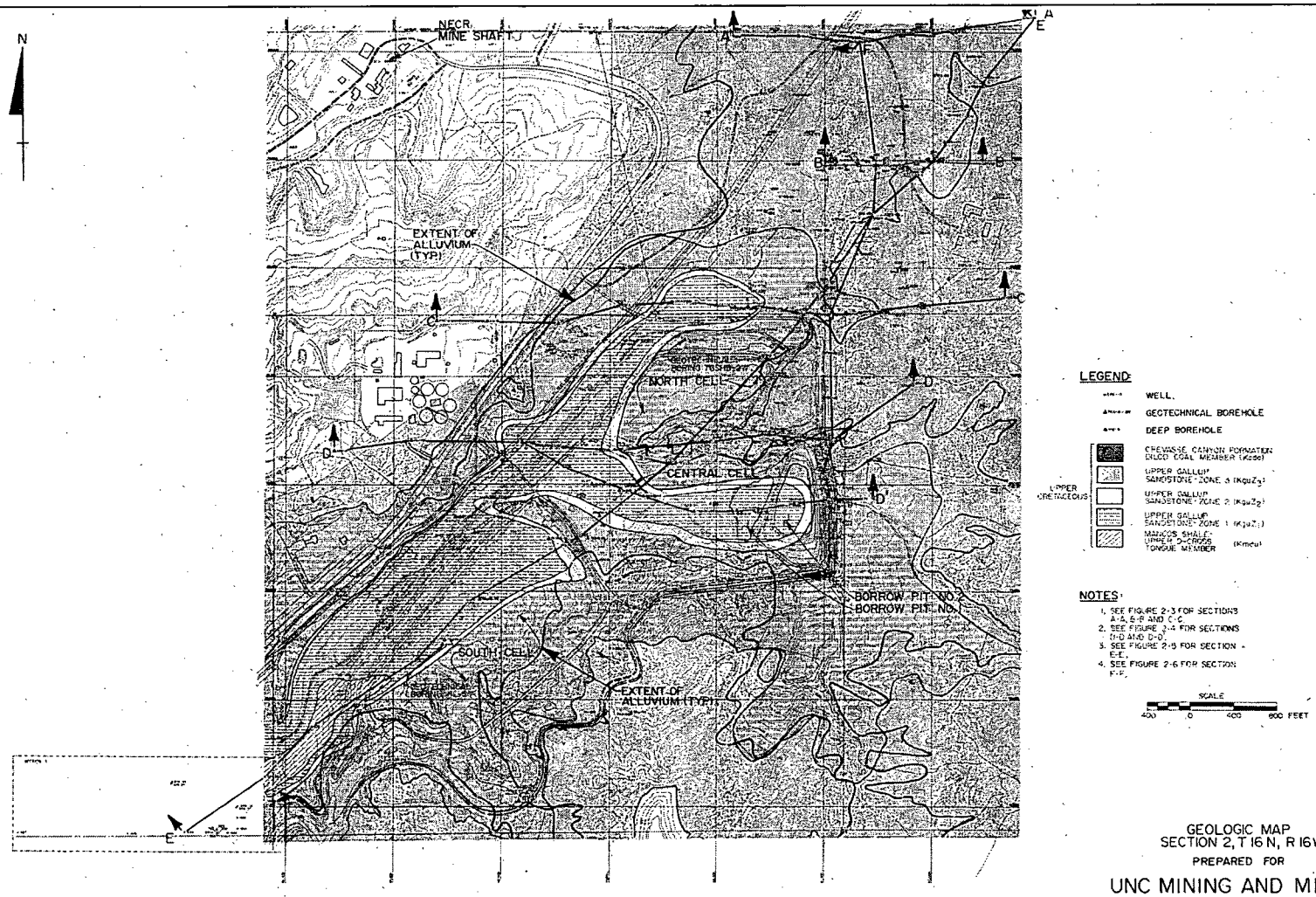
FIGURE 2

Site Layout and Performance Monitoring Well Locations 2007 Operating Year

United Nuclear Corporation Church Rock Site, Church Rock, New Mexico

N.A. Water Systems

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\200807_figure request\f02_site_layout.mxd; July 25, 2008



GEOLOGIC MAP
SECTION 2, T 16 N, R 16W
PREPARED FOR
UNC MINING AND MILLING
GALLUP, NEW MEXICO

REV NO	ISSUE DATE	DRAWN BY	CHECKED BY	APPROVED BY
		DRAFTING		ENGINEERING

DRAWINGS WITH ALPHA REVISIONS ARE PRELIMINARY AND SHALL NOT BE USED FOR FINAL DESIGN WORK OR FABRICATION

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SCALE

TITLE

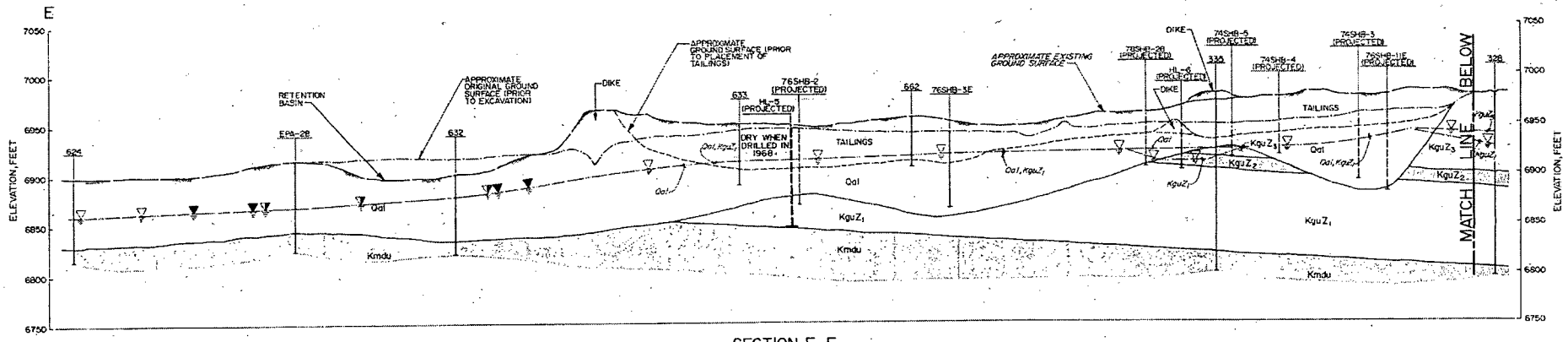
Geologic Map of the Site

From Canonie Environmental, May 1987, Geohydrologic Report, Figure 2-3

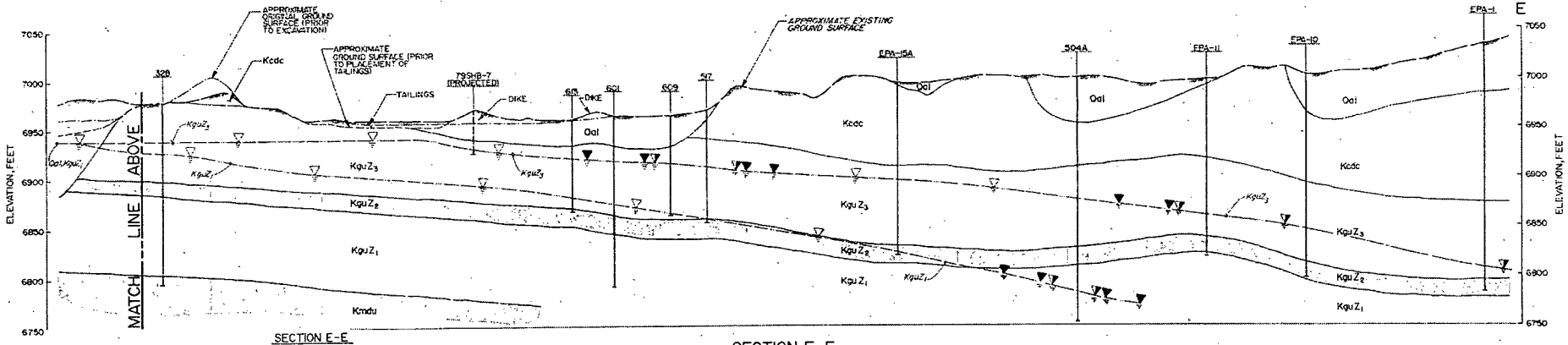
CONTRACT NO 56007747

DWG NO Figure 3

REV



SECTION E-E
(LOOKING NORTHWEST)



SECTION E-E
(LOOKING NORTHWEST)

SECTION E-E
(LOOKING NORTHWEST)

LEGEND:

QUATERNARY — Qal — ALLUVIUM

UPPER CRETACEOUS
- Kcdc — CRETACEOUS CANYON FORMATION BLUD COAL MEMBER
- KguZ3 — LAPPEY GALLUP SANDSTONE-ZONE 3
- KguZ2 — UPPER GALLUP SANDSTONE-ZONE 2
- KguZ1 — UPPER GALLUP SANDSTONE-ZONE 1
- Kmdu — MANCOS SHALE-UPPER D-CROSS TONGUE MEMBER

632 — BOREHOLE, FOR EXACT ELEVATION AND DEPTH REFER TO APPENDIX A.

ESTIMATED WATER LEVEL, MAY 1983

INFERRED WATER LEVEL, MAY 1983

ESTIMATED WATER LEVEL FROM CONTOURS SHOWN ON FIGURES 5-1, 5-2 AND 5-3

VERTICAL SCALE: 50 0 50 100 FEET

HORIZONTAL SCALE: 200 0 200 400 FEET

VERTICAL EXAGGERATION = 4X

N.A. WATER SYSTEMS

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SCALE

TITLE

Geologic Cross-Section along a Northeast-Southwest Line

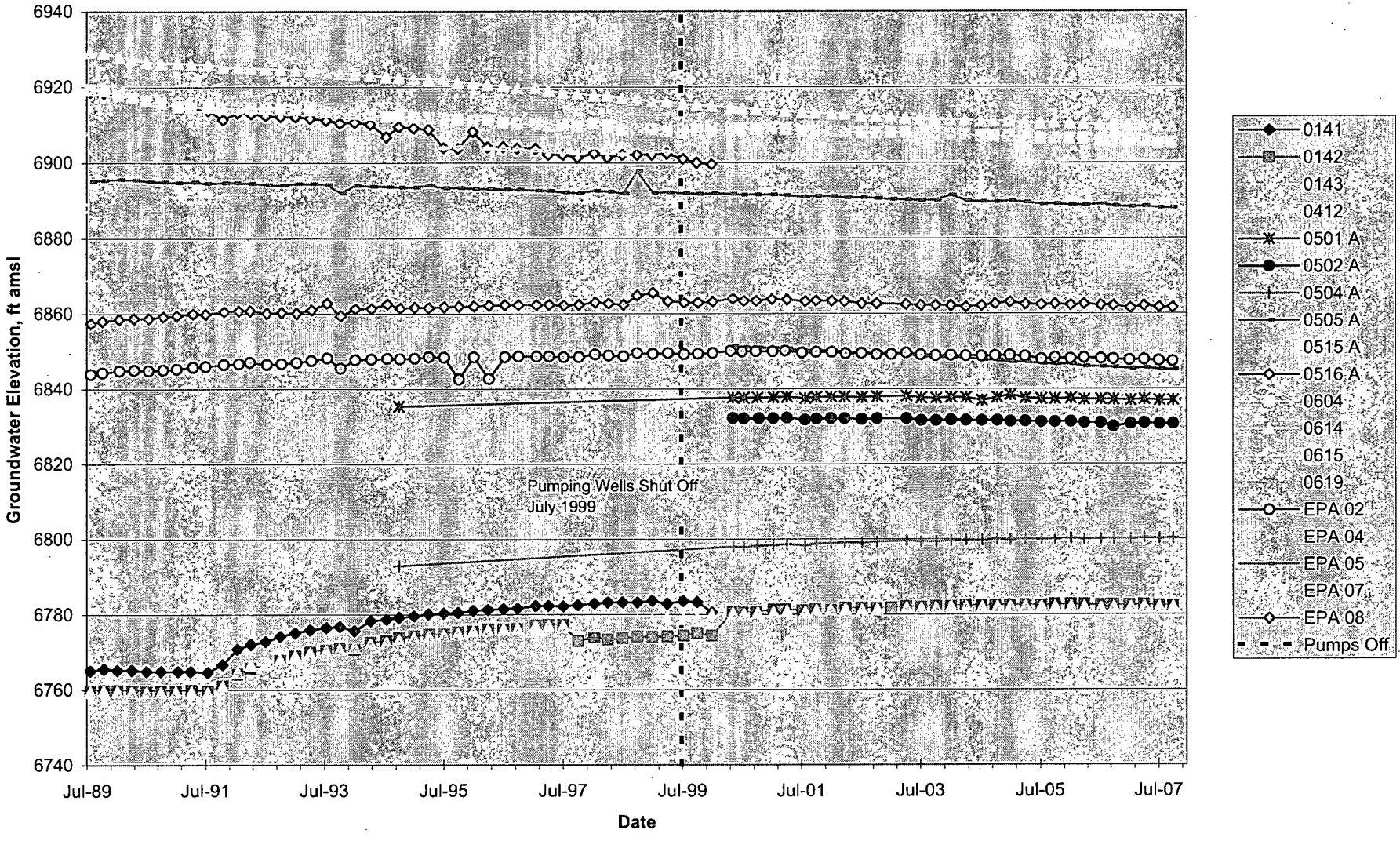
From Canonie Environmental, May 1987, Geohydrologic Report, Figure 2-6

CONTRACT NO. 56007747

DWG NO. Figure 4

REV

FIGURE 5
Zone 1 Water Levels 1989 to 2007
United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico



Legend

- Zone 1 Monitoring Well
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Cell Boundary
- Property Boundary

Notes:

1. Groundwater elevation values are displayed in feet above mean sea level.
2. Well names are displayed with black text.
3. Groundwater elevations are shown with blue text and enclosed in parentheses.
4. Aerial photo taken on August 1, 1996.

0 250 500 1,000
Feet

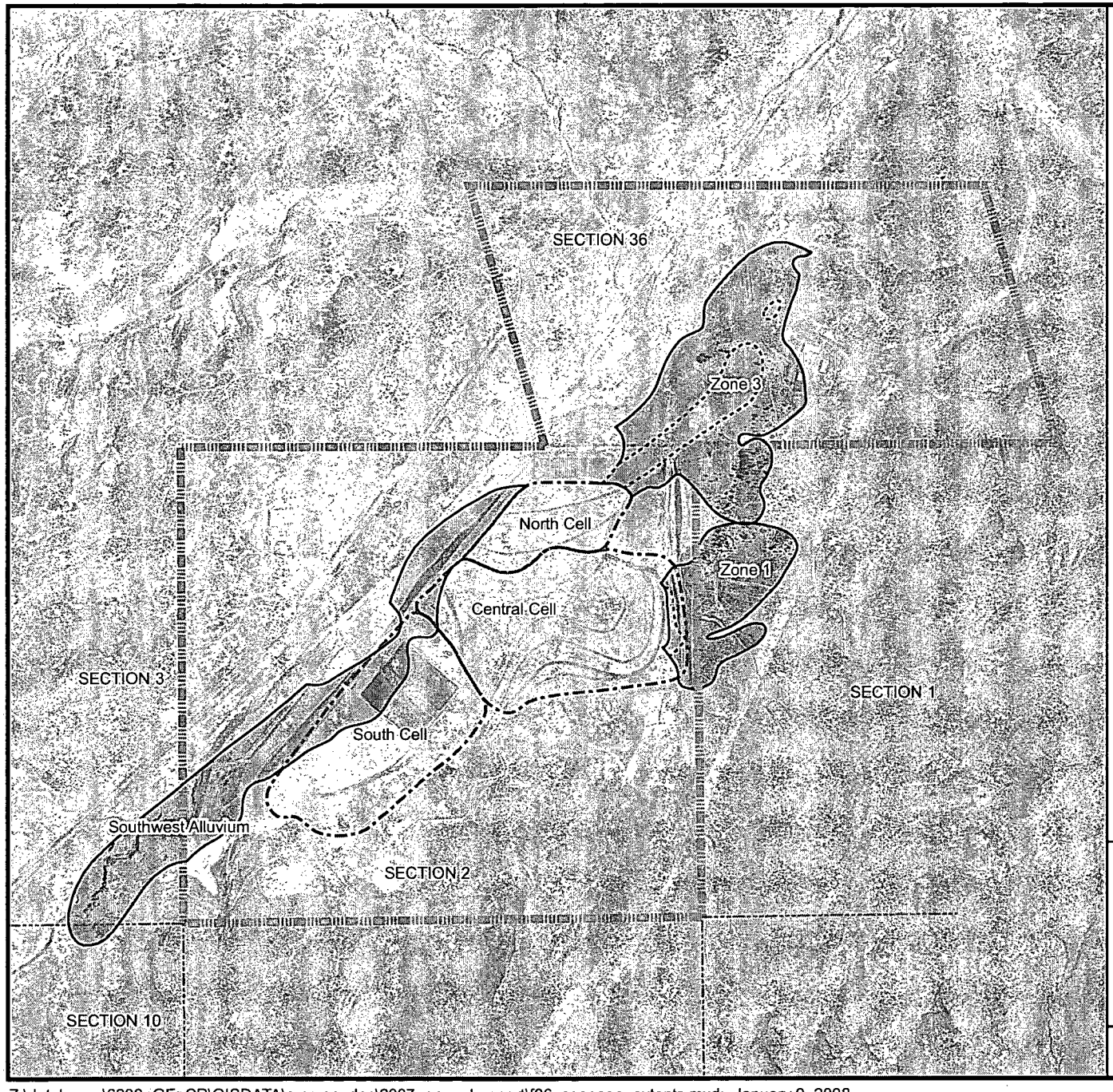
FIGURE 6

Zone 1 Potentiometric Surface Map
October 2007

United Nuclear Corporation Church Rock Site,
Church Rock, New Mexico

N.A. Water Systems

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\2007_annual_report\f47_z1_piezo.mxd; December 19, 2007



N

LEGEND

- Section Boundary
- Property Boundary
- Tailings Pond
- Groundwater with pH <= 4
- Seepage-Impacted Groundwater

Aerial photo taken on August 1, 1996.

0 750 1,500 3,000
Feet

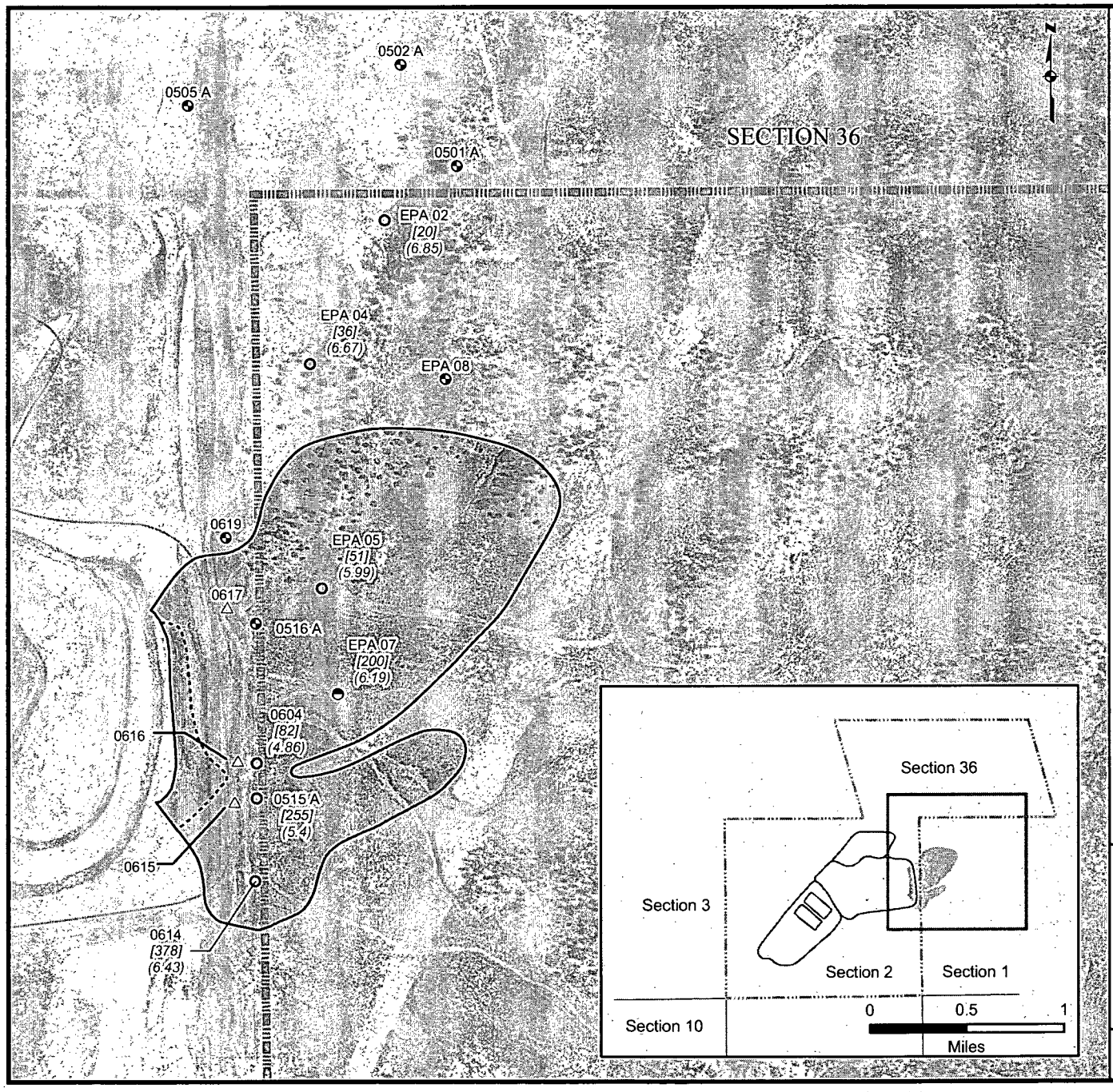
FIGURE 7

Extent of Seepage-Impacted Groundwater October 2007

United Nuclear Corporation Church Rock Site
Church Rock, New Mexico

N.A. Water Systems

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\2007_annual_report\f06_seepage_extents.mxd; January 9, 2008



Legend

Well Type

- Water Quality and Water Level Monitoring
- Water Level Monitoring
- Decomissioned East Pump Back
- Revised East Pump Back (Inactive)
- Cell Boundary
- Property Boundary
- Approximate Extent of Zone 1 Seepage Impact
- Approximate Extent of Zone 1 pH Less Than 4.0
- *[71]* Chloride result in mg/L
- *(6.03)* Field-measured pH in SU

Notes:

1. Seepage impacts delineated by chloride detections greater than 50 mg/L.
2. Aerial photo taken on August 1, 1996.

0 250 500 1,000
Feet

FIGURE 8

Zone 1 Extent of Seepage Impacts, October 2007

United Nuclear Corporation Church Rock Site, Church Rock, New Mexico

N.A. Water Systems

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\2007_annual_report\f49_z1_seepage.mxd; January 9, 2008

FIGURE 9
Zone 1 pH Over Time
United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

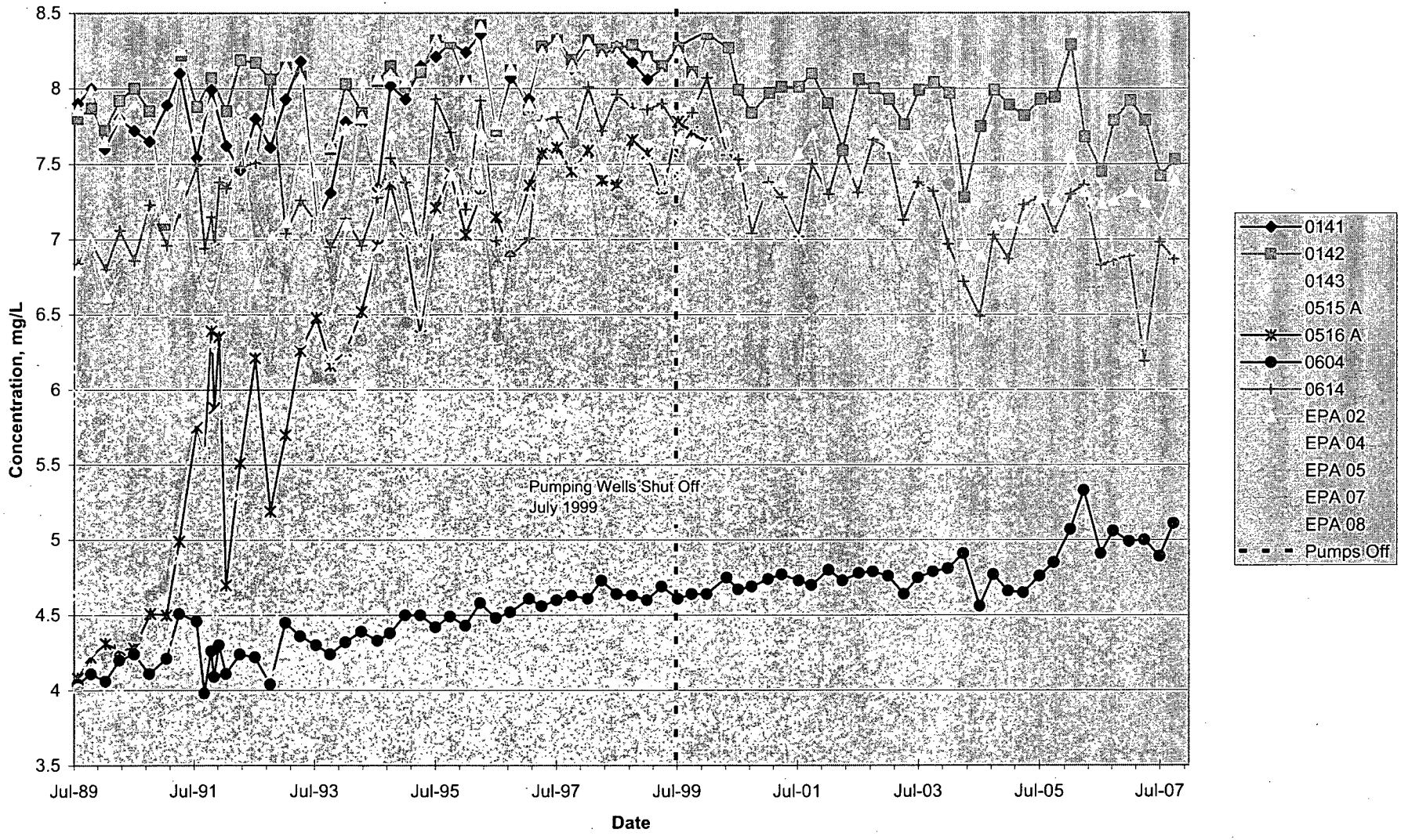
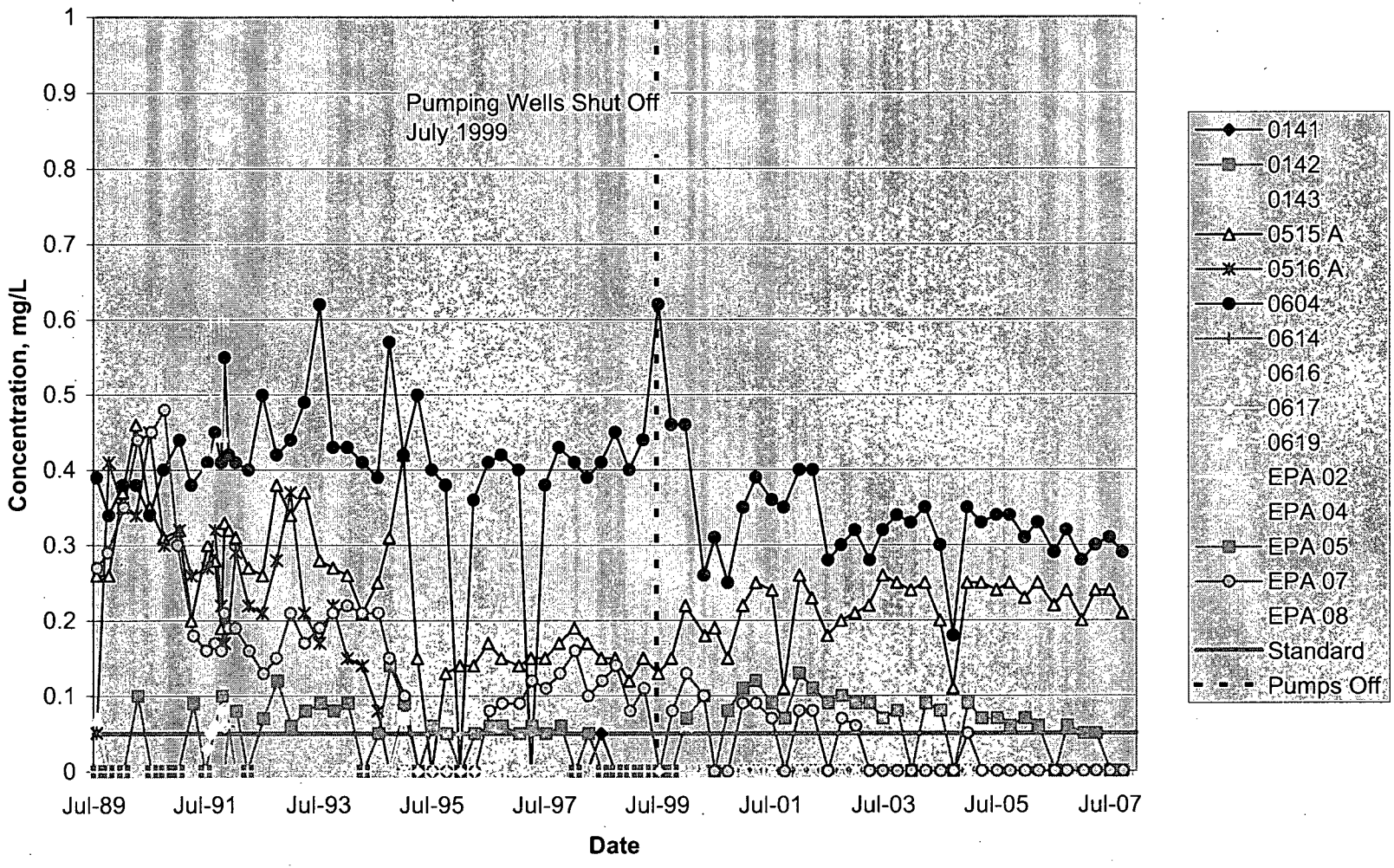
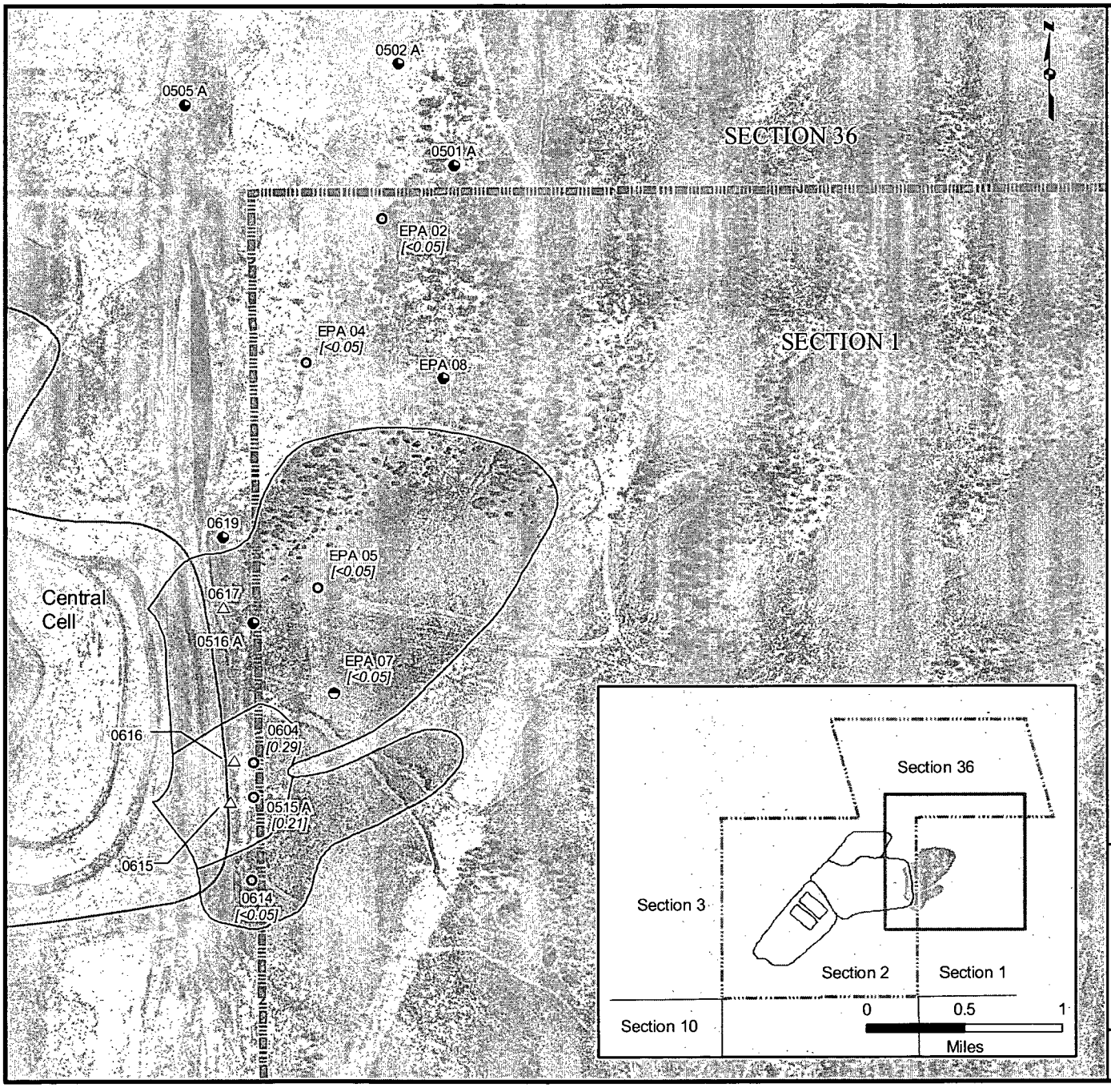


FIGURE 10
Nickel in Zone 1 Wells from 1989 to October 2007





Legend

Well Type

- Water Quality and Level Monitoring
- Water Level Monitoring
- Decomissioned East Pump Back
- Revised East Pump Back
- Cell Boundary
- Property Boundary
- Approximate Extent of Zone 1 Seepage Impacts
- Approximate Extent of Cobalt and/or Nickel Exceeding 0.05 mg/l

[<0.05] Nickel Concentration, mg/L

Notes:

1. Seepage impacts delineated by chloride detections greater than 50 mg/L.
2. Well names are displayed with black text.
3. Aerial photo taken on August 1, 1996.

0 250 500 1,000
Feet

FIGURE 11

Zone 1 Extent of Nickel Exceeding 0.05 mg/L, October 2007

United Nuclear Corporation Church Rock Site, Church Rock, New Mexico

N.A. Water Systems

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\200810_figure request\f11_z1_coni_contour_rev.mxd; October 15, 2008

FIGURE 12
Nickel Concentrations in Well 604 from 1989 to October 2007
United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

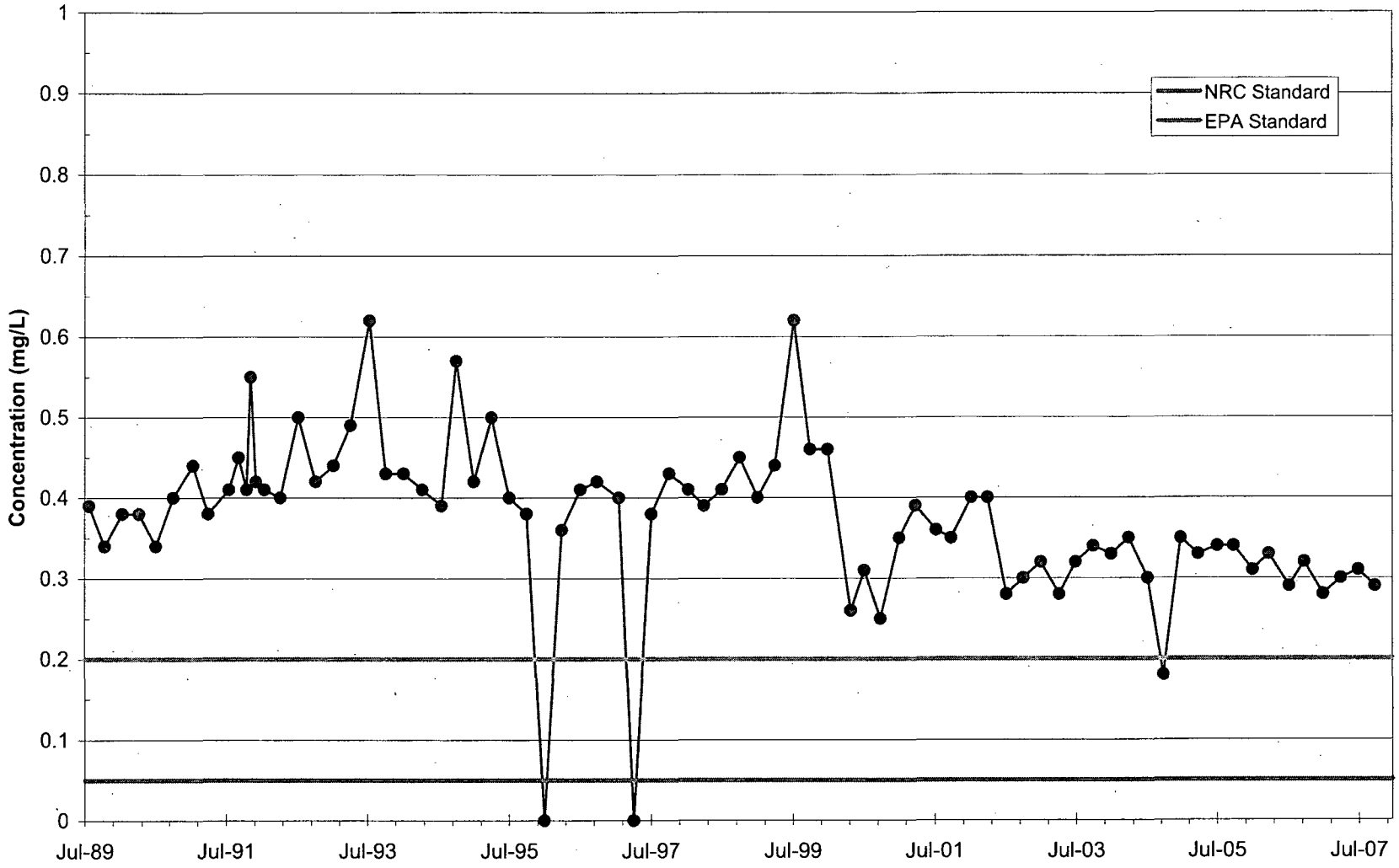


FIGURE 13

Nickel Concentrations in Well 604 Since Pumping Shutoff in July 1999

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

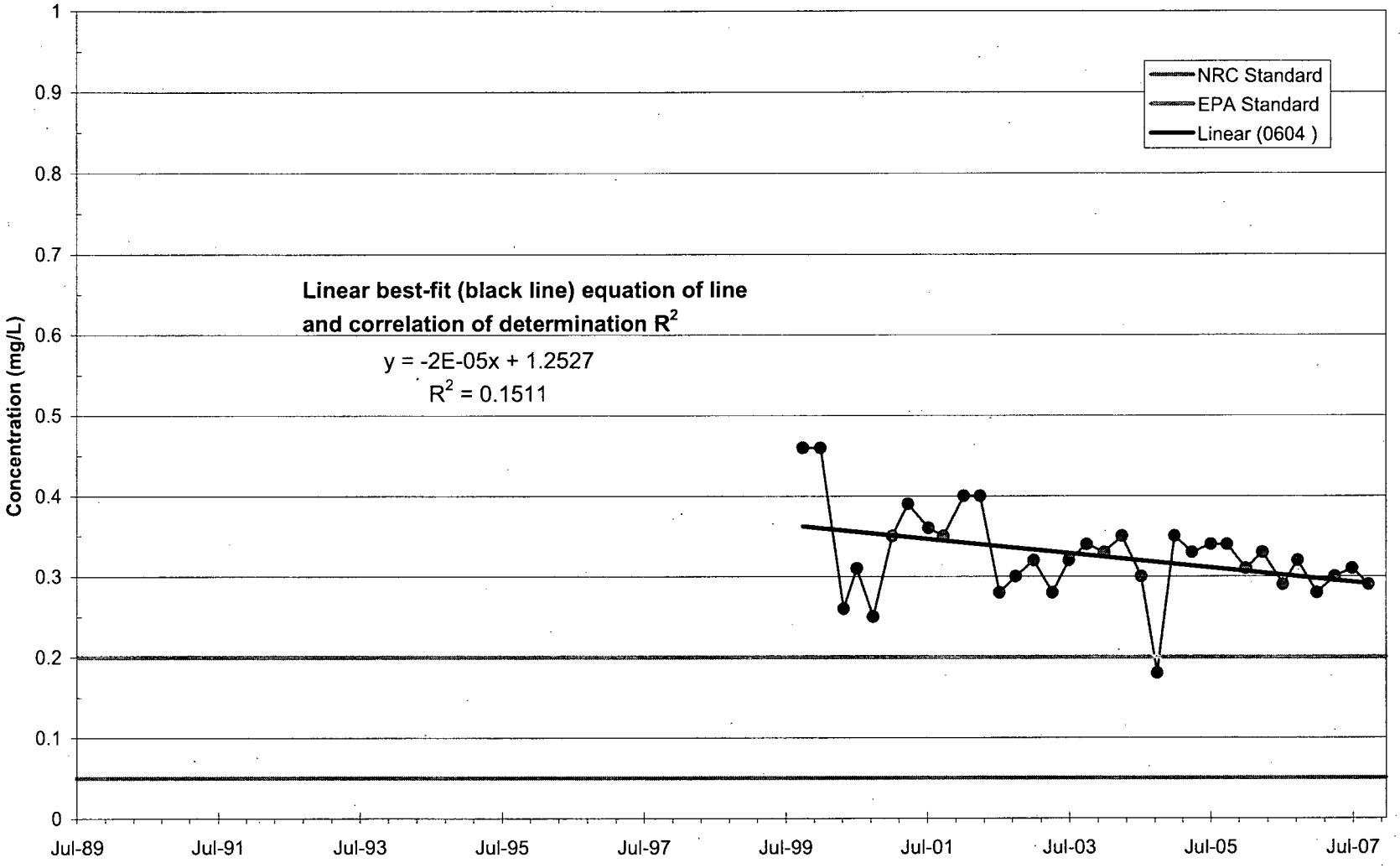


FIGURE 14

Total Trihalomethanes (Chloroform) Concentrations in Well 614 Over Time
United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

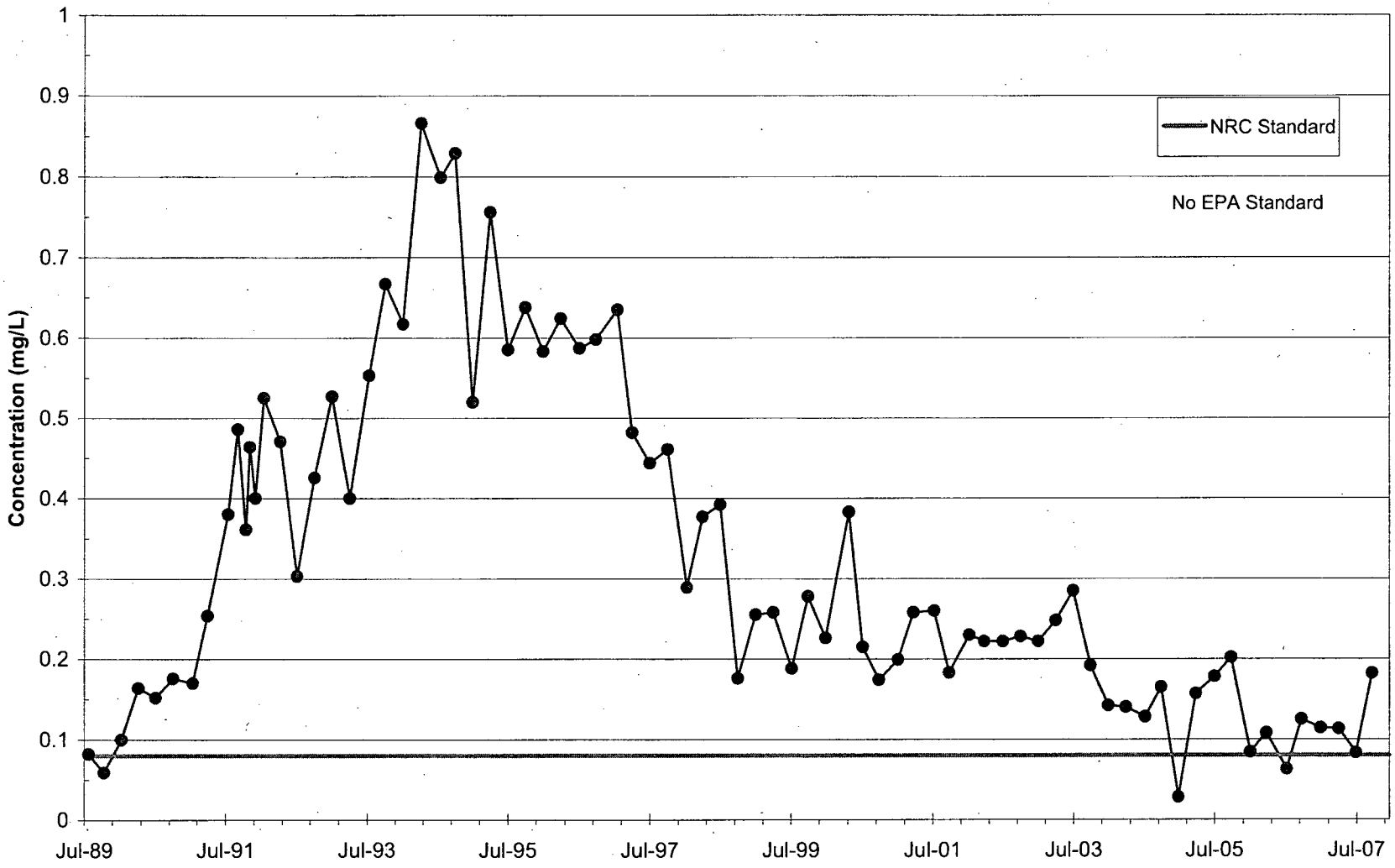
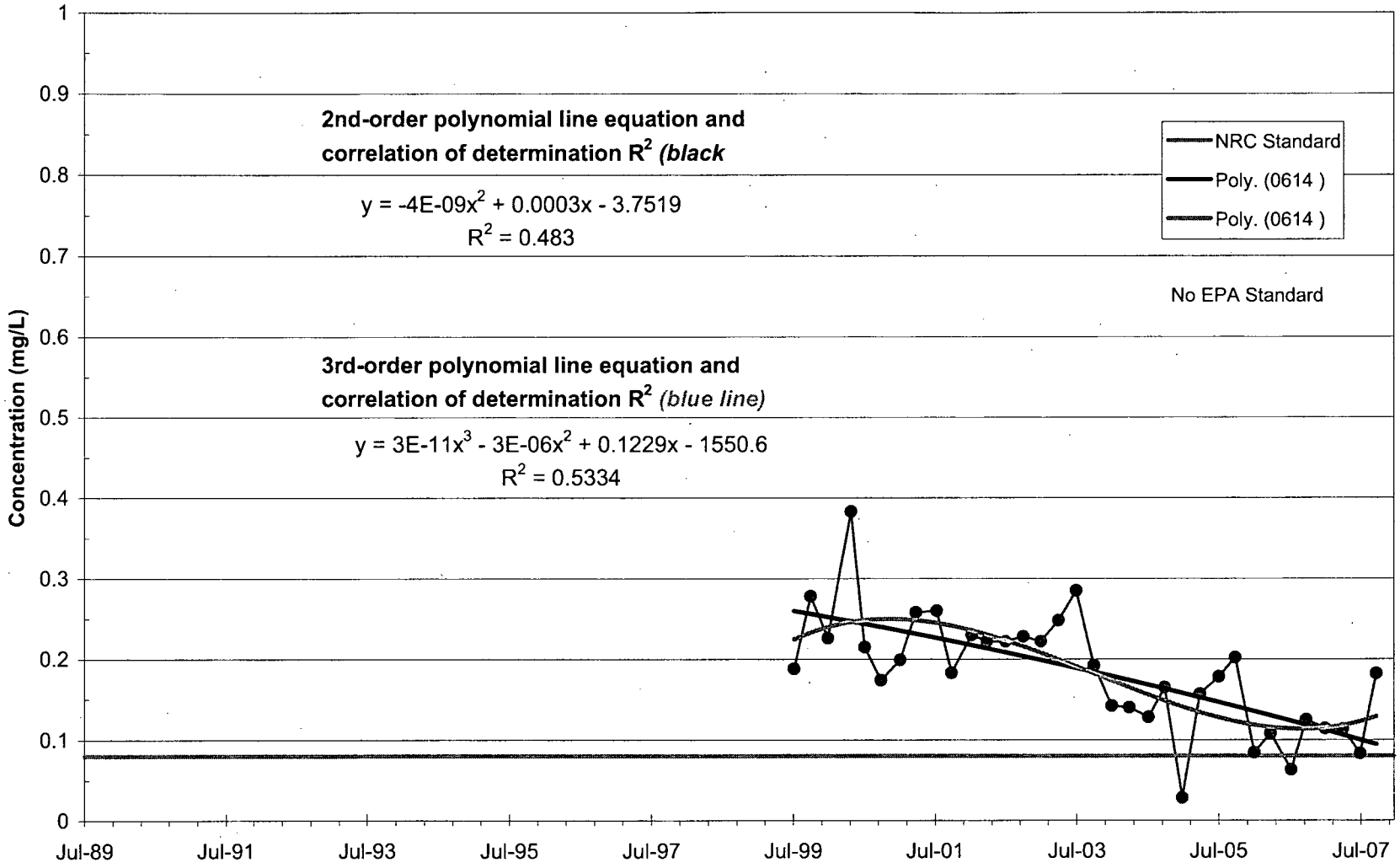


FIGURE 15

Total Trihalomethanes (Chloroform) Concentrations in Well 614 Since Pumping Shutoff in July 1999
United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico



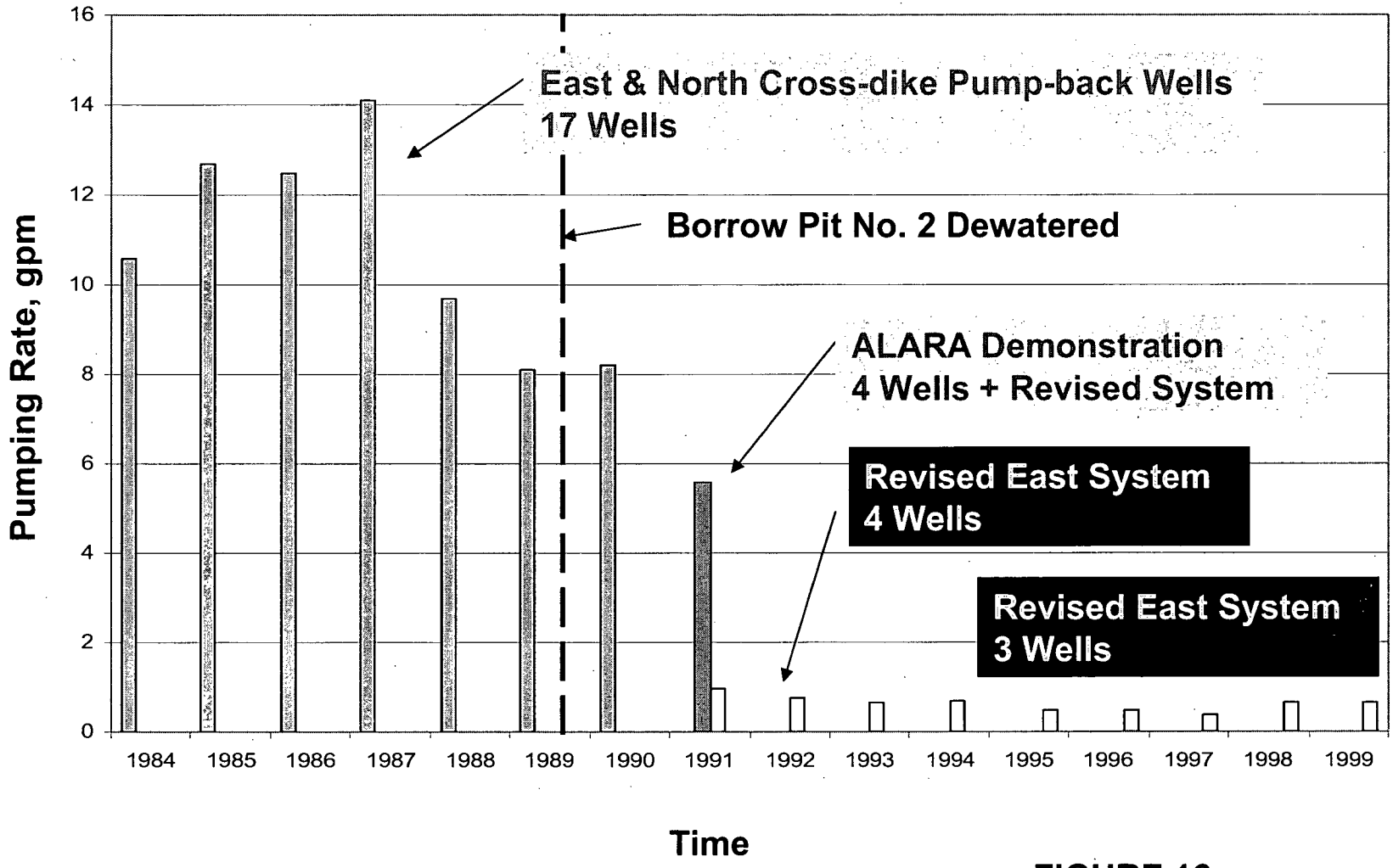
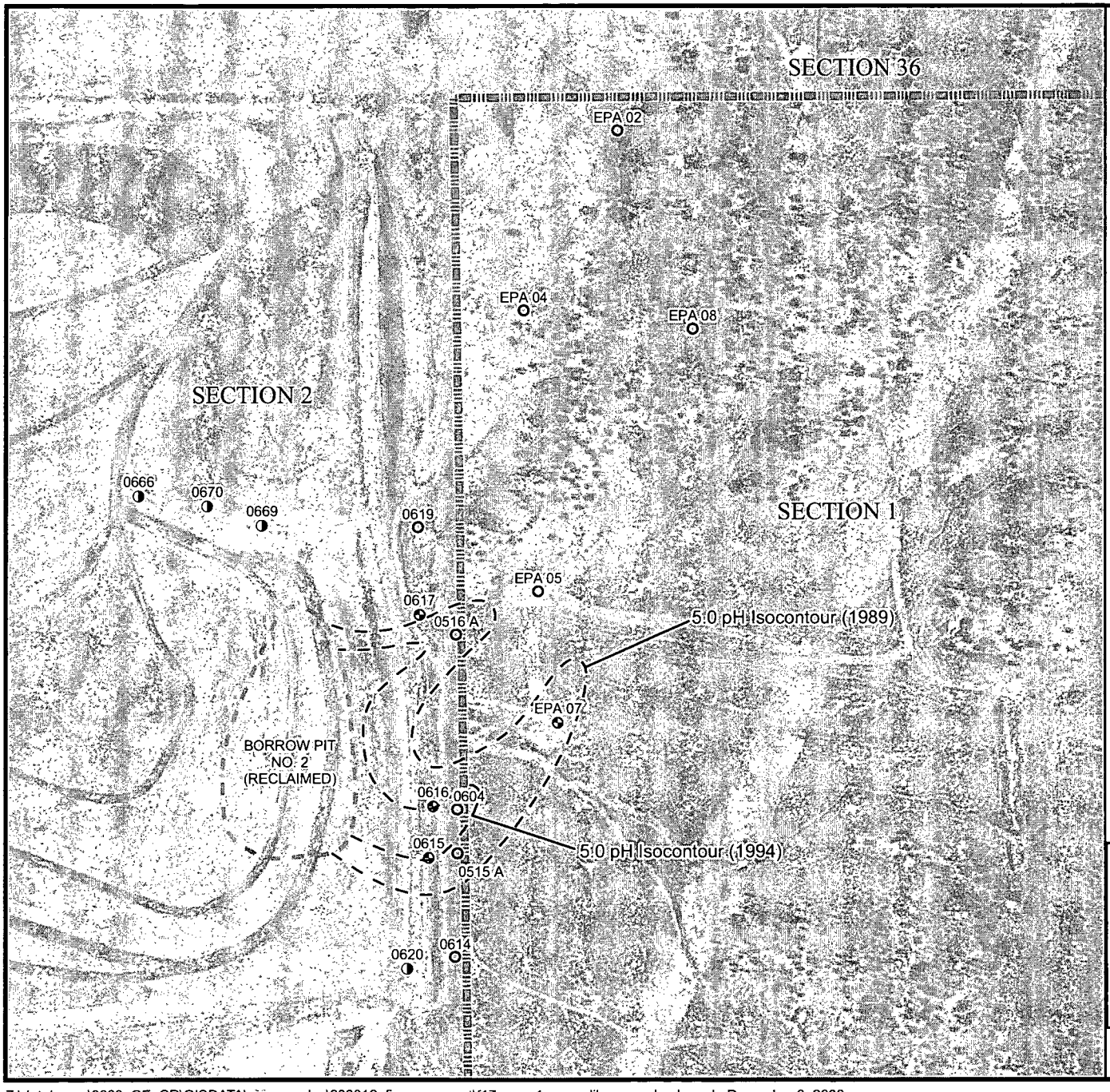


FIGURE 16
Historic Zone 1 Pumping Rates

From Earth Tech (2002d)



N

Legend

Well Type

- Monitoring Well Location
- ALARA Demonstration Well Location
- Revised East Pump-Back Well Location
- Inferred Area of pH < 5.0 in 1994
- Property Boundary

0 200 400 800
Feet

FIGURE 17

Locations of Zone 1 ALARA Demonstration Wells, Revised East Pump-Back Wells, and Monitoring Wells

United Nuclear Corporation Church Rock Site, Church Rock, New Mexico

N.A. WATER SYSTEMS

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\200812_figure request\f17_zone1_crossdike_pumpback.mxd; December 3, 2008

N

Legend

Well Type

- Monitoring Well Location
- North Cross-Dike Pump-Back Well Location
- East Pump-Back Well Location
- Property Boundary

0 200 400 800

Feet

FIGURE 18

Zone 1 Former East and North Cross-Dike Pump-Back Systems

United Nuclear Corporation Church Rock Site, Church Rock, New Mexico

N.A. WATER SYSTEMS

Z:\databases\6209_GE_CR\GISDATA\arcmap_doc\200812_figure request\f18_zone1_crossdike_pumpback.mxd; December 3, 2008

Appendix A
Historic Water Elevation and Water Quality Data

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0141		7/22/1989	6,765.10	7.90	7.90	938	21	8	316	3.74	244	540	17.1	0.42	0.06	< 1	< 0.1	0.003
0141		10/12/1989	6,765.50	7.70	8.00	938	19.1	8.4	306	4.6	257	482	21	0.37	0.1	< 1	< 0.1	0.003
0141		1/3/1990	6,765.20	7.90	7.60	994	23.9	11	306	3.4	262	497	24.8	0.72	0.42	< 1	< 0.1	0.002
0141		4/3/1990	6,765.20	7.90	7.80	1024	24	9.8	304	3.6	262	458	32.9	0.76	0.44	< 1	< 0.1	0.003
0141		7/2/1990	6,764.90	7.60	7.72	1036	25.2	11	321	3.9	257	487	37.2	0.1	0.26	< 1	< 0.1	0.007
0141		10/2/1990	6,764.90	7.60	7.65	1023	21.5	10.1	305	3.7	243	509	42	0.21	0.29	< 1	< 0.1	0.006
0141		1/16/1991	6,764.90	7.50	7.89	1051	25.6	11.9	337	5.8	248	534	65.7	0.3	0.35	< 1	< 0.1	0.002
0141		4/3/1991	6,764.90	7.70	8.10	1070	23.3	10.6	311	3.1	254	530	41	0.32	0.18	< 1	< 0.1	0.003
0141		7/16/1991	6,764.60	7.60	7.54	1059	23.1	10.1	305	3.4	248	550	43.5	0.4	0.17	< 1	< 0.1	0.003
0141		10/14/1991	6,766.70	7.50	7.99	1133	22.7	11.3	325	3.2	195	539	105	0.61	0.26	< 1	< 0.1	< 0.001
0141		1/14/1992	6,770.80	7.40	7.62	1042	25.7	13.1	321	3.5	249	525	88.2	1.87	< 0.01	< 1	< 0.1	< 0.001
0141		4/7/1992	6,772.10	7.40	7.46	1123	25.8	13.9	379	3.8	326	511	116	0.46	< 0.1	< 1	< 0.1	0.002
0141		7/7/1992	6,772.80	7.50	7.80	1175	26.3	13.6	414	4.69	239	506	118	0.68	< 0.1	< 1	< 0.1	0.002
0141		10/6/1992	6,774.20	7.60	7.61	1141	31.7	13.6	360	3.4	246	525	108	0.23	< 0.1	< 1	< 0.1	0.002
0141		1/5/1993	6,775.10	7.70	7.93	1370	34.1	14.3	420	4.6	248	638	68.9	0.13	< 0.1	< 1	< 0.1	0.001
0141		4/6/1993	6,775.90	7.80	8.18	1100	23.4	10	371	2.5	244	495	91.3	0.4	< 0.1	< 1	< 0.1	0.002
0141		7/13/1993	6,776.50	7.70	7.12	1071	23.8	11.1	343	2.9	257	575	79.1	< 0.05	< 0.1	< 1	< 0.1	< 0.001
0141		10/6/1993	6,776.80	7.80	7.31	1105	27.2	12	304	2.7	257	541	64	0.47	0.16	< 1	< 0.1	< 0.001
0141		1/5/1994	6,775.70	7.70	7.78	1101	28.7	12.8	313	2.9	237	550	71	0.39	0.73	< 1	< 0.1	< 0.001
0141		4/13/1994	6,778.30	7.70	7.76	1017	35.1	11.7	301	2.4	234	499	49.4	0.18	< 0.1	< 1	< 0.1	< 0.001
0141		7/20/1994	6,778.70	7.70	7.34	1010	33.3	10.7	312	2.9	240	548	42.8	0.34	0.13	< 1	< 0.1	< 0.001
0141		10/4/1994	6,779.20	7.60	8.02	1076	25.9	11.5	342	3.4	260	537	43.2	0.15	< 0.1	< 1	< 0.1	< 0.001
0141		1/4/1995	6,779.60	7.50	7.93	995	26	11	321	3.3	257	493	39.8	0.42	< 0.1	< 1	< 0.1	< 0.001
0141		4/6/1995	no data	7.60	8.15	1038	25	12.6	291	3.1	254	507	28.2	0.62	5.19	< 1	< 0.1	< 0.001
0141		7/6/1995	6,780.30	7.60	8.21	1073	28.5	13.8	306	3.2	256	528	30.4	0.24	< 0.1	< 1	< 0.1	< 0.001
0141		10/3/1995	6,780.50	7.20	8.30	1038	22.8	10	297	3	261	485	25.9	0.46	< 0.1	< 1	< 0.1	0.004
0141		1/3/1996	6,781.00	7.20	8.24	1097	26.6	12.1	319	3.2	255	554	15.4	0.08	0.32	< 1	< 0.1	0.002
0141		4/2/1996	6,781.30	7.20	8.36	1008	25.5	11.4	283	3.3	259	526	29.1	0.39	0.16	< 1	< 0.1	< 0.001
0141		7/7/1996	6,781.50	8.40	7.75	1034	26.2	11.1	288	3	254	481	23.2	0.36	< 0.1	< 1	< 0.1	< 0.001
0141		10/1/1996	6,781.60	7.30	8.07	1010	25.1	11.7	300	3.1	254	498	25.4	0.31	< 0.1	< 1	< 0.1	< 0.001
0141		1/21/1997	6,782.30	6.70	7.93	903	23.9	10.6	303	3.17	256	500	22.5	0.3	< 0.1	< 1	< 0.1	0.002
0141		4/8/1997	6,782.30	7.00	8.25	962	21.5	9.6	293	3.1	256	479	22.4	0.26	0.14	< 1	< 0.1	< 0.001
0141		7/8/1997	6,782.20	7.90	8.33	977	25.2	11.3	304	3.2	251	516	24.4	1.33	0.13	< 1	< 0.1	< 0.001
0141		10/7/1997	6,782.50	7.10	8.13	997	26.2	12	277	2.94	256	504	22.8	0.2	0.19	< 1	< 0.1	< 0.001
0141		1/15/1998	6,782.90	7.80	8.29	1000	27	12.1	292	3.3	259	541	26.3	0.17	0.25	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0141		7/22/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.14	< 0.1	< 0.05	< 0.001	< 0.1	0.0069	< 0.2	2.9	2.9	0.6	< 1	2
0141		10/12/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.05	0.02	< 0.05	0.001	< 0.1	0.019	6.5	< 1	6.5	< 0.2	12	7.1
0141		1/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.07	0.02	< 0.05	< 0.001	< 0.1	0.014	0.6	< 1	0.6	< 0.2	2	1.7
0141		4/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.16	< 0.1	< 0.05	0.001	< 0.1	0.008	0.6	< 1	0.6	1.6	< 1	2.5
0141		7/2/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.18	< 0.1	< 0.05	0.001	< 0.1	0.0078	0.5	< 1	0.5	< 0.2	< 1	< 1
0141		10/2/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.15	< 0.1	< 0.05	0.001	< 0.1	0.007	0.5	< 1	0.5	< 0.2	< 1	< 1
0141		1/16/1991	< 0.01	< 0.01	0.01	< 0.05	0.14	< 0.1	< 0.05	< 0.001	< 0.1	0.0065	0.2	< 1	0.2	< 0.2	< 1	< 1
0141		4/3/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.12	< 0.1	< 0.05	< 0.001	< 0.1	0.005	0.4	< 1	0.4	< 0.2	< 1	< 1
0141		7/16/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.19	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	2	< 1
0141		10/14/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.16	< 0.1	< 0.05	0.001	< 0.1	0.022	0.8	< 1	0.8	< 0.2	< 1	< 1
0141		1/14/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.13	< 0.1	< 0.05	0.002	< 0.1	0.005	8.4	3.7	12.1	< 0.2	< 1	9
0141		4/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.15	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		7/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.12	< 0.1	< 0.05	0.001	< 0.1	0.005	2.3	1.5	3.8	< 0.2	< 1	2.5
0141		10/6/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.2	< 0.1	< 0.05	0.001	< 0.1	0.01	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		1/5/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.41	< 0.1	< 0.05	0.007	< 0.1	0.011	0.4	< 1	0.4	< 0.2	< 1	< 1
0141		4/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.19	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.3	< 1	0.3	< 0.2	< 1	< 1
0141		7/13/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.16	< 0.1	< 0.05	< 0.001	< 0.1	0.005	< 0.2	2.5	2.5	< 0.2	1	< 1
0141		10/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.22	< 0.1	< 0.05	< 0.001	< 0.1	0.006	0.6	< 1	0.6	< 0.2	< 1	< 1
0141		1/5/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.19	< 0.1	< 0.05	< 0.001	< 0.1	0.005	0.4	< 1	0.4	< 0.2	6.2	< 1
0141		4/13/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.15	< 0.1	< 0.05	< 0.001	< 0.1	0.008	0.5	< 1	0.5	< 0.2	1.7	< 1
0141		7/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.2	< 0.1	< 0.05	0.001	< 0.1	0.004	1.5	< 1	1.5	< 0.2	< 1	1.7
0141		10/4/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.26	< 0.1	< 0.05	< 0.001	< 0.1	0.003	0.5	< 1	0.5	< 0.2	< 1	< 1
0141		1/4/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.29	< 0.1	< 0.05	< 0.001	< 0.1	0.016	0.7	< 1	0.7	< 0.2	< 1	< 1
0141		4/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.15	< 0.1	< 0.05	< 0.001	< 0.1	0.004	0.4	< 1	0.4	< 0.2	< 1	< 1
0141		7/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.3	< 0.1	< 0.05	0.001	< 0.1	0.0033	1	< 1	1	< 0.2	< 1	< 1
0141		10/3/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.14	< 0.1	< 0.05	< 0.001	< 0.1	0.0034	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	0.3	1.4	1.7	0.6	< 1	1.1
0141		4/2/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.1	< 0.1	< 0.05	< 0.001	< 0.1	0.0016	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		7/7/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.13	< 0.1	< 0.05	< 0.001	< 0.1	0.0039	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		10/1/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.12	< 0.1	< 0.05	0.007	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		1/21/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.1	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.08	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		7/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.12	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	28	< 1
0141		10/7/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.13	< 0.1	< 0.05	< 0.001	< 0.1	0.005	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		1/15/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.07	< 0.1	< 0.05	< 0.001	< 0.1	0.0031	< 0.2	< 1	0	< 0.2	< 1	2.8

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0141		4/7/1998	6,783.20	7.50	8.22	999	21.8	9.9	285	2.9	259	490	20.3	0.19	< 0.1	< 1	< 0.1	< 0.001
0141		7/7/1998	6,783.20	8.00	8.28	976	23	10.6	302	3.2	259	469	20.9	0.39	< 0.1	< 1	< 0.1	< 0.001
0141		10/6/1998	6,783.20	7.40	8.17	1030	28	12.4	296	3.7	261	545	22.9	3.48	0.34	< 1	< 0.1	0.009
0141		1/5/1999	6,783.60	7.80	8.06	1070	30.5	13.1	273	3.7	253	514	25.2	0.07	< 0.1	< 1	< 0.1	0.007
0141		4/6/1999	6,782.90	7.60	8.13	1070	31.9	16.3	299	3.4	249	516	25.2	0.23	0.21	< 1	< 0.1	0.002
0141		7/13/1999	6,783.54	6.80	8.28	968	29.7	14.2	285	7.5	258	507	30.2	0.37	< 0.1	< 1	< 0.1	0.004
0141		1/4/2000	6,780.50	7.00	8.38	2280	19.7	6.4	665	7	228	1150	176	< 0.05	0.28	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0141		4/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.1	< 0.1	< 0.05	< 0.001	< 0.1	0.0029	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		7/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.09	< 0.1	0.05	< 0.001	< 0.1	0.0027	< 0.2	< 1	0	< 0.2	< 1	< 1
0141		10/6/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.37	< 0.1	< 0.05	< 0.001	< 0.1	0.334	1.5	< 1	1.5	< 0.2	< 1	< 1
0141		1/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.43	0.14	< 0.05	< 0.001	< 0.1	0.014	1.5	< 1	1.5	< 0.2	< 1	< 1
0141		4/6/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.001	< 0.1	0.0059	1	< 1	1	< 0.2	< 1	< 1
0141		7/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.27	< 0.1	< 0.05	0.001	< 0.1	0.0541	1.1	< 1	1.1	< 0.2	< 1	< 1
0141		1/4/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.11	< 0.1	< 0.05	0.001	< 0.1	0.0183	< 0.2	< 1	0	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0142		7/22/1989	6,759.60	7.80	7.80	1129	37	17	332	4.36	244	599	17.7	0.45	0.19	< 1	< 0.1	0.001
0142		10/12/1989	6,759.80	7.70	7.87	1096	27.9	13.4	333	5.1	247	580	19.2	0.2	0.38	< 1	< 0.1	0.001
0142		1/3/1990	6,759.80	7.60	7.72	1130	30.6	13.9	332	3.9	245	579	20.6	0.34	0.4	< 1	0.1	0.002
0142		4/3/1990	6,759.60	7.80	7.92	1265	47.4	23.1	318	4.4	281	648	18.5	0.71	0.34	< 1	< 0.1	0.001
0142		7/2/1990	6,759.40	7.60	8.00	1106	32.2	13.6	317	4	253	564	18.1	0.17	0.31	< 1	0.1	0.001
0142		10/2/1990	6,759.60	7.70	7.85	1116	22.8	11	310	3.4	234	590	18.8	0.09	0.33	< 1	0.1	0.001
0142		1/3/1991	6,759.50	7.70	7.10	1113	29	14.3	318	11.9	244	607	18	0.36	0.33	< 1	< 0.1	0.001
0142		4/9/1991	6,759.80	7.70	8.22	1015	31.1	13.7	308	3.9	250	588	17.4	0.21	0.25	< 1	< 0.1	< 0.001
0142		7/16/1991	6,759.60	7.70	7.88	1085	35.2	16.8	286	3.7	271	643	17.2	0.34	0.21	< 1	< 0.1	< 0.001
0142		10/14/1991	6,761.00	7.60	8.07	1110	31.6	14.8	297	3.4	271	590	15.3	0.3	0.14	< 1	< 0.1	< 0.001
0142		1/14/1992	6,764.10	7.40	7.85	1071	27.6	13.8	296	3.3	259	595	16.4	0.95	0.37	< 1	< 0.1	< 0.001
0142		4/7/1992	6,765.70	7.50	8.19	1023	28.8	15.6	335	4.5	256	579	17	0.25	< 0.1	< 1	< 0.1	0.001
0142		7/7/1992	no data	7.60	8.17	1101	35.5	19	355	4.84	263	588	16	0.99	< 0.1	< 1	< 0.1	0.001
0142		10/6/1992	6,767.90	7.80	8.06	1100	37	17.8	332	3.2	260	588	16.8	0.08	< 0.1	< 1	< 0.1	0.001
0142		1/5/1993	6,769.00	7.80	8.14	1019	27.1	11.9	279	3.9	256	542	17.4	0.31	< 0.1	< 1	< 0.1	0.002
0142		4/6/1993	6,770.00	7.80	8.08	1084	31.8	14.8	326	2.6	254	560	16.1	0.31	< 0.1	< 1	< 0.1	< 0.001
0142		7/13/1993	6,770.50	7.80	7.09	1066	33.5	15.4	293	2.9	264	597	17.2	< 0.05	< 0.1	< 1	< 0.1	< 0.001
0142		10/6/1993	6,771.00	7.80	7.60	1074	32.3	13.9	295	2.6	255	566	15.9	0.13	0.17	< 1	< 0.1	< 0.001
0142		1/5/1994	6,770.70	7.80	8.03	1056	33.7	15.4	307	2.8	246	563	16.4	0.31	0.1	< 1	< 0.1	< 0.001
0142		4/13/1994	6,772.60	7.90	7.84	989	31	13.5	287	2.5	234	531	16.5	0.06	0.1	< 1	< 0.1	< 0.001
0142		7/20/1994	6,773.00	7.70	8.05	1088	34.2	14.1	286	2.8	242	538	15.8	0.08	0.45	7.09	< 0.1	< 0.001
0142		10/4/1994	6,773.80	7.70	8.15	1032	31.2	14	322	3.4	256	589	16.9	0.07	0.32	< 1	< 0.1	< 0.001
0142		1/4/1995	6,774.30	7.70	8.01	1036	29	12.2	325	3.3	251	550	17.4	0.14	0.2	< 1	< 0.1	< 0.001
0142		4/6/1995	6,774.70	7.80	8.11	1327	59	31	319	4.2	277	714	13.4	0.34	0.38	< 1	< 0.1	< 0.001
0142		7/6/1995	6,774.80	7.70	8.32	1230	43	20.2	318	3.6	260	625	16.5	0.08	0.1	< 1	< 0.1	< 0.001
0142		10/3/1995	6,775.30	7.30	8.30	1222	45.5	21.9	309	3.7	275	617	15.3	0.12	0.2	< 1	< 0.1	0.003
0142		1/3/1996	6,775.50	7.80	8.05	1018	23.2	11.9	302	3	253	492	25.3	0.2	0.19	< 1	< 0.1	0.001
0142		4/2/1996	6,776.10	7.10	8.42	1074	28.3	12.7	298	3.2	250	593	17.7	0.19	0.25	< 1	< 0.1	< 0.001
0142		7/7/1996	6,776.10	7.90	7.72	1075	26.1	11.4	300	3.1	243	481	23.2	0.26	0.44	< 1	< 0.1	< 0.001
0142		10/1/1996	6,776.20	7.50	8.12	1060	25.2	11.3	318	3.2	245	540	21.3	0.19	0.2	< 1	< 0.1	< 0.001
0142		1/21/1997	6,777.10	6.50	7.86	1020	32.8	15.3	322	3.5	240	567	15.9	0.17	0.15	< 1	< 0.1	0.002
0142		4/8/1997	6,777.20	6.60	8.28	1040	26.8	12	312	3.3	249	551	16.6	0.15	0.29	< 1	< 0.1	< 0.001
0142		7/8/1997	6,777.20	8.10	8.32	1030	27	12	322	3.4	240	575	18.6	0.25	0.12	< 1	< 0.1	< 0.001
0142		10/7/1997	6,773.00	7.40	8.19	1070	27.6	12.1	299	3.06	248	572	16.1	0.21	< 0.1	< 1	< 0.1	< 0.001
0142		1/15/1998	6,774.00	7.80	8.32	1170	39.6	17.9	330	3.8	261	673	20.9	0.35	0.2	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0142		7/22/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.001	< 0.1	0.0046	1	< 1	1	< 0.2	< 1	1.1
0142		10/12/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.02	0.03	< 0.05	< 0.001	< 0.1	0.005	0.3	< 1	0.3	< 0.2	3.1	1.1
0142		1/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.03	0.02	< 0.05	0.001	< 0.1	0.006	1.3	1.1	2.4	< 0.2	2.9	1.9
0142		4/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.12	< 0.1	< 0.05	0.003	< 0.1	0.008	1.3	< 1	1.3	< 0.2	< 1	2.1
0142		7/2/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.0019	0.5	< 1	0.5	< 0.2	< 1	< 1
0142		10/2/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.003	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		1/3/1991	< 0.01	0.02	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.0032	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		4/9/1991	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	0.001	< 0.1	0.0029	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/16/1991	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.003	1.3	< 1	1.3	< 0.2	1.6	< 1
0142		10/14/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.015	1.5	< 1	1.5	< 0.2	< 1	< 1
0142		1/14/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.001	< 0.1	0.002	0.2	< 1	0.2	< 0.2	< 1	< 1
0142		4/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.001	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	0.002	< 0.1	0.003	0.6	3.1	3.7	< 0.2	< 1	< 1
0142		10/6/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	0.001	< 0.1	< 0.0003	0.4	1.1	1.5	< 0.2	1.4	< 1
0142		1/5/1993	< 0.01	< 0.01	0.01	< 0.05	0.01	< 0.1	< 0.05	0.007	< 0.1	0.01	1.5	< 1	1.5	< 0.2	< 1	1.6
0142		4/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.002	0.8	< 1	0.8	< 0.2	2.6	< 1
0142		7/13/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.3	< 1	0.3	< 0.2	< 1	< 1
0142		10/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.1	< 1	1.1	< 0.2	2.9	< 1
0142		1/5/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.006	0.7	< 1	0.7	< 0.2	< 1	1.4
0142		4/13/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.5	1.9	2.4	< 0.2	1.6	3.5
0142		7/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.8	< 1	0.8	< 0.2	1.2	< 1
0142		10/4/1994	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.3	< 1	0.3	< 0.2	< 1	< 1
0142		1/4/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.4	1.8	2.2	< 0.2	< 1	3.3
0142		4/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.6	2.5	3.1	< 0.2	< 1	4.5
0142		7/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.001	< 0.1	< 0.0003	1.2	< 1	1.2	0.4	< 1	< 1
0142		10/3/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.9	3.4	4.3	< 0.2	< 1	< 1
0142		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.14	< 0.1	< 0.05	< 0.001	< 0.1	0.0034	0.4	< 1	0.4	0.6	< 1	< 1
0142		4/2/1996	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/7/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0007	0.5	< 1	0.5	< 0.2	< 1	< 1
0142		10/1/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	0.003	< 0.1	< 0.0003	0.3	< 1	0.3	< 0.2	< 1	< 1
0142		1/21/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.5	< 1	0.5	< 0.2	< 1	< 1
0142		10/7/1997	< 0.01	< 0.01	< 0.01	0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.001	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		1/15/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	1.8	< 1	1.8	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0142		4/7/1998	6,773.40	7.80	8.26	1100	26	11.6	314	3.2	245	546	18	0.13	0.14	< 1	< 0.1	< 0.001
0142		7/7/1998	6,773.70	8.10	8.27	1070	25.8	11.7	325	3.4	245	533	17	0.18	0.22	< 1	< 0.1	0.001
0142		10/6/1998	6,774.20	7.27	8.29	1170	36	17.9	325	4	267	640	18.1	2.04	0.31	< 1	< 0.1	0.002
0142		1/5/1999	6,774.00	8.00	8.21	1210	37.7	17.9	309	3.6	273	628	18.2	0.12	0.24	< 1	< 0.1	0.002
0142		4/6/1999	6,774.20	8.00	8.15	1120	33	15.8	313	3.5	250	562	22.7	0.21	0.25	< 1	< 0.1	< 0.001
0142		7/13/1999	6,774.40	6.80	8.27	1030	32.4	15.8	299	6.7	262	498	24.5	0.26	0.16	< 1	< 0.1	0.001
0142		10/5/1999	6,775.00	7.60	8.11	1130	29.6	14.6	308	3.7	251	557	21.4	0.26	0.13	< 1	< 0.1	< 0.001
0142		1/4/2000	6,774.40	7.20	8.36	1500	82.2	41.7	319	7.8	309	797	26.6	1.51	0.11	< 1	< 0.1	< 0.001
0142		5/10/2000	6,780.70	8.40	8.27	1080	27.2	12.6	306	3.25	242	613	19.1	0.24	< 0.1	< 1	1.18	< 0.001
0142	Dup	5/10/2000	no data	8.32	8.26	1110	26.5	12.2	307	3.1	239	611	18.5	0.25	< 0.1	< 1	0.7	< 0.001
0142		7/10/2000	6,780.50	8.13	7.99	1060	25.8	11.8	318	3.1	242	543	19.9	0.28	< 0.1	< 1	0.75	< 0.001
0142	Dup	7/10/2000	no data	8.13	8.06	1060	24.3	11.2	314	3.01	240	537	19.3	0.29	< 0.1	< 1	0.39	< 0.001
0142		10/2/2000	6,780.60	8.08	7.84	1310	52.7	46.8	314	4.9	220	676	17.7	0.3	< 0.1	< 1	0.18	0.003
0142		1/16/2001	6,781.20	8.23	7.97	1060	20.7	9	309	3.6	242	594	21.6	0.27	< 0.1	< 1	0.2	0.001
0142		4/2/2001	6,781.30	8.10	8.01	1050	19.4	8.8	314	2.6	234	544	18.8	0.37	< 0.1	< 1	0.1	0.002
0142		7/16/2001	6,781.05	7.96	8.01	1080	19.9	9	297	3.7	233	550	24.7	0.27	< 0.1	< 1	0.1	0.001
0142		10/3/2001	6,781.20	7.80	8.10	1060	18.2	8.5	272	3.5	240	555	24.7	0.19	< 0.1	< 1	< 0.1	< 0.001
0142		1/7/2002	6,781.15	8.23	7.90	1060	19.8	8.7	294	3.4	236	560	21.3	0.2	< 0.1	< 1	< 0.1	< 0.001
0142		4/8/2002	6,781.69	7.59	7.59	1070	19.4	8.5	307	2.9	239	556	21.5	0.26	< 0.1	< 1	< 0.1	< 0.001
0142		7/15/2002	6,781.60	7.11	8.06	1060	18.6	8.5	313	4.5	239	607	18.6	0.15	< 0.1	< 1	< 0.1	< 0.001
0142		10/14/2002	6,781.53	7.09	8.00	998	20.4	8.7	308	3.1	237	536	17.7	0.11	< 0.1	< 1	< 0.1	0.004
0142		1/13/2003	6,781.66	7.48	7.93	1060	24.1	8.6	313	3.3	255	526	21.3	< 0.05	< 0.1	< 1	1.1	0.003
0142		4/14/2003	6,781.98	7.89	7.76	1080	22.5	8.7	315	5.6	245	555	18.4	< 0.05	0.2	< 1	< 0.1	< 0.001
0142		7/15/2003	6,781.85	7.63	7.99	1100	23.1	8.7	315	4.3	245	517	20.8	0.17	0.2	< 1	0.4	< 0.001
0142		10/13/2003	6,782.14	7.85	8.04	1070	24.5	10	319	3.1	235	553	21.6	< 0.05	< 0.1	< 1	0.4	< 0.001
0142		1/13/2004	6,782.00	7.80	7.97	1070	24.8	10.8	329	5.1	245	579	18	< 0.05	< 0.10	< 1.0	< 0.1	0.002
0142		4/12/2004	6,782.40	7.76	7.28	1030	23.5	9.5	308	4.2	255	532	20.6	< 0.05	< 0.1	< 1	< 0.1	< 0.001
0142		7/19/2004	6,782.17	8.32	7.75	1070	22.4	9.4	330	2.9	237	549	19	0.19	< 0.10	< 1.0	< 0.1	< 0.001
0142		10/11/2004	6,782.35	8.02	7.99	1090	21	9.5	308	3.8	233	527	19	0.09	< 0.10	< 1.0	< 0.1	< 0.001
0142		1/10/2005	6,782.41	7.72	7.89	1070	22.4	9.7	326	3	241	540	19	< 0.05	< 0.1	< 1.0	< 0.1	< 0.001
0142		4/12/2005	6,782.45	7.55	7.82	1070	23.6	10.1	335	3.2	235	568	16	< 0.05	< 0.1	< 1.0	< 0.1	< 0.001
0142		7/18/2005	6,782.40	7.29	7.93	1060	22.5	9.9	326	2.8	239	535	15	< 0.05	< 0.1	< 1.0	< 0.1	< 0.001
0142		10/10/2005	6,782.69	7.53	7.94	1050	22.8	10.3	322	3.2	250	562	19	< 0.05	< 0.1	< 1.0	< 0.1	< 0.001
0142		1/16/2006	6,782.66	7.46	8.29	1040	22	9.9	312	3.1	250	521	17	< 0.05	1.4	< 1.0	< 0.1	< 0.001
0142		4/10/2006	6,782.62	7.55	7.68	1030	24.3	11.2	310	3	247	546	18	< 0.05	< 0.1	< 1.0	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0142		4/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	0.9	< 1	0.9	< 0.2	< 1	< 1
0142		7/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		10/6/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.08	< 0.1	< 0.05	< 0.001	< 0.1	0.0051	1.1	< 1	1.1	< 0.2	< 1	< 1
0142		1/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.21	0.14	< 0.05	< 0.001	< 0.1	0.004	2.1	3	5.1	< 0.2	< 1	< 1
0142		4/6/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.01	< 0.1	< 0.05	0.001	< 0.1	0.0009	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		10/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	0.7	< 1	0.7	< 0.2	< 1	< 1
0142		1/4/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.1	0.14	< 0.05	< 0.001	< 0.1	0.0077	2.4	1.5	3.9	< 0.2	< 1	2.5
0142		5/10/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.07	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	< 0.2	< 1	0	< 0.2	< 1	< 1
0142	Dup	5/10/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.06	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	0.7	< 1	0.7	< 0.2	< 1	< 1
0142		7/10/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.07	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	0.9	< 1	0.9	< 0.2	< 1	1.4
0142	Dup	7/10/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.06	< 0.1	< 0.05	< 0.001	< 0.1	0.0024	0.7	< 1	0.7	< 0.2	< 1	1.4
0142		10/2/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.39	0.76	< 0.05	< 0.001	< 0.1	0.0019	0.9	< 1	0.9	< 0.2	< 1	< 1
0142		1/16/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	0.4	3	3.4	< 0.2	< 1	< 1
0142		4/2/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/16/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.3	< 1	0.3	< 0.2	< 1	< 1
0142		10/3/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.5	< 1	0.5	< 0.2	< 1	< 1
0142		1/7/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.6	1.9	2.5	< 0.2	< 1	< 1
0142		4/8/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.3	< 1	0.3	< 0.2	< 1	< 1
0142		7/15/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.3	< 1	0.3	< 0.2	< 1	< 1
0142		10/14/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0003	0.8	< 1	0.8	< 0.2	< 1	< 1
0142		1/13/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1	< 1	1	< 0.2	< 1	1.9
0142		4/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0003	< 0.2	< 1	0	< 0.2	< 1	1.1
0142		7/15/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.05	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.3	< 1	0.3	< 0.2	< 1	< 1.0
0142		10/13/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.09	< 0.1	< 0.05	< 0.001	< 0.1	0.0061	< 0.2	< 1	0	< 0.2	< 1	< 1.0
0142		1/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.0005 D	< 0.2	< 1.0	0	< 0.2	< 1.0	< 1.0
0142		4/12/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		7/19/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.4	< 1.0	0.4	< 0.2	< 1.0	< 1.0
0142		10/11/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1.0	0	< 0.2	< 1.0	< 1.0
0142		1/10/2005	< 0.01	< 0.005	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.5	< 1.0	0.5	< 0.2	< 1.0	< 1.0
0142		4/12/2005	< 0.01	< 0.005	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1.0	0	< 0.2	< 1.0	< 1.0
0142		7/18/2005	< 0.01	< 0.005	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1.0	0	< 0.2	< 1.0	< 1.0
0142		10/10/2005	< 0.01	< 0.005	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1.0	0	< 0.2	< 1.0	< 1.0
0142		1/16/2006	< 0.01	< 0.005	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	< 0.2	2.3	2.3	< 0.2	< 1.0	< 1.0
0142		4/10/2006	< 0.01	< 0.005	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	2.8	2.8	< 0.2	< 1.0	< 1.0

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0142		7/24/2006	6,782.43	7.63	7.45	998	27.4	12.6	343	3.5	249	583	19	0.08	< 0.1	< 1.0	< 0.1	0.001
0142		10/9/2006	6,782.55	7.62	7.79	986	29.1	13.9	322	3.5	249	578	18	0.2	< 0.1	< 0.5	< 0.1	0.001
0142		1/15/2007	6,782.42	7.79	7.92	1070	31	15.4	315	3.9	251	599	19	0.14	0.1	<0.5	<0.1	<0.001
0142		4/16/2007	6,782.60	7.66	7.79	1070	32.4	17	325	4.1	257	644	21	0.23	<0.1	<0.5	<0.1	<0.001
0142		7/17/2007	6,782.30	7.51	7.42	1070	33.7	16.9	322	3.5	259	603	17	0.17	0.2	<0.5	<0.1	0.002
0142		10/9/2007	6,782.23	7.14	7.53	1090	33.9	17	305	3.5	250	570	16	0.15	0.3	<0.5	<0.1	0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0142		7/24/2006	< 0.01	< 0.005	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	2.8	2.8	< 0.2	< 1.0	< 1.0
0142		10/9/2006	< 0.01	< 0.005	< 0.01	< 0.05	0.05	< 0.1	< 0.05	0.002	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0142		1/15/2007	<0.01	<0.005	<0.01	<0.05	0.03	<0.1	<0.05	<0.001	<0.1	<0.0003	<0.2	<1	0	<0.2	<1	<1
0142		4/16/2007	<0.01	<0.005	<0.01	<0.05	<0.01	<0.1	<0.05	<0.001	<0.1	<0.0003	<0.2	<1	0	<0.2	<1	<1
0142		7/17/2007	<0.01	<0.005	<0.01	<0.05	0.02	<0.1	<0.05	<0.001	<0.1	<0.0003	<0.2	<1	0	<0.2	<1	<1
0142		10/9/2007	<0.01	<0.005	<0.01	<0.05	0.03	<0.1	<0.05	<0.001	<0.1	<0.0003	<0.2	<1	0	<0.2	<1	<1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0143		7/22/1989	6,759.40	7.90	7.86	1000	34	17	297	3.74	207	596	16.7	0.44	0.39	< 1	< 0.1	0.002
0143		10/11/1989	6,759.70	7.80	7.98	1022	31.3	16.6	285	4.8	220	541	16.8	0.37	0.29	< 1	< 0.1	0.001
0143		1/3/1990	6,759.60	7.50	7.65	1002	32.5	16.1	291	3.6	220	542	17.3	0.48	0.22	< 1	< 0.1	0.001
0143		4/3/1990	6,759.50	7.70	7.80	1042	33.8	17	280	3.7	232	503	19.7	0.57	0.37	< 1	< 0.1	0.002
0143		7/2/1990	6,759.30	7.40	7.90	1033	34.5	16.6	292	3.9	226	528	17.2	0.12	1.05	< 1	< 0.1	0.002
0143		10/2/1990	6,759.30	7.50	7.77	1051	31.5	19.9	281	4	212	591	17.4	0.1	2.08	< 1	< 0.1	0.002
0143		1/3/1991	6,759.40	7.50	7.15	1023	31.2	18.7	286	5.2	220	571	15.2	0.36	0.64	< 1	< 0.1	0.001
0143		4/9/1991	6,759.40	7.50	8.26	944	29.4	16.2	270	3.7	223	558	16.7	0.3	0.25	< 1	< 0.1	0.001
0143		7/16/1991	6,759.20	7.60	7.73	975	29.1	15.1	264	3.4	228	620	16.6	0.28	0.25	< 1	< 0.1	0.001
0143		10/14/1991	6,760.90	7.50	7.90	1007	25.1	13.1	279	3.1	230	533	23.4	0.11	0.06	< 1	< 0.1	0.001
0143		1/14/1992	6,764.70	7.40	7.54	1005	28.9	15.8	267	3.2	237	565	17.2	0.78	0.18	< 1	< 0.1	< 0.001
0143		4/7/1992	6,766.60	7.50	7.18	964	26.6	16	321	3.7	237	523	16.9	0.31	< 0.1	< 1	< 0.1	0.003
0143		7/7/1992	6,766.90	7.60	7.56	1019	27.5	15.7	334	3.89	238	543	16.2	0.53	< 0.1	< 1	< 0.1	0.001
0143		10/6/1992	6,768.00	7.80	7.86	999	31.2	15.9	284	1.7	236	524	15.5	0.23	< 0.1	< 1	< 0.1	0.001
0143		1/5/1993	6,769.00	7.80	8.14	1098	29.8	14.7	281	2.5	239	558	9.5	0.34	< 0.1	< 1	< 0.1	0.004
0143		4/6/1993	6,769.80	7.70	8.07	965	25.5	12.8	299	2.2	239	495	16.1	0.28	< 0.1	< 1	< 0.1	< 0.001
0143		7/13/1993	6,770.30	7.70	7.07	932	29.2	14.2	278	2.7	243	494	16.5	< 0.05	< 0.1	< 1	< 0.1	< 0.001
0143		10/6/1993	6,770.70	7.60	7.62	978	28.2	14.2	271	2.3	243	525	15.6	0.2	0.18	< 1	< 0.1	< 0.001
0143		1/5/1994	6,771.40	7.70	7.73	953	28.3	14.3	274	2.5	224	517	18.6	0.32	0.1	< 1	< 0.1	< 0.001
0143		4/13/1994	6,772.30	7.80	7.81	940	29.4	14.5	261	2.3	223	484	15.8	0.12	< 0.1	< 1	< 0.1	< 0.001
0143		7/20/1994	6,772.60	7.60	8.07	950	38.9	15.4	256	2.5	223	509	14.5	0.23	0.19	< 1	< 0.1	< 0.001
0143		10/4/1994	6,773.20	7.60	8.09	927	33.3	16.4	285	3.1	245	525	16.2	0.23	0.16	< 1	< 0.1	< 0.001
0143		1/4/1995	6,773.80	7.50	8.05	959	33	15.4	283	3.2	243	498	15.2	0.23	< 0.1	< 1	< 0.1	< 0.001
0143		4/6/1995	6,774.20	7.70	7.93	990	32	17	267	3.1	249	519	11.6	0.27	0.24	< 1	< 0.1	< 0.001
0143		7/6/1995	6,774.40	7.60	8.32	995	30.9	15.6	269	3.1	238	495	15.5	0.14	< 0.1	< 1	< 0.1	< 0.001
0143		10/3/1995	6,774.90	7.30	8.35	994	30.8	15.8	266	3.1	241	486	14.2	0.22	0.11	< 1	< 0.1	0.004
0143		1/3/1996	6,775.50	8.00	8.05	971	29.1	15.3	272	3	244	489	13.9	0.2	0.13	< 1	< 0.1	0.001
0143		4/2/1996	6,775.80	7.50	8.41	958	32.5	16.7	257	3.3	244	519	16.9	0.33	0.14	< 1	< 0.1	< 0.001
0143		7/7/1996	6,776.00	7.50	7.77	964	30.2	15.3	260	3.1	240	468	14.3	0.37	0.21	< 1	< 0.1	< 0.001
0143		10/1/1996	6,776.30	7.20	8.13	975	30.7	15.9	275	3.2	240	488	17.8	0.36	0.1	< 1	< 0.1	< 0.001
0143		1/21/1997	6,777.00	6.50	7.89	994	32.4	16.5	283	3.3	244	498	14.4	0.32	< 0.1	< 1	< 0.1	< 0.001
0143		4/8/1997	6,777.00	6.80	8.24	938	30	15.3	265	3.1	244	484	14.4	0.24	0.15	< 1	< 0.1	< 0.001
0143		7/8/1997	6,777.00	8.00	8.32	943	32.7	16.6	278	3.3	238	517	16.9	0.27	0.11	< 1	< 0.1	< 0.001
0143		10/7/1997	6,777.30	7.60	8.15	975	32.7	16.8	266	3.2	246	505	12.6	0.21	0.11	< 1	< 0.1	< 0.001
0143		1/15/1998	6,776.90	7.80	8.30	974	36.3	18	272	3.5	245	542	17.8	0.16	0.27	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0143		7/22/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	0.001	< 0.1	0.0034	0.7	< 1	0.7	3	< 1	1.4
0143		10/11/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.04	0.11	< 0.05	0.001	< 0.1	0.006	1.2	1.5	2.7	0.9	< 1	3.2
0143		1/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.04	0.01	< 0.05	0.001	< 0.1	0.006	1.4	< 1	1.4	< 0.2	2.1	4
0143		4/3/1990	< 0.05	< 0.01	0.01	< 0.05	0.06	< 0.1	< 0.05	< 0.001	< 0.1	0.0681	0.8	< 1	0.8	< 0.2	< 1	1.3
0143		7/2/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.0068	0.6	< 1	0.6	< 0.2	< 1	< 1
0143		10/2/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.006	0.3	< 1	0.3	< 0.2	< 1	< 1
0143		1/3/1991	< 0.01	0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.0057	0.9	< 1	0.9	< 0.2	< 1	< 1
0143		4/9/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	1.7	1.7	< 0.2	< 1	< 1
0143		7/16/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		10/14/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.003	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		1/14/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.01	0.1	< 0.05	< 0.001	< 0.1	0.007	0.2	< 1	0.2	< 0.2	< 1	< 1
0143		4/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.02	0.1	< 0.05	< 0.001	< 0.1	0.006	< 0.2	1.8	1.8	< 0.2	< 1	< 1
0143		7/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.001	< 0.1	0.008	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		10/6/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.001	< 0.1	0.017	0.3	3.7	4	< 0.2	< 1	< 1
0143		1/5/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.007	< 0.1	0.006	0.4	< 1	0.4	< 0.2	< 1	< 1
0143		4/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.004	0.4	1.6	2	< 0.2	2.2	< 1
0143		7/13/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.003	0.8	1.2	2	< 0.2	< 1	< 1
0143		10/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.7	< 1	0.7	< 0.2	< 1	< 1
0143		1/5/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.3	< 1	0.3	< 0.2	1.4	< 1
0143		4/13/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.8	2.5	3.3	< 0.2	< 1	4.7
0143		7/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.002	1	< 1	1	< 0.2	< 1	1.2
0143		10/4/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.002	0.7	< 1	0.7	< 0.2	< 1	< 1
0143		1/4/1995	< 0.01	< 0.01	< 0.01	< 0.05	< 0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.002	0.8	< 1	0.8	< 0.2	< 1	< 1
0143		4/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	< 0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.002	0.2	< 1	0.2	< 0.2	1.5	< 1
0143		7/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	< 0.03	< 0.1	< 0.05	0.001	< 0.1	< 0.0003	0.5	< 1	0.5	< 0.2	< 1	< 1
0143		10/3/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0018	0.3	1.3	1.6	< 0.2	< 1	< 1
0143		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0014	1	2.5	3.5	0.4	1	2.1
0143		4/2/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	0.19	< 0.001	< 0.1	< 0.0003	0.5	< 1	0.5	< 0.2	< 1	< 1
0143		7/7/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	< 1	3.8
0143		10/1/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	0.003	< 0.1	< 0.0003	0.5	< 1	0.5	< 0.2	< 1	< 1
0143		1/21/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.6	< 1	0.6	< 0.2	< 1	< 1
0143		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		7/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		10/7/1997	< 0.01	< 0.01	0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		1/15/1998	< 0.01	< 0.005	< 0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	< 0.2	< 1	0	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0143		4/7/1998	6,778.00	7.80	8.21	980	30	15.6	263	3.1	243	486	14.8	0.14	0.15	< 1	< 0.1	0.001
0143		7/7/1998	6,778.10	8.00	8.23	953	32.3	16.9	276	3.4	226	460	14.5	0.29	0.11	< 1	< 0.1	0.001
0143		10/6/1998	6,778.40	7.51	8.41	986	30.7	15.7	276	3.7	245	526	16	1	0.35	< 1	< 0.1	0.006
0143		1/5/1999	6,778.50	7.90	8.20	979	30.6	14.5	268	3.8	254	509	16.1	0.13	0.13	< 1	< 0.1	0.004
0143		4/6/1999	6,779.10	8.00	8.09	975	31.4	16.5	267	3.3	240	477	18.5	0.28	0.15	< 1	< 0.1	< 0.001
0143		7/13/1999	6,778.79	6.80	8.24	857	33.3	18	284	4	247	517	13.9	0.33	< 0.1	< 1	< 0.1	< 0.001
0143		10/5/1999	6,779.00	7.52	8.08	953	28.1	15.6	257	3	235	457	16.4	0.32	< 0.1	< 1	< 0.1	< 0.001
0143		1/4/2000	6,779.90	7.80	8.41	998	36.1	19.4	272	5.4	242	528	22.8	0.33	0.24	< 1	< 0.1	0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0143		4/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0015	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		7/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		10/6/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.1	< 0.1	< 0.05	< 0.001	< 0.1	0.0081	0.6	< 1	0.6	< 0.2	< 1	< 1
0143		1/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.09	< 0.1	< 0.05	< 0.001	< 0.1	0.0148	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		4/6/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0014	< 0.2	1.7	1.7	< 0.2	< 1	< 1
0143		7/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.02	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	< 0.2	< 1	0	< 0.2	< 1	< 1
0143		10/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.03	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.3	< 1	0.3	< 0.2	< 1	< 1
0143		1/4/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.06	< 0.1	< 0.05	0.001	< 0.1	0.0047	2	< 1	2	< 0.2	< 1	3.1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0515 A		7/23/1989	6,920.50	4.50	4.63	7411	482	871	340	12.6	18	4982	52.5	0.39	86	14	12	< 0.001
0515 A		10/12/1989	6,920.80	4.70	4.60	7650	439	861	328	15.8	4.1	4583	77.8	0.39	84	12	15	< 0.001
0515 A		1/10/1990	6,919.60	4.00	3.94	9350	449	1017	335	13.7	< 1	6227	36.8	3.79	52	8.4	110	< 0.001
0515 A		4/5/1990	6,918.80	3.90	3.98	9405	451	1073	331	13.3	< 1	6237	30.8	3.25	55	11.8	150	< 0.001
0515 A		7/3/1990	6,918.10	4.00	4.18	9187	435	941	320	12.7	< 1	6084	59.4	0.67	54.2	22.4	110	< 0.001
0515 A		10/3/1990	6,917.80	4.40	4.32	9021	440	992	390	15.7	< 1	5728	82.6	0.17	51.6	25.4	75.6	< 0.001
0515 A		1/15/1991	6,916.90	4.40	4.31	9290	523	1146	407	16.7	< 1	6476	68.5	0.65	58.5	42	48.4	< 0.001
0515 A		4/3/1991	6,916.60	4.60	4.88	9254	459	1159	387	12.9	16	5627	83	0.31	41.4	75.3	60.7	< 0.001
0515 A		7/17/1991	6,916.50	4.50	4.60	8966	486	940	342	13.2	12	6653	83.5	0.79	38.6	38.4	45.8	< 0.001
0515 A		9/4/1991	no data	no data	4.62	9792	429	768	385	13.6	5	6955	52.2	0.66	18.1	36.4	9.6	< 0.001
0515 A		10/15/1991	6,916.20	4.80	4.92	9118	410	749	453	15	9.5	5832	108	< 0.05	19.9	102	3.3	< 0.001
0515 A		11/4/1991	no data	no data	4.33	9001	426	759	377	12.9	< 1	5750	103	0.53	65.7	28	23.19	< 0.001
0515 A		12/2/1991	no data	no data	4.59	9153	425	831	376	13.4	7.2	5298	102	0.9	36	55.9	35.4	< 0.001
0515 A		1/15/1992	6,916.10	4.50	4.61	9035	409	814	396	12.6	16.8	5854	90.3	0.18	26.5	19	26.6	< 0.001
0515 A		4/8/1992	6,916.20	4.30	5.30	9087	430	723	416	14.5	19.8	5710	130	1.23	19.2	24	16.2	0.003
0515 A		7/8/1992	6,915.80	4.30	4.78	8447	438	687	511	17.7	5.3	5892	109	1.78	31	63	21	0.001
0515 A		10/7/1992	6,915.70	4.60	4.10	8989	450	953	470	19.4	< 1	6028	78.2	0.43	15.1	48.2	48.8	< 0.001
0515 A		1/6/1993	6,915.60	5.30	4.98	7144	415	776	384	13	19.3	4980	145	0.71	21.8	102	10.2	< 0.001
0515 A		4/6/1993	6,915.60	4.70	4.55	8962	389	863	471	12.5	2.5	5942	150	0.35	27.1	89	35.6	< 0.001
0515 A		7/13/1993	6,915.00	5.00	4.60	8790	449	1088	458	14	7.1	5755	195	1.14	29.3	133	5.73	< 0.001
0515 A		10/6/1993	6,914.80	6.00	6.22	8235	454	1038	479	12.6	554	5500	225	0.94	38	255	1.87	< 0.001
0515 A		1/6/1994	6,914.70	5.50	6.13	8633	436	862	478	11.3	373	5042	227	2.18	45.7	315	2.92	< 0.001
0515 A		4/12/1994	6,914.40	5.70	5.98	8306	433	868	440	11.3	183	5305	223	2.17	51.9	277	1.51	< 0.001
0515 A		7/20/1994	6,913.90	5.60	6.91	8197	483	902	419	12.5	206	5157	195	0.97	45.6	271	1.42	< 0.001
0515 A		10/4/1994	6,914.00	5.60	6.62	8173	496	924	493	12.6	260	5276	236	1.64	51.8	241	2.45	< 0.001
0515 A		1/4/1995	6,913.70	5.50	6.69	8234	485	945	443	14.1	266	5293	212	1.42	49	213	1.7	< 0.001
0515 A		4/4/1995	6,913.40	5.60	5.91	7657	488	802	488	14.1	185	5196	240	2	58.5	182	2.04	< 0.001
0515 A		7/6/1995	6,912.90	5.80	7.09	8297	475	926	449	13.1	315	5060	236	3.99	49.7	181	0.25	< 0.001
0515 A		10/3/1995	6,912.90	5.80	7.16	8311	490	928	477	13	421	5042	253	6.81	53.3	0.264	0.65	0.002
0515 A		1/3/1996	6,912.70	5.80	6.43	8017	450	876	468	13.5	475	4830	252	5.6	56.9	236	< 0.1	< 0.001
0515 A		4/2/1996	6,912.40	6.00	7.53	8300	506	997	457	14	392	5360	279	6.57	61	0.247	0.6	< 0.001
0515 A		7/7/1996	6,912.20	5.30	5.94	8117	447	853	426	13.6	210	4670	250	1.76	54.7	0.211	1.42	< 0.001
0515 A		10/1/1996	6,912.00	5.70	6.58	8270	441	910	457	14.5	342	4834	268	6.97	53.5	238	0.85	< 0.001
0515 A		1/21/1997	6,911.90	5.60	6.77	8110	449	979	455	15	428	5140	253	8.03	46.8	239	0.97	< 0.001
0515 A		4/8/1997	6,911.70	5.50	7.37	8220	456	865	449	15	331	4388	294	6.41	58.5	230	0.75	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0515 A		7/23/1989	< 0.05	< 0.01	0.07	< 0.05	7.7	< 0.1	0.26	< 0.001	< 0.1	0.0029	6.3	9.4	15.7	< 0.2	3	23.1
0515 A		10/12/1989	< 0.05	< 0.01	0.09	< 0.05	8.5	< 0.01	0.26	0.019	< 0.1	0.004	3.2	< 1	3.2	< 0.2	1.6	3.9
0515 A		1/10/1990	< 0.05	< 0.01	0.26	< 0.05	23	< 0.1	0.37	< 0.001	< 0.1	0.01	5.2	9.7	14.9	1.7	3.5	9.7
0515 A		4/5/1990	< 0.05	< 0.01	0.31	< 0.05	24	< 0.1	0.46	< 0.001	< 0.1	0.008	4.9	5.5	10.4	1.8	2.2	7.3
0515 A		7/3/1990	< 0.05	< 0.01	0.18	< 0.05	17.6	< 0.1	0.35	< 0.001	< 0.1	0.0107	6.9	6.2	13.1	< 0.2	< 1	7
0515 A		10/3/1990	< 0.05	< 0.01	0.17	< 0.05	12.8	< 0.1	0.31	< 0.001	< 0.1	0.005	3.3	8.3	11.6	< 0.2	< 1	4
0515 A		1/15/1991	0.01	0.01	0.16	< 0.05	11.6	< 0.1	0.32	< 0.001	< 0.1	0.007	5.3	7.1	12.4	< 0.2	< 1	5.7
0515 A		4/3/1991	< 0.01	< 0.01	0.11	< 0.05	7.1	< 0.1	0.2	< 0.001	< 0.1	0.003	6.1	7.2	13.3	< 0.2	2	6
0515 A		7/17/1991	0.02	< 0.01	0.24	< 0.05	14.7	< 0.1	0.3	< 0.001	< 0.1	0.011	2.7	3.5	6.2	< 0.2	< 1	3
0515 A		9/4/1991	< 0.01	< 0.01	0.15	< 0.05	11.6	< 0.1	0.28	< 0.001	< 0.1	0.008	2.1	6.3	8.4	< 0.2	< 1	2
0515 A		10/15/1991	< 0.01	< 0.01	0.22	< 0.05	14.4	< 0.1	0.19	< 0.001	< 0.1	0.02	2.4	9	11.4	< 0.2	< 1	3
0515 A		11/4/1991	0.02	< 0.01	0.17	< 0.05	15.2	< 0.1	0.33	< 0.001	< 0.1	0.0138	3.5	12	15.5	< 0.2	6.9	4
0515 A		12/2/1991	< 0.01	< 0.01	0.24	< 0.05	14.1	< 0.1	0.32	< 0.001	< 0.1	0.01	5.4	10.4	15.8	< 0.2	< 1	5
0515 A		1/15/1992	0.02	< 0.01	0.02	< 0.05	15.5	< 0.1	0.31	0.01	< 0.1	0.012	2.6	4.4	7	< 0.2	4.2	3
0515 A		4/8/1992	0.01	< 0.01	0.19	< 0.05	13.6	< 0.1	0.27	0.01	< 0.1	0.013	3.4	6.4	9.8	< 0.2	< 1	3.6
0515 A		7/8/1992	< 0.01	< 0.01	0.19	< 0.05	15.7	< 0.1	0.26	0.001	< 0.1	0.02	3.4	10.8	14.2	< 0.2	1.6	3.7
0515 A		10/7/1992	< 0.01	< 0.01	0.28	< 0.05	18.7	< 0.1	0.38	< 0.001	< 0.1	0.02	5.6	7	12.6	< 0.2	< 1	5.9
0515 A		1/6/1993	0.01	< 0.01	0.21	< 0.05	14.2	< 0.1	0.34	0.004	< 0.1	0.015	5.7	6.7	12.4	< 0.2	< 1	5.9
0515 A		4/6/1993	0.013	< 0.01	0.26	< 0.05	18.8	< 0.1	0.37	0.001	< 0.1	0.015	2.9	9.5	12.4	< 0.2	4.4	3.6
0515 A		7/13/1993	< 0.01	< 0.01	0.2	< 0.05	14	< 0.1	0.28	< 0.001	< 0.1	0.012	2.6	6.5	9.1	< 0.2	2.9	3.4
0515 A		10/6/1993	< 0.01	< 0.01	0.13	< 0.05	9.81	< 0.1	0.27	< 0.001	< 0.1	0.004	3.5	7	10.5	< 0.2	2.6	3.9
0515 A		1/6/1994	< 0.01	< 0.01	0.15	< 0.05	12.1	< 0.1	0.26	< 0.001	< 0.1	0.004	5.4	2.8	8.2	< 0.2	< 1	10.6
0515 A		4/12/1994	< 0.01	< 0.01	< 0.01	< 0.05	10.6	< 0.1	0.21	0.001	< 0.1	0.03	4.8	< 1	4.8	< 0.2	3.9	5
0515 A		7/20/1994	< 0.01	< 0.01	0.18	< 0.05	11.4	< 0.1	0.25	0.001	< 0.1	0.002	4.2	9.3	13.5	< 0.2	< 1	24.2
0515 A		10/4/1994	< 0.01	< 0.01	0.16	< 0.05	15.3	< 0.1	0.31	< 0.001	< 0.1	0.003	6.6	3.7	10.3	< 0.2	1	12.3
0515 A		1/4/1995	< 0.01	< 0.01	0.11	< 0.05	10.2	< 0.1	0.42	< 0.001	< 0.1	0.004	6.2	4.7	10.9	< 0.2	< 1	13.4
0515 A		4/4/1995	< 0.01	< 0.01	0.13	< 0.05	11	< 0.1	0.15	< 0.001	< 0.1	0.002	4.7	7.5	12.2	< 0.2	2.9	16.1
0515 A		7/6/1995	< 0.01	< 0.01	0.02	< 0.05	2.52	< 0.1	< 0.05	0.002	< 0.1	0.0044	3	4.2	7.2	0.3	< 1	16.1
0515 A		10/3/1995	< 0.01	< 0.01	0.07	< 0.05	11.1	< 0.1	0.13	< 0.001	< 0.1	0.0057	3.6	< 1	3.6	< 0.2	< 1	13.6
0515 A		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	11.4	< 0.1	0.14	< 0.001	< 0.1	0.0038	3.4	3.1	6.5	0.8	< 1	7.4
0515 A		4/2/1996	< 0.01	< 0.01	0.08	< 0.05	11.8	< 0.1	0.14	< 0.001	< 0.1	< 0.0003	2.4	3.9	6.3	< 0.2	< 1	5.4
0515 A		7/7/1996	< 0.01	< 0.01	0.11	< 0.05	12.9	< 0.1	0.17	< 0.001	< 0.1	0.0023	2.6	< 1	2.6	< 0.2	< 1	3.4
0515 A		10/1/1996	< 0.01	< 0.01	0.08	< 0.05	13.2	< 0.1	0.15	0.002	< 0.1	0.0028	2.1	5.4	7.5	< 0.2	< 1	3.8
0515 A		1/21/1997	< 0.01	< 0.01	0.07	< 0.05	12.2	< 0.1	0.14	< 0.001	< 0.1	0.004	2.9	3.6	6.5	< 0.2	< 1	2.5
0515 A		4/8/1997	< 0.01	< 0.01	0.07	< 0.05	12.1	< 0.1	0.15	0.069	< 0.1	0.0019	4.9	4.5	9.4	< 0.2	< 1	13

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0515 A		7/8/1997	6,911.20	6.40	6.75	8260	502	950	466	15.1	296	5130	300	5.39	57.9	238	1.27	< 0.001
0515 A		10/7/1997	6,911.20	5.50	6.71	8200	490	906	450	14.6	254	4790	255	6.04	56.4	242	0.98	< 0.001
0515 A		1/15/1998	6,911.00	5.70	6.80	8040	455	860	439	14.7	228	4800	287	10.4	64.8	262	2	< 0.001
0515 A		4/7/1998	6,911.00	5.50	7.14	8190	429	821	444	14.1	276	4420	257	6.47	58.9	236	0.78	< 0.001
0515 A		7/7/1998	6,910.90	5.80	7.61	8170	481	912	456	14.5	291	4500	291	6.9	63.9	270	0.87	< 0.001
0515 A		10/6/1998	6,910.50	5.69	7.32	8170	465	910	468	15.5	317	5000	286	3.89	70.5	no data	0.51	< 0.001
0515 A		1/5/1999	6,910.00	5.70	7.18	8200	412	867	410	14.2	306	4900	287	6.47	57.4	210	0.69	< 0.001
0515 A		4/6/1999	6,910.10	5.50	6.59	8130	444	889	404	13.7	292	4600	286	6.52	57.8	190	0.86	< 0.001
0515 A		7/13/1999	6,909.88	5.70	7.42	7930	486	938	440	18	272	4800	254	4.52	62.6	172	0.4	< 0.001
0515 A		10/5/1999	6,910.00	5.36	7.27	7950	526	1040	423	14.6	253	5440	272	6.64	55.6	183	1.02	< 0.001
0515 A		1/4/2000	6,910.40	5.50	7.14	7720	414	810	338	13.7	222	4150	221	3.59	65.1	171	1.22	< 0.001
0515 A		5/10/2000	6,910.60	5.50	7.01	8080	437	871	437	13.6	356	4440	261	9.79	62.8	198	2.44	< 0.001
0515 A		7/11/2000	6,910.30	5.45	6.50	7740	458	866	428	13.4	242	4460	239	4.19	86.5	154	2.11	< 0.001
0515 A		10/3/2000	6,910.40	5.47	6.70	7550	456	906	432	16.2	228	5060	236	2.56	70.1	181	2.08	< 0.001
0515 A		1/10/2001	6,910.40	5.62	6.61	7610	440	816	364	12.9	222	4410	258	2.76	66.4	141	2.7	< 0.001
0515 A		4/3/2001	6,910.30	5.85	6.54	7580	512	929	373	12.3	225	4640	247	2.85	68.5	148	2.9	< 0.001
0515 A		7/17/2001	6,909.90	5.94	5.96	7770	420	810	421	14.1	225	4010	260	2.62	70.9	160	2.89	< 0.001
0515 A		10/2/2001	6,910.00	5.44	6.60	7780	430	820	351	14	217	4000	327	2	66.5	165	2.29	< 0.001
0515 A		1/14/2002	6,909.85	6.56	6.30	7680	501	887	349	14.6	212	4410	305	2.07	60.5	149	3	0.002
0515 A		4/2/2002	6,910.00	5.41	6.57	7670	492	855	412	15.2	214	4790	279	1.75	61.9	162	2.9	< 0.001
0515 A		7/10/2002	6,909.30	7.25	6.33	7750	470	850	401	13.4	211	4420	250	2.39	61.5	162	2.4	< 0.001
0515 A		10/9/2002	6,910.87	6.54	6.61	6900	428	778	386	12.5	210	4270	228	2.95	63	203	3.1	< 0.001
0515 A		1/8/2003	6,909.16	7.08	6.74	7640	385	720	392	13.1	209	3810	223	3.16	57	162	2.4	< 0.001
0515 A		4/9/2003	6,908.81	5.31	6.37	7680	443	816	402	18.9	198	4050	270	2.81	58	166	2.4	< 0.001
0515 A		7/9/2003	6,908.68	5.25	6.41	6250	450	814	450	14.5	203	4500	246	3.11	61	237	2.6	< 0.001
0515 A		10/8/2003	6,908.80	5.24	6.20	7800	453	843	427	12.4	190	4470	232	2.98	59	148	2.6	< 0.001
0515 A		1/7/2004	6,909.85	5.38	7.38	7680	512	916	445	14.3	193	4850	275	3.24	60.2 D	124 D	3	< 0.001
0515 A		4/7/2004	6,908.45	5.62	5.65	7720	476	847	431	13.6	202	4540 D	253	3.6	60.9 D	167 D	2.8	< 0.001
0515 A		7/14/2004	6,908.21	5.22	5.91	8010	470	815	426	14.3	200	4590 D	262	2.88	57.4 D	147 D	2.1	< 0.001
0515 A		10/6/2004	6,908.21	5.33	5.92	8000	473 D	857 D	440	13.9	199	4700 D	253	2.94	58 D	110 D	2	< 0.001
0515 A		1/5/2005	6,908.03	5.52	5.83	7910	486 D	871 D	432	14	213	4770 D	256	3.22	57 D	41.6 D	2.2	< 0.001
0515 A		4/6/2005	6,907.60	5.59	6.17	7530	483	849	436	13.8	207	4490	255	3.45	45	102	1.7	< 0.001
0515 A		7/13/2005	6,907.49	5.55	6.33	7690	500 D	845 D	425 D	12.7	199	4640 D	235	3.63	65.3 D	228 D	1.2	< 0.001
0515 A		10/5/2005	6,907.48	5.53	6.10	7710	455 D	875 D	427	14.3	209	4540 D	242	4.15	52 D	161 D	1.3	< 0.001
0515 A		1/11/2006	6,907.55	5.65	6.42	7560	477 D	872 D	403	13.5	214	4930 D	237	4.94	63 D	142 D	0.9	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0515 A		7/8/1997	< 0.01	< 0.01	0.09	< 0.05	14.6	< 0.1	0.15	< 0.001	< 0.1	0.003	1.6	3.7	5.3	< 0.2	< 1	2.2
0515 A		10/7/1997	< 0.01	< 0.01	0.08	< 0.05	12.9	< 0.1	0.17	< 0.001	< 0.1	0.003	2.1	< 1	2.1	< 0.2	< 1	3.2
0515 A		1/15/1998	< 0.01	< 0.005	0.1	< 0.05	15.6	< 0.1	0.19	< 0.001	< 0.1	0.0025	2.3	4.8	7.1	< 0.2	< 1	2.4
0515 A		4/7/1998	< 0.01	< 0.005	0.08	< 0.05	12.1	< 0.1	0.17	< 0.001	< 0.1	0.0034	2.5	3.7	6.2	< 0.2	< 1	4.1
0515 A		7/7/1998	< 0.01	< 0.005	0.07	< 0.05	13.9	< 0.1	0.15	< 0.001	< 0.1	0.0031	2.9	4.2	7.1	< 0.2	< 1	3.8
0515 A		10/6/1998	< 0.01	< 0.005	0.06	< 0.05	11.8	< 0.1	0.15	< 0.001	< 0.1	0.0049	2.3	1.2	3.5	< 0.2	2.8	210
0515 A		1/5/1999	< 0.01	0.011	0.05	< 0.05	12.3	< 0.1	0.12	< 0.001	< 0.1	0.0035	2.2	3.9	6.1	< 0.2	2.5	2.5
0515 A		4/6/1999	< 0.01	0.006	0.07	< 0.05	13.6	< 0.1	0.15	< 0.001	< 0.1	0.0029	3.4	4.8	8.2	< 0.2	3.1	3.1
0515 A		7/13/1999	< 0.01	0.006	0.05	< 0.05	13.6	< 0.1	0.13	< 0.001	< 0.1	0.0036	2.3	2.9	5.2	< 0.2	2	2
0515 A		10/5/1999	< 0.01	0.008	0.07	< 0.05	16.6	< 0.1	0.15	< 0.001	< 0.1	0.0023	2.4	< 1	2.4	< 0.2	< 1	4.7
0515 A		1/4/2000	< 0.01	0.006	0.08	< 0.05	14	< 0.1	0.22	< 0.001	< 0.1	0.0025	3.2	4.2	7.4	< 0.2	< 1	3.7
0515 A		5/10/2000	< 0.01	< 0.005	0.06	< 0.05	11.8	< 0.1	0.18	< 0.001	< 0.1	0.0036	4.1	2.1	6.2	< 0.2	< 1	12
0515 A		7/11/2000	< 0.01	< 0.005	0.09	< 0.05	14.6	< 0.1	0.19	< 0.001	< 0.1	0.0021	2	3.6	5.6	< 0.2	< 1	4.6
0515 A		10/3/2000	< 0.01	< 0.005	0.07	< 0.05	11.6	< 0.1	0.15	< 0.001	< 0.1	0.0019	2.8	5.9	8.7	< 0.2	< 1	5.1
0515 A		1/10/2001	< 0.01	< 0.005	0.08	< 0.05	12.5	< 0.1	0.22	< 0.001	< 0.1	0.0017	2.6	6.3	8.9	< 0.2	< 1	3.4
0515 A		4/3/2001	< 0.01	< 0.005	0.1	< 0.05	13.3	< 0.1	0.25	< 0.001	< 0.1	0.0011	2.7	< 1	2.7	< 0.2	< 1	3.1
0515 A		7/17/2001	< 0.01	< 0.005	0.09	< 0.05	13.9	< 0.1	0.24	< 0.001	< 0.1	0.001	3.1	6	9.1	< 0.2	< 1	4.1
0515 A		10/2/2001	< 0.01	< 0.005	0.07	< 0.05	13.4	< 0.1	0.11	< 0.001	< 0.1	0.0009	3.1	4.5	7.6	< 0.2	< 1	6.3
0515 A		1/14/2002	< 0.01	< 0.005	0.1	< 0.05	15.8	< 0.1	0.26	< 0.001	< 0.1	0.0011	3.2	6.6	9.8	< 0.2	< 1	3.5
0515 A		4/2/2002	< 0.01	< 0.005	0.09	< 0.05	15.3	< 0.1	0.23	< 0.001	< 0.1	0.0009	3.4	2.9	6.3	< 0.2	< 1	6
0515 A		7/10/2002	< 0.01	< 0.005	0.09	< 0.05	12.4	< 0.1	0.18	< 0.001	< 0.1	0.0013	3.6	6.8	10.4	< 0.2	< 1	8
0515 A		10/9/2002	< 0.01	< 0.005	0.08	< 0.05	13.3	< 0.1	0.2	< 0.001	< 0.1	0.002	3.5	3.1	6.6	< 0.2	< 1	9.3
0515 A		1/8/2003	< 0.01	< 0.005	0.09	< 0.05	14.8	< 0.1	0.21	< 0.001	< 0.1	0.0012	4	5.4	9.4	< 0.2	< 1	5
0515 A		4/9/2003	< 0.01	< 0.005	0.09	< 0.05	13.8	< 0.1	0.22	< 0.001	< 0.1	0.0011	3.3	7	10.3	< 0.2	< 1	3.5
0515 A		7/9/2003	< 0.01	< 0.005	0.09	< 0.05	15.7	< 0.1	0.26	< 0.001	< 0.1	0.0008	2.4	6.3	8.7	< 0.2	< 1	3.9
0515 A		10/8/2003	< 0.01	< 0.005	0.09	< 0.05	14.8	< 0.1	0.25	< 0.001	< 0.1	0.0014	2.2	2.5	4.7	< 0.2	< 1	5.3
0515 A		1/7/2004	< 0.01	< 0.005	0.09	< 0.05	17.4	< 0.1	0.24	< 0.001	< 0.1	0.0012 D	2.3	< 1.0	2.3	< 0.2	< 1.0	7.5
0515 A		4/7/2004	< 0.01	< 0.005	0.09	< 0.05	16.3	< 0.1	0.25	0.007	< 0.1	0.0011 D	1.4	4.2	5.6	< 0.2	< 1	7.3
0515 A		7/14/2004	< 0.01	< 0.005	0.08	< 0.05	14.6	< 0.1	0.2	< 0.001	< 0.1	0.0011 D	1.7	< 1.0	1.7	< 0.2	< 1.0	4.6
0515 A		10/6/2004	< 0.01	< 0.005	0.08	< 0.05	14.8	< 0.1	0.11	< 0.001	< 0.1	0.0009 D	2.3	2.5	4.8	< 0.2	< 1.0	3.5
0515 A		1/5/2005	< 0.01	0.006	0.09	< 0.05	15	< 0.1	0.25	0.002	< 0.1	0.001	4.2	1.8	6	< 0.2	< 1.0	10.9
0515 A		4/6/2005	< 0.01	< 0.005	0.06	< 0.05	16	< 0.1	0.25	< 0.001	< 0.1	0.001	3.3	1.1	4.4	< 0.2	< 1.0	1.9
0515 A		7/13/2005	< 0.01	< 0.005	0.06	< 0.05	15.6	< 0.1	0.24	< 0.001	< 0.1	0.0008	2.6	1.5	4.1	< 0.2	< 1.0	2.8
0515 A		10/5/2005	< 0.01	< 0.005	0.07	< 0.05	15.4	< 0.1	0.25	< 0.001	< 0.1	0.0009 D	1.9	1.3	3.2	< 0.2	< 1.0	3.1
0515 A		1/11/2006	< 0.01	< 0.005	0.05	< 0.05	15.3	< 0.1	0.23	0.008	< 0.1	0.0009	1.5	1.1	2.6	< 0.2	< 1.0	2.8

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0515 A		4/5/2006	6,907.45	5.53	6.34	7620	489 D	861 D	397	14.1	211	4410 D	253	8.01	63 D	114 D	1.1	< 0.001
0515 A		7/19/2006	6,906.83	5.54	5.97	7460	494 D	825 D	436	14.1	215	4540 D	253	4.61	62 D	173 D	0.7	< 0.001
0515 A		10/4/2006	6,907.00	5.61	5.86	7710	461 D	813 D	423	14.4	202	4280 D	238	5.84	61 D	176 D	0.9	< 0.001
0515 A		1/10/2007	6,906.88	5.57	5.86	7850	448 D	807 D	388	14	220	4640 D	245	5.2 D	58 D	105	0.4	<0.001
0515 A		4/11/2007	6,906.77	5.61	6.12	7770	475 D	874 D	424	16	<1	4800 D	246	5.87	63 D	134	0.8	<0.001
0515 A		7/11/2007	6,906.38	5.54	6.02	7590	492 D	876 D	419	14.6	216	4880 D	240	8 D	68 D	157	0.2	0.003
0515 A		10/3/2007	6,906.33	5.40	5.96	7880	436 D	823 D	445 D	15.9	217	4440 D	255 D	6.2 D	61 D	168	0.5	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0515 A		4/5/2006	< 0.01	< 0.005	0.06	< 0.05	16.7	< 0.1	0.25	0.008	< 0.1	0.0008 D	1.3	< 1.0	1.3	< 0.2	< 1.0	2.6
0515 A		7/19/2006	< 0.01	< 0.005	0.05	< 0.05	14.7	< 0.1	0.22	< 0.001	< 0.1	0.0007	1.6	1.8	3.4	< 0.2	< 1.0	1.7
0515 A		10/4/2006	< 0.01	< 0.005	0.05	< 0.05	16.1	< 0.1	0.24	< 0.001	< 0.1	0.0021 D	1.3	4	5.3	< 0.2	< 1	1.2
0515 A		1/10/2007	<0.01	<0.005	0.04	<0.05	15.1	<0.1	0.2	<0.001	<0.1	0.0006	2	<1	2	<0.2	<1	1.4
0515 A		4/11/2007	<0.01	<0.005	0.06	<0.05	15.5	<0.1	0.24	<0.001	<0.1	0.0009	1.3	3.4	4.7	<0.2	<1	2.3
0515 A		7/11/2007	<0.01	<0.005	0.05	<0.05	16.2	<0.1	0.24	<0.001	<0.1	0.0007	2.5	<1	2.5	<0.2	<1	1.7
0515 A		10/3/2007	<0.01	<0.005	0.04	<0.05	16.8	<0.1	0.21	<0.001	<0.1	0.0006	1.3	<1	1.3	<0.2	<1	4.5

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0516 A		7/23/1989	6,918.70	4.20	4.08	12629	454	1519	399	9.29	0	8605	207	30.5	146	< 1	240	< 0.001
0516 A		10/12/1989	6,918.50	4.40	4.22	11560	449	1343	358	13.6	0	6992	264	39.8	188	< 1	150	< 0.001
0516 A		1/10/1990	6,917.80	4.40	4.31	10892	463	1281	409	11.7	< 1	6654	230	25	181	< 1	110	< 0.001
0516 A		4/6/1990	6,917.40	4.50	4.27	11343	463	1300	379	12.1	< 1	6989	216	57.3	186	< 1	130	< 0.001
0516 A		7/3/1990	6,916.40	4.20	4.28	11462	472	1212	359	10.2	< 1	7003	216	95.5	208	< 1	144	< 0.001
0516 A		10/9/1990	6,915.60	4.60	4.51	10430	429	1243	416	13.3	0.1	6467	203	78	208	< 1	80.3	< 0.001
0516 A		1/15/1991	6,915.10	4.60	4.50	10179	482	1207	436	19.4	< 1	5983	261	80.8	240	< 1	42.6	< 0.001
0516 A		4/2/1991	6,914.40	4.90	4.99	10493	464	1250	387	13.4	25	6165	267	97.9	240	< 1	20.5	< 0.001
0516 A		7/17/1991	6,913.80	4.80	5.75	9771	430	1097	390	12.8	100	6873	326	74	281	< 1	12.3	< 0.001
0516 A		9/4/1991	no data	no data	5.58	10598	444	1299	394	13.2	173	6936	215	144	59	< 1	8.6	< 0.001
0516 A		10/15/1991	6,911.40	5.10	6.39	9878	450	1068	451	16.5	213	6047	275	99	234	< 1	4.18	< 0.001
0516 A		11/4/1991	no data	no data	5.88	10139	490	875	392	13.6	381	5597	299	113	135	1.7	5.84	< 0.001
0516 A		12/2/1991	no data	no data	6.35	9819	471	879	375	13.8	340	5046	259	132	147	1.3	3.2	< 0.001
0516 A		1/15/1992	6,913.20	4.90	4.70	9588	403	1186	364	11.9	21.6	6079	241	201	93.5	1.2	22.2	< 0.001
0516 A		4/8/1992	6,912.90	4.90	5.51	10129	444	669	395	15.1	83	6152	369	117	97.1	1.6	11.4	0.002
0516 A		7/8/1992	6,912.40	4.80	6.21	9577	495	916	413	25.2	117	6065	234	129	119	1.4	6.56	< 0.001
0516 A		10/7/1992	6,912.20	5.00	5.19	9800	492	1090	433	17.2	73.2	6244	229	80.1	15.9	1.3	29.3	0.001
0516 A		1/6/1993	6,912.10	5.10	5.70	8137	502	889	398	15.5	168	5252	245	93.7	144	2.1	7.8	< 0.001
0516 A		4/6/1993	6,911.80	5.40	6.26	9954	423	1037	456	13.7	250	6106	252	112	141	1.8	2.9	< 0.001
0516 A		7/13/1993	6,911.20	5.60	6.48	9291	485	1102	401	14.4	421	5879	241	92.9	142	2.3	2	< 0.001
0516 A		10/7/1993	6,910.50	5.80	6.16	9168	481	1109	417	13.3	348	5596	255	101	169	1.6	2.4	< 0.001
0516 A		1/6/1994	6,910.70	5.70	6.26	10048	478	1044	445	12.7	477	5747	237	112	150	2.5	2.87	< 0.001
0516 A		4/12/1994	6,910.20	5.80	6.52	9862	472	1121	413	14.6	610	5815	249	138	155	0.87	0.97	< 0.001
0516 A		7/20/1994	6,906.80	6.00	6.96	10276	526	1293	389	17.6	953	6286	246	149	157	2.04	0.46	< 0.001
0516 A		10/4/1994	6,909.50	6.20	7.37	10221	533	1221	488	17.2	949	6371	249	164	138	1.6	< 0.1	< 0.001
0516 A		1/4/1995	6,909.10	6.10	7.01	10761	495	1245	458	19	939	6901	255	198	130	1.8	0.24	< 0.001
0516 A		4/5/1995	6,908.80	6.10	6.36	10757	505	1275	478	20.7	1069	6510	255	180	133	1.3	0.12	< 0.001
0516 A		7/6/1995	6,903.90	6.20	7.21	10428	491	1290	476	18.7	1302	6259	258	164	129	1.9	< 0.1	< 0.001
0516 A		10/3/1995	6,903.70	6.10	7.44	10761	527	1298	450	19.4	1332	6394	238	178	126	1.72	< 0.1	0.001
0516 A		1/3/1996	6,908.20	6.40	7.03	11314	469	1340	485	18.5	1302	6480	237	137	142	1.76	< 0.1	0.001
0516 A		4/2/1996	6,904.10	6.40	7.29	11345	527	1530	491	19	1320	7150	259	152	146	2.09	< 0.1	0.002
0516 A		7/7/1996	6,904.20	6.10	7.15	11529	465	1480	485	19.6	1309	6190	240	150	134	2.56	< 0.1	< 0.001
0516 A		10/1/1996	6,903.80	6.40	6.93	11500	494	1600	485	18.9	1270	6640	247	149	128	2.13	< 0.1	< 0.001
0516 A		1/22/1997	6,903.70	6.10	7.36	11200	510	1560	481	20.5	1420	6760	241	155	110	2.46	< 0.1	< 0.001
0516 A		4/8/1997	6,902.20	6.30	7.57	11500	457	1320	484	19.7	1360	6500	258	136	126	2.06	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	0.05	0.01	NA	0.05	NA	NA	0.05	0.01	0.1	0.3	NA	NA	9.4	5	1	15
		EPA Standard	0.017	0.01	0.05	0.05	2.6	1	0.2	0.01	0.7	5	NA	NA	5	NA	NA	15
0516 A		7/23/1989	< 0.05	< 0.01	0.45	< 0.05	37	< 0.1	0.051	< 0.001	< 0.1	0.0023	13.6	8.3	21.9	< 0.2	2.9	53.8
0516 A		10/12/1989	< 0.05	< 0.01	0.4	0.12	29	< 0.01	0.41	0.01	< 0.1	0.005	2.9	18.5	21.4	< 0.2	1.8	2.5
0516 A		1/10/1990	< 0.05	< 0.01	0.42	< 0.05	25	< 0.1	0.35	< 0.001	< 0.1	0.003	2.9	4.8	7.7	< 0.2	< 1	3.5
0516 A		4/6/1990	< 0.05	< 0.01	0.35	< 0.05	27	< 0.1	0.34	< 0.001	< 0.1	0.004	3.7	2.9	6.6	< 0.2	< 1	4
0516 A		7/3/1990	< 0.05	< 0.01	0.25	< 0.05	28	< 0.1	0.45	0.001	< 0.1	0.0029	3.4	2.9	6.3	< 0.2	< 1	3
0516 A		10/9/1990	< 0.05	< 0.01	0.25	< 0.05	21.9	< 0.1	0.3	< 0.001	< 0.1	0.0035	3.3	4.6	7.9	< 0.2	< 1	4
0516 A		1/15/1991	0.01	< 0.01	0.24	< 0.05	20.6	< 0.1	0.32	< 0.001	< 0.1	0.0028	6.5	6.4	12.9	< 0.2	< 1	6.7
0516 A		4/2/1991	< 0.01	< 0.01	0.19	< 0.05	20.3	< 0.1	0.26	< 0.001	< 0.1	0.0003	6	6.8	12.8	< 0.2	3.3	6
0516 A		7/17/1991	< 0.01	< 0.01	0.22	< 0.05	18.7	< 0.1	0.27	0.002	< 0.1	0.001	2.3	3.1	5.4	< 0.2	< 1	2
0516 A		9/4/1991	< 0.01	< 0.01	0.21	< 0.05	17.7	< 0.1	0.32	0.001	< 0.1	0.0021	1.5	4.7	6.2	< 0.2	1.2	2
0516 A		10/15/1991	< 0.01	< 0.01	0.18	< 0.05	15.3	< 0.1	0.22	0.002	< 0.1	0.004	1.3	9.5	10.8	< 0.2	< 1	1
0516 A		11/4/1991	< 0.01	< 0.01	0.12	< 0.05	15.3	< 0.1	0.17	0.002	< 0.1	0.0157	2	8.3	10.3	< 0.2	2.3	2
0516 A		12/2/1991	< 0.01	< 0.01	0.14	< 0.05	11.6	< 0.1	0.19	< 0.001	< 0.1	0.0009	4	7.8	11.8	< 0.2	< 1	4
0516 A		1/15/1992	0.01	< 0.01	0.21	< 0.05	19.2	< 0.1	0.29	0.063	< 0.1	0.063	2.4	8.9	11.3	< 0.2	< 1	2
0516 A		4/8/1992	0.01	< 0.01	0.2	< 0.05	15.8	< 0.1	0.22	0.001	< 0.1	0.001	1.8	9.8	11.6	< 0.2	< 1	2
0516 A		7/8/1992	< 0.01	< 0.01	0.17	< 0.05	16.2	< 0.1	0.21	< 0.001	< 0.1	0.002	2.1	7.2	9.3	< 0.2	2.6	2.5
0516 A		10/7/1992	< 0.01	< 0.01	0.23	< 0.05	18	< 0.1	0.28	0.003	< 0.1	< 0.0003	4.1	5.9	10	< 0.2	3	4.6
0516 A		1/6/1993	0.01	< 0.01	0.41	< 0.05	16	< 0.1	0.37	0.009	< 0.1	0.005	3.5	3.6	7.1	< 0.2	< 1	3.9
0516 A		4/6/1993	< 0.01	< 0.01	0.14	< 0.05	13	< 0.1	0.21	0.001	< 0.1	0.004	1.8	1.4	3.2	< 0.2	2.6	2
0516 A		7/13/1993	< 0.01	< 0.01	0.13	< 0.05	10.3	< 0.1	0.17	0.005	< 0.1	0.003	1.5	4.2	5.7	< 0.2	3	2
0516 A		10/7/1993	< 0.01	< 0.01	0.18	< 0.05	12.4	< 0.1	0.22	0.002	< 0.1	0.007	3.7	4	7.7	< 0.2	< 1	4
0516 A		1/6/1994	< 0.01	< 0.01	0.11	< 0.05	10.2	< 0.1	0.15	< 0.001	< 0.1	0.001	3.6	1.5	5.1	< 0.2	< 1	6.8
0516 A		4/12/1994	< 0.01	< 0.01	0.08	< 0.05	7.8	< 0.1	0.14	0.001	< 0.1	0.003	2.9	5.5	8.4	< 0.2	1.5	11.3
0516 A		7/20/1994	< 0.01	< 0.01	0.05	< 0.05	4.95	< 0.1	0.08	< 0.001	< 0.1	0.011	3.8	3.1	6.9	< 0.2	< 1	8.6
0516 A		10/4/1994	< 0.01	< 0.01	< 0.01	< 0.05	5.22	< 0.1	< 0.05	0.001	< 0.1	0.013	4.3	< 1	4.3	< 0.2	3.4	4.5
0516 A		1/4/1995	< 0.01	< 0.01	0.04	< 0.05	4.74	< 0.1	0.08	< 0.001	< 0.1	0.01	1.4	2.9	4.3	< 0.2	2	5.9
0516 A		4/5/1995	< 0.01	< 0.01	< 0.01	< 0.05	3.74	< 0.1	< 0.05	0.001	< 0.1	0.016	1.4	2.2	3.6	< 0.2	3.1	4.9
0516 A		7/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.7	< 0.1	< 0.05	0.003	< 0.1	0.0183	0.9	< 1	0.9	0.2	< 1	2
0516 A		10/3/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.54	< 0.1	< 0.05	0.001	< 0.1	0.0256	1.3	< 1	1.3	< 0.2	< 1	2.5
0516 A		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.34	< 0.1	< 0.05	< 0.001	< 0.1	0.014	1.1	1.4	2.5	< 0.2	1.7	2.7
0516 A		4/2/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.1	< 0.1	< 0.05	< 0.001	< 0.1	0.014	0.8	< 1	0.8	< 0.2	< 1	1.4
0516 A		7/7/1996	< 0.01	< 0.01	< 0.01	< 0.05	2	< 0.1	< 0.05	< 0.001	< 0.1	0.018	0.7	< 1	0.7	< 0.2	< 1	< 1
0516 A		10/1/1996	< 0.01	< 0.01	0.02	< 0.05	2.2	< 0.1	< 0.05	0.002	< 0.1	0.013	0.9	< 1	0.9	< 0.2	< 1	< 1
0516 A		1/22/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.79	< 0.1	< 0.05	< 0.001	< 0.1	0.016	1.2	3.2	4.4	< 0.2	< 1	< 1
0516 A		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.77	< 0.1	< 0.05	0.078	< 0.1	0.016	1	4.2	5.2	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0516 A		7/8/1997	6,902.10	6.70	7.61	11700	528	1580	507	19.7	1360	7120	271	135	124	2.26	< 0.1	< 0.001
0516 A		10/7/1997	6,901.40	6.30	7.45	11600	516	1480	480	18.4	1370	6530	258	132	106	2.5	< 0.1	< 0.001
0516 A		1/15/1998	6,902.50	6.40	7.59	11600	474	1450	493	20.2	1370	7100	293	129	137	2.9	< 0.1	< 0.001
0516 A		4/7/1998	6,901.40	6.20	7.39	11800	450	1310	469	18.2	1360	6220	230	141	116	3	< 0.1	< 0.001
0516 A		7/7/1998	6,902.10	6.50	7.36	11800	491	1450	492	18.5	1380	6500	257	145	117	3	< 0.1	< 0.001
0516 A		10/6/1998	6,902.10	6.25	7.66	11800	478	1460	514	20.7	1390	7000	256	140	132	2.9	< 0.1	< 0.001
0516 A		1/5/1999	6,902.20	6.40	7.57	11900	421	1400	446	19.2	1350	7100	259	152	103	2.2	< 0.1	< 0.001
0516 A		4/6/1999	6,902.40	6.30	7.28	11900	456	1480	461	17.7	1350	6840	246	137	118	1.8	< 0.1	< 0.001
0516 A		7/13/1999	6,901.04	6.50	7.78	11900	485	1540	518	24.9	1370	6920	254	137	106	2.6	< 0.1	< 0.001
0516 A		10/5/1999	6,900.00	6.40	7.71	11900	553	1770	458	18.5	1387	8030	261	143	111	2.7	< 0.1	< 0.001
0516 A		1/4/2000	6,899.60	6.30	7.64	11700	459	1520	408	18.1	1290	6590	228	137	113	2.7	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0516 A		7/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.8	< 0.1	< 0.05	< 0.001	< 0.1	0.015	0.8	< 1	0.8	< 0.2	< 1	< 1
0516 A		10/7/1997	< 0.01	< 0.01	0.02	< 0.05	1.83	< 0.1	< 0.05	< 0.001	< 0.1	0.015	1.2	< 1	1.2	< 0.2	< 1	< 1
0516 A		1/15/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.03	< 0.1	< 0.05	< 0.001	< 0.1	0.023	1.1	< 1	1.1	< 0.2	< 1	< 1
0516 A		4/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.61	< 0.1	< 0.05	< 0.001	< 0.1	0.019	1.2	< 1	1.2	< 0.2	< 1	< 1
0516 A		7/7/1998	< 0.01	< 0.005	0.02	< 0.05	1.59	< 0.1	< 0.05	< 0.001	< 0.1	0.0181	1.1	< 1	1.1	< 0.2	< 1	2.2
0516 A		10/6/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.57	< 0.1	< 0.05	< 0.001	< 0.1	0.0211	1.1	1.6	2.7	< 0.2	< 1	< 1
0516 A		1/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	1.66	< 0.1	< 0.05	< 0.001	< 0.1	0.0189	0.8	1.9	2.7	< 0.2	< 1	< 1
0516 A		4/6/1999	< 0.01	< 0.005	< 0.01	< 0.05	1.59	< 0.1	< 0.05	0.001	< 0.1	0.0197	0.7	3.4	4.1	< 0.2	< 1	< 1
0516 A		7/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	1.67	< 0.1	< 0.05	< 0.001	< 0.1	0.0199	0.7	< 1	0.7	< 0.2	< 1	< 1
0516 A		10/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.11	< 0.1	< 0.05	< 0.001	< 0.1	0.0218	0.7	< 1	0.7	< 0.2	< 1	1.4
0516 A		1/4/2000	< 0.01	< 0.005	0.02	< 0.05	2.37	< 0.1	< 0.05	0.001	< 0.1	0.0178	1.2	< 1	1.2	< 0.2	< 1	1.2

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0604		7/23/1989	6,919.20	3.90	4.04	6697	454	707	251	11.6	0	3891	21.4	6.39	31	< 1	60	< 0.001
0604		10/12/1989	6,919.10	3.90	4.11	6728	428	644	235	14.6	0	4407	33.7	6.05	39	< 1	66	< 0.001
0604		1/10/1990	6,917.80	3.90	4.06	6602	444	691	291	13.7	< 1	4325	23.1	6.7	33	< 1	58	< 0.001
0604		4/5/1990	6,917.20	4.20	4.20	6806	455	670	240	11.6	< 1	4352	33.4	6.8	43	< 1	59	< 0.001
0604		7/3/1990	6,916.40	4.00	4.24	6824	461	662	240	9.6	< 1	4321	26.8	5.38	50.9	< 1	60	< 0.001
0604		10/3/1990	6,915.80	4.10	4.11	6616	453	628	264	13.3	< 1	4290	31.1	3.27	44	< 1	77.2	< 0.001
0604		1/15/1991	6,914.90	4.10	4.21	6802	475	710	265	15.2	< 1	4627	31.6	5.48	52	< 1	61.8	< 0.001
0604		4/2/1991	6,914.60	4.20	4.51	6380	432	659	215	11.1	< 1	4923	33	4.6	56.5	< 1	45.3	< 0.001
0604		7/17/1991	6,914.80	4.00	4.46	6949	408	624	218	11.1	< 1	5307	28.4	5.34	51.4	< 1	70.95	< 0.001
0604		9/4/1991	no data	no data	3.98	7438	444	715	251	11.4	< 1	5494	31	7.1	31.3	< 1	70.4	< 0.001
0604		10/15/1991	6,914.30	3.90	4.26	6909	432	570	275	12.5	< 1	4502	34.7	7.86	47.3	< 1	58.6	< 0.001
0604		11/4/1991	no data	no data	4.09	7177	460	593	231	11.3	< 1	4396	50	5.4	13.3	< 1	0.13	< 0.001
0604		12/2/1991	no data	no data	4.30	7047	439	564	256	12.6	< 1	4052	52.8	4.12	30.5	< 1	62.5	< 0.001
0604		1/15/1992	6,914.50	3.80	4.11	6837	414	702	222	10	< 1	4554	31.6	3.7	35.4	< 1	57.1	< 0.001
0604		4/8/1992	6,914.40	3.80	4.24	7106	454	654	252	12.2	< 1	4691	40.8	3.75	41.4	< 1	52.4	0.003
0604		7/8/1992	6,914.40	3.70	4.22	6654	495	610	285	12.3	< 1	4669	33.3	3.94	49.2	< 1	73.2	0.001
0604		10/7/1992	6,914.20	4.10	4.04	7185	447	702	273	15.1	< 1	4860	35.5	3.8	15.7	< 1	66.2	< 0.001
0604		1/6/1993	6,914.10	4.30	4.45	5855	411	642	236	12	< 1	4042	56.3	2.09	88.6	1.2	45.1	0.002
0604		4/6/1993	6,914.00	4.40	4.36	7409	414	687	284	10.2	< 1	4639	62	1.83	89.1	< 1	45.5	< 0.001
0604		7/13/1993	6,913.50	4.40	4.30	7711	449	816	265	11.9	< 1	4973	62.7	1.45	84.4	1	39.1	< 0.001
0604		10/6/1993	6,913.30	4.50	4.24	6891	475	785	250	10.8	< 1	4744	47.6	1.07	91.8	< 1	30	< 0.001
0604		1/6/1994	6,913.10	4.30	4.32	7520	450	691	243	10.3	< 1	4543	52.6	1.19	97.6	1.8	47.8	< 0.001
0604		4/12/1994	6,912.80	4.40	4.39	7215	423	729	254	10.2	< 1	4838	51.6	2.7	90.7	< 1	39.4	< 0.001
0604		7/20/1994	6,912.30	4.50	4.33	7069	491	856	232	11.2	< 1	4790	60.6	1.02	89.2	< 1	27.2	< 0.001
0604		10/4/1994	6,912.40	4.50	4.38	7504	493	837	280	11.6	< 1	4935	60	1.61	92.5	< 1	41.8	< 0.001
0604		1/4/1995	6,912.10	4.40	4.50	7621	490	835	256	12.5	< 1	5023	62.6	1.67	86.9	< 1	26.1	< 0.001
0604		4/5/1995	6,911.90	4.50	4.50	7614	475	850	260	12	0.5	4870	53	1.97	92.5	< 1	30.5	< 0.001
0604		7/6/1995	6,911.40	4.50	4.42	6741	455	760	260	11.5	< 1	4650	60.2	1.83	87.7	< 1	32	< 0.001
0604		10/3/1995	6,911.50	4.60	4.49	7616	496	877	279	11.5	< 1	5010	58	1.19	87.6	< 1	25.1	0.002
0604		1/3/1996	6,911.20	4.70	4.43	7223	440	827	277	11.8	< 1	4760	54.5	0.2	96.1	< 1	26.2	< 0.001
0604		4/2/1996	6,911.30	4.70	4.58	7638	497	920	260	12	2.5	5180	64.2	0.15	100	< 1	22.5	< 0.001
0604		7/7/1996	6,910.60	4.40	4.48	7742	452	816	262	12.4	< 1	4610	64.3	0.24	83.2	< 1	26.3	< 0.001
0604		10/1/1996	6,910.30	4.80	4.52	7690	464	850	265	12.3	0.9	4708	57.9	0.36	88.7	< 1	24.9	< 0.001
0604		1/22/1997	6,910.20	4.80	4.61	7560	441	897	262	12.4	3.9	4830	57	0.21	74.9	< 1	21.1	0.002
0604		4/8/1997	6,909.90	4.60	4.56	7650	539	458	170	8	3	3370	45	0.19	87.9	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0604		7/23/1989	< 0.05	< 0.01	0.31	< 0.05	22	< 0.1	0.39	< 0.001	< 0.1	0.004	14.1	16.8	30.9	3.5	1.7	60.2
0604		10/12/1989	< 0.05	0.01	0.31	< 0.05	22	< 0.1	0.34	0.006	< 0.1	0.006	4.5	11	15.5	33.9	< 1	41.7
0604		1/10/1990	< 0.05	< 0.01	0.33	< 0.05	22	< 0.1	0.38	< 0.001	< 0.1	0.005	5.1	8.5	13.6	1.7	2.8	6.5
0604		4/5/1990	< 0.05	< 0.01	0.31	< 0.05	19	< 0.1	0.38	< 0.001	< 0.1	0.0006	5	9	14	< 0.2	2.6	6
0604		7/3/1990	< 0.05	< 0.01	0.21	< 0.05	18.2	< 0.1	0.34	< 0.001	< 0.1	0.0029	7.6	6.5	14.1	0.4	< 1	8
0604		10/3/1990	< 0.05	< 0.01	0.35	< 0.05	22.7	< 0.1	0.4	< 0.001	< 0.1	0.003	5.8	20.3	26.1	< 0.2	< 1	6
0604		1/15/1991	0.02	< 0.01	0.39	< 0.05	20.1	< 0.1	0.44	< 0.001	< 0.1	0.007	8.2	13.8	22	< 0.2	2.3	9.1
0604		4/2/1991	0.016	< 0.01	0.23	< 0.05	14.6	< 0.1	0.38	< 0.001	< 0.1	0.005	9.1	24.3	33.4	< 0.2	1.3	15
0604		7/17/1991	0.03	< 0.01	0.3	< 0.05	20.5	< 0.1	0.41	< 0.001	< 0.1	0.006	4.3	12.5	16.8	< 0.2	2.1	4
0604		9/4/1991	< 0.01	< 0.01	0.39	< 0.05	21	< 0.1	0.45	0.001	< 0.1	0.005	3.8	14.3	18.1	< 0.2	< 1	4
0604		10/15/1991	0.03	< 0.01	0.36	< 0.05	21.3	< 0.1	0.41	< 0.001	< 0.1	0.06	3.9	20.6	24.5	< 0.2	< 1	4
0604		11/4/1991	0.02	< 0.01	0.39	< 0.05	15.1	< 0.1	0.55	< 0.001	< 0.1	0.0059	4.1	16.9	21	< 0.2	< 1	4
0604		12/2/1991	< 0.01	< 0.01	0.35	< 0.05	19.6	< 0.1	0.42	< 0.001	< 0.1	0.004	6.2	22.7	28.9	< 0.2	< 1	6
0604		1/15/1992	0.02	< 0.01	0.34	< 0.05	20.5	< 0.1	0.41	0.013	< 0.1	0.0601	3.9	20.6	24.5	< 0.2	< 1	4
0604		4/8/1992	0.02	< 0.01	0.36	< 0.05	17.8	< 0.1	0.4	< 0.001	< 0.1	0.003	3.6	15.3	18.9	< 0.2	1.2	3.8
0604		7/8/1992	0.029	< 0.01	0.37	< 0.05	21.8	< 0.1	0.5	< 0.001	< 0.1	0.005	5.6	11.7	17.3	< 0.2	3.4	3.8
0604		10/7/1992	< 0.01	< 0.01	0.37	< 0.05	19.9	< 0.1	0.42	< 0.001	< 0.1	0.004	6.8	11.6	18.4	< 0.2	1.9	6.9
0604		1/6/1993	0.01	< 0.01	0.36	< 0.05	14.5	< 0.1	0.44	0.006	< 0.1	0.009	5.7	7.6	13.3	< 0.2	< 1	6.1
0604		4/6/1993	0.022	< 0.01	0.37	< 0.05	14.5	< 0.1	0.49	0.002	< 0.1	0.006	3.3	12	15.3	< 0.2	1.7	3.8
0604		7/13/1993	< 0.01	< 0.01	0.35	< 0.05	14.2	< 0.1	0.62	0.002	< 0.1	< 0.0003	2.4	6.9	9.3	< 0.2	3.1	3.2
0604		10/6/1993	0.017	< 0.01	0.36	< 0.05	13.5	< 0.1	0.43	< 0.001	< 0.1	0.0059	5.6	2.3	7.9	< 0.2	< 1	9
0604		1/6/1994	0.02	< 0.01	0.37	< 0.05	13	< 0.1	0.43	< 0.001	< 0.1	0.003	5.7	8.2	13.9	< 0.2	2.3	18.9
0604		4/12/1994	0.02	< 0.01	0.28	< 0.05	14.1	< 0.1	0.41	< 0.001	< 0.1	0.004	7.7	8	15.7	< 0.2	2.3	24.9
0604		7/20/1994	< 0.01	< 0.01	0.3	< 0.05	9.63	< 0.1	0.39	< 0.001	< 0.1	0.003	10	13	23	< 0.2	< 1	29.7
0604		10/4/1994	< 0.01	< 0.01	0.4	< 0.05	12.9	< 0.1	0.57	< 0.001	< 0.1	0.006	5.2	5.4	10.6	< 0.2	3.8	13.5
0604		1/4/1995	0.01	< 0.01	0.32	< 0.05	10.4	< 0.1	0.42	< 0.001	< 0.1	0.004	5.1	7.7	12.8	< 0.2	< 1	16.8
0604		4/5/1995	< 0.01	< 0.01	< 0.01	< 0.05	12	< 0.1	0.5	< 0.001	< 0.1	0.004	5	7.6	12.6	< 0.2	4	16.6
0604		7/6/1995	0.02	< 0.01	0.35	< 0.05	2.61	< 0.1	0.4	< 0.001	< 0.1	0.0035	3.8	5.7	9.5	< 0.2	< 1	15.3
0604		10/3/1995	< 0.01	< 0.01	0.32	< 0.05	11.1	< 0.1	0.38	0.031	< 0.1	0.0046	5.3	17.1	22.4	< 0.2	< 1	15.5
0604		1/3/1996	< 0.01	< 0.01	0.04	< 0.05	12	< 0.1	< 0.05	0.031	< 0.1	0.0034	3.1	2.2	5.3	< 0.2	2.8	9
0604		4/2/1996	< 0.01	< 0.01	0.32	< 0.05	10.8	< 0.1	0.36	< 0.001	< 0.1	< 0.0003	2.1	6.9	9	< 0.2	< 1	5.3
0604		7/7/1996	< 0.01	< 0.01	0.36	< 0.05	12.7	< 0.1	0.41	< 0.001	< 0.1	0.0034	2.5	< 1	2.5	< 0.2	< 1	3.1
0604		10/1/1996	< 0.01	< 0.01	0.35	< 0.05	11.4	< 0.1	0.42	0.002	< 0.1	0.0011	2.3	7.4	9.7	< 0.2	< 1	3.3
0604		1/22/1997	0.01	< 0.01	0.36	< 0.05	11.4	< 0.1	0.4	< 0.001	< 0.1	0.004	2.5	8.8	11.3	< 0.2	< 1	4.7
0604		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.87	< 0.1	< 0.05	0.038	< 0.1	0.003	5.2	6.8	12	< 0.2	< 1	19.8

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0604		7/8/1997	6,910.00	5.50	4.60	7740	496	904	275	12.9	3.4	5050	69.2	0.21	83.8	< 1	21.4	< 0.001
0604		10/7/1997	6,909.60	4.50	4.63	7590	489	868	261	12.4	5.1	4790	62.1	0.38	77.3	< 1	21.9	< 0.001
0604		1/15/1998	6,910.40	4.70	4.61	7530	474	847	271	13	2.9	5100	75.1	0.79	89.8	< 1	18.1	< 0.001
0604		4/7/1998	6,909.70	4.50	4.73	7570	489	773	255	11.8	7.4	4300	60.9	0.35	87.4	< 1	16.9	< 0.001
0604		7/7/1998	6,908.90	4.90	4.64	7600	471	860	274	12.5	4.1	4600	61.5	0.46	80.7	< 1	20.8	< 0.001
0604		10/6/1998	6,908.90	4.55	4.63	7760	463	874	287	13.7	3.7	4860	61.6	0.78	89.3	< 1	18.7	< 0.001
0604		1/5/1999	6,908.90	4.70	4.60	7830	420	851	257	12.7	3	5100	64.9	0.45	70.7	< 1	20.2	< 0.001
0604		4/6/1999	6,908.40	4.60	4.69	7980	446	893	259	12.2	5	4740	62.7	0.83	92.4	< 1	20.4	< 0.001
0604		7/13/1999	6,907.80	4.60	4.61	8030	479	964	292	16.3	3	5120	55.3	0.57	73.2	< 1	15.7	< 0.001
0604		10/5/1999	6,908.60	4.42	4.64	8150	523	1120	280	12.5	4	6000	50.9	0.53	58.6	< 1	27	< 0.001
0604		1/4/2000	6,908.20	4.60	4.64	8180	397	883	231	12.8	4	4500	41.9	0.24	67.9	< 1	20	< 0.001
0604		5/3/2000	6,909.00	4.60	4.75	7500	416	808	264	14.2	6	4300	56.5	0.13	84.6	1.4	6.5	< 0.001
0604		7/11/2000	6,908.80	4.57	4.67	7380	460	837	258	11.9	5	4470	53.7	0.33	90.2	2.4	14.5	< 0.001
0604		10/3/2000	6,908.90	4.68	4.69	7220	455	830	247	13	6	4250	48.3	0.23	84.9	4.2	10.5	< 0.001
0604		1/10/2001	6,909.00	4.94	4.74	7280	450	790	222	11.6	7	4390	61.7	0.23	75.9	2.5	14	< 0.001
0604		4/3/2001	6,908.90	4.80	4.77	7260	533	916	229	11.3	8	4730	57.9	0.28	75.8	4.1	12.8	< 0.001
0604		7/17/2001	6,908.45	4.89	4.73	7470	424	782	246	12.5	7	4270	66.9	0.47	73.1	2.8	14.1	< 0.001
0604		10/2/2001	6,908.50	4.78	4.70	7420	440	820	217	12.8	4.9	4100	77.8	0.27	70	3	12.5	< 0.001
0604		1/14/2002	6,908.40	4.86	4.80	7390	516	882	235	13.6	6.7	4540	67.5	0.13	66	3	15.3	< 0.001
0604		4/9/2002	6,908.10	4.70	4.73	7500	446	790	261	12.2	6.7	4390	58.1	0.23	70.1	< 1	13.2	< 0.001
0604		7/16/2002	6,908.02	4.84	4.78	7500	439	805	271	13.5	6.7	4460	65	0.66	71.7	< 1	11.4	< 0.001
0604		10/9/2002	6,907.87	5.36	4.79	5790	431	775	258	11.4	7.3	4380	56.5	0.64	68.6	3.2	14.6	< 0.001
0604		1/8/2003	6,908.03	5.20	4.76	7440	423	783	230	10.7	6.7	4250	48.4	0.88	61	3.8	12.9	< 0.001
0604		4/14/2003	6,908.00	4.73	4.64	7360	454	860	293	15.3	6.7	4690	55.8	0.78	71	< 1	11.8	< 0.001
0604		7/9/2003	6,907.72	4.63	4.75	7470	440	794	261	13.3	6.7	4500	57.7	1.08	66	2.4	11.7	< 0.001
0604		10/8/2003	6,907.76	4.72	4.79	7450	427	714	268	10.6	8.5	4320	50.5	0.74	68	2.8	13.7	< 0.001
0604		1/7/2004	6,907.70	4.77	4.81	7290	495	873	283	12.8	7.9	4770	62.6	0.75	69.8 D	2.3	14.1	< 0.001
0604		4/7/2004	6,907.50	5.01	4.91	7340	469	830	287	12.2	3.2	4550 D	59.8	0.98	72.6 D	3.4	13.2	< 0.001
0604		7/14/2004	6,907.05	4.72	4.56	7320	455	796	282	12.6	9	4580 D	61.8	0.54	65.9 D	2.2	12.2	< 0.001
0604		10/6/2004	6,907.05	4.74	4.77	7350	440 D	802 D	292	12.2	10	4390 D	59	0.45	65.8 D	2.7	11.3	< 0.001
0604		1/5/2005	6,907.04	4.95	4.66	7480	475 D	856 D	284	12.3	7	4770 D	58	0.62	66 D	7	11.1	< 0.001
0604		4/6/2005	6,906.60	4.96	4.65	7050	454	803	296	12	6	4550	58	0.49	54	3.8	11.2	< 0.001
0604		7/13/2005	6,906.40	4.94	4.76	7220	472 D	824 D	278	11.3	2	4630 D	57	0.49	60 D	3	11.1	< 0.001
0604		10/5/2005	6,906.50	4.93	4.85	7260	450 D	854 D	286	12.4	12	4600 D	58	0.46	60 D	2.8	9.5	< 0.001
0604		1/11/2006	6,906.34	5.02	5.07	7160	430 D	813 D	283	12.2	76	4600 D	58	1.01	75 D	3.2	9.3	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0604		7/8/1997	0.01	< 0.01	0.35	< 0.05	12.4	< 0.1	0.38	< 0.001	< 0.1	0.003	2.3	7.2	9.5	< 0.2	< 1	4
0604		10/7/1997	0.01	< 0.01	0.4	< 0.05	12.6	< 0.1	0.43	< 0.001	< 0.1	0.004	2.3	3.8	6.1	< 0.2	< 1	4.6
0604		1/15/1998	0.01	0.006	0.37	< 0.05	11.8	< 0.1	0.41	< 0.001	< 0.1	0.0032	2.1	6	8.1	< 0.2	< 1	3.1
0604		4/7/1998	0.01	0.007	0.34	< 0.05	10.7	< 0.1	0.39	< 0.001	< 0.1	0.0031	3.3	7	10.3	< 0.2	< 1	4.6
0604		7/7/1998	0.01	0.006	0.36	< 0.05	12.5	< 0.1	0.41	< 0.001	< 0.1	0.0031	1.6	4.3	5.9	< 0.2	< 1	3.7
0604		10/6/1998	0.01	0.006	0.37	< 0.05	12	< 0.1	0.45	< 0.001	< 0.1	0.0078	2.4	4.1	6.5	< 0.2	3.4	3.4
0604		1/5/1999	0.01	0.011	0.37	< 0.05	12.8	< 0.1	0.4	< 0.001	< 0.1	0.0033	2.4	7.4	9.8	< 0.2	4.3	4.3
0604		4/6/1999	0.01	0.015	0.41	< 0.05	12.6	< 0.1	0.44	< 0.001	< 0.1	0.0034	4	7.8	11.8	< 0.2	3.2	3.2
0604		7/13/1999	0.01	0.009	0.42	< 0.05	14	< 0.1	0.62	< 0.001	< 0.1	0.0071	3	5.2	8.2	< 0.2	3.7	3.7
0604		10/5/1999	< 0.01	0.015	0.53	< 0.05	16.1	< 0.1	0.46	< 0.001	< 0.1	0.0033	2.5	2.9	5.4	< 0.2	< 1	4.3
0604		1/4/2000	0.01	0.01	0.38	< 0.05	11.2	< 0.1	0.46	< 0.001	< 0.1	0.0032	2.3	6	8.3	< 0.2	< 1	4.7
0604		5/3/2000	< 0.01	0.022	0.23	< 0.05	8.81	< 0.1	0.26	< 0.001	< 0.1	0.0027	4.3	6.6	10.9	< 0.2	< 1	4.8
0604		7/11/2000	0.01	0.011	0.31	< 0.05	10.1	< 0.1	0.31	< 0.001	< 0.1	0.0022	2.5	6	8.5	< 0.2	< 1	4.2
0604		10/3/2000	< 0.01	0.005	0.26	< 0.05	8.17	0.23	0.25	< 0.001	< 0.1	0.002	1.9	7.5	9.4	< 0.2	< 1	4.3
0604		1/10/2001	< 0.01	< 0.005	0.29	< 0.05	9.38	< 0.1	0.35	< 0.001	< 0.1	0.0019	2.1	7.6	9.7	< 0.2	< 1	3.2
0604		4/3/2001	< 0.01	< 0.005	0.32	< 0.05	9.52	< 0.1	0.39	< 0.001	< 0.1	0.0018	1.9	7.1	9	< 0.2	< 1	3.9
0604		7/17/2001	< 0.01	< 0.005	0.29	< 0.05	9.9	< 0.1	0.36	< 0.001	< 0.1	0.002	2.2	6	8.2	< 0.2	< 1	4.1
0604		10/2/2001	< 0.01	< 0.005	0.26	< 0.05	9.45	< 0.1	0.35	< 0.001	< 0.1	0.0014	3.9	7.6	11.5	< 0.2	< 1	4.3
0604		1/14/2002	0.01	0.006	0.32	< 0.05	11	< 0.1	0.4	< 0.001	< 0.1	0.0016	2.9	9.3	12.2	< 0.2	< 1	4.5
0604		4/9/2002	< 0.01	0.007	0.33	< 0.05	11.2	< 0.1	0.4	< 0.001	< 0.1	0.0016	2.6	4.5	7.1	< 0.2	< 1	3.3
0604		7/16/2002	< 0.01	< 0.005	0.28	< 0.05	10.4	< 0.1	0.28	< 0.001	< 0.1	< 0.0003	2.9	3.5	6.4	< 0.2	< 1	5.3
0604		10/9/2002	< 0.01	< 0.005	0.26	< 0.05	9.67	< 0.1	0.3	< 0.001	< 0.1	0.0018	3.3	5.6	8.9	< 0.2	< 1	9.6
0604		1/8/2003	< 0.01	0.006	0.29	< 0.05	10.9	< 0.1	0.32	< 0.001	< 0.1	0.0019	3.6	6.8	10.4	< 0.2	< 1	4.7
0604		4/14/2003	< 0.01	< 0.005	0.26	< 0.05	9.91	< 0.1	0.28	< 0.001	< 0.1	0.0019	2.8	15.3	18.1	< 0.2	< 1	8.4
0604		7/9/2003	< 0.01	0.006	0.29	< 0.05	11.9	< 0.1	0.32	< 0.001	< 0.1	0.0008	1.8	8.2	10	< 0.2	< 1	4
0604		10/8/2003	< 0.01	< 0.005	0.31	< 0.05	11.3	< 0.1	0.34	< 0.001	< 0.1	0.0023	1.4	3.5	4.9	< 0.2	< 1	5.8
0604		1/7/2004	< 0.01	< 0.005	0.32	< 0.05	13.5	< 0.1	0.33	< 0.001	< 0.1	0.0018 D	1.9	4.9	6.8	< 0.2	< 1.0	5.8
0604		4/7/2004	< 0.01	0.005	0.3	< 0.05	12.1	< 0.1	0.35	0.007	< 0.1	0.0018 D	1.5	4.7	6.2	< 0.2	< 1	5.8
0604		7/14/2004	< 0.01	0.007	0.3	< 0.05	11.1	< 0.1	0.3	< 0.001	< 0.1	0.0017 D	2.4	1.9	4.3	< 0.2	< 1.0	3.3
0604		10/6/2004	< 0.01	< 0.005	0.27	< 0.05	11	< 0.1	0.18	< 0.001	< 0.1	0.0017 D	2	5.1	7.1	< 0.2	< 1.0	3.4
0604		1/5/2005	< 0.01	< 0.005	0.31	< 0.05	11.1	< 0.1	0.35	< 0.001	< 0.1	0.0017	4	3.9	7.9	< 0.2	< 1.0	13.4
0604		4/6/2005	< 0.01	< 0.005	0.24	< 0.05	11.9	< 0.1	0.33	< 0.001	< 0.1	0.0018	4.3	5.6	9.9	< 0.2	< 1.0	1.7
0604		7/13/2005	< 0.01	< 0.005	0.28	< 0.05	11.7	< 0.1	0.34	< 0.001	< 0.1	0.0015	4	5.6	9.6	< 0.2	< 1.0	3.3
0604		10/5/2005	< 0.01	< 0.005	0.27	< 0.05	11.1	< 0.1	0.34	< 0.001	< 0.1	0.0015	2.2	5.7	7.9	< 0.2	< 1.0	4
0604		1/11/2006	< 0.01	< 0.005	0.26	< 0.05	11.2	< 0.1	0.31	0.004	< 0.1	0.0013	1.8	3.5	5.3	< 0.2	< 1.0	4.6

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0604		4/5/2006	6,906.40	4.89	5.33	7150	452 D	827 D	264	12.3	3	4320 D	61	2.4	74 D	3	10	< 0.001
0604		7/19/2006	6,905.70	4.95	4.91	7170	469 D	810 D	292	12.6	10	4400 D	60	0.41	69 D	2.5	8	< 0.001
0604		10/4/2006	6,905.67	4.88	5.06	7170	437 D	792 D	277	12.1	4	4230 D	57	0.54	74 D	3.03	8.1	< 0.001
0604		1/10/2007	6,905.69	5.00	4.99	7270	417 D	779 D	256	11.6	20	4460 D	58	0.32	68 D	5.24	5.8	<0.001
0604		4/11/2007	6,905.64	5.02	5.00	7240	447 D	833 D	271	13.4	12	4600 D	62	0.1	76 D	5.92	6.3	<0.001
0604		7/11/2007	6,905.10	4.94	4.89	6900	470 D	853 D	280	12.1	5	4770 D	61	0.31	78 D	4.08	4.6	<0.001
0604		10/3/2007	6,905.13	4.86	5.11	7160	418 D	794 D	287 D	13.7	5	4410 D	82 D	0.24	75 D	7.68	5.7	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0604		4/5/2006	< 0.01	< 0.005	0.28	< 0.05	11.7	< 0.1	0.33	0.004	< 0.1	0.0014 D	1.1	< 1.0	1.1	< 0.2	< 1.0	2.9
0604		7/19/2006	< 0.01	< 0.005	0.25	< 0.05	10.3	< 0.1	0.29	< 0.001	< 0.1	0.0013	1.4	4.7	6.1	< 0.2	< 1.0	1.7
0604		10/4/2006	< 0.01	< 0.005	0.26	< 0.05	10.8	< 0.1	0.32	< 0.001	< 0.1	0.0019	1.5	7.3	8.8	< 0.2	< 1	2.2
0604		1/10/2007	<0.01	<0.005	0.23	<0.05	10.4	<0.1	0.28	<0.001	<0.1	0.0011	2.7	4.2	6.9	<0.2	<1	1.9
0604		4/11/2007	<0.01	<0.005	0.26	<0.05	10.2	<0.1	0.3	<0.001	<0.1	0.001	1.7	6	7.7	<0.2	<1	4.2
0604		7/11/2007	<0.01	<0.005	0.25	<0.05	10.2	<0.1	0.31	<0.001	<0.1	0.001	2.8	4.4	7.2	<0.2	<1	1.8
0604		10/3/2007	<0.01	<0.005	0.26	<0.05	10.8	<0.1	0.29	<0.001	<0.1	0.0008	1.7	2.9	4.6	<0.2	<1	6.1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0614		7/23/1989	6,929.30	6.60	6.84	6868	697	672	491	9.8	1501	3485	381	51	99	82	< 0.1	< 0.001
0614		10/12/1989	6,929.00	6.50	6.98	6734	624	612	479	11.6	1540	3002	377	38.6	126	59	0.18	< 0.001
0614		1/10/1990	6,928.00	6.40	6.80	6892	609	640	491	10.6	1586	3121	359	69	108	100	< 0.1	< 0.001
0614		4/5/1990	6,927.50	6.40	7.06	6877	622	680	492	11.2	1632	3277	350	94	107	164	< 0.1	< 0.001
0614		7/3/1990	6,926.60	6.30	6.86	6754	640	619	429	10.9	1492	2996	341	111	151	152	0.13	< 0.001
0614		10/3/1990	6,926.30	6.30	7.23	6567	585	577	507	14.1	1362	2894	334	76.6	106	176	0.1	0.005
0614		1/15/1991	6,926.40	6.40	6.96	6633	647	623	478	9.6	1412	3253	322	68	125	170	0.2	< 0.001
0614		4/2/1991	6,926.20	6.40	7.18	6539	619	495	420	10.1	1257	3165	322	78.3	131	254	0.11	< 0.001
0614		7/17/1991	6,925.90	6.40	7.49	6970	573	551	443	9.7	1680	3645	327	69.4	169	380	< 0.1	< 0.001
0614		9/4/1991	no data	no data	6.94	7610	624	634	446	10.3	1629	4105	303	116	83.2	486	0.22	< 0.001
0614		10/15/1991	6,925.30	6.30	7.15	7145	664	526	418	10	1515	3239	313	53.8	119	361	< 0.1	0.001
0614		11/4/1991	no data	no data	6.97	7026	614	490	436	10.5	1516	3449	308	87.3	97.6	464	0.32	< 0.001
0614		12/2/1991	no data	no data	7.38	7264	610	559	425	10.7	1577	3197	287	79.5	133	400	0.42	< 0.001
0614		1/15/1992	6,925.20	6.30	7.34	7026	584	645	449	10.1	1268	3376	287	94.9	123	525	< 0.1	< 0.001
0614		4/8/1992	6,925.10	6.30	7.48	7207	691	601	486	10.8	1568	3603	279	101	70.2	471	< 0.1	0.003
0614		7/8/1992	6,924.80	6.20	7.51	6583	697	496	640	11.3	1512	3249	274	79.8	116	303	< 0.1	0.001
0614		10/7/1992	6,924.70	6.40	8.08	6914	661	577	566	12.9	803	3248	273	48.6	15.8	426	0.1	< 0.001
0614		1/6/1993	6,924.50	6.40	7.04	6464	626	563	487	10.8	1459	3008	270	86.1	117	527	< 0.1	< 0.001
0614		4/6/1993	6,924.40	6.50	7.26	7340	616	607	521	10.1	1620	3518	288	97.4	47.5	400	< 0.1	< 0.001
0614		7/13/1993	6,923.90	6.50	7.11	7485	651	607	506	10.7	1454	3370	262	103	146	553	< 0.1	< 0.001
0614		10/6/1993	6,923.60	6.70	6.95	7439	642	660	476	10.8	1431	3505	244	105	166	667	< 0.1	< 0.001
0614		1/6/1994	6,923.40	6.70	7.14	7380	594	565	485	10	1221	3435	242	91.4	192	617	< 0.1	< 0.001
0614		4/12/1994	6,923.10	6.60	6.96	7496	576	650	446	11.5	1174	3743	242	142	170	866	< 0.1	< 0.001
0614		7/20/1994	6,922.70	6.50	7.28	7490	641	748	425	13.5	1322	4076	231	140	140	799	< 0.1	< 0.001
0614		10/4/1994	6,922.60	6.60	7.54	7700	642	750	519	14.4	1465	4430	246	170	149	829	< 0.1	< 0.001
0614		1/4/1995	6,922.30	6.50	7.38	7528	606	636	446	15.2	1330	4176	237	213	155	520	< 0.1	< 0.001
0614		4/4/1995	6,922.00	6.50	6.90	7731	604	654	451	15	1370	4048	277	183	171	756	< 0.1	< 0.001
0614		7/6/1995	6,922.40	6.50	7.93	7816	565	685	440	15.4	1331	4000	241	227	154	585	< 0.1	< 0.001
0614		10/3/1995	6,921.30	6.50	7.71	7857	560	690	445	16	1357	4040	205	222	179	638	< 0.1	0.003
0614		1/3/1996	6,921.10	6.60	7.20	7886	543	750	470	17.7	1352	4260	204	234	179	583	< 0.1	0.002
0614		4/2/1996	6,920.60	6.50	7.92	7896	605	852	442	17.2	1286	4780	221	262	182	624	< 0.1	0.003
0614		7/7/1996	6,920.30	6.30	6.99	8045	537	750	432	18.5	1313	4210	238	243	181	587	< 0.1	< 0.001
0614		10/1/1996	6,919.70	6.50	6.89	8120	574	805	436	18.4	1320	4394	223	288	189	598	0.6	< 0.001
0614		1/21/1997	6,919.80	6.00	7.01	7850	555	800	437	18.8	1272	4355	201	290	188	635	< 0.1	< 0.001
0614		4/8/1997	6,919.00	6.60	7.79	7970	531	760	428	18.7	1280	4360	218	271	226	482	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0614		7/23/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.13	< 0.1	< 0.05	0.003	< 0.1	0.0624	2.9	3.4	6.3	0.6	< 1	8.9
0614		10/12/1989	< 0.05	< 0.01	< 0.01	< 0.05	0.08	< 0.01	< 0.05	0.02	< 0.1	0.064	0.6	4.9	5.5	< 0.2	2.1	1.5
0614		1/10/1990	< 0.05	0.01	< 0.01	< 0.05	0.06	< 0.1	< 0.05	0.002	< 0.1	0.064	0.6	< 1	0.6	< 0.2	< 1	0.9
0614		4/5/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.09	< 0.1	< 0.05	0.003	< 0.1	0.045	1	< 1	1	< 0.2	< 1	1.7
0614		7/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.07	< 0.1	< 0.05	0.002	< 0.1	0.0611	0.9	1.6	2.5	< 0.2	< 1	< 1
0614		10/3/1990	< 0.05	< 0.01	< 0.01	< 0.05	0.08	< 0.1	< 0.05	< 0.001	< 0.1	0.036	0.4	3	3.4	< 0.2	< 1	< 1
0614		1/15/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.09	< 0.1	< 0.05	0.001	< 0.1	0.0425	1.9	< 1	1.9	< 0.2	1.3	2.3
0614		4/2/1991	< 0.01	< 0.01	< 0.02	< 0.05	0.08	< 0.1	< 0.05	< 0.002	< 0.1	0.0589	2.7	1.8	4.5	2.2	1.3	3
0614		7/17/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.1	< 0.1	< 0.05	0.002	< 0.1	0.064	0.5	< 1	0.5	< 0.2	< 1	< 1
0614		9/4/1991	< 0.01	< 0.01	0.03	< 0.05	0.17	< 0.1	< 0.05	0.002	< 0.1	0.0631	0.5	5.4	5.9	< 0.2	< 1	< 1
0614		10/15/1991	< 0.01	< 0.01	< 0.01	< 0.05	0.11	< 0.1	< 0.05	0.003	< 0.1	0.076	0.6	5.5	6.1	< 0.2	< 1	< 1
0614		11/4/1991	< 0.01	< 0.01	0.04	< 0.05	0.18	< 0.1	< 0.1	0.002	< 0.1	0.0472	0.9	3.7	4.6	< 0.2	< 1	< 1
0614		12/2/1991	< 0.01	< 0.01	0.02	< 0.05	0.15	< 0.1	0.06	0.002	< 0.1	0.05	1.2	1.3	2.5	< 0.2	< 1	1
0614		1/15/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.12	< 0.1	< 0.05	0.059	< 0.1	0.039	0.4	< 1	0.4	< 0.2	< 1	< 1
0614		4/8/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.14	< 0.1	< 0.05	0.004	< 0.1	0.051	0.8	4	4.8	< 0.2	< 1	< 1
0614		7/8/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.17	< 0.1	< 0.05	0.003	< 0.1	0.05	1	3.4	4.4	< 0.2	< 1	1.1
0614		10/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	0.15	< 0.1	< 0.05	0.005	< 0.1	0.078	1.5	4.1	5.6	< 0.2	1.9	1.8
0614		1/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.19	< 0.1	< 0.05	0.012	< 0.1	0.082	3.7	1.4	5.1	< 0.2	< 1	3.9
0614		4/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.003	< 0.1	0.072	1.9	5.1	7	< 0.2	< 1	2.1
0614		7/13/1993	< 0.01	< 0.01	< 0.01	< 0.05	0.16	< 0.1	< 0.05	0.008	< 0.1	0.066	1.6	3.2	4.8	< 0.2	2.3	1.9
0614		10/6/1993	< 0.01	< 0.01	0.02	< 0.05	0.17	< 0.1	< 0.05	0.002	< 0.1	0.037	2.8	< 1	2.8	< 0.2	1.8	2.9
0614		1/6/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.17	< 0.1	< 0.05	< 0.001	< 0.1	0.048	1.6	< 1	1.6	< 0.2	< 1	2.6
0614		4/12/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.21	< 0.1	< 0.05	0.004	< 0.1	0.052	1.5	< 1	1.5	< 0.2	5.2	1.7
0614		7/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.001	< 0.1	0.054	2.8	1.9	4.7	< 0.2	< 1	3.8
0614		10/4/1994	< 0.01	< 0.01	< 0.01	< 0.05	0.41	< 0.1	< 0.05	< 0.001	< 0.1	0.059	1.2	1.8	3	< 0.2	< 1	4.1
0614		1/4/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.23	< 0.1	< 0.05	< 0.001	< 0.1	0.04	1.8	2.4	4.2	< 0.2	< 1	5.6
0614		4/4/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.33	< 0.1	< 0.05	0.001	< 0.1	0.044	1.2	2.9	4.1	< 0.2	< 1	5.7
0614		7/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.3	< 0.1	< 0.05	0.003	< 0.1	0.052	7.2	8.4	15.6	0.5	< 1	22.8
0614		10/3/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.31	< 0.1	< 0.05	< 0.001	< 0.1	0.045	0.9	1.1	2	< 0.2	1.7	6.2
0614		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.35	< 0.1	< 0.05	< 0.001	< 0.1	0.047	6	1.2	7.2	0.7	1.5	12
0614		4/2/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.32	< 0.1	< 0.05	< 0.001	< 0.1	0.05	1.2	3.4	4.6	< 0.2	< 1	3.5
0614		7/7/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.37	< 0.1	< 0.05	< 0.001	< 0.1	0.053	4.9	< 1	4.9	< 0.2	< 1	5.3
0614		10/1/1996	< 0.01	< 0.01	< 0.01	< 0.05	0.41	< 0.1	< 0.05	0.002	< 0.1	0.044	1.6	< 1	1.6	< 0.2	< 1	2.1
0614		1/21/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.41	< 0.1	< 0.05	< 0.001	< 0.1	0.038	1.1	3.6	4.7	< 0.2	< 1	< 1
0614		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.39	< 0.1	< 0.05	0.074	< 0.1	0.049	8.2	3.2	11.4	< 0.2	< 1	20.4

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0614		7/8/1997	6,918.60	6.80	7.81	8100	594	841	449	18.6	1290	4520	233	264	223	444	< 0.1	< 0.001
0614		10/7/1997	6,918.30	6.40	7.62	7930	602	816	420	16.9	1320	4170	252	253	200	461	< 0.1	< 0.001
0614		1/15/1998	6,917.80	6.90	8.01	7980	558	775	446	17	1330	4200	267	225	214	289	< 0.1	< 0.001
0614		4/7/1998	6,917.70	6.80	7.72	7930	516	739	447	14	1440	3740	218	170	162	377	< 0.1	< 0.001
0614		7/7/1998	6,917.10	6.80	7.96	7990	579	823	466	14	1490	3800	261	171	202	392	< 0.1	< 0.001
0614		10/6/1998	6,916.90	7.16	7.87	7730	563	822	496	12.2	1380	4050	261	100	115	176	< 0.1	< 0.001
0614		1/5/1999	6,916.20	6.90	7.86	7900	551	786	434	9.9	1520	4000	262	81.2	85.5	255	< 0.1	< 0.001
0614		4/6/1999	6,916.20	6.70	7.90	7910	552	844	436	10.2	1590	3780	261	71.5	81.3	258	< 0.1	< 0.001
0614		7/13/1999	6,915.51	7.00	7.73	7680	605	891	439	12.7	1280	4000	239	58.1	90.7	188	< 0.1	< 0.001
0614		10/5/1999	6,915.30	6.80	7.84	7710	632	961	430	10.8	1362	4410	248	58	83	278	< 0.1	< 0.001
0614		1/4/2000	6,915.10	6.80	8.07	7650	510	770	358	11.5	1470	3430	217	65.1	97.4	226	< 0.1	< 0.001
0614		5/2/2000	6,914.60	6.50	7.56	7600	514	784	405	15.7	1450	3620	236	87	114	383	< 0.1	< 0.001
0614		7/11/2000	6,914.40	6.53	7.53	7600	560	830	426	13.8	1430	3760	229	93.1	109	215	< 0.1	< 0.001
0614		10/3/2000	6,914.15	6.55	7.04	7420	548	849	421	17.9	1420	4250	241	98.4	104	174	< 0.1	0.001
0614		1/10/2001	6,914.00	7.10	7.38	7380	531	762	349	14.7	1440	3720	268	107	93.3	199	< 0.1	< 0.001
0614		4/2/2001	6,913.70	6.64	7.28	7350	615	855	354	14.3	1420	3880	248	118	101	258	< 0.1	< 0.001
0614		7/16/2001	6,913.35	6.73	7.02	7330	507	722	415	17.3	1430	3300	320	116	96.9	260	< 0.1	< 0.001
0614		10/2/2001	6,913.20	6.61	7.50	7270	520	720	330	16.2	1500	3300	357	118	93.5	183	< 0.1	< 0.001
0614		1/14/2002	6,913.00	6.64	7.30	7110	602	751	356	16.7	1490	3460	332	123	86.7	230	< 0.1	< 0.001
0614		4/2/2002	6,912.90	6.56	7.60	7120	603	730	427	16.8	1460	3780	312	119	82.7	222	< 0.1	< 0.001
0614		7/10/2002	6,912.40	6.45	7.31	6980	577	599	413	14	1430	3360	286	100	82	222	< 0.1	< 0.001
0614		10/9/2002	6,912.30	6.05	7.66	5220	520	621	400	12.4	1440	3080	286	87	79.2	228	< 0.1	< 0.001
0614		1/8/2003	6,912.06	7.23	7.60	6680	519	598	465	12.1	1470	3020	247	81	74	222	< 0.1	< 0.001
0614		4/9/2003	6,911.76	6.44	7.13	6840	559	640	434	16.5	1450	2918	334	76	72	248	< 0.1	< 0.001
0614		7/9/2003	6,911.61	6.29	7.38	6430	559	609	467	12	1430	3060	314	58	73	285	< 0.1	< 0.001
0614		10/8/2003	6,911.63	6.28	7.32	6670	579	576	460	9.8	1330	3060	312	50	71	192	< 0.1	< 0.001
0614		1/7/2004	6,911.41	6.40	6.97	6500	620	655	458	10.8	1390	3160	369	53 D	71.7 D	142 D	0.3	< 0.001
0614		4/7/2004	6,911.37	6.55	6.72	6590	597	635	450	10.6	1390	3020 D	347	47 D	72.8 D	140 D	< 0.1	< 0.001
0614		7/14/2004	6,911.01	6.28	6.49	6960	591	630	456	10.3	1430	3130 D	346	40 D	70.4 D	128 D	< 0.1	< 0.001
0614		10/6/2004	6,911.04	6.32	7.03	6850	600 D	665 D	481	9.9	1450	3230 D	343	45 D	76.5 D	165 D	< 0.1	< 0.001
0614		1/5/2005	6,911.01	6.48	6.87	6860	609 D	667 D	494 D	10	1240	3260 D	356	42 D	69 D	27.9 D	< 0.1	< 0.001
0614		4/6/2005	6,910.60	6.57	7.23	6500	592	637	478	9.8	1400	3120	346	37	63	157	< 0.1	< 0.001
0614		7/13/2005	6,910.51	6.47	7.28	6570	615 D	647 D	437	9.2	1360	3150 D	360	44 D	56 D	178 D	< 0.1	< 0.001
0614		10/5/2005	6,910.58	6.48	7.05	6550	584 D	659 D	460	10.5	1440	2910 D	324	50 D	61 D	202 D	< 0.1	0.001
0614		1/11/2006	6,910.48	6.58	7.30	6460	550 D	604 D	401	9.8	1370	3090 D	315	58 D	74 D	840 D	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0614		7/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.42	< 0.1	< 0.05	< 0.001	< 0.1	0.043	1.5	< 1	1.5	< 0.2	< 1	< 1
0614		10/7/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.47	< 0.1	< 0.05	< 0.001	< 0.1	0.051	4.3	3.8	8.1	< 0.2	< 1	7.8
0614		1/15/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.44	< 0.1	< 0.05	< 0.001	< 0.1	0.059	1.4	< 1	1.4	< 0.2	< 1	< 1
0614		4/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.32	< 0.1	< 0.05	< 0.001	< 0.1	0.06	2.2	< 1	2.2	< 0.2	< 1	< 1
0614		7/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.34	< 0.1	< 0.05	< 0.001	< 0.1	0.0631	2.3	< 1	2.3	< 0.2	< 1	2.3
0614		10/6/1998	< 0.01	< 0.005	< 0.01	< 0.05	0.26	< 0.1	< 0.05	< 0.001	< 0.1	0.0732	0.6	< 1	0.6	< 0.2	< 1	< 1
0614		1/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0682	0.9	2.2	3.1	< 0.2	< 1	< 1
0614		4/6/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.26	< 0.1	< 0.05	0.001	< 0.1	0.0641	2.9	3.6	6.5	< 0.2	3.3	3.3
0614		7/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.23	< 0.1	< 0.05	0.001	< 0.1	0.0672	0.9	1.2	2.1	< 0.2	< 1	< 1
0614		10/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	0.25	< 0.1	< 0.05	< 0.001	< 0.1	0.001	4.8	< 1	4.8	< 0.2	< 1	6.8
0614		1/4/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.001	< 0.1	0.0579	3.8	1.1	4.9	< 0.2	< 1	4.3
0614		5/2/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.34	< 0.1	< 0.05	< 0.001	< 0.1	0.0678	1.1	5.7	6.8	< 0.2	< 1	7
0614		7/11/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.22	< 0.1	< 0.05	< 0.001	< 0.1	0.0542	0.6	3.5	4.1	< 0.2	< 1	< 1
0614		10/3/2000	< 0.01	< 0.005	< 0.01	< 0.05	0.2	< 0.1	< 0.05	< 0.001	< 0.1	0.053	0.7	3.7	4.4	< 0.2	< 1	< 1
0614		1/10/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.001	< 0.1	0.051	1.2	3.9	5.1	< 0.2	< 1	< 1
0614		4/2/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.27	< 0.1	< 0.05	0.001	< 0.1	0.056	0.8	< 1	0.8	< 0.2	< 1	< 1
0614		7/16/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.001	< 0.1	0.052	0.6	2.4	3	< 0.2	< 1	< 1
0614		10/2/2001	< 0.01	< 0.005	< 0.01	< 0.05	0.22	< 0.1	< 0.05	0.001	< 0.1	0.0478	0.9	3.9	4.8	< 0.2	< 1	< 1
0614		1/14/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.28	< 0.1	< 0.05	0.003	< 0.1	0.0501	1.1	5.4	6.5	< 0.2	< 1	< 1
0614		4/2/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.28	< 0.1	< 0.05	< 0.001	< 0.1	0.0467	< 0.2	< 1	0	< 0.2	< 1	1.5
0614		7/10/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0508	1.1	2.3	3.4	< 0.2	< 1	2.2
0614		10/9/2002	< 0.01	< 0.005	< 0.01	< 0.05	0.32	< 0.1	< 0.05	< 0.001	< 0.1	0.0439	0.9	< 1	0.9	< 0.2	< 1	1.3
0614		1/8/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.25	< 0.1	< 0.05	< 0.001	< 0.1	0.0573	1.2	< 1	1.2	< 0.2	< 1	2.1
0614		4/9/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.22	< 0.1	< 0.05	< 0.001	< 0.1	0.0536	< 0.2	4	4	< 0.2	< 1	1.6
0614		7/9/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.25	< 0.1	< 0.05	< 0.001	< 0.1	0.0403	0.5	< 1	0.5	< 0.2	< 1	< 1.0
0614		10/8/2003	< 0.01	< 0.005	< 0.01	< 0.05	0.24	< 0.1	< 0.05	< 0.001	< 0.1	0.0468	0.6	2.9	3.5	< 0.2	< 1	2
0614		1/7/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.28	< 0.1	< 0.05	< 0.001	< 0.1	0.0509 D	0.8	< 1.0	0.8	< 0.2	< 1.0	1.9
0614		4/7/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.26	< 0.1	< 0.05	0.01	< 0.1	0.0506 D	0.7	3.1	3.8	< 0.2	< 1	2.1
0614		7/14/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.2	< 0.1	< 0.05	< 0.001	< 0.1	0.0506 D	0.6	< 1.0	0.6	< 0.2	< 1.0	< 1.0
0614		10/6/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.23	< 0.1	< 0.05	0.001	< 0.1	0.0516 D	< 0.2	1.7	1.7	< 0.2	< 1.0	< 1.0
0614		1/5/2005	< 0.01	< 0.005	< 0.01	< 0.05	0.24	< 0.1	< 0.05	0.004	< 0.1	0.0532	1.4	< 1.0	1.4	< 0.2	< 1.0	4.4
0614		4/6/2005	< 0.01	< 0.005	< 0.01	< 0.05	0.25	< 0.1	< 0.05	< 0.001	< 0.1	0.05	1.1	4.3	5.4	< 0.2	< 1.0	< 1.0
0614		7/13/2005	< 0.01	< 0.005	< 0.01	< 0.05	0.27	< 0.1	< 0.05	< 0.001	< 0.1	0.0489	1.3	< 1.0	1.3	< 0.2	< 1.0	1.3
0614		10/5/2005	< 0.01	< 0.005	< 0.01	< 0.05	0.3	< 0.1	< 0.05	< 0.001	< 0.1	0.0498 D	0.6	1.6	2.2	< 0.2	< 1.0	< 1.0
0614		1/11/2006	< 0.01	< 0.005	< 0.01	< 0.05	0.38	< 0.1	< 0.05	0.009	< 0.1	0.0512	0.7	1.2	1.9	< 0.2	< 1.0	1.3

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0614		4/4/2006	6,910.28	6.45	7.36	6450	602 D	639 D	417	10.2	1460	2950 D	376 D	139 D	77 D	108 D	< 0.1	< 0.001
0614		7/19/2006	6,910.01	6.45	6.83	6240	618	610 D	467	10.3	1350	3040 D	350	46 D	69 D	62.8 D	< 0.1	< 0.001
0614		10/4/2006	6,909.93	6.41	6.86	6360	577 D	592 D	439	10.5	1240	2850 D	332	55 D	73 D	125 D	0.1	< 0.001
0614		1/10/2007	6,909.94	6.49	6.89	6510	559 D	589 D	432	11.2	1340	3040 D	366	50 D	71 D	114	0.1	<0.001
0614		4/11/2007	6,909.94	6.59	6.19	6480	580 D	615 D	424	11.1	1340	3060 D	348	57 D	80 D	113	<0.1	<0.001
0614		7/11/2007	6,909.56	6.43	6.98	6280	605 D	626 D	436	10.6	1450	3150 D	310	52 D	82 D	83.2	<0.1	0.005
0614		10/3/2007	6,909.49	6.43	6.87	6490	540 D	582 D	455 D	11.9	1520	2910 D	378 D	72.3 D	78 D	182	<0.1	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0614		4/4/2006	< 0.01	< 0.005	< 0.01	< 0.05	0.37	< 0.1	< 0.05	0.01	< 0.1	0.0488 D	0.7	< 1.0	0.7	< 0.2	< 1.0	1
0614		7/19/2006	< 0.01	< 0.005	< 0.01	< 0.05	0.34	< 0.1	< 0.05	< 0.001	< 0.1	0.0507	0.5	1.8	2.3	< 0.2	< 1.0	< 1.0
0614		10/4/2006	< 0.01	< 0.005	< 0.01	< 0.05	0.36	< 0.1	< 0.05	< 0.001	< 0.1	0.0462 D	0.5	3.4	3.9	< 0.2	< 1	< 1
0614		1/10/2007	<0.01	<0.005	<0.01	<0.05	0.39	<0.1	<0.05	<0.001	<0.1	0.0452	1.2	1.9	3.1	<0.2	<1	<1
0614		4/11/2007	<0.01	<0.005	<0.01	<0.05	0.38	<0.1	<0.05	<0.001	<0.1	0.0461	0.7	2.4	3.1	<0.2	<1	1.5
0614		7/11/2007	<0.01	<0.005	<0.01	<0.05	0.43	<0.1	<0.05	<0.001	<0.1	0.0492	1.3	<1	1.3	<0.2	<1	<1
0614		10/3/2007	<0.01	<0.005	<0.01	<0.05	0.49	<0.1	<0.05	<0.001	<0.1	0.0508	0.7	2	2.7	<0.2	<1	2.1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
0619		7/23/1989	6,888.10	6.60	6.50	5513	593	596	184	8.43	176	3852	35	0.61	0.34	< 1	< 0.1	< 0.001
0619		10/12/1989	6,888.20	6.70	7.28	5086	486	491	158	11.1	229	3251	36.6	0.44	1.56	< 1	< 0.1	< 0.001
0619		1/10/1990	6,887.60	6.50	7.08	5278	505	539	168	8.75	206	3360	40.5	0.74	1.01	< 1	< 0.1	< 0.001
0619		4/6/1990	6,887.60	6.80	6.92	4840	527	512	150	8.8	251	2966	38.5	0.69	0.22	< 1	< 0.1	< 0.001
0619		7/3/1990	6,887.00	6.50	7.32	5020	527	478	151	7.8	234	3160	34.2	0.27	0.09	< 1	< 0.1	< 0.001
0619		10/3/1990	6,886.90	6.70	7.21	4526	487	392	147	10.1	254	2738	36.6	0.13	< 0.01	< 1	< 0.1	< 0.001
0619		1/15/1991	6,887.20	6.50	6.59	5538	572	611	185	12.1	176	3616	41.4	0.54	0.18	< 1	< 0.1	< 0.001
0619		4/2/1991	6,887.60	6.40	6.50	5610	479	459	172	8	184	3589	43.1	0.63	1	< 1	0.12	< 0.001
0619		7/17/1991	6,888.10	6.40	7.15	5446	452	471	168	7.9	195	3882	43.7	0.68	0.17	< 1	< 0.1	< 0.001
0619		10/15/1991	6,888.50	6.40	7.02	5399	540	508	189	7.6	165	3520	44.8	0.63	0.17	< 1	0.27	0.001
0619		1/15/1992	6,888.60	6.40	7.34	5182	455	544	177	7.8	231	3398	53.5	1.2	0.87	< 1	< 0.1	< 0.001
0619		4/8/1992	6,888.60	6.40	6.52	5323	537	466	204	9.4	180	3504	41.8	0.82	< 0.1	< 1	< 0.1	0.002
0619		7/8/1992	6,888.70	6.30	7.64	5017	500	548	302	12.9	175	3863	41.7	1.04	3.7	< 1	0.14	< 0.001
0619		10/7/1992	6,889.00	6.50	7.26	5257	538	499	222	10.2	168	3427	39.5	0.59	5.2	< 1	< 0.1	0.002
0619		1/6/1993	6,889.30	6.50	7.06	5176	563	507	315	12.6	166	3487	252	0.13	51.8	< 1	< 0.1	0.003
0619		4/6/1993	6,889.70	6.60	7.14	5314	487	439	213	7	272	3359	46.6	0.68	0.6	< 1	< 0.1	< 0.001
0619		7/13/1993	6,889.60	6.60	6.66	5057	531	471	200	8.1	190	3310	46.2	0.66	0.29	< 1	< 0.1	< 0.001
0619		10/7/1993	6,889.50	6.50	6.57	4615	512	460	188	7.4	165	3207	43.5	0.5	< 0.1	< 1	0.32	0.002
0619		1/6/1994	6,889.80	6.60	7.01	5111	505	416	179	7	171	3192	50.5	2.23	< 0.1	< 1	< 0.1	< 0.001
0619		4/12/1994	6,889.70	6.60	7.03	4764	502	432	177	7	173	3035	45.8	1.64	39.8	< 1	0.21	< 0.001
0619		7/20/1994	6,889.50	6.60	6.66	5111	565	427	158	7.5	177	3424	45.5	0.6	< 0.1	< 1	< 0.1	< 0.001
0619		10/4/1994	6,889.70	6.70	7.56	5045	573	453	187	8.1	200	3658	46	0.62	< 0.1	< 1	< 0.1	< 0.001
0619		1/4/1995	6,889.50	6.50	7.21	5078	580	432	172	8.8	203	3349	44.8	1.19	< 0.1	< 1	< 0.1	< 0.001
0619		4/5/1995	6,889.40	6.70	6.94	5148	540	500	174	7.67	212	3405	47	1.3	0.13	< 1	< 0.1	< 0.001
0619		7/6/1995	6,888.00	6.70	7.66	4288	515	410	153	7.2	216	2963	40	0.74	< 0.1	< 1	< 0.1	< 0.001
0619		10/3/1995	6,888.90	6.30	7.78	4677	530	457	175	7.5	192	3255	41	0.74	0.17	< 1	< 0.1	0.002
0619		1/3/1996	6,888.80	6.70	7.31	4731	505	445	182	7.8	179	3260	39.5	0.62	0.12	< 1	< 0.1	< 0.001
0619		4/2/1996	6,888.60	6.80	7.90	5039	545	473	164	7.9	204	3395	47	0.52	0.11	< 1	< 0.1	< 0.001
0619		7/7/1996	6,888.30	6.40	7.15	5207	515	450	180	8.6	179	3195	50	0.69	< 0.1	< 1	< 0.1	< 0.001
0619		10/1/1996	6,888.10	6.40	6.95	5140	547	478	182	8.1	190	3232	47.1	0.46	< 0.1	< 1	0.1	< 0.001
0619		1/22/1997	6,888.50	6.20	7.53	5060	540	490	177	8.09	182	3350	44	0.42	< 0.1	< 1	< 0.1	< 0.001
0619		4/8/1997	6,887.80	6.50	7.82	5110	539	458	170	8	193	3370	45	0.2	0.17	< 1	< 0.1	< 0.001
0619		7/8/1997	6,887.40	7.10	7.73	5130	586	514	182	8.3	190	3510	49.2	0.5	0.21	< 1	< 0.1	< 0.001
0619		10/7/1997	6,887.30	6.20	7.78	5080	569	483	178	8.15	217	3190	47.1	0.46	< 0.1	< 1	< 0.1	< 0.001
0619		1/15/1998	6,887.20	6.90	8.09	5310	521	484	187	8.8	190	3300	55	0.67	0.13	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0619		7/23/1989	< 0.05	< 0.01	< 0.01	< 0.05	2	< 0.1	< 0.05	< 0.001	< 0.1	0.0034	2.5	3.7	6.2	4.9	< 1	9.1
0619		10/12/1989	< 0.05	< 0.01	0.02	< 0.05	1.3	< 0.1	< 0.05	< 0.001	< 0.1	0.011	1.3	2	3.3	< 0.2	< 1	1.7
0619		1/10/1990	< 0.05	< 0.01	0.03	< 0.05	1.4	< 0.1	< 0.05	< 0.001	< 0.1	0.009	1.1	2	3.1	< 0.2	< 1	1.5
0619		4/6/1990	< 0.05	< 0.01	< 0.01	< 0.05	1	< 0.1	< 0.05	0.001	< 0.1	0.009	1.7	2	3.7	< 0.2	< 1	2.5
0619		7/3/1990	< 0.05	< 0.01	0.01	< 0.05	1.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0068	1.7	< 1	1.7	0.5	< 1	2
0619		10/3/1990	< 0.05	< 0.01	0.03	< 0.05	0.89	< 0.1	< 0.05	< 0.001	< 0.1	0.008	0.9	3.1	4	< 0.2	< 1	< 1
0619		1/15/1991	< 0.01	0.01	< 0.01	< 0.05	2.5	< 0.1	< 0.05	< 0.001	< 0.1	0.005	3	4.3	7.3	< 0.2	2.5	3.1
0619		4/2/1991	< 0.01	< 0.01	0.01	< 0.05	2.01	< 0.1	< 0.05	< 0.001	< 0.1	0.005	2.3	2.7	5	< 0.2	< 1	2
0619		7/17/1991	< 0.01	< 0.01	0.01	< 0.05	< 0.01	< 0.1	< 0.05	< 0.001	< 0.1	0.004	1.1	1	2.1	0.2	1.6	1
0619		10/15/1991	< 0.01	< 0.01	< 0.01	< 0.05	2.22	< 0.1	< 0.05	< 0.001	< 0.1	0.009	0.6	4.6	5.2	< 0.2	< 1	< 1
0619		1/15/1992	< 0.01	< 0.01	< 0.01	< 0.05	1.82	< 0.1	< 0.05	0.003	< 0.1	0.007	1.2	1.2	2.4	< 0.2	< 1	1
0619		4/8/1992	< 0.01	< 0.01	< 0.01	< 0.05	1.92	< 0.1	< 0.05	< 0.001	< 0.1	0.006	0.7	1.8	2.5	< 0.2	< 1	< 1
0619		7/8/1992	< 0.01	< 0.01	< 0.01	< 0.05	1.91	< 0.1	< 0.05	0.001	< 0.1	0.003	1	5.2	6.2	< 0.2	1.1	1.5
0619		10/7/1992	< 0.01	< 0.01	< 0.01	< 0.05	2.04	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.7	3.2	4.9	< 0.02	< 1	1.9
0619		1/6/1993	< 0.01	< 0.01	0.01	< 0.05	0.66	< 0.1	< 0.05	0.003	< 0.1	0.975	0.5	1.6	2.1	< 0.2	< 1	< 1
0619		4/6/1993	< 0.01	< 0.01	< 0.01	< 0.05	1.9	< 0.1	< 0.05	< 0.001	< 0.1	0.007	0.8	7.1	7.9	< 0.2	1.9	< 1
0619		7/13/1993	< 0.01	< 0.01	< 0.01	< 0.05	1.8	< 0.1	< 0.05	< 0.001	< 0.1	0.006	1.4	3.5	4.9	< 0.2	2.7	1.8
0619		10/7/1993	< 0.01	< 0.01	0.01	< 0.05	1.75	< 0.1	< 0.05	0.002	< 0.1	0.005	1.3	9	10.3	< 0.2	< 1	1.4
0619		1/6/1994	< 0.01	< 0.01	< 0.01	< 0.05	1.8	< 0.1	< 0.05	< 0.001	< 0.1	0.004	2.1	2.9	5	< 0.2	1.4	7.4
0619		4/12/1994	< 0.01	< 0.01	0.02	< 0.05	1.75	< 0.1	< 0.05	< 0.001	< 0.1	0.005	2	7.9	9.9	< 0.2	5.8	14
0619		7/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	1.57	< 0.1	< 0.05	< 0.001	< 0.1	0.01	1.5	1.3	2.8	< 0.2	< 1	3.6
0619		10/4/1994	< 0.01	< 0.01	< 0.01	< 0.05	1.85	< 0.1	< 0.05	< 0.001	< 0.1	0.012	1.3	1.9	3.2	< 0.2	2.5	4.3
0619		1/4/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.45	< 0.1	0.07	< 0.001	< 0.1	0.01	1.3	3.9	5.2	< 0.2	< 1	7.3
0619		4/5/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.78	< 0.1	< 0.05	< 0.001	< 0.1	0.008	1.6	2.8	4.4	< 0.2	3.7	5.9
0619		7/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.65	< 0.1	< 0.05	< 0.001	< 0.1	0.0065	1.1	3.1	4.2	0.6	< 1	2.7
0619		10/3/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.79	< 0.1	< 0.05	< 0.001	< 0.1	0.0101	1.3	< 1	1.3	< 0.2	< 1	3.1
0619		1/3/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.78	< 0.1	< 0.05	< 0.001	< 0.1	0.0067	1.5	< 1	1.5	1	< 1	2.5
0619		4/2/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.71	< 0.1	< 0.05	< 0.001	< 0.1	0.018	1.7	4.8	6.5	< 0.2	4.1	3.5
0619		7/7/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.9	< 0.1	< 0.05	< 0.001	< 0.1	0.008	1.7	< 1	1.7	< 0.2	< 1	1.1
0619		10/1/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.86	< 0.1	< 0.05	0.001	< 0.1	0.0036	1.5	< 1	1.5	< 0.2	< 1	2
0619		1/22/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.84	< 0.1	< 0.05	< 0.001	< 0.1	0.008	1.3	< 1	1.3	< 0.2	< 1	< 1
0619		4/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.87	< 0.1	< 0.05	0.004	< 0.1	0.0056	2	4.2	6.2	< 0.2	< 1	4.7
0619		7/8/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.94	< 0.1	< 0.05	< 0.001	< 0.1	0.005	1.6	4.2	5.8	< 0.2	< 1	< 1
0619		10/7/1997	< 0.01	< 0.01	< 0.01	< 0.05	2.05	< 0.1	< 0.05	< 0.001	< 0.1	0.007	2	< 1	2	< 0.2	< 1	< 1
0619		1/15/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.26	< 0.1	< 0.05	< 0.001	< 0.1	0.0099	4.3	3.6	7.9	< 0.2	< 1	7.5

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
0619		4/7/1998	6,887.10	6.60	7.42	5280	504	469	176	7.9	188	3120	41.1	0.42	0.26	< 1	< 0.1	< 0.001
0619		7/7/1998	6,886.70	6.90	7.61	5210	505	478	181	8.4	195	3200	40.7	0.63	< 0.1	< 1	< 0.1	< 0.001
0619		10/6/1998	6,887.00	6.83	7.88	5390	535	532	197	9.4	191	3480	44.8	0.42	0.42	< 1	< 0.1	< 0.001
0619		1/5/1999	6,886.20	6.80	7.72	5350	523	497	175	8.5	186	3500	44.3	0.33	0.17	< 1	< 0.1	< 0.001
0619		4/6/1999	6,886.40	6.70	7.79	5430	528	534	167	8.1	181	3440	54.4	0.57	0.21	< 1	< 0.1	< 0.001
0619		7/13/1999	6,885.69	6.60	7.96	5400	551	565	195	11.4	194	3460	50.3	0.49	0.29	< 1	< 0.1	< 0.001
0619		10/5/1999	6,885.60	6.86	7.86	5220	581	606	169	8.4	188	3790	48.3	0.51	0.28	< 1	< 0.1	< 0.001
0619		1/4/2000	6,885.60	6.70	7.67	5330	467	497	151	8.9	188	3000	44.4	< 0.05	0.18	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
0619		4/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.94	< 0.1	< 0.05	< 0.001	< 0.1	0.0062	3.6	4.7	8.3	< 0.2	< 1	2.3
0619		7/7/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.97	< 0.1	< 0.05	< 0.001	< 0.1	0.0051	1.2	3.6	4.8	< 0.2	< 1	< 1
0619		10/6/1998	< 0.01	< 0.005	0.01	< 0.05	2.04	< 0.1	< 0.05	< 0.001	< 0.1	0.016	1.4	3.2	4.6	< 0.2	< 1	< 1
0619		1/5/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.17	< 0.1	< 0.05	< 0.001	< 0.1	0.0072	1.3	4.1	5.4	< 0.2	2.4	2.4
0619		4/6/1999	< 0.01	0.005	< 0.01	< 0.05	2.19	< 0.1	< 0.05	< 0.001	< 0.1	0.0053	2.5	4.8	7.3	< 0.2	2	2
0619		7/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.34	< 0.1	< 0.05	< 0.001	< 0.1	0.0072	1.4	3	4.4	< 0.2	< 1	< 1
0619		10/5/1999	< 0.01	< 0.005	0.01	< 0.05	2.77	< 0.1	< 0.05	< 0.001	< 0.1	0.0066	1.7	3	4.7	< 0.2	< 1	3.9
0619		1/4/2000	< 0.01	< 0.005	< 0.01	< 0.05	2.43	< 0.1	< 0.05	< 0.001	< 0.1	0.0067	1.4	1.8	3.2	< 0.2	< 1	1.5

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
EPA 02		7/26/1989	6,843.90	6.80	6.80	3959	526	275	267	8.9	256	2463	32.1	0.89	0.01	< 1	0.37	< 0.001
EPA 02		10/5/1989	6,844.30	6.40	7.00	4088	528	264	268	11.7	262	2589	29.7	0.89	0.08	< 1	< 0.1	< 0.001
EPA 02		1/17/1990	6,844.80	6.20	6.62	3622	446	216	265	8.2	293	2197	29.3	0.77	0.12	< 1	< 0.1	0.001
EPA 02		4/18/1990	6,845.00	6.50	6.80	3704	440	220	250	7.8	293	2173	30.3	0.88	0.03	< 1	< 0.1	< 0.001
EPA 02		7/17/1990	6,844.90	6.60	6.70	3623	479	208	253	8.5	305	2104	28.8	0.51	0.05	< 1	< 0.1	< 0.001
EPA 02		10/16/1990	6,845.10	6.40	7.17	3965	445	230	259	7.5	259	2462	36.2	0.79	0.01	< 1	< 0.1	< 0.001
EPA 02		1/8/1991	6,845.30	6.50	6.85	3834	451	236	263	11	264	2388	35.6	0.76	0.01	< 1	< 0.1	< 0.001
EPA 02		4/17/1991	6,845.80	6.30	7.37	3708	452	238	268	7.6	284	2300	24.6	0.67	< 0.01	< 1	< 0.1	< 0.001
EPA 02		7/3/1991	6,846.00	6.40	6.83	4500	523	285	230	7.8	183	3175	38.1	1.07	< 0.01	< 1	0.3	< 0.001
EPA 02		10/22/1991	6,846.50	6.40	6.59	3843	475	244	242	7.7	275	2435	34.4	0.96	0.04	< 1	< 0.1	< 0.001
EPA 02		1/23/1992	6,846.70	6.50	7.02	3478	455	235	229	7.4	226	2364	32.6	0.88	< 0.01	< 1	< 0.1	< 0.001
EPA 02		4/2/1992	6,847.10	6.40	7.86	3799	483	243	279	8.4	282	2486	29.5	0.92	< 0.01	< 1	< 0.1	< 0.001
EPA 02		7/16/1992	6,846.50	6.50	6.71	3885	412	224	290	9	237	2606	33.4	0.58	0.2	< 1	0.13	< 0.001
EPA 02		10/15/1992	6,846.70	6.30	7.02	4554	580	300	286	10.6	198	2890	36.1	0.92	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/14/1993	6,847.00	6.60	7.12	3380	436	196	213	8.3	276	2201	29	0.88	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/15/1993	6,847.50	6.60	7.68	3534	455	186	255	6.3	270	2292	30.4	0.67	0.2	< 1	< 0.1	< 0.001
EPA 02		7/21/1993	6,848.20	6.60	7.43	3321	458	207	256	8	315	2247	24.3	0.4	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/12/1993	6,845.50	6.70	6.50	3692	498	222	231	7.2	300	2274	29.6	0.57	< 0.1	< 1	0.1	< 0.001
EPA 02		1/11/1994	6,847.80	6.70	7.10	2674	353	160	194	5.6	300	1765	26.3	0.55	< 0.1	< 1	0.13	< 0.001
EPA 02		4/19/1994	6,847.90	6.60	8.05	2781	357	159	223	6.9	284	1771	24.3	0.78	< 0.1	< 1	< 0.1	0.001
EPA 02		7/26/1994	6,848.10	6.70	6.93	3353	469	216	223	6.8	273	2026	26.6	0.59	< 0.1	< 1	0.16	< 0.001
EPA 02		10/11/1994	6,848.00	6.70	7.70	3036	462	182	222	6.4	304	2057	25.2	0.71	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/10/1995	6,848.10	6.60	7.16	3316	486	144	208	7.6	294	2057	27.5	0.98	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/6/1995	6,848.50	6.70	6.91	3267	423	183	216	6.72	295	2070	26.5	1.06	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/11/1995	6,848.40	6.80	7.14	2674	390	177	203	6.2	325	1705	25.4	0.81	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/10/1995	6,842.60	6.70	7.43	2782	393	156	216	6.4	321	1741	24.2	0.6	< 0.1	< 1	< 0.1	0.001
EPA 02		1/9/1996	6,848.50	6.80	7.73	2801	382	155	213	6.7	334	1791	24.7	0.46	< 0.1	< 1	< 0.1	0.003
EPA 02		4/10/1996	6,842.70	6.90	7.70	3018	408	168	191	6	321	1831	22.7	0.52	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/17/1996	6,848.50	6.70	6.88	3042	390	164	208	16	312	1746	29	0.45	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/8/1996	6,848.70	6.70	7.17	3150	453	198	211	6.7	315	1866	24.5	0.56	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/28/1997	6,848.70	6.90	7.75	3000	400	185	190	6.23	318	1883	29.9	0.48	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/15/1997	6,848.70	6.70	7.77	2970	410	184	202	6.6	325	1775	26.4	0.46	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/15/1997	6,848.50	6.50	7.46	3090	411	186	192	6.6	321	1780	27.7	0.51	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/15/1997	6,848.50	6.60	7.64	2920	400	185	195	6.1	322	1740	31.6	0.5	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/20/1998	6,849.20	6.50	7.76	3060	407	182	208	6.9	318	2000	26.8	0.73	< 0.1	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 02		7/26/1989	< 0.05	< 0.01	0.06	< 0.05	2.9	< 0.1	0.07	< 0.001	< 0.1	0.0178	1.6	< 1	1.6	1.4	< 1	< 1
EPA 02		10/5/1989	< 0.05	< 0.01	< 0.01	< 0.05	2.8	< 0.01	< 0.05	< 0.001	< 0.1	0.004	0.6	1.9	2.5	< 0.2	3.4	1.1
EPA 02		1/17/1990	< 0.05	< 0.01	< 0.01	< 0.05	2.6	< 0.1	< 0.05	< 0.001	< 0.1	0.003	0.6	< 1	0.6	0.4	< 1	1.1
EPA 02		4/18/1990	< 0.05	< 0.01	< 0.01	< 0.05	2.3	< 0.1	< 0.05	0.001	< 0.1	0.002	1.8	< 1	1.8	< 0.2	< 1	2.3
EPA 02		7/17/1990	< 0.05	< 0.01	< 0.01	< 0.05	2.29	< 0.1	< 0.05	< 0.001	< 0.1	0.0019	0.4	1.9	2.3	< 0.2	< 1	< 1
EPA 02		10/16/1990	< 0.05	< 0.01	0.01	< 0.05	2.57	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.9	< 1	0.9	< 0.2	< 1	< 1
EPA 02		1/8/1991	< 0.01	< 0.01	< 0.01	< 0.05	2.62	< 0.1	< 0.05	< 0.001	< 0.1	0.0196	< 0.2	2	2	< 0.2	< 1	< 1
EPA 02		4/17/1991	< 0.01	< 0.01	< 0.01	< 0.05	2.12	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1	1.8	2.8	< 0.2	< 1	1
EPA 02		7/3/1991	< 0.01	< 0.01	< 0.01	< 0.05	3.02	0.03	< 0.05	< 0.001	< 0.1	< 0.0003	0.2	3.7	3.9	< 0.2	< 1	< 1
EPA 02		10/22/1991	< 0.01	< 0.01	0.02	< 0.05	2.09	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.2	3.7	3.9	< 0.2	< 1	< 1
EPA 02		1/23/1992	< 0.01	< 0.01	< 0.01	< 0.05	2.77	< 0.1	< 0.05	< 0.001	< 0.1	0.003	0.3	< 1	0.3	< 0.2	1.3	< 1
EPA 02		4/2/1992	< 0.01	< 0.01	< 0.01	< 0.05	2.46	< 0.1	< 0.05	< 0.001	< 0.1	0.009	0.2	4.4	4.6	< 0.2	3	< 1
EPA 02		7/16/1992	< 0.01	< 0.01	< 0.01	< 0.05	2.3	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.8	6.3	8.1	< 0.2	2.5	1.9
EPA 02		10/15/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.23	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.2	6.3	7.5	< 0.2	2.1	1.3
EPA 02		1/14/1993	< 0.01	< 0.01	< 0.01	< 0.05	2.27	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.2	< 1	0.2	< 0.2	< 1	< 1
EPA 02		4/15/1993	< 0.01	< 0.01	< 0.01	< 0.05	2.15	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.5	< 1	0.5	< 0.2	1.6	< 1
EPA 02		7/21/1993	< 0.01	< 0.01	< 0.01	< 0.05	1.59	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.7	2.7	3.4	< 0.2	< 1	< 1
EPA 02		10/12/1993	< 0.01	< 0.01	0.01	< 0.05	2.11	< 0.1	< 0.05	< 0.001	< 0.1	0.002	1.4	2.1	3.5	< 0.2	2.8	4.5
EPA 02		1/11/1994	< 0.01	< 0.01	< 0.01	< 0.05	1.78	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.7	4.3	5	< 0.2	< 1	8.1
EPA 02		4/19/1994	< 0.01	< 0.01	0.02	< 0.05	2	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.8	2.1	2.9	< 0.2	< 1	4.1
EPA 02		7/26/1994	< 0.01	< 0.01	< 0.01	< 0.05	1.81	< 0.1	< 0.05	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	< 1	< 1
EPA 02		10/11/1994	< 0.01	< 0.01	< 0.01	< 0.05	1.52	< 0.1	< 0.05	< 0.001	< 0.1	0.002	1	< 1	1	< 0.2	< 1	1.2
EPA 02		1/10/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.82	< 0.1	< 0.05	< 0.001	< 0.1	0.002	1.1	< 1	1.1	< 0.2	< 1	2.8
EPA 02		4/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.59	< 0.1	< 0.05	< 0.001	< 0.1	0.002	0.6	2.4	3	< 0.2	< 1	3.8
EPA 02		7/11/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.47	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	1	< 1	1	< 0.2	< 1	3.4
EPA 02		10/10/1995	< 0.01	< 0.01	< 0.01	< 0.05	1.48	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.2	< 1	1.2	< 0.2	< 1	1.1
EPA 02		1/9/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.48	< 0.1	< 0.05	< 0.001	< 0.1	0.0026	1	< 1	1	< 0.2	< 1	< 1
EPA 02		4/10/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.52	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	0.7	< 1	0.7	0.7	< 1	< 1
EPA 02		7/17/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.58	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	0.9	< 1	0.9	0.9	< 1	< 1
EPA 02		10/8/1996	< 0.01	< 0.01	< 0.01	< 0.05	1.53	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.8	< 1	0.8	< 0.2	< 1	1.7
EPA 02		1/28/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.46	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.8	< 1	1.8	< 0.2	< 1	< 1
EPA 02		4/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.49	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	< 0.2	< 1	0	< 0.2	< 1	< 1
EPA 02		7/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.42	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.9	2.5	3.4	< 0.2	< 1	< 1
EPA 02		10/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	1.49	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.5	< 1	0.5	< 0.2	< 1	< 1
EPA 02		1/20/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.75	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1	< 1	1	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 02		4/14/1998	6,848.90	6.40	7.47	3130	438	199	194	6.3	316	1830	26.2	0.54	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/14/1998	6,848.70	7.00	7.66	3120	385	190	207	6.9	313	1700	22.3	0.49	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/6/1998	6,849.50	6.60	7.82	3390	454	227	221	7.9	292	2150	28.6	0.75	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/12/1999	6,849.30	6.80	7.65	3060	364	180	181	6.7	311	1740	27.8	0.55	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/13/1999	6,849.50	6.70	7.69	3110	420	182	198	6.8	304	1800	31.3	0.64	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/20/1999	6,849.19	6.70	7.67	3080	385	186	187	8.8	307	1650	29	0.59	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/12/1999	6,849.30	6.64	7.65	3640	478	244	186	7.6	268	1970	45.7	0.7	< 1	< 1	< 0.1	< 0.001
EPA 02		1/11/2000	6,849.50	6.70	7.63	3090	384	187	179	7.4	310	1700	28.9	0.57	< 0.1	< 1	0.12	< 0.001
EPA 02		5/2/2000	6,850.10	6.60	7.72	2800	349	162	183	5.9	296	1490	20.2	0.48	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/10/2000	6,849.90	6.67	7.42	2740	369	166	192	5.89	334	1540	20.4	0.47	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/2/2000	6,849.95	6.70	7.49	2670	359	172	195	7.8	330	1740	21.2	0.42	< 0.1	< 1	< 0.1	0.004
EPA 02	Dup	10/9/2000	no data	6.69	7.62	2700	327	153	187	6.54	331	1380	18.1	0.43	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/15/2001	6,850.00	6.80	7.34	2680	360	157	185	6.5	350	1690	25.8	0.5	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	1/15/2001	no data	6.90	7.47	2560	358	156	185	6.5	330	1680	26.3	0.5	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/2/2001	6,850.10	6.87	7.39	2730	408	182	173	6	425	1600	23.7	0.53	< 0.1	< 1	< 0.1	0.001
EPA 02	Dup	4/2/2001	no data	6.88	7.26	2780	407	181	170	5.9	333	1610	24	0.46	< 0.1	< 1	< 0.1	0.001
EPA 02		7/16/2001	6,849.60	7.03	7.57	2770	341	159	182	6.9	430	1630	28.3	0.53	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	7/16/2001	no data	7.08	7.49	2720	343	159	185	6.8	331	1610	28.2	0.53	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/9/2001	6,849.75	6.67	7.70	2760	330	150	182	6.2	371	1420	25.1	0.36	< 0.1	< 1	< 0.1	0.002
EPA 02	Dup	10/9/2001	no data	6.72	7.10	2730	330	150	177	6.2	338	1440	27.1	0.45	< 0.1	< 1	< 0.1	< 0.001
EPA 02		1/14/2002	6,849.80	6.96	7.20	2730	406	177	168	8	355	1550	24.8	0.43	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	1/14/2002	no data	6.85	7.10	2770	409	179	174	8.13	334	1600	24.7	0.47	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/9/2002	6,849.36	6.83	7.29	2760	356	159	186	6.2	379	1570	25.4	0.45	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	4/9/2002	no data	6.72	7.21	2780	351	158	184	6.3	336	1570	24.8	0.5	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/16/2002	6,849.45	6.14	7.54	2760	352	161	188	6	448	1510	24.6	0.6	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	7/16/2002	no data	6.56	7.37	2770	352	160	190	7.6	332	1540	25.9	1.3	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/15/2002	6,849.16	6.14	7.72	2630	398	178	189	5.9	432	1700	21	0.5	< 0.1	< 1	< 0.1	0.002
EPA 02	Dup	10/15/2002	no data	6.43	7.48	2650	400	180	187	6.1	337	1750	15.2	0.62	< 0.1	< 1	< 0.1	0.001
EPA 02		1/14/2003	6,849.13	6.65	7.62	2700	345	154	172	6.4	409	1410	19.6	0.59	< 0.1	< 1	< 0.1	0.002
EPA 02	Dup	1/14/2003	no data	no data	7.38	2710	380	175	162	6.6	341	1590	23.5	0.69	< 0.1	< 1	< 0.1	< 0.001
EPA 02		4/15/2003	6,849.54	6.76	7.51	2740	328	141	194	9	448	1550	23.7	0.6	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	4/15/2003	no data	no data	7.37	2730	346	163	192	8.8	333	1520	23.3	0.6	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/14/2003	6,849.09	6.50	7.62	2750	352	156	183	7.1	436	1460	25.2	0.5	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	7/14/2003	no data	no data	7.48	2790	365	164	185	7.3	338	1550	19.2	0.57	< 0.1	< 1	< 0.1	< 0.001
EPA 02		10/14/2003	6,848.80	6.67	7.44	2710	390	172	194	6	438	1620	19.4	0.48	< 0.1	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 02		4/14/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.6	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	1.1	< 1	1.1	< 0.2	< 1	< 1
EPA 02		7/14/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.5	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	0.9	< 1	0.9	< 0.2	7.5	< 1
EPA 02		10/6/1998	< 0.01	< 0.005	< 0.01	< 0.05	1.94	< 0.1	< 0.05	< 0.001	< 0.1	0.0007	1	2.5	3.5	< 0.2	< 1	< 1
EPA 02		1/12/1999	< 0.01	< 0.005	< 0.01	< 0.05	1.44	< 0.1	< 0.05	< 0.001	< 0.1	0.0028	0.9	2.5	3.4	< 0.2	< 1	< 1
EPA 02		4/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	1.64	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1.1	< 1	1.1	< 0.2	1.8	1.8
EPA 02		7/20/1999	< 0.01	< 0.005	< 0.01	< 0.05	1.35	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	1.2	2.1	3.3	< 0.2	2.1	2.1
EPA 02		10/12/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.21	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.6	2.2	2.8	< 0.2	< 1	1.8
EPA 02		1/11/2000	< 0.01	< 0.005	< 0.01	< 0.05	1.58	< 0.1	< 0.05	0.001	< 0.1	0.0015	0.8	< 1	0.8	< 0.2	< 1	< 1
EPA 02		5/2/2000	< 0.01	< 0.005	< 0.01	< 0.05	1.29	< 0.1	< 0.05	< 0.001	< 0.1	0.0016	1.7	< 1	1.7	< 0.2	< 1	2.2
EPA 02		7/10/2000	< 0.01	< 0.005	< 0.01	< 0.05	1.27	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.5	3.9	5.4	< 0.2	< 1	1.4
EPA 02		10/2/2000	< 0.01	< 0.005	< 0.01	< 0.05	1.07	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.8	< 1	1.8	< 0.2	< 1	2.6
EPA 02	Dup	10/9/2000	< 0.01	< 0.005	< 0.01	< 0.05	1.07	< 0.1	< 0.05	< 0.001	< 0.1	0.012	1.4	3.3	4.7	< 0.2	< 1	1.5
EPA 02		1/15/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.21	< 0.1	< 0.05	< 0.001	< 0.1	0.0015	1.2	2.8	4	< 0.2	< 1	1.2
EPA 02	Dup	1/15/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.15	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	1.4	4.6	6	< 0.2	< 1	1.1
EPA 02		4/2/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.14	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	1.4	< 1	1.4	< 0.2	< 1	2.1
EPA 02	Dup	4/2/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.24	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	1.4	< 1	1.4	< 0.2	< 1	1.4
EPA 02		7/16/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.2	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.4	4.3	5.7	< 0.2	< 1	1.6
EPA 02	Dup	7/16/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.18	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	0.8	6.4	7.2	< 0.2	< 1	< 1
EPA 02		10/9/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.08	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	1.3	2.6	3.9	< 0.2	< 1	< 1
EPA 02	Dup	10/9/2001	< 0.01	< 0.005	< 0.01	< 0.05	1.08	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.2	< 1	1.2	< 0.2	< 1	< 1
EPA 02		1/14/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.34	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.3	3.3	4.6	< 0.2	< 1	1.3
EPA 02	Dup	1/14/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.35	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	1.8	12	13.8	< 0.2	< 1	1.9
EPA 02		4/9/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.28	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	1.1	1.7	2.8	< 0.2	< 1	1.8
EPA 02	Dup	4/9/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.28	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.5	< 1	1.5	< 0.2	< 1	1.4
EPA 02		7/16/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.28	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.7	< 1	1.7	< 0.2	< 1	1.7
EPA 02	Dup	7/16/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.26	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.9	< 1	0.9	< 0.2	< 1	1.8
EPA 02		10/15/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.12	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1.7	3	4.7	< 0.2	< 1	< 1
EPA 02	Dup	10/15/2002	< 0.01	< 0.005	< 0.01	< 0.05	1.29	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1.5	< 1	1.5	< 0.2	< 1	< 1
EPA 02		1/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0014	3	< 1	3	< 0.2	< 1	2.2
EPA 02	Dup	1/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	1.9	< 1	1.9	< 0.2	< 1	3
EPA 02		4/15/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.28	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.8	10.1	11.9	< 0.2	< 1	2.1
EPA 02	Dup	4/15/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.25	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.3	10.4	11.7	< 0.2	< 1	2.3
EPA 02		7/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.26	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.6	8.7	10.3	< 0.2	< 1	< 1.0
EPA 02	Dup	7/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.32	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.3	9.9	11.2	< 0.2	< 1	< 1.0
EPA 02		10/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.3	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	0.8	8.7	9.5	< 0.2	< 1	1.4

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 02	Dup	10/14/2003	no data	no data	7.52	2700	394	174	194	6.1	329	1600	21.7	0.55	< 0.1	< 1	0.2	< 0.001
EPA 02		1/13/2004	6,848.87	6.69	7.74	2700	380	176	196	7.1	323	1640	20.9	0.48	< 0.10	< 1.0	< 0.1	< 0.001
EPA 02	Dup	1/13/2004	no data	no data	7.63	2710	391	180	196	7.6	336	1680	20.5	0.58	< 0.10	< 1.0	< 0.1	< 0.001
EPA 02		4/13/2004	6,848.76	6.55	6.97	2680	353	164	182	6.9	405	1580	23.1	0.92	< 0.1	< 1	< 0.1	< 0.001
EPA 02	Dup	4/13/2004	no data	no data	6.82	2710	356	166	191	7.1	342	1620	24.8	0.78	< 0.1	< 1	< 0.1	< 0.001
EPA 02		7/20/2004	6,848.67	6.80	6.89	2740	374 D	164 D	202	5.9	358	1530 D	22	0.49	< 0.10	< 1.0	< 0.1	< 0.001
EPA 02	Dup	7/20/2004	no data	no data	6.62	2700	373 D	164 D	201	5.8	331	1550 D	21	0.55	< 0.10	< 1.0	< 0.1	< 0.001
EPA 02		10/13/2004	6,848.79	6.93	7.10	2810	367 D	176 D	180	6.5	378	1600 D	23	0.55	< 0.10	< 1.0	< 0.1	< 0.001
EPA 02	Dup	10/13/2004	no data	no data	7.07	2870	386 D	187 D	196	6.6	328	1700 D	24	0.58	< 0.10	< 1.0	< 0.1	< 0.001
EPA 02		1/11/2005	6,848.91	7.42	7.11	2850	390 D	180 D	201 D	6.6	356	1630	23	0.51	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	1/11/2005	no data	no data	7.05	2910	397 D	187 D	202	6.8	325	1670	23	0.57	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		4/12/2005	6,848.66	6.78	7.08	2750	403	185	206	6.8	348	1740	22	0.49	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	4/12/2005	no data	no data	7.11	2750	406	185	203	6.9	322	1760	23	0.5	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		7/19/2005	6,847.89	6.49	7.28	2590	350 D	160 D	195	5.9	389	1420	20	0.4	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	7/19/2005	no data	no data	7.15	2630	346 D	159 D	196	5.8	335	1450 D	17	0.46	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		10/11/2005	6,848.28	6.79	7.26	2640	352 D	163 D	199	6.4	284	1560 D	23	0.47	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	10/11/2005	no data	no data	7.19	2690	351 D	163 D	197	6.5	357	1570 D	24	0.52	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		1/17/2006	6,848.01	6.93	7.56	2540	345 D	161 D	185	6.2	336	1480 D	21	0.49	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	1/17/2006	no data	no data	7.72	2560	339 D	158 D	182	6.2	531	1390	20	0.61	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		4/11/2006	6,848.22	6.86	7.32	2560	364 D	168 D	191	5.9	383	1470	21	0.47	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	4/11/2006	no data	no data	7.44	2600	369 D	172 D	193	6	354	1520	21	0.61	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		7/25/2006	6,848.04	6.70	7.24	2540	346 D	154 D	204	6.2	321	1550	21	0.68	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02	Dup	7/25/2006	no data	no data	7.08	2480	356 D	159 D	206	6.5	319	1580	21	0.51	< 0.1	< 1.0	< 0.1	< 0.001
EPA 02		10/10/2006	6,847.90	6.69	7.26	2490	352 D	158 D	195	6.3	335	1490	20	0.49	< 0.1	< 0.5	< 0.1	< 0.001
EPA 02	Dup	10/10/2006	no data	no data	7.03	2440	355 D	160 D	195	6.2	337	1500	20	0.54	< 0.1	< 0.5	< 0.1	< 0.001
EPA 02		1/16/2007	6,847.64	6.74	7.32	2580	352 D	161 D	186	6.5	310	1520	22	0.29	<0.1	<0.5	<0.1	<0.001
EPA 02	Dup	1/16/2007	6,847.17	6.74	7.24	2570	359 D	164 D	184	6.3	307	1480	21	0.39	<0.1	<0.5	<0.1	<0.001
EPA 02		4/16/2007	6,847.81	6.96	7.25	2590	343 D	157 D	182	6.4	342	1420	22	0.41	<0.1	<0.5	<0.1	0.002
EPA 02	Dup	4/16/2007	6,847.13	6.82	7.04	2600	349 D	160 D	177	6.2	351	1380	22	0.45	<0.1	<0.5	<0.1	<0.001
EPA 02		7/16/2007	6,847.44	6.61	7.10	2540	352	159	186	5.9	340	1440	20	0.35	<0.1	<0.5	<0.1	0.001
EPA 02	Dup	7/16/2007	6,847.04	6.67	6.83	2510	355 D	164 D	192	6	334	1510	20	0.42	<0.1	<0.5	<0.1	0.002
EPA 02		10/8/2007	6,847.26	6.85	7.39	2600	344 D	159 D	185	6.1	287	1490 D	20	0.33	<0.1	0.91	<0.1	<0.001
EPA 02	Dup	10/8/2007	6,846.84	6.78	7.15	2670	350 D	162 D	188	6.2	348	1470	20	0.32	<0.1	<0.5	<0.1	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 02	Dup	10/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	1.32	< 0.1	< 0.05	< 0.001	< 0.1	0.0015	1	9.7	10.7	< 0.2	< 1	1.5
EPA 02		1/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.32	< 0.1	< 0.05	< 0.001	< 0.1	0.0012 D	1.5	< 1.0	1.5	< 0.2	< 1.0	1.4
EPA 02	Dup	1/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.3	< 0.1	< 0.05	< 0.001	< 0.1	0.0015 D	1.2	2.1	3.3	< 0.2	< 1.0	1.4
EPA 02		4/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.29	< 0.1	< 0.05	< 0.001	< 0.1	0.0014	1.1	< 1	1.1	< 0.2	< 1	2
EPA 02	Dup	4/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.31	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	1.3	3.7	5	< 0.2	< 1	2.4
EPA 02		7/20/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.28	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.5	3.1	4.6	< 0.2	< 1.0	2.3
EPA 02	Dup	7/20/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.27	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1.3	5.1	6.4	< 0.2	< 1.0	2.2
EPA 02		10/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.25	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1	2.3	3.3	< 0.2	< 1.0	2.6
EPA 02	Dup	10/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	1.36	< 0.1	< 0.5 D	< 0.001	< 0.1	0.001	1.5	1.1	2.6	< 0.2	< 1.0	2.6
EPA 02		1/11/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.45	< 0.1	< 0.05	< 0.001	< 0.1	0.0018	0.8	2.2	3	< 0.2	< 1.0	2.7
EPA 02	Dup	1/11/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.53	< 0.1	< 0.05	< 0.001	< 0.1	0.0019	0.5	4.1	4.6	< 0.2	< 1.0	3.4
EPA 02		4/12/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.52	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	0.7	1.4	2.1	< 0.2	< 1.0	1.5
EPA 02	Dup	4/12/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.53	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	0.7	3.2	3.9	< 0.2	< 1.0	2.5
EPA 02		7/19/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.25	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.1	1.8	2.9	< 0.2	< 1.0	< 1.0
EPA 02	Dup	7/19/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.24	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.9	2	2.9	< 0.2	< 1.0	1.2
EPA 02		10/11/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.28	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.6	3.7	5.3	< 0.2	< 1.0	1.1
EPA 02	Dup	10/11/2005	< 0.01	< 0.005	< 0.01	< 0.05	1.31	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.6	2.9	4.5	< 0.2	< 1.0	2.2
EPA 02		1/17/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.29	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	1.4	2	3.4	< 0.2	< 1.0	1.9
EPA 02	Dup	1/17/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.3	< 0.1	< 0.05	< 0.001	< 0.1	0.0014	1.2	1.8	3	< 0.2	< 1.0	3.1
EPA 02		4/11/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.1	< 0.1	< 0.05	< 0.001	< 0.1	0.0017	1	4.3	5.3	< 0.2	< 1.0	1.4
EPA 02	Dup	4/11/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.19	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	1.1	6.2	7.3	< 0.2	< 1.0	< 1.0
EPA 02		7/25/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.24	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.3	6.6	7.9	< 0.2	< 1.0	1.2
EPA 02	Dup	7/25/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.46	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.8	4.8	5.6	< 0.2	< 1.0	1.2
EPA 02		10/10/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.4	1.2	2.6	< 0.2	< 1	1.7
EPA 02	Dup	10/10/2006	< 0.01	< 0.005	< 0.01	< 0.05	1.24	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.7	1.5	3.2	< 0.2	< 1	2.5
EPA 02		1/16/2007	<0.01	<0.005	<0.01	<0.05	1.18	<0.1	<0.05	<0.001	<0.1	0.0012	1.4	2.9	4.3	<0.2	<1	1.8
EPA 02	Dup	1/16/2007	<0.01	<0.005	<0.01	<0.05	1.14	<0.1	<0.05	<0.001	<0.1	0.0012	1.9	<1	1.9	<0.2	<1	2
EPA 02		4/16/2007	<0.01	<0.005	<0.01	<0.05	1.28	<0.1	<0.05	<0.001	<0.1	0.0013 D	1.2	2.2	3.4	<0.2	<1	1.8
EPA 02	Dup	4/16/2007	<0.01	<0.005	<0.01	<0.05	1.29	<0.1	<0.05	<0.001	<0.1	0.0013 D	1.1	2.4	3.5	<0.2	<1	1.1
EPA 02		7/16/2007	<0.01	<0.005	<0.01	<0.05	1.14	<0.1	<0.05	<0.001	<0.1	0.0016	<0.2	1.4	1.4	<0.2	<1	<1
EPA 02	Dup	7/16/2007	<0.01	<0.005	<0.01	<0.05	1.28	<0.1	<0.05	<0.001	<0.1	0.0015	0.7	<1	0.7	<0.2	<1	1.6
EPA 02		10/8/2007	<0.01	<0.005	<0.01	<0.05	1.42	<0.1	<0.05	<0.001	<0.1	0.0012	1.1	<1	1.1	<0.2	<1	1.7
EPA 02	Dup	10/8/2007	<0.01	<0.005	<0.01	<0.05	1.39	<0.1	<0.05	<0.001	<0.1	0.0012	1.4	<1	1.4	<0.2	<1	2.5

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 04		7/26/1989	6,868.80	6.90	5.97	4433	559	373	242	9.1	183	3039	37.1	0.91	0.03	< 1	< 0.1	< 0.001
EPA 04		10/5/1989	6,869.10	6.50	6.90	4760	560	371	244	12.3	182	3043	38.9	0.98	0.1	< 1	< 0.1	< 0.001
EPA 04		1/16/1990	6,869.40	6.50	6.76	4554	491	343	229	8.95	217	2919	37.5	0.99	0.1	< 1	< 0.1	< 0.001
EPA 04		4/17/1990	6,869.30	6.50	6.90	4604	500	347	223	7.7	194	2851	38.4	1.02	0.15	< 1	< 0.1	< 0.001
EPA 04		7/17/1990	6,869.10	6.40	6.70	4642	526	367	226	9.2	201	2855	36.4	0.7	0.06	< 1	< 0.1	< 0.001
EPA 04		10/16/1990	6,869.10	6.40	7.15	4645	515	368	232	9.2	193	2987	42.7	0.82	0.11	< 1	< 0.1	< 0.001
EPA 04		1/8/1991	6,869.00	6.50	6.65	4644	494	337	225	17	185	3039	40.1	0.99	0.04	< 1	< 0.1	< 0.001
EPA 04		4/17/1991	6,869.50	6.50	7.22	4759	525	392	238	8.9	161	3260	40.2	0.97	< 0.01	< 1	0.11	< 0.001
EPA 04		7/3/1991	6,869.60	6.60	6.80	4686	504	352	210	7.7	184	3345	37.8	1.04	0.05	< 1	0.3	< 0.001
EPA 04		10/22/1991	6,870.20	6.50	6.56	4651	502	350	221	8.2	188	2948	44.2	1.16	0.04	< 1	< 0.1	< 0.001
EPA 04		1/23/1992	6,870.50	6.40	6.52	4263	490	344	211	8	184	2997	42.4	1.14	< 0.01	< 1	0.14	< 0.001
EPA 04		4/2/1992	6,870.50	6.40	7.82	4554	495	348	258	9.3	210	2963	37.3	1.19	< 0.01	< 1	< 0.1	< 0.001
EPA 04		7/15/1992	6,869.70	6.60	7.55	4808	482	336	238	9	173	3072	41.2	0.73	0.2	< 1	< 0.1	< 0.001
EPA 04		10/14/1992	6,869.80	6.80	6.87	4904	526	357	230	8.6	174	3164	40.2	0.79	< 0.1	< 1	0.1	< 0.001
EPA 04		1/13/1993	6,870.00	6.60	6.98	4631	506	343	228	9.7	177	3107	38.8	0.21	< 0.1	< 1	0.1	< 0.001
EPA 04		4/15/1993	6,870.50	6.60	7.05	4684	452	337	242	7.4	175	3006	39.4	0.98	0.1	< 1	< 0.1	< 0.001
EPA 04		7/20/1993	6,871.10	6.70	7.11	4351	519	369	211	7.8	203	3081	37.4	0.84	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/12/1993	6,868.80	7.10	6.47	4585	533	332	217	7.8	189	2962	34.3	0.79	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/11/1994	6,869.50	6.80	6.88	4530	543	336	219	7.2	178	3119	35.8	0.89	< 0.1	< 1	< 0.1	< 0.001
EPA 04		4/20/1994	6,870.50	6.70	6.44	4612	544	346	233	7.3	167	3065	37.9	1.42	< 0.1	< 1	0.15	0.002
EPA 04		7/26/1994	6,870.40	6.70	6.45	4420	578	359	225	8.2	172	2863	35.7	0.93	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/11/1994	6,870.30	6.60	7.42	4528	539	380	229	8.3	195	3133	37.9	1.11	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/10/1995	6,870.40	6.50	6.98	4598	640	286	210	9.5	190	3090	38.3	1.48	< 0.1	< 1	< 0.1	< 0.001
EPA 04		4/6/1995	6,870.60	6.60	6.99	4715	640	328	212	8.3	189	3268	39.3	1.7	< 0.1	< 1	< 0.1	0.001
EPA 04		7/11/1995	6,870.30	6.80	7.44	3894	485	325	194	7.4	253	2490	35.1	1.29	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/10/1995	6,870.40	6.70	7.04	4004	515	335	220	8	217	2641	33.1	1.04	< 0.1	< 1	< 0.1	0.002
EPA 04		1/9/1996	6,870.30	6.80	7.89	4093	505	335	213	8.3	257	2637	34.4	0.75	< 0.1	< 1	< 0.1	0.003
EPA 04		4/10/1996	6,870.20	6.90	7.63	4412	544	338	199	7.6	223	3002	36.6	0.85	< 0.1	< 1	< 0.1	< 0.001
EPA 04		7/17/1996	6,870.20	6.80	6.76	4161	485	300	221	8.3	216	2580	38	0.69	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/8/1996	6,870.10	6.60	7.12	4390	555	358	211	8.3	196	2721	35.3	0.79	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/28/1997	6,870.10	6.80	7.51	4290	510	335	192	7.84	222	2895	44	0.77	< 0.1	< 1	< 0.1	< 0.001
EPA 04		4/15/1997	6,869.90	6.40	7.38	4390	544	354	212	8.5	222	2829	39.4	0.83	< 0.1	< 1	< 0.1	< 0.001
EPA 04		7/15/1997	6,869.50	6.50	7.22	4320	556	338	200	8	227	2800	38.9	0.79	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/15/1997	6,869.40	6.40	7.60	4480	591	372	202	7.8	209	2900	49.1	0.82	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/20/1998	6,870.30	6.60	7.85	4480	588	366	216	8.7	212	3100	41.9	1.08	< 0.1	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 04		7/26/1989	< 0.05	< 0.01	< 0.01	< 0.05	3.4	< 0.1	< 0.05	< 0.001	< 0.1	0.004	1.9	1.4	3.3	0.9	< 1	3
EPA 04		10/5/1989	< 0.05	< 0.01	< 0.01	< 0.05	3.1	< 0.01	< 0.05	< 0.001	< 0.1	0.003	2	1.9	3.9	0.3	2.2	3
EPA 04		1/16/1990	< 0.05	< 0.01	< 0.01	< 0.05	3.4	< 0.1	< 0.05	< 0.001	< 0.1	0.0007	1.3	3.4	4.7	2.8	< 1	3.5
EPA 04		4/17/1990	< 0.05	< 0.01	< 0.01	< 0.05	2.5	< 0.1	< 0.05	< 0.001	< 0.1	0.002	0.8	1.6	2.4	< 0.2	2.4	1.5
EPA 04		7/17/1990	< 0.05	< 0.01	< 0.01	< 0.05	3.31	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.8	4.4	5.2	< 0.2	1.5	< 1
EPA 04		10/16/1990	< 0.05	< 0.01	0.01	< 0.05	3.31	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.5	< 1	1.5	< 0.2	1.1	2
EPA 04		1/8/1991	< 0.01	< 0.01	0.01	< 0.05	3.27	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.5	2.7	4.2	< 0.2	< 1	2
EPA 04		4/17/1991	< 0.01	< 0.01	< 0.01	< 0.05	3.87	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.7	4.9	5.6	< 0.2	< 1	< 1
EPA 04		7/3/1991	< 0.01	< 0.01	0.01	< 0.05	3.21	0.03	< 0.05	< 0.001	< 0.1	0.0029	1.5	5.1	6.6	< 0.2	< 1	1
EPA 04		10/22/1991	< 0.01	< 0.01	0.02	< 0.05	3.28	< 0.1	< 0.05	< 0.001	< 0.1	0.0684	0.7	3.9	4.6	< 0.2	1.8	< 1
EPA 04		1/23/1992	< 0.01	< 0.01	< 0.01	< 0.05	2.95	< 0.1	< 0.05	< 0.001	< 0.1	0.007	1.2	< 1	1.2	< 0.2	1.9	1
EPA 04		4/2/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.34	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.5	5.4	5.9	< 0.2	9.1	< 1
EPA 04		7/15/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.19	< 0.1	< 0.05	< 0.001	< 0.1	0.004	1.9	5	6.9	< 0.2	< 1	2
EPA 04		10/14/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.41	< 0.1	< 0.05	< 0.001	< 0.1	0.029	1.9	7.1	9	< 0.2	< 1	2.1
EPA 04		1/13/1993	< 0.01	< 0.01	0.02	< 0.05	3.47	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1	13.8	14.8	< 0.2	< 1	1.1
EPA 04		4/15/1993	< 0.01	< 0.01	< 0.01	< 0.05	3.55	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1	1.1	2.1	< 0.2	< 1	1.2
EPA 04		7/20/1993	< 0.01	< 0.01	< 0.01	< 0.05	2.81	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.1	3.5	4.6	< 0.2	< 1	1.5
EPA 04		10/12/1993	< 0.01	< 0.01	0.01	< 0.05	3.08	< 0.1	< 0.05	< 0.001	< 0.1	0.003	1.2	2.7	3.9	< 0.2	1.3	5.2
EPA 04		1/11/1994	< 0.01	< 0.01	< 0.01	< 0.05	3.59	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.1	3	4.1	< 0.2	< 1	6.6
EPA 04		4/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	2.77	< 0.1	< 0.05	< 0.001	< 0.1	0.001	2	3	5	< 0.2	1.8	6.7
EPA 04		7/26/1994	< 0.01	< 0.01	< 0.01	< 0.05	3.4	< 0.1	< 0.05	< 0.001	< 0.1	0.002	1.9	5.1	7	< 0.2	< 1	9.7
EPA 04		10/11/1994	< 0.01	< 0.01	< 0.01	< 0.05	2.95	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.6	2.3	3.9	< 0.2	< 1	5.2
EPA 04		1/10/1995	< 0.01	< 0.01	< 0.01	< 0.05	3.42	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.7	2.5	4.2	0.2	3	5.6
EPA 04		4/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	3.25	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.4	3	4.4	< 0.2	< 1	6.1
EPA 04		7/11/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.76	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.7	3.1	3.8	0.4	< 1	5
EPA 04		10/10/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.89	< 0.1	< 0.05	< 0.001	< 0.1	0.0008	1.5	4.2	5.7	0.4	< 1	2.2
EPA 04		1/9/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.83	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.1	2.4	3.5	< 0.2	2.6	< 1
EPA 04		4/10/1996	< 0.01	< 0.01	< 0.01	< 0.05	3.2	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.2	3.3	4.5	< 0.2	< 1	< 1
EPA 04		7/17/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.85	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	0.5	< 1	0.5	< 0.2	< 1	< 1
EPA 04		10/8/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.89	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.2	< 1	1.2	< 0.2	< 1	< 1
EPA 04		1/28/1997	< 0.01	< 0.01	< 0.01	< 0.05	2.82	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.5	< 1	1.5	< 0.2	< 1	2.1
EPA 04		4/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	2.97	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.9	1.2	2.1	< 0.2	< 1	2.3
EPA 04		7/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	2.58	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1	4.1	5.1	< 0.2	< 1	< 1
EPA 04		10/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	3.06	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.6	< 1	0.6	< 0.2	< 1	< 1
EPA 04		1/20/1998	< 0.01	< 0.005	< 0.01	< 0.05	3.25	< 0.1	< 0.05	<.0.001	< 0.1	0.0011	1	< 1	1	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 04		4/14/1998	6,869.50	6.70	7.08	4480	586	340	226	8.2	209	3010	35.1	0.85	< 0.1	< 1	< 0.1	< 0.001
EPA 04		7/14/1998	6,869.20	6.60	7.25	4620	576	366	223	8.8	200	3000	36.7	0.86	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/13/1998	no data	6.41	7.84	4520	579	348	228	8.6	218	3000	36.1	0.98	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/12/1999	6,869.50	6.60	7.53	4590	615	347	199	8	214	3000	37.2	0.92	< 0.1	< 1	< 0.1	< 0.001
EPA 04		4/13/1999	6,869.80	6.50	7.46	4590	582	343	206	8.2	208	2860	43.8	0.97	0.11	< 1	< 0.1	< 0.001
EPA 04		7/20/1999	6,869.50	6.50	7.11	4790	555	323	193	10.4	207	2550	40	0.85	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/12/1999	6,869.20	6.60	7.94	4830	556	332	193	8.4	641	2780	39	0.87	< 0.1	< 1	< 0.1	0.001
EPA 04		1/11/2000	6,869.50	6.50	7.51	4680	557	332	187	8.8	204	2730	36.2	0.82	< 0.1	< 1	0.1	< 0.001
EPA 04		5/15/2000	6,869.10	6.70	7.42	4810	542	366	194	9.1	173	3000	37.5	1.03	< 0.1	< 1	< 0.1	0.001
EPA 04		7/11/2000	6,868.90	6.54	7.07	4790	574	386	199	8.4	171	2910	38.8	0.97	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/3/2000	6,868.90	6.61	7.21	4740	541	372	193	9.2	175	2770	36.5	0.74	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/9/2001	6,868.95	6.73	7.30	4680	555	373	164	8.7	174	2890	43.4	0.88	< 0.1	< 1	< 0.1	< 0.001
EPA 04		4/3/2001	6,868.80	6.70	7.06	4620	651	427	170	8.1	177	3230	42.1	1.01	< 0.1	< 1	< 0.1	< 0.001
EPA 04		7/17/2001	6,868.25	6.94	7.02	4780	533	372	173	9.1	172	2690	48.3	1.01	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/9/2001	6,868.30	6.55	6.80	4770	520	360	165	8.7	174	2700	46.3	0.86	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/14/2002	6,868.25	6.75	6.90	4730	624	413	165	10.5	178	2980	46.2	0.85	0.16	< 1	< 0.1	< 0.001
EPA 04		4/9/2002	6,867.90	6.54	7.27	4790	545	369	186	9	167	2880	39.5	0.82	0.31	< 1	< 0.1	< 0.001
EPA 04		7/16/2002	6,867.85	6.52	7.53	4740	533	369	172	10.4	163	2870	43.1	1.07	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/15/2002	6,867.70	6.32	7.06	4240	613	414	196	9.1	179	3260	40	1.15	< 0.1	< 1	< 0.1	< 0.001
EPA 04		1/14/2003	6,867.38	6.61	7.13	4720	461	319	154	9.6	164	2420	30.5	1.21	< 0.1	< 1	< 0.1	< 0.001
EPA 04		4/14/2003	6,867.44	6.67	7.07	4770	538	386	201	12.5	162	2940	37.9	1.17	< 0.1	< 1	< 0.1	< 0.001
EPA 04		7/15/2003	6,867.14	6.44	7.30	4820	552	374	186	9.3	168	2880	35	1.15	< 0.1	< 1	< 0.1	< 0.001
EPA 04		10/14/2003	6,866.96	6.49	7.42	4760	626	416	189	8.6	158	3140	38.9	0.91	< 0.1	< 1	0.2	< 0.001
EPA 04		1/13/2004	6,866.80	6.53	7.30	4780	603	417	188	10.2	166	3160	39.2	1.1	< 0.10	< 1.0	< 0.1	< 0.001
EPA 04		4/13/2004	6,866.82	6.35	6.55	4730	550	385	188	9.6	167	3040	43.4	1.21	< 0.1	< 1	< 0.1	< 0.001
EPA 04		7/20/2004	6,866.61	6.64	6.40	4690	597 D	391 D	200	8.2	183	3020 D	38	1.08	< 0.10	< 1.0	< 0.1	< 0.001
EPA 04		10/12/2004	6,866.64	6.67	6.80	4850	586 D	408 D	188	8.4	201	3060 D	37	1.02	< 0.10	< 1.0	< 0.1	< 0.001
EPA 04		1/11/2005	6,866.93	6.70	6.81	4750	557 D	382 D	192	8.6	165	2890 D	39	0.78	< 0.1	< 1.0	< 0.1	< 0.001
EPA 04		4/12/2005	no data	no data	6.79	4550	592	410	201	8.8	165	3190	40	0.85	< 0.1	< 1.0	< 0.1	< 0.001
EPA 04		7/19/2005	6,866.15	6.28	6.82	4720	549 D	386 D	193	8.3	180	2820 D	33	0.95	< 0.1	< 1.0	< 0.1	< 0.001
EPA 04		10/11/2005	6,866.02	6.65	7.02	4580	544 D	382 D	190	8.9	174	2880 D	39	0.77	< 0.1	< 1.0	< 0.1	< 0.001
EPA 04		1/17/2006	6,865.81	6.79	7.20	4480	525 D	372 D	179	8.7	177	2720 D	38	1.07	< 0.1	< 1.0	< 0.1	< 0.001
EPA 04		4/11/2006	6,865.71	6.64	7.22	4530	578 D	407 D	186	8.5	217	2980 D	41	1.09	< 0.1	< 1.0	< 0.1	< 0.001
EPA 04		7/25/2006	6,865.55	6.58	7.37	4420	570 D	388 D	196	9.2	254	3000 D	38	0.81	0.2	< 1.0	< 0.1	< 0.001
EPA 04		10/10/2006	6,865.45	6.60	6.89	4330	542 D	374 D	186	8.5	173	2830 D	34	0.78	< 0.1	< 0.5	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 04		4/14/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.88	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	1.5	< 1	1.5	< 0.2	< 1	< 1
EPA 04		7/14/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.98	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	0.6	3.7	4.3	< 0.2	< 1	< 1
EPA 04		10/13/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.87	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.2	3.9	5.1	< 0.2	< 1	< 1
EPA 04		1/12/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.78	< 0.1	< 0.05	< 0.001	< 0.1	0.0033	1.5	4.2	5.7	< 0.2	< 1	< 1
EPA 04		4/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	3	< 0.1	< 0.05	< 0.001	< 0.1	0.0017	2.2	3.5	5.7	< 0.2	2.2	2.2
EPA 04		7/20/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.33	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	0.9	1.5	2.4	< 0.2	1.5	1.5
EPA 04		10/12/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.93	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.2	3.3	4.5	< 0.2	< 1	1.4
EPA 04		1/11/2000	< 0.01	< 0.005	< 0.01	< 0.05	3.1	< 0.1	0.06	< 0.001	< 0.1	0.0021	1	< 1	1	< 0.2	< 1	< 1
EPA 04		5/15/2000	< 0.01	< 0.005	< 0.01	< 0.05	4.15	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	1.9	3.8	5.7	< 0.2	< 1	1.3
EPA 04		7/11/2000	< 0.01	0.007	< 0.01	< 0.05	3.37	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	< 2	2.4	2.4	< 0.2	< 1	1.8
EPA 04		10/3/2000	< 0.01	< 0.005	< 0.01	< 0.05	2.66	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	1.3	3.5	4.8	< 0.2	< 1	1.4
EPA 04		1/9/2001	< 0.01	< 0.005	< 0.01	< 0.05	3.28	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.5	5	6.5	< 0.2	< 1	2.2
EPA 04		4/3/2001	< 0.01	< 0.005	< 0.01	< 0.05	3.37	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.2	3.8	5	< 0.2	< 1	1.8
EPA 04		7/17/2001	< 0.01	< 0.005	< 0.01	< 0.05	3.22	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.1	5.8	6.9	< 0.2	< 1	2.2
EPA 04		10/9/2001	< 0.01	< 0.005	< 0.01	< 0.05	2.65	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.5	3.7	5.2	< 0.2	< 1	< 1
EPA 04		1/14/2002	< 0.01	< 0.005	< 0.01	< 0.05	3.59	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.5	5.4	6.9	< 0.2	< 1	< 1
EPA 04		4/9/2002	< 0.01	< 0.005	< 0.01	< 0.05	3.53	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.3	2	3.3	< 0.2	< 1	1.3
EPA 04		7/16/2002	< 0.01	< 0.005	< 0.01	< 0.05	3.37	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.4	< 1	1.4	< 0.2	< 1	< 1
EPA 04		10/15/2002	< 0.01	< 0.005	< 0.01	< 0.05	3.4	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	1.7	< 1	1.7	< 0.2	< 1	< 1
EPA 04		1/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	3.29	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	1.9	< 1	1.9	< 0.2	< 1	2
EPA 04		4/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	3.33	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.7	7.9	9.6	< 0.2	< 1	3
EPA 04		7/15/2003	< 0.01	< 0.005	< 0.01	< 0.05	3.35	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.5	3.1	4.6	< 0.2	< 1	< 1.0
EPA 04		10/14/2003	< 0.01	< 0.005	< 0.01	< 0.05	3.32	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	0.5	5.6	6.1	< 0.2	< 1	1.5
EPA 04		1/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	3.74	< 0.1	< 0.05	< 0.001	< 0.1	0.0004 D	1.1	< 1.0	1.1	< 0.2	< 1.0	2.1
EPA 04		4/13/2004	< 0.01	< 0.005	< 0.01	< 0.05	3.41	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0004 D	0.7	< 1	0.7	< 0.2	< 1	1.7
EPA 04		7/20/2004	< 0.01	< 0.005	< 0.01	< 0.05	3.27	< 0.1	< 0.05	< 0.001	< 0.1	0.0004 D	1.6	2.4	4	< 0.2	< 1.0	2.1
EPA 04		10/12/2004	< 0.01	< 0.005	< 0.01	< 0.05	3.1	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.5	3.3	4.8	< 0.2	< 1.0	1.9
EPA 04		1/11/2005	< 0.01	< 0.005	< 0.01	< 0.05	3.16	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	0.7	2.5	3.2	< 0.2	< 1.0	3.6
EPA 04		4/12/2005	< 0.01	< 0.005	< 0.01	< 0.05	3.39	< 0.1	< 0.05	< 0.001	< 0.1	0.0007	0.9	2	2.9	< 0.2	< 1.0	1.7
EPA 04		7/19/2005	< 0.01	< 0.005	< 0.01	< 0.05	3.23	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.2	2	3.2	< 0.2	< 1.0	2.6
EPA 04		10/11/2005	< 0.01	< 0.005	< 0.01	< 0.05	3.24	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	1.4	3.3	4.7	< 0.2	< 1.0	1.6
EPA 04		1/17/2006	< 0.01	< 0.005	< 0.01	< 0.05	3.42	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.4	< 1.0	1.4	< 0.2	< 1.0	2.8
EPA 04		4/11/2006	< 0.01	< 0.005	< 0.01	< 0.05	3.12	< 0.1	< 0.05	< 0.001	< 0.1	0.0006	0.9	4.9	5.8	< 0.2	< 1.0	1.3
EPA 04		7/25/2006	< 0.01	< 0.005	< 0.01	< 0.05	2.94	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	0.8	3.3	4.1	< 0.2	< 1.0	< 1.0
EPA 04		10/10/2006	< 0.01	< 0.005	< 0.01	< 0.05	3.53	< 0.1	< 0.05	< 0.001	< 0.1	0.0004	1.1	1.8	2.9	< 0.2	< 1	1.4

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
EPA 04		1/23/2007	6,865.28	6.69	6.93	4620	534 D	376 D	187	9.3	165	2840 D	40	0.77	<0.1	<0.5	<0.1	<0.001
EPA 04		4/16/2007	6,865.20	6.60	6.82	4560	542 D	392 D	167	8.7	185	3060 D	40	0.82	<0.1	<0.5	<0.1	<0.001
EPA 04		7/16/2007	6,864.75	6.62	7.08	4390	555 D	388 D	176	8	181	2980 D	34	0.68	0.1	<0.5	<0.1	0.002
EPA 04		10/8/2007	6,864.52	6.67	6.91	4520	543 D	374 D	170	8.1	128	2840 D	36	0.64	<0.1	<0.5	<0.1	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 04		1/23/2007	<0.01	<0.005	<0.01	<0.05	3.54	<0.1	<0.05	<0.001	<0.1	0.0004	1	<1	1	<0.2	<1	3.1
EPA 04		4/16/2007	<0.01	<0.005	<0.01	<0.05	3.3	<0.1	<0.05	<0.001	<0.1	0.0004 D	1	<1	1	<0.2	<1	1.1
EPA 04		7/16/2007	<0.01	<0.005	<0.01	<0.05	3.04	<0.1	<0.05	<0.001	<0.1	0.0004	1.5	<1	1.5	<0.2	<1	1.7
EPA 04		10/8/2007	<0.01	<0.005	<0.01	<0.05	3.43	<0.1	<0.05	<0.001	<0.1	<0.0003	0.9	<1	0.9	<0.2	<1	2.3

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 05		7/26/1989	6,895.20	6.50	6.15	5192	625	508	151	8.5	295	3279	93.1	0.3	15.8	< 1	< 0.1	< 0.001
EPA 05		10/5/1989	6,895.40	6.10	6.90	5726	639	531	171	12.3	512	3255	141	0.12	29	< 1	< 0.1	< 0.001
EPA 05		1/16/1990	6,895.60	6.10	6.40	5698	628	539	186	9.49	567	3175	169	0.18	53.2	< 1	< 0.1	< 0.001
EPA 05		4/17/1990	6,895.50	6.00	6.80	5882	662	555	199	9.5	671	3159	172	0.31	53	< 1	< 0.1	< 0.001
EPA 05		7/17/1990	6,895.10	6.00	6.46	5886	723	548	204	10.3	672	3146	152	0.15	41	< 1	< 0.1	< 0.001
EPA 05		10/16/1990	6,895.00	6.00	7.11	6192	647	540	215	9	742	3391	199	0.18	53	< 1	< 0.1	< 0.001
EPA 05		1/8/1991	6,894.80	6.10	7.22	5554	641	485	171	7.3	586	3088	137	0.27	36	< 1	< 0.1	< 0.001
EPA 05		4/17/1991	6,894.90	5.90	7.43	6608	678	591	241	10.6	380	3536	219	0.23	68	< 1	0.27	< 0.001
EPA 05		7/3/1991	6,894.60	6.10	6.69	5926	634	512	187	8.7	326	3440	146	0.38	39.4	< 1	0.15	< 0.001
EPA 05		10/22/1991	6,894.70	6.00	6.95	7076	676	712	263	10.2	653	3873	226	0.32	43.1	< 1	0.17	< 0.001
EPA 05		1/23/1992	no data	6.10	6.81	6207	607	679	246	9.7	312	3679	183	0.25	26.3	< 1	< 0.1	< 0.001
EPA 05		4/2/1992	6,894.60	5.90	7.21	7719	703	695	336	13.3	1091	4080	289	0.32	28.9	< 1	< 0.1	< 0.001
EPA 05		7/15/1992	6,894.20	6.20	7.18	7158	570	659	328	11.4	878	3934	192	0.23	29.6	< 1	< 0.1	< 0.001
EPA 05		10/15/1992	6,894.10	6.20	6.85	7824	612	774	365	12.9	857	4186	215	0.19	67.4	< 1	< 0.1	0.001
EPA 05		1/12/1993	6,894.50	6.10	6.78	8011	599	791	344	12.7	880	4407	214	0.19	93.5	< 1	< 0.1	< 0.001
EPA 05		4/15/1993	6,894.50	6.10	7.01	7246	621	751	303	8.8	926	4024	179	0.34	118	< 1	< 0.1	< 0.001
EPA 05		7/20/1993	6,894.30	6.20	7.14	6893	598	748	371	9.7	1000	3990	224	0.22	91.6	< 1	< 0.1	< 0.001
EPA 05		10/12/1993	6,892.00	6.50	6.76	7441	599	923	345	9.4	1177	4387	197	< 0.05	72	< 1	< 0.1	< 0.001
EPA 05		1/11/1994	6,894.00	6.50	7.19	8037	549	857	318	8.4	1109	4491	208	0.15	95.2	< 1	< 0.1	< 0.001
EPA 05		4/19/1994	6,893.80	6.30	7.72	8035	625	930	408	10.2	693	4651	121	0.25	91	< 1	< 0.1	0.001
EPA 05		7/26/1994	6,893.70	6.30	7.32	7684	601	926	399	9.5	1116	4492	209	0.12	91.9	< 1	0.16	< 0.001
EPA 05		10/11/1994	6,893.50	6.30	7.41	7630	572	998	371	9.4	1077	4448	204	0.13	99.8	< 1	< 0.1	< 0.001
EPA 05		1/11/1995	6,893.50	6.30	7.02	8106	581	960	325	10.8	1032	4533	192	0.17	87.3	< 1	< 0.1	< 0.001
EPA 05		4/11/1995	6,894.10	6.50	6.85	8693	595	1070	388	10.4	1168	4895	245	0.36	96	< 1	< 0.1	< 0.001
EPA 05		7/11/1995	6,893.30	6.50	7.41	8075	547	1043	388	9.8	1150	4604	205	0.47	82.9	< 1	< 0.1	< 0.001
EPA 05		10/10/1995	6,893.40	6.50	7.56	8070	550	1018	385	10.2	1258	4529	201	0.67	86.6	< 1	< 0.1	< 0.001
EPA 05		1/9/1996	6,893.20	6.60	7.52	7693	508	966	376	10.9	1182	4420	198	1.44	94	< 1	< 0.1	< 0.001
EPA 05		4/10/1996	6,893.10	6.70	7.54	8569	590	1110	362	10.7	1221	5200	211	2.74	89.2	< 1	< 0.1	< 0.001
EPA 05		7/17/1996	6,893.00	6.40	6.87	8522	510	957	372	11.9	1275	4404	221	1.05	100	1.42	< 0.1	< 0.001
EPA 05		10/8/1996	6,892.90	6.40	7.29	8870	581	1091	389	12	1294	4869	211	5.8	93.1	1.42	< 0.1	< 0.001
EPA 05		1/28/1997	6,892.70	6.50	7.81	8450	538	1050	343	11.3	1208	4620	246	6.24	86.7	< 1	< 0.1	< 0.001
EPA 05		4/15/1997	6,892.60	6.40	7.65	8670	544	1040	376	12.1	1220	4740	221	6.61	77.1	< 1	< 0.1	< 0.001
EPA 05		7/15/1997	6,892.20	6.30	7.43	8720	555	1010	351	12.4	1180	4570	216	7.6	78.1	< 1	< 0.1	< 0.001
EPA 05		10/21/1997	no data	6.70	7.70	8610	587	1100	368	12.7	1240	4840	254	9.31	90.3	< 1	0.11	< 0.001
EPA 05		1/20/1998	6,892.60	6.40	7.75	8290	532	1050	372	13.8	1100	5000	223	8.79	81.2	1.1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 05		7/26/1989	< 0.05	< 0.01	0.02	< 0.05	1.7	< 0.1	< 0.05	0.001	< 0.1	0.0069	1.7	1.3	3	3.2	1.2	2.2
EPA 05		10/5/1989	< 0.05	< 0.01	0.04	< 0.05	1.3	< 0.01	< 0.05	< 0.001	< 0.1	0.022	1.1	1.8	2.9	0.3	< 1	1.5
EPA 05		1/16/1990	< 0.05	< 0.01	< 0.01	< 0.05	1.8	< 0.1	< 0.05	0.002	< 0.1	0.032	0.7	2.8	3.5	0.2	< 1	1.1
EPA 05		4/17/1990	< 0.05	< 0.01	0.03	< 0.05	2.2	< 0.1	0.1	< 0.001	< 0.1	0.041	1.1	2.2	3.3	< 0.2	< 1	1.8
EPA 05		7/17/1990	< 0.05	< 0.01	0.03	< 0.05	2.36	< 0.1	< 0.05	0.001	< 0.1	0.0475	2.1	2.3	4.4	< 0.2	3.6	2
EPA 05		10/16/1990	< 0.05	< 0.01	0.03	< 0.05	2.79	< 0.1	< 0.05	< 0.001	< 0.1	0.0371	0.9	1.6	2.5	< 0.2	< 1	< 1
EPA 05		1/8/1991	< 0.01	< 0.01	0.03	< 0.05	3.17	< 0.1	< 0.05	0.001	< 0.1	0.0003	0.8	< 1	0.8	< 0.2	< 1	< 1
EPA 05		4/17/1991	< 0.01	< 0.0045	0.06	< 0.05	3.81	< 0.1	0.09	0.001	< 0.1	0.04	0.6	< 1	0.6	< 0.2	2.3	< 1
EPA 05		7/3/1991	< 0.01	< 0.01	0.03	< 0.05	2.8	0.1	< 0.05	0.001	< 0.1	0.0422	0.7	3.1	3.8	< 0.2	< 1	< 1
EPA 05		10/22/1991	< 0.01	< 0.01	0.05	< 0.05	3.31	< 0.1	0.1	0.003	< 0.1	0.0021	0.7	1.8	2.5	< 0.2	1.8	< 1
EPA 05		1/23/1992	< 0.01	< 0.01	0.06	< 0.05	3	< 0.1	0.08	< 0.001	< 0.1	0.064	0.7	1	1.7	< 0.2	1.4	< 1
EPA 05		4/2/1992	< 0.01	< 0.01	0.05	< 0.05	2.56	< 0.1	< 0.05	0.013	< 0.1	0.002	0.2	2.8	3	< 0.2	6	< 1
EPA 05		7/15/1992	< 0.01	< 0.01	0.06	< 0.05	2.31	< 0.1	0.07	0.003	< 0.1	0.005	0.9	4.5	5.4	< 0.2	1.5	< 1
EPA 05		10/15/1992	< 0.01	< 0.01	0.1	< 0.05	1.96	< 0.1	0.12	0.005	< 0.1	0.105	1.3	< 1	1.3	< 0.2	< 1	1.9
EPA 05		1/12/1993	< 0.01	< 0.01	0.12	< 0.05	1.65	< 0.1	0.06	0.03	< 0.1	0.077	1	2.2	3.2	< 0.2	< 1	1.5
EPA 05		4/15/1993	< 0.001	< 0.01	0.05	< 0.05	1.95	< 0.1	0.08	0.003	< 0.1	0.036	0.3	< 1	0.3	< 0.2	1.6	< 1
EPA 05		7/20/1993	< 0.01	< 0.01	0.07	< 0.05	1.36	< 0.1	0.09	0.005	< 0.1	0.073	1.5	2.7	4.2	< 0.2	< 1	1.8
EPA 05		10/12/1993	< 0.01	< 0.01	0.08	< 0.05	1.39	< 0.1	0.08	0.004	< 0.1	0.084	1.9	2.3	4.2	< 0.2	2.9	5.3
EPA 05		1/11/1994	< 0.01	< 0.01	0.07	< 0.05	1.45	< 0.1	0.09	0.002	< 0.1	0.1	0.8	1.2	2	< 0.2	< 1	3.6
EPA 05		4/19/1994	< 0.01	< 0.01	0.12	< 0.05	1.19	< 0.1	< 0.05	0.003	< 0.1	0.101	1.9	5.7	7.6	< 0.2	1	10.6
EPA 05		7/26/1994	< 0.01	< 0.01	0.07	< 0.05	1.27	< 0.1	0.05	0.002	< 0.1	0.102	1.1	7.7	8.8	< 0.2	1.4	12.8
EPA 05		10/11/1994	< 0.01	< 0.01	0.09	< 0.05	1.02	< 0.1	0.14	0.002	< 0.1	0.095	2.1	< 1	2.1	< 0.2	< 1	2.3
EPA 05		1/11/1995	< 0.01	< 0.01	0.06	< 0.05	1.11	< 0.1	0.09	0.003	< 0.1	0.109	1.1	3.4	4.5	< 0.2	< 1	6.4
EPA 05		4/11/1995	< 0.01	< 0.01	< 0.01	< 0.05	0.85	< 0.1	< 0.05	0.004	< 0.1	0.102	0.7	1.9	2.6	< 0.2	< 1	3.6
EPA 05		7/11/1995	< 0.01	< 0.01	0.065	< 0.05	0.6	< 0.1	0.06	0.004	< 0.1	0.09	1.1	< 1	1.1	< 0.2	< 1	5.6
EPA 05		10/10/1995	< 0.01	< 0.01	0.05	< 0.05	0.53	< 0.1	0.05	0.012	< 0.1	0.1132	1.4	4.8	6.2	0.7	< 1	2.1
EPA 05		1/9/1996	< 0.01	< 0.01	0.06	< 0.05	0.49	< 0.1	< 0.05	0.018	< 0.1	0.124	1.3	1.2	2.5	< 0.2	< 1	1.5
EPA 05		4/10/1996	< 0.01	< 0.01	0.05	< 0.05	0.47	< 0.1	0.05	0.001	< 0.1	0.126	0.8	2.7	3.5	0.7	< 1	< 1
EPA 05		7/17/1996	< 0.01	< 0.01	0.06	< 0.05	0.49	< 0.1	0.06	0.004	< 0.1	0.125	0.9	< 1	0.9	< 0.2	< 1	< 1
EPA 05		10/8/1996	< 0.01	< 0.01	0.06	< 0.05	0.51	< 0.1	0.06	0.002	< 0.1	0.117	0.6	< 1	0.6	< 0.2	< 1	< 1
EPA 05		1/28/1997	< 0.01	< 0.01	0.06	< 0.05	0.48	< 0.1	0.05	0.003	< 0.1	0.086	1.7	< 1	1.7	2	< 1	1.6
EPA 05		4/15/1997	< 0.01	< 0.01	0.05	< 0.05	0.47	< 0.1	0.06	0.024	< 0.1	0.107	1.8	< 1	1.8	< 0.2	< 1	< 1
EPA 05		7/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	0.41	< 0.1	0.05	0.006	< 0.1	0.097	0.9	< 1	0.9	< 0.2	< 1	< 1
EPA 05		10/21/1997	< 0.01	< 0.01	0.07	< 0.05	0.53	0.5	0.06	0.018	< 0.1	0.121	0.9	3.3	4.2	< 0.2	< 1	< 1
EPA 05		1/20/1998	< 0.01	< 0.005	0.07	< 0.05	0.63	3.1	< 0.05	< 0.001	< 0.1	0.239	2.4	1.5	3.9	< 0.2	< 1	5

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 05		4/14/1998	6,892.40	6.60	7.16	8500	575	1010	374	13.2	1220	4720	195	1.72	83.7	1.3	< 0.1	< 0.001
EPA 05		7/14/1998	6,891.90	6.60	7.69	8620	541	963	364	14	1210	4200	201	11.4	67.7	1.1	< 0.1	< 0.001
EPA 05		10/13/1998	no data	6.45	7.75	8240	540	979	370	15	1190	4680	198	12.9	80	1	< 0.1	< 0.001
EPA 05		1/12/1999	6,892.00	6.50	7.75	8160	462	909	308	14.4	1140	4600	192	15.5	71.2	< 1	< 0.1	< 0.001
EPA 05		4/13/1999	6,892.20	6.50	7.71	8100	522	934	322	12.7	1100	4160	191	12.9	76.4	< 1	< 0.1	< 0.001
EPA 05		7/20/1999	6,891.94	6.50	7.55	8130	567	949	82	16.6	1090	4580	198	15	73.9	< 1	< 0.1	< 0.001
EPA 05		10/12/1999	6,891.80	6.45	7.75	7960	523	899	306	15	1086	4180	191	19.4	64.2	< 1	< 0.1	< 0.001
EPA 05		1/11/2000	6,891.90	6.50	7.78	7920	493	860	286	13.7	1050	3980	166	14.4	53.2	< 1	< 0.1	< 0.001
EPA 05		5/3/2000	6,891.80	6.20	7.56	5780	461	595	181	14.7	458	3160	94	22.3	42.3	< 1	< 0.1	< 0.001
EPA 05		7/11/2000	6,891.50	6.06	7.09	5720	496	630	188	13.5	415	3310	92.7	23	42.5	< 1	< 0.1	< 0.001
EPA 05		10/3/2000	6,891.60	6.14	6.99	5500	466	594	171	14.4	354	3060	85.4	20	37.5	< 1	< 0.1	< 0.001
EPA 05		1/9/2001	6,891.60	6.32	6.81	5560	475	591	148	12.7	362	3220	102	20.2	35.2	< 1	< 0.1	< 0.001
EPA 05		4/3/2001	6,891.40	6.30	7.22	5510	563	669	155	12	353	3460	96.3	17.5	36.3	< 1	< 0.1	< 0.001
EPA 05		7/17/2001	6,891.00	6.65	6.71	5520	448	563	150	13.7	267	2950	108	16.6	37.8	< 1	< 0.1	< 0.001
EPA 05		10/9/2001	6,891.10	5.99	6.50	5520	440	550	143	13	240	3000	95.2	16.2	35.8	< 1	< 0.1	< 0.001
EPA 05		1/14/2002	6,891.10	6.73	6.60	5430	531	621	139	14.1	230	3290	97.8	16.7	31	< 1	< 0.1	< 0.001
EPA 05		4/9/2002	6,890.74	6.05	6.80	5450	457	551	150	12.6	199	3150	88.8	15.7	29.8	< 1	< 0.1	< 0.001
EPA 05		7/16/2002	6,890.78	6.58	7.16	5410	452	550	139	13.6	179	3170	77.3	15.7	30.7	< 1	< 0.1	< 0.001
EPA 05		10/15/2002	6,890.63	6.30	6.77	4610	513	608	151	12.5	168	3580	75.1	15.1	12.3	< 1	< 0.1	< 0.001
EPA 05		1/14/2003	6,890.29	6.59	6.75	5320	429	524	145	15.1	160	2930	67.9	13.9	28.9	< 1	< 0.1	< 0.001
EPA 05		4/14/2003	6,890.24	6.00	6.75	5350	455	569	160	15.8	146	3210	80.2	12.6	29.8	< 1	< 0.1	< 0.001
EPA 05		7/9/2003	6,890.01	5.69	6.99	5340	486	580	139	12.6	138	3420	72.4	13.2	25.9	< 1	< 0.1	< 0.001
EPA 05		10/14/2003	6,890.07	5.72	7.02	5310	523	528	144	11.3	132	3390	75.8	11.6	25.9	< 1	0.4	< 0.001
EPA 05		1/12/2004	6,891.44	5.91	6.37	5310	508	600	156	12.6	120	3450	47.2	11.9 D	26.8 D	< 1.0	< 0.1	< 0.001
EPA 05		4/13/2004	6,889.95	5.63	5.87	5240	459	546	141	11.6	101	3410	82.4	10.8 D	22.6 D	< 1	< 0.1	< 0.001
EPA 05		7/20/2004	6,889.70	5.87	6.03	5360	505 D	562 D	147	10.4	124	3310 D	66	9.2 D	24.2 D	< 1.0	< 0.1	< 0.001
EPA 05		10/12/2004	6,889.67	5.89	6.32	5300	483 D	586 D	146	10.8	93	3300 D	71	10.1 D	25.1 D	< 1.0	< 0.1	< 0.001
EPA 05		1/11/2005	6,889.91	5.93	6.41	5220	494 D	563 D	138	10.7	86	3250 D	68	7.8 D	23.0 D	< 1.0	< 0.1	< 0.001
EPA 05		4/12/2005	no data	no data	6.29	4950	496	566	146	10.7	85	3410	72	8.3	23.6	< 1.0	0.1	< 0.001
EPA 05		7/19/2005	6,889.05	5.52	6.51	5200	466 D	541 D	136	10	100	3050 D	58	7.7 D	23.1 D	< 1.0	0.1	< 0.001
EPA 05		10/11/2005	6,889.14	5.87	6.51	5120	466 D	538 D	138	10.6	92	3120 D	66	7.8 D	22.4 D	< 1.0	< 0.1	< 0.001
EPA 05		1/17/2006	6,888.87	6.02	7.09	4960	474 D	551 D	127	9.8	85	3140 D	65	11.4 D	20.9 D	< 1.0	< 0.1	< 0.001
EPA 05		4/11/2006	6,888.84	5.83	6.70	4950	494 D	567 D	130	9.8	85	3190 D	65	8.5 D	21.2 D	< 1.0	< 0.1	< 0.001
EPA 05		7/25/2006	6,889.04	5.84	6.40	4710	490 D	541 D	134	10.1	72	3290 D	62	8.1 D	20.5 D	< 1.0	< 0.1	< 0.001
EPA 05		10/10/2006	6,888.64	5.95	6.43	4960	471 D	525 D	129	9.8	70	3080 D	55	8.4 D	20.4 D	< 0.5	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 05		4/14/1998	< 0.01	< 0.005	0.06	< 0.05	0.57	0.53	0.05	0.005	< 0.1	0.147	1.4	< 1	1.4	< 0.2	< 1	< 1
EPA 05		7/14/1998	< 0.01	< 0.005	0.06	< 0.05	0.54	0.5	< 0.05	0.005	< 0.1	0.173	1.3	< 1	1.3	< 0.2	< 1	< 1
EPA 05		10/13/1998	< 0.01	< 0.005	0.05	< 0.05	0.53	0.55	< 0.05	0.005	< 0.1	0.139	1.4	3.1	4.5	< 0.2	< 1	2.2
EPA 05		1/12/1999	< 0.01	< 0.005	0.04	< 0.05	0.53	0.43	< 0.05	< 0.001	< 0.1	0.149	1.1	3.8	4.9	< 0.2	< 1	< 1
EPA 05		4/13/1999	< 0.01	< 0.005	0.06	< 0.05	0.53	0.44	< 0.05	0.004	< 0.1	0.13	1	2.1	3.1	< 0.2	3.5	3.5
EPA 05		7/20/1999	< 0.01	< 0.005	0.05	< 0.05	0.49	0.36	< 0.05	0.004	< 0.1	0.127	1.6	< 1	1.6	< 0.2	2.2	2.2
EPA 05		10/12/1999	< 0.01	< 0.005	0.04	< 0.05	0.59	0.35	< 0.05	0.001	< 0.1	0.124	1.2	< 1	1.2	< 0.2	< 1	< 1
EPA 05		1/11/2000	< 0.01	< 0.005	0.06	< 0.05	0.51	0.37	0.07	0.005	< 0.1	0.111	0.9	< 1	0.9	< 0.2	< 1	< 1
EPA 05		5/3/2000	< 0.01	< 0.005	0.08	< 0.05	1.23	< 0.1	0.1	0.003	< 0.1	0.0365	0.7	2	2.7	< 0.2	< 1	< 1
EPA 05		7/11/2000	< 0.01	< 0.005	0.08	0.05	1.16	< 0.1	< 0.05	< 0.001	< 0.1	0.0219	0.7	2.3	3	< 0.2	< 1	< 1
EPA 05		10/3/2000	< 0.01	< 0.005	0.08	< 0.05	1.09	< 0.1	0.08	0.001	< 0.1	0.015	0.8	2.7	3.5	< 0.2	< 1	1.4
EPA 05		1/9/2001	< 0.01	< 0.005	0.09	< 0.05	1.24	< 0.1	0.11	0.003	< 0.1	0.016	1.3	< 1	1.3	< 0.2	< 1	1.5
EPA 05		4/3/2001	< 0.01	< 0.005	0.1	< 0.05	1.39	< 0.1	0.12	0.003	< 0.1	0.015	1.2	< 1	1.2	< 0.2	< 1	< 1
EPA 05		7/17/2001	< 0.01	< 0.005	0.1	< 0.05	1.26	< 0.1	0.09	0.002	< 0.1	0.007	1.4	4.1	5.5	< 0.2	< 1	< 1
EPA 05		10/9/2001	< 0.01	< 0.005	0.08	< 0.05	0.98	< 0.1	0.07	0.002	< 0.1	0.007	1.7	2.3	4	< 0.2	< 1	< 1
EPA 05		1/14/2002	< 0.01	< 0.005	0.11	< 0.05	1.28	< 0.1	0.13	0.002	< 0.1	0.0061	1.7	4.8	6.5	< 0.2	< 1	1.2
EPA 05		4/9/2002	< 0.01	< 0.005	0.1	< 0.05	1.23	< 0.1	0.11	0.001	< 0.1	0.0046	0.8	1.5	2.3	< 0.2	< 1	1.5
EPA 05		7/16/2002	< 0.01	< 0.005	0.1	< 0.05	1.25	< 0.1	0.09	0.001	< 0.1	< 0.0003	1.5	< 1	1.5	< 0.2	< 1	2.7
EPA 05		10/15/2002	< 0.01	< 0.005	0.09	< 0.05	1.17	< 0.1	0.1	< 0.001	< 0.1	0.0026	1.8	< 1	1.8	< 0.2	< 1	2.7
EPA 05		1/14/2003	< 0.01	< 0.005	0.1	< 0.05	1.22	< 0.1	0.09	< 0.001	< 0.1	0.003	1.1	< 1	1.1	< 0.2	< 1	2.3
EPA 05		4/14/2003	< 0.01	< 0.005	0.11	< 0.05	1.41	< 0.1	0.09	< 0.001	< 0.1	0.002	1.5	3.5	5	< 0.2	< 1	3.2
EPA 05		7/9/2003	< 0.01	< 0.005	0.1	< 0.05	1.29	< 0.1	0.07	< 0.001	< 0.1	0.0006	1.6	< 1	1.6	< 0.2	< 1	< 1.0
EPA 05		10/14/2003	< 0.01	< 0.005	0.1	< 0.05	1.28	< 0.1	0.08	< 0.001	< 0.1	0.0019	0.8	3.5	4.3	< 0.2	< 1	2.1
EPA 05		1/12/2004	< 0.01	< 0.005	< 0.01	< 0.05	0.04	< 0.1	< 0.05	< 0.001	< 0.1	0.0005 D	1.1	< 1.0	1.1	< 0.2	< 1.0	2.4
EPA 05		4/13/2004	< 0.01	< 0.005	0.09	< 0.05	1.31	< 0.1	0.09	0.001	< 0.1	0.0016 D	1.5	2.5	4	< 0.2	< 1	1.9
EPA 05		7/20/2004	< 0.01	< 0.005	0.09	< 0.05	1.2	< 0.1	0.08	0.002	< 0.1	0.0015 D	2	< 1.0	2	< 0.2	< 1.0	1.9
EPA 05		10/12/2004	< 0.01	< 0.005	0.08	< 0.05	1.23	< 0.1	< 0.05	0.002	< 0.1	0.0015	1.7	1.5	3.2	< 0.2	< 1.0	1.9
EPA 05		1/11/2005	< 0.01	< 0.005	0.09	< 0.05	1.26	< 0.1	0.09	0.001	< 0.1	0.0016	1.1	1.5	2.6	< 0.2	< 1.0	4.2
EPA 05		4/12/2005	< 0.01	< 0.005	0.08	< 0.05	1.31	< 0.1	0.07	< 0.001	< 0.1	0.0013	1.3	1.6	2.9	< 0.2	< 1.0	3.3
EPA 05		7/19/2005	< 0.01	< 0.005	0.07	< 0.05	1.14	< 0.1	0.07	< 0.001	< 0.1	0.0015	1	< 1.0	1	< 0.2	< 1.0	1.9
EPA 05		10/11/2005	< 0.01	< 0.005	0.08	< 0.05	1.23	< 0.1	0.06	< 0.001	< 0.1	0.0014	1.7	1.6	3.3	< 0.2	< 1.0	4
EPA 05		1/17/2006	< 0.01	< 0.005	0.07	< 0.05	1.26	< 0.1	0.07	< 0.001	< 0.1	0.0015	1.7	1.3	3	< 0.2	< 1.0	< 1.0
EPA 05		4/11/2006	< 0.01	< 0.005	0.06	< 0.05	1.09	< 0.1	0.06	< 0.001	< 0.1	0.0022	1.5	4.2	5.7	< 0.2	< 1.0	1.1
EPA 05		7/25/2006	< 0.01	< 0.005	0.06	< 0.05	1.03	< 0.1	< 0.05	< 0.001	< 0.1	0.0016	1.2	4	5.2	< 0.2	< 1.0	2
EPA 05		10/10/2006	< 0.01	< 0.005	0.06	< 0.05	1.16	< 0.1	0.06	0.001	< 0.1	0.0012	1.2	2.2	3.4	< 0.2	< 1	2.2

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
EPA 05		1/23/2007	6,888.32	6.00	6.33	4910	468 D	533 D	127	10	71	3100 D	60	8.6 D	18.4 D	<0.5	<0.1	<0.001
EPA 05		4/16/2007	6,888.47	5.90	6.30	4940	465 D	537 D	115	9.7	73	3280 D	63	7.9 D	16.2 D	<0.5	<0.1	<0.001
EPA 05		7/16/2007	6,888.04	5.99	6.30	4780	600 D	663 D	116	8.4	110	3820 D	51	9.7 D	20.4 D	<0.5	<0.1	0.002
EPA 05		10/2/2007	6,888.03	5.93	6.34	4880	431 D	478 D	119 D	10.2	65	2960 D	69 D	8.2 D	18.4 D	<0.5	<0.1	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 05		1/23/2007	<0.01	<0.005	0.06	<0.05	1.19	<0.1	0.05	<0.001	<0.1	0.0013 D	1.2	<1	1.2	<0.2	<1	4.1
EPA 05		4/16/2007	<0.01	<0.005	0.06	<0.05	1.2	<0.1	0.05	<0.001	<0.1	0.0014	0.8	<1	0.8	<0.2	<1	1.7
EPA 05		7/16/2007	<0.01	<0.005	0.05	<0.05	0.95	<0.1	<0.05	<0.001	<0.1	0.0014	1.5	1.5	3	<0.2	<1	1.2
EPA 05		10/2/2007	<0.01	<0.005	0.05	<0.05	1.15	<0.1	<0.05	<0.001	<0.1	0.0015	1.3	<1	1.3	<0.2	<1	2.6

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 07		7/26/1989	6,907.80	4.40	4.01	7774	526	871	212	9.1	0	5092	134	3.45	94	< 1	94	< 0.001
EPA 07		10/5/1989	6,908.00	4.20	4.26	8076	497	877	221	12	0	5272	192	3.41	69	< 1	99	< 0.001
EPA 07		1/16/1990	6,908.00	4.20	4.22	8190	449	915	226	9.09	< 1	5108	174	3.46	88	< 1	96	< 0.001
EPA 07		4/17/1990	6,907.70	4.20	4.30	9172	453	1100	226	8.7	< 1	5392	182	3.95	96	< 1	100	< 0.001
EPA 07		7/17/1990	6,907.10	4.40	4.35	9566	496	1009	230	10	0.1	5739	176	1.9	84	< 1	80.1	< 0.001
EPA 07		10/9/1990	no data	4.40	4.63	8003	449	928	241	10.5	10	5204	169	1.17	36.2	< 1	39.1	< 0.001
EPA 07		1/3/1991	no data	4.60	4.68	7145	475	829	262	24.4	6.1	4572	117	1.67	29.3	< 1	18	< 0.001
EPA 07		4/17/1991	no data	5.00	5.37	6918	454	757	252	12.4	15	4676	117	1.3	40.5	< 1	6.15	< 0.001
EPA 07		7/11/1991	no data	5.00	5.80	6957	386	759	230	10.1	39	4506	99.7	1.01	28.1	< 1	0.18	< 0.001
EPA 07		9/4/1991	no data	no data	5.58	7322	439	672	245	22.5	37	4415	107	1.2	17	< 1	1.21	< 0.001
EPA 07		10/17/1991	no data	5.20	5.69	6827	473	712	257	12.6	39.3	4296	111	1.25	25	< 1	1.15	0.001
EPA 07		11/4/1991	no data	no data	5.65	6986	445	610	238	10	38.8	4271	116	1.2	23.6	< 1	1.93	< 0.001
EPA 07		12/2/1991	no data	no data	5.84	6860	439	608	246	10.4	55.6	3834	114	1.31	54.7	< 1	2.29	< 0.001
EPA 07		1/16/1992	no data	5.10	6.31	6893	397	769	235	10	43.8	4409	113	1.5	29.8	< 1	1.91	< 0.001
EPA 07		4/13/1992	no data	5.20	6.25	6768	409	568	263	11.6	68.6	4167	116	1.1	25.1	< 1	0.6	< 0.001
EPA 07		7/15/1992	no data	5.50	6.37	6446	390	628	287	11.4	95	4088	94.4	0.6	30.6	< 1	0.72	< 0.001
EPA 07		10/7/1992	no data	5.60	6.14	6406	449	654	333	15.2	112	4150	90.8	0.85	15.3	< 1	0.8	< 0.001
EPA 07		1/7/1993	no data	5.60	6.79	5654	469	640	281	11.8	134	3675	98.4	0.92	45.6	< 1	0.6	< 0.001
EPA 07		4/7/1993	no data	5.60	6.32	5787	409	639	293	9.2	108	4101	115	0.78	35.9	< 1	1.4	0.001
EPA 07		7/14/1993	no data	5.70	6.08	6729	495	696	270	9.7	144	4208	65.9	0.84	27.8	< 1	0.53	< 0.001
EPA 07		10/7/1993	no data	5.60	6.07	5989	460	678	250	9.6	142	4049	106	0.75	41.4	< 1	0.62	< 0.001
EPA 07		1/6/1994	no data	5.70	6.27	6870	454	646	277	9.2	135	4312	126	0.87	39.6	< 1	0.84	< 0.001
EPA 07		4/12/1994	no data	5.80	6.33	6573	443	669	257	9.5	140	4378	121	1.88	35.7	< 1	0.63	< 0.001
EPA 07		7/26/1994	no data	5.90	6.87	6463	511	689	289	10.1	139	4144	120	0.88	37.4	< 1	0.59	< 0.001
EPA 07		10/4/1994	no data	5.80	7.16	7011	559	822	299	10.3	160	4647	141	2.94	46.2	< 1	0.74	< 0.001
EPA 07		1/11/1995	6,903.70	5.80	6.45	8136	540	900	353	9.4	326	4737	215	1.37	131	1.04	0.5	< 0.001
EPA 07		4/11/1995	6,904.40	5.90	6.35	7549	510	798	370	7.2	397	4566	244	1.27	139	1.08	0.41	< 0.001
EPA 07		7/11/1995	6,903.90	6.00	6.96	7971	475	931	346	6.9	426	4475	235	1.25	145	< 1	< 0.1	< 0.001
EPA 07		10/10/1995	6,904.10	6.00	7.50	7558	507	916	371	7.7	403	4368	200	1.12	137	< 1	0.22	0.002
EPA 07		1/9/1996	6,903.90	6.10	7.36	7349	474	894	352	7.6	438	4400	200	1.03	141	1.05	0.17	0.003
EPA 07		4/10/1996	6,903.80	6.30	7.26	8204	552	1040	349	7.4	428	5070	214	1.07	147	< 1	0.22	< 0.001
EPA 07		7/17/1996	6,903.60	6.20	6.36	8403	483	923	344	7.9	392	4529	222	0.72	156	1.56	0.25	< 0.001
EPA 07		10/8/1996	6,903.40	6.10	6.97	8440	534	1018	346	7.9	400	4920	206	1.2	142	5.02	0.27	< 0.001
EPA 07		1/28/1997	6,903.30	6.20	7.61	8280	485	1041	308	7.6	389	4555	239	1.21	137	1.23	0.27	< 0.001
EPA 07		4/15/1997	6,903.10	6.10	7.26	8440	504	999	338	8.3	386	4820	215	1.27	132	< 1	0.38	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 07		7/26/1989	< 0.05	< 0.01	0.25	< 0.05	24	< 0.1	0.27	< 0.001	< 0.1	0.008	4.8	1.3	6.1	6	< 1	9
EPA 07		10/5/1989	< 0.05	< 0.01	0.26	0.09	25	< 0.01	0.29	0.002	< 0.1	0.012	2	3.3	5.3	0.8	< 1	2.5
EPA 07		1/16/1990	< 0.05	< 0.01	0.34	< 0.05	27	< 0.1	0.35	0.002	< 0.1	0.008	1.5	5.4	6.9	< 0.2	< 1	1.5
EPA 07		4/17/1990	< 0.05	< 0.01	0.36	< 0.05	42	< 0.1	0.44	< 0.001	< 0.1	0.006	2.7	5.8	8.5	< 0.2	< 1	2.8
EPA 07		7/17/1990	< 0.05	< 0.01	0.3	< 0.05	42.3	< 0.1	0.45	< 0.001	< 0.1	0.0155	0.6	5.2	5.8	< 0.2	< 1	< 1
EPA 07		10/9/1990	< 0.05	0.01	0.46	< 0.05	26.9	< 0.1	0.48	< 0.001	< 0.1	0.0052	3.3	4	7.3	< 0.2	< 1	4
EPA 07		1/3/1991	< 0.01	< 0.01	0.25	< 0.05	17.6	< 0.1	0.3	0.001	< 0.1	0.0081	7.7	8.6	16.3	< 0.2	< 1	8
EPA 07		4/17/1991	< 0.01	< 0.01	0.12	< 0.05	13.28	< 0.1	0.18	< 0.001	< 0.1	0.002	2.6	10.4	13	< 0.2	1.7	2
EPA 07		7/11/1991	< 0.01	< 0.01	0.12	< 0.05	12.51	< 0.1	0.16	0.017	< 0.1	0.0038	3.2	8.9	12.1	< 0.2	< 1	3
EPA 07		9/4/1991	< 0.01	< 0.01	0.15	< 0.05	12.1	< 0.1	0.17	< 0.001	< 0.1	0.0015	2	3.7	5.7	< 0.2	< 1	2
EPA 07		10/17/1991	< 0.01	< 0.01	0.15	< 0.05	13.51	< 0.1	0.16	0.001	< 0.1	0.0009	2.1	7.2	9.3	< 0.2	< 1	2
EPA 07		11/4/1991	< 0.01	< 0.01	0.15	< 0.05	15.6	< 0.1	0.21	< 0.001	< 0.1	0.0059	2.1	8.8	10.9	< 0.2	< 1	2
EPA 07		12/2/1991	< 0.01	< 0.01	0.12	< 0.05	13.2	< 0.1	0.19	< 0.001	< 0.1	0.002	3.5	13.1	16.6	< 0.2	< 1	4
EPA 07		1/16/1992	< 0.01	< 0.01	0.13	< 0.05	13.6	< 0.1	0.19	0.018	< 0.1	0.005	2.6	6.6	9.2	< 0.2	< 1	3
EPA 07		4/13/1992	< 0.01	< 0.01	0.13	< 0.05	13.3	< 0.1	0.16	0.014	< 0.1	0.001	2.4	7.4	9.8	< 0.2	< 1	2.4
EPA 07		7/15/1992	< 0.01	< 0.01	0.1	< 0.05	10.5	< 0.1	0.13	< 0.001	< 0.1	0.003	2.6	12.2	14.8	< 0.2	< 1	3
EPA 07		10/7/1992	< 0.01	< 0.01	0.1	< 0.05	11	< 0.1	0.15	< 0.001	< 0.1	< 0.0003	2.2	7.9	10.1	< 0.2	< 1	2.6
EPA 07		1/7/1993	< 0.01	< 0.01	0.12	< 0.05	11.3	< 0.1	0.21	< 0.01	< 0.1	0.007	2	7.2	9.2	< 0.2	< 1	2.1
EPA 07		4/7/1993	< 0.01	< 0.01	0.17	< 0.05	11.6	< 0.1	0.17	< 0.001	< 0.1	< 0.0003	1.3	9	10.3	< 0.2	1.3	1.5
EPA 07		7/14/1993	< 0.01	< 0.01	0.13	< 0.05	10.2	< 0.1	0.19	0.002	< 0.1	< 0.0003	2.1	5.9	8	< 0.2	< 1	2.8
EPA 07		10/7/1993	< 0.01	< 0.01	0.12	< 0.05	7.99	< 0.1	0.21	< 0.001	< 0.1	0.006	1.5	7.7	9.2	< 0.2	1.8	13
EPA 07		1/6/1994	< 0.01	< 0.01	0.13	< 0.05	9.79	< 0.1	0.22	< 0.001	< 0.1	< 0.0003	3.1	< 1	3.1	< 0.2	1.7	4.1
EPA 07		4/12/1994	< 0.01	< 0.01	0.12	< 0.05	9.59	< 0.1	0.21	< 0.001	< 0.1	0.001	2.8	3.5	6.3	< 0.2	< 1	8.2
EPA 07		7/26/1994	< 0.01	< 0.01	0.16	< 0.05	9.72	< 0.1	0.21	0.003	< 0.1	0.002	2.2	1.5	3.7	< 0.2	< 1	4.6
EPA 07		10/4/1994	< 0.01	< 0.01	0.1	< 0.05	8.52	< 0.1	0.15	< 0.001	< 0.1	0.003	3.1	4.5	7.6	< 0.2	< 1	9.8
EPA 07		1/11/1995	< 0.01	< 0.01	0.06	< 0.05	4.44	< 0.1	0.1	< 0.001	< 0.1	0.001	1.6	6.2	7.8	< 0.2	4.8	11.1
EPA 07		4/11/1995	< 0.01	< 0.01	< 0.01	< 0.05	3.81	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.9	4.7	6.6	< 0.2	< 1	9
EPA 07		7/11/1995	< 0.01	< 0.01	< 0.01	< 0.05	4.02	< 0.1	< 0.05	< 0.001	< 0.1	0.002	3	< 1	3	0.5	14.9	16.3
EPA 07		10/10/1995	< 0.01	< 0.01	0.04	< 0.05	4.84	< 0.1	< 0.05	0.04	< 0.1	0.0023	2.3	6.7	9	< 0.2	< 1	5.4
EPA 07		1/9/1996	< 0.01	< 0.01	0.04	< 0.05	5.35	< 0.1	< 0.05	0.067	< 0.1	0.0038	3.4	1.3	4.7	< 0.2	< 1	2.4
EPA 07		4/10/1996	< 0.01	< 0.01	0.06	< 0.05	6.6	< 0.1	< 0.05	< 0.001	< 0.1	0.0024	0.9	2.4	3.3	0.8	< 1	3.1
EPA 07		7/17/1996	< 0.01	< 0.01	0.08	< 0.05	9.71	< 0.1	0.08	< 0.001	< 0.1	0.0032	1.2	< 1	1.2	< 0.2	< 1	4.3
EPA 07		10/8/1996	< 0.01	< 0.01	0.08	< 0.05	10.5	< 0.1	0.09	< 0.001	< 0.1	0.0003	1.3	< 1	1.3	< 0.2	< 1	< 1
EPA 07		1/28/1997	< 0.01	< 0.01	0.07	< 0.05	11.2	< 0.1	0.09	< 0.001	< 0.1	0.0003	2.3	< 1	2.3	< 0.2	7.9	2
EPA 07		4/15/1997	< 0.01	< 0.01	0.09	< 0.05	12.4	< 0.1	0.12	0.06	< 0.1	0.001	1	1.8	2.8	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 07		7/15/1997	6,902.80	5.90	7.15	8390	437	984	318	8.2	372	4780	209	1.28	137	1.2	0.19	< 0.001
EPA 07		10/15/1997	6,902.50	5.90	7.64	8410	528	1000	314	7.5	349	5010	238	1.49	130	< 1	0.25	< 0.001
EPA 07		1/20/1998	6,903.90	5.90	7.48	8340	534	947	335	9.6	340	5100	217	1.89	139	1.1	0.8	< 0.001
EPA 07		4/14/1998	6,902.60	6.00	6.75	8310	514	969	337	8	333	4870	184	1.32	138	1.2	0.48	< 0.001
EPA 07		7/14/1998	6,902.20	6.10	7.30	8460	486	942	322	8.3	342	4300	186	1.37	133	1.2	0.18	< 0.001
EPA 07		10/13/1998	no data	6.10	8.09	8150	481	951	327	8.4	325	4730	183	1.58	139	1.3	0.24	< 0.001
EPA 07		1/12/1999	6,903.00	6.00	7.70	8180	424	900	294	8.6	345	4750	189	1.31	137	< 1	0.13	< 0.001
EPA 07		4/13/1999	6,903.00	6.00	7.26	8020	468	926	308	7.9	355	4320	186	1.31	140	< 1	0.29	< 0.001
EPA 07		7/20/1999	6,903.06	6.06	7.20	8120	491	880	307	9.5	361	4500	166	1.11	130	< 1	< 0.1	< 0.001
EPA 07		10/12/1999	6,903.20	6.01	7.50	7940	476	903	300	8.4	366	4370	187	1.15	134	1.4	0.18	< 0.001
EPA 07		1/11/2000	6,902.80	6.10	7.73	7890	439	846	284	8.9	367	4000	171	0.9	122	1.3	0.29	< 0.001
EPA 07		5/3/2000	6,902.50	5.90	7.28	7750	430	827	306	10.6	362	3870	168	0.99	138	1.2	2.9	< 0.001
EPA 07		7/11/2000	6,902.20	5.80	7.28	7630	488	897	321	7.54	399	4160	167	0.75	150	1.9	3.57	< 0.001
EPA 07		10/3/2000	6,902.30	5.88	6.66	7540	474	889	309	8.7	444	3970	169	0.55	135	1.1	4.37	< 0.001
EPA 07		1/9/2001	6,902.40	6.06	6.83	7580	468	845	277	7.7	453	4040	180	0.72	124	< 1	4.61	< 0.001
EPA 07		4/3/2001	6,902.05	6.10	7.14	7590	551	964	294	7.1	456	4410	177	0.71	133	2.3	2.81	< 0.001
EPA 07		7/17/2001	6,901.70	6.33	6.68	7670	451	838	284	8.3	498	3660	233	0.64	130	1.8	2.6	< 0.001
EPA 07		10/9/2001	6,901.75	5.90	6.60	7670	450	820	285	8.7	515	3800	216	0.56	132	< 1	1.77	< 0.001
EPA 07		1/14/2002	6,901.75	6.09	6.60	7670	541	923	275	9.3	526	4050	217	0.49	121	1.7	2.3	< 0.001
EPA 07		4/9/2002	6,901.36	6.01	6.85	7720	465	821	304	7.8	537	3950	192	0.6	124	< 1	1.5	< 0.001
EPA 07		7/16/2002	6,901.25	6.22	7.17	7720	465	841	303	9.6	542	3950	208	0.7	131	< 1	1.3	< 0.001
EPA 07		10/15/2002	6,901.17	6.67	7.13	6430	531	932	316	7.9	544	4420	180	0.64	141	< 1	1.7	< 0.001
EPA 07		1/14/2003	6,901.09	7.23	7.03	7630	435	792	404	12.3	545	3620	170	0.99	128	< 1	1.6	< 0.001
EPA 07		4/14/2003	6,900.86	6.19	6.76	7520	476	892	325	12.5	542	4110	196	0.68	132	< 1	1.7	< 0.001
EPA 07		7/9/2003	6,900.68	6.61	7.09	6030	491	863	294	9.2	547	4150	178	0.74	125	1.3	0.9	< 0.001
EPA 07		10/14/2003	6,900.61	5.87	6.90	7660	548	933	314	7.8	551	4270	196	0.52	131	1.3	0.8	< 0.001
EPA 07		1/12/2004	6,900.43	6.01	7.37	7710	535	952	325	8.8	532	4370	202	0.57	129 D	< 1.0	0.9	< 0.001
EPA 07		4/13/2004	6,900.39	5.76	6.21	7670	486	862	312	8.6	550	4270	223	0.64	126 D	< 1	0.8	< 0.001
EPA 07		7/20/2004	6,900.08	6.01	6.18	7880	526 D	880 D	338	7.5	539	4140 D	190	0.57	122 D	< 1.0	0.6	< 0.001
EPA 07		10/12/2004	6,900.09	6.03	6.56	8030	486 D	890 D	301	7.6	529	4020 D	195	0.48	139 D	< 1.0	0.6	< 0.001
EPA 07		1/11/2005	6,900.32	5.99	6.57	7800	527 D	920 D	324	8	545	4260 D	197	0.32	110 D	< 1.0	0.5	< 0.001
EPA 07		4/12/2005	6,899.87	6.02	6.46	7650	520	906	344	7.8	530	4320	206	0.36	119	< 1.0	0.4	< 0.001
EPA 07		7/19/2005	6,899.62	5.68	6.76	7920	497 D	884 D	332	7.4	542	3960 D	184	0.41	122 D	< 1.0	0.3	< 0.001
EPA 07		10/11/2005	6,899.66	6.03	6.78	7790	494 D	896 D	333	8	564	4100 D	203	0.54	125 D	< 1.0	0.3	< 0.001
EPA 07		1/17/2006	6,899.29	6.15	6.98	7580	497 D	916 D	311	7.9	561	4080 D	196	0.44	141 D	< 1.0	0.3	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 07		7/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	12.5	< 0.1	0.11	< 0.001	< 0.1	0.001	1.1	3.4	4.5	< 0.2	< 1	< 1
EPA 07		10/15/1997	< 0.01	< 0.01	0.13	< 0.05	15.2	< 0.1	0.13	< 0.001	< 0.1	0.002	< 0.2	< 1	0	< 0.2	< 1	< 1
EPA 07		1/20/1998	< 0.01	< 0.005	0.14	< 0.05	17.6	< 0.1	0.16	< 0.001	< 0.1	0.0021	1	< 1	1	< 0.2	< 1	< 1
EPA 07		4/14/1998	< 0.01	< 0.005	0.1	< 0.05	12.5	< 0.1	0.1	< 0.001	< 0.1	0.002	1.5	< 1	1.5	< 0.2	< 1	< 1
EPA 07		7/14/1998	< 0.01	< 0.005	0.1	< 0.05	15.1	< 0.1	0.12	< 0.001	< 0.1	0.0023	1.1	2.1	3.2	< 0.2	< 1	< 1
EPA 07		10/13/1998	< 0.01	< 0.005	0.1	< 0.05	13.4	< 0.1	0.14	< 0.001	< 0.1	0.0019	1.7	1.8	3.5	< 0.2	4.9	4.9
EPA 07		1/12/1999	< 0.01	0.007	0.09	< 0.05	12.6	< 0.1	0.08	< 0.001	< 0.1	0.011	3.2	3.7	6.9	< 0.2	< 1	< 1
EPA 07		4/13/1999	< 0.01	< 0.005	0.09	< 0.05	12.5	< 0.1	0.11	< 0.001	< 0.1	0.0017	1.2	2.1	3.3	< 0.2	3.8	3.8
EPA 07		7/20/1999	< 0.01	< 0.005	0.1	< 0.05	9.3	< 0.1	< 0.05	< 0.001	< 0.1	0.0019	3	< 1	3	< 0.2	5.2	5.2
EPA 07		10/12/1999	< 0.01	< 0.005	0.07	< 0.05	11.8	< 0.1	0.08	< 0.001	< 0.1	0.0009	< 0.2	3.3	3.3	< 0.2	< 1	1.1
EPA 07		1/11/2000	< 0.01	< 0.005	0.08	< 0.05	9.94	< 0.1	0.13	< 0.001	< 0.1	0.0021	1.2	< 1	1.2	< 0.2	< 1	2.3
EPA 07		5/3/2000	< 0.01	< 0.005	0.08	< 0.05	11.4	< 0.1	0.1	< 0.001	< 0.1	0.0032	1.5	1.6	3.1	< 0.2	< 1	2.6
EPA 07		7/11/2000	< 0.01	< 0.005	0.07	< 0.05	9.69	< 0.1	< 0.05	< 0.001	< 0.1	0.0026	1.4	3.4	4.8	< 0.2	< 1	2.8
EPA 07		10/3/2000	< 0.01	< 0.005	0.06	< 0.05	8.27	< 0.1	< 0.05	< 0.001	< 0.1	0.0024	0.8	1.8	2.6	< 0.2	< 1	1.9
EPA 07		1/9/2001	< 0.01	< 0.005	0.06	< 0.05	7.44	< 0.1	0.09	< 0.001	< 0.1	0.0021	0.9	2.9	3.8	< 0.2	< 1	< 1
EPA 07		4/3/2001	< 0.01	< 0.005	0.06	< 0.05	6.63	< 0.1	0.09	< 0.001	< 0.1	0.002	1.1	< 1	1.1	< 0.2	< 1	1.7
EPA 07		7/17/2001	< 0.01	< 0.005	0.05	< 0.05	6.92	< 0.1	0.07	< 0.001	< 0.1	0.002	1.4	< 1	1.4	< 0.2	< 1	< 1
EPA 07		10/9/2001	< 0.01	< 0.005	0.03	< 0.05	5.43	< 0.1	< 0.05	< 0.001	< 0.1	0.0015	1	< 1	1	< 0.2	< 1	< 1
EPA 07		1/14/2002	< 0.01	< 0.005	0.05	< 0.05	6.51	< 0.1	0.08	< 0.001	< 0.1	0.0022	1.1	4.4	5.5	< 0.2	< 1	1.3
EPA 07		4/9/2002	< 0.01	< 0.005	0.05	< 0.05	6.09	< 0.1	0.08	< 0.001	< 0.1	0.002	0.5	< 1	0.5	< 0.2	< 1	1.7
EPA 07		7/16/2002	< 0.01	< 0.005	0.04	< 0.05	5.32	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1	< 1	1	< 0.2	< 1	2.7
EPA 07		10/15/2002	< 0.01	< 0.005	0.04	< 0.05	5.66	< 0.1	0.07	< 0.001	< 0.1	0.0024	0.9	< 1	0.9	< 0.2	< 1	1.3
EPA 07		1/14/2003	< 0.01	< 0.005	0.04	< 0.05	4.94	< 0.1	0.06	< 0.001	< 0.1	0.0025	0.8	< 1	0.8	< 0.2	< 1	2.5
EPA 07		4/14/2003	< 0.01	< 0.005	0.04	< 0.05	4.94	< 0.1	< 0.05	< 0.001	< 0.1	0.0022	1.3	< 1	1.3	< 0.2	< 1	2.8
EPA 07		7/9/2003	< 0.01	< 0.005	0.04	< 0.05	4.64	< 0.1	< 0.05	< 0.001	< 0.1	0.0013	0.9	< 1	0.9	< 0.2	< 1	< 1.0
EPA 07		10/14/2003	< 0.01	< 0.005	0.03	< 0.05	4.62	< 0.1	< 0.05	< 0.001	< 0.1	0.0023	< 0.2	< 1	0	< 0.2	< 1	< 1.0
EPA 07		1/12/2004	< 0.01	< 0.005	0.03	< 0.05	4.57	< 0.1	< 0.05	< 0.001	< 0.1	0.0022 D	0.4	< 1.0	0.4	< 0.2	< 1.0	< 1.0
EPA 07		4/13/2004	< 0.01	< 0.005	0.03	< 0.05	3.94	< 0.1	< 0.05	< 0.001	< 0.1	0.0021 D	0.4	4.8	5.2	< 0.2	< 1	1.8
EPA 07		7/20/2004	< 0.01	< 0.005	0.03	< 0.05	3.74	< 0.1	< 0.05	0.004	< 0.1	0.0018 D	0.9	3.5	4.4	< 0.2	< 1.0	1.5
EPA 07		10/12/2004	< 0.01	< 0.005	0.03	< 0.05	3.43	< 0.1	< 0.05	0.002	< 0.1	0.0022 D	0.8	1.7	2.5	< 0.2	< 1.0	1.5
EPA 07		1/11/2005	< 0.01	< 0.005	0.03	< 0.05	3.44	< 0.1	0.05	0.001	< 0.1	0.0021 D	0.7	< 1.0	0.7	< 0.2	< 1.0	1.7
EPA 07		4/12/2005	< 0.01	< 0.005	0.03	< 0.05	3.17	< 0.1	< 0.05	< 0.001	< 0.1	0.0023	0.5	< 1.0	0.5	< 0.2	< 1.0	1.8
EPA 07		7/19/2005	< 0.01	< 0.005	0.02	< 0.05	2.71	< 0.1	< 0.05	< 0.001	< 0.1	0.0022	0.7	1.8	2.5	< 0.2	< 1.0	2.5
EPA 07		10/11/2005	< 0.01	< 0.005	0.02	< 0.05	2.8	< 0.1	< 0.05	< 0.001	< 0.1	0.0018 D	1.1	1.4	2.5	< 0.2	< 1.0	2.8
EPA 07		1/17/2006	< 0.01	< 0.005	0.02	< 0.05	2.59	< 0.1	< 0.05	< 0.001	< 0.1	0.0023	0.8	< 1.0	0.8	< 0.2	< 1.0	< 1.0

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
EPA 07		4/11/2006	6,899.29	6.03	6.75	7730	508 D	881 D	332	7.7	580	4150 D	212	0.3	138 D	< 1.0	0.2	< 0.001
EPA 07		7/25/2006	6,899.12	5.96	6.62	7480	513 D	914 D	361	8.5	564	4340 D	213	0.37	138 D	< 1.0	0.3	< 0.001
EPA 07		10/10/2006	6,899.06	6.05	6.44	7550	505 D	917 D	345	8.4	588	4090 D	188	0.39	134 D	< 0.5	0.2	< 0.001
EPA 07		1/23/2007	6,898.84	6.13	6.46	7460	490 D	916 D	344	9.2	561	4180 D	200	0.25	138 D	<0.5	0.3	<0.001
EPA 07		4/16/2007	6,898.96	6.03	6.60	7860	502 D	961 D	317	9.2	583	4580 D	212	0.22	125 D	<0.5	<0.1	<0.001
EPA 07		7/16/2007	6,898.16	5.94	6.42	7680	511 D	938 D	336	7.8	590	4360 D	195	0.37	146 D	<0.5	0.2	0.003
EPA 07		10/8/2007	6,898.26	6.19	6.70	7820	489 D	898 D	334	7.8	598	4130 D	200	0.15	127 D	<0.5	0.5	<0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 07		4/11/2006	< 0.01	< 0.005	0.02	< 0.05	2.21	< 0.1	< 0.05	0.009	< 0.1	0.0029	0.5	3.7	4.2	< 0.2	< 1.0	< 1.0
EPA 07		7/25/2006	< 0.01	< 0.005	0.02	< 0.05	2.96	< 0.1	< 0.05	< 0.001	< 0.1	0.0014	1	3.7	4.7	< 0.2	< 1.0	< 1.0
EPA 07		10/10/2006	< 0.01	< 0.005	0.02	< 0.05	2.4	< 0.1	< 0.05	< 0.001	< 0.1	0.0016 D	1.2	1.4	2.6	< 0.2	< 1	1.7
EPA 07		1/23/2007	<0.01	<0.005	0.02	<0.05	2.53	<0.1	<0.05	<0.001	<0.1	0.0015 D	0.6	<1	0.6	<0.2	<1	2.1
EPA 07		4/16/2007	<0.01	<0.005	0.02	<0.05	2.53	<0.1	<0.05	<0.001	<0.1	0.0022 D	<0.2	<1	0	<0.2	<1	<1
EPA 07		7/16/2007	<0.01	<0.005	0.02	<0.05	1.84	<0.1	<0.05	<0.001	<0.1	0.0019	<0.2	1.9	1.9	<0.2	<1	<1
EPA 07		10/8/2007	<0.01	<0.005	0.02	<0.05	1.96	<0.1	<0.05	<0.001	<0.1	0.0019	<0.2	<1	0	<0.2	<1	1.6

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Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	NA	0.05
		EPA Standard	NA	NA	NA	4800	NA	NA	NA	NA	NA	2125	250	NA	190	NA	5	0.05
EPA 08		7/26/1989	6,857.40	6.80	5.89	4304	521	366	222	8.1	163	3007	35.9	0.88	0.06	< 1	< 0.1	< 0.001
EPA 08		10/5/1989	6,858.00	6.50	6.96	4454	513	379	206	9.9	169	2863	35.4	0.84	0.09	< 1	0.13	< 0.001
EPA 08		1/16/1990	6,858.50	6.50	6.40	4478	486	348	209	8.15	165	2860	33.2	0.91	0.11	< 1	< 0.1	0.001
EPA 08		4/17/1990	6,858.70	6.40	6.61	4577	496	344	210	7.9	165	2738	36.3	0.93	0.16	< 1	< 0.1	0.001
EPA 08		7/17/1990	6,858.70	6.50	6.46	4699	613	431	183	8.5	159	2893	35.7	0.54	0.06	< 1	0.14	0.002
EPA 08		10/16/1990	6,859.20	6.50	6.73	4681	509	383	189	8	148	3053	43.4	0.71	0.03	< 1	< 0.1	0.002
EPA 08		1/8/1991	6,859.40	6.50	6.50	4648	530	387	194	19	159	2959	39.4	0.86	0.04	< 1	< 0.1	< 0.001
EPA 08		4/17/1991	6,860.00	6.40	7.18	4833	543	379	198	8.1	140	3164	45.4	0.82	3.3	< 1	0.16	< 0.001
EPA 08		7/3/1991	6,859.90	6.30	6.40	4711	514	373	161	7.1	141	3242	22.1	0.86	0.06	< 1	0.6	0.002
EPA 08		10/22/1991	6,860.50	6.30	6.29	4612	497	366	182	7.6	166	2998	39.6	1.01	0.23	< 1	0.24	< 0.001
EPA 08		1/22/1992	6,860.80	6.40	6.51	4311	525	376	155	7.3	128	3014	73.4	0.88	< 0.01	< 1	< 0.1	< 0.001
EPA 08		4/2/1992	6,860.80	6.30	7.65	4704	559	394	203	8.8	165	3034	36.4	0.98	< 0.01	< 1	< 0.1	0.001
EPA 08		7/15/1992	6,860.10	6.40	6.64	4809	521	388	176	7.7	126	3120	39.6	0.58	< 0.1	< 1	< 0.1	0.002
EPA 08		10/14/1992	6,860.30	6.60	6.47	4762	536	384	159	9.4	132	3158	39.3	0.66	< 0.1	< 1	0.21	0.001
EPA 08		1/13/1993	6,860.10	6.60	6.63	4739	528	637	157	7.8	147	3159	37.7	1.08	< 0.1	< 1	0.2	< 0.001
EPA 08		4/15/1993	6,861.00	6.60	6.53	4910	479	359	183	6.6	125	3019	40.8	0.8	< 0.1	< 1	< 0.1	0.001
EPA 08		7/20/1993	6,862.80	6.60	7.10	4144	562	352	159	7.9	134	2956	39.6	0.69	< 0.1	< 1	< 0.1	0.002
EPA 08		10/12/1993	6,859.40	6.70	6.19	4366	561	370	169	7.1	117	3110	36.9	0.71	< 0.1	< 1	0.16	< 0.001
EPA 08		1/11/1994	6,861.30	6.70	6.46	4765	528	366	177	6.7	111	3197	39.4	0.74	< 0.1	< 1	< 0.1	< 0.001
EPA 08		4/20/1994	6,861.40	6.50	6.22	4532	530	368	162	6.4	116	3154	39.6	1.33	< 0.1	< 1	0.1	0.001
EPA 08		7/26/1994	6,862.60	6.50	7.13	4389	592	379	142	7.5	109	3049	38.7	0.72	< 0.1	< 1	0.12	< 0.001
EPA 08		10/11/1994	6,861.50	6.50	6.90	4809	572	425	157	7.5	119	3367	41.5	1.08	< 0.1	< 1	< 0.1	< 0.001
EPA 08		1/10/1995	6,861.70	6.40	6.62	4848	644	388	142	8.5	139	3277	42	1.31	< 0.1	< 1	< 0.1	< 0.001
EPA 08		4/6/1995	6,861.60	6.50	6.48	4867	651	345	154	7.5	108	3364	40.2	1.52	< 0.1	< 1	< 0.1	< 0.001
EPA 08		7/11/1995	6,861.80	6.90	7.05	4212	550	408	144	7.3	127	2906	42	1.29	< 0.1	< 1	< 0.1	< 0.001
EPA 08		10/10/1995	6,861.90	6.60	7.13	4348	575	411	160	7.3	127	2965	38.4	0.93	< 0.1	< 1	< 0.1	0.002
EPA 08		1/9/1996	6,862.00	6.70	7.29	4185	545	401	156	7.9	162	2863	37.6	0.68	< 0.1	< 1	< 0.1	< 0.001
EPA 08		4/10/1996	6,862.20	6.90	7.24	4857	620	444	148	7.6	149	3460	41.8	0.75	< 0.1	< 1	< 0.1	0.001
EPA 08		7/17/1996	6,862.30	6.80	6.63	4876	560	395	159	8	165	3085	37.6	0.13	< 0.1	< 1	< 0.1	< 0.001
EPA 08		10/8/1996	6,862.30	6.60	6.98	4880	603	441	157	8	148	3061	39	0.73	< 0.1	< 1	< 0.1	< 0.001
EPA 08		1/28/1997	6,862.30	6.90	7.31	4870	565	415	141	7.6	143	3130	51	0.69	< 0.1	< 1	< 0.1	< 0.001
EPA 08		4/15/1997	6,862.40	6.60	7.10	4890	604	440	160	8.2	156	3330	42	0.73	< 0.1	< 1	< 0.1	< 0.001
EPA 08		7/15/1997	6,862.20	6.60	7.11	4860	603	432	145	7.8	138	3200	45.2	0.73	< 0.1	< 1	< 0.1	< 0.001
EPA 08		10/15/1997	6,862.40	6.50	7.49	4850	617	444	147	7.6	133	3190	53.7	0.75	< 0.1	< 1	< 0.1	< 0.001
EPA 08		1/20/1998	6,863.00	6.60	7.53	4840	598	439	156	8.4	133	3400	45.3	1.12	< 0.1	< 1	< 0.1	< 0.001

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Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 08		7/26/1989	< 0.05	< 0.01	< 0.01	< 0.05	3	< 0.1	< 0.05	< 0.001	< 0.1	0.0012	1.5	1.6	3.1	0.9	1.7	< 1
EPA 08		10/5/1989	< 0.05	< 0.01	< 0.01	< 0.05	2.9	< 0.01	< 0.05	< 0.001	< 0.1	0.004	1	< 1	1	< 0.2	2.1	1.5
EPA 08		1/16/1990	< 0.05	< 0.01	< 0.01	< 0.05	3.3	< 0.1	< 0.05	< 0.001	< 0.1	0.003	0.8	2.5	3.3	< 0.2	< 1	0.9
EPA 08		4/17/1990	< 0.05	< 0.01	< 0.01	< 0.05	3	< 0.1	< 0.05	< 0.001	< 0.1	0.003	1.4	1	2.4	< 0.2	1.7	1.9
EPA 08		7/17/1990	< 0.05	< 0.01	< 0.01	< 0.05	3.41	< 0.1	< 0.05	< 0.001	< 0.1	0.0019	0.6	< 1	0.6	< 0.2	< 1	< 1
EPA 08		10/16/1990	< 0.05	< 0.01	< 0.01	< 0.05	3.4	< 0.1	< 0.05	< 0.001	< 0.1	0.0007	0.7	2.5	3.2	< 0.2	< 1	< 1
EPA 08		1/8/1991	< 0.01	< 0.01	< 0.01	< 0.05	3.32	< 0.1	< 0.05	< 0.001	< 0.1	0.0027	2.3	1.2	3.5	< 0.2	< 1	2
EPA 08		4/17/1991	< 0.01	< 0.01	< 0.01	< 0.05	3.82	< 0.1	< 0.05	< 0.001	< 0.1	0.002	2.1	4.5	6.6	< 0.2	< 1	2
EPA 08		7/3/1991	< 0.01	< 0.01	< 0.01	< 0.05	2.93	< 0.1	< 0.05	< 0.001	< 0.1	0.0015	0.9	2	2.9	< 0.2	< 1	< 1
EPA 08		10/22/1991	< 0.01	< 0.01	0.02	< 0.05	3.22	< 0.1	< 0.05	< 0.001	< 0.1	0.0436	0.8	2	2.8	< 0.2	< 1	< 1
EPA 08		1/22/1992	< 0.01	< 0.01	< 0.01	0.05	2.88	< 0.1	< 0.05	< 0.001	< 0.1	0.001	5.4	< 1	5.4	< 0.2	1.3	5
EPA 08		4/2/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.43	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.5	3.8	4.3	< 0.2	< 1	< 1
EPA 08		7/15/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.17	< 0.1	< 0.05	< 0.001	< 0.1	0.003	1.2	5.6	6.8	< 0.2	< 1	1.5
EPA 08		10/14/1992	< 0.01	< 0.01	< 0.01	< 0.05	3.09	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.7	1.7	3.4	< 0.2	< 1	1.9
EPA 08		1/13/1993	< 0.01	< 0.01	< 0.01	< 0.05	3.46	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.4	10.7	11.1	< 0.2	< 1	< 1
EPA 08		4/15/1993	< 0.01	< 0.01	< 0.01	< 0.05	3.05	< 0.1	< 0.05	< 0.001	< 0.1	0.006	0.5	3.8	4.3	< 0.2	< 1	< 1
EPA 08		7/20/1993	< 0.01	< 0.01	< 0.01	< 0.05	2.78	< 0.1	< 0.05	< 0.001	< 0.1	< 0.003	1	3.4	4.4	< 0.2	< 1	1.4
EPA 08		10/12/1993	< 0.01	< 0.01	0.02	< 0.05	2.8	< 0.1	< 0.05	< 0.001	< 0.1	0.002	1.5	5.5	7	< 0.2	< 1	2
EPA 08		1/11/1994	< 0.01	< 0.01	< 0.01	< 0.05	3.07	< 0.1	< 0.05	< 0.001	< 0.1	0.006	1.1	5	6.1	< 0.2	< 1	9.6
EPA 08		4/20/1994	< 0.01	< 0.01	< 0.01	< 0.05	2.49	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.3	3.5	4.8	< 0.2	1.3	6.7
EPA 08		7/26/1994	< 0.01	< 0.01	< 0.01	< 0.05	3.12	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.9	3.4	5.3	< 0.2	< 1	7.2
EPA 08		10/11/1994	< 0.01	< 0.01	< 0.01	< 0.05	2.46	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.2	1.8	3	< 0.2	< 1	4.1
EPA 08		1/10/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.95	< 0.1	< 0.05	< 0.001	< 0.1	0.001	2.3	2.6	4.9	< 0.2	< 1	6.4
EPA 08		4/6/1995	< 0.01	< 0.01	< 0.01	< 0.05	3.15	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.1	2.7	3.8	< 0.2	< 1	5.3
EPA 08		7/11/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.92	0.27	< 0.05	< 0.001	< 0.1	0.0016	0.7	2.2	2.9	0.5	4.9	6.6
EPA 08		10/10/1995	< 0.01	< 0.01	< 0.01	< 0.05	2.99	< 0.1	< 0.05	< 0.001	< 0.1	0.0017	1.7	2.2	3.9	< 0.2	< 1	1.8
EPA 08		1/9/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.8	0.13	< 0.05	< 0.001	< 0.1	0.001	1	1.5	2.5	< 0.2	3.8	< 1
EPA 08		4/10/1996	< 0.01	< 0.01	< 0.01	< 0.05	2.96	0.14	< 0.05	< 0.001	< 0.1	0.0006	1.2	1.3	2.5	0.7	< 1	1.2
EPA 08		7/17/1996	< 0.01	< 0.01	< 0.01	< 0.05	3.21	< 0.1	< 0.05	0.002	< 0.1	0.0016	0.7	< 1	0.7	0.8	< 1	< 1
EPA 08		10/8/1996	< 0.01	< 0.01	< 0.01	< 0.05	3	< 0.1	< 0.05	< 0.001	< 0.1	0.0005	0.9	< 1	0.9	< 0.2	< 1	< 1
EPA 08		1/28/1997	< 0.01	< 0.01	< 0.01	< 0.05	3.07	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.1	< 1	1.1	< 0.2	< 1	1.1
EPA 08		4/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	3.01	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	1.1	< 1	1.1	< 0.2	< 1	< 1
EPA 08		7/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	2.82	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.7	< 1	0.7	< 0.2	< 1	< 1
EPA 08		10/15/1997	< 0.01	< 0.01	< 0.01	< 0.05	3.24	< 0.1	< 0.05	< 0.001	< 0.1	0.001	0.7	< 1	0.7	< 0.2	< 1	< 1
EPA 08		1/20/1998	< 0.01	< 0.005	< 0.01	< 0.05	3.42	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.1	< 1	1.1	< 0.2	< 1	< 1

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

Location ID	Desc	Sample Date	Water Elevation	Field pH	Lab pH	Lab TDS	Ca	Mg	Na	K	HCO3	SO4	Chl	NH4 as N	NO3 as N	TTHMs (Chloroform)	Al	As
			ft amsl	SU	SU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
		NRC Standard	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**80**	**NA**	**0.05**
		EPA Standard	**NA**	**NA**	**NA**	**4800**	**NA**	**NA**	**NA**	**NA**	**NA**	**2125**	**250**	**NA**	**190**	**NA**	**5**	**0.05**
EPA 08		4/14/1998	6,862.70	6.70	6.93	4850	592	431	151	7.8	159	3300	39.6	0.74	< 0.1	< 1	< 0.1	< 0.001
EPA 08		7/14/1998	6,862.40	6.60	7.17	4820	594	430	154	8.3	132	3000	39.7	0.85	< 0.1	< 1	< 0.1	< 0.001
EPA 08		10/13/1998	no data	6.47	7.58	4780	566	428	156	8.3	134	3150	38.5	1.07	< 0.1	< 1	< 0.1	< 0.001
EPA 08		1/12/1999	6,865.50	6.60	7.20	4840	594	432	139	8	130	3200	41	0.81	< 0.1	< 1	< 0.1	0.003
EPA 08		4/13/1999	6,863.30	6.60	7.35	4630	558	420	136	7.7	131	3000	45.7	0.91	< 0.1	< 1	< 0.1	< 0.001
EPA 08		7/20/1999	6,863.00	6.36	7.18	4780	514	379	169	10.3	119	2710	47	0.76	< 0.1	< 1	< 0.1	< 0.001
EPA 08		10/12/1999	6,862.90	6.45	7.44	4790	552	414	133	7.7	121	3000	42.9	0.71	< 0.1	< 1	< 0.1	< 0.001
EPA 08		1/11/2000	6,863.20	6.60	7.29	4720	510	387	127	8.1	125	2750	39.3	0.79	< 0.1	< 1	< 0.1	< 0.001

Appendix A

Zone 1 Data Summary, 1989-2007

United Nuclear Corporation, Church Rock Site, Church Rock, New Mexico

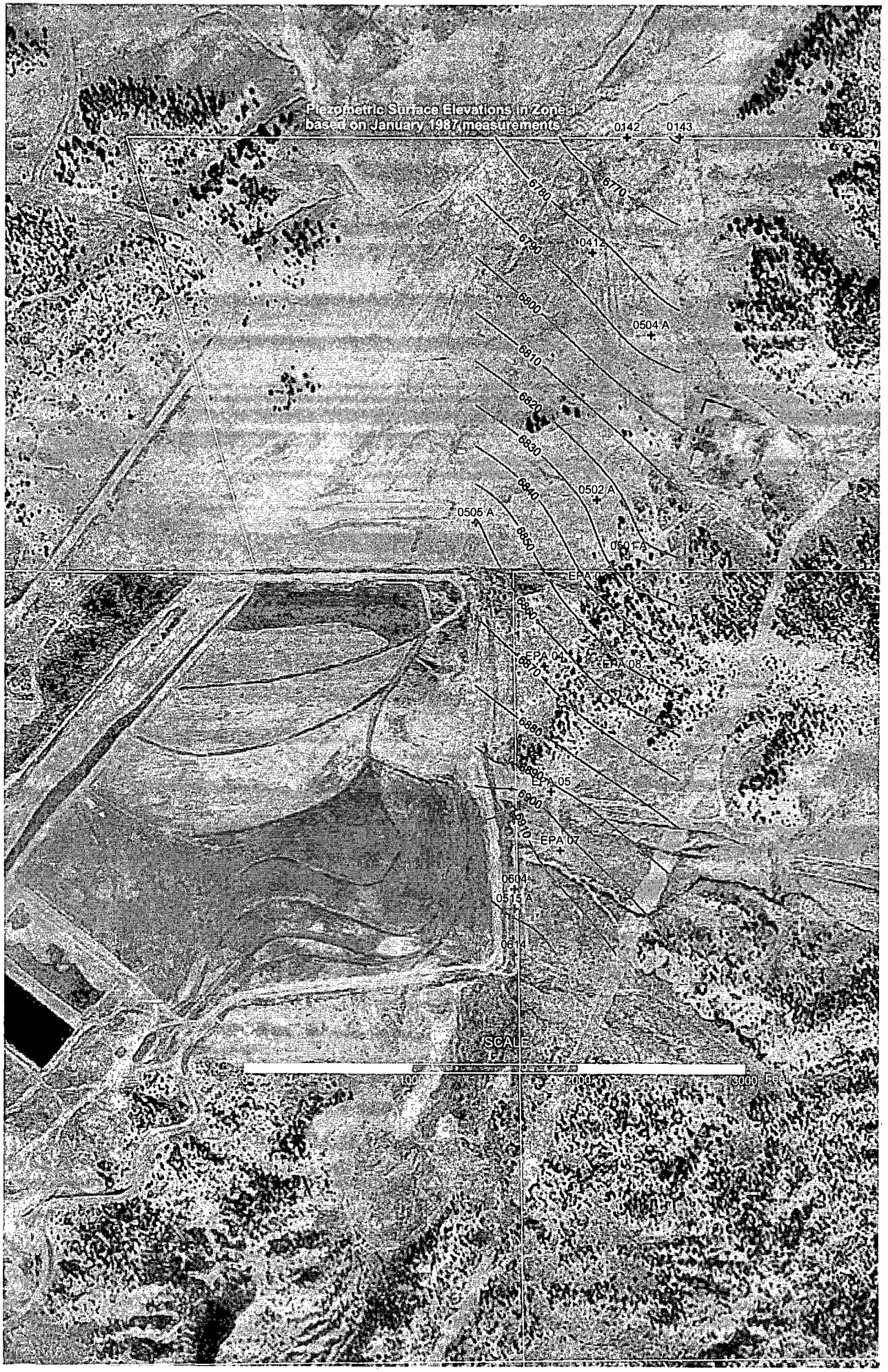
Location ID	Desc	Sample Date	Be	Cd	Co	Pb	Mn	Mo	Ni	Se	V	U	Rad-226	Rad-228	Rad Total	Th-230	Pb-210	Gross Alpha
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pci/l	pci/l	pci/l	pci/l	pci/l	pci/l
		NRC Standard	**0.05**	**0.01**	**NA**	**0.05**	**NA**	**NA**	**0.05**	**0.01**	**0.1**	**0.3**	**NA**	**NA**	**9.4**	**5**	**1**	**15**
		EPA Standard	**0.017**	**0.01**	**0.05**	**0.05**	**2.6**	**1**	**0.2**	**0.01**	**0.7**	**5**	**NA**	**NA**	**5**	**NA**	**NA**	**15**
EPA 08		4/14/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.99	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	1	< 1	1	< 0.2	< 1	< 1
EPA 08		7/14/1998	< 0.01	< 0.005	< 0.01	< 0.05	2.84	< 0.1	< 0.05	< 0.001	< 0.1	0.0009	0.9	< 1	0.9	< 0.2	< 1	< 1
EPA 08		10/13/1998	< 0.01	< 0.005	< 0.01	< 0.05	3.05	< 0.1	< 0.05	< 0.001	< 0.1	0.001	1.4	3.8	5.2	< 0.2	2.3	2.3
EPA 08		1/12/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.98	< 0.1	< 0.05	< 0.001	< 0.1	0.0038	1	2.3	3.3	< 0.2	< 1	< 1
EPA 08		4/13/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.98	< 0.1	< 0.05	< 0.001	< 0.1	0.0011	2	3.4	5.4	< 0.2	3	3
EPA 08		7/20/1999	< 0.01	< 0.005	< 0.01	< 0.05	2.4	< 0.1	< 0.05	< 0.001	< 0.1	0.0016	1.4	1.5	2.9	< 0.2	1.8	1.8
EPA 08		10/12/1999	< 0.01	< 0.005	< 0.01	< 0.05	3.08	< 0.1	< 0.05	< 0.001	< 0.1	< 0.0003	0.9	4.2	5.1	< 0.2	< 1	1.6
EPA 08		1/11/2000	< 0.01	< 0.005	< 0.01	< 0.05	2.99	< 0.1	< 0.05	< 0.001	< 0.1	0.0016	0.9	2.6	3.5	< 0.2	< 1	< 1

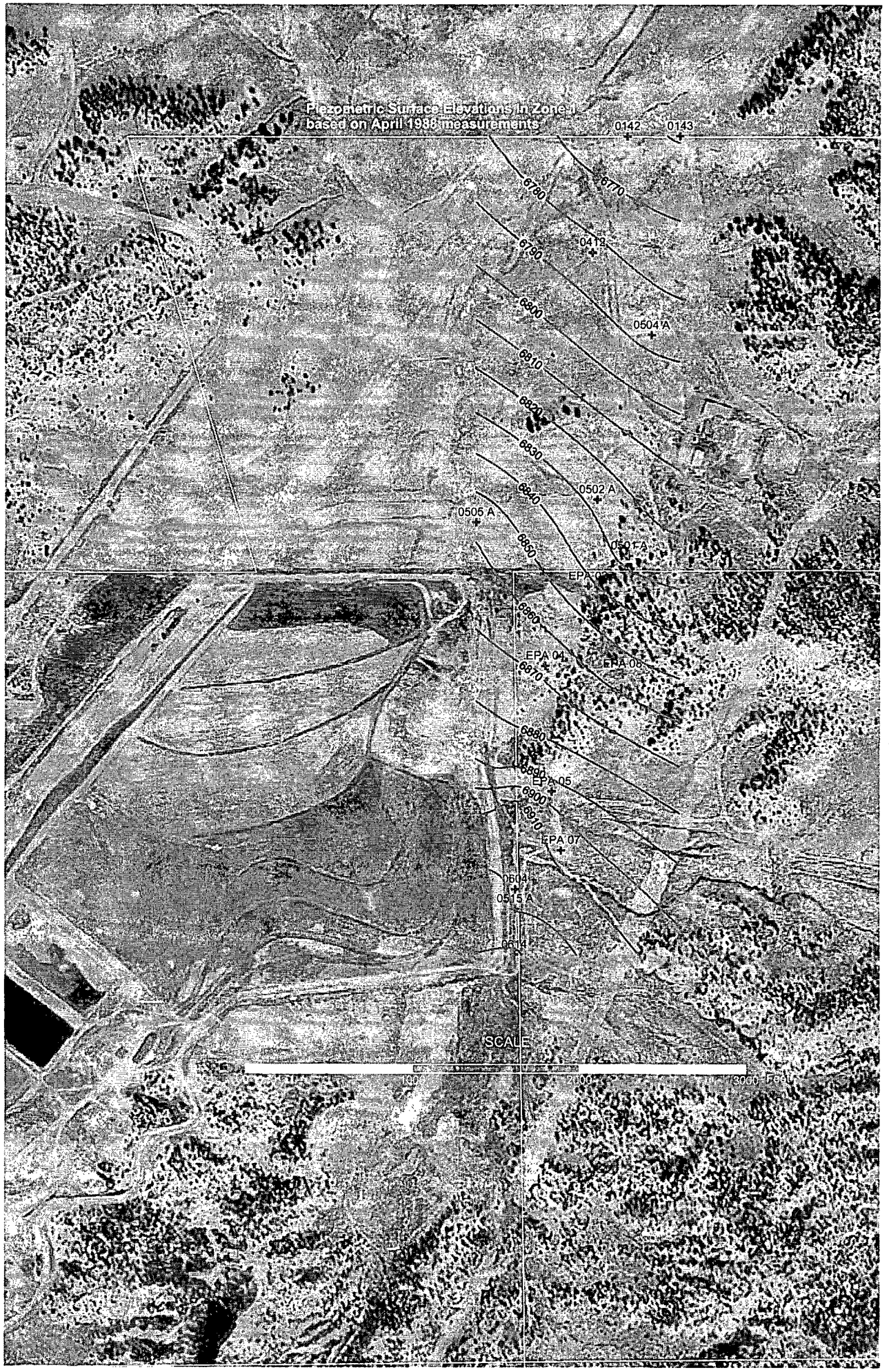
Appendix B
Potentiometric Surface Maps From 1983 to 2007

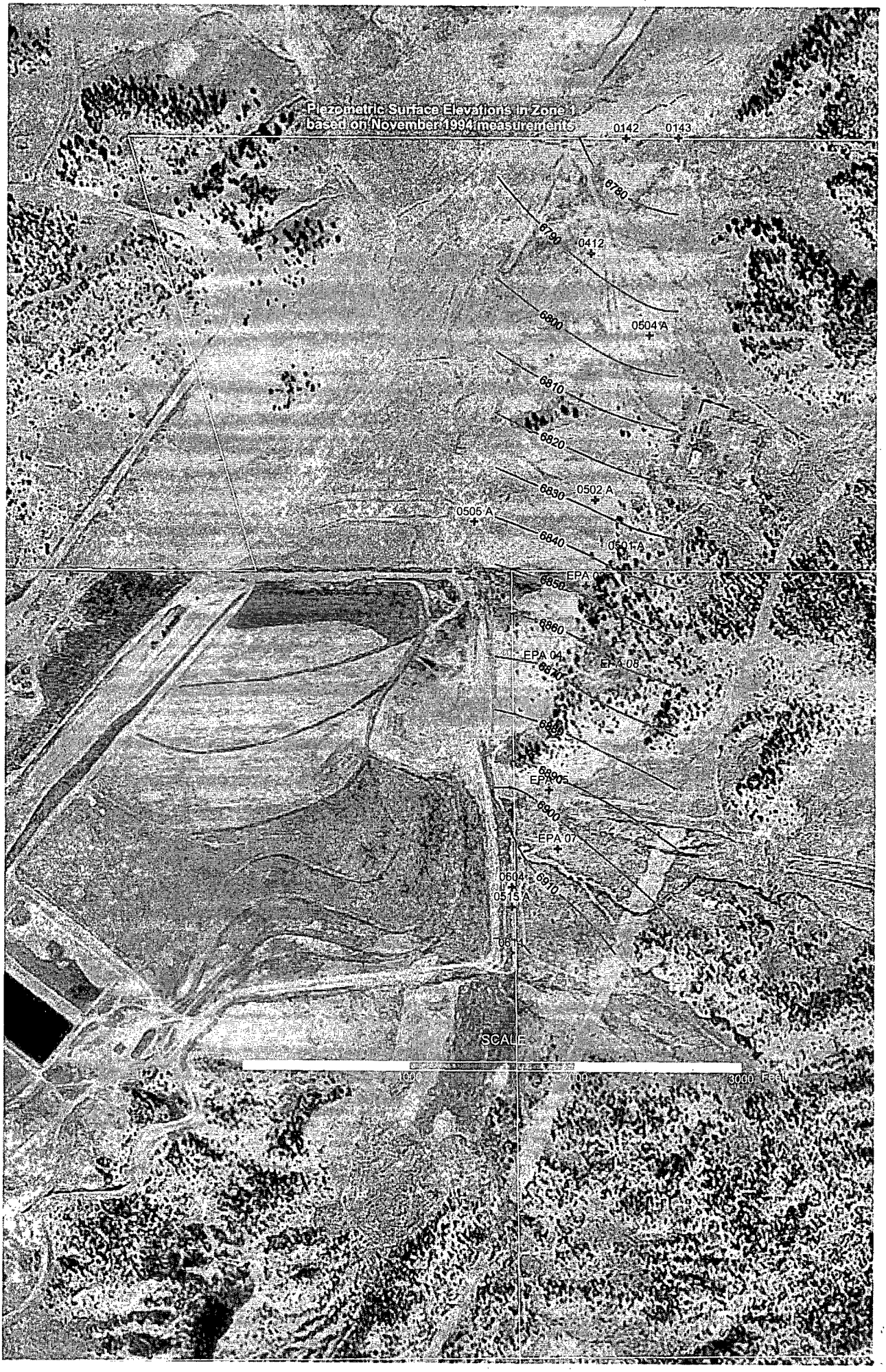
Piezometric Surface Elevations In Zone 1
based on January 1983 measurements
0142
0143
6790
6780
6800
6810
0412
6820
6790
0504 A
6800
6810
6830
6840
0502 A
6820
0505 A
0501 A
EPA 06
6850
6860
6870
EPA 04
EPA 08
6880
6890
EPA 05
6910
EPA 07
0504
0515 A
0614
SCALE
1000
2000
3000 Feet

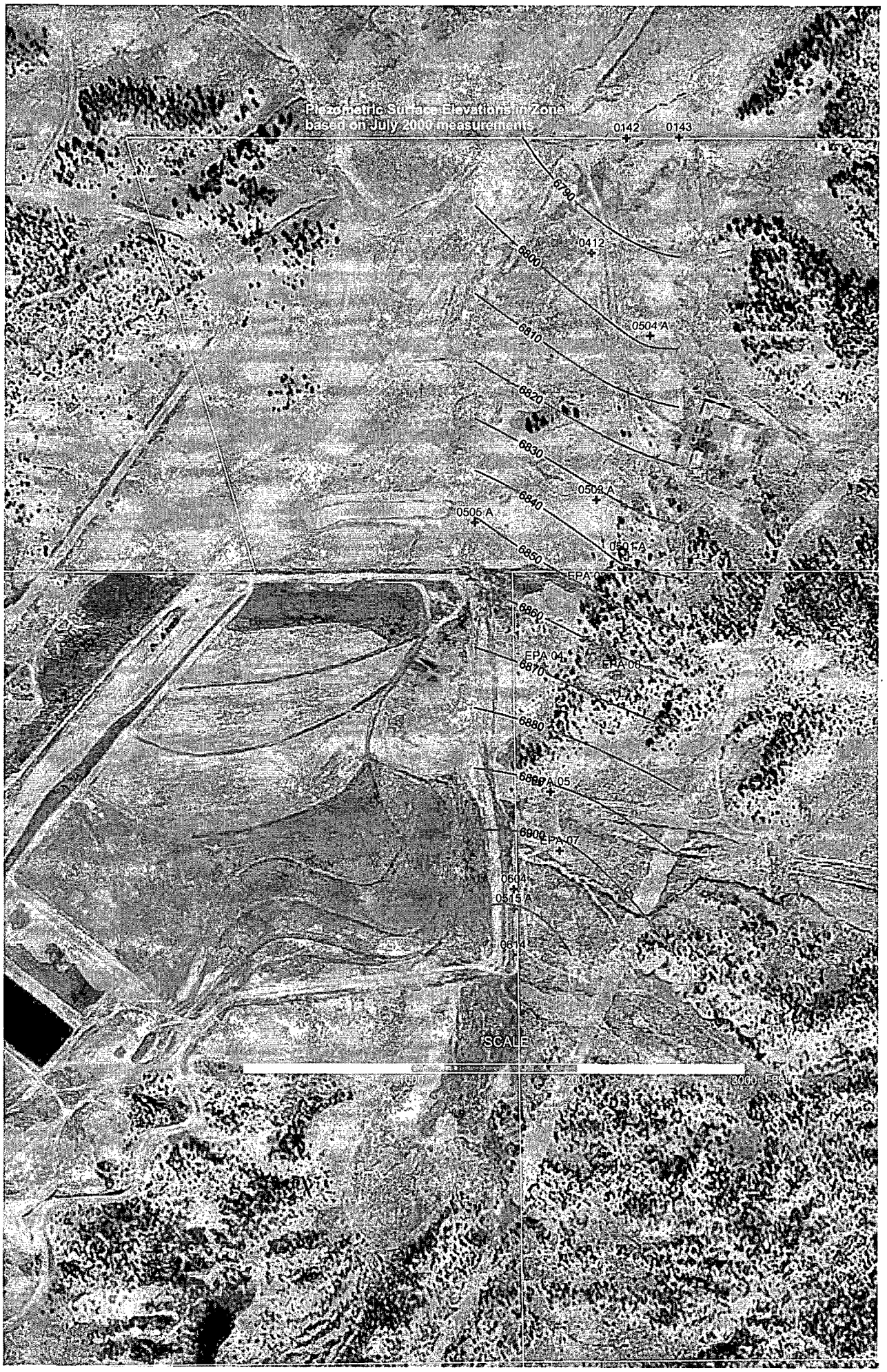
Piezometric Surface Elevations in Zone
based on January 1985 measurements
0142
0143
6790
6780
6800
6810
0412
6820
6800
6790
0504 A
6810
6830
6840
0502 A
6820
0505 A
0501 A
6850
EPA 01
6860
EPA 04
EPA 08
6870
6880
6890
EPA 05
6900
6910
EPA 07
0604
0515 A
0614
SCALE
1000
3000 Feet

Piezometric Surface Elevations in Zone 1
based on January 1986 measurements
0142
0143
6780
6770
6790
0412
6800
6810
0504 A
6820
6830
6840
0502 A
0505 A
6850
0501 A
EPA 06
6860
EPA 04
EPA 08
6870
6880
EPA 05
6900
6910
EPA 07
0504
0515 A
0614
SCALE
3000 Feet

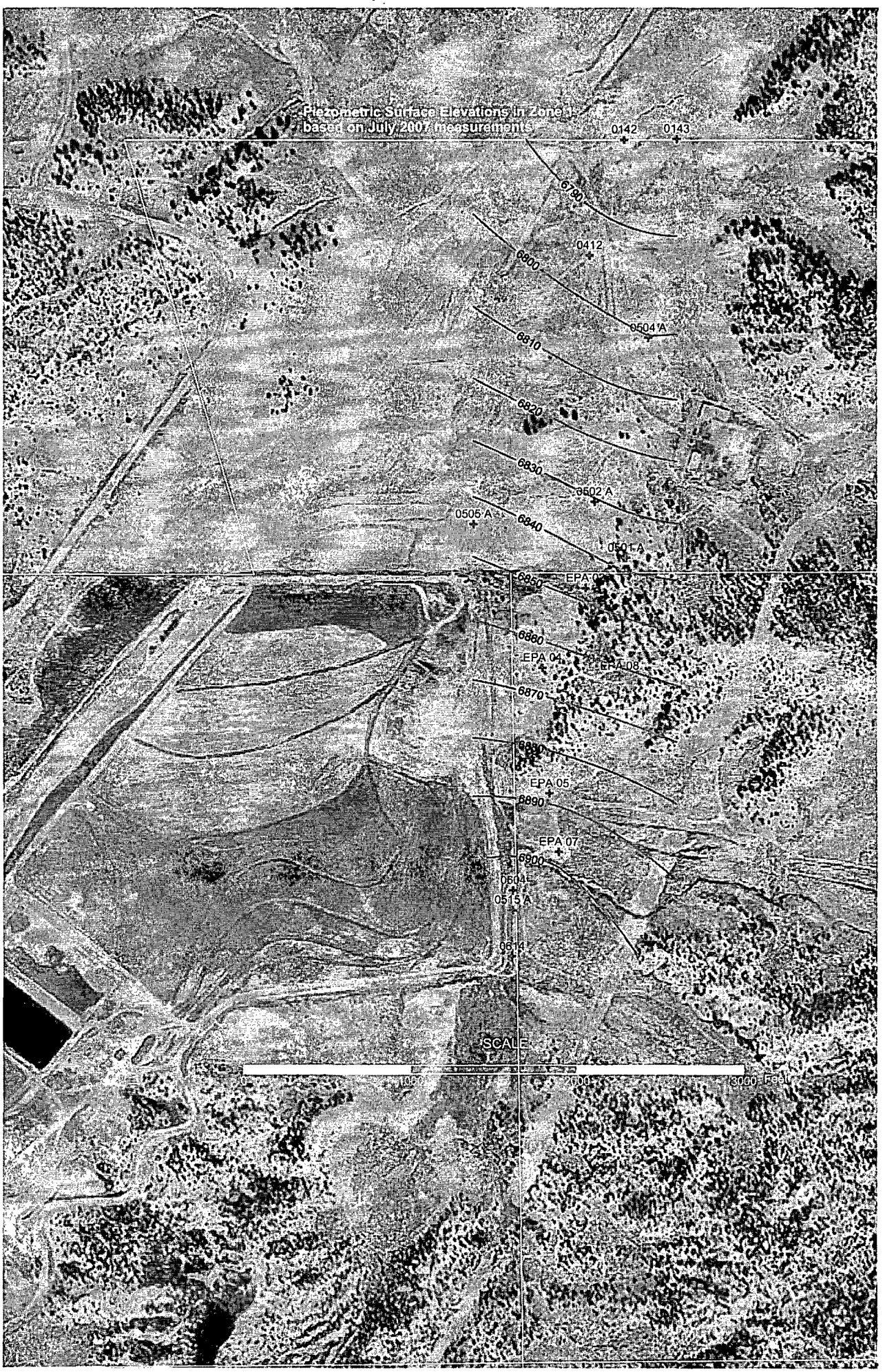

Piezometric Surface Elevations in Zone 1
based on January 1987 measurements
0142
0143
6770
6780
6790
0412
6800
0504 A
6810
6820
6830
6840
0502 A
0505 A
6850
0501 A
EPA 01
6860
EPA 04
EPA 08
6870
6880
EPA 05
6890
6900
6910
EPA 07
0604
0515 A
0614
SCALE
0
2000
3000 FEET


Piezometric Surface Elevations in Zone 1
based on April 1988 measurements
0142
0143
6780
6770
6790
0412
6800
0504 A
6810
6820
6830
0502 A
6840
0505 A
6850
EPA 03
6860
EPA 04
EPA 06
6870
6880
6890
EPA 05
6900
6910
EPA 07
0604
0515 A
0614
SCALE
100
3000 Feet


Piezometric Surface Elevations in Zone 1
based on November 1994 measurements
0142
0143
6780
6790
0412
6800
0504 A
6810
6820
6830
0502 A
0506 A
6840
0501 A
EPA 03
6850
6860
EPA 04
EPA 08
6870
6880
6890
EPA 05
6900
EPA 07
0504
0515 A
6910
SCALE
3000 FEET


Piezometric Surface Elevations in Zone 1
based on July 2000 measurements
0142
0143
6790
0412
6800
0504 A
6810
6820
6830
0502 A
6840
0505 A
0501 A
6850
EPA 03
6860
EPA 04
EPA 06
6870
6880
6890
EPA 05
6900
EPA 07
0504
0515 A
0614
SCALE
3000 Feet

Piezometric Surface Elevations in Zone 1
based on July 2003 measurements
0142
0143
6790
6800
0412
0504 A
6810
6820
6830
0502 A
6840
0505 A
0501 A
6850
EPA 03
6860
EPA 04
EPA 08
6870
6880
EPA 05
6890
6900
EPA 07
0604
0515 A
0614
SCALE
0
1000
2000
3000 Feet


Piezometric Surface Elevations in Zone 1
based on July 2007 measurements
0142
0143
6790
0412
6800
0504 A
6810
6820
6830
0502 A
0505 A
6840
0501 A
6850
EPA 03
6860
EPA 04
EPA 08
6870
6880
EPA 05
6890
EPA 07
6900
0604
0515 A
0614
SCALE
3000 Feet

Appendix C
Laboratory Analytical Reports Associated with the Zone 1 ALARA Demonstration

ENERGY LABORATORIES

ENERGY LABORATORIES, INC.
254 NORTH CENTER • CASPER, WY 82602 • PHONE (307) 235-0515

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

WELL NUMBER: 615
LAB I.D.: 91-24110
SAMPLE DATE: 07-18-91
REPORT DATE: 08-22-91
UNC SUBMITTAL #: TE-18-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	386	0.05	mg/l		
Magnesium	(Mg)	1458	0.01	mg/l		
Sodium	(Na)	560	0.05	mg/l		
Potassium	(K)	29.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	13221	1.0	mg/l		2160
Chloride	(Cl)	433	0.10	mg/l		250
Ammonium	(NH4)	1034	0.05	mg/l		
Nitrate	(NO3)	30.9	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	20485	1	mg/l		3170
pH	(units)	4.37	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	275	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.04	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.02	0.01	mg/l	0.01	0.01
Cobalt	(Co)	2.63	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	91.5	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.37	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.016	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0280	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	7.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	13.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		7.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.6		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	2827	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

Q.A. MANAGER: R.A. Laubig
Energy Laboratories, Inc.
P.O. Box 3258
Casper, Wyoming 82602

ENERGY LABORATORIES

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

WELL NUMBER: 615
LAB I.D.: 91-24784
SAMPLE DATE: 07-25-91
REPORT DATE: 08-29-91
UNC SUBMITTAL #: TE-19-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	439	0.05	mg/l		
Magnesium	(Mg)	1480	0.01	mg/l		
Sodium	(Na)	517	0.05	mg/l		
Potassium	(K)	27.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	10233	1.0	mg/l		2160
Chloride	(Cl)	305	0.10	mg/l		250
Ammonium	(NH4)	713	0.05	mg/l		
Nitrate	(NO3)	20.3	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	17281	1	mg/l		3170
pH	(units)	3.49	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	255	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.06	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.04	0.01	mg/l	0.01	0.01
Cobalt	(Co)	2.96	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	115.0	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.83	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.015	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0242	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	11.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	3.5	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	2592	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

Q.A. MANAGER: R.A. Starling
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ENERGY LABORATORIES

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254 NORTH CENTER, SUITE 100 • CASPER, WY 82601 • FAX (307) 234-1639

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

WELL NUMBER: 615
LAB I.D.: 91-25363
SAMPLE DATE: 08-01-91
REPORT DATE: 10-08-91
UNC SUBMITTAL #: TE-20-8-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	440	0.05	mg/l		
Magnesium	(Mg)	1492	0.01	mg/l		
Sodium	(Na)	541	0.05	mg/l		
Potassium	(K)	28.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	12726	1.0	mg/l		2160
Chloride	(Cl)	208	0.10	mg/l		250
Ammonium	(NH4)	667	0.05	mg/l		
Nitrate	(NO3)	12.2	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	18776	1	mg/l		3170
pH	(units)	4.50	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	276	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.05	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.04	0.01	mg/l	0.01	0.01
Cobalt	(Co)	2.86	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	123	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.73	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.089	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0267	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	10.4	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.8		pCi/l		
Radium-228	(Ra228)	9.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	2.8	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.9		pCi/l		
Gross Alpha - U-nat and Rn-222		10.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.2		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1957	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	615
LAB I.D.:	91-25699
SAMPLE DATE:	08-08-91
REPORT DATE:	09-13-91
UNC SUBMITTAL #:	TE-21-8-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	404	0.05	mg/l		
Magnesium	(Mg)	1615	0.01	mg/l		
Sodium	(Na)	651	0.05	mg/l		
Potassium	(K)	31.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	16950	1.0	mg/l		2160
Chloride	(Cl)	401	0.10	mg/l		250
Ammonium	(NH4)	1427	0.05	mg/l		
Nitrate	(NO3)	0.76	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	25732	1	mg/l		3170
pH	(units)	4.26	1-14	s.u.		
Cyanide	(CN)	0.013	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	381	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.07	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.05	0.01	mg/l	0.01	0.01
Cobalt	(Co)	3.47	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	195.0	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	2.17	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.080	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0361	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	9.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.8		pCi/l		
Radium-228	(Ra228)	13.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	0.4	0.2	pCi/l	5.0	15.0
Th-230 precision +/-		1.4		pCi/l		
Lead-210	(Pb210)	4.1	1.0	pCi/l	1.0	
Pb-210 precision +/-		1.0		pCi/l		
Gross Alpha - U-nat and Rn-222		10.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.3		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	3558	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	616
LAB I.D.:	91-24111
SAMPLE DATE:	07-18-91
REPORT DATE:	08-22-91
UNC SUBMITTAL #:	TE-18-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	419	0.05	mg/l		
Magnesium	(Mg)	861	0.01	mg/l		
Sodium	(Na)	244	0.05	mg/l		
Potassium	(K)	11.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	85.0	0.10	mg/l		
Sulfate	(SO4)	5119	1.0	mg/l		2160
Chloride	(Cl)	102	0.10	mg/l		250
Ammonium	(NH4)	0.64	0.05	mg/l		
Nitrate	(NO3)	189	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8302	1	mg/l		3170
pH	(units)	6.21	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.03	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.19	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	16.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.31	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	<0.0003	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	3.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.3		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	52.7	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	616
LAB I.D.:	91-24785
SAMPLE DATE:	07-25-91
REPORT DATE:	08-29-91
UNC SUBMITTAL #:	TE-19-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	432	0.05	mg/l		
Magnesium	(Mg)	893	0.01	mg/l		
Sodium	(Na)	246	0.05	mg/l		
Potassium	(K)	10.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	39.5	0.10	mg/l		
Sulfate	(SO4)	4954	1.0	mg/l		2160
Chloride	(Cl)	103	0.10	mg/l		250
Ammonium	(NH4)	0.74	0.05	mg/l		
Nitrate	(NO3)	115	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7953	1	mg/l		3170
pH	(units)	5.94	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.24	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.02	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.23	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	16.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.40	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	<0.0003	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	5.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	1.4	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<26.9	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER: 616
LAB I.D.: 91-25364
SAMPLE DATE: 08-01-91
REPORT DATE: 10-08-91
UNC SUBMITTAL #: TE-20-8-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	445	0.05	mg/l		
Magnesium	(Mg)	951	0.01	mg/l		
Sodium	(Na)	239	0.05	mg/l		
Potassium	(K)	15.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	52.4	0.10	mg/l		
Sulfate	(SO4)	5536	1.0	mg/l		2160
Chloride	(Cl)	102	0.10	mg/l		250
Ammonium	(NH4)	1.17	0.05	mg/l		
Nitrate	(NO3)	119	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9118	1	mg/l		3170
pH	(units)	6.07	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.62	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.03	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.32	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	13.23	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.39	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.039	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0010	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.6	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	4.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	5.9	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.9		pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	25.2	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	616
LAB I.D.:	91-25700
SAMPLE DATE:	08-08-91
REPORT DATE:	09-13-91
UNC SUBMITTAL #:	TE-21-8-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	415	0.05	mg/l		
Magnesium	(Mg)	1048	0.01	mg/l		
Sodium	(Na)	249	0.05	mg/l		
Potassium	(K)	10.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	64.0	0.10	mg/l		
Sulfate	(SO4)	6270	1.0	mg/l		2160
Chloride	(Cl)	88.9	0.10	mg/l		250
Ammonium	(NH4)	1.60	0.05	mg/l		
Nitrate	(NO3)	104	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9622	1	mg/l		3170
pH	(units)	5.77	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.62	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.39	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	16.5	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.65	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.027	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0010	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	3.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	6.0	1.0	pCi/l	1.0	
Pb-210 precision +/-		1.0		pCi/l		
Gross Alpha - U-nat and Rn-222		3.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.7		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	26.9	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	617
LAB I.D.:	91-24112
SAMPLE DATE:	07-18-91
REPORT DATE:	08-22-91
UNC SUBMITTAL #:	TE-18-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	485	0.05	mg/l		
Magnesium	(Mg)	1199	0.01	mg/l		
Sodium	(Na)	390	0.05	mg/l		
Potassium	(K)	14.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1279	0.10	mg/l		
Sulfate	(SO4)	5708	1.0	mg/l		2160
Chloride	(Cl)	246	0.10	mg/l		250
Ammonium	(NH4)	64.3	0.05	mg/l		
Nitrate	(NO3)	120	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10198	1	mg/l		3170
pH	(units)	7.11	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.60	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	<0.01	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.5	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.03	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.1190	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.4	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	617
LAB I.D.:	91-24786
SAMPLE DATE:	07-25-91
REPORT DATE:	08-29-91
UNC SUBMITTAL #:	TE-19-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	493	0.05	mg/l		
Magnesium	(Mg)	1096	0.01	mg/l		
Sodium	(Na)	415	0.05	mg/l		
Potassium	(K)	14.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	659	0.10	mg/l		
Sulfate	(SO4)	5499	1.0	mg/l		2160
Chloride	(Cl)	265	0.10	mg/l		250
Ammonium	(NH4)	68.0	0.05	mg/l		
Nitrate	(NO3)	140	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9544	1	mg/l		3170
pH	(units)	7.04	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.44	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.04	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.005	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0869	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	2.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	617
LAB I.D.:	91-25365
SAMPLE DATE:	08-01-91
REPORT DATE:	09-13-91
UNC SUBMITTAL #:	TE-20-8-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	482	0.05	mg/l		
Magnesium	(Mg)	1074	0.01	mg/l		
Sodium	(Na)	353	0.05	mg/l		
Potassium	(K)	18.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1086	0.10	mg/l		
Sulfate	(SO4)	5320	1.0	mg/l		2160
Chloride	(Cl)	218	0.10	mg/l		250
Ammonium	(NH4)	64.6	0.05	mg/l		
Nitrate	(NO3)	99.2	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10173	1	mg/l		3170
pH	(units)	7.14	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.45	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.03	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.21	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.057	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0721	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	2.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER: 617
LAB I.D.: 91-25701
SAMPLE DATE: 08-08-91
REPORT DATE: 09-13-91
UNC SUBMITTAL #: TE-21-8-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	462	0.05	mg/l		
Magnesium	(Mg)	1412	0.01	mg/l		
Sodium	(Na)	368	0.05	mg/l		
Potassium	(K)	15.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1356	0.10	mg/l		
Sulfate	(SO4)	6510	1.0	mg/l		2160
Chloride	(Cl)	239	0.10	mg/l		250
Ammonium	(NH4)	64.1	0.05	mg/l		
Nitrate	(NO3)	45.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10136	1	mg/l		3170
pH	(units)	6.77	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.29	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.01	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.05	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.51	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.048	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.1302	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.6	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	EPA-7
LAB I.D.:	90-25881
SAMPLE DATE:	10-09-90
REPORT DATE:	11-20-90
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-21-10-90

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	449	0.05	mg/l		
Magnesium	(Mg)	928	0.01	mg/l		
Sodium	(Na)	241	0.05	mg/l		
Potassium	(K)	10.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	10.0	0.10	mg/l		
Sulfate	(SO4)	5204	1.0	mg/l		2160
Chloride	(Cl)	169	0.10	mg/l		250
Ammonium	(NH4)	1.17	0.05	mg/l		
Nitrate	(NO3)	36.2	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8003	1	mg/l		3170
pH	(units)	4.63	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	39.1	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.46	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	26.9	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.48	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0052	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	4.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	EPA-7
LAB I.D.:	91-0192
SAMPLE DATE:	01-03-91
REPORT DATE:	01-13-91
QUARTER REPRESENTED:	First
UNC SUBMITTAL #:	TE-1-1-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	475	0.05	mg/l		
Magnesium	(Mg)	829	0.01	mg/l		
Sodium	(Na)	262	0.05	mg/l		
Potassium	(K)	24.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	6.1	0.10	mg/l		
Sulfate	(SO4)	4572	1.0	mg/l		2160
Chloride	(Cl)	117	0.10	mg/l		250
Ammonium	(NH4)	1.67	0.05	mg/l		
Nitrate	(NO3)	29.3	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7145	1	mg/l		3170
pH	(units)	4.68	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	18.0	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.25	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	17.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.30	0.05	mg/l	0.05	0.2
Selenium	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0081	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	7.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.7		pCi/l		
Radium-228	(Ra228)	8.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		8.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.8		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	EPA-7
LAB I.D.:	91-8601
SAMPLE DATE:	04-17-91
REPORT DATE:	05-17-91
QUARTER REPRESENTED:	Second
UNC SUBMITTAL #:	TE-11-4-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	454	0.05	mg/l		
Magnesium	(Mg)	757	0.01	mg/l		
Sodium	(Na)	252	0.05	mg/l		
Potassium	(K)	12.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	15.0	0.10	mg/l		
Sulfate	(SO4)	4676	1.0	mg/l		2160
Chloride	(Cl)	117	0.10	mg/l		250
Ammonium	(NH4)	1.30	0.05	mg/l		
Nitrate	(NO3)	40.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6918	1	mg/l		3170
pH	(units)	5.37	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	6.15	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.12	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	13.28	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.18	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0020	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.6	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	10.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	1.7	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	EPA-7
LAB I.D.:	91-22923
SAMPLE DATE:	07-11-91
REPORT DATE:	08-14-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-15-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	386	0.05	mg/l		
Magnesium	(Mg)	759	0.01	mg/l		
Sodium	(Na)	230	0.05	mg/l		
Potassium	(K)	10.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	39.0	0.10	mg/l		
Sulfate	(SO4)	4506	1.0	mg/l		2160
Chloride	(Cl)	99.7	0.10	mg/l		250
Ammonium	(NH4)	1.01	0.05	mg/l		
Nitrate	(NO3)	28.1	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6957	1	mg/l		3170
pH	(units)	5.80	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.18	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.12	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	12.51	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.16	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.017	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0038	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	8.9	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		3.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.7		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	515-A
LAB I.D.:	90-25636
SAMPLE DATE:	10-03-90
REPORT DATE:	11-20-90
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-20-10-90

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	440	0.05	mg/l		
Magnesium	(Mg)	992	0.01	mg/l		
Sodium	(Na)	390	0.05	mg/l		
Potassium	(K)	15.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	5728	1.0	mg/l		2160
Chloride	(Cl)	82.6	0.10	mg/l		250
Ammonium	(NH4)	0.17	0.05	mg/l		
Nitrate	(NO3)	51.6	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9021	1	mg/l		3170
pH	(units)	4.32	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	75.6	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.17	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	12.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.31	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.005	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	8.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.5		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	25.4	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	515-A
LAB I.D.:	91-0567
SAMPLE DATE:	01-15-91
REPORT DATE:	02-13-91
QUARTER REPRESENTED:	First
UNC SUBMITTAL #:	TE-4-1-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	523	0.05	mg/l		
Magnesium	(Mg)	1146	0.01	mg/l		
Sodium	(Na)	407	0.05	mg/l		
Potassium	(K)	16.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	6476	1.0	mg/l		2160
Chloride	(Cl)	68.5	0.10	mg/l		250
Ammonium	(NH4)	0.65	0.05	mg/l		
Nitrate	(NO3)	58.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9290	1	mg/l		3170
pH	(units)	4.31	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	48.4	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.16	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	11.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.32	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.007	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	5.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	7.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		5.7	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	42.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	515-A
LAB I.D.:	91-8084
SAMPLE DATE:	04-03-91
REPORT DATE:	05-19-91
QUARTER REPRESENTED:	Second
UNC SUBMITTAL #:	TE-7-4-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	459	0.05	mg/l		
Magnesium	(Mg)	1159	0.01	mg/l		
Sodium	(Na)	387	0.05	mg/l		
Potassium	(K)	12.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	16	0.10	mg/l		
Sulfate	(SO4)	5627	1.0	mg/l		2160
Chloride	(Cl)	83.0	0.10	mg/l		250
Ammonium	(NH4)	0.31	0.05	mg/l		
Nitrate	(NO3)	41.4	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9254	1	mg/l		3170
pH	(units)	4.88	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	60.7	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.11	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	7.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.20	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0030	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	6.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.7		pCi/l		
Radium-228	(Ra228)	7.2	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	2.0	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		6.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	75.3	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	515-A
LAB I.D.:	91-24105
SAMPLE DATE:	07-17-91
REPORT DATE:	08-14-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-17-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	486	0.05	mg/l		
Magnesium	(Mg)	940	0.01	mg/l		
Sodium	(Na)	342	0.05	mg/l		
Potassium	(K)	13.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	12	0.10	mg/l		
Sulfate	(SO4)	6653	1.0	mg/l		2160
Chloride	(Cl)	83.5	0.10	mg/l		250
Ammonium	(NH4)	0.79	0.05	mg/l		
Nitrate	(NO3)	38.6	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8966	1	mg/l		3170
pH	(units)	4.60	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	45.8	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.020	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.24	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	14.7	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.30	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0110	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	3.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.3		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		3.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.7		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	38.4	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	516-A
LAB I.D.:	90-25880
SAMPLE DATE:	10-09-90
REPORT DATE:	11-20-90
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-21-10-90

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	429	0.05	mg/l		
Magnesium	(Mg)	1243	0.01	mg/l		
Sodium	(Na)	416	0.05	mg/l		
Potassium	(K)	13.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0.1	0.10	mg/l		
Sulfate	(SO4)	6467	1.0	mg/l		2160
Chloride	(Cl)	203	0.10	mg/l		250
Ammonium	(NH4)	78.0	0.05	mg/l		
Nitrate	(NO3)	208	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10430	1	mg/l		3170
pH	(units)	4.51	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	80.3	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.25	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	21.9	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.30	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0035	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	4.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	516-A
LAB I.D.:	91-0565
SAMPLE DATE:	01-15-91
REPORT DATE:	02-13-91
QUARTER REPRESENTED:	First
UNC SUBMITTAL #:	TE-4-1-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	482	0.05	mg/l		
Magnesium	(Mg)	1207	0.01	mg/l		
Sodium	(Na)	436	0.05	mg/l		
Potassium	(K)	19.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	5983	1.0	mg/l		2160
Chloride	(Cl)	261	0.10	mg/l		250
Ammonium	(NH4)	80.8	0.05	mg/l		
Nitrate	(NO3)	240	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10179	1	mg/l		3170
pH	(units)	4.50	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	42.6	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.24	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	20.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.32	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0028	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	6.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	6.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		6.7	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.5		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	516-A
LAB I.D.:	91-8085
SAMPLE DATE:	04-02-91
REPORT DATE:	05-19-91
QUARTER REPRESENTED:	Second
UNC SUBMITTAL #:	TE-7-4-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	464	0.05	mg/l		
Magnesium	(Mg)	1250	0.01	mg/l		
Sodium	(Na)	387	0.05	mg/l		
Potassium	(K)	13.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	25	0.10	mg/l		
Sulfate	(SO4)	6165	1.0	mg/l		2160
Chloride	(Cl)	267	0.10	mg/l		250
Ammonium	(NH4)	97.9	0.05	mg/l		
Nitrate	(NO3)	240	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10493	1	mg/l		3170
pH	(units)	4.99	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	20.5	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.19	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	20.3	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.26	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0003	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	6.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.7		pCi/l		
Radium-228	(Ra228)	6.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	3.3	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		6.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	516-A
LAB I.D.:	91-24106
SAMPLE DATE:	07-17-91
REPORT DATE:	08-14-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-17-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	430	0.05	mg/l		
Magnesium	(Mg)	1097	0.01	mg/l		
Sodium	(Na)	390	0.05	mg/l		
Potassium	(K)	12.8	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	100	0.10	mg/l		
Sulfate	(SO4)	6873	1.0	mg/l		2160
Chloride	(Cl)	326	0.10	mg/l		250
Ammonium	(NH4)	74.0	0.05	mg/l		
Nitrate	(NO3)	281	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9771	1	mg/l		3170
pH	(units)	5.75	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	12.3	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.22	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	18.7	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.27	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0010	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	3.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.3		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	604
LAB I.D.:	90-25637
SAMPLE DATE:	10-03-90
REPORT DATE:	11-20-90
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-20-10-90

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	453	0.05	mg/l		
Magnesium	(Mg)	628	0.01	mg/l		
Sodium	(Na)	264	0.05	mg/l		
Potassium	(K)	13.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	4290	1.0	mg/l		2160
Chloride	(Cl)	31.1	0.10	mg/l		250
Ammonium	(NH4)	3.27	0.05	mg/l		
Nitrate	(NO3)	44.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6616	1	mg/l		3170
pH	(units)	4.11	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	77.2	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.35	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	22.7	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.40	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.003	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	5.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	20.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		6.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	604
LAB I.D.:	91-0566
SAMPLE DATE:	01-15-91
REPORT DATE:	02-13-91
QUARTER REPRESENTED:	First
UNC SUBMITTAL #:	TE-4-1-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	475	0.05	mg/l		
Magnesium	(Mg)	710	0.01	mg/l		
Sodium	(Na)	265	0.05	mg/l		
Potassium	(K)	15.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	4627	1.0	mg/l		2160
Chloride	(Cl)	31.6	0.10	mg/l		250
Ammonium	(NH4)	5.48	0.05	mg/l		
Nitrate	(NO3)	52.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6802	1	mg/l		3170
pH	(units)	4.21	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	61.8	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.39	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	20.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.44	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.007	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	8.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	13.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	2.3	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.9		pCi/l		
Gross Alpha - U-nat and Rn-222		9.1	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	604
LAB I.D.:	91-8086
SAMPLE DATE:	04-02-91
REPORT DATE:	05-19-91
QUARTER REPRESENTED:	Second
UNC SUBMITTAL #:	TE-7-4-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	432	0.05	mg/l		
Magnesium	(Mg)	659	0.01	mg/l		
Sodium	(Na)	215	0.05	mg/l		
Potassium	(K)	11.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	4923	1.0	mg/l		2160
Chloride	(Cl)	33.0	0.10	mg/l		250
Ammonium	(NH4)	4.60	0.05	mg/l		
Nitrate	(NO3)	56.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6380	1	mg/l		3170
pH	(units)	4.51	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	45.30	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.016	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.23	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	14.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.38	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0050	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	9.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		1.0		pCi/l		
Radium-228	(Ra228)	24.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.2		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	1.3	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		15.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.9		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	604
LAB I.D.:	91-24107
SAMPLE DATE:	07-17-91
REPORT DATE:	08-14-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-17-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	408	0.05	mg/l		
Magnesium	(Mg)	624	0.01	mg/l		
Sodium	(Na)	218	0.05	mg/l		
Potassium	(K)	11.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	5307	1.0	mg/l		2160
Chloride	(Cl)	28.4	0.10	mg/l		250
Ammonium	(NH4)	5.34	0.05	mg/l		
Nitrate	(NO3)	51.4	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6949	1	mg/l		3170
pH	(units)	4.46	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	70.95	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.030	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.30	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	20.5	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.41	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0060	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	4.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	12.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	2.1	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	614
LAB I.D.:	90-25635
SAMPLE DATE:	10-03-90
REPORT DATE:	11-20-90
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-20-10-90

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	585	0.05	mg/l		
Magnesium	(Mg)	577	0.01	mg/l		
Sodium	(Na)	507	0.05	mg/l		
Potassium	(K)	14.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1362	0.10	mg/l		
Sulfate	(SO4)	2894	1.0	mg/l		2160
Chloride	(Cl)	334	0.10	mg/l		250
Ammonium	(NH4)	76.6	0.05	mg/l		
Nitrate	(NO3)	106	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6567	1	mg/l		3170
pH	(units)	7.23	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.10	0.10	mg/l		5.0
Arsenic	(As)	0.005	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	<0.01	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.08	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0360	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.4	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	3.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	176	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	614
LAB I.D.:	91-0568
SAMPLE DATE:	01-15-91
REPORT DATE:	02-13-91
QUARTER REPRESENTED:	First
UNC SUBMITTAL #:	TE-4-1-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	647	0.05	mg/l		
Magnesium	(Mg)	623	0.01	mg/l		
Sodium	(Na)	478	0.05	mg/l		
Potassium	(K)	9.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1412	0.10	mg/l		
Sulfate	(SO4)	3253	1.0	mg/l		2160
Chloride	(Cl)	322	0.10	mg/l		250
Ammonium	(NH4)	68.0	0.05	mg/l		
Nitrate	(NO3)	125	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6633	1	mg/l		3170
pH	(units)	6.96	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.20	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.05	0.05	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	<0.01	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.09	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0425	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.9	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	1.3	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.9		pCi/l		
Gross Alpha - U-nat and Rn-222		2.3	1.0	pCi/l	15.0	
Gross Alpha precision +/-		0.5		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	170	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	614
LAB I.D.:	91-8087
SAMPLE DATE:	04-02-91
REPORT DATE:	05-19-91
QUARTER REPRESENTED:	Second
UNC SUBMITTAL #:	TE-7-4-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	619	0.05	mg/l		
Magnesium	(Mg)	495	0.01	mg/l		
Sodium	(Na)	420	0.05	mg/l		
Potassium	(K)	10.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1257	0.10	mg/l		
Sulfate	(SO4)	3165	1.0	mg/l		2160
Chloride	(Cl)	322	0.10	mg/l		250
Ammonium	(NH4)	78.3	0.05	mg/l		
Nitrate	(NO3)	131	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6539	1	mg/l		3170
pH	(units)	7.18	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.11	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	<0.02	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.08	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0589	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	1.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.0		pCi/l		
Thorium-230	(Th230)	2.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-		0.2		pCi/l		
Lead-210	(Pb210)	1.3	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		3.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.7		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	254	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	614
LAB I.D.:	91-24108
SAMPLE DATE:	07-17-91
REPORT DATE:	08-14-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-17-7-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	573	0.05	mg/l		
Magnesium	(Mg)	551	0.01	mg/l		
Sodium	(Na)	443	0.05	mg/l		
Potassium	(K)	9.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1680	0.10	mg/l		
Sulfate	(SO4)	3645	1.0	mg/l		2160
Chloride	(Cl)	327	0.10	mg/l		250
Ammonium	(NH4)	69.4	0.05	mg/l		
Nitrate	(NO3)	169	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6970	1	mg/l		3170
pH	(units)	7.49	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	<0.10	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	<0.01	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.10	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0640	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	380	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	615
LAB I.D.:	91-30811
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	419	0.05	mg/l		
Magnesium	(Mg)	1458	0.01	mg/l		
Sodium	(Na)	613	0.05	mg/l		
Potassium	(K)	11.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	11698	1.0	mg/l		2160
Chloride	(Cl)	292	0.10	mg/l		250
Ammonium	(NH4)	828	0.05	mg/l		
Nitrate	(NO3)	12.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	19289	1	mg/l		3170
pH	(units)	4.34	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	213	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.03	0.01	mg/l	0.01	0.01
Cobalt	(Co)	2.74	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	81.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.01	0.10	mg/l		1.0
Nickel	(Ni)	1.71	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.007	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0270	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	6.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	13.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	2.9	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		7.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.6		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	2348	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER: 615
LAB I.D.: 91-36232
SAMPLE DATE: 10-17-91
REPORT DATE: 12-31-91
QUARTER REPRESENTED: Fourth
UNC SUBMITTAL #: TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	455	0.05	mg/l		
Magnesium	(Mg)	1139	0.01	mg/l		
Sodium	(Na)	622	0.05	mg/l		
Potassium	(K)	25.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	14583	1.0	mg/l		2160
Chloride	(Cl)	176	0.10	mg/l		250
Ammonium	(NH4)	1198	0.05	mg/l		
Nitrate	(NO3)	0.48	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	21023	1	mg/l		3170
pH	(units)	4.27	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	422	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.04	0.01	mg/l	0.01	0.01
Cobalt	(Co)	3.14	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	95.9	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.76	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.029	0.001	mg/l	0.01	0.01
Vanadium	(V)	0.14	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0451	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	6.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	18.9	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	3.8	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.8		pCi/l		
Gross Alpha - U-nat and Rn-222		7.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.6		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1646	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	615
LAB I.D.:	91-41525
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	411	0.05	mg/l		
Magnesium	(Mg)	1134	0.01	mg/l		
Sodium	(Na)	644	0.05	mg/l		
Potassium	(K)	27.8	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	14415	1.0	mg/l		2160
Chloride	(Cl)	232	0.10	mg/l		250
Ammonium	(NH4)	903	0.05	mg/l		
Nitrate	(NO3)	27.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	19834	1	mg/l		3170
pH	(units)	3.15	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	388	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.080	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.06	0.01	mg/l	0.01	0.01
Cobalt	(Co)	3.17	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	135	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.82	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0217	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	4.6	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	15.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		2.2		pCi/l		
Thorium-230	(Th230)	0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-		0.2		pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		13.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.6		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	2580	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	615
LAB I.D.:	91-42698
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	416	0.05	mg/l		
Magnesium	(Mg)	1067	0.01	mg/l		
Sodium	(Na)	665	0.05	mg/l		
Potassium	(K)	26.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	12629	1.0	mg/l		2160
Chloride	(Cl)	248	0.10	mg/l		250
Ammonium	(NH4)	961	0.05	mg/l		
Nitrate	(NO3)	<0.01	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	19578	1	mg/l		3170
pH	(units)	4.27	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	333	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.04	0.01	mg/l	0.01	0.01
Cobalt	(Co)	2.78	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	69.2	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.58	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.013	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.030	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	14.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.8		pCi/l		
Radium-228	(Ra228)	7.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		15.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.9		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	2212	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	616
LAB I.D.:	91-30810
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	433	0.05	mg/l		
Magnesium	(Mg)	916	0.01	mg/l		
Sodium	(Na)	284	0.05	mg/l		
Potassium	(K)	12.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	66.0	0.10	mg/l		
Sulfate	(SO4)	6800	1.0	mg/l		2160
Chloride	(Cl)	106	0.10	mg/l		250
Ammonium	(NH4)	1.20	0.05	mg/l		
Nitrate	(NO3)	71.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9640	1	mg/l		3170
pH	(units)	5.91	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.69	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.52	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	19.2	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.01	0.10	mg/l		1.0
Nickel	(Ni)	0.86	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0010	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.4	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	4.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	29.2	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	616
LAB I.D.:	91-36233
SAMPLE DATE:	10-17-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	470	0.05	mg/l		
Magnesium	(Mg)	765	0.01	mg/l		
Sodium	(Na)	293	0.05	mg/l		
Potassium	(K)	11.8	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	78.1	0.10	mg/l		
Sulfate	(SO4)	4563	1.0	mg/l		2160
Chloride	(Cl)	118	0.10	mg/l		250
Ammonium	(NH4)	1.0	0.05	mg/l		
Nitrate	(NO3)	107	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7795	1	mg/l		3170
pH	(units)	6.27	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.28	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.33	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	15.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.44	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0005	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	1.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	5.9	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	38.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	616
LAB I.D.:	91-41526
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	450	0.05	mg/l		
Magnesium	(Mg)	808	0.01	mg/l		
Sodium	(Na)	267	0.05	mg/l		
Potassium	(K)	11.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	43.7	0.10	mg/l		
Sulfate	(SO4)	5036	1.0	mg/l		2160
Chloride	(Cl)	129	0.10	mg/l		250
Ammonium	(NH4)	1.0	0.05	mg/l		
Nitrate	(NO3)	95.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7656	1	mg/l		3170
pH	(units)	5.56	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	2.2	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.43	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	18.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.74	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	<0.0003	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	2.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	6.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	36.8	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	616
LAB I.D.:	91-42699
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	462	0.05	mg/l		
Magnesium	(Mg)	797	0.01	mg/l		
Sodium	(Na)	274	0.05	mg/l		
Potassium	(K)	11.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	81.2	0.10	mg/l		
Sulfate	(SO4)	4626	1.0	mg/l		2160
Chloride	(Cl)	113	0.10	mg/l		250
Ammonium	(NH4)	2.15	0.05	mg/l		
Nitrate	(NO3)	107	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8412	1	mg/l		3170
pH	(units)	5.71	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	2.51	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.38	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	14.4	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.58	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0009	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	4.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	7.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		5.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.2		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	33.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	617
LAB I.D.:	91-30809
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	494	0.05	mg/l		
Magnesium	(Mg)	2010	0.01	mg/l		
Sodium	(Na)	408	0.05	mg/l		
Potassium	(K)	15.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1295	0.10	mg/l		
Sulfate	(SO4)	6380	1.0	mg/l		2160
Chloride	(Cl)	253	0.10	mg/l		250
Ammonium	(NH4)	93.0	0.05	mg/l		
Nitrate	(NO3)	78.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9888	1	mg/l		3170
pH	(units)	6.78	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.61	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.05	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.19	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.01	0.10	mg/l		1.0
Nickel	(Ni)	0.06	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0931	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	2.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.5		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	3.9	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	617
LAB I.D.:	91-36234
SAMPLE DATE:	10-17-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	535	0.05	mg/l		
Magnesium	(Mg)	784	0.01	mg/l		
Sodium	(Na)	391	0.05	mg/l		
Potassium	(K)	17.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1281	0.10	mg/l		
Sulfate	(SO4)	5120	1.0	mg/l		2160
Chloride	(Cl)	251	0.10	mg/l		250
Ammonium	(NH4)	74.5	0.05	mg/l		
Nitrate	(NO3)	113	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9636	1	mg/l		3170
pH	(units)	7.13	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.49	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.05	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.51	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.08	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.003	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.1315	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	1.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	2.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and	Rn-222	1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1.3	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	617
LAB I.D.:	91-41527
SAMPLE DATE:	11-04-91
REPORT DATE:	12-10-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	500	0.05	mg/l		
Magnesium	(Mg)	875	0.01	mg/l		
Sodium	(Na)	276	0.05	mg/l		
Potassium	(K)	15.1	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1271	0.10	mg/l		
Sulfate	(SO4)	5257	1.0	mg/l		2160
Chloride	(Cl)	257	0.10	mg/l		250
Ammonium	(NH4)	63.0	0.05	mg/l		
Nitrate	(NO3)	127	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9514	1	mg/l		3170
pH	(units)	6.75	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.29	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.05	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	1.98	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.06	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0600	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.9	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	5.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1.5	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	617
LAB I.D.:	91-42700
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	527	0.05	mg/l		
Magnesium	(Mg)	898	0.01	mg/l		
Sodium	(Na)	388	0.05	mg/l		
Potassium	(K)	15.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1204	0.10	mg/l		
Sulfate	(SO4)	4379	1.0	mg/l		2160
Chloride	(Cl)	241	0.10	mg/l		250
Ammonium	(NH4)	74.8	0.05	mg/l		
Nitrate	(NO3)	146	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9787	1	mg/l		3170
pH	(units)	7.07	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.22	0.10	mg/l		5.0
Arsenic	(As)	0.002	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.04	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	2.52	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.09	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.060	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	8.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.7		pCi/l		
Radium-228	(Ra228)	3.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		9.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		3.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1.6	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	EPA-7
LAB I.D.:	91-30812
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	439	0.05	mg/l		
Magnesium	(Mg)	672	0.01	mg/l		
Sodium	(Na)	245	0.05	mg/l		
Potassium	(K)	22.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	37.0	0.10	mg/l		
Sulfate	(SO4)	4415	1.0	mg/l		2160
Chloride	(Cl)	107	0.10	mg/l		250
Ammonium	(NH4)	1.20	0.05	mg/l		
Nitrate	(NO3)	17.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7322	1	mg/l		3170
pH	(units)	5.58	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.21	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.15	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	12.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.17	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0015	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	3.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	EPA-7
LAB I.D.:	91-36231
SAMPLE DATE:	10-17-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	473	0.05	mg/l		
Magnesium	(Mg)	712	0.01	mg/l		
Sodium	(Na)	257	0.05	mg/l		
Potassium	(K)	12.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	39.3	0.10	mg/l		
Sulfate	(SO4)	4296	1.0	mg/l		2160
Chloride	(Cl)	111.0	0.10	mg/l		250
Ammonium	(NH4)	1.25	0.05	mg/l		
Nitrate	(NO3)	25.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6827	1	mg/l		3170
pH	(units)	5.69	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.15	0.10	mg/l		5.0
Arsenic	(As)	0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.15	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	13.51	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.16	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0009	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	2.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	7.2	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	EPA-7
LAB I.D.:	91-41520
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	445	0.05	mg/l		
Magnesium	(Mg)	610	0.01	mg/l		
Sodium	(Na)	238	0.05	mg/l		
Potassium	(K)	10.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	38.8	0.10	mg/l		
Sulfate	(SO4)	4271	1.0	mg/l		2160
Chloride	(Cl)	116	0.10	mg/l		250
Ammonium	(NH4)	1.20	0.05	mg/l		
Nitrate	(NO3)	23.6	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6986	1	mg/l		3170
pH	(units)	5.65	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.93	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.15	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	15.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.21	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0059	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	2.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	8.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.5		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER: EPA-7
LAB I.D.: 91-42701
SAMPLE DATE: 12-02-91
REPORT DATE: 01-02-92
UNC SUBMITTAL #: TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	439	0.05	mg/l		
Magnesium	(Mg)	608	0.01	mg/l		
Sodium	(Na)	246	0.05	mg/l		
Potassium	(K)	10.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	55.6	0.10	mg/l		
Sulfate	(SO4)	3834	1.0	mg/l		2160
Chloride	(Cl)	114	0.10	mg/l		250
Ammonium	(NH4)	1.31	0.05	mg/l		
Nitrate	(NO3)	54.7	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6860	1	mg/l		3170
pH	(units)	5.84	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	2.29	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.12	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	13.2	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.19	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.002	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	3.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	13.1	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	515-A
LAB I.D.:	91-30806
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	429	0.05	mg/l		
Magnesium	(Mg)	768	0.01	mg/l		
Sodium	(Na)	385	0.05	mg/l		
Potassium	(K)	13.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	5.0	0.10	mg/l		
Sulfate	(SO4)	6955	1.0	mg/l		2160
Chloride	(Cl)	52.2	0.10	mg/l		250
Ammonium	(NH4)	0.66	0.05	mg/l		
Nitrate	(NO3)	18.1	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9792	1	mg/l		3170
pH	(units)	4.62	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	9.6	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.15	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	11.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.28	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0080	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	6.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	36.4	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	515-A
LAB I.D.:	91-36008
SAMPLE DATE:	10-15-91
REPORT DATE:	12-23-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-24-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	410	0.05	mg/l		
Magnesium	(Mg)	749	0.01	mg/l		
Sodium	(Na)	453	0.05	mg/l		
Potassium	(K)	15.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	9.5	0.10	mg/l		
Sulfate	(SO4)	5832	1.0	mg/l		2160
Chloride	(Cl)	108	0.10	mg/l		250
Ammonium	(NH4)	<0.05	0.05	mg/l		
Nitrate	(NO3)	19.9	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9118	1	mg/l		3170
pH	(units)	4.92	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	3.30	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.22	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	14.4	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.19	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.020	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	2.4	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	9.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		3.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.7		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	102	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	515-A
LAB I.D.:	91-41521
SAMPLE DATE:	11-04-91
REPORT DATE:	12-10-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	426	0.05	mg/l		
Magnesium	(Mg)	759	0.01	mg/l		
Sodium	(Na)	377	0.05	mg/l		
Potassium	(K)	12.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	5750	1.0	mg/l		2160
Chloride	(Cl)	103	0.10	mg/l		250
Ammonium	(NH4)	0.53	0.05	mg/l		
Nitrate	(NO3)	65.7	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9001	1	mg/l		3170
pH	(units)	4.33	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	23.19	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.020	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.17	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	15.2	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.33	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0138	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	12.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.5		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	6.9	1.0	pCi/l	1.0	
Pb-210 precision +/-		1.2		pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	28	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER: 515-A
LAB I.D.: 91-42703
SAMPLE DATE: 12-02-91
REPORT DATE: 01-02-92
UNC SUBMITTAL #: TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	425	0.05	mg/l		
Magnesium	(Mg)	831	0.01	mg/l		
Sodium	(Na)	376	0.05	mg/l		
Potassium	(K)	13.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	7.2	0.10	mg/l		
Sulfate	(SO4)	5298	1.0	mg/l		2160
Chloride	(Cl)	102	0.10	mg/l		250
Ammonium	(NH4)	0.90	0.05	mg/l		
Nitrate	(NO3)	36.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9153	1	mg/l		3170
pH	(units)	4.59	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	35.4	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.24	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	14.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.32	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.010	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	5.4	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	10.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		5.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.2		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	55.9	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	516-A
LAB I.D.:	91-30808
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	444	0.05	mg/l		
Magnesium	(Mg)	1299	0.01	mg/l		
Sodium	(Na)	394	0.05	mg/l		
Potassium	(K)	13.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	173	0.10	mg/l		
Sulfate	(SO4)	6936	1.0	mg/l		2160
Chloride	(Cl)	215	0.10	mg/l		250
Ammonium	(NH4)	144	0.05	mg/l		
Nitrate	(NO3)	59.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10598	1	mg/l		3170
pH	(units)	5.58	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	8.6	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.21	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	17.7	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.32	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0021	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	1.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	4.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.5		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	1.2	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.6		pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	516-A
LAB I.D.:	91-36009
SAMPLE DATE:	10-15-91
REPORT DATE:	12-31-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-24-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	450	0.05	mg/l		
Magnesium	(Mg)	1068	0.01	mg/l		
Sodium	(Na)	451	0.05	mg/l		
Potassium	(K)	16.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	213	0.10	mg/l		
Sulfate	(SO4)	6047	1.0	mg/l		2160
Chloride	(Cl)	275	0.10	mg/l		250
Ammonium	(NH4)	99.0	0.05	mg/l		
Nitrate	(NO3)	234	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9878	1	mg/l		3170
pH	(units)	6.39	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	4.18	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.18	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	15.3	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.22	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.004	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	1.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	9.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1.4	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	516-A
LAB I.D.:	91-41522
SAMPLE DATE:	11-04-91
REPORT DATE:	12-10-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	490	0.05	mg/l		
Magnesium	(Mg)	875	0.01	mg/l		
Sodium	(Na)	392	0.05	mg/l		
Potassium	(K)	13.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	381	0.10	mg/l		
Sulfate	(SO4)	5597	1.0	mg/l		2160
Chloride	(Cl)	299	0.10	mg/l		250
Ammonium	(NH4)	113	0.05	mg/l		
Nitrate	(NO3)	135	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10139	1	mg/l		3170
pH	(units)	5.88	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	5.84	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.12	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	15.3	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.17	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0157	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	2.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	8.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	2.3	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.5		pCi/l		
Gross Alpha - U-nat and Rn-222		2.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1.7	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER: 516-A
LAB I.D.: 91-42705
SAMPLE DATE: 12-02-91
REPORT DATE: 01-02-92
UNC SUBMITTAL #: TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	471	0.05	mg/l		
Magnesium	(Mg)	879	0.01	mg/l		
Sodium	(Na)	375	0.05	mg/l		
Potassium	(K)	13.8	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	340	0.10	mg/l		
Sulfate	(SO4)	5046	1.0	mg/l		2160
Chloride	(Cl)	259	0.10	mg/l		250
Ammonium	(NH4)	132	0.05	mg/l		
Nitrate	(NO3)	147	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9819	1	mg/l		3170
pH	(units)	6.35	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	3.2	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.14	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	11.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.19	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0009	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	4.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	7.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	1.3	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	604
LAB I.D.:	91-30807
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	444	0.05	mg/l		
Magnesium	(Mg)	715	0.01	mg/l		
Sodium	(Na)	251	0.05	mg/l		
Potassium	(K)	11.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	5494	1.0	mg/l		2160
Chloride	(Cl)	31.0	0.10	mg/l		250
Ammonium	(NH4)	7.10	0.05	mg/l		
Nitrate	(NO3)	31.3	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7438	1	mg/l		3170
pH	(units)	3.98	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	70.4	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.39	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	21.0	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.45	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0050	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	14.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.5		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	604
LAB I.D.:	91-36010
SAMPLE DATE:	10-15-91
REPORT DATE:	12-31-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-24-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	432	0.05	mg/l		
Magnesium	(Mg)	570	0.01	mg/l		
Sodium	(Na)	275	0.05	mg/l		
Potassium	(K)	12.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	4502	1.0	mg/l		2160
Chloride	(Cl)	34.7	0.10	mg/l		250
Ammonium	(NH4)	7.86	0.05	mg/l		
Nitrate	(NO3)	47.3	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6909	1	mg/l		3170
pH	(units)	4.26	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	58.6	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.030	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.36	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	21.3	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.41	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.060	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	3.9	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	20.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	604
LAB I.D.:	91-41523
SAMPLE DATE:	11-04-91
REPORT DATE:	12-10-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	460	0.05	mg/l		
Magnesium	(Mg)	593	0.01	mg/l		
Sodium	(Na)	231	0.05	mg/l		
Potassium	(K)	11.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	4396	1.0	mg/l		2160
Chloride	(Cl)	50.0	0.10	mg/l		250
Ammonium	(NH4)	5.40	0.05	mg/l		
Nitrate	(NO3)	13.3	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7177	1	mg/l		3170
pH	(units)	4.09	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.13	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.020	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.02	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.39	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	15.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.55	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0059	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	4.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	16.9	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.7		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	604
LAB I.D.:	91-42704
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	439	0.05	mg/l		
Magnesium	(Mg)	564	0.01	mg/l		
Sodium	(Na)	256	0.05	mg/l		
Potassium	(K)	12.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0	0.10	mg/l		
Sulfate	(SO4)	4052	1.0	mg/l		2160
Chloride	(Cl)	52.8	0.10	mg/l		250
Ammonium	(NH4)	4.12	0.05	mg/l		
Nitrate	(NO3)	30.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7047	1	mg/l		3170
pH	(units)	4.30	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	62.5	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.35	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	19.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.42	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.004	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	6.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	22.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.0		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		6.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	614
LAB I.D.:	91-30805
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	624	0.05	mg/l		
Magnesium	(Mg)	634	0.01	mg/l		
Sodium	(Na)	446	0.05	mg/l		
Potassium	(K)	10.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1629	0.10	mg/l		
Sulfate	(SO4)	4105	1.0	mg/l		2160
Chloride	(Cl)	303	0.10	mg/l		250
Ammonium	(NH4)	116	0.05	mg/l		
Nitrate	(NO3)	83.2	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7610	1	mg/l		3170
pH	(units)	6.94	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.22	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.03	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.17	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0631	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	5.4	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	486	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	614
LAB I.D.:	91-36011
SAMPLE DATE:	10-15-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-24-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	664	0.05	mg/l		
Magnesium	(Mg)	526	0.01	mg/l		
Sodium	(Na)	418	0.05	mg/l		
Potassium	(K)	10.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1515	0.10	mg/l		
Sulfate	(SO4)	3239	1.0	mg/l		2160
Chloride	(Cl)	313	0.10	mg/l		250
Ammonium	(NH4)	53.8	0.05	mg/l		
Nitrate	(NO3)	119	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7145	1	mg/l		3170
pH	(units)	7.15	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	<0.10	0.10	mg/l		5.0
Arsenic	(As)	0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	<0.01	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.11	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.003	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.076	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	0.6	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	5.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	361	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	614
LAB I.D.:	91-41524
SAMPLE DATE:	11-04-91
REPORT DATE:	12-10-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	614	0.05	mg/l		
Magnesium	(Mg)	490	0.01	mg/l		
Sodium	(Na)	436	0.05	mg/l		
Potassium	(K)	10.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1516	0.10	mg/l		
Sulfate	(SO4)	3449	1.0	mg/l		2160
Chloride	(Cl)	308	0.10	mg/l		250
Ammonium	(NH4)	87.3	0.05	mg/l		
Nitrate	(NO3)	97.6	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7026	1	mg/l		3170
pH	(units)	6.97	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.32	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.04	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.18	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.10	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0472	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.9	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	3.7	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	464	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	614
LAB I.D.:	91-42702
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	610	0.05	mg/l		
Magnesium	(Mg)	559	0.01	mg/l		
Sodium	(Na)	425	0.05	mg/l		
Potassium	(K)	10.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1577	0.10	mg/l		
Sulfate	(SO4)	3197	1.0	mg/l		2160
Chloride	(Cl)	287	0.10	mg/l		250
Ammonium	(NH4)	79.5	0.05	mg/l		
Nitrate	(NO3)	133	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	7264	1	mg/l		3170
pH	(units)	7.38	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	0.42	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.02	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	0.15	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.06	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.050	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	1.2	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	1.3	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		1.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	400	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	620
LAB I.D.:	91-30804
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	243	0.05	mg/l		
Magnesium	(Mg)	927	0.01	mg/l		
Sodium	(Na)	634	0.05	mg/l		
Potassium	(K)	20.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1628	0.10	mg/l		
Sulfate	(SO4)	8256	1.0	mg/l		2160
Chloride	(Cl)	311	0.10	mg/l		250
Ammonium	(NH4)	489	0.05	mg/l		
Nitrate	(NO3)	22.3	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	17735	1	mg/l		3170
pH	(units)	7.08	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	2.4	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.06	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	69.0	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	<0.05	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0329	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	0.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	586	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	620
LAB I.D.:	91-36235
SAMPLE DATE:	10-17-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	526	0.05	mg/l		
Magnesium	(Mg)	972	0.01	mg/l		
Sodium	(Na)	518	0.05	mg/l		
Potassium	(K)	21.8	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1857	0.10	mg/l		
Sulfate	(SO4)	6597	1.0	mg/l		2160
Chloride	(Cl)	298	0.10	mg/l		250
Ammonium	(NH4)	401	0.05	mg/l		
Nitrate	(NO3)	41.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10680	1	mg/l		3170
pH	(units)	6.71	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.77	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.06	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	43.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.12	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.002	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0357	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	0.9	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	6.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	676	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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WELL NUMBER:	620
LAB I.D.:	91-41528
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	460	0.05	mg/l		
Magnesium	(Mg)	864	0.01	mg/l		
Sodium	(Na)	533	0.05	mg/l		
Potassium	(K)	21.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	1506	0.10	mg/l		
Sulfate	(SO4)	6629	1.0	mg/l		2160
Chloride	(Cl)	316	0.10	mg/l		250
Ammonium	(NH4)	439	0.05	mg/l		
Nitrate	(NO3)	40.6	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	10826	1	mg/l		3170
pH	(units)	6.60	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	<0.01	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.07	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	59.4	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.11	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.011	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0300	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	0.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.2		pCi/l		
Radium-228	(Ra228)	4.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.8		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		<1.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-				pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	990	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

Q.A. MANAGER: Steven E Conklin

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

WELL NUMBER:	666
LAB I.D.:	91-30801
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	499	0.05	mg/l		
Magnesium	(Mg)	481	0.01	mg/l		
Sodium	(Na)	215	0.05	mg/l		
Potassium	(K)	13.6	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	5.0	0.10	mg/l		
Sulfate	(SO4)	4149	1.0	mg/l		2160
Chloride	(Cl)	66.3	0.10	mg/l		250
Ammonium	(NH4)	5.20	0.05	mg/l		
Nitrate	(NO3)	6.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6374	1	mg/l		3170
pH	(units)	4.62	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	40.0	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	1.01	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	22.4	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.25	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0151	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	5.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	12.2	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	3.8	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.7		pCi/l		
Gross Alpha - U-nat and Rn-222		5.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.2		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	666
LAB I.D.:	91-36236
SAMPLE DATE:	10-17-91
REPORT DATE:	12-23-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	524	0.05	mg/l		
Magnesium	(Mg)	520	0.01	mg/l		
Sodium	(Na)	226	0.05	mg/l		
Potassium	(K)	15.5	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	20.0	0.10	mg/l		
Sulfate	(SO4)	3672	1.0	mg/l		2160
Chloride	(Cl)	120	0.10	mg/l		250
Ammonium	(NH4)	30.0	0.05	mg/l		
Nitrate	(NO3)	4.30	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6084	1	mg/l		3170
pH	(units)	4.96	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	32.2	0.10	mg/l		5.0
Arsenic	(As)	0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.08	0.01	mg/l		0.05
Lead	(Pb)	0.06	0.05	mg/l	0.05	0.05
Manganese	(Mn)	19.2	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.94	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0113	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	3.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	22.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.1		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	3.4	1.0	pCi/l	1.0	
Pb-210 precision +/-		0.8		pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	666
LAB I.D.:	91-41529
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	485	0.05	mg/l		
Magnesium	(Mg)	479	0.01	mg/l		
Sodium	(Na)	198	0.05	mg/l		
Potassium	(K)	13.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	0.0	0.10	mg/l		
Sulfate	(SO4)	3783	1.0	mg/l		2160
Chloride	(Cl)	115	0.10	mg/l		250
Ammonium	(NH4)	3.9	0.05	mg/l		
Nitrate	(NO3)	4.50	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6143	1	mg/l		3170
pH	(units)	4.41	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	33.5	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	0.030	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.83	0.01	mg/l		0.05
Lead	(Pb)	0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	17.1	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.95	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0059	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	5.0	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.3		pCi/l		
Radium-228	(Ra228)	23.8	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		5.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.2		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	666
LAB I.D.:	91-42694
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	485	0.05	mg/l		
Magnesium	(Mg)	490	0.01	mg/l		
Sodium	(Na)	203	0.05	mg/l		
Potassium	(K)	13.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	8.6	0.10	mg/l		
Sulfate	(SO4)	3369	1.0	mg/l		2160
Chloride	(Cl)	122	0.10	mg/l		250
Ammonium	(NH4)	5.49	0.05	mg/l		
Nitrate	(NO3)	24.7	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	5958	1	mg/l		3170
pH	(units)	4.63	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	32.3	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.87	0.01	mg/l		0.05
Lead	(Pb)	0.07	0.05	mg/l	0.05	0.05
Manganese	(Mn)	14.7	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.95	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.007	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	8.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.7		pCi/l		
Radium-228	(Ra228)	30.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.3		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		8.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.8		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	669
LAB I.D.:	91-30802
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	519	0.05	mg/l		
Magnesium	(Mg)	895	0.01	mg/l		
Sodium	(Na)	345	0.05	mg/l		
Potassium	(K)	16.4	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	98.0	0.10	mg/l		
Sulfate	(SO4)	6,734	1.0	mg/l		2160
Chloride	(Cl)	155	0.10	mg/l		250
Ammonium	(NH4)	54.2	0.05	mg/l		
Nitrate	(NO3)	28.9	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	9409	1	mg/l		3170
pH	(units)	5.78	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	2.3	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.73	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	30.0	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.68	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0180	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	3.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	7.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.9		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	669
LAB I.D.:	91-36237
SAMPLE DATE:	10-17-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	527	0.05	mg/l		
Magnesium	(Mg)	688	0.01	mg/l		
Sodium	(Na)	349	0.05	mg/l		
Potassium	(K)	15.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	223	0.10	mg/l		
Sulfate	(SO4)	4758	1.0	mg/l		2160
Chloride	(Cl)	106	0.10	mg/l		250
Ammonium	(NH4)	14.4	0.05	mg/l		
Nitrate	(NO3)	39.8	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8140	1	mg/l		3170
pH	(units)	6.35	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.15	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.49	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	22.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.57	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0094	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	3.8	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	669
LAB I.D.:	91-41530
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	495	0.05	mg/l		
Magnesium	(Mg)	667	0.01	mg/l		
Sodium	(Na)	312	0.05	mg/l		
Potassium	(K)	13.0	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	217	0.10	mg/l		
Sulfate	(SO4)	4832	1.0	mg/l		2160
Chloride	(Cl)	112	0.10	mg/l		250
Ammonium	(NH4)	22.0	0.05	mg/l		
Nitrate	(NO3)	37.5	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8131	1	mg/l		3170
pH	(units)	6.29	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.20	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.37	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	16.4	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.37	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0049	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	5.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	13.5	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		2.3		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		5.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.3		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER: 669
LAB I.D.: 91-42696
SAMPLE DATE: 12-02-91
REPORT DATE: 01-02-92
UNC SUBMITTAL #: TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	508	0.05	mg/l		
Magnesium	(Mg)	708	0.01	mg/l		
Sodium	(Na)	311	0.05	mg/l		
Potassium	(K)	13.2	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	252	0.10	mg/l		
Sulfate	(SO4)	4529	1.0	mg/l		2160
Chloride	(Cl)	170	0.10	mg/l		250
Ammonium	(NH4)	34.6	0.05	mg/l		
Nitrate	(NO3)	33.0	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	8025	1	mg/l		3170
pH	(units)	6.34	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.30	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.34	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	16.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	0.41	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.007	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	7.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	19.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		8.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.8		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	670
LAB I.D.:	91-30803
SAMPLE DATE:	09-04-91
REPORT DATE:	10-08-91
QUARTER REPRESENTED:	Third
UNC SUBMITTAL #:	TE-22-9-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	504	0.05	mg/l		
Magnesium	(Mg)	630	0.01	mg/l		
Sodium	(Na)	328	0.05	mg/l		
Potassium	(K)	12.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	113	0.10	mg/l		
Sulfate	(SO4)	4985	1.0	mg/l		2160
Chloride	(Cl)	9.1	0.10	mg/l		250
Ammonium	(NH4)	2.50	0.05	mg/l		
Nitrate	(NO3)	30.4	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6638	1	mg/l		3170
pH	(units)	5.81	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	2.8	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.80	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	16.6	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.43	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0069	0.0003	mg/l	0.30	5.0
Radium-226	(Ra226)	4.1	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	19.6	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.1		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		4.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.0		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	670
LAB I.D.:	91-36238
SAMPLE DATE:	10-17-91
REPORT DATE:	11-26-91
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-25-10-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	579	0.05	mg/l		
Magnesium	(Mg)	580	0.01	mg/l		
Sodium	(Na)	248	0.05	mg/l		
Potassium	(K)	14.7	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	97.6	0.10	mg/l		
Sulfate	(SO4)	3967	1.0	mg/l		2160
Chloride	(Cl)	29.1	0.10	mg/l		250
Ammonium	(NH4)	3.40	0.05	mg/l		
Nitrate	(NO3)	34.9	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6623	1	mg/l		3170
pH	(units)	6.29	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	20.3	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.75	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	13.5	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.13	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0075	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	4.5	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.4		pCi/l		
Radium-228	(Ra228)	<1.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision				pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		5.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.2		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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

WELL NUMBER:	670
LAB I.D.:	91-41531
SAMPLE DATE:	11-04-91
REPORT DATE:	02-03-92
QUARTER REPRESENTED:	Fourth
UNC SUBMITTAL #:	TE-28-11-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	485	0.05	mg/l		
Magnesium	(Mg)	547	0.01	mg/l		
Sodium	(Na)	220	0.05	mg/l		
Potassium	(K)	12.9	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	77.8	0.10	mg/l		
Sulfate	(SO4)	3982	1.0	mg/l		2160
Chloride	(Cl)	93.4	0.10	mg/l		250
Ammonium	(NH4)	3.20	0.05	mg/l		
Nitrate	(NO3)	33.2	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6691	1	mg/l		3170
pH	(units)	5.71	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	40.6	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.74	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	13.5	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.10	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	<0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.0200	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	6.3	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.5		pCi/l		
Radium-228	(Ra228)	18.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		0.6		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		6.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.4		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:				
Chloroform	<1.0	1.0	ug/l	1.0
Napthalene	<1.0	1.0	ug/l	1.0

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

WELL NUMBER:	670
LAB I.D.:	91-42695
SAMPLE DATE:	12-02-91
REPORT DATE:	01-02-92
UNC SUBMITTAL #:	TE-29-12-91

MAJOR IONS:		ANALYTICAL RESULT	L.L.D.	UNITS	GROUNDWATER PROTECTION STANDARDS NRC	ARAR
Calcium	(Ca)	490	0.05	mg/l		
Magnesium	(Mg)	579	0.01	mg/l		
Sodium	(Na)	227	0.05	mg/l		
Potassium	(K)	13.3	0.10	mg/l		
Carbonate	(CO3)		0.10	mg/l		
Bicarbonate	(HCO3)	98.1	0.10	mg/l		
Sulfate	(SO4)	3737	1.0	mg/l		2160
Chloride	(Cl)	106	0.10	mg/l		250
Ammonium	(NH4)	3.30	0.05	mg/l		
Nitrate	(NO3)	34.4	0.01	mg/l		30.0
Dissolved Solids @ 180 C	(TDS)	6675	1	mg/l		3170
pH	(units)	5.95	1-14	s.u.		
Cyanide	(CN)	<0.005	0.005	mg/l	0.005	
TRACE METALS:						
Aluminum	(Al)	1.70	0.10	mg/l		5.0
Arsenic	(As)	<0.001	0.001	mg/l	0.05	0.05
Beryllium	(Be)	<0.010	0.010	mg/l	0.05	0.017
Cadmium	(Cd)	<0.01	0.01	mg/l	0.01	0.01
Cobalt	(Co)	0.63	0.01	mg/l		0.05
Lead	(Pb)	<0.05	0.05	mg/l	0.05	0.05
Manganese	(Mn)	12.8	0.01	mg/l		2.6
Molybdenum	(Mo)	<0.10	0.10	mg/l		1.0
Nickel	(Ni)	1.13	0.05	mg/l	0.05	0.2
Selenium IV	(Se)	0.001	0.001	mg/l	0.01	0.01
Vanadium	(V)	<0.10	0.10	mg/l	0.10	0.70
RADIOMETRIC:						
Uranium	(U)	0.009	0.000	mg/l	0.30	5.0
Radium-226	(Ra226)	7.7	0.2	pCi/l	5.0*	5.0*
Ra-226 precision +/-		0.6		pCi/l		
Radium-228	(Ra228)	28.0	1.0	pCi/l	5.0*	5.0*
Ra-228 precision		1.4		pCi/l		
Thorium-230	(Th230)	<0.2	0.2	pCi/l	5.0	15.0
Th-230 precision +/-				pCi/l		
Lead-210	(Pb210)	<1.0	1.0	pCi/l	1.0	
Pb-210 precision +/-				pCi/l		
Gross Alpha - U-nat and Rn-222		8.0	1.0	pCi/l	15.0	
Gross Alpha precision +/-		2.8		pCi/l		

* Radium protection standards refer to combined Ra-226 and Ra-228

TRACE ORGANIC:					
Chloroform	<1.0	1.0	ug/l	1.0	
Napthalene	<1.0	1.0	ug/l	1.0	

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