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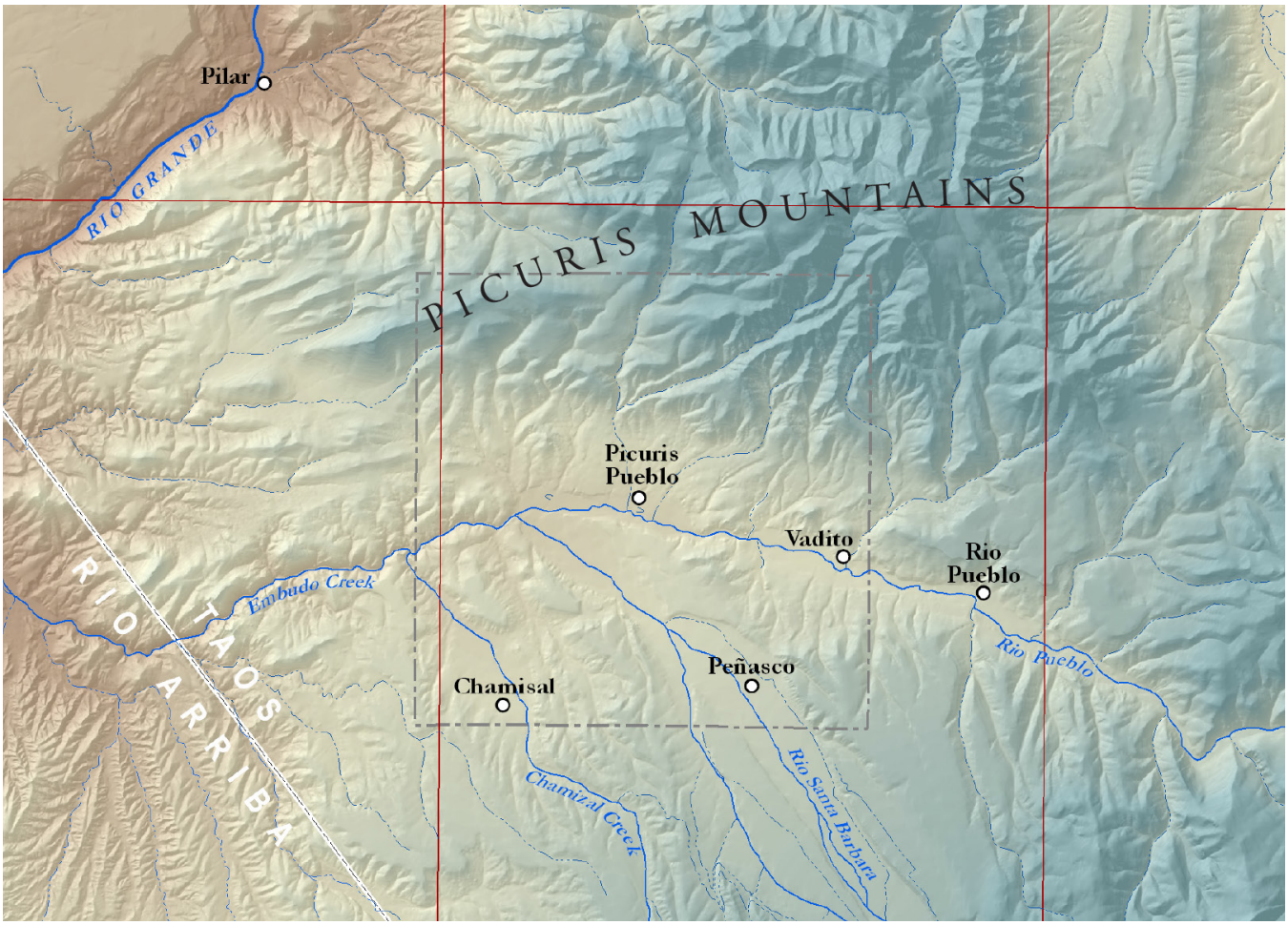

New Mexico Bureau of Geology and Mineral Resources

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AQUIFER MAPPING PROGRAM

New Mexico Bureau of Geology and Mineral Resources

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Keywords: Geology, hydrogeology, Picuris Pueblo, New Mexico

CONTENTS

View southeast across the Rio Pueblo valley (foreground) and up the Rio Santa Barbara valley (upper right) with the Sangre de Cristo Mountains in the background. The Picuris Pueblo wastewater pond is in the lower left. The roadcut near the center of the photo exposes the upper volcaniclastic member of the Picuris Formation (Tpu), overlain by Quaternary river gravel deposits. *Photo by Paul Bauer.*

EXECUTIVE SUMMARY

Four hydrostratigraphic units or aquifers are present on the Picuris Pueblo. Quaternary alluvial deposits (Qa) form thin, shallow aquifers beneath the active floodplains of major streams and are at greatest risk for degradation from land-use and waste management activities. The Dixon Member of the Tesuque Formation (Ttd) forms the primary aquifer along the southern edge of the Pueblo, near Chamisal and south and east of Peñasco. The upper volcaniclastic member of the Picuris Formation (Tpu) forms a major aquifer in and between the Rio Pueblo and Rio Santa Barbara valleys, but productivity is variable and greater well depths may be required. The middle tuffaceous member of the Picuris Formation (Tpm) forms a relatively minor aquifer in the Rio Pueblo Valley, and contains fine-grained, volcanic-rich sediments with low permeability. The Peñasco horst, an up-thrown block of Precambrian crystalline rock within the Picuris-Pecos fault system, contains heavily mineralized and uranium-bearing rocks and influences both groundwater and surface water flow and groundwater quality.

Groundwater in thin alluvial aquifers exists under unconfined conditions and is in direct hydraulic connection with deeper aquifers. Vertically downward hydraulic gradients drive circulation of oxygen-rich shallow groundwater down to deeper aquifers over much of the Pueblo. Vertically upward hydraulic gradients adjacent to the Peñasco horst provide a mechanism for localized upward movement of deep circulating groundwater that degrades water quality in shallow aquifers adjacent to and downstream of the horst. Regionally high concentrations of dissolved solids, chloride, and silica are observed adjacent to the horst.

Perennial streams on the Pueblo are generally gaining streams, collecting a portion of their flow from the shallow alluvial aquifers. However, flows in the Rio Santa Barbara and Chamizal Creek appear to change from gaining to losing as they cross the downstream edge of the Peñasco horst, where thickness and transmissivity of the aquifer increase.

Infiltration of oxygen-rich surface water near Chamisal may contribute to chemical conditions favorable for mobilizing naturally occurring uranium to concentrations reaching the health-based drinking water standard (30 µg/L). Elevated concentrations of naturally occurring arsenic and fluoride are attributed to groundwater originating deep within mineralized crystalline rocks of the Peñasco horst or circulating through volcanic-rich sediments in the Picuris Formation. Both arsenic and fluoride exceed maximum contaminant levels for drinking water, and together with uranium present a significant public health concern.

Shallow aquifer contamination from waste related contaminants does not presently pose a significant health concern. Excess iron and manganese in one well (PW-65) accompanied by an extremely low nitrate concentration indicate conditions that may be associated with septic tank effluent or merely reflects natural, local chemical conditions in the aquifer. Chemical testing for additional constituents would be required to further clarify the source. Based on

observations of naturally occurring contaminants in excess of EPA drinking water standards, several recommendations are presented:

1) **Additional Testing.** The sporadic occurrence of elevated levels of uranium, fluoride, and arsenic pose a significant health concern. Sampling of additional wells is recommended to further define groundwater quality and identify problems within the Pueblo boundary.

2) **Long-Term Monitoring**. A long-term monitoring program is recommended to track water-quality trends and contaminant migration in response to pumping of large community supply wells.

3) **Public Education.** Rural residents, particularly in the communities of Chamisal and Vadito, should be advised of potential health concerns and methods of addressing water quality problems.

4) **Water Treatment.** In instances of significant drinking water impairment, installation of on-site water treatment units or alternative water sources should be considered.

I. INTRODUCTION

Background

From October 2000 through June 2002, the New Mexico Bureau of Geology and Mineral Resources (the "Bureau") conducted geologic mapping on the Pueblo of Picuris (the "Pueblo") as part of a three-phase hydrogeologic project for the Pueblo. This work produced a geologic map of the Picuris reservation, and results were summarized in a Phase 1 Final Technical Report dated June 2002. From June 2003 through December 2004, the Bureau continued work on the hydrologic and water quality aspects of the project, which comprised phases 2 and 3 of the study. These phases of work included a well and spring inventory, water level measurements, assessment of the quality of groundwater and surface water, evaluations of the subsurface hydrogeology of aquifers and the interaction between groundwater, surface water and potential sources of contamination in the vicinity of the confluence of the Rio Pueblo de Picuris, Rio Santa Barbara, Rio Chiquito, and Chamizal Creek. This report summarizes the data collected and findings of these final two phases of the hydrogeologic assessment of groundwater and surface water resources on the Pueblo of Picuris.

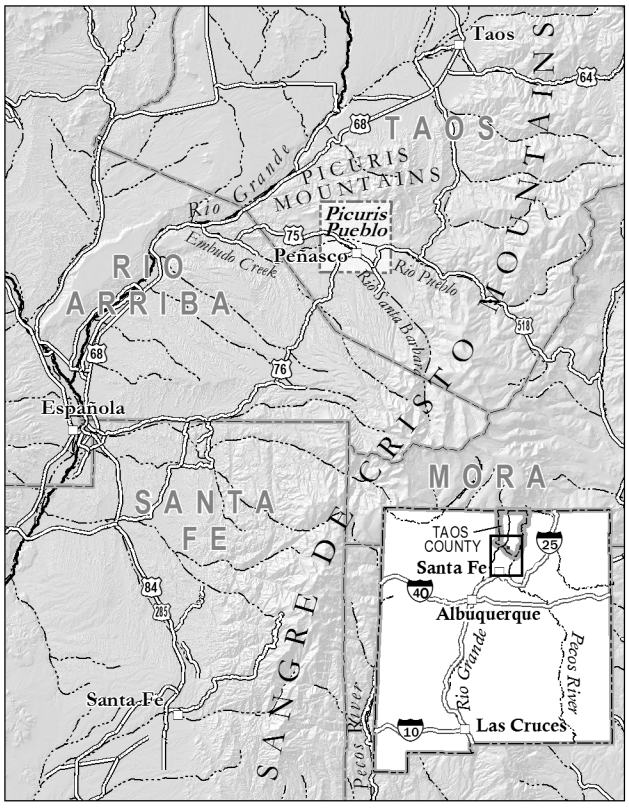

Figure 1. Location Map for Picuris Pueblo

Significance

The tribal lands of the Pueblo of Picuris, located in Taos County, New Mexico (Figure 1), encompass the Pueblo and a number of adjoining communities, including Peñasco, Vadito, Chamisal, and Rio Lucio. Land uses within the watershed include recreation, farming and ranching, silviculture and rural-community-related activities. Residents of the Pueblo of Picuris and adjunctive rural areas use groundwater produced from private domestic wells, the depths of which range from approximately 15 to 300 ft. The communities of Chamisal, Peñasco, Rio Lucio, Rodarte and Vadito supply domestic water to village residents from groundwater pumped by mutual domestic water consumer associations (MDWCAs) operating under oversight of the New Mexico Environment Department (NMED). The region's population depends largely on on-site septic systems or pit latrines to dispense of household waste and waste water. Systems of special concern include those older than 20 years, not on a regular cleaning schedule, situated on smaller lots or serving multiple homes, and located adjacent to streams or ditches, on thin or excessively permeable soils, or close to bedrock or the water table. A community waste water and sewage collection and treatment system servicing approximately 55 dwellings at Picuris Pueblo (Tanimoto and Good, 1982) is located adjacent to the banks of the Rio Pueblo.

Because of the general lack of water and waste treatment facilities and the local geologic and hydrologic conditions, the potential exists for waste water to contaminate shallow groundwater and affect the quality of domestic drinking water. A close hydrologic connection between surface water and groundwater

could also potentially facilitate the movement of wasterelated or naturally occurring contaminants between streams and shallow aquifers. No previous hydrogeologic evaluations or water quality assessments have addressed these environmental concerns on tribal lands.

Scope and Objectives

This study was designed to provide a hydrogeologic framework for the Picuris Pueblo and to assess the general quality of waters in streams, springs, and the interconnected shallow groundwater system. The Pueblo is situated along the Rio Pueblo de Picuris just upstream of its confluence with the Rio Santa Barbara in southern Taos County, and lies almost entirely within the Peñasco 7.5-minute quadrangle. The study area comprises all lands of the Pueblo of Picuris, which incorporates the Pueblo and adjacent rural communities of Chamisal, Peñasco, Rio Lucio, and Vadito. Areas outside of tribal lands and communities immediately upstream of the Pueblo (Llano, Rodarte, and Sipapu) are not included in the project area. The primary objectives of this study are: (1) establish the hydrogeologic framework for the area based on previous geologic mapping, new water level measurements and subsurface geologic interpretation; (2) conduct a water quality assessment of groundwater, surface water, and springs; and (3) evaluate the interconnection between shallow groundwater, surface water, and potential sources of contamination. Specific tasks included:

1) Compilation of existing well, water level, and water quality data.
2) Field-check of well locations and measurement of water levels.
3) Construction of a water-table (potentiometric) surface map and assessment of groundwater flow direction, particularly in the vicinity of perennial streams and water courses.
4) Collection of water samples from streams, springs, and shallow groundwater wells and evaluation of general water quality including ion chemistry, trace element chemistry and microbiological contaminants.
5) Interpretation of the interconnection between shallow groundwater, surface water, and potential sources of contamination.
6) Provide conclusions and recommendations regarding the status of the Pueblo's water quality and long-term needs for resource management.

The following deliverables are included in this report: (1) a generalized geologic map, cross sections and hydrostratigraphic unit descriptions, (2) an inventory of water wells in the study area with well information and well records, (3) a record of water level measurements, a water-table (potentiometric) surface map showing elevation of the water-table surface and groundwater flow direction, and a depth-to-water map, (4) a catalog of water chemistry data from wells, streams and springs, chemical concentration maps, and relative abundance diagrams, (5) a synthesis and interpretation of geologic, hydrologic and water quality data, and (6) this summary report that provides general discussion, conclusions, and recommendations.

Previous Work and Existing Data

Previous geologic studies conducted in the area were summarized in Bauer and Kelson (2002) as part of the phase one final technical report, and a detailed geologic map of the Peñasco 7.5-minute quadrangle was produced as part of that work. A surface water assessment of the Embudo watershed, completed in 1998 as part of a county-wide study completed for the New Mexico Interstate Stream Commission (Johnson, 1998), provides a quantitative assessment of the surface water supply in the Rio Embudo drainage, including the Rio Pueblo de Picuris and the Rio Santa Barbara. A special water quality survey of the Rio Pueblo, Rio Santa Barbara and Embudo Creek, completed in 1994 by the New Mexico Environment Department Surface Water Quality Bureau, provides baseline water quality data for the three major stream reaches evaluated during this study (Smolka, 1996). Data and information from various other small-scale, reconnaissance studies and surveys concerning community water supply systems and well inventories have been incorporated into this report, including: (1) Tanimoto and Good, June 1982, Annual survey, community water supply system #3500113 for Picuris Pueblo water system, Albuquerque Area Indian Health Service, USPHS, unpublished agency report, and (2) Taos Soil and Water Conservation District, 2002, unpublished well inventory data from Chamisal and Peñasco.

II. METHODS

A multi-disciplinary approach integrating geologic, hydrologic, and geochemical data was adopted for this study. Major controls on the movement of groundwater in the subsurface include the nature of the rock material comprising geologic formations and aquifers and the geologic structures such as faults and folds that break, bend, and displace those formations. The geologic framework for this study is provided by Bauer and Kelson (2002) and their 1:24,000 geologic map and cross sections of the Peñasco 7.5-minute quadrangle. A generalized version of the Peñasco geologic map showing the major rock units that form shallow aquifers is attached as Plate 1. Geologic cross sections showing the vertical dimension of the subsurface are shown on Plate 2a-c. Detailed descriptions of the generalized map units are included in Appendix A. All interpretations regarding subsurface geology and aquifers were derived from a combination of surface geologic mapping (Bauer and Kelson, 2002; Bauer et al., 2005; Aby et al., 2004; Aby and Koning, 2004; Steinpress, 1980) and lithologic information noted on well records obtained as part of the well inventory.

Well and Spring Inventory

Much basic information concerning wells, aquifers and subsurface geology is available from well records on file with the New Mexico Office of the State Engineer (NMOSE). A well survey was conducted recovering approximately 62 NMOSE well records that were matched to sites in the study area. Springs, which are sites where groundwater intersects the land surface, were also located in the field. The resulting well and data inventory and existing NMOSE well records are included in Appendix B. The well and spring database (Table B-1) includes fields for site identification numbers (referenced on maps and in text), site type (well, spring or stream), site name, NMOSE file number (for wells only), UTM coordinates in North American datum (NAD) 83, site elevation, well depth, depth to water, date of water level measurement, and geologic formation where the well is completed. UTM coordinates for each location were obtained with a hand-held GPS unit and elevations at land surface were derived from a 10-meter digital elevation model (DEM). The locations of wells, springs and stream sites that were field checked, measured or sampled as part of this study are shown on Plate 3.

Groundwater Level Measurements and the Water-Table Surface Map

A water-table map, also referred to as a potentiometric surface map, depicts the distribution of hydraulic head in an aquifer system. To construct a water-table surface map, measurements of hydraulic head, obtained by measuring the depth at which water stands in wells and the location of springs, are converted to elevation and lines or contours are drawn that connect points of equal hydraulic head. These lines, called equipotential lines, produce a map of the altitude, slope, and shape of the groundwater surface and illustrate flow conditions and stresses on the aquifer. The depth to water in the Picuris study area was measured at 29 domestic well sites using a graduated steel tape or a Solinst electric water level tape. Additional static water levels reported by well owners or noted on well records were screened for accuracy and included in the database. The location and elevation of springs and stream-channel elevations, which represent points on the water-table surface, were also used to constrain the water-table surface. A total of 78 water level elevations (Appendix B, Table B-1) were used to manually contour the water-table surface, which represents shallow groundwater flow conditions in the Picuris area in summer and fall 2002 (Plate 4). In the final step of analysis, the water-table surface was subtracted from the 10-m DEM surface using ArcGIS, generating a derivative surface that illustrates depth to groundwater in the study area and defines environmentally sensitive areas where the depth to water is less than 20 ft (Plate 5).

Water Chemistry Sampling and Analysis

Thirty water samples were collected from domestic wells selected on the basis of depth, owner

participation and access, and uniform sample coverage across the study area. Because of the health-based objectives of this study and the need to characterize groundwater in the shallow aquifer, wells were sampled from a tap or line that did not pass through a filter or treatment system. The line was flushed with water for 3 to 5 minutes before the sample was taken in accordance with sample collection protocols of the New Mexico Department of Health Scientific Laboratory Division (NMDH SLD) for water microbiology. The well locations were representative of the variety of geologic and anthropogenic conditions in the study area (in all geologic formations, in densely to sparsely populated areas adjacent to stream courses, in floodplains, and in interstream uplands). Well water sampling occurred from December 2003 to May 2004.

Nine surface water grab samples were collected in February 2004 from various locations on the Rio Pueblo, the Rio Santa Barbara, the Rio Chiquito, and Chamizal Creek (see Plate 3). Water samples were collected from the Rio Pueblo above Telephone Canyon, above and below the Pueblo waste water treatment plant, and above the Rio Embudo confluence. Samples were col lected from the Rio Santa Barbara above the Rio Chiquito and above the Rio Embudo confluence. Additional samples were collected from the Rio Embudo, Rio Chiquito and Chamizal Creek. Hydrographs for the Rio Pueblo and the Rio Santa Barbara (Figure 2) indicate baseflow conditions existed at the time of sampling; that is, water in the stream at the time of sampling was sustained only by discharge of shallow alluvial groundwater as opposed to snowmelt or surface runoff. Four springs with active discharge (Sun Canyon Spring, Dogwater Spring, Aspen Spring, and an unnamed spring in township 23 north, range 11 east, section 36) were also sampled in May 2004.

All water samples were analyzed for major anions, cations, and trace metals by the New Mexico Bureau of Geology and Mineral Resources water chemistry lab in Socorro, New Mexico. Samples were tested for the presence or absence of total coliform and a fecal coliform level (number of bacteria per 100 ml) by the NMDH SLD, Albuquerque, New Mexico. One field duplicate was also collected and reproducible results (within 5%) were obtained.

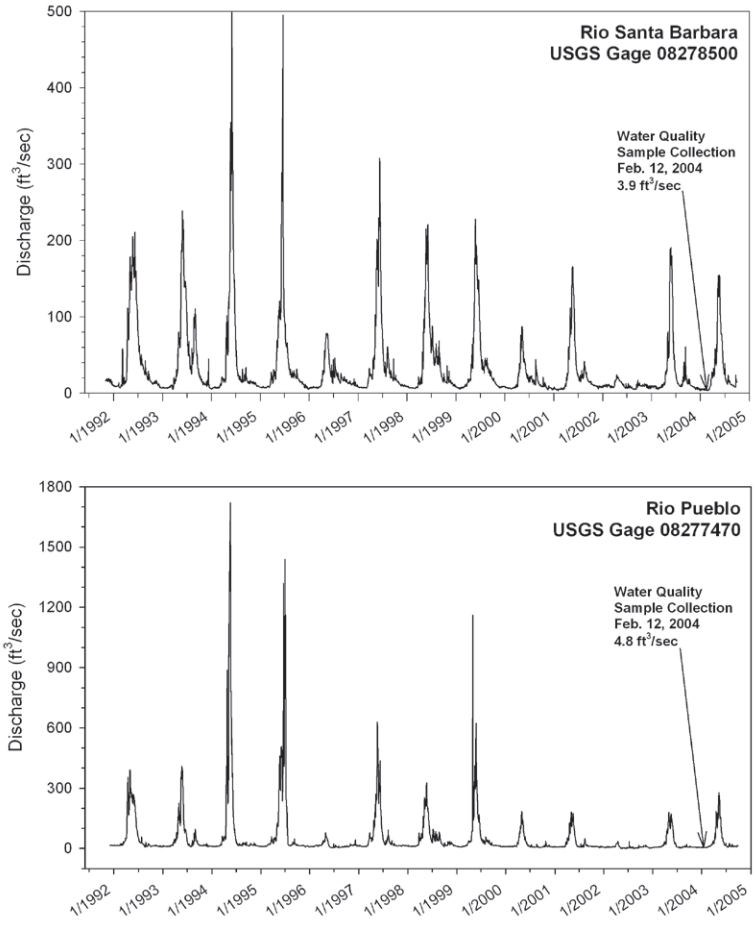

Figure 2. Hydrographs for Rio Santa Barbara and Rio Pueblo.

III. RESULTS

Hydrostratigraphic Units and Description of Aquifers

A great variety of geologic formations ranging from Precambrian crystalline rocks and Paleozoic sedimentary strata to much younger Tertiary and Quaternary volcaniclastic and alluvial deposits occur in the study area (Plates 1 and 2; Appendix A). Most shallow groundwater resources are drawn from younger rock units, including the Tertiary Picuris Formation (Tp), Santa Fe Group sediments (Ttd) and Quaternary alluvial deposits (Qa, Qt and Qf). Older crystalline rocks (Xu) and sedimentary strata tend to be well consolidated by pressure and mineral cements, which reduce their permeability (capacity of a porous rock to transmit water) and suitability as aquifers. More information on the rocks of the Picuris Mountains can be found in Bauer (1993). The following paragraphs describe the geologic units that form the major aquifers. Interpretations of the geologic formations where specific wells are completed are included in Table B-1, Appendix B (where sufficient data exist). Subsurface geologic interpretations are based on geologic maps, cross sections, and geologic information from well records.

Quaternary Alluvial Deposits (Qa, Qt, and Qf). Alluvial deposits are comprised of mixtures of gravel, sand, silt and clay deposited by streams along stream courses and floodplains, in stream terraces, and in alluvial fans at the mouths of mountain canyons. In the Picuris Pueblo study area, Quaternary alluvium (Qa) includes both stream channel and valley-floor deposits in active floodplains and young alluvialfan and stream terrace deposits along floodplain margins. The thickness of these young (less than about 2 million years in age) deposits ranges from about 2 to 25 ft. Older stream terrace (Qto) and alluvial fan (Qf) deposits, consisting of poorly sorted mixtures of silt, sand, pebbles, and boulders, also occur outside the margins of the active floodplain and typically range from 5 to 40 ft in thickness. These relatively young, thin, permeable sediments act as local aquifers, primarily along stream courses where water levels are less than about 20 ft. Wells completed in shallow alluvial deposits typically range from 20 to 30 ft in depth with water levels of 3 to 13 ft below land surface and reported yields of 10 to 20 gallons per minute (gpm). Many deeper wells intersect these shallow alluvial aquifers and extract a portion of their yield from the shallow (less than 20 ft) zone. Shallow alluvial aquifers are at greatest risk for degradation from land-use and waste management activities, and microbiological contaminants.

Tertiary Dixon Member of Tesuque Formation (Ttd). South of the Rio Santa Barbara and Rio Pueblo in the southern part of the Peñasco quadrangle, the relatively thin Quaternary deposits are underlain by thick Miocene Santa Fe Group sand and gravel deposits, specifically the Dixon Member of the Tesuque Formation (Ttd). These alluvial fan and braided stream deposits consist of 55% sandstone, 30% conglomerate, and 15% mudstone (Steinpress, 1980; Bauer and Kelson, 2002) and are approximately 11.8 to 13 million years old (Aby and Koning, 2004). Where exposed, much of this sediment is described as "loose to slightly friable" or "locally cemented", indicating that the original, moderate permeability of the unit has not been significantly reduced. The Dixon Member forms the primary aquifer near the southern corners of the study area, near Chamisal and south and east of Peñasco. Exposed thickness varies from 250 to 330 ft, but could be considerably thinner where the unit has been eroded. Wells completed exclusively in the Dixon Member range from 60 to 170 ft in depth, have water levels of 8 to 70 ft below land surface (depending on location along the mountain front) and reported yields of 5 to 25 gpm.

Tertiary Picuris Formation, Upper Volcaniclastic Member (Tpu). Much of the terrain in the Rio Pueblo and Rio Santa Barbara valleys is underlain by the Picuris Formation, which lies stratigraphically below the Dixon Member of the Tesuque Formation and is divided into lithologically distinct mappable members. South of the Picuris Mountains, the upper volcaniclastic member of the Picuris Formation (Tpu), which has a reported age of 19.8 to <25.9 million

years, consists of red to purple silty, sandy pebble conglomerates, commonly containing more than 50% red to orange, mudstone, siltstone and sandstone (Aby et al., 2004) (Figure 3). The total thickness of the upper volcaniclastic member is estimated to range from 400 to 1100 ft, but is much thinner where the unit is eroded. Near Chamisal, the base of the upper member is a thick (35 ft or greater), well-cemented bed of cobble conglomerate. The upper contact is also placed at the top of the highest conglomerate bed that is dominated by volcanic clasts. The volcaniclastic member generally consists of either fine-grained sediments with relatively low permeability or coarse-grained gravels with primary permeability dramatically reduced by the presence of heavy cements.

Because of its wide extent below and between the river valleys and its accessibility, the volcaniclastic member forms a major aquifer. Productivity, however, is variable and reflects the variability and heterogeneity of the sediments themselves. Wells completed in the upper member (Tpu) typically range from 80 to 185 ft in depth, although depths up to at least 265 ft are reported. Water levels range from 20 to 80 ft below land surface and the average yield is 14 gpm. In Peñasco, large production wells completed in this aquifer unit have reported yields up to 100 gpm, considerably larger than reported for the average domestic well.

Tertiary Picuris Formation, Middle Tuffaceous Member (Tpm and Tpmc). The middle tuffaceous member of the Picuris Formation (Tpm) is estimated to range in age from about 23 to 28 million years (Aby et al., 2004) and to be up to 400 ft thick. It primarily consists of light buff to yellowish colored silts, sands, and clays that have a significant component of primary volcanic ash and pumice. These fine-grained volcanic sediments are interbedded

Figure 3. Photograph of the top of Hill 7551' on western Picuris Pueblo, showing the contact between the white-togray middle tuffaceous member (Tpm) and the reddish upper volcaniclastic member (Tpu) of the Picuris Formation.

with buffand black-colored, channel-fill conglomerates and pebbly, gravelly sandstone. The uppermost part of the middle tuffaceous member contains a 30- to 115-foot-thick, heavily cemented, light-colored bed of sandstone to fine cobble or cobble-boulder conglomerate (Tpmc in Plates 1 and 2) (Figure 4). The middle tuffaceous member mantles the foothills of the Picuris Mountains north of the Rio Pueblo, and extends south and west of Vadito across the drainage divide to the Rio Santa Barbara. Because it is exposed across less developed areas than other aquifer units, the middle tuffaceous member constitutes a relatively minor aquifer in the Rio Pueblo Valley. Even more than the upper volcaniclastic member of the Picuris Formation, this middle member is extremely variable and heterogeneous in the nature of its sediments and aquifer properties. The fine-grained, volcanic-rich portions of the unit (Figure 5) often exhibit relatively high porosities and storage capacities, but do not necessarily yield water readily to wells (low permeability). Wells completed in the tuffaceous member (Tpm) range from 35 to nearly 300 ft in depth, with water levels reported at 10 to 160 ft below land surface. Well yields are also highly variable, ranging from less than 2 gpm in the clay-rich zones to 30 gpm or more in fractured portions of the cemented conglomerates.

Hydrologic Effects of Faults and Structural Features. Faults exert significant control on the occurrence and movement of water in the study area. Faults can act as barriers, non-barriers, or conduits to groundwater flow depending on whether the fault zones are less permeable, similarly permeable, or more permeable than the adjacent aquifers. Faults with significant offset can also affect cross-fault permeability by truncating or locally reducing the thickness of permeable aquifers, or by juxtaposing formations with

Figure 4. Photograph of the middle tuffaceous member of the Picuris Formation on the southern slope of Vadito Hill. The ledge-forming beds (Tpmc) are silicified sandstone. The underlying, less-resistant rocks (Tpm) are sandstones with volcanic clasts.

dramatically different permeability. Faults can also influence if and where streams gain or lose a portion of their flow from or to underlying aquifers. Three major and several minor faults, including the Picuris-Pecos fault system, have been mapped in the vicinity of the Picuris Pueblo (Plates 1 and 2). The Picuris-Pecos fault system, a large fault zone with a complex history, has been traced for more than 50 miles across the state, from the northern Picuris Mountains south of Taos, to near the village of Cañoncito east of Santa Fe, and southward into the Estancia Basin (Bauer and Kelson, 2004). This north-south trending fault system and a number of its subsidiary faults cut through Precambrian crystalline rocks and Paleozoic sedimentary strata in the Picuris Mountains then continue southward across the Rio Pueblo and Rio Santa Barbara through younger Tertiary Picuris and Tesuque Formations. Parallel to sub parallel sets of northeast-southwest faults associated with the Picuris-Pecos fault system bound adjoining up-thrown (horst) and down-dropped (graben) blocks that are oriented perpendicular to directions of regional groundwater and surface water flow. The Peñasco horst, a major up-thrown block of Precambrian crystalline rock, trends northeast from Chamisal across the Rio Santa Barbara and Rio Pueblo and into the Picuris Mountains between Vadito and the Pueblo de Picuris. Geologic cross sections A-A' and B-B' (Plate 2a-b) best illustrate the structure of the Peñasco horst and it's location in the subsurface. At Chamisal, the surface of the Peñasco horst is estimated to lie between 250 and 300 ft below land surface and at the Rio Santa Barbara southeast of Rio Lucia the horst lies just below the modern floodplain deposits, a depth of about 30 or 40 ft. The Peñasco horst influences both groundwater and surface water flow and groundwater quality in the study area. Effects of this geologic structure are discussed further in following sections.

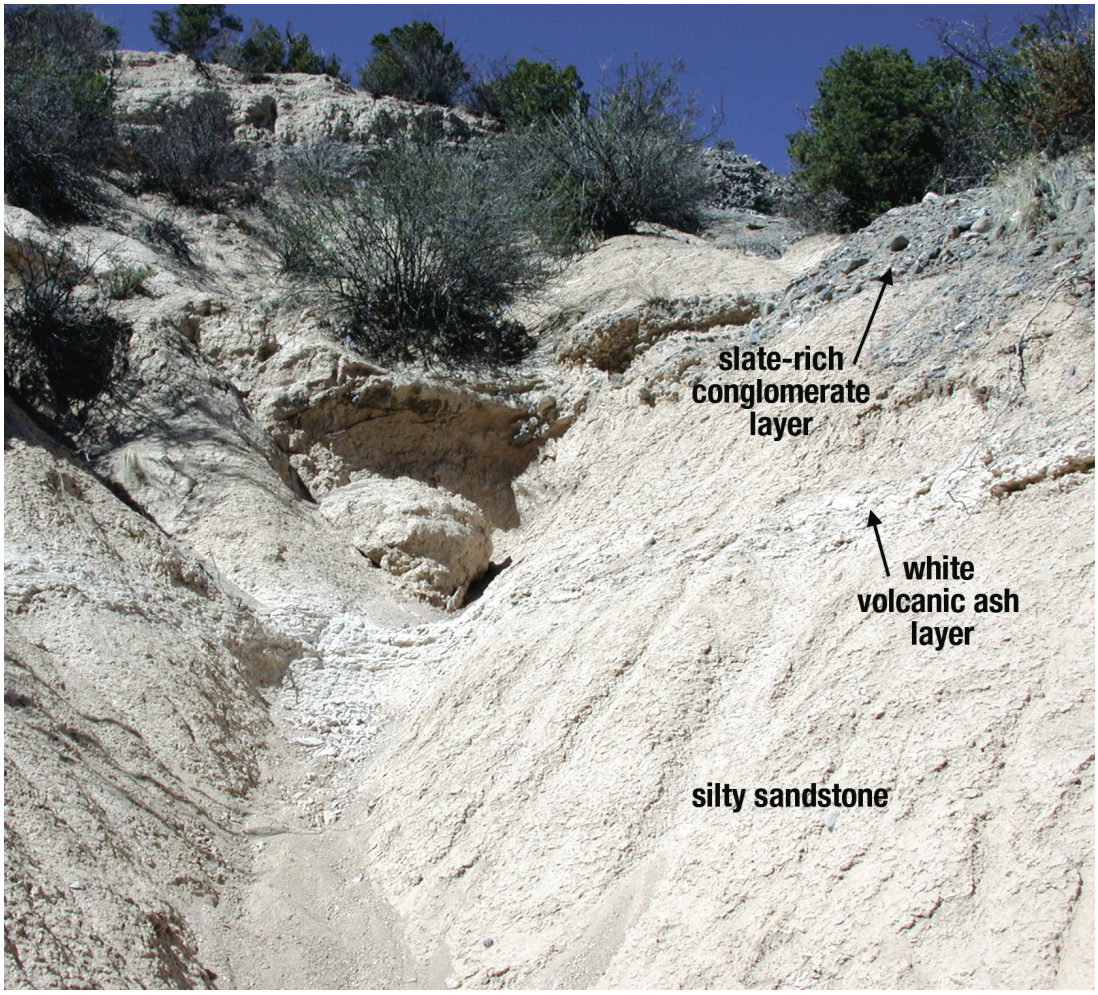

Figure 5. Photograph of the middle tuffaceous member (Tpm) of the Picuris Formation exposed on the southeastern slope of Hill 7551' in the western Picuris Pueblo. Although most of Tpm is volcaniclastic silty sandstone, the unit contains interbeds of conglomerate and volcanic ash.

Groundwater and Surface Water Conditions

The water-table surface map (Plate 4) illustrates the elevation, slope, and shape of the water table and denotes flow conditions, groundwater and surface water interactions, and stresses on the aquifer. Shallow, horizontal groundwater flow is driven by the gradient of the water-table surface, and it generally moves in the direction of maximum hydraulic gradient, which is the direction perpendicular to the contours (lines of equal hydraulic head) in Plate 4. (The hydraulic gradient corresponds to the drop in hydraulic head per unit horizontal distance, and is expressed as a dimensionless number, for example feet per feet.) Arrows showing direction of horizontal groundwater movement have been added to help the reader interpret the water-table map.

Groundwater exists under shallow, unconfined conditions in thin Quaternary alluvial deposits beneath the active floodplains of the Rio Pueblo, Rio Santa Barbara, Rio Chiquito and Chamizal Creek. Depth to groundwater in the valleys is often less than 20 ft (Plate 5), causing these aquifers to be susceptible to degradation by pollutants associated with land use and waste management. These shallow, saturated zones are in direct hydraulic connection with deeper zones of saturation found within older Tertiary sedimentary units (Dixon Member of the Tesuque Formation and upper and middle members of the Picuris Formation). Deeper aquifers display both unconfined and semi-confined conditions. Evidence also indicates that vertically downward hydraulic gradients are prevalent. Water level (hydraulic head) data from adjacent shallow and deep wells generally indicate lower water levels at greater depths, supporting the concept that a very strong vertically downward gradient prevails, specifically in the vicinity of Peñasco (see PW-11b and PW-42; PW-28 and PW-32), northeast of Chamisal (see PW-8 and PW-7), and near the confluence at Picuris Pueblo (see PW-4 and PW-5). The prevalence of downward gradients in the area indicates that shallow groundwater and connected surface water are actively moving to deeper saturated horizons. An exception is observed in the vicinity of the Peñasco horst south of Rio Lucio where water level data from adjacent wells PW-13b and PW-23 suggest that a vertically upward gradient exists. This localized upward flow of groundwater is likely caused by impermeable crystalline rocks in the Peñasco horst located at a very shallow depth and dramatic thinning of the overlying Picuris Formation. In addition, faults bounding the Peñasco horst may impede the flow of groundwater. Both conditions have the effect of forcing deep groundwater up toward the surface.

In general, shallow groundwater flows south-southwest from the Picuris Mountains and northwest through the Rio Santa Barbara and Chamizal drainages into the Rio Pueblo valley. Shallow groundwater also flows parallel or subparallel to the major stream channels. Horizontal hydraulic gradients are relatively uniform over much of the area, although small variations do exist. Changes in the hydraulic gradient reflect changes in topography and in aquifer properties, specifically the permeability of the aquifer materials. Generally speaking, the gradient of the water-table surface is about .01 to .02 in the Rio Pueblo valley and .03 to .04 in the Rio Santa Barbara and Chamizal valleys. A higher hydraulic gradient (larger drop in hydraulic head per unit distance) exists in the foothills of the Picuris Mountains (.085) and across the northwestern edge of the Peñasco horst (0.3). The ten-fold increase in the water-table gradient in the vicinity of the Peñasco horst between Chamisal and Rio Lucio must correspond (according to Darcy's law of groundwater flow) with a ten-fold decrease in aquifer permeability at that location, suggesting that the fault bounding the northwest edge of the bedrock block has a reduced permeability and is attenuating the movement of groundwater at that location.

The shape of the water-table surface in the vicinity of streams also provides evidence of the interchange between surface water and groundwater and the gaining or losing nature of flow in the stream channel. Contours of water-table elevation (Plate 4) in the immediate vicinity of a stream indicate a gaining stream by pointing in an upstream direction, and indicate a losing stream by pointing in a downstream direction where they cross a stream channel. In a gaining stream, groundwater discharges into the stream channel, sustaining stream flow. This is the case along the Rio Pueblo within the study area, and along the Rio Santa Barbara and Chamizal Creek in the southern part of the study area. In a losing stream, water moves out of the stream channel and into the aquifer, thus providing recharge to the aquifer at the expense of flow in the stream channel. This is the case along Chamizal Creek downstream from the village of Chamisal, and along the Rio Santa Barbara southeast of the village of Rio Lucio. Flow in the Rio Santa Barbara and Chamizal Creek changes from gaining to losing across the downstream edge of the Peñasco horst, as the thickness and transmissivity of the aquifer increase dramatically (see geologic cross sections A-A' and B-B', Plate 2),

the water table drops, and stream flow seeps into the underlying aquifer.

The shape of the water-table surface is fairly uniform and no pumping depressions appear in the vicinity of MDWCA pumping wells. This suggests that groundwater development has not depleted the aquifers and does not appear to have significantly altered the water table from predevelopment conditions.

Water Quality

Results of water quality sampling from streams, springs, and shallow groundwater indicate that the quality of surface water and groundwater in the study area is generally good to excellent. Water samples were analyzed for ion chemistry, trace element chemistry and microbiological contaminants. The chemical and microbiological characteristics of surface water and groundwater provide information on the movement of water through the aquifer, the interconnection between surface water and groundwater, and whether the surface and shallow water resources may be affected by waste management or land-use activities or by naturally occurring contaminants. Results of chemical analyses are shown in Appendix C, Tables C-1, C-2, C-3, and C-4. Laboratory sheets from the New Mexico Bureau of Geology and Mineral Resources water quality lab for ion and trace element chemistry and from the New Mexico Department of Health Sientific Laboratory Division for total coliform and fecal coliform are also included in Appendix C.

Water Quality Standards. Water quality standards are established by various federal, state and tribal agencies with the objective of protecting public health and maintaining the quality of surface water and/or groundwater for designated uses. Standards applicable to surface waters in the Rio Pueblo and Rio Santa Barbara have been established by the New Mexico Water Quality Control Commission (NMWQCC, 2002a, 2002b). Water quality standards adopted by the Pueblo in May 1995 and revised in 2000 (Picuris Pueblo, 2000) apply to all waters within the boundaries of the Pueblo and consist of numeric standards specific to designated uses and an antidegradation policy. Designated uses are recharge of domestic water supply, fish culture, high quality coldwater fishery, irrigation, livestock and wildlife watering, municipal and industrial water supply and primary recreation (Picuris Pueblo, 2000; Smolka, 1996). Drinking water standards in the form of maximum contaminant levels (MCLs) established by U.S. Environmental Protection Agency (USEPA) also apply to the study area. The Pueblo of Picuris has authorization for the purposes of the federal Clean Water Act, along with USEPA, to apply water quality standards. Water quality results for groundwater (Appendix C) are compared to USEPA MCLs, results for surface water are compared to Picuris Pueblo designated-use standards (Picuris Pueblo, 2000), and results for spring water are compared to Picuris Pueblo general standards (Picuris Pueblo, 2000) and, for the sake of discussion, to New Mexico State standards (NMSS) for groundwater (NMWQCC, 2002b).

Surface Water Quality. During the period of May 2, 1994 through February 22, 1995, NMED conducted a special water quality survey of the Rio Pueblo, Rio Santa Barbara and Embudo Creek (Smolka, 1996). Nine sampling stations from the headwaters to the confluence with the Rio Grande were visited on five occasions for water quality and biological assessments; five of those stations are located within or immediately upstream of the study area and provide valuable baseline data. Results from Smolka (1996) indicated that water quality on the Rio Pueblo and the Rio Santa Barbara was "quite good", based on their comparison of results to water quality standards for interstate and intrastate streams in New Mexico. Both streams were clear, highly oxygenated and slightly alkaline. On average, each contained low levels of nutrients, metals and dissolved inorganic chemicals. The concentrations of total dissolved solids increased slightly in a downstream direction, independent of the sampling season. Concentrations at each site during the summer and fall seasons were double those taken during winter-spring low-flow conditions. Ten water quality standards were exceeded on the Rio Pueblo and eight standards were exceeded on the Rio Santa Barbara. The type and number of deviations (from state standards) on the Rio Pueblo included:

- Site 3, Rio Pueblo below Sipapu and above Placitas – phosphorus (1), turbidity (1), chronic aluminum (1), and fecal coliform (1);
- Site 4, Rio Pueblo at Highway 75 bridge above confluence with Rio Santa Barbara – temperature (1 marginal), phosphorus (1), chronic aluminum (1), and fecal coliform (1).

The type and number of deviations on the Rio Santa Barbara included:

- Site 5, Rio Santa Barbara at upper Santa Barbara campground – phosphorus (1 marginal), chronic aluminum (1);

- Site 6, Rio Santa Barbara upstream of confluence with Rio Pueblo – temperature (2), conductivity (2), chronic aluminum (1), and fecal coliform (1).

The February 2004 sampling event conducted during this study did not duplicate the entire list of analyses performed by NMED in the 1994 special water quality survey (Smolka, 1996); specifically, no tests of turbidity, temperature, dissolved oxygen (DO), ammonia, total nitrogen, or tin were conducted in 2004. For the remaining analyses, two minor deviations from Picuris Pueblo designated-use standards were noted.

The location and type of surface water quality deviation include:

- PSW-4, Rio Pueblo above the waste water treatment plant, specific conductance; the result (312 micro Siemens per centimeter (µS/cm)) exceeded the standard (300 µS/cm) established for high quality coldwater fishery (Table C-1);
- PSW-7, Rio Pueblo below the waste water treatment plant, zinc; the result (320 µg/L) exceeded the calculated standard under acute fishery criteria (187 µg/L) (Table C-3).

The quality of spring water on the Pueblo showed minor deviations from groundwater and drinking water standards. Relatively high iron (Fe) concentrations were noted for Suncorner Spring (PS-76) and Dogwater Spring (PS-77), which exceeded either the EPA's MCL and/or the NMSS for groundwater (Table C-2). In addition, three of four springs sampled indicated a presence of total coliform, but did not exceed the count limit for fecal coliform. In general, the quality of surface waters in the Picuris Pueblo remains good to excellent and is suitable for their designated uses.

Groundwater Quality. Results of major and minor ion chemistry, trace element chemistry, and microbiological tests on water from shallow domestic wells and springs indicate that the quality of groundwater in the Pueblo is generally quite good, although several individual incidents of elevated concentrations of naturally occurring contaminants are noted. Results of major ion chemistry (Table C-1), minor ion chemistry (Table C-2), trace element chemistry (Table C- 3), and microbiologic sampling (Table C-4) are tabulated in Appendix C, followed by laboratory sheets for each sample.

Major Ion Chemistry and Regional Conditions. The groundwater on Picuris Pueblo is dominated by calcium and bicarbonate ions. However, a small number of wells produce either sodium-rich (calcium depleted) bicarbonate water or calcium-rich bicarbonate-sulfate water. One well produced sodium bicarbonate-sulfate water. The various water quality types occurring on Picuris Pueblo are illustrated in Stiff diagrams on Plate 6. Bicarbonate-sulfate groundwater is concentrated in and around Peñasco and is believed to originate from the upper Rio Santa Barbara, which drains Pennsylvanian shale and limestone containing sulfate-rich sediments. Stream water sampling by Smolka (1996) indicate that water in the Rio Santa Barbara at the upper Santa Barbara campground (station 5) is bicarbonate-sulfate in composition. Water from the Rio Santa Barbara below Peñasco (PSW-9) and the Rio Pueblo above Telephone Canyon (PSW-5) also contains a significant proportion of sulfate. Two wells with sodium-rich (calcium depleted) water (PW-4 and PW-69) are located in the Rio Pueblo valley and are completed in the middle tuffaceous member of the Picuris Formation (Tpm), which is composed of silts, sands, and clays that have a significant component of volcanic ash and pumice.

The ion chemistry of water samples is also illustrated in a Piper diagram (Figure 6), which shows three general groups of chemically similar water and a small degree of mixing. Again, the major water type is calcium bicarbonate water, which generally occurs throughout the Dixon Member and upper member of the Picuris Formation in the valleys of the Rio Santa Barbara, Rio Pueblo, and Chamizal Creek. This water type is represented by the dense cluster of data in the left-hand quadrant of the diagram. A limited group of samples plot toward the sulfate (SO_4^{2-}) end of the Piper diagram and define the sulfate-rich water. This chemical zone is represented by two domestic wells (PW-31 and PW-45) near Peñasco and headwaters of the Rio Santa Barbara and Rio Pueblo (PSW-9 and PSW- 5). Groundwater in shallow wells near the Rio Santa Barbara upstream of Peñasco is expected to contain a significant portion of sulfate. A third group of sodium-rich (calcium-depleted) water is represented by two domestic well samples (PW-4 and PW-69) taken from the middle tuffaceous member of the Picuris Formation and a spring sample from Precambrian crystalline rocks in the foothills of the Picuris Mountains (PS-81) that falls midway between the sodium-rich well water and the bulk of the calcium bicarbonate samples. Extension of the main body of calcium bicarbonate samples toward the sulfate-rich and sodiumrich end members indicates a small amount of mixing between these two outlying water types and the primary calcium bicarbonate zone.

The occurrence of major and minor ions and trace elements varies systematically across the study area. The distribution of various chemical components is shown in a series of contour plots of chemical concentrations (Figures 7a through 7l), which allow interpretation of the origin and evolution of groundwater. When combined with other hydrologic and geologic data, we can also make some deduction about the origin of the dissolved chemicals. High and low anomalies in chemical distribution patterns reflect the different chemistry of different aquifers (for example, the middle member of the Picuris Formation (Tpm)), the effects of geologic structures such as the Peñasco horst or faults associated with the Picuris-Pecos fault system, or local chemical conditions. Similar patterns are repeated in the contours of several chemical ions and elements and will be discussed throughout this section.

The overall chemical evolution of groundwater along its westward flow path is expressed plainly in contours of total dissolved solids (TDS) (Figure 7a). The concentration of TDS increases in

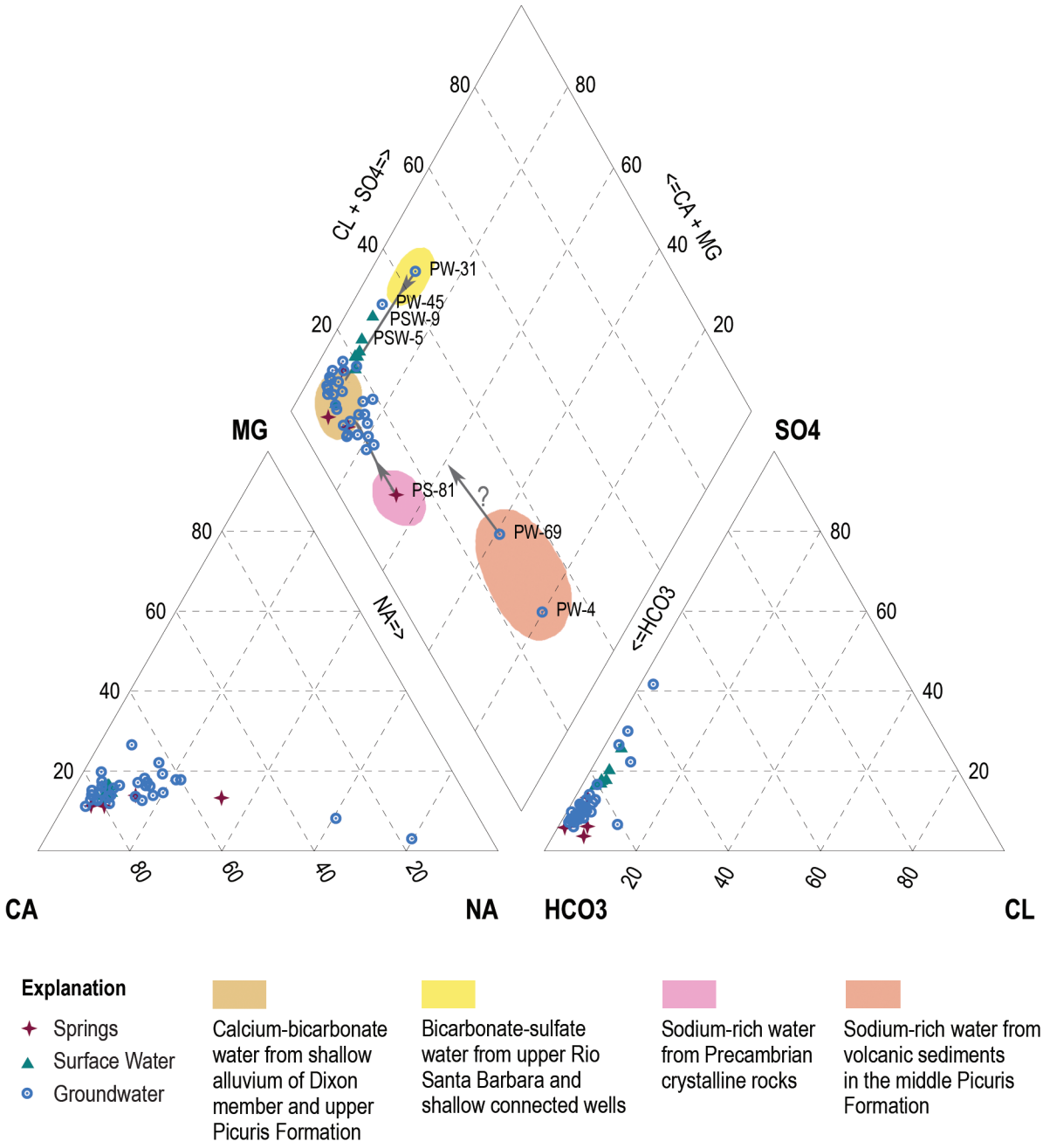

Figure 6. Piper diagram showing major ion composition and hydrochemical zones in groundwater and surface water on Picuris Pueblo

a down-gradient direction, from 164 to 485 mg/L, indicating that increasing amounts of minerals are dissolved in or added to groundwater along its flow path. The lowest concentrations of TDS in groundwater are in the upper Rio Santa Barbara valley above Peñasco. The highest concentrations occur in the Chamizal valley downstream of the village. The distribution pattern for TDS is imitated by specific conductance (Figure 7b), which is an indirect measure of dissolved mineral content or salinity. In general, groundwater in the study area ranges from low (<250 µS/cm) to medium (250 to 750 µS/cm) salinity. Contours of sulfate concentration (Figure 7c) indicate that the highest sulfate (SO_4^{2-}) ion concentrations occur near Peñasco and overlap the area of lowest dissolved solids. Again, this high sulfate, low TDS water originates from the Rio Santa Barbara drainage. The two domestic wells with sodium-rich water (PW-4 and PW-69) completed in the middle tuffaceous member of the Picuris Formation also exhibit a relatively high sulfate concentration that is likely characteristic of water from that formation. Chloride (Cl-) ion concentration ranges from 2 to 24 mg/L and concentration contours (Figure 7d) generally mimic those for dissolved solids, increasing in a downstream direction. Relatively high concentrations of both TDS and chloride coexist in several wells near and northeast of Chamisal (for example PW-38), which are situated near faults associated with the Peñasco horst, the northeast-trending shallow Precambrian bedrock structure. Chloride ion concentrations in groundwater near Picuris Pueblo are well below levels demonstrated by McQuillan (2004) to be associated with septic system contamination in New Mexico (approximately 50 to 200 mg/L), and appear to originate from natural sources.

Chloride/bromide ratios (Cl-/Br-) in groundwater also help to reconstruct the history of groundwater systems and to identify sources of pollution (Davis et al., 1998). In the study area, Cl-/Br- ratios range from 22 to 185. These values are generally within the range reported for atmospheric precipitation (between 50 and 150) and shallow groundwater (between 100 and 200), and well below the values associated with domestic sewage (between 300 and 600) (Davis et al., 1998). Groundwater from many volcanic rocks has significantly higher ratios, specifically pumice and tuff, which range from 500 to 545 (Davis et al., 1998). Near Picuris Pueblo Cl-/Brratios are significantly higher in wells coincident with horst-bounding faults and the middle tuffaceous member of the Picuris Formation (Tpm) (PW-38 at 185 and PW-21 at 120).

In summary, the major ion chemistry of groundwater near Picuris Pueblo indicates that high quality, low TDS, calcium-bicarbonate and bicarbonate-sulfate water is generated in the upper watersheds and dominates shallow groundwater from the Dixon Member and the upper member of the Picuris Formation. This high quality groundwater is slightly degraded with added dissolved minerals, sulfate, and chloride originating from deeper sources in the vicinity of the Peñasco horst and by movement through the middle tuffaceous member of the Picuris Formation and older Precambrian crystalline rocks. Based on major ion chemistry, there is no indication of degradation of shallow groundwater by domestic sewage.

Minor Ion Chemistry and Regional Conditions. The distribution of minor ions nitrate (NO_3^-), iron ($Fe^{2+/3+}$), manganese (Mn^{2+}), strontium (Sr^{2+}), and silica (SiO_2) (Figures 7e through 7i) varies systematically across the study area and exhibits local anomalies that augment general interpretation of regional chemical conditions. Elevated concentrations of nitrate, iron, and manganese are often associated with contamination from septic systems. Nitrate ion concentrations (expressed as nitrogen, N) in groundwater on Picuris Pueblo are well below the EPA MCL of 10 mg/L, but are sufficiently high to indicate oxygen-rich conditions. In anoxic conditions, nitrogen originating from septic systems exists as ammonium (NH_4^+) or nitrite (NO_2^-). Observed nitrate concentrations are well below those associated with septic or wastewater contamination in oxygenated conditions (McQuillan, 2004) and within the range associated with igneous rocks (Hem, 1985). The distribution of nitrate reflected in concentration contours (Figure 7e) shows a regional pattern of very low concentrations with relatively higher concentrations at specific locations near Chamisal (PW-17 and PW-51) and south of Vadito (PW-46 and PW-67), locations contiguous with the Peñasco horst and the Picuris-Pecos fault system.

Several water samples from wells and springs 19 on Picuris Pueblo contain elevated concentrations of iron and manganese, which exceed EPA's secondary or aesthetic MCL. The well identification and type of deviation are:

- PW-8, iron concentration of 0.41 mg/L exceeds the MCL of 0.3 mg/L.
- PW-28, iron concentration of 0.89 mg/L exceeds the MCL of 0.3 mg/L.

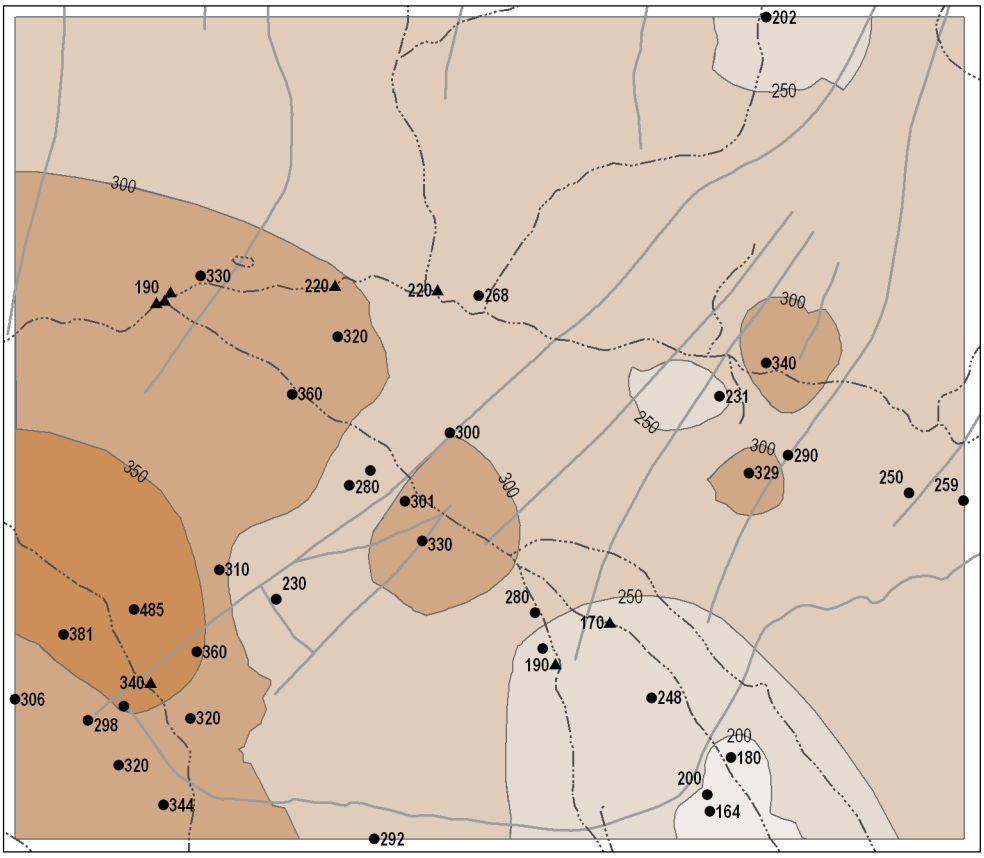

Figure 7. Chemistry concentration contours for groundwater of the Picuris Pueblo.

Figure 7a
Total Dissolved Solids (TDS)

TDS concentration in mg/L
secondary MCL = 500 mg/L

- <200
- 200 - 250
- 250 - 300
- 300 - 350
- >350
- 20 — Line of equal TDS concentration
- ● 200 — Well sample with TDS concentration
- ▲ 200 — Stream sample with TDS concentration

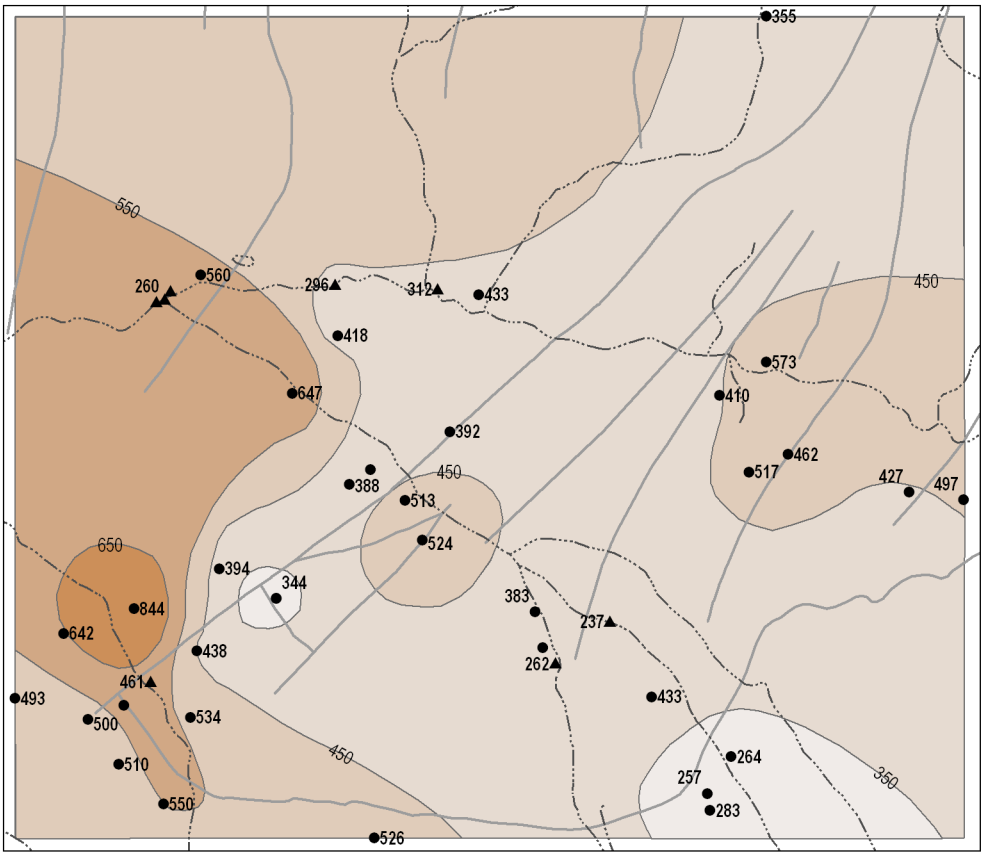

Figure 7b
Specific Conductance (Sp.Cond)

Sp.Cond in microSiemens per centimeter (US/cm)

- <350
- 350 - 450
- 450 - 550
- 550 - 650
- >650
- 20 — Line of equal Sp.Cond measurement
- ● 200 — Well sample with Sp.Cond measurement
- ▲ 200 — Stream sample with Sp.Cond measurement

Map Symbols

- Streams
- Faults

N W E S

Scale 1:60,000

0 0.25 0.5 0.75 1 Miles

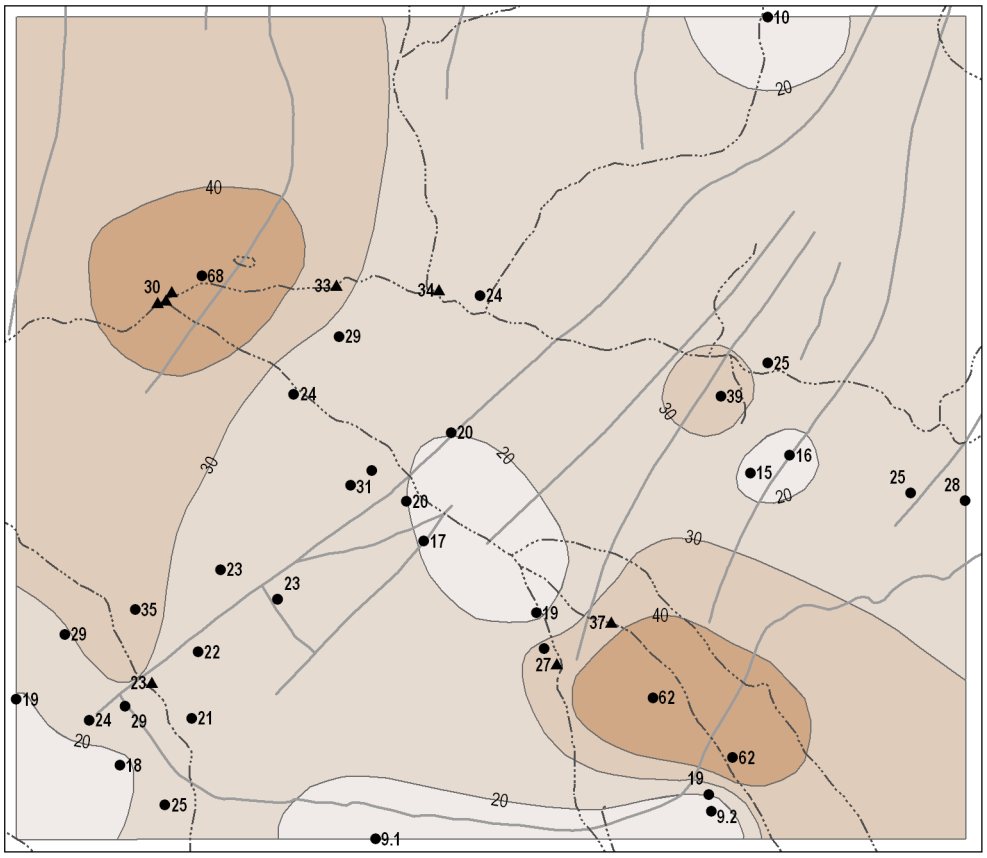

Figure 7c
Sulfate (SO4)

SO4 concentration in mg/L
secondary MCL = 250 mg/L

- <20
- 20 - 30
- 30 - 40
- >40
- 20 — Line of equal SO4 concentration
- ● 200 — Well sample with SO4 concentration
- ▲ 200 — Stream sample with SO4 concentration

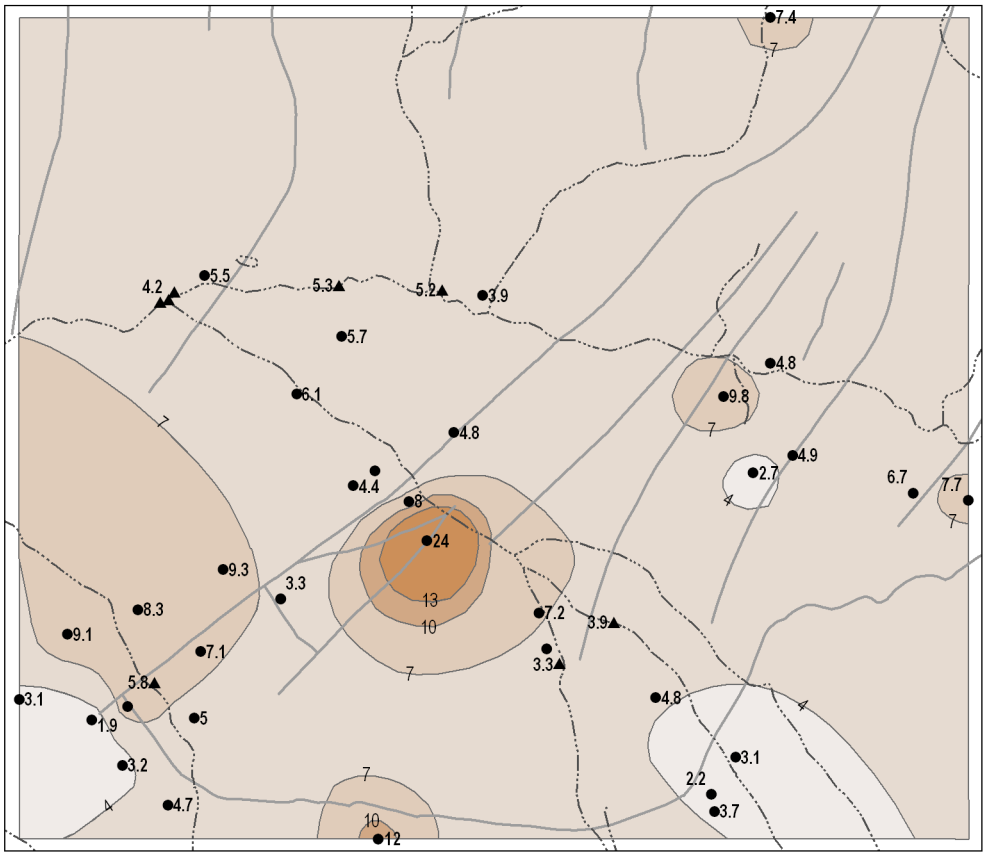

Figure 7d
Chloride (Cl)

Cl concentration in mg/L
secondary MCL = 250 mg/L

- <4
- 4 - 7
- 7 - 10
- 10 - 13
- >13
- 20 — Line of equal Cl concentration
- ● 200 — Well sample with Cl concentration
- ▲ 200 — Stream sample with Cl concentration

Map Symbols

- Streams
- Faults

N
W E
S

Scale 1:60,000

0 0.25 0.5 0.75 1 Miles

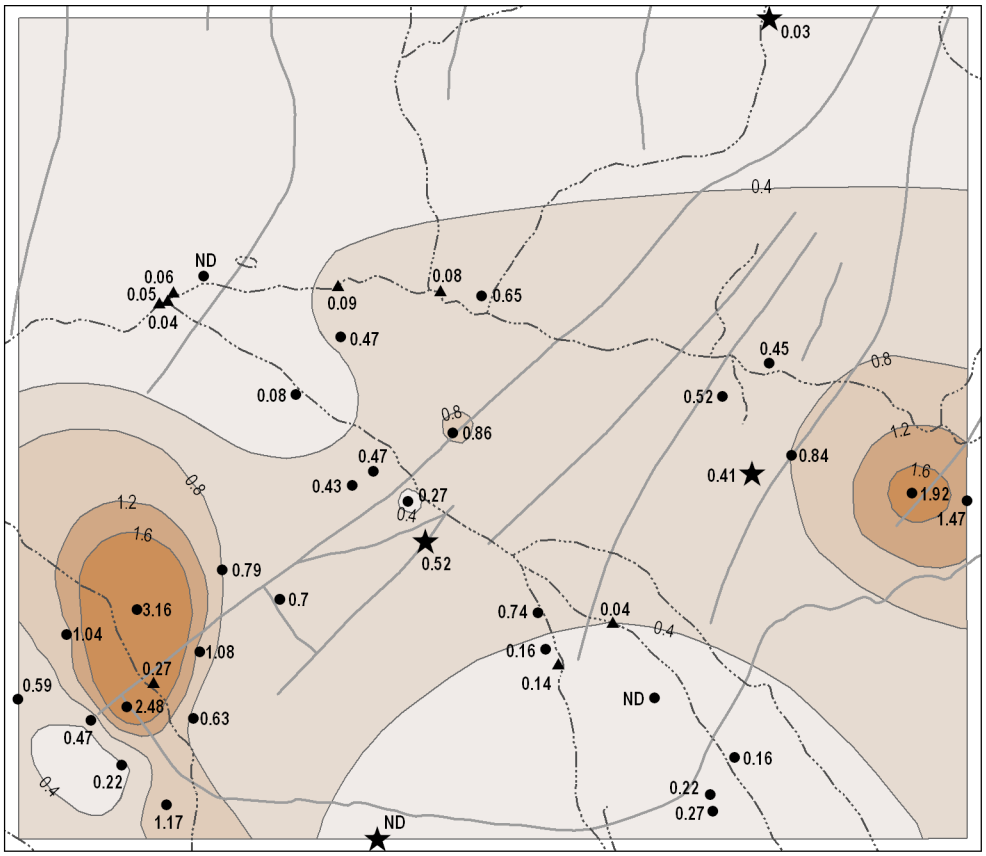

Figure 7e
Nitrate (N03(N))

N03 concentration in mg/L
MCL = 10 mg/L

- <0.4
- 0.4 - 0.8
- 0.8 - 1.2
- 1.2 - 1.6
- >1.6

20 — Line of equal N03 concentration
20 ★ Coliform present
200 ● Well sample with N03 concentration
200 ▲ Stream sample with N03 concentration
ND — Not detected; detection limit = 0.1 mg/L

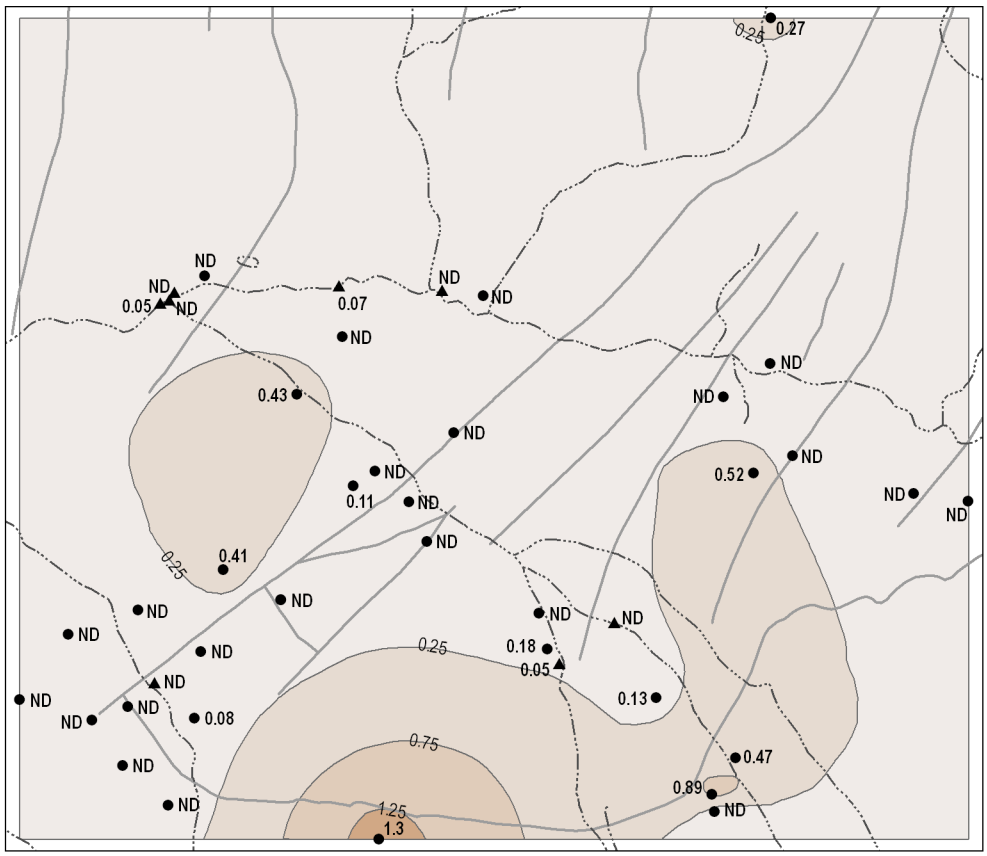

Figure 7f
Iron (Fe)

Fe concentration in mg/L
Secondary MCL = 0.3 mg/L

- <0.25
- 0.25 - 0.75
- 0.75 - 1.25
- >1.25

20 — Line of equal Fe concentration
200 ● Well sample with Fe concentration
200 ▲ Stream sample with Fe concentration
ND — Not detected; detection limit = 0.05 mg/L

Map Symbols

- Streams
- Faults

N
W E
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Scale 1:60,000

0 0.25 0.5 0.75 1 Miles

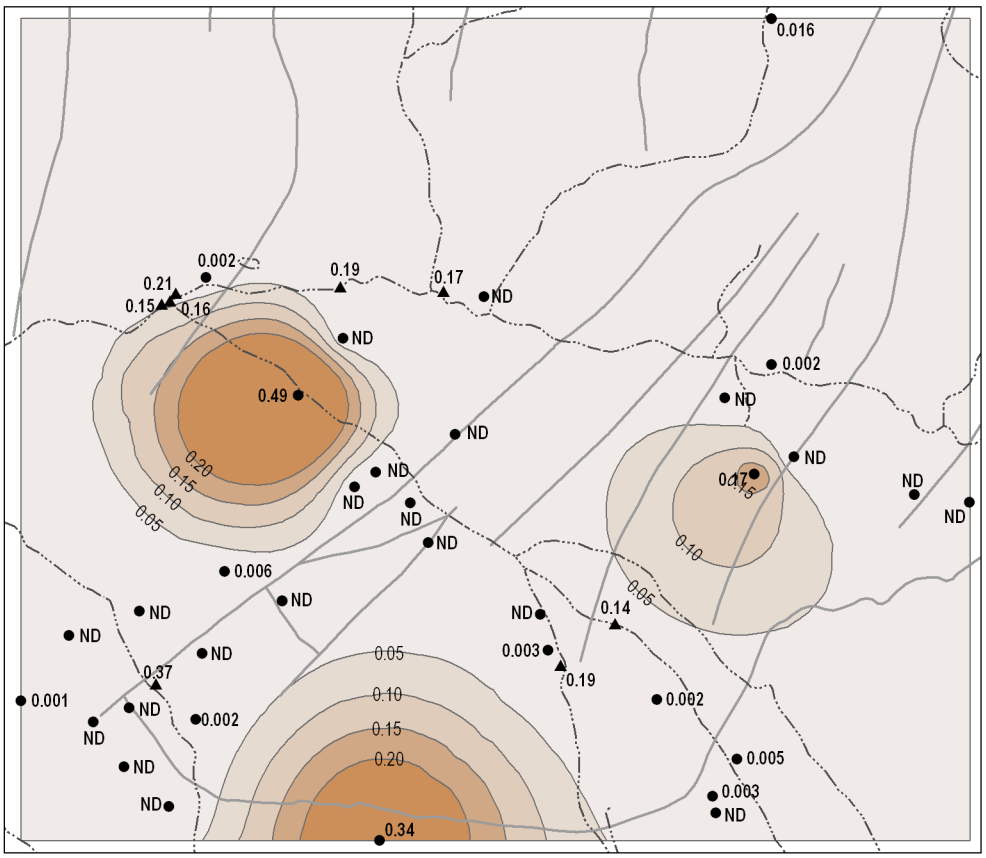

Figure 7g
Manganese (Mn)

Mn concentration in mg/L
secondary MCL = 0.05 mg/L

- <0.05
- 0.05 - 0.10
- 0.10 - 0.15
- 0.15 - 0.20
- >0.20

20 — Line of equal Mn concentration
● 200 — Well sample with Mn concentration
▲ 200 — Stream sample with Mn concentration
ND — Not detected; detection limit = 0.001 mg/L

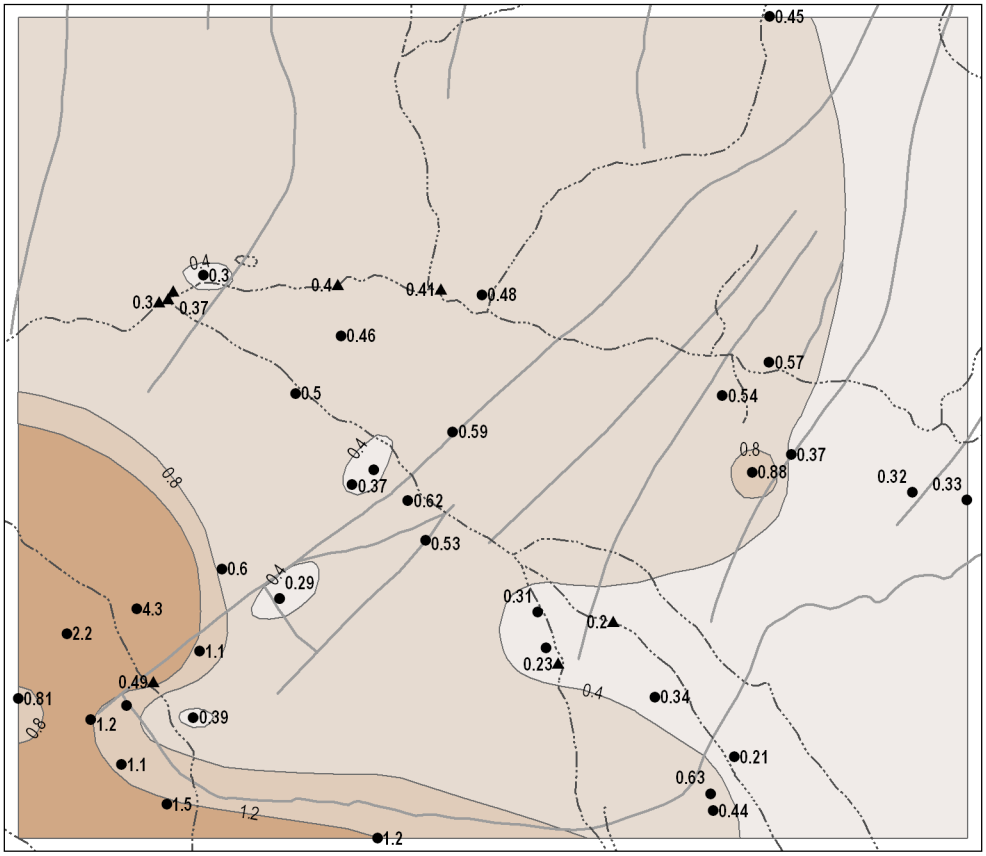

Figure 7h
Strontium (Sr)

Sr concentration in mg/L

- <0.4
- 0.4 - 0.8
- 0.8 - 1.2
- >1.2

20 — Line of equal Sr concentration
● 200 — Well sample with Sr concentration
▲ 200 — Stream sample with Sr concentration

Map Symbols

Streams
Faults

N
W E
S

Scale 1:60,000

0 0.25 0.5 0.75 1 Miles

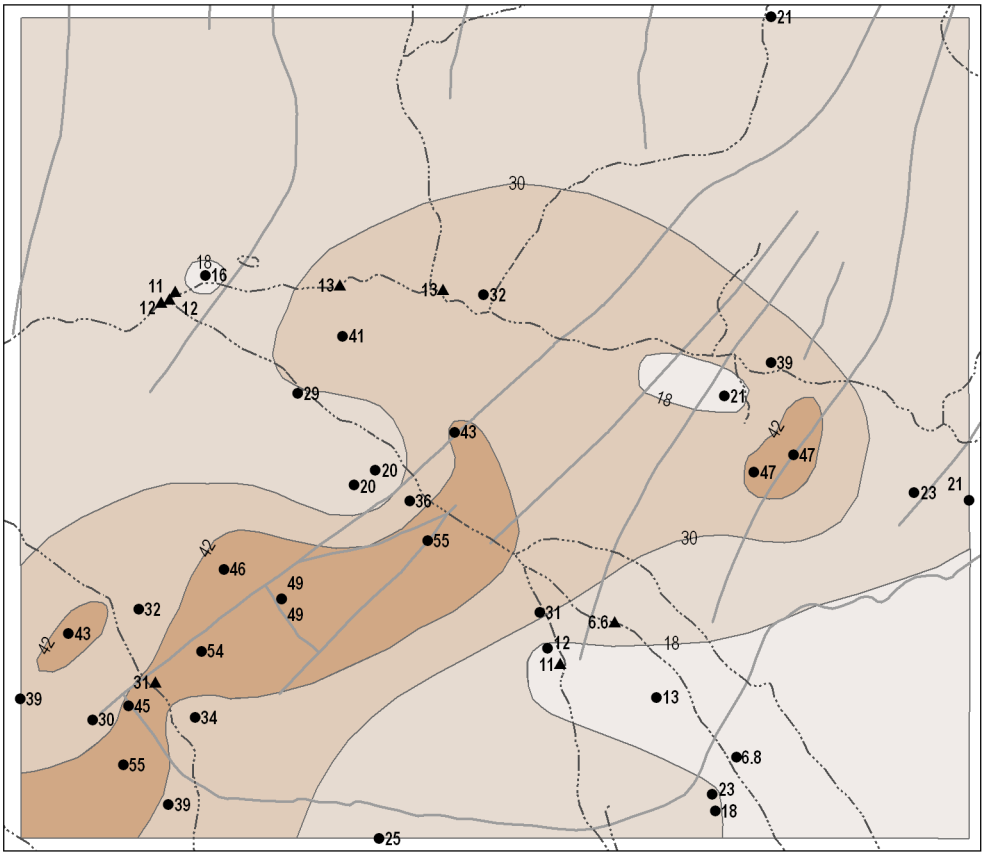

Figure 7i
Silica (SiO2)

SiO2 concentration in mg/L

- <18
- 18 - 30
- 30 - 42
- >42

20 Line of equal SiO2 concentration

● 200 Well sample with SiO2 concentration

▲ 200 Stream sample with SiO2 concentration

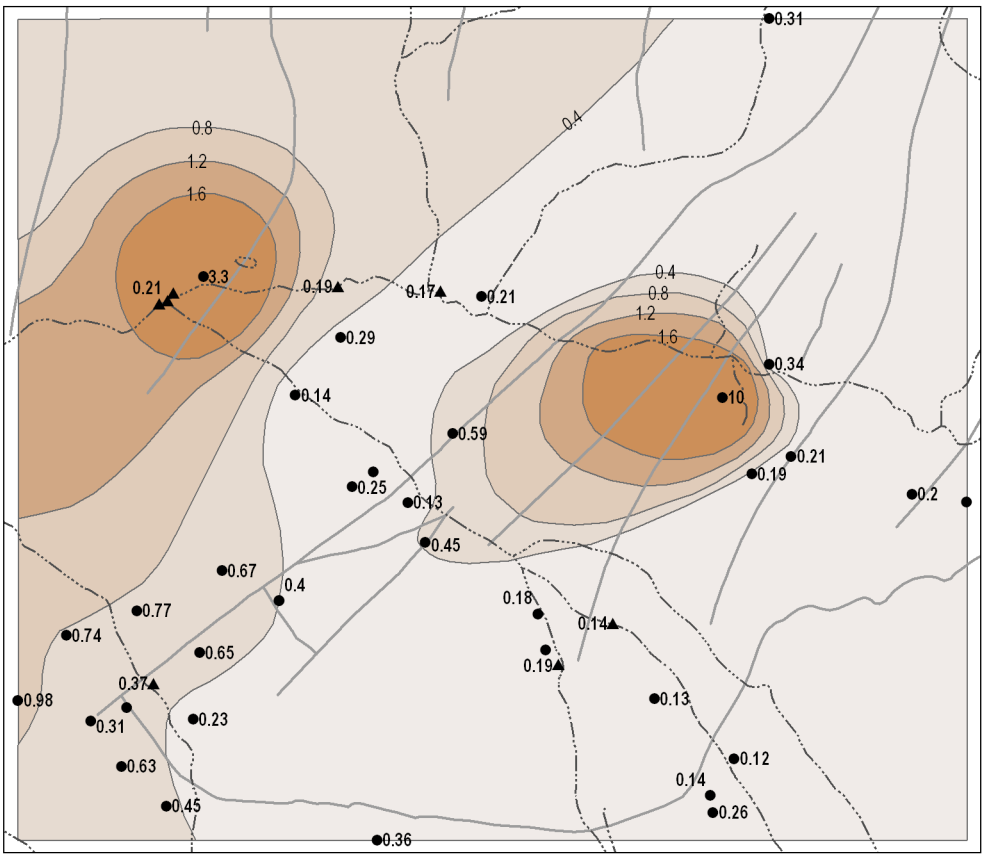

Figure 7j
Fluoride (F)

F concentration in mg/L
MCL = 4.0 mg/L
secondary MCL = 2.0 mg/L

- <0.4
- 0.4 - 0.8
- 0.8 - 1.2
- 1.2 - 1.6
- >1.6

20 Line of equal F concentration

● 200 Well sample with F concentration

▲ 200 Stream sample with F concentration

Map Symbols

Streams

Faults

N W E S

Scale 1:60,000

0 0.25 0.5 0.75 1 Miles

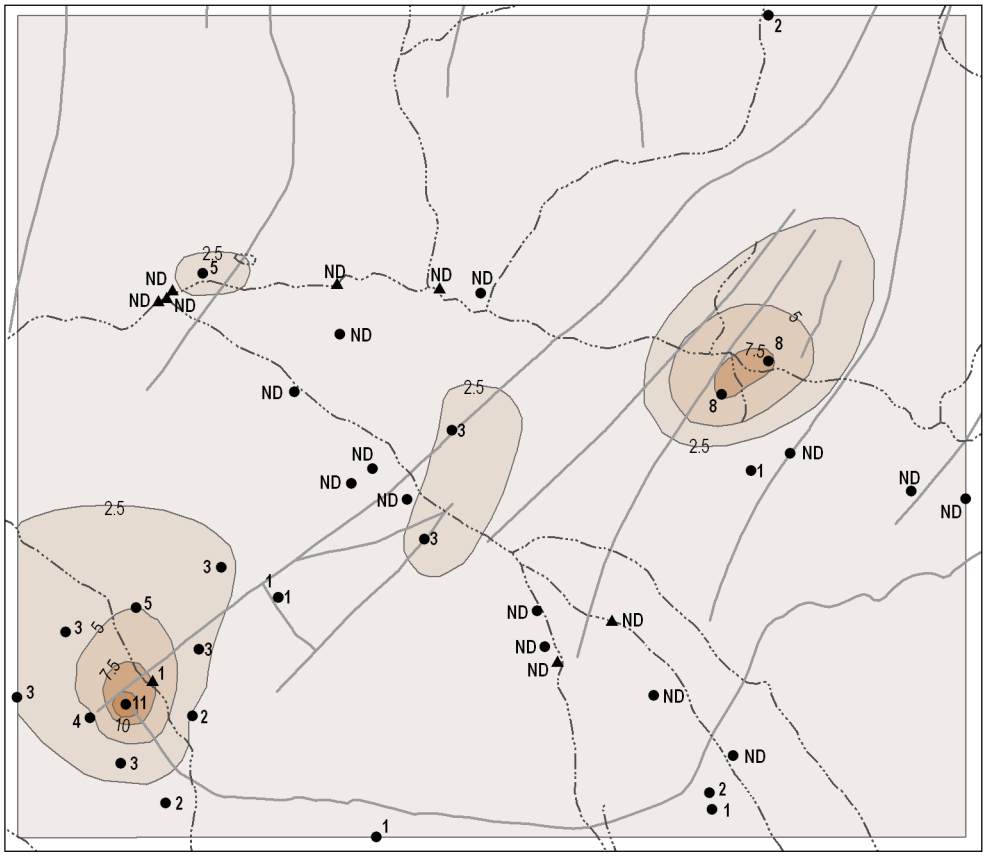

Figure 7k
Arsenic (As)

As concentration in µg/L
MCL = 10 µg/L as of 1/23/2006

- <2.5
- 2.5 - 5
- 5 - 7.5
- 7.5 - 10
- >10
- 20 — Line of equal As concentration
- ● 200 — Well sample with As concentration
- ▲ 200 — Stream sample with As concentration
- ND — Not detected; detection limit = 1 µg/L

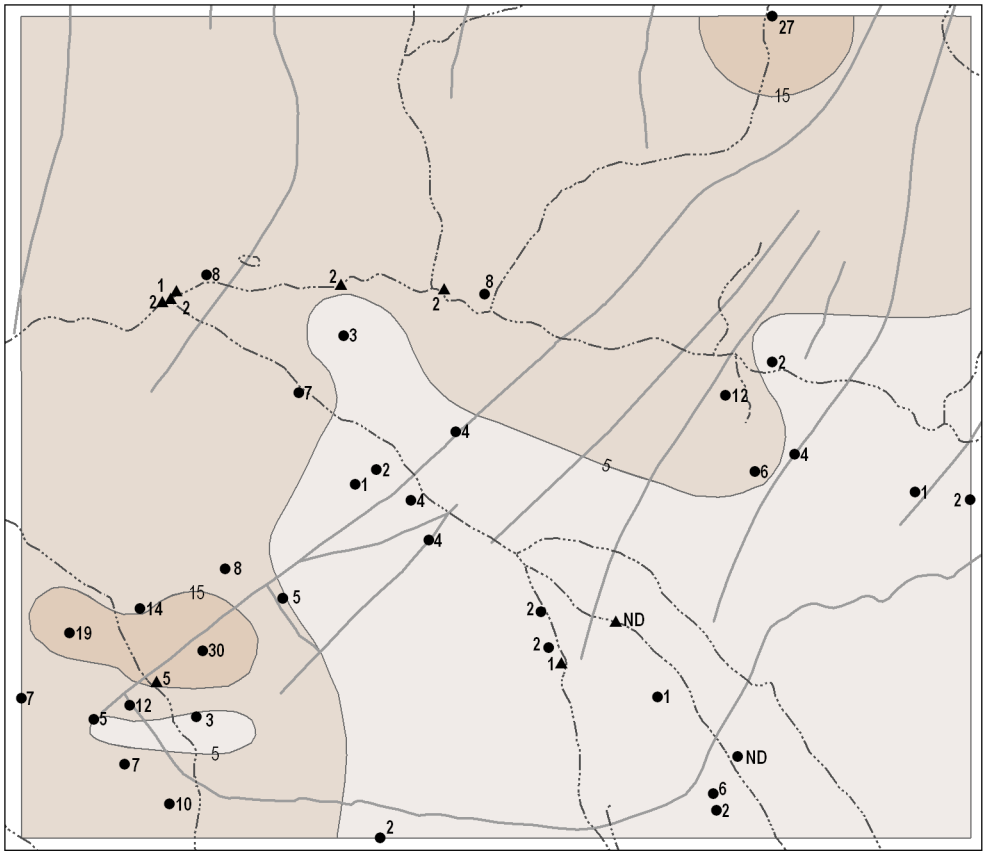

Figure 7l
Uranium (U)

U concentration in µg/L
MCL = 30 µg/L

- <5
- 5 - 15
- >15
- 20 — Line of equal U concentration
- ● 200 — Well sample with U concentration
- ▲ 200 — Stream sample with U concentration
- ND — Not detected; detection limit = 1 µg/L

Map Symbols

- Streams
- Faults

N
W E
S

Scale 1:60,000

0 0.25 0.5 0.75 1 Miles

- PW-31, iron concentration of 0.47 mg/L exceeds the MCL of 0.3 mg/L.
- PW-65, iron concentration of 0.43 mg/L exceeds the MCL of 0.3 mg/L; manganese concentration of 0.49 mg/L exceeds the MCL of 0.05 mg/L.

Concentrations of iron and manganese in groundwater (Figures 7f and 7g) are also dependent on the amount of oxygen dissolved in the system. Fully aerated, oxygen-rich water should not contain more than a few micrograms per liter iron or manganese. In oxygen-poor (reducing) conditions, concentrations may increase to several milligrams per liter of iron and more than 1.0 mg/L manganese (Hem, 1985). The presence of septic-tank effluent can make groundwater even more reducing, causing elevated levels of iron and manganese (McQuillan, 2004), which often co-exist (Hem, 1985). On Picuris Pueblo, iron concentrations in groundwater are generally at or below detection (<0.05 mg/L) with limited occurrence in excess of the secondary groundwater standard of 0.3 mg/L at two springs (PS-76 and PS-77) and four wells (PW-08, PW-28, PW- 31 and PW-65). Similarly, manganese concentrations are below detection (<0.001 mg/L), except at the same two springs and PW-65 where they exceed the secondary groundwater standard of 0.05 mg/L. Excess iron and manganese in PW-65 accompanied by an extremely low nitrate concentration is consistent with increased dissolution of iron and manganese from minerals in the rocks and soils under reducing or anoxic conditions. Based on current information, it is not clear whether this condition is associated with septic tank effluent or merely reflects natural, local chemical conditions in the aquifer. Chemical testing for additional constituents would be required to further identify the source.

The chemistry of the minor ion strontium is similar to that of calcium. It is most common in granitic rocks and to a lesser extent in limestone. Strontium ion concentrations on Picuris Pueblo range from 0.2 to 4.3 mg/L, with highest concentrations occurring in the Dixon Member (Ttd) and the upper member of the Picuris Formation (Tpu) in the Chamizal valley (Figure 7h). The median concentration of strontium in U.S. public water supplies is 0.11 mg/L (Hem, 1985). The relatively high concentrations on Picuris Pueblo, and specifically the Chamizal valley, are derived from weathering of granitic rocks. There are no health effects associated with strontium and no groundwater standards governing its occurrence.

Concentrations of dissolved silica in groundwater on Picuris Pueblo also originate from weathering and breakdown of silicate minerals in rocks, particularly the granitic, silicate-rich Precambrian rocks of the Picuris Mountains. Solubility of silica in natural water is primarily a function of water temperature, with increased solubility attained as water temperatures rise (Hem, 1985). Silica concentrations in groundwater on Picuris Pueblo range from 6.6 to 55 mg/L. An average reported concentration of silica in groundwater is 17 mg/L (Davis, 1964). Higher concentrations are related to rock type and temperature (Hem, 1985). The distribution of silica reflected in concentration contours (Figure 7i) shows a regional pattern of above average concentrations with significantly higher concentrations aligned in a trend contiguous with the Peñasco horst and the Picuris-Pecos fault system, suggesting that groundwater in this silica-rich zone either originated from a deep source within the Precambrian rocks or represents a mixture of deep and shallow sources.

Trace Element Chemistry and Naturally Occurring Contaminants. Several water samples from wells and springs on Picuris Pueblo contain excessive concentrations of trace elements, which are naturally occurring contaminants. Three samples exceeded EPA's primary (health based) MCL for a single contaminant and several others exceeded a secondary (aesthetic) MCL. The well identification and type of deviation are:

- PW-27, uranium concentration of 30 µg/L equals the primary MCL of 30 µg/L.
- PW-51, arsenic concentration of 11 µg/L exceeds the primary MCL of 10 µg/L.
- PW-69, fluoride concentration of 10 mg/L exceeds the primary MCL of 4 mg/L.
- PW-4, fluoride concentration of 3.3 mg/L exceeds the secondary MCL of 2 mg/L.

Events where concentrations of uranium, arsenic, and fluoride exceed or meet an EPA primary MCL, which is a health-based standard, are a significant concern. This occurs in samples PW- 27 and PW-51 near Chamisal and in PW-69 west of Vadito. Ingestion of water with elevated levels of these contaminants is associated with potential health effects. Uranium can cause kidney disease and an increased risk of cancer. Arsenic is associated with several health effects, including skin damage, problems with circulatory systems, and possibly an increased cancer risk. Ingestion of fluoride in excess of 2 mg/L can cause dental fluorosis (mottling of the teeth), and in excess of 4 mg/L can cause bone disease. For more information on drinking water contaminants and their

potential health effects see http://www.epa. gov/safewater/mcl.html.

Each of these trace contaminants originates from a natural source in the rocks found on Picuris Pueblo. Fluoride and arsenic are detected in wells completed in the middle tuffaceous member of the Picuris Formation (Tpm) and have an origin from the volcanic ash that is abundant in that geologic unit. High fluoride (Figure 7j) is typically found only in sodium-rich, calcium-depleted water such as that observed in PW-69 and PW-4 (see previous section, Major Ion Chemistry and Regional Conditions). High fluoride concentrations are associated with a process called cation exchange, wherein calcium and magnesium dissolved in groundwater are exchanged for sodium and potassium from the alteration products of volcanic ash, which have a high cation-exchange potential. When calcium is depleted from the system through cation exchange, it is unavailable to bond with the negatively charged fluoride ion. High fluoride occurs in both sodium-bicarbonate and sodiumbicarbonate- sulfate waters. Arsenic, typically associated with geothermal waters or groundwater circulating through volcanic or mineralized rock, is detected at a concentration exceeding a health standard in PW-51 and at lower concentrations in PW-69 and PW-66. Arsenic concentration contours (Figure 7k) indicate an origin from the middle tuffaceous member of the Picuris Formation (Tpm), the volcanic sediments in the upper volcaniclastic member, and/or an association with deep groundwater circulating through mineralized Precambrian rocks in the Peñasco horst.

Uranium generally occurs in concentrations between 0.1 and 10 µg/L in natural waters (Hem, 1985), but concentrations up to 30 µg/L are detected in the vicinity of Chamisal and from PS-81, a spring on the northern edge of the study area in the Picuris Mountains (Figure 7l). Elevated concentrations of uranium originate from uranium- bearing rocks in Precambrian formations or from secondary deposits in younger sediments of the Tesuque or Picuris Formations. Whatever the original source, uranium migrates in groundwater until it encounters reducing conditions, which cause it to precipitate as a mineral coating on sediments. Subsequent exposure of those sediments to oxygen through erosion or by migration of oxygen-rich groundwater can remobilize the uranium and contaminate shallow aquifers. Similar conditions have been observed in shallow aquifers of the Pueblo of Pojoaque (McQuillan and Montes, 1998).

IV. CONCLUSIONS AND RECOMMENDATIONS

Four hydrostratigraphic units or aquifers with varying degrees of interconnection are present on the Picuris Pueblo. Quaternary alluvial deposits (Qa) form thin, shallow aquifers beneath the active floodplains of major streams and are at greatest risk for degradation from land-use and waste management activities. The Dixon Member of the Tesuque Formation (Ttd) forms the primary aquifer along the southern edge of the study area, near Chamisal and south and east of Peñasco. The upper volcaniclastic member of the Picuris Formation (Tpu) forms a major aquifer in and between the Rio Pueblo and Rio Santa Barbara valleys, but productivity is variable and greater well depths are often required. The middle tuffaceous member of the Picuris Formation (Tpm) forms a relatively minor aquifer in the Rio Pueblo Valley, and contains fine-grained, volcanic-rich sediments with low permeability. The Peñasco horst, an up-thrown block of Precambrian crystalline rock within the Picuris- Pecos fault system, contains heavily mineralized and uranium-bearing rocks and influences both groundwater and surface water flow and groundwater quality.

Groundwater in thin alluvial aquifers exists under unconfined conditions and is in direct hydraulic connection with deeper aquifers. Vertically downward hydraulic gradients drive circulation of oxygen-rich shallow groundwater down to deeper aquifers over much of the Pueblo. Vertically upward hydraulic gradients adjacent to the Peñasco horst provide a mechanism for upward movement of deep circulating groundwater that degrades water quality in shallow aquifers adjacent to and downstream of the horst with regionally high concentrations of dissolved solids, chloride, and silica. Perennial streams on the Pueblo are generally gaining streams, collecting a portion of their flow from the shallow alluvial aquifers. However, flows in the Rio Santa Barbara and Chamizal Creek appear to change from gaining to losing as they cross the downstream edge of the Peñasco horst, where thickness and transmissivity of the aquifer increase.

Infiltration of oxygen-rich surface water near Chamisal may contribute to chemical conditions favorable for mobilizing naturally occurring uranium to concentrations reaching health-based drinking water standards (30 µg/L). Elevated concentrations of naturally occurring arsenic and fluoride are attributed to groundwater originating deep within mineralized crystalline rocks of the Peñasco horst or circulating through volcanic- rich sediments in the Picuris Formation. Both arsenic and fluoride exceed maximum contaminant levels for drinking water, and together with uranium present a significant public health concern.

Shallow aquifer contamination from waste related contaminants does not presently appear to pose a significant health concern. Chloride and nitrate concentrations are significantly lower than those associated with septic or wastewater contamination in oxygenated conditions and within the range associated with igneous rocks. Chloride/bromide ratios (Cl-/Br-) are also well below values associated with domestic sewage. Excess iron and manganese in one well (PW-65) accompanied by an extremely low nitrate concentration indicate reducing or anoxic conditions that may be associated with septic tank effluent or merely reflects natural, local chemical conditions in the aquifer. Chemical testing for additional constituents would be required to further clarify the source.

Based on observations of naturally occurring contaminants in excess of EPA drinking water standards, several recommendations are presented:

1) Additional Testing. While most wells on Picuris Pueblo generally produce water of excellent quality, the sporadic occurrence of elevated levels of uranium, fluoride, and arsenic pose a significant health concern. Sampling of additional wells is recommended to further define groundwater quality and identify problems within the Pueblo boundary.
2) Long-Term Monitoring. After existing water quality has been further defined, a long-term monitoring program is recommended to track water-quality trends and contaminant migration. Pumping of large community supply wells can induce migration of contaminants and well-head protection should be considered.

3) Public Education. Rural residents, particularly in the communities of Chamisal and Vadito, should be advised of potential health concerns and methods of addressing water quality problems. The New Mexico Environment Department Ground Water Quality Bureau can provide information and support in these efforts.
4) Water Treatment. In instances of significant drinking water impairment, installation of on-site water treatment units or alternative water sources should be considered.

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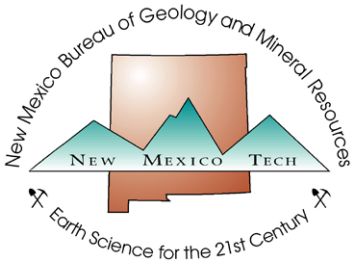

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APPENDIX A–Map Unit Descriptions for Generalized Geology

MAP UNIT DESCRIPTIONS OF GENERALIZED GEOLOGY

Qa **Alluvium (middle Pleistocene to middle Pleistocene to Holocene)**-Includes both stream channel and valley-floor alluvium in active floodplains (Qal) and young alluvial-fan and stream terrace deposits (Qfy, Qty). Composed principally of poorly to well-sorted sand, pebbles, and boulders. Light-brownish sand, gravelly sand, and sandy gravel with minor mud and silt that underlie modern ephemeral or active channels. Beds are typically very thin to thin, and planar or cross-stratified. Gravel is generally poorly sorted, subangular to subrounded pebbles. Sand is generally coarse- to very coarse-grained, poorly to moderately sorted, and subrounded to subangular. There is no soil development and the sediment is loose.

Qf **Alluvial fan deposits (middle to late Pleistocene)**-Older alluvial-fan deposits (Qfo). Poorly sorted silt, sand, pebbles, and boulders. Clasts are primarily of Pennsylvanian sedimentary rocks and Proterozoic quartzite, slate, schist, granite, and rare volcanic rock types. poorly sorted silt, sand, and pebbles. Stage III and IV calcium carbonate development where soils are preserved, although soil horizons are commonly affected by surface erosion.

Qto **Older alluvial terrace deposits (middle Pleistocene)**-Poorly sorted silt, sand, pebbles, and boulders. Clasts are primarily of Pennsylvanian sedimentary rocks and Proterozoic quartzite, slate, schist, granite, and rare volcanic rock types. Stage III and IV calcium carbonate development where soils are preserved, although soil horizons are commonly affected by surface erosion.

Tb **Basalt (Pliocene)**-Dark-gray, vesicular, olivine tholeiite basalt flow found on high mesa in east-central map area, and as scattered, isolated remnants to the west. New 40Ar/39Ar date of 5.67 Ma indicates that this flow is time equivalent to rocks of the Ocate volcanic field to the east. Locally up to 10 m thick.

Ttd **Dixon member of Tesuque Formation of Santa Fe Group (Middle Miocene)**-Red, tan, beige, and locally greenish and/or yellowish sandy to clayey silt and silty clay. Loose to slightly friable, moderately well to moderately poorly sorted, mostly massive but sometimes thinly to moderately thickly beded. Interbedded with tan, brownish, reddish, and characteristically light olive green, very friable to nonfriable, very fine lower to very coarse upper, moderately to very poorly sorted, generally subangular to subrounded, thinly to thickly bedded, locally carbonate cemented conglomerate to fine arkosic sandstone. Conglomerates contain abundant poorly to moderately rounded clasts of Precambrian quartzite and Paleozoic sandstone, limestone, and siltstone. Locally, conglomerates also contain clasts of Tertiary volcanic rocks. Sedimentary features other than plane lamination are not common, but include ripple marks, cross beds, and lateral accretion (point-bar) foresets. Contacts between beds are usually sharp, and bases of sandstones and conglomerates are typically scoured. Imbrication of clasts is not common, but is locally well developed. Sandstones and conglomerates are preferentially cemented with calcium carbonate. Paleocurrent indicators (imbrication and the strike of channel walls) show transport from the south, southeast, and southwest. Exposed thickness 75-100 m.

Tpu/c **Upper volcaniclastic member of Picuris Formation or Chama El-Rito Member of Tesuque Formation of Santa Fe Group (<19.78 Ma to > ~14.5(?) Ma)**-Red to purple, very friable to nonfriable, very poorly to moderately well sorted, poorly rounded to rounded, thickly to thinly bedded, commonly carbonate-cemented, pebble and gravel conglomerate. Composed predominantly of Tertiary volcanic and rounded Precambrian quartzite clasts, and tan, pinkish, and whitish, loose to slightly friable, very fine lower to very coarse upper, moderately well- to very poorly sorted, subangular to subrounded and rarely rounded, thinly to thickly bedded, locally carbonate-cemented, arkosic to lithic sandstone, and brick-red to pink, tan to brown, orange, and whitish, loose to slightly friable, moderately well- to poorly sorted, thinly to thickly bedded, locally weakly carbonate cemented, sandy silt to silty clay beds. Most contacts between beds are sharp and basal contact of coarser beds are commonly scoured. Upper contact appears to be depositional and possibly gradational and/or interfingering. The upper contact is placed at the top of the highest conglomerate bed that is dominated by Tertiary volcanic clasts. Approximately 10-100 m thick. A basalt clast from the basal part of the upper member at hill 7751' was dated at 19.8 Ma and the unit is overlain by the Dixon member, which is estimated to be 12.5 to 14.5 Ma regionally.

Tpmc **Cemented part of middle member of Picuris Formation (< ~23 Ma (?))**-This unit is characterized by silica cementation and is informally defined as the interval between the lowest and highest pervasively silica-cemented beds within the Picuris Formation. This unit is everywhere found at the top of the middle member and sometimes includes all or part of the gradational and/or interfingering contact with the upper member. Some beds in this interval, in some locations, are either poorly cemented or cemented with both calcium carbonate and(?) silica. Buff to white and/or pinkish, nonfriable to strong, very fine lower to very coarse upper, very poorly to moderately sorted, rounded to subangular, thinly to thickly bedded, silica-cemented, silty sandstone to fine cobble conglomerate. Locally contains a basal portion of poorly sorted pebbly/gravelly sandstone and/or cobble/boulder conglomerate composed exclusively of Precambrian clasts. This portion of the unit grades upward (or laterally) into pebbly/gravelly sandstone and conglomerate composed of an increasing proportion of Tertiary pumice and/or other volcanic clasts relative to Precambrian clasts. In exposures along NM-76 between Chamisal and Penasco, the lowest, exposed, cemented part of the middle member is at least 13 m of moderately well sorted, thickly bedded, sub-rounded to angular, cobble and boulder conglomerate composed of Precambrian granite(46%), quartzite(26%), amphibolite (26%), phyllite (1%), and schist (1%). Rare paleocurrent indicators suggest transport from the northwest, north, and northeast. Approximately 10-35 m thick.

Tpm **MIddle tuffaceous member of Picuris Formation, (<28.3 Ma to >23 Ma)**-Light buff, yellowish, and locally white, very friable to somewhat friable, moderately(?) to very poorly sorted, commonly bimodal, silt to medium lower sand, fine to very fine silty sand, sandy to clayey silt, massive or very thickly to thinly bedded ashy/quartzose sand. Contains thin to thick (5 cm-1.5 m) interbeds and channel-fills of buff and black, friable, moderately to poorly sorted, subangular to subrounded, Precambrian Pilar slate and quartzite-rich and/or pumice-rich conglomerate. In Section 32, SW of Vadito, are rare channels of pebbly/gravely granite, epidote, slate, amphibolite and schist(?), and an exposure of boulder conglomerate composed of porphyritic Penasco quartz monzonite, Precambrian quartzite, and amphibolite. Ash beds (15-65 cm) are found north of the Rio Pueblo. Some ash beds are distinctly bioturbated. Conglomerate beds seem to increase in abundance towards the upper contact. Some conglomerate beds contain

abundant rounded pumice lapilli thatv are white or pink, mafic-poor, with phenocrysts of quarts and plagioclase. Near and at the upper contact (and also within parts of Tpmc) a biotite-rich pumice is found. Lower contact not exposed in map area. Upper contact is the base of the first silica-cemented bed in the section. Sedimentary features and bedding are absent or very poorly expressed except where coarse-grained or ashy beds exist. At least 150 m thick in northern exposures. Primary ash fall from the Amalia Tuff eruption has been identified within the middle member on Cerro Blanco. Two additional populations of pumice of approximately 23 and 27 Ma have been identified within the middle member (Peters, 2005; Aby et al., 2004). Although the bulk of this unit is somewhat less effervescent than other Tertiary units in the area, it is mostly moderately reactive in hydrochloric acid.

Tpl **Lower conglomerate member of Picuris Formation, (>25 Ma to >34.5 Ma)**-Not exposed in the study area, but exposed nearby to the north and northeast. Greenish and pale yellowish, loose to strong, poorly sorted, moderately to well rounded sandy/silty conglomerate dominated by quartzite clasts from 2 mm to >2m.

&/M **Undivided Mississippian and Pennsylvanian sedimentary rocks of the Tererro Formation of Arroyo Penasco Group (Mississippian, Meramecian and Chesterian), Espiritu Santo Formation of Arroyo Penasco Group (Mississippian, Osagean)-Alamitos Formation (late Desmoinesian) and Flechado Formation (Morrowan-Atokan-Desmoinesian)**-Consists chiefly of Pennsylvanian, poorly exposed, olive, brown, red, and dark gray shale and siltstone plus fine- to coarse-grained sandstone with lesser amounts of conglomerate and limestone. Alamitos Formation is equivalent to the "upper arkosic limestone member" of the Madera Formation to the south. Flechado Formation is equivalent to La Posada Formation to the south, which is equivalent to the Sandia Formation and the "lower gray limestone member" of the Madera Formation. The Espiritu Santo Formation consists of the basal Del Padre Sandstone member of basal conglomerate, quartz sandstone, siltstone, shale, and minor limestone beds at top. It grades into the overlying Tererro Formation. Thickness unknown, but a minimum of approximately 2000 m.

Xu **Precambrian, undivided**-Complex metamorphic sequence of Early to Middle Proterozoic supracrustal and metaplutonic rocks of the Picuris Mountains. Principal rock types are granitic rocks, quartzite, pelitic schist, phyllite, metaconglomerate, biotite schist, amphibolite, quartzofeldspathic schist, pegmatite, and vein quartz.

Xub **Brecciated Precambrian rocks**-Zone of highly brecciated and fractured mixed Precambrian rocks along the Picuris-Pecos fault in the northeast map area.

APPENDIX B–Well and Data Inventory

Table B1–Inventory of Wells, Springs and Surface Water Sites

New Mexico State Engineer Office records

Table B1–Inventory of Wells, Springs and Surface Water Sites

Site ID	Site Type	Site Name	Township, Range, Section (1)	OSE Well Record	Easting (2)	Northing (2)	Elev	Well Total Depth	Depth to water	Water level Elev	Source of Depth to Water	Date Measured	Water Bearing Formation	Comments	Water Chem
PS-76	Spring	Sun Canyon Springs	22N.12E.7.113	NA	435590	4001870	7821		0	7821					X
PS-77	Spring	Dogwater Spring	23N.12E.32.232	NA	438562	4004774	7545		0	7545					X
PS-78	Spring	NE Sierra Blanca Spring	23N.12E.28.124	NA	439852	4006479	7724		0	7724					
PS-79	Spring	NE Sierra Blanca Spring	23N.12E.28.124	NA	439813	4006520	7734		0	7734					
PS-80	Spring	NE Sierra Blanca Spring	23N.12E.28.1121	NA	439438	4006849	7719		0	7719					
PS-81	Spring	Aspen Springs	23N.12E.21.2121	NA	438699	4008387	8125		0	8125					X
PS-82	Spring	Jackrabbit Hill Spring	23N.12E.19.444	NA	436088	4006922	7357		0	7357					
PS-83	Spring	Unnamed Spring	23N.12E.18.1142	NA	436345	4009887	8354		0	8354					
PS-84 - PS-90	Spring	Unnamed Springs Cluster (7 springs)	23N.12E.7.24	NA	436986	4010784	8613		0	8613					
PS-91	Spring	Unnamed Spring	22N.12E.7.113	NA	435590	4001870	7821		0	7821					
PS-92	Spring	Unnamed Spring	23N.12E.18.12	NA	436575	4009916	8490		0	8490					
PS-93	Spring	Unnamed Spring	23N.11E.35.2341	NA	435391	4004674	7427		0	7427					X
PSW-1	Stream	Chamisal Creek		NA	433805	4002908	7414								X
PSW-2	Stream	Rio Chiquito		NA	437026	4003259	7574								X
PSW-3	Stream	Rio Embudo		NA	433862	4006123	7159								X
PSW-4	Stream	Rio Pueblo Above WWTP		NA	436095	4006223	7272								X
PSW-5	Stream	Rio Pueblo above Telephone Canyon		NA	441069	4004744	7521								X
PSW-6	Stream	Rio Pueblo above Embudo		NA	433973	4006209	7166								X
PSW-7	Stream	Rio Pueblo Below WWTP		NA	435278	4006259	7227								X
PSW-8	Stream	Santa Barbara above Embudo		NA	433930	4006146	7164								X
PSW-9	Stream	Santa Barbara above Chiquito		NA	437460	4003587	7564								X
PW-01	Well	Picuris Pueblo #3	23N.12E.30.143	RG-43004 Ex	436363	4006205	7312	118	42	7270	OSE	1/17/1985	Tpm	Below cemented horizon	
PW-02	Well	Picuris Pueblo #2	23N.12E.30.1431	None	436320	4006257	7312	75	30	7282	IHS	NA	Tpm		
PW-03	Well	Picuris Pueblo #1	23N.12E.19.3332	None	436111	4007025	7390		7	7383	NMBGMR	5/16/2002			
PW-04	Well	Tsosie	23N.11E.26.2424	None	434212	4006337	7186	197	125	7061	owner	NA	Tpm/Xu	Sulfur odor	X
PW-05	Well	Picuris Pueblo	23N.11E.25.131	None	434367	4006365	7203	30	13	7190	NMBGMR	5/16/2002	Qa		
PW-06	Well	Rael	23N.11E.36.343	None	434815	4003771	7473		1	7472	NMBGMR	5/16/2002	Tpmc	Very shallow goes dry	X
PW-07	Well	Rael	23N.11E.36.313	Unknown	434379	4004112	7364	100	74	7290	NMBGMR	5/16/2002	Ttd/Tpu		
PW-08	Well	Mead	23N.11E.36.331	Unknown	434360	4004006	7367	150	84	7283	NMBGMR	5/16/2002	Ttd/Tpu		X
PW-09	Well	Picuris Pueblo	23N.11E.36.330	RG-25564	434376	4003100	7531	131	73	7458	OSE	12/17/1974	Tpu		
PW-10	Well	Griego	22N.11E.01.1121	None	434476	4003681	7460		104	7356	NMBGMR	7/23/2002	Tpu		
PW-11a	Well	Penasco MDWCA	22N.12E.05.143	RG-42318 S3	438018	4003038	7640	265	130	7510	OSE	9/10/1971	Tpu		
PW-11b	Well	Penasco MDWCA	22N.12E.05.143	RG-42318 S4	438020	4003021	7642	260	125	7517	OSE	10/28/1984	Tpu		
PW-11c	Well	Penasco MDWCA	22N.12E.05.214	RG-42318-S	438593	4003444	7701	140	66	7635	NMBGMR	5/16/2002	Tpu		
PW-11d	Well	Penasco MDWCA	22N.12E.5.4143	RG-42318	438545	4002525	7727	90	0	7727			Ttd/Tpu		
PW-12	Well	Vadito MDWCA	23N.12E.28.3434	RG-65852	439679	4005302	7445	158	10	7435	owner?	NA	Tpm		
PW-13a	Well	Rio Lucio MDWCA #1	23N.11E.25.413	RG-32797	435104	4005770	7289	142	23	7266	OSE	4/28/1980	Tpu		
PW-13b	Well	Rio Lucio MDWCA #2	23N.12E.31.1414	RG-32797-S	436417	4004732	7470	225	80	7390	OSE	8/17/1984	Tpm	Sealed well	
PW-14	Well	Chamisal MDWCA	22N.11E.02.232	RG-43509	433821	4003143	7400	150	0	7400	owner	NA	Tpu	Artesian, overflow to Chamisal Crk	
PW-15	Well	Picuris Pueblo	23N.12E.30.143	RG-25565	436419	4006181	7316	98	27	7289	NMBGMR	5/16/2002	Qa/Tpm		X
PW-16	Well	Rael	23N.11E.36.341	None	434756	4003955	7445	180	149	7296	NMBGMR	5/16/2002	Fault		
PW-17	Well	Cordova	23N.11E.35.4314	None	433660	4003887	7365	110	0	7365			Ttd/Tpu	Sealed well	X
PW-18	Well	Penasco School	22N.12E.05.2113	RG-35418	438319	4003485	7655	150	15	7640	OSE	1/17/1981	Tpu	Sealed well	
PW-19	Well	USFS	22N.12E.05.2143	None	438547	4003293	7694		60	7634	owner	NA	Tpu	Significant drawdown	
PW-20	Well	Pentecostal Church	22N.11E.02.4131	RG-48882	433637	4002499	7484	112	62	7422	NMBGMR	5/16/2002	Ttd/Tpu		
PW-21	Well	Lopez	23N.12E.31.1141	RG-36125	436189	4005093	7441	130	111	7330	NMBGMR	5/17/2002	Fault		X
PW-22	Well	Lopez	23N.11E.36.2441	RG-65082	435697	4004649	7389	105	32	7357	NMBGMR	5/17/2002	Tpu		
PW-23	Well	Ortega	23N.11E.36.2441	RG-48805	435721	4004609	7400	102	37	7363	OSE	3/11/1988	Tpmc	Fault contact @ ~ 66'	
PW-24	Well	Gurule	23N.11E.25.4321	RG-47739	435346	4005650	7316	90	40	7276	OSE	6/14/1988	Tpu	Owner said 45ft DTW	X
PW-25	Well	Roybal	23N.11E.25.3211	RG-48086	434739	4006094	7252	220	27	7225	NMBGMR	5/17/2002	Tpu/Tpm		
PW-26	Well	Vigil	23N.11E.25.4441	RG-38097	435782	4005471	7371	105	69	7302	NMBGMR	5/17/2002	Tpu		
PW-27	Well	Cordova	22N.11E.2.2243	RG-32550	434181	4003355	7451	200	79	7372	NMBGMR	7/23/2002	Tpu	poor log	X

Site ID	Site Type	Site Name	Township, Range, Section (1)	OSE Well Record	Easting (2)	Northing (2)	Elev	Well Total Depth	Depth to water	Water level Elev	Source of Depth to Water	Date Measured	Water Bearing Formation	Comments	Water Chem
PW-28	Well	Sacoman	22N.12E.5.3442	RG-71598	438232	4002222	7734	180	117	7617	OSE	4/9/1999	Tpu	Ttd/Tpu contact @80'; Owner said 20ft DTW	X
PW-29	Well	Davis	22N.12E.8.211	RG-69822	438358	4001952	7756	84	6	7750	NMBGMR	7/24/2002	Ttd/Tpu		
PW-30	Well	Fresquez	22N.12E.5.433	RG-48112	438364	4002194	7737	120	12	7725	NMBGMR	7/24/2002	Tpu		
PW-31	Well	Echwaldo	22N.12E.5.413	None	438422	4002516	7715	76	12	7703	NMBGMR	7/24/2002	Ttd/Tpu		X
PW-32	Well	Fresquez	22N.12E.5.3444	RG-54450	438254	4002089	7748	54	8	7740	NMBGMR	7/24/2002	Ttd	Cemented	X
PW-33	Well	Ortega	22N.12E.5.433	Unknown	438362	4002163	7739	67	13	7726	NMBGMR	7/24/2002	Ttd		
PW-34	Well	Roybal	22N.12E.6.2112	RG-46711	436864	4003663	7533	55	7	7526	owner	NA	Tpm		X
PW-35	Well	Aguilar	23N.12E.31.3242	RG-36131	436652	4004241	7490	25	5	7485	owner	NA	Qa		
PW-36	Well	Elkins	22N.12E.6.230	RG-60402	436817	4003083	7613	63	27	7586	OSE	10/16/1994	Tpu	Cemented	
PW-37	Well	Dominguez	22N.11E.2.4221	RG-48675	434131	4002828	7437	32	7	7430	OSE	8/7/1988	Qa		X
PW-38	Well	Vasquez	23N.12E.31.3131	RG-54896	435973	4004233	7545	60	25	7520	owner	NA	Tpmc/fault		X
PW-39	Well	Lopez	23N.11E.36.2444	RG-66757	435833	4004547	7408	105	26	7382	NMBGMR	7/25/2002	Tpm		X
PW-40	Well	Roybal	23N.11E.36.2413	RG-50114	435547	4004769	7358	80	18	7340	owner	NA	Tpu		X
PW-42	Well	Owen	22N.12E.5.1412	RG-70484	438068	4003242	7642	22	8	7634	NMBGMR	7/25/2002	Qa		
PW-43	Well	Abeyta	22N.12E.6.244	RG-72696	437370	4003019	7623	110	17	7606	NMBGMR	7/24/2002	Tpm		
PW-44	Well	Martinez	23N.12E.31.431	RG-25239	436841	4003959	7506	23	3	7503	NMBGMR	7/26/2002	Qa		
PW-45	Well	Fields	22N.12E.5.134	RG-72920	437790	4002990	7646	110	30	7616	OSE	11/30/1999	Tpu/Tpm	Water iron-rich	X
PW-46	Well	Valdez	23N.12E.33.1442	Unknown	439832	4004613	7568	83	60	7508	owner	NA	Tpu		X
PW-47	Well	Pacheco	22N.11E.2.4324	RG-47089	433852	4002320	7501	92	9	7492	OSE	6/11/1987	Tpm	Cemented	
PW-48	Well	Tafoya	22N.11E.2.1333	RG-74690	432742	4002978	7453	101	20	7433	OSE	9/19/2000	Ttd		X
PW-49	Well	Lopez	22N.11E.11.2422	RG-47936	434248	4001642	7618	120	70	7548	OSE	3/28/1990	Ttd	Las Trampas Grant	
PW-50	Well	Lovato	22N.11E.2.3221	RG-62510	433318	4002812	7444	60	8	7436	OSE	5/25/1995	Ttd		X
PW-51	Well	Lovato	22N.11E.2.233	RG-58067	433602	4002921	7420	65	23	7397	OSE	10/16/1993	Ttd		X
PW-52	Well	Lovato	22N.11E.2.1444	RG-74305	433462	4002977	7415	70	18	7397	OSE	7/14/2000	Ttd		
PW-53	Well	Dominguez	22N.11E.2.4121	RG-68546	433683	4002869	7426	92	35	7391	OSE	10/14/1997	Tpu/fault	Cemented	
PW-54	Well	Wagner	22N.11E.2.1231	RG-58945	433127	4003494	7366	170	25	7341	OSE	4/2/1994	Ttd/Tpu		X
PW-55	Well	Dominguez	22N.11E.2.4324	RG-47156	433798	4002406	7498	87	16	7482	OSE	6/18/1987	Tpu/Tpmc	Cemented	
PW-56	Well	Dominguez	22N.11E.2.432	RG-47113	433750	4002366	7512	82	36	7476	OSE	6/7/1987	Tpmc/Tpm	Cemented	
PW-57	Well	Roybal	22N.11E.2.4311	RG-47770	433561	4002454	7486	100	38	7448	OSE	4/7/1988	Tpu	Ttd/Tpu contact @60'	X
PW-58	Well	Dominguez	22N.11E.2.434	RG-46817	433797	4002155	7523	70	16	7507	?	?	Ttd		
PW-59	Well	Dominguez	22N.11E.11.2121	RG-48753	433717	4002009	7560	120	47	7513	NMBGMR	7/23/2002	Ttd/Tpu	Cemented; Las Trampas Grant	
PW-60	Well	Romero	22N.11E.2.4433	RG-47890	433920	4002139	7526	85	20	7506	owner	NA	Ttd/Tpu		X
PW-61	Well	Lopez	23N.12E.32.2142	None	438684	4005066	7523	60	30	7493	owner	NA	Tpm		
PW-62	Well	Lujan	23N.12E.32.212	RG-49094	438591	4005207	7483	218	20	7463	OSE	5/19/1988	Tpm	Equal to RG-49095	
PW-63	Well	Gumbiner	23N.12E.33.122	None	439789	4005188	7454	20	12	7442	NMBGMR	10/23/2002	Qa		
PW-64	Well	Gonzales	23N.12E.32.2234	Unknown	438874	4004913	7545	57	20	7525	NMBGMR	10/24/2002	Tpu/Tpm		X
PW-65	Well	Sandoval	23N.11E.25.344	RG-56966	434942	4005399	7272	30	4	7268	OSE	4/12/1993	Qa	Screened 7-25	X
PW-66	Well	Medina	23N.12E.29.4331	Unknown	438698	4005645	7404	65	24	7380	owner	NA	Tpm	1970s well filling w/sed	X
PW-67	Well	Montoya	23N.12E.33.234	RG-58065	440266	4004553	7619	86	4	7615	OSE	6/20/1995	Qa/Tpu/Tpm	Tpu/Tpm contact @75'	X
PW-68	Well	Lopez	23N.12E.28.3423	RG-61238	439724	4005459	7467	167	50	7417	OSE	1/9/1994	Tpm		
PW-69	Well	Stanley	23N.12E.29.433	RG-54061	438327	4005380	7463	285	160	7303	OSE	11/20/1991	Tpm	No basalt	X
PW-70	Well	Gonzales	23N.12E.35.233	RG-76356	442767	4004575	7652	100	10	7642	OSE?	?	Tpu/Tpm		
PW-71	Well	Trujillo	22N.12E.6.214	RG-59969	436927	4003378	7566	77	10	7556	OSE	8/7/1994	Tpu/Tpm		X
PW-72	Well	Kit Carson Propane	22N.12E.5.2431	RG-76545	438710	4002961	7704	180	80	7624	OSE	12/27/2001	Tpu		
PW-73	Well	Ortega	23N.12E.31.430	RG-66109	436793	4003860	7513	36	12	7501	OSE	9/16/1998	Tpm	Xu contact @34'	
PW-74	Well	Roybal	22N.12E.6.4121	RG-73948	436916	4002851	7631	100	38	7593	NMBGMR	7/29/2002	Tpu		
PW-75	Well	Vigil	22N.12E.6.212	RG-56307CLW	436940	4003569	7545	50	12	7533	OSE	12/1/1992	Tpm		

(1) Section followed by quarter divisions of section going from largest to smallest, where 1=NW, 2=NE, 3=SW, 4=SE quarters.

(2) UTM projection, NAD 83, Zone 13.

Picuris #1
"New" Museum

PW-01

Revised June 1972

X

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Picuris Pueblo Owner's Well No. ____
Street or Post Office Address ____
City and State Picuris, NM

Well was drilled under Permit No. RG-43004-Explore and is located in the:

a. NW ¼ SE ¼ NW ¼ ____ ¼ of Section 30 Township 23N Range 12E N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in Taos County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor Rodgers & Company, Inc. License No. WD-225

Address 2615 Isleta Blvd., SW Albuquerque, NM 87105

Drilling Began 1/14/85 Completed 1/17/85 Type tools ____ Size of hole ____ in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 118' ft.

Completed well is XXX shallow ☐ artesian. Depth to water upon completion of well 42' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
20'	60'		Sandy Clay with Gravel Stringers	70 GPM
82'	118'		Gravel with Sandy Clay Layers and Stringers, Clay, Gravel with Sandy Clay Streaks	Tpm

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
8 5/8" O.D.			18"	118"	119½'	None	45'	60'
							83'	118'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

86 JAN 24 AM 11:14
DISTRICT I OFFICE
ALBUQUERQUE, N.MEX.

Section 5. PLUGGING RECORD

Plugging Contractor ____
Address ____
Plugging Method ____
Date Well Plugged ____
Plugging approved by: ____

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ____ FWL ____ FSL ____

File No. RG-43004 Use [illegible] Location No. [illegible]

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0'	15'		Clay
15'	20'		Cemented Gravel & Boulders
20'	60'		Sandy Clay with Gravel Stringers
60'	64'		Sandy Clay with Embedded Gravel
64'	67'		Clay
67'	71'		Sandy Clay with Hard Stringers
71'	82'		Sandy Clay
82'	90'		Gravel with Sandy Clay Layers
90'	102'		Gravel with Sandy Clay Stringers
102'	104'		Clay
104'	118'		Gravel with Sandy Clay Streaks

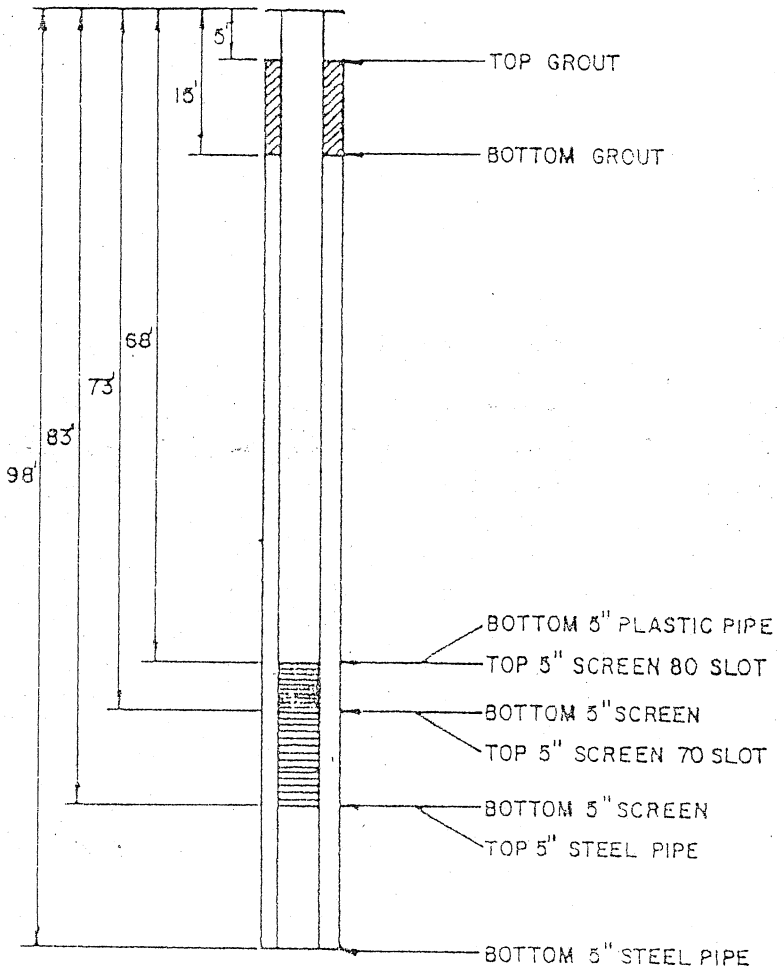
Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

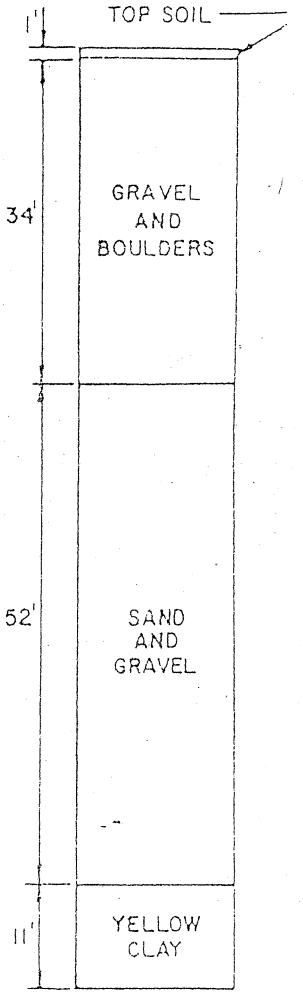
Richard Bonaguidi
Driller

INSTRUCTIONS: This form should be executed in triplicate preferably typewritten, and the appropriate district office of the State Engineer. All sections, except Section 5 shall be answered as completely as possible when ...

DOMESTIC WATER SUPPLY WELL NO. 2
PICURIS PUEBLO
PICURIS INDIAN RESERVATION
TAOS COUNTY, NEW MEXICO
(PROJECT NO. AL-73-507)



LOG



FOR: PICURIS PUEBLO COMMUNITY WATER SYSTEM #3500113
SURVEY — JUNE, 1982

Possibly PW-7 : Karen Rael or Flomma Carter

Revised June 1972

PW-09

[redacted]

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Picuris Pueblo Owner's Well No.
Street or Post Office Address Penasco Pueblo
City and State

Well was drilled under Permit No. RG 25564 and is located in the:

a. ___ ¼ ___ ¼ SW ¼ SW ¼ of Section ~~23N~~ 36 Township 23N Range 11E N.M.P.M.

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. ___ of the ___
Subdivision, recorded in ___ County.

d. X= ___ feet, Y= ___ feet, N.M. Coordinate System ___ Zone in the ___ Grant.

(B) Drilling Contractor Shamrock Drilling License No. WD 297

Address Box 838 Espanola, N.M.

Drilling Began 13th Dec Completed 17th 1974 Type tools Cable Size of hole 5" in.

Elevation of land surface or ___ at well is ___ ft. Total depth of well 131 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 73 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
72	77	5	Sand	15
115	120	5	sand & gravel Tpu	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5"	plastic		0	115	115			
5"	screen		115	120	5			
5"	steel		120	131	11			

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				
5	15	12		6 sacks	pumps

Section 5. PLUGGING RECORD

Plugging Contractor ___
Address ___
Plugging Method ___
Date Well Plugged ___
Plugging approved by:

___
State Engineer Representative

STATE ENGINEER OFFICE
DISTRICT I
ALBUQUERQUE, N. MEX.
24 DEC 1974

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ___ FWL ___ FSL ___

File No. RG-~~25664~~ 25564 Use Dom & San Location No. 23.11.36.330 RMM Taos

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Topsoil
2	20	18	Clay
20	72	52	Sandy clay w/streaks of gravel
72	77	5	Sand
77	80	3	Clay , red
80	100	20	Clay , sandy
100	121	21	Sand and gravel TPW
121	133	12	Clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Shamrock Drilling Co

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections except Section 5 shall be answered

WR-23 RG-42318 STATE ENGINEER OFFICE

T20N R12E 11a?

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well [illegible] Mutual Domestic Water Consumers Assoc.

Street and Number Well Number 4

City [illegible] State New Mexico

Well was drilled under Permit No. out of water basin and is located in the ____ ¼ ____ ¼ ____ ¼ of Section ____ Twp. ____ Rge. ____

(B) Drilling Contractor Hoards Drilling Co. License No. [illegible]-518

Street and Number 627 [illegible], NE

City [illegible] State New Mexico

Drilling was commenced July 20, 19 71

Drilling was completed Sept. 10 19 71

Elevation at top of casing in feet above sea level ____ Total depth of well 265

State whether well is shallow or artesian shallow Depth to water upon completion 130

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	152	162	10	soft, coarse sand & gravel
2	175	248	73	sandy clay & gravel, loose in spots, water
3	255	265	10	decomposed granite
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
16	.250 W	no	0	52	50	none made		
10 3/4	.409 W	no	[illegible]	[illegible]	125		118 Johnson Screen	148
8 5/8	.188 W	no	140	265	125		140	265

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	72	16		50	centrifugal pump

Section 5

PLUGGING RECORD

Name of Plugging Contractor ____ License No. ____

Street and Number ____ City ____ State ____

Tons of Clay used ____ Tons of Roughage used ____ Type of roughage ____

Plugging method used ____ Date Plugged ____ 19 ____

Plugging approved by: ____ Cement Plugs were placed as follows:

Basin Supervisor

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received

STATE ENGINEER OFFICE

1971 SEP 27 AM 8:30

File No. Out of basin Use ____ Location No. ____

11a

Section 6

LOG OF WELL

Depth in Feet From	To	Thickness in Feet	Color	Type of Material Encountered
0	8	8	gray	large & small rocks, surf water at 2½ ft.
8	20	12	brown	boulders & gravel
20	26	6	red	medium clay
26	35	9	"	medium clay & gravel
35	54	19	red streaks	med. sand & coarse gravel & clay
54	85	31	red	med. hard clay - water
85	90	5	brown	soft sand & coarse gravel
90	140	50	red	sandy clay & gravel
140	142½	2½	brown	med. clay
142½	152	9½	"	sand & gravel
152	157	5	"	soft sand & gravel
157	162	5	"	coarse sand & gravel
162	172	10	"	soft sand & large rock
172	174	2	red	med. clay & gravel
174	175	1	brown	med. sand rock
175	248	73	"	med. sandy clay & gravel - water
248	250	2	"	med. sand rock
250	255	5	"	med. sandy clay & gravel
255	265	10	gray	decomposed granite - water

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Howard Drilling Co (by P. M. Widenhofer)
Well Driller

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-11a-d

116

Section 1. GENERAL INFORMATION

(A) Owner of well Penasco Community Owner's Well No. 2

Street or Post Office Address GEN DEL

City and State PENASCO N M 87553

Well was drilled under Permit No. RG 42318 EXPL. and is located in the:

a. ____ ¼ ____ ¼ ____ ¼ SE ¼ of Section 5 Township 22 N Range 12 E N.M.P.M.

b. Tract No. PT 54 of Map No. 16 of the SURVEY 15 TCR 5 1941

c. Lot No. ____ of Block No. ____ of the ____ Subdivision, recorded in ____ County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor Pioneer Drilling License No. WD-906

Address P.O. Box 162 Abiquiu, New Mexico 87510

Drilling Began 10-1-84 Completed 10-22-84 Type tools Cable Size of hole 12 in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 260 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 125 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
235	255	20	Multi-color Conglomerate	100+

STATE ENGINEER OFFICE DISTRICT 1 ALBUQUERQUE, N. MEX.

84 NOV 20 AM 10

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
8 5/8			+2	220	222	XCMX	200	220
7			208	260	52	XCMX	230	255

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
6	30	14"	XCMX	18	Cement pumped between 8" well casing & surface casing. Surface casing pulled.

Section 5. PLUGGING RECORD

Plugging Contractor ____

Address ____

Plugging Method ____

Date Well Plugged ____

Plugging approved by: ____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ____ FWL ____ FSL ____

File No. ____ Use ____ Location No. ____

Section 6. LOG OF HOLE

116

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	1	1	Top Soil
1	27	26	Brulosa Clay Mixed
27	47	20	Sandy Clay with Gravel
47	63	16	Multi-color Conglomerate
63	74	11	Lt. Red Clay
74	160	86	Multi-color Conglomerate
160	169	9	Lt. Red Clay
169	220	51	Multi-color Conglomerate soft
220	235	15	Multi-color Conglomerate very hard
235	255	20	Multi-color Conglomerate soft
255	260	5	Lt. Red Clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Larry Parnell
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except [redacted] 5, shall be answered as completely and [redacted]ely as possible when any well is drilled, repaired or deepened. When this form is [redacted]d as a plugging record, only Section 1(a) and Section 5 need be completed.

HC - 6-03977 - $1.00

PW-12

Revised December 1975

IMPORTANT — READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM.

Declaration of Owner of Underground Water Right

Rio Grande
BASIN NAME

Declaration No. RG-65852 Date received May 22, 1996

STATEMENT

1. Name of Declarant Vadito Mutual Domestic Water Consumers Assn.
Mailing Address P.O. Box 23 Vadito, N.M. 87579
County of Taos, State of New Mexico

2. Source of water supply Shallow Water Aquifer
(artesian or shallow water aquifer)

3. Describe well location under one of the following subheadings:
a. SE ¼ SE ¼ SW ¼ of Sec. 28 Twp. 23N Rge. 12E N.M.P.M., in Taos County. Penasco USGS 7.5 min Quad map
b. Tract No. _____ of Map No. _____ of the _____
c. X = 671,000 feet, Y = 1,889,050 feet, N. M. Coordinate System Central Zone in the _____ Grant.
On land owned by Ramon & Carolina F. Romero

4. Description of well: date drilled 6/28/60 driller E.D. Bennett Drilling Co depth 158 feet. outside diameter of casing 6 5/8 inches; original capacity 20 gal. per min.; present capacity _____ gal. per min.; pumping lift 105 feet; static water level _____ feet (above) (below) land surface; make and type of pump Jacuzzi Submersible 354H
make, type, horsepower, etc., of power plant 2-5 hp
Fractional or percentage interest claimed in well 100%

5. Quantity of water appropriated and beneficially used 15 (acre feet per acre) (acre feet per annum) for Domestic, municipal purposes.

6. Acreage actually irrigated N/A acres, located and described as follows (describe only lands actually irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner

(Note: location of well and acreage actually irrigated must be shown on plat on reverse side.)

7. Water was first applied to beneficial use February (month) 16 (day) 1961 (year) and since that time has been used fully and continuously on all of the above described lands or for the above described purposes except as follows: N/A

8. Additional statements or explanations 10,000 gal storage tank located at NW ¼ SW ¼ SE ¼, Sec 28 Twp 23N, Rge 12E, NMPM
Originally 53 families on system
Now 75 memberships

I, Merlinda M. Archuleta being first duly sworn upon my oath, depose and say that the above is a full and complete statement prepared in accordance with the instructions on the reverse side of this form and submitted in evidence of ownership of a valid underground water right, that I have carefully read each and all of the items contained therein and that the same are true to the best of my knowledge and belief.

Vadito Mutual Domestic Water Cons. Assn., declarant.
by: Merlinda M. Archuleta /sec.-treasurer

Subscribed and sworn to before me this 21st day of May, A.D. 1996

My commission expires 6/28/97 Carmella C Cy Notary Public

65852

FILED
UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM. ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

STATE ENGINEER OFFICE SANTA FE, NEW MEXICO 96 MAY 23 PM 10 18

STATE ENGINEER OFFICE 96 MAY 23 PM 1:

PW-12

STATE ENGINEER OFFICE
ALBUQUERQUE, N.M.

56 MAY 23 P 1: 11

Date 6-20 19__ | Water Well Log | Location (town) Vadito, N. M.

Depth From	To	Description of formation and Remarks
0'	4'	Black dirt
4'	6'	Boulders.

Contractor E. O. Bennett Driller

Date 6-22- 1960 | Water Well Log | Location (town) Vadito, N. M.

Depth From	To	Description of formation and Remarks
6'	25'	Shale + Boulders
25'	33'	Shale –

Contractor E. O. Bennett Driller

Date 6-23 1960 | Water Well Log | Location (town) Vadito

Depth From	To	Description of formation and Remarks
33'	110'	Clay, Sand [illegible]
"note"		Surface Water Came in
	[illegible]	15' approximately. Shut off
When	we put	41' of 10" Surface Pipe.
note" –	First	Water Picked up at approx –
80' –		

Contractor B. Bennett Driller [illegible]

Date 6/24/ 1960 | Water Well Log | Location (town) Vadito, N. M.

Depth From	To	Description of formation and Remarks
110'	138'	Clay, Sand + Gravel –
138'	142'	Black Sand, w/ White and
		Black Quartz lenses.
Note:	More	water Picked up at approx
120'	to 145' –	

Contractor E. O. Bennett Driller J. Bogie

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-13A

Section 1. GENERAL INFORMATION

'80 MAY 5 PM 1 15

STATE ENGINEER
SANTA FE, N.M.

(A) Owner of well Rio Lucio Domestic Water Water Ass. Owner's Well No.

Street or Post Office Address P.O. Box 247

City and State Penasco N.M.

Well was drilled under Permit No. RG-32797-S and is located in the:

a. ¼ ¼ ¼ ¼ of Section Township Range N.M.P.M.

b. Tract No. 3-M of Map No. 8-S-15 of the

c. Lot No. of Block No. of the Subdivision, recorded in Taos County.

d. X= feet, Y= feet, N.M. Coordinate System Zone in the Grant.

(B) Drilling Contractor J. E. Reybal License No. 227

Address Route 5 Box 266 Santa Fe N.M.

Drilling Began April 22-80 Completed ?April 28-80 Type tools Cable Size of hole 7 in.

Elevation of land surface or at well is ft. Total depth of well 142 ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well 23 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
20	25	5	gravel	1
125	130	5	sandrock	4
115	120	5		5

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6½	13	welded			126 +10	Steel	106	126

30 MAY 80
ALBUQUERQUE, N. MEX.
P12 : 45

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor

Address

Plugging Method

Date Well Plugged

Plugging approved by:

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received May 6, 1980

Quad FWL FSL

File No. RG-32797-S Use Dom Location No. Tr 3-M Map 8-S-15 (Taos) ✓

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	20	20	brown clay
20	25	5	gray gravel Qt
25	50	25	red sandrock
50	60	10	brown clay
60	90	30	red sandrock
90	115	25	green clay
115	120	5	red sandrock Tpm
120	125	5	gray clay
125	130	5	red sandrock
130	135	5	gray clay
135	142	7	gray hard rock Tpm

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

J. E. Kay Co.
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

PW-136

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Rio Lucio Domestic Water Association Owner's Well No. ______
Street or Post Office Address P.O. Box 253
City and State Penasco, New Mexico 87553

Well was drilled under Permit No. RG-32797-S and is located in the:

a. ____ ¼ NW ¼ SE ¼ NW ¼ of Section 31 Township 23N Range 12E N.M.P.M.

b. Tract No. 3M of Map No. 8 8b of the Survey 15, Taos Co., Assement Survey 1941

c. Lot No. ______ of Block No. ______ of the ______
Subdivision, recorded in Taos County.

d. X= ______ feet, Y= ______ feet, N.M. Coordinate System ______ Zone in the ______ Grant.

(B) Drilling Contractor Carlos Tafoya License No. WD-733

Address P.O. Box 168 Taos, New Mexico 87571

Drilling Began 8-13-84 Completed 8-17-84 Type tools Rota-Dril Size of hole 6 5/8 in.

Elevation of land surface or ______ at well is ______ ft. Total depth of well 225 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 80 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
1'	225'	225'	Gravel, Sand & Boulder TPM	12

STATE ENGINEER-ALBUQUERQUE, N.M.
RECEIVED
OCT 18 1984
AM 7,8,9,10,11,12,1,2,3,4,5,6 PM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
6 5/8	12.92	none	1'	225'	225'	C-700	80'	225'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor ______
Address ______
Plugging Method ______
Date Well Plugged ______
Plugging approved by:

______
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ______ FWL ______ FSL ______

File No. RG-32797-S Use [illegible] Location No. [illegible]

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1'	225'	225'	Gravel, Sand & Boulder

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

Old Mexican

STATE ENGINEER OFFICE

WELL RECORD

PW-15

Section 1. GENERAL INFORMATION

(A) Owner of well Picuris Pueblo Owner's Well No. _____
Street or Post Office Address Penasco N.M. 87553
City and State _____

Well was drilled under Permit No. RG 25565 and is located in the:

a. _____ ¼ SE ¼ NW ¼ _____ ¼ of Section 30 Township 23N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Shamrock Drilling Co License No. WD 297

Address Box 838 Espanola, N.M.

Drilling Began 12-9-73 Completed 12-11-73 Type tools Cable Size of hole 5" in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 98 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 30.87 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
35	87	52	Sand and gragl	50

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5"	plastic		0	70	70			
5"	screen		70	85	15			
5"	steel		85	98	13			

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
5	15	12		6 sacks	pump

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative _____

STATE ENGINEER OFFICE
ALBUQUERQUE, N. MEX.
DEC 19 1973

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-25565 Use Dom & San Location No. 23.12.30.140 Taos

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	1	1	Topsoil
1	35	34	Gravel & Boulders
35	87	52	Sand and gravel
87	98	13	Yellow clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Shamrock Drilling Co

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is

PW-18

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Penasco Schools Owner's Well No. _____
Street or Post Office Address Penasco
City and State Penasco, New Mexico

Well was drilled under Permit No. RG-35418 and is located in the:

a. SW ¼ NW ¼ NE ¼ _____ ¼ of Section 5 Township 22n Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Vigil Well Drilling License No. WD-523

Address P.O. Box 142 Ranchos de Taos, New Mexico 87557

Drilling Began 12/28/80 Completed 1/17/81 Type tools Cable Size of hole 6 5/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 150' ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 15' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
15'	150'	135'	Boulder, Sand, Gravel	70 to 80 GPM

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8"	18.97	none	1'	150'	150'	Open	25'	150'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

81 MAR 11 AM 11:17
STATE ENGINEER OFFICE
DISTRICT I
ALBUQUERQUE, N. MEX.

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-35418 Use dom/san Location No. 22E.22N.05.213 Taos Co.

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1'	15'	15'	Black Dirt & Gravel
15'	30'	15'	Boulder & Gravel
30'	50'	20'	Gravel
50'	70'	20'	Boulder & Gravel
70'	90'	20'	Boulder & Gravel
90'	95'	5'	Solid Rock
95'	110'	10'	Sand &Gravel
110'	130'	20'	Gravel
130'	150'	20'	Gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Mill Vigil
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, ex[illegible] Section 5, shall be answered as completely [illegible] accurately as possible when any well is

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

RA-20

Section 1. GENERAL INFORMATION

(A) Owner of well Pentcostal Church of God, Indian Mission Owner's Well No. 1

Street or Post Office Address William Marshall Box 2

City and State Chamisal, N.M. 87521

Well was drilled under Permit No. RG-48882 and is located in the:

a. SW ¼ NW ¼ SE ¼ ¼ of Section 2 Township 22N Range 11E N.M.P.M.

Taos County

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Lynx Drilling Company License No. WD-1158

Address Box 565 Mora, New Mexico

Drilling Began 8-5-88 Completed 8-6-88 Type tools Rotary-Air Size of hole 6½" in.

Elevation of land surface or Unknown at well is n/a ft. Total depth of well 112 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 37 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
84	92	8	Loose Gravel and Sand	12

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4½"	2.08	Glued	+2	110	112	none	90	110

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

88 MAY 11 P 4:27

STATE ENGINEER OFFICE DISTRICT I ALBUQUERQUE, N. MEX.

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RA-48882 Use dom Location No. 22.11.2.413

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Brown Topsoil
2	7	5	Boulders and large Gravel
7	17	10	Red coarse Sand
17	24	7	Loose Gravel and Sand, Dry
24	67	43	Redish Caliche or Clay with gravel streaks
67	84	17	Compact fine red Sand
84	92	8	Gravel and Sand, Wet-- Hard Cap on top
92	110	18	Red compact Sand or soft Sand stone

Section 7. REMARKS AND ADDITIONAL INFORMATION

Blew well down to clean out, set casing, surged well to develop for three hours, water cleaned up very nicely, ran flow test at sustained 12 GPM. Broke down to move location.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lynx Drilling Company

Jim Bell Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is

Revised June 1972

STATE ENGINEER OFFICE PW-22

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Harold Cagg Owner's Well No. RG-65082
Street or Post Office Address P.O. Box 266
City and State Penasco, NM 87553

Well was drilled under Permit No. HCI-13826 and is located in the:

a. ___ ¼ NE ¼ NW ¼ SW ¼ of Section 31 Township 23N Range 12E N.M.P.M.

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. ___ of the ___
Subdivision, recorded in Taos County.

d. X= ___ feet, Y= ___ feet, N.M. Coordinate System ___ Zone in the ___ Grant.

(B) Drilling Contractor Cisneros well drilling License No. WD-1598
Address P.O. Box 57, Questa NM 87556

Drilling Began 5/20/97 Completed 5/20/97 Type tools 3 Cone bit Size of hole 6 3/4 in.

Elevation of land surface or 7408 at well is ___ ft. Total depth of well 105' ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 40' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
0'	10'		Top soil & Clay	
10'	30'		Sand Cobbles	
30'	43'		Clay	
43'	105'		Sand Gravel	13 gallons

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4 1/2			0'	65'	65'		65'	105'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0'	105'	6 3/4	4 sacks Mud		By Hand.

Section 5. PLUGGING RECORD

Plugging Contractor ___
Address ___
Plugging Method ___
Date Well Plugged ___
Plugging approved by:
___
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 9-29-97 Quad ___ FWL ___ FSL 317

File No. RG-65082 Use Dom Location No. 23N.12E.31. ✓

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		

Section 7. REMARKS AND ADDITIONAL INFORMATION

'87 SEP 28 AM 10 28

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

pw-23

Section 1. GENERAL INFORMATION

(A) Owner of well John Ortega Owner's Well No. 1

Street or Post Office Address P.O. Box 146

City and State Penasco, N.M. 87553

Well was drilled under Permit No. RG-48805 and is located in the:

a. SE ¼ SE ¼ NE ¼ ¼ of Section 36 Township 23N Range 11E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the Taos County

c. Lot No. _____ of Block No. _____ of the _____ Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Lynx Drilling Company License No. WD-1158

Address P.O. Box 565 Mora New Mexico 87573

Drilling Began 3-8-88 Completed 3-11-88 Type tools Rotary-Air Size of hole 6½" in.

Elevation of land surface or Unknown at well is n/a ft. Total depth of well 102 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 37 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
79	98	19	Compacted Sand and Gravel	12

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4½"	2.18	Glue	0	102	102	none	82	102

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

STATE ENGINEER OFFICE
ALBUQUERQUE, N. MEX.
DISTRICT I
88 APR 25 A8:20

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-48805 RA-48805 Use Home Location No. 23.11.36.244

Section 6. LOG OF HOLE

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		
0	6	6	Red Topsoil and gravel
6	11	5	Large gravel and boulders
11	21	10	Fine Red Sand
21	66	45	Redish Clay and Caliche
66	79	13	Caliche and small gravel
79	98	19	Compacted sand and gravel (wet)
98	102	4	Unconsolidated large gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

Blew well to clean up, set casing and shut down for day.
Returned next morning, measured static water level at 37'
Blew well for about 3 hrs until clear, measured flow at 12 GPM
Broke down and moved location.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lynx Drilling Company

Jim Bell — Driller

INSTRUCTIONS: This form should be exe[illegible]ed in triplicate, preferably typewritten, and s[illegible]itted to the appropriate district office of the State Engineer. All sections, excep[illegible]ection 5, shall be answered as completely an[illegible]curately as possible when any well is

PW-24

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION 88 JUN 24 P1:04

(A) Owner of well Hilio B. Gonzales Owner's Well No. ______

Street or Post Office Address [illegible]

City and State [illegible] STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

Well was drilled under Permit No. RG-47139 and is located in the:

a. SW ¼ NW ¼ SE ¼ ______ ¼ of Section 25 Township 23N Range 11E N.M.P.M.

b. Tract No. ______ of Map No. ______ of the ______

c. Lot No. ______ of Block No. ______ of the ______ Subdivision, recorded in Taos County.

d. X= ______ feet, Y= ______ feet, N.M. Coordinate System ______ Zone in the ______ Grant.

(B) Drilling Contractor Norman L. Hill License No. WD 1151

Address 1402 South 13th St Lamar, CO 81052

Drilling Began 6-13-88 Completed 6-14-88 Type tools Air Rotary Size of hole 7⅞ in.

Elevation of land surface or [illegible] at well is +1.5 ft. Total depth of well 90 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 40 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
40	90	40	Gravel + Pebbles	10

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
5" OD	[illegible] 40 PVC		+1.5	90	91.5		70	90

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				
Cement seal to be placed when steel surface pipe is installed					
[illegible] hole caved in.					

Section 5. PLUGGING RECORD

Plugging Contractor ______

Address ______

Plugging Method ______

Date Well Plugged ______

Plugging approved by:

______
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

88 JUN 27 A 8:13 STATE ENGINEER OFFICE DISTRICT I ALBUQUERQUE, N. MEX.

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ______ FWL ______ FSL ______

File No. RG-47139 Use Dom. Location No. 23.11.25.413

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
		20	[illegible]
	35	15	[illegible]
35	46	11	[illegible] gravel
46	90	44	Gravel + Cobbles

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Norman L. Hill
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections except Section [illegible]

Revised June 1972

STATE ENGINEER OFFICE

(duplicate) FW-25

WELL RECORD

Section 1. GENERAL INFORMATION

88 MAR 4 PM 1:09

(A) Owner of well Teodoro Roybal Owner's Well No.

Street or Post Office Address Box 265

City and State Penasco, NM. 87553

Well was drilled under Permit No. RG-48086 and is located in the:

a. SE ¼ SW ¼ ¼ ¼ of Section 25 Township 23N Range 11E N.M.P.M.

b. Tract No. of Map No. of the

c. Lot No. of Block No. of the Subdivision, recorded in Taos County.

d. X= feet, Y= feet, N.M. Coordinate System Zone in the Grant.

(B) Drilling Contractor Norman L. Hill License No. WD-1151

Address P.O. Box 783, Lamar, CO 81052

Drilling Began 2-26-88 Completed 2-29-88 Type tools Air Rotary Size of hole 7⅝ in.

Elevation of land surface or Casing at well is +1.5 ft. Total depth of well 220 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 80 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
70	81	11.	Sandstone + Clay Layers	3
190	198	8	Fractured Malpi	4

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6⅝" .188	Wall	Steel	+1.5	5.5	7			
5" OD	Shed 40	PVC	5	220	215		70	80
							190	200

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	10	7⅝"		2	Poured

Section 5. PLUGGING RECORD

Plugging Contractor

Address

Plugging Method

Date Well Plugged

Plugging approved by:

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

STATE ENGINEER OFFICE DISTRICT I ALBUQUERQUE, N. MEX.

88 MAR 7 P 1:07

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad FWL FSL

File No. Use Location No.

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	Surface
10	39	29	Sand
29	41	12	Clay + Gravel Layers - Grey
41	70	29	Clay - Tan
70	81	11	Clay with layers of Sandstone
81	190	109	Clay - Brown
190	198	8	Fractured Malpi
198	220	22	Clay-Brown

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Norman L. Hill
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately

RW-26

870CT19 P1:30 Revised June 7

STATE ENGINEER OFFICE

WELL RECORD

STATE ENGINEER OFFICE (DISTRICT) ALBUQUERQUE, N. MEX.

Section 1. GENERAL INFORMATION

(A) Owner of well Joe G. or Sophie Vigil Owner's Well No. HC-061

Street or Post Office Address Rte. Box 3-A

City and State Penasco, N.M. 87553

Well was drilled under Permit No. RG-38097 and is located in the:

a. SE ¼ SE¼ ¼ SE ¼ of Section 25 Township 23N Range 11E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor G.R. Stevens License No. WD-514

Address Star Rte., Eagle Nest, NM 87718

Drilling Began 10-2-87 Completed 10-9-87 Type tools cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 10 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 65 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
65	102	37	clay, sand & gravel	15

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
65/80D	13	0	0	102	102	steel	72	102

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RA-38097 Use Dome Location No. 23.11.25.444

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Brown adobe
2	25	23	Red clay & sand
25	30	5	Tan boulders
30	65	35	Red clay & sand
65	102	37	Red clay, sand & gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

G. H. Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and s[illegible] to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely a[illegible]ly as possibl[illegible] when any [illegible]ed. When this f[illegible] is a plugging record, only Section 1(a) an[illegible]

Revised June 1972

STATE ENGINEER OFFICE

PW-27

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Jose L. Cordova Owner's Well No. _____

Street or Post Office Address P. O. Box [illegible]

City and State Chamisal, New Mexico

Well was drilled under Permit No. RA-02490 and is located in the:

a. _____ ¼ NE ¼ SW ¼ SE ¼ of Section 8 Township 22N Range 11E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Romero's Well Drilling License No. 606

Address [illegible] Santa Fe, New Mexico

Drilling Began 7/79 Completed 8/79 Type tools Cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 200 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 60 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
180	200	200	Clay-Brown	12

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6	13	Welded			200	Steel	50	200

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____

State Engineer Representative

STATE ENGINEER OFFICE DISTRICT 1 ALBUQUERQUE, N. MEX. 79 AUG 17 AM 11 59

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received August 17, 1979

Quad _____ FWL _____ FSL _____

File No. RA-02490 Use domestic Location No. NE SW SE 22N.11E.2

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section

Revised June 1972

STATE ENGINEER OFFICE

pw-28

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Gene A. Sacoman Owner's Well No. _____

Street or Post Office Address P.O. Box 47

City and State Penasco, N.M. 87553

Well was drilled under Permit No. RG-71598 and is located in the:

a. NE ¼ NE ¼ SW ¼ ¼ of Section 5 Township 22N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Vigil's Well Drilling License No. WD-523

Address P.O. Box 142 Ranchos De Taos, N.M. 87557

Drilling Began 4/8/99 Completed 4/9/99 Type tools Rotary Size of hole 7" in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 180' ft.

Completed well is XXX shallow ☐ artesian. Depth to water upon completion of well 117' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
117'	180'	63'	Gravel	10-15

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8"	12-5	none	1'	180'	180'	421W	120'	180'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 4.13.99

Quad _____ FWL _____ FSL _____

File No. RG-71598 Use Dom Location No. 22N.12E.5322

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1'	20'	20'	Boulder & Gravel
20'	40'	20'	Boulder & Gravel
40'	60'	20'	Red Clay
60'	80'	20'	Red Clay
80'	100'	20'	Gravel
100'	120'	20'	Clay & Gravel
120'	140'	20'	Sand & Gravel
140'	160'	20'	Sand & Gravel
160'	180'	20'	Gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section

Revised June 1972

STATE ENGINEER OFFICE

PW-29

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well James & Sadie Davis Owner's Well No. _____

Street or Post Office Address Box 98

City and State Vadito N.M. 87579

Well was drilled under Permit No. RG-69822 and is located in the:

a. _____ ¼ NW ¼ SW ¼ SE ¼ of Section 05 Township 22N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Vigil's Well Drilling License No. WD-523

Address P.O. Box 142 Ranchos De Taos, N.M. 87557

Drilling Began 6/17/98 Completed 6/17/98 Type tools Cable Size of hole 6 5/8" in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 84' ft.

Completed well is XXX shallow ☐ artesian. Depth to water upon completion of well 65' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
65'	84'	19'	Gravel	10-15

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8"	12-5	none	1'	84'	84'	421-W	49'	84'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

98 JUN 22 PM 1:54

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 6-22-98

Quad _____ FWL _____ FSL _____

File No. RG-69822 Use Dom Location No. 22N.12E.05.431

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1'	20'	20'	Boulder & Gravel
20'	40'	20'	Boulder & GRavel
40'	60'	20'	Brown Clay
60'	70'	10'	Sand & Gravel
70'	84'	14'	Gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section

STATE ENGINEER OFFICE

WELL RECORD

PW-32

Section 1. GENERAL INFORMATION

(A) Owner of well Joe Fresquez * Owner's Well No. RG-54450

Street or Post Office Address Box 125

City and State Rodarte N.Mex. 87561

Well was drilled under Permit No. RG-54450 and is located in the:

a. SE ¼ NW ¼ SE ¼ ¼ of Section 5 Township 22N12E Range 2E22N N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in RIO ARRIBA County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

'92 SEP 1 P2:12
STATE ENGINEER OFFICE
ALBUQUERQUE, N. MEX.

(B) Drilling Contractor C. BUSTOS WELL DRILLING License No. WD-1202

Address HC 64 Box 23 Guadalupita N.Mex. 87722

Drilling Began 8/18/92 Completed 8/22/92 Type tools Cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 54 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 8 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
25	54	29	Sand Gravel Brown Dirt	20
			Sand Stone	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	12-5	None	1	54	54	Blue Diamond	20	54

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

'92 AUG 31 AM 10 26
STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 8-31-92

Quad _____ FWL _____ FSL _____

File No. RG-54450 Use Dom Location No. 22N.12E.5.414

(Rio Arriba)

From	To	in Feet	Color and Type of Material Encountered
1	18	18	Bolder Rocks Gravel
18	25	7	Brown Dirt Gravel and Sand mixed
25	30	5	Sand Stone
30	40	10	Gravel Sand Brown Dirt
40	45	5	Sand Stone
45	54	9	Gravel and Sand Stone

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Carlos Bustos
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

PW-36

Section 1. GENERAL INFORMATION

(A) Owner of well: Delores Elkins — Owner's Well No. RG 60402
Street or Post Office Address: P.O. Bx. 358
City and State: Rio Chiquito Road #47 Penasco N.M 87553

Well was drilled under Permit No. RG- 60402 and is located in the:

a. SW ¼ SE ¼ NW ¼ ¼ of Section 5 Township 22 N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor C. Bustos Well Drilling License No. WD 1202

Address H.C. 64 Box 23 Guadalupita N.M. 87722

Drilling Began 10-15-94 Completed 10-16-94 Type tools Cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 63 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 27 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
35	63	28	Brown Dirt Sand and Gravel	13
			Brown Clay	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6	12.1	None	0	63	63	Flame Treated	30	63

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

94OCT26 AM 7:34
STATE ENGR

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 10/25/94
Quad _____ FWL _____ FSL _____
File No. RG - 60402 Use Dom Location No. Sec. 5, T22N, R12E
1-4-3

From	To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	Brown Dirt
10	20	10	Brown Dirt
20	35	15	Brown Clay
35	42	7	Sand Gravel Brown Dirt
42	50	8	Brown Clay
50	53	3	Sand Stone
53	55	2	Sand
55	58	3	Brown Dirt
58	61	3	Sand Stone
61	63	2	Gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

PW-37

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Francina Dominguez Owner's Well No. 1
Street or Post Office Address Box 164
City and State Chamisal, New Mexico 87521

Well was drilled under Permit No. RG-48675 and is located in the:

a. NW ¼ SE ¼ NE ¼ ¼ of Section 2 Township 22N Range 11E N.M.P.M.
Taos, County

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Lynx Drilling Co. License No. WD-1158

Address Box 565, Mora, New Mexico 87732

Drilling Began 8-7-88 Completed 8-7-88 Type tools Rotary-Air Size of hole 6¼" in.

Elevation of land surface or Unknown at well is n/z ft. Total depth of well 32 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 7 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
17	32	15	Unconsolidated gravel	22

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5-9/16	.188	Weld	+2	26	28	none	7	28

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

88 MAY 11 P4:28
STATE ENGINEER OFFICE
DISTRICT I
ALBUQUERQUE, N. MEX.

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-48675 Use Dom Location No. 22.11.2.247

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Topsoil
2	17	15	Sand and red Clay
17	32	15	Unconsolidated river gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

Well appears to be in an underground riverbed. Could not penetrate any deeper into the gravel, would not remain stabilized. Drove 5 9/16 steel casing as far as it would go and completed at that point. Lots of water (22gpm). Temperature of water extremely cold.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lynx Drilling Company

Driller

Jim Bell

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-39

Section 1. GENERAL INFORMATION

(A) Owner of well SUSAN Cox Owner's Well No. RG-66757

Street or Post Office Address P.O. Box 6

City and State Penasco, NM 87553

Well was drilled under Permit No. HC-6-05328 RG-66757 and is located in the:

a. ____ ¼ NE ¼ SE ¼ NE ¼ of Section 36 Township 23N Range 11E N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____ Subdivision, recorded in Taos County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor Cisneros well drilling License No. WD-1398

Address P.O. Box 57 Questa, NM 87556

Drilling Began 5/12/97 Completed 5/12/93 Type tools 3 Cone 6:7 Size of hole 6 3/4 in.

Elevation of land surface or 7400 at well is ____ ft. Total depth of well 105' ft.

Completed well is ☑ shallow ☐ artesian. Depth to water upon completion of well 40' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
0'	15'		Clay	
15'	30'		Sand Cobbles	
30'	40'		Clay	
40'	105'		Sand Gravel	15 gallons

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4 1/2			0'	65'	65'		65'	105'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0'	105'	6 3/4	3 sacks		By Hand.

Section 5. PLUGGING RECORD

Plugging Contractor ____

Address ____

Plugging Method ____

Date Well Plugged ____

Plugging approved by:

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

Date Received 9-29-97 FOR USE OF STATE ENGINEER ONLY

Quad ____ FWL ____ FSL ____

File No. RG-66757 Use DOM Location No. 23N.11E.36.242

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered

Section 7. REMARKS AND ADDITIONAL INFORMATION

'97 SEP 26 AM 10 28

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Thomas Montoya
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need

HC-08289
$1.00

TRN-154114

PW-42

Revised May 1993

IMPORTANT — READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM.

Declaration of Owner of Underground Water Right

Rio Grande
BASIN NAME

Declaration No. RG-70484 Date received August 11, 1998

STATEMENT

1. Name of Declarant James, Julie Ann, Albert Jr & Michael Owen
Mailing Address PO Box 224 Penasco, NM 87553
County of Taos, State of New Mexico
2. Source of water supply well shallow (artesian or shallow water aquifer)
3. Describe well location under one of the following subheadings:
a. SW ¼ NW ¼ SE ¼ of Sec. 5 Twp. 22N Rge. 12E N.M.P.M., in
b. Tract No. _____ of Map No. _____ of the _____.
c. X = _____ feet, Y = _____ feet, N.M. Coordinate System _____ Zone
in the _____ Grant.
On land owned by As ABOVE
4. Description of well: date drilled 1960 driller Hand Dug depth 15' feet.
outside diameter of casing _____ inches; original capacity _____ gal. per min.; present capacity _____
gal. per min.; pumping lift _____ feet; static water level _____ feet (above) (below) land surface;
make and type of pump see below
make, type, horsepower, etc., of power plant _____
Fractional or percentage interest claimed in well All
5. Quantity of water appropriated and beneficially used 1 (acre feet per acre) 3 (acre feet per annum) for irrigation purposes
6. Acreage actually irrigated ¼ acres, located and described as follows (describe only lands actually irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner
	5	22N	12E	¼	SAME As Above

(Note: location of well and acreage actually irrigated must be shown on plat on reverse side.)

7. Water was first applied to beneficial use 1960 (month, day, year) and since that time has been used fully and continuously on all of the above described lands or for the above described purposes except as follows: _____
8. Additional statements or explanations 1 Lot .47 AC
Peñasco QUAD
Above ground pump for irrigation

I, Michael Owen being first duly sworn upon my oath, depose and say that the above is a full and complete statement prepared in accordance with the instructions on the reverse side of this form and submitted in evidence of ownership of a valid underground water right, that I have carefully read each and all of the items contained therein and that the same are true to the best of my knowledge and belief.

Michael Owen, declarant.

by: _____

Subscribed and sworn before me this 11th day of August A.D. 19 98

OFFICIAL SEAL
Joseph E. Montoya
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 5-29-2001

My commission expires May 29, 2001

Joseph E. Montoya Notary Public

UNDER NEW MEXICO LAW, A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM AND FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF CLAIM.

STATE ENGINEER OFFICE
ABQ, SANTA FE, ROSWELL, NEW MEXICO
98 AUG 13 AM 9:34

STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO
98 AUG 11 PM 2 17

166974
Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-43

Section 1. GENERAL INFORMATION

(A) Owner of well Alex R. Abeyta Owner's Well No. _____
Street or Post Office Address PO Box 764
City and State Penasco, NM. 87553

Well was drilled under Permit No. RG-72696 and is located in the:

a. _____ ¼ SE ¼ SE ¼ NE ¼ of Section 6 Township 22N Range 12E N.M.P.M.
in Taos County

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT.1 Box 6 Embudo, NM. 87531

Drilling Began 9-23-99 Completed 9-25-99 Type tools Rotary air Size of hole 6 1/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 110 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 20 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
50	105	55	Lt. tan clay,sand,gravel	20

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		0	40	40	steel		
5 od	2.28		30	110	80		70	110

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

99 SEP 28 PM 1:58
STATE ENGINEER OFFICE ALBUQUERQUE, NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 9-28-99 Quad _____ FWL _____ FSL _____

File No. RG 72696 Use Dom Location No. 22N.12E.06.244

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	35	35	Dark brown clay, sand, gravel and boulders
35	50	15	Lt. tan clay and sand
50	105	55	Lt. tan clay, sand and gravel
105	110	5	Red clay and sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

pw-44

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Ernesto Martinez Owner's Well No. HC-57367

Street or Post Office Address Box 1254

City and State Grants, New Mexico

Well was drilled under Permit No. RG-25239 and is located in the:

a. ____ ¼ NE ¼ SW ¼ ____ ¼ of Section 31 Township 23N Range 12E N.M.P.M.
Sec.-31- T23NR12E NMPM

b. Tract No. ____ of Map No. ____ of the Vicinity of ~~Tres~~ Penasco, N.M.

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in Taos County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor G.R. Stevens License No. WD-514

Address Box 3. Embudo, New Mex. 87531

Drilling Began 9-26-74 Completed 9-30-74 Type tools Cable Size of hole 6 in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 23 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 6 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
10	23	13	Boulders	10

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
65/80D	13	0	0	23	23	Steel	13	23

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ____

Address ALBUQUERQUE, N. MEX.

Plugging Method STATE ENGINEER OFFICE

Date Well Plugged ____

Plugging approved by: ____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ____ FWL ____ FSL ____

File No. RG-25239 Use Dom Location No. 23.12.31.320 Taos

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Black Top Soil
2	23	21	Tan Boulders Q

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

G. L. Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and

Revised June 1972

168359

STATE ENGINEER OFFICE

WELL RECORD

PW-45

Section 1. GENERAL INFORMATION

(A) Owner of well Terry and Sarah Fields Owner's Well No. _____

Street or Post Office Address P.O. Box 34

City and State Chamisal, NM. 87521

Well was drilled under Permit No. RG-72920 and is located in the:

a. _____ ¼ SW ¼ NE ¼ NW ¼ of Section 5 Township 22N Range 12E N.M.P.M.
in Taos County.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT. 1 Box 6 Embudo, NM. 87531

Drilling Began 11-3-99 Completed 11-3-99 Type tools rotary Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 110 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 30 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
75	110	35	Lt. tan clay, sand, gravel TPM	15

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		0	42	42	steel	37	42 TPM
4 1/2 od	2.28		10	110	100		70	110 TPM

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

STATE ENGINEER OFFICE ALBUQUERQUE, NEW MEXICO 99 NOV -8 PM 2:29

FOR USE OF STATE ENGINEER ONLY

Date Received 11-8-99

Quad _____ FWL _____ FSL _____

File No. RG 72920 Use Dom Location No. 22N.12E.05.123

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	23	23	Brown clay, sand, cobble stones and boulders
23	45	22	Brown clay and sand
45	75	30	Lt. tan clay and sand
75	110	35	Lt. tan clay, sand and gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-47

Section 1. GENERAL INFORMATION

(A) Owner of well Olivana Pacheco Owner's Well No. 1
Street or Post Office Address Box 613
City and State Chamisal, New Mexico

Well was drilled under Permit No. RG- 47089 and is located in the:

a. SE ¼ NW ¼ SE ¼ ¼ of Section 2 Township 22N Range 11 E N.M.P.M.
Taos County
b. Tract No. _____ of Map No. _____ of the _____
c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.
d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Lynx Drilling Company License No. WD 1158
Address Box 565, Mora New Mexico 87732
Drilling Began 6-09-87 Completed 6-11-87 Type tools Rotary Size of hole 6¼" in.
Elevation of land surface or unknown at well is na ft. Total depth of well 92" ft.
Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 9' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
16	23	7	Mixed Sand and Grave;	9
63	79	16	Black Shale	10

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4½"	2.18	glued	+2	82	84	cap	62	82

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-47089 Use Dom Location No. 22.11.2.414

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Topsoil
2	8	6	Redish Clay
8	16	8	Compacted Sand & Gravel
16	23	7	Sand & Gravel (wet)
23	39	16	Tight red sand mixed with gravel
39	63	27	Redish Caliche
63	79	16	Black Shale (wet)
79	92	13	Red Caliche

Tpu

Tpmc

Tpm

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

LYNX DRILLING COMPANY

.Jim Bell Driller

INS. .UCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible wh

Revised June 1972

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STATE ENGINEER OFFICE

WELL RECORD

PW-48

Section 1. GENERAL INFORMATION

(A) Owner of well Ivan P. Tafoya Owner's Well No. HC-12279

Street or Post Office Address PO Box 85

City and State Chamisal NM. 87521

Well was drilled under Permit No. RG-74690 and is located in the:

a. ¼ NE ¼ NW ¼ SE ¼ of Section 02 Township 22N Range 11E N.M.P.M.
in Taos county.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT. 1 Box 6 Embudo. NM. 87531

Drilling Began 9-18-00 Completed 9-19-00 Type tools Rotary Size of hole 8 3/4 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 101 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 20 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
70	101	31	Reddish tan clay, sand, gravel	15

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		+2	101	103	none	61	101

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

00 SEP 27 PM 4:28

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 9-27-2000 Quad _____ FWL _____ FSL _____

File No. RG 74690 Use Dom Location No. 22N.11E.02.412

Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		
0	30	30	Reddish tan clay, sand and cobble stones
30	40	10	Red clay
40	50	10	Red clay, sand and gravel
50	70	20	Red clay and sand
70	101	31	Reddish tan clay, sand and gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

PW-49

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Tony LoPez Owner's Well No. _____

Street or Post Office Address Po Box 151

City and State Chamisol NM 87521

Well was drilled under Permit No. RG-47936 and is located in the:

a. NE ¼ SW ¼ SE ¼ 2 ¼ of Section 22N Township 11E Range Taos N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Joes Drilling License No. WD 1189

Address PO Box 1629 Taos NM 87571

Drilling Began 3-20-90 Completed 3-28-90 Type tools Spudder Size of hole 6 5/8 in.

Elevation of land surface or 9000 at well is Some ft. Total depth of well 120 ft.

Completed well is ☑ shallow ☐ artesian. Depth to water upon completion of well 70 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
80	120	40	clay and gravel	25

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	12	welded	1	119	120	steel	80	120

STATE ENGINEER OFFICE
ALBUQUERQUE, N. MEX.
90 APR 4 P 1 24

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 4.4.90

Quad _____ FWL _____ FSL _____

File No. RG-47936 Use Domi Location No. 22N.11E.2.432

CP

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	4	4	TOP soil
4	20	16	Big rocks and wight dirt
20	80	60	Brown clay and grovel
80	120	40	grovel and Brown clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Josh H

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

STATE ENGINEER OFFICE

WELL RECORD

Revised June 1972

PW-50

Section 1. GENERAL INFORMATION

(A) Owner of well Emery Lavato Owner's Well No. HC-6-02270

Street or Post Office Address PO Box 248

City and State Chamisal, NM. 87521

Well was drilled under Permit No. RG-62510 and is located in the:

a. ___ ¼ NW ¼ SE ¼ NW ¼ of Section 2 Township 22N Range 11E N.M.P.M.

in Taos County

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. ___ of the ___

Subdivision, recorded in ___ County.

d. X= ___ feet, Y= ___ feet, N.M. Coordinate System ___ Zone in the ___ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT.1 Box 6 Embudo, NM. 87531

Drilling Began 5-22-95 Completed 5-25-95 Type tools Cable tool Size of hole 6 in.

Elevation of land surface or ___ at well is ___ ft. Total depth of well 60 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 8 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
8	15	7	Lt. tan clay, sand and gravel	20
25	35	10		
45	55	10		

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8od	13		0	60	60	steel	30	55

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

98 JAN -7 PM 1:24

STATE ENGINEER OFFICE ALBQ

Section 5. PLUGGING RECORD

Plugging Contractor ___

Address ___

Plugging Method ___

Date Well Plugged ___

Plugging approved by:

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 1-7-98

Quad ___ FWL ___ FSL ___

File No. RG-62510 Use Dom Location No. 22N.11E.2.141

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	5	5	Lt. tan clay and sand
5	15	10	Lt. tan clay, sand and gravel
15	25	10	Lt. tan clay and sand
25	35	10	Lt. tan clay, sand and gravel
35	45	10	Lt. tan clay, sand and grav
45	55	10	Lt. tan clay, sand and gravel
55	60	5	Lt. tan clay and sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

PW-51

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Jesse Lovato Owner's Well No. RG-58067

Street or Post Office Address P.O. Box 192

City and State Chamisal, New Mexico 87521

Well was drilled under Permit No. RG-58067 and is located in the:

a. NW ¼ SW ¼ NE ¼ ¼ of Section 2 Township 22N Range 11E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

93 NOV 4 AM 8:46 STATE ENGINEER OFFICE ALBUQUERQUE, N. MEX.

(B) Drilling Contractor C. Bustos Well Drilling License No. WD-1202

Address H.C.64 Box 23 Guadalupita New Mexico 87722

Drilling Began 10-15-93 Completed 10-16-93 Type tools Cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 65 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 23 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
20	65	45	Brown Dirt Brown Clay	5
			Sand Gravel	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	12-1	None	1	65	65	Blue Diamond	20	65
OD								

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

93 NOV 2 AM 8:44 STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 11-2-93

Quad _____ FWL _____ FSL _____

File No. RG-58067 Use Dom Location No. 22N, 11E, 2, 231

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1	10	10	Brown Dirt
10	20	10	Brown Caliche
20	30	10	Brown Clay
30	40	10	Brown Dirt with sand
40	50	10	Brown Dirt Sand and Gravel
50	65	15	Brown Clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

183614

STATE ENGINEER OFFICE

WELL RECORD

PW-52

Section 1. GENERAL INFORMATION

(A) Owner of well Joe L. Lovato Owner's Well No. HC6-11930

Street or Post Office Address PO Box 98

City and State Chamisal, NM. 87521

Well was drilled under Permit No. RG-74305 and is located in the:

a. ____ ¼ NE ¼ NE ¼ SW ¼ of Section 02 Township 22N Range 11E N.M.P.M.
in Taos County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in ____ County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT. 1 Box 6 Embudo, NM. 8875--87531

Drilling Began 7-10-00 Completed 7-14-00 Type tools cable Size of hole 6 in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 70 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 18 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
30	55	25	Tan clay, sand, gravel	15

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		+2	70	72	steel	40	70

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

00 JUL 27 PM 2:21

Section 5. PLUGGING RECORD

Plugging Contractor ____

Address ____

Plugging Method ____

Date Well Plugged ____

Plugging approved by:

____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 7-27-2000

Quad ____ FWL ____ FSL ____

File No. RG 74305 Use DOM Location No. 22N.11E.02.322

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	3	3	Black top soil
3	15	12	Tan clay and sand
15	55	25	Tan clay, sand and gravel
55	70	15	Tan clay and sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

PW-53

WELL RECORD

Trn-132040

Section 1. GENERAL INFORMATION

(A) Owner of well Linda Dominguez Owner's Well No. RG-68546

Street or Post Office Address P.O. Box 32

City and State Chamisal New Mexico 87521

Well was drilled under Permit No. RG-68546 and is located in the:

a. NE ¼ NE ¼ SW ¼ ¼ of Section 02 Township 22N Range 11E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Bustos Drilling License No. WD-1202

Address HC. 64 Box 23 Guadalupita New Mexico 87722

Drilling Began 10-10-97 Completed 10-14-97 Type tools Cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 92 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 35 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
30	93	63	Caliche, Clay, Dirt, and Sand	6

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6	12-1	None	1	92	92	Trident	57	92

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

STATE ENGINEER OFFICE RECEIVED OCT 28 AM 11:16

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 10-28-97

Quad _____ FWL _____ FSL _____

File No. RG-68546 Use Dom Location No. 22N.11E.02.324

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1	10	10	Dirt.
10	30	20	Caliche.
30	65	35	Clay.
65	77	12	Dirt and Sand.
77	85	8	Caliche.
85	92	7	Clay.

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

PW-54

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Carl Wagner Owner's Well No. RG-58945
Street or Post Office Address Po. Box 28
City and State Chamisal N. M. 87521

Well was drilled under Permit No. RG-58945 and is located in the:

a. NW ¼ N E ¼ SW ¼ ____ ¼ of Section 2 Township 22N Range 11-E N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in Taos County.

d. X= 650,000 feet, Y= 1,881,000 feet, N.M. Coordinate System Central Zone in the Picuris Pueblo Grant.

(B) Drilling Contractor C. Bustos Well Drilling License No. WD-1202

Address H.C. 64 Box 23 Guadalupita New Mexico 87722

Drilling Began 3-20-94 Completed 4-2-94 Type tools Cable Size of hole 6 in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 170 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 25 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
150	170	20	Red Clay, Black sand and Dirt,	15
			Black Clay.	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
6	12.1	None	0	170	170	Blue diamond	17	22
							115	170

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

94 APR 28

94 APR 20 AM 10 08
STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor ____
Address ____
Plugging Method ____
Date Well Plugged ____
Plugging approved by:

____ State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 4-20-94

Quad 22N. 11E. 2. 321 FWL ____ FSL ____

File No. RG-58945 Use Dom Location No. X=650,000 Y=1,881,000

Picuris Pueblo (G.)

From	To	In Feet	Color and Type of Material Encountered
0	10	10	Brown Dirt
10	17	7	Brown Clay
17	22	5	Sand and Gravel
22	30	8	Red Clay
30	50	20	Brown Dirt
50	75	25	Red Clsy
75	100	25	Red Clay
100	120	20	Brown Dirt
120	150	30	Red Clay
150	165	15	Black Dirt and Sand
165	170	5	Black Clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

PW-55

Revised June 1972

9S1Lb

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Jacob Dominguez Owner's Well No. 1
Street or Post Office Address P.O. Box 622
City and State Chamisal, New Mexico 87521

Well was drilled under Permit No. RG-47156 and is located in the:

a. SE ¼ NW ¼ SE ¼ ¼ of Section 2 Township 22N Range 11E N.M.P.M.
Rio Arriba County

b. Tract No. ______ of Map No. ______ of the ______

c. Lot No. ______ of Block No. ______ of the ______
Subdivision, recorded in ______ County.

d. X= ______ feet, Y= ______ feet, N.M. Coordinate System ______ Zone in the ______ Grant.

(B) Drilling Contractor Lynx Drilling Company License No. WD 1158

Address Box 565, Mora New Mexico 87732

Drilling Began 6-17-87 Completed 6-18-87 Type tools Rotary Size of hole 6½" in.

Elevation of land surface or Unknown at well is N/A ft. Total depth of well 87' ft.

Completed well is [XX] shallow [ ] artesian. Depth to water upon completion of well 16' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
16	28	12	Clean sand 7 Gravel	7
64	83	19	Black Shale	5

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

87 JUN 23 P1:13 SANTA FE, NEW MEXICO

87 JUN 25 P1:17 ... N. MEX.

Section 5. PLUGGING RECORD

Plugging Contractor ______
Address ______
Plugging Method ______
Date Well Plugged ______
Plugging approved by:

______
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ______ FWL ______ FSL ______

File No. RG-47156 Use Dom Location No. 22.11.2.414

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Topsoil
2	9	7	Sandy clay
9	16	7	Dry gravel and Boulders
16	28	12	Clean sand and gravel (wet)
28	36	8	Hard sandstone
36	64	28	Redish Caliche
64	83	19	Black Shale (wet)
83	87	4	Conglomerate sandstone

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lynx Drilling Company

Jim Bell Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record [illegible]

Revised June 1972

PW-56

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Samuel Dominguez Owner's Well No. 1
Street or Post Office Address P.O. Box6625
City and State Chamizal, New Mexico 87521

Well was drilled under Permit No. RG 47113 and is located in the:

a. SE ¼ NW ¼ SE ¼ ____ ¼ of Section 2 Township 22N Range 11E N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____ Taos County

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in ____ County.

d. X= ____ feet, Y= ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

(B) Drilling Contractor Lynx Drilling Company License No. WD 1158

Address P.O. Box 565 Mora, New Mexico 87732

Drilling Began 6-6-87 Completed 6-7-87 Type tools Rotary Size of hole 6¼" in.

Elevation of land surface or unknown at well is - ft. Total depth of well 82' 6¼" ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 36' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
26	37	11	Tight Sand and Gravel	7
63	77	14	Clean Black Shale Tpm	4

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
4½"	PVC		+2	82'	84'	cap	62'	82'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

STATE ENGINEER OFFICE SANTA FE, NEW MEXICO
87 JUN 15 P 1:87
AUN 16 P 1

Section 5. PLUGGING RECORD

Plugging Contractor ____
Address ____
Plugging Method ____
Date Well Plugged ____
Plugging approved by:

____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad ____ FWL ____ FSL ____

File No. RG-47113 Use Dm Location No. 22.11.2.414

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Topsoil
2	7	5	Red Clay
7	13	6	Loose dry Gravel
13	16	3	Hard cemented sand & gravel conglomerate
16	26	10	Coarse moist red sand and gravel mix
26	37	11	Tight coarse sand and gravel (wet)
37	59	22	Redish Caliche
59	63	4	Compacted sand and gravel
63	77	14	Black shale (wet)
77	82	5	Redish caliche

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

LYNX DRILLING COMPANY

Driller

Jim Bell

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well

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Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Ernesto Roybal 98 APR 14 AM : 03. Owner's Well No.

Street or Post Office Address Box 14

City and State Chamisal, N.M. 87521

Well was drilled under Permit No. RG-42720 and is located in the

a. SW ¼ NW ¼ SE ¼ ¼ of Section 2 Township 22N Range 11E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Norman L. Hill License No. WD-1151

Address P.O.Box 783 Lamar, Co. 81052

Drilling Began 4-6-88 Completed 4-7-88 Type tools air rotary Size of hole 6 3/4 in.

Elevation of land surface or casing at well is + 1 ft. Total depth of well 100 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 38 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
60	100	40	sand and course gravel	25

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8"	.188 wall	steel	+ 1.5	5.5	7		80	100
5" sched. 40 PVC			5	100	95			

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	10	8 5/8		3	poured

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
		5	
5	10	5	clay-white
			clay-brown
			clay-red
	60		clay-red
60		40	Sand & coarse gravel

Td

Section 7. REMARKS AND ADDITIONAL INFORMATION

RG 47110

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Norman L. Hill
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

PW-59

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Roger Dominguez Owner's Well No. 1

Street or Post Office Address P.O. Box 17

City and State Chamisal, New Mexico 87521

88 APR 15 P1:20

STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

Well was drilled under Permit No. RG-48753 and is located in the:

a. SE ¼ SW ¼ SE ¼ ¼ of Section 2 Township 22N Range 11E N.M.P.M.

Taos County

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Lynx Drilling Company License No. WD-1158

Address P.O. Box 565 Mora, New Mexico 87732

Drilling Began 4-1-88 Completed 4-2-88 Type tools Rotary/Air Size of hole 6½" in.

Elevation of land surface or Unknown at well is n/a ft. Total depth of well 122 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 17' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
89	98	9	Large gravel and sand	17

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5½"	2.18	Glued	+1	122	123	none	102	122

88 APR 18 A 8:20

STATE ENGINEER OFFICE DISTRICT II ALBUQUERQUE, N. MEX.

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-48753 Use Dom Location No. 22.11.2.434

Section 5. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	4	4	Brown Topsoil
4	19	15	Red Sand, Coarse with sparse pea Gravel
19	79	60	Redish Clay/Caliche with intermittant gravel streal
79	89	10	Compact fine sand
89	98	9	Large Gravel and Coarse Sand (wet)
98	122	24	Caliche with small gravel streaks

Section 7. REMARKS AND ADDITIONAL INFORMATION

Set casing and blew well dry, surged well for 3 hrs to develop
Guaged flow at 17 gpm, broke rig down and moved to next location.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lynx Drilling Company

Jim Bell — **Driller**

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

EB-62

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

88 JUN 16 A8:41 STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

88 MAY 25 AM 8:28 STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

(A) Owner of well Frances and/or Edward Lajao Owner's Well No. 1

Street or Post Office Address P.O. Box 13

City and State Vadito, NM. 87579

Well was drilled under Permit No. RG-49094 and is located in the:

a. SE ¼ SW ¼ SE ¼ ¼ of Section 29 Township 23N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____ Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Norman L. Hill License No. WD-1151

Address 1602 South 13th St., Lamar, CO 81052

Drilling Began 5-9-88 Completed 5-19-88 Type tools Air Rotary Size of hole 7 7/8 in.

Elevation of land surface or casing at well is +1.5 ft. Total depth of well 218 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 20 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
180	218	38	Clay and Gravel Layers	10

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5 9/16	219 Wall	Steel	+1.5	5.5	7			
5" OD	Sched 40	PVC	3.5	218	214.5		178	218

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	10	7 7/8		4	Poured

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

88 MAY 26 AM 11:22 STATE ENGINEER OFFICE ALBUQUERQUE, N. MEX.

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. RG-49094 Use dom Location No. 23.12.29.434

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	Surface
10	15	5	Large Cobbles + Gravel
15	39	24	Clay-Tan
39	45	6	Coarse Gravel + Cobbles
45	180	135	Clay-Tan with thin gravel streaks
180	218	38	Clay and Gravel Layers

Section 7. REMARKS AND ADDITIONAL INFORMATION

RG 49094

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Norman L. Hill
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

pw-65

Section 1. GENERAL INFORMATION

(A) Owner of well Alberto Sandoval, PH.D. Owner's Well No. HC-163649
Street or Post Office Address 115 South Grand # 18
City and State Las Vegas, NM. 87701

Well was drilled under Permit No. RG- 56966 and is located in the:

a. SW ¼ SW ¼ SE ¼ ¼ of Section 25 Township 23N Range 11E N.M.P.M.
in Taos county.
b. Tract No. _____ of Map No. _____ of the _____
c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.
d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277
Address RT.1 Box6 Embudo, NM. 87531
Drilling Began 4-8-93 Completed 4-12-93 Type tools cable Size of hole 6 in.
Elevation of land surface or _____ at well is _____ ft. Total depth of well 30 ft.
Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 4 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
5	12	7	Lt. tan clay and river boulders	12
			sand and gravel	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		0	30	30	steel	7	25

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

STATE ENGINEER OFFICE
DISTRICT
ALBUQUERQUE, N. MEX.
93 APR 26 AM 8 25

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 4-26-93
Quad _____ FWL _____ FSL _____
File No. RG-56966 Use Dom Location No. 23N. 11E. 25. 433

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	2	2	Lt. Brown clay and sand
2	12	10	Lt tan clay, river boulders, sand and gravel
12	30	18	Lt. tna clay, sand and gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

STATE ENGINEER OFFICE

WELL RECORD

PW-67

Revised June 1972

Section 1. GENERAL INFORMATION

(A) Owner of well Nick and Julia Montoya Owner's Well No. HC-6-01589

Street or Post Office Address PO. Box 52

City and State Vadito, NM. 87579

Well was drilled under Permit No. RG- 58065 and is located in the:

a. SW ¼ SE ¼ SW ¼ ¼ of Section 28 Township 23N Range 12E N.M.P.M.
in Taos County.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT. 1 Box 6 Embudo, NM. 87531

Drilling Began 6-16-95 Completed 6-20-95 Type tools cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 86 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 4 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
4	18	14	Tan clay and river boulders	12

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		0	86	86	steel	10 56	18 86

STATE ENGINEER OFFICE
ALBUQUERQUE, NM
JUN 27 P 1:32

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 06 27 95

Quad _____ FWL _____ FSL _____

File No. RG-58065 Use Dom Location No. T23NR12E S.28-3.4.3

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	18	18	Tan clay and river boulders
18	30	12	Lt. Tan clay and cobble stones
30	75	45	Lt. Tan clay, sand and gravel
75	86	11	Decomposed black shale, black sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Rodney Stevens
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

STATE ENGINEER OFFICE

WELL RECORD

PW-68

Revised June 1972

Section 1. GENERAL INFORMATION

(A) Owner of well Anival Lopez Owner's Well No. HC-6-01538

Street or Post Office Address PO Box 161

City and State Vadito, NM, 87579

Well was drilled under Permit No. RG-61238 and is located in the:

a. SE ¼ NW ¼ SW ¼ ¼ of Section 28 Township 23N Range 12E N.M.P.M. in Taos County.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____ Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT.1 Box 6 Embudo, NM. 87531

Drilling Began 1-3-95 Completed 1-9-94 Type tools cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 167 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 50 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
53	167	94	Beige clay and sand	2

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		0	167	167	None	84 137	104 167

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

STATE ENGINEER
95 JAN 12 P2:33

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 1-12-95

Quad _____ FWL _____ FSL _____

File No. RG-61238 Use DOM Location No. 23N.12E.28.3.4

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	15	15	Lt. Brown clay and sand
15	39	24	Lt. Brown clay and gravel
39	167	126	Beige clay and sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-69

Section 1. GENERAL INFORMATION

(A) Owner of well Jane Stanley Owner's Well No. _____
Street or Post Office Address Box 178
City and State Vadito NM 87579

Well was drilled under Permit No. RG-54061 and is located in the:

a. _____ ¼ NE ¼ SE ¼ SW ¼ of Section 29 Township 23N Range 12E N.M.P.M.

b. Tract No 19/20 of Map No. 51 of the Survey 15, 1941 TCRS

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in TAOS County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Fennell Drilling Co License No. WD987

Address P.O. Box 1722 Taos NM 87571

Drilling Began 11-9-91 Completed 11-20-91 Type tools rotary Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 285 ft.

Completed well is ☑ shallow ☐ artesian. Depth to water upon completion of well 160 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
255	280	25	Fractured Basalt	30 1pm

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	13	—	0	15	15			
4½ OD	PVC		10	285	275		250	285

STATE ENGINEER OFFICE ALBUQUERQUE, N. MEX. 02 MAR 92

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	10	7 7/8	0	2	gravity + Tremie

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 3-10-92

Quad 23N.12E.29.342 FWL _____ FSL _____

File No. RG-54061 Use Dom Location No. Lt. Tr. 19, Tr. 20, Map 51, Survey 15 1941 TCRS

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	sand clay & gravel
10	60	50	basalt
60	70	10	white quartz pumice lash bed
70	255	185	basalt
255	280	25	Fractured basalt.
280	285	5	basalt Basalt = channel fill of Pilar slate derived sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Jim L Fennell
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-71

Section 1. GENERAL INFORMATION

(A) Owner of well: Susan Or Albert Trujillo — Owner's Well No.: RG-59969

Street or Post Office Address: P.O BX. 274

City and State: Penasco N. Mex. 87553

Well was drilled under Permit No.: RG-59969 and is located in the:

'94 AUG 12 AM 8 13
STATE ENGINEER OFFICE
SANTA FE NEW MEXICO

a. SE ¼ SW ¼ NE ¼ ¼ of Section 6 Township 22N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor: C Bustos Well Drilling — License No.: WD-1202

Address: HC. 64 Box 23 Guadalupita New Mexico 87722

Drilling Began: 7/31/94 Completed: 8/7/94 Type tools: Cable Size of hole: 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well: 77 ft.

Completed well is: [X] shallow [ ] artesian. Depth to water upon completion of well: 10 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
25	77	52	Sand Gravel Brown Dirt Clay	30+

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6	12-1	None	0	77	77	Flame Treated	20	77

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method Placement

'94 AUG 15 P 8:59
STATE ENGINEER OFFICE
DISTRICT I
ALBUQUERQUE, N. MEX.

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received: 8/15/94

Quad _____ FWL _____ FSL _____

File No.: RG-59969 Use: Dom Location No.: 22N.12E.06.234

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	Brown Dirt Hard Packed Gravel.
10	18	8	Bolders Sand and Dirt
18	25	7	Brown Dirt
25	30	5	Sand And Gravel
30	40	10	Brown Dirt
40	50	10	Brown Dirt
50	65	15	Black Sand, Gravel and Brown Dirt.
65	77	12	Red Clay.

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

214210

STATE ENGINEER OFFICE

WELL RECORD PW-72

Section 1. GENERAL INFORMATION

(A) Owner of well Kit Crason Propane Owner's Well No.

Street or Post Office Address P.O. Box 587

City and State Taos, N.M. 87571

Well was drilled under Permit No. RG-76545 and is located in the:

a. NE ¼ SW ¼ NE ¼ ¼ of Section 5 Township 22N Range 12E N.M.P.M.

b. Tract No. of Map No. of the

c. Lot No. of Block No. of the Subdivision, recorded in Taos County.

d. X=667430 feet, Y= 1882060 feet, N.M. Coordinate System Central Zone in the Picuris Pueblo Grant.

(B) Drilling Contractor Vigil's Well Drilling License No. WD-523

Address P.O. Box 142 Ranchos De Taos, N.M. 87557

Drilling Began 12/27/01 Completed 12/27/01 Type tools Rotary Size of hole 7" in.

Elevation of land surface or at well is ft. Total depth of well 180' ft.

Completed well is XXX shallow ☐ artesian. Depth to water upon completion of well 80' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
80'	180'	100'	Gravel	10-12

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5 9/16	10.79	None	1'	180'	180'	None	120'	180'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

02 JAN -2 PM 3:27

STATE ENGINEER OFFICE ALBUQUERQUE, NEW MEXICO

Section 5. PLUGGING RECORD

Plugging Contractor

Address

Plugging Method

Date Well Plugged

Plugging approved by:

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

Date Received 1-2-02 FOR USE OF STATE ENGINEER ONLY Picuris Pueblo

Quad FWL FSL

File No. RG 76545 Use Dom/SAN Location No. X667430 Y 1882060 Central

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1'	20'	20'	Brown Dirt & Gravel
20'	40'	20'	Boulder & Gravel
40'	60'	20'	Brown Clay & Gravel
60'	100'	40'	Brown Clay & Gravel
100'	120'	20'	Boulder & Gravel
120'	140'	20'	Sand & Gravel
140'	160'	20'	Sand & Gravel
160'	180'	20'	Gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-73

Section 1. GENERAL INFORMATION

(A) Owner of well Thomas Ortega Owner's Well No. RG-66109

Street or Post Office Address P.O. Box 252

City and State Penasco New Mexico 87553

Well was drilled under Permit No. RG-66109 and is located in the:

a. SE ¼ SE ¼ NW ¼ ¼ of Section 5 Township 22N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____ Subdivision, recorded in Taos County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Bustos Drilling License No. WD-1202

Address H.C. 64 Box 23 Guadalupita New Mexico 87722

Drilling Began 9/14/98 Completed 9/16/98 Type tools Cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 36 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 12 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
20	36	36	Blue Shale, Sand, and Malpaiz.	25 +

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6	12-1	None	1	36	36	Blue Diamond	12	34

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

STATE ENGINEER OFFICE ALBUQUERQUE, NEW MEXICO 98 OCT -2 PM 2:23

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 10-2-98

Quad _____ FWL _____ FSL _____

File No. RG-66109 Use Dom Location No. 22N.12E.05.144

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1	9	9	Black Dirt.
9	20	11	Gravel and Sand.
20	27	7	Blue Shale. Tpm
27	29	2	Sand.
29	34	5	Shale. Tpm
34	36	2	Granite. Xu

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

177841

PW-74

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well JUANITA M ROYBAL Owner's Well No. _____

Street or Post Office Address P.O. Box 390

City and State PENASCO NM 87553

Well was drilled under Permit No. RG 73948 and is located in the:

a. NW ¼ SW ¼ NE ¼ ¼ of Section 6 Township 22N Range 12E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor LYNX DRILLING CO License No. WD 1158

Address P.O. Box 621 MORA, NM 87732

Drilling Began 6-23-00 Completed 6-29-00 Type tools ROTARY Size of hole 6¼ in.

Elevation of land surface or UNKNOWN at well is N/A ft. Total depth of well 100' ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 35' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
43	88	45	RIVER ROCK/SAND	9

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5¼	.218	GIVE	+2	100	102	NONE	80	100

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

00 AUG -2 PM 1:39 STATE ENGINEER OFFICE ALBUQUERQUE, NEW MEXICO

FOR USE OF STATE ENGINEER ONLY

Date Received 8-2-2000

Quad _____ FWL _____ FSL _____

File No. RG 73948 Use DOM Location No. 22N.12E.06.231

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	5	5	TOPSOIL
5	19	14	DRY GRAVEL/Boulders
19	43	24	SANTA FE FORMATION
43	88	45	RIVER ROCK/SAND (WET)
88	100	12	BROWN Clay

Section 7. REMARKS AND ADDITIONAL INFORMATION

Good Water

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Lynn Dreller

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

PW-75?

Section 1. GENERAL INFORMATION

(A) Owner of well Benny Vigil Owner's Well No. RG-56307
Street or Post Office Address P.O. Box 426
City and State Penasco. NM. 87579

Well was drilled under Permit No. HC-6696 and is located in the:

a. SE ¼ SW ¼ SW ¼ ¼ of Section 31 Township 22N Range 12E N.M.P.M.
in Taos county.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Rodney's Drilling License No. WD-1277

Address RT. 1 Box 6 Embudo, NM. 87531

Drilling Began 11-25-92 Completed 12-1-92 Type tools cable Size of hole 6 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 50 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 12 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
16	40	24	Lt. tan clay, sand and gravel TPM	20

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 od	13		0	50	50	steel	30	50

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO
DISTRICT I
ALBUQUERQUE, N. MEX.
92 DEC 9 P 1:43

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received 12-9-92

Quad _____ FWL _____ FSL _____

File No. RG-56307 Use Dom Location No. 22N.12E.31.334

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	16	16	Brown clay, gravel and boulders
16	50	34	Lt. tan clay, sand and gravel

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

APPENDIX C–Water Quality Results

Table C1–Summary of Major Element Chemistry

Table C2–Summary of Minor Element Chemistry

Table C3–Summary of Trace Element Chemistry

Table C4–Summary of Microbiological Results

Table C–Explanation

New Mexico Bureau of Geology & Mineral Resources and New Mexico Department of Health Scientific Laboratory Division reports

Table C1–Summary of Major Element Chemistry

Site ID	Site Name	Geologic Formation	Date Sampled	pH (pH units)	TDS	Specific Conductance (uS/cm)	Ca	Mg	Na	K	HCO3	SO4	Cl	Br
EPA MCL's for Drinking Water (1)				***6.5-8.5****	***500****	*none*	*none*	*none*	*none*	*none*	*none*	***250****	***250****	*none*
NM State Standards (2)				***6.0-9.0***	***1000***	*none*	*none*	*none*	*none*	*none*	*none*	***600***	***250***	*none*
PW-04	Tsosies	Tpm/Xu	3/18/04	8.0	330	560	18	1.9	95	4.5	230	68	5.5	0.14
PW-06	Rael	Tpmc	12/11/03	7.7	250	285	53	5.7	14	4.3	184	22	3.4	0.1
PW-06A	Rael	Tpmc	2/27/04	8.3	230	344	48	5.5	11	3.8	173	23	3.3	<0.1
PW-08	Mead	Ttd/Tpu	12/11/03	7.5	310	394	69	8.5	21	3.5	256	23	9.3	0.15
PW-15	PicurisPueblo	Qa/Tpm	3/31/04	7.5	268	433	67	8.4	8.8	1.8	237	24	3.9	<0.1
PW-17	Cordova	Ttd/Tpu	5/6/04	7.2	485	844	117	19	28	1.1	450	35	8.3	<0.1
PW-21	Lopez	Fault	12/19/03	7.8	300	392	66	16	8.1	3	265	20	4.8	0.04
PW-24	Guaule	Tpu	12/11/03	7.3	320	418	83	13	4.9	3	285	29	5.7	<0.1
PW-27	Cordova	Tpu	12/11/03	7.6	360	438	68	12	27	6.4	308	22	7.1	0.11
PW-28	Sacoman	Tpu	12/11/03	7.8	200	257	43	5.8	15	1.8	178	19	2.2	0.1
PW-31	Echwaldo	Ttd/Tpu	12/19/03	7.4	180	264	44	5.9	6.5	0.74	105	62	3.1	<0.1
PW-32	Fresquez	Ttd	3/31/04	7.9	164	283	43	6.2	11	1.1	176	9.2	3.7	<0.1
PW-34	Roybal	Tpm	12/19/04	7.6	280	383	81	6.5	5.3	1.2	252	19	7.2	<0.1
PW-37	Dominguez	Qa	2/26/04	7.9	320	534	83	9.1	11	1.4	305	21	5	<0.1
PW-38	Vasquez	Tpmc/fault	2/27/04	8.1	330	524	69	10	19	3.5	265	17	24	0.13
PW-39	Lopez	Tpm	4/27/04	7.6	301	513	83	9.4	4.9	1.9	271	20	8	<0.1
PW-40	Roybal	Tpu	12/11/03	7.1	260	364	73	6.9	6.9	1.3	247	24	5.5	0.1
PW-45	Fields	Tpu/Tpm	4/1/04	7.2	248	433	66	7.4	6.2	0.56	176	62	4.8	0.1
PW-46	Valdez	Tpu	3/11/04	7.5	250	427	67	6.3	4.7	1.2	205	25	6.7	<0.1
PW-48	Tafoya	Ttd	4/28/04	7.6	306	493	74	11	16	1	278	19	3.1	<0.1
PW-50	Lovato	Ttd	4/22/04	7.5	298	500	81	11	6.3	0.44	279	24	1.9	<0.1
PW-51	Lovato	Ttd	2/26/04	7.7	360	580	78	12	20	3.2	311	29	8.6	<0.1
PW-54	Wagner	Ttd/Tpu	5/6/04	7.5	381	642	78	14	33	2.7	330	29	9.1	0.15
PW-57	Roybal	Tpu	2/26/04	7.8	320	510	61	13	17	5.7	290	18	3.2	<0.1
PW-60	Romero	Ttd/Tpu	4/29/04	7.5	344	550	76	14	24	1.9	306	25	4.7	<0.1
PW-64	Gonzales	Tpu/Tpm	3/10/04	7.5	290	462	68	6.2	9.6	3.3	255	16	4.9	<0.1
PW-65	Sandoval	Qa	3/18/04	7.2	360	647	96	12	8.3	2.7	365	24	6.1	<0.1
PW-66	Medina	Tpm	3/11/04	7.3	340	573	91	9.5	6	1.8	325	25	4.8	<0.1
PW-67	Montoya	Qa/Tpu/Tpm	4/1/04	7.4	259	497	78	7.6	7.1	0.34	247	28	7.7	<0.1
PW-69	Stanley	Tpm	3/31/04	7.8	231	410	26	4.1	58	2.9	156	39	9.8	0.13
PW-71	Trujillo	Tpu/Tpm	2/25/04	7.5	230	400	62	6.4	7.9	0.62	203	33	4.7	<0.1
Picuris Pueblo Water Quality Code (3) General Standards				*none*	***500***	*none*	*none*	*none*	*none*	*none*	*none*	***250***	***230***	*none*
PS-76	Suncorner Springs		5/5/04	8.0	292	526	75	8.8	17	1.4	281	9.1	12	<0.1
PS-77	Dogwater Spring		4/22/04	8.2	329	517	88	7.5	11	2.8	303	15	2.7	<0.1
PS-81	Aspen Springs		5/5/04	8.1	202	355	38	5.7	27	1.3	182	10	7.4	0.11
PS-93	Unknown Spring		12/19/03	7.5	280	388	81	6.7	6.5	1.7	247	31	4.4	<0.1
Picuris Pueblo Water Quality Code (3) Designated Use Standards (A)				***6.6-8.8 (c)***	***500 (c)***	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
PSW-1	Chamisal Creek		12/11/03	7.7	340	461	95	10	12	1.4	326	23	5.8	<0.1
PSW-3	Embudo		2/13/04	7.8	200	269	52	6.4	5.8	0.93	167	30	4.4	<0.1
Picuris Pueblo Water Quality Code (3) Designated Use Standards (B)				***6.6-8.8 (c,d)***	***500 (c,h)***	***300 (d)***	***none***	***none***	***none***	***none***	***none***	***250 (h)***	***230 (h)***	***none***
PSW-2	Rio Chiquito		3/17/04	7.7	190	262	49	5.8	6.3	0.78	166	27	3.3	<0.1
PSW-4	Rio Pueblo above WWTP		2/13/04	7.8	220	312	58	7.7	6	0.86	197	34	5.2	<0.1
PSW-5	Rio Pueblo above Telephone Canyon		2/13/04	7.6	190	278	52	6.8	4.8	0.59	163	35	4.8	<0.1
PSW-6	Rio Pueblo above Embudo		2/13/04	7.4	200	264	53	7	5.8	0.86	168	31	5.5	<0.1
PSW-7	Rio Pueblo below WWTP		2/13/04	7.5	220	296	57	7.6	6	0.97	193	33	5.3	<0.1
PSW-8	Santa Barbara above Embudo		2/13/04	7.7	190	260	52	5.8	5.5	0.95	166	30	4.2	<0.1
PSW-9	Santa Barbara above Chiquito		2/13/04	7.5	170	237	45	4.8	3.7	0.79	127	37	3.9	<0.1

All units are mg/L (ppm), except where noted.

(1) US Environmental Protection Agency National Primary and Secondary Drinking Water Standards. (MCL = Maximum Contaminant Level)

**EPA Secondary Drinking Water Standards - non-enforceable guidelines to regulate contaminants that cause cosmetic or asthetic effects.*

(2) New Mexico Water Quality Control Commission NMAC 20.6.2.3103 Human Health Standards for Groundwater

(3) Water Quality Code for the Picuris Pueblo, adopted May 11, 1995; revised May, 2000.

(A) Most stringent standards for all designated uses (marginal coldwater fishery, warm water fishery, irrigation, livestock watering, wildlife habitat, primary contact, and recharge of domestic water supply) in streams and tributaries below confluence of Rio Pueblo and Rio Santa Barbara.

(B) Most stringent standards for designated uses (recharge of domestic water supply, fish culture, high quality coldwater fishery, irrigation, livestock watering, wildlife habitat, municipal & industrial water supply, and primary contact) in streams and tributaries above confluence of Rio Pueblo and Rio Santa Barbara.

(c) Standard for primary contact.

(d) Standard for high quality coldwater fishery.

(h) General standards for fish culture and muinicipal & industrial supply.

Table C2–Summary of Minor Element Chemistry

Site ID	Site Name	Geologic Formation	Date Sampled	NO3(N)	Fe	Mn	F	Sr	SiO2
EPA MCL's for Drinking Water (1)				***10***	***0.3****	***0.05****	***4 (2*)***	*none*	*none*
NM State Standards (2)				***10 (2a)***	***1 (2b)***	***0.2 (2b)***	***1.6 (2a)***	*none*	*none*
PW-04	Tsosies	Tpm/Xu	3/18/04	<0.02	<0.05	0.002	**3.3**	0.3	16
PW-06	Rael	Tpmc	12/11/03	0.70	<0.05	<0.001	0.38	0.33	49
PW-06A	Rael	Tpmc	2/27/04	0.72	<0.05	<0.001	0.4	0.29	49
PW-08	Mead	Ttd/Tpu	12/11/03	0.79	**0.41**	0.006	0.67	0.6	46
PW-15	PicurisPueblo	Qa/Tpm	3/31/04	0.65	<0.05	<0.001	0.21	0.48	32
PW-17	Cordova	Ttd/Tpu	5/6/04	3.16	<0.05	<0.001	0.77	4.3	32
PW-21	Lopez	Fault	12/19/03	0.86	<0.05	<0.001	0.59	0.59	43
PW-24	Guaule	Tpu	12/11/03	0.47	<0.05	<0.001	0.29	0.46	41
PW-27	Cordova	Tpu	12/11/03	1.08	<0.05	<0.001	0.65	1.1	54
PW-28	Sacoman	Tpu	12/11/03	0.22	**0.89**	0.003	0.14	0.63	23
PW-31	Echwaldo	Ttd/Tpu	12/19/03	0.16	**0.47**	0.005	0.12	0.21	6.8
PW-32	Fresquez	Ttd	3/31/04	0.27	<0.05	<0.001	0.26	0.44	18
PW-34	Roybal	Tpm	12/19/04	0.74	<0.05	<0.001	0.18	0.31	31
PW-37	Dominguez	Qa	2/26/04	0.63	0.084	0.002	0.23	0.39	34
PW-38	Vasquez	Tpmc/fault	2/27/04	0.52	<0.05	<0.001	0.45	0.53	55
PW-39	Lopez	Tpm	4/27/04	0.27	<0.05	<0.001	0.13	0.62	36
PW-40	Roybal	Tpu	12/11/03	0.47	<0.05	<0.001	0.13	0.34	20
PW-45	Fields	Tpu/Tpm	4/1/04	<0.02	0.13	0.002	0.13	0.34	13
PW-46	Valdez	Tpu	3/11/04	1.92	<0.05	<0.001	0.2	0.32	23
PW-48	Tafoya	Ttd	4/28/04	0.59	<0.05	0.001	0.98	0.81	39
PW-50	Lovato	Ttd	4/22/04	0.47	<0.05	<0.001	0.31	1.2	30
PW-51	Lovato	Ttd	2/26/04	2.48	<0.05	<0.001	0.59	0.82	45
PW-54	Wagner	Ttd/Tpu	5/6/04	1.04	<0.05	<0.001	0.74	2.2	43
PW-57	Roybal	Tpu	2/26/04	0.22	<0.05	<0.001	0.63	1.1	55
PW-60	Romero	Ttd/Tpu	4/29/04	1.17	<0.05	<0.001	0.45	1.5	39
PW-64	Gonzales	Tpu/Tpm	3/10/04	0.84	<0.05	<0.001	0.21	0.37	47
PW-65	Sandoval	Qa	3/18/04	0.08	**0.43**	**0.49**	0.14	0.5	29
PW-66	Medina	Tpm	3/11/04	0.45	<0.05	0.002	0.34	0.57	39
PW-67	Montoya	Qa/Tpu/Tpm	4/1/04	1.47	<0.05	<0.001	0.19	0.33	21
PW-69	Stanley	Tpm	3/31/04	0.52	<0.05	<0.001	**10**	0.54	21
PW-71	Trujillo	Tpu/Tpm	2/25/04	0.16	0.18	0.003	0.11	0.28	12
Picuris Pueblo Water Quality Code (3) General Standards				*none*	*none*	*none*	*none*	*none*	*none*
PS-76	Suncorner Springs		5/5/04	<0.02	**1.3**	0.34	0.36	1.2	25
PS-77	Dogwater Spring		4/22/04	0.41	**0.52**	0.17	0.19	0.88	47
PS-81	Aspen Springs		5/5/04	0.03	0.27	0.016	0.31	0.45	21
PS-93	Unknown Spring		12/19/03	0.43	0.11	<0.001	0.25	0.37	20
Picuris Pueblo Water Quality Code (3) Designated Use Standards (A)				***10 (e)***	***0.3 (e)***	*none*	*none*	*none*	*none*
PSW-1	Chamisal Creek		12/11/03	0.27	<0.05	0.007	0.37	0.49	31
PSW-3	Embudo		2/13/04	0.04	0.05	0.014	0.15	0.3	12
Picuris Pueblo Water Quality Code (3) Designated Use Standards (B)				***10 (e)***	***0.3 (e)***	*none*	*none*	*none*	*none*
PSW-2	Rio Chiquito		3/17/04	0.14	0.051	0.018	0.19	0.23	11
PSW-4	Rio Pueblo above WWTP		2/13/04	0.08	<0.05	0.007	0.17	0.41	13
PSW-5	Rio Pueblo above Telephone Canyon		2/13/04	0.04	<0.05	0.017	0.14	0.36	7.3
PSW-6	Rio Pueblo above Embudo		2/13/04	0.06	0.094	0.02	0.16	0.37	12
PSW-7	Rio Pueblo below WWTP		2/13/04	0.09	0.066	0.014	0.19	0.4	13
PSW-8	Santa Barbara above Embudo		2/13/04	0.05	<0.05	0.013	0.21	0.24	11
PSW-9	Santa Barbara above Chiquito		2/13/04	0.04	<0.05	0.004	0.14	0.2	6.6

All units are mg/L (ppm).

(1) US Environmental Protection Agency National Primary and Secondary Drinking Water Standards. (MCL = Maximum Contaminant Level)

**EPA Secondary Drinking Water Standards - non-enforceable guidelines to regulate contaminants that cause cosmetic or asthetic effects.*

(2) New Mexico Water Quality Control Commission NMAC 20.6.2.3103 Standards for Groundwater: (2a) Human Health Standards, (2b) Other Standards for Domestic Water Supply.

(3) Water Quality Code for the Picuris Pueblo, adopted May 11, 1995; revised May, 2000.

(A) Most stringent calculated standard for all designated uses (marginal coldwater fishery, warm water fishery, irrigation, livestock watering, wildlife habitat, primary contact, and recharge of domestic water supply) in streams and tributaries below confluence of Rio Pueblo and Rio Santa Barbara.

watering, wildlife habitat, municipal & industrial water supply, and primary contact) in streams and tributaries above confluence of Rio Pueblo and Rio Santa Barbara.

(e) Standard for recharge of domestic water supply.

Table C3−Summary of Trace Element Chemistry

Site ID	Site Name	Geologic Formation	Date Sampled	Al	As	Ba	B	Cu	Li	Mo	U	V	Zn
EPA MCL's for Drinking Water (1)				***50-200****	***10 (as of 1/23/06)***	***2000***	*none*	***1300 (1000*)***	*none*	*none*	***30***	*none*	***5000****
NM State Standards (2)				***5000 (2c)***	***100 (2a)***	***1000 (2a)***	***750 (2c)***	***1000 (2b)***	*none*	***1000 (2c)***	***30 (2a)***	*none*	***10000 (2b)***
PW-04	Tsosies	Tpm/Xu	3/18/04	<1	5	28	340	13	69	14	8	1	2
PW-06	Rael	Tpmc	12/11/03	3	1	100	31	130	9	2	6	3	40
PW-06A	Rael	Tpmc	2/27/04	<1	1	110	20	<1.	7	1	5	3	9
PW-08	Mead	Ttd/Tpu	12/11/03	120	3	120	30	20	18	2	8	6	120
PW-15	PicurisPueblo	Qa/Tpm	3/31/04	<1	<1	140	16	<1	4	2	8	2	1
PW-17	Cordova	Ttd/Tpu	5/6/04	12	5	190	71	13	43	1	14	12	120
PW-21	Lopez	Fault	12/19/03	4	3	82	21	22	11	<1	4	3	65
PW-24	Guaule	Tpu	12/11/03	1	<1	140	23	15	4	<1	3	2	150
PW-27	Cordova	Tpu	12/11/03	<1	3	180	40	9	26	<1	30	4	470
PW-28	Sacoman	Tpu	12/11/03	3	2	80	34	92	12	<1	6	8	55
PW-31	Echwaldo	Ttd/Tpu	12/19/03	180	<1	50	10	410	3	<1	<1	<1	59
PW-32	Fresquez	Ttd	3/31/04	<1	1	160	16	8	13	<1	2	2	21
PW-34	Roybal	Tpm	12/19/04	1	<1	260	14	24	6	<1	2	1	970
PW-37	Dominguez	Qa	2/26/04	18	2	310	27	7	10	<1	3	7	15
PW-38	Vasquez	Tpmc/fault	2/27/04	<1	3	220	13	2	17	1	4	11	13
PW-39	Lopez	Tpm	4/27/04	<1	<1	<1	14	2	5	<1	4	2	8
PW-40	Roybal	Tpu	12/11/03	5	<1	150	13	8	5	<1	2	<1	5
PW-45	Fields	Tpu/Tpm	4/1/04	4	<1	110	9	1	2	<1	1	1	35
PW-46	Valdez	Tpu	3/11/04	<1	<1	130	13	4	4	<1	1	4	7
PW-48	Tafoya	Ttd	4/28/04	1	3	110	25	2	20	<1	7	10	24
PW-50	Lovato	Ttd	4/22/04	2	4	250	18	3	12	<1	5	7	17
PW-51	Lovato	Ttd	2/26/04	<1	11	150	27	2	20	<1	12	11	1
PW-54	Wagner	Ttd/Tpu	5/6/04	<1	3	110	38	41	25	2	19	7	4
PW-57	Roybal	Tpu	2/26/04	<1	3	200	19	2	17	<1	7	5	7
PW-60	Romero	Ttd/Tpu	4/29/04	<1	2	150	27	1	17	<1	10	7	13
PW-64	Gonzales	Tpu/Tpm	3/10/04	<1	<1	220	15	3	7	<1	4	4	86
PW-65	Sandoval	Qa	3/18/04	3	<1	140	14	140	2	<1	7	2	71
PW-66	Medina	Tpm	3/11/04	20	8	110	25	12	17	<1	2	15	27
PW-67	Montoya	Qa/Tpu/Tpm	4/1/04	1	<1	200	17	84	6	<1	2	3	9
PW-69	Stanley	Tpm	3/31/04	1	8	6	160	19	26	11	12	1	76
PW-71	Trujillo	Tpu/Tpm	2/25/04	<1	<1	140	7	110	3	<1	2	<1	150
Picuris Pueblo Water Quality Code (3) General Standards				*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
PS-76	Suncorner Springs		5/5/04	660	1	320	22	3	19	<1	2	3	4
PS-77	Dogwater Spring		4/22/04	200	1	350	14	<1	8.000	<1	6	6	1
PS-81	Aspen Springs		5/5/04	170	2	280	13	2	15	6	27	1	2
PS-93	Unknown Spring		12/19/03	3	<1	190	15	18	6	<1	1	4	170
Picuris Pueblo Water Quality Code (3) Designated Use Standards (A)				***750 (i)***	***50 (e)***	***2000 (e)***	*none*	***200 (f)***	*none*	*none*	***5000 (e)***	***100 (f,g)***	***Calculation (j)***
PSW-1	Chamisal Creek		12/11/03	5	1	260	27	<1	10	<1	5	3	<1 *(279)*
PSW-3	Embudo		2/13/04	42	<1	81	6	<1	3	<1	2	1	<1 *(171)*
Picuris Pueblo Water Quality Code (3) Designated Use Standards (B)				***750 (i)***	***50 (e)***	***2000 (e)***	*none*	***200 (f)***	*none*	*none*	***5000 (e)***	***100 (f,g)***	***Calculation (j)***
PSW-2	Rio Chiquito		3/17/04	43	<1	110	5	<1	4	<1	1	1	91 *(161)*
PSW-4	Rio Pueblo above WWTP		2/13/04	30	<1	69	6	<1	4	<1	2	1	<1 *(190)*
PSW-5	Rio Pueblo above Telephone Canyon		2/13/04	14	<1	48	4	<1	2	<1	2	<1	2 *(173)*
PSW-6	Rio Pueblo above Embudo		2/13/04	94	<1	66	6	<1	3	<1	2	1	<1 *(175)*
PSW-7	Rio Pueblo below WWTP		2/13/04	36	<1	71	7	<1	3	<1	2	1	320 *(187)*
PSW-8	Santa Barbara above Embudo		2/13/04	22	<1	94	5	<1	3	<1	1	1	<1 *(169)*
PSW-9	Santa Barbara above Chiquito		2/13/04	2	<1	53	3	<1	1	<1	<1	<1	<1 *(148)*

All units are ug/L (ppb).

(1) US Environmental Protection Agency National Primary and Secondary Drinking Water Standards. (MCL = Maximum Contaminant Level)

**EPA Secondary Drinking Water Standards - non-enforceable guidelines to regulate contaminants that cause cosmetic or asthetic effects.*

Irrigation Use Standards.

(3) Water Quality Code for the Picuris Pueblo, adopted May 11, 1995; revised May, 2000.

(A) Most stringent calculated standard for all designated uses (marginal coldwater fishery, warm water fishery, irrigation, livestock watering, wildlife habitat, primary contact, and recharge of domestic water supply) in streams and tributaries below confluence of Rio Pueblo and Rio Santa Barbara.

(B) Most stringent standards for designated uses (recharge of domestic water supply, fish culture, high quality coldwater fishery, irrigation, livestock watering, wildlife habitat, municipal & industrial water supply, and primary contact) in streams and tributaries above confluence of Rio Pueblo and Rio Santa Barbara.

(e) Standard for recharge of domestic water supply.

(f) Standard for irrigation.

(g) Standard for livestock watering & wildlife habitat.

(i) Standard for Acute Fishery Criteria

(j) Standard for Zinc calculated under Acute Fishery Criteria = e (0.8473(ln(hardness))+0.8618), in parentheses following lab reported value.

Table C4–Summary of Microbiological Results

Site ID	Site Name	Geologic Formation	Date Sampled	Total coliform	Fecal Coliform
EPA MCL's for Drinking Water (1)				***5% of sample***	*none*
NM State Standards (2)				*none*	***500col/100ml***
PW-04	Tsosies	Tpm/Xu	3/18/04	NA	<1/100 mls
PW-06	Rael	Tpmc	12/11/03	Absent	<1/100 mls
PW-06A	Rael	Tpmc	2/27/04	Absent	<1/100 mls
PW-08	Mead	Ttd/Tpu	12/11/03	Absent	<1/100 mls
PW-15	PicurisPueblo	Qa/Tpm	3/31/04	Absent	<1/100 mls
PW-17	Cordova	Ttd/Tpu	5/6/04	Absent	<1/100 mls
PW-21	Lopez	Fault	12/19/03	Absent	<1/100 mls
PW-24	Guaule	Tpu	12/11/03	Absent	<1/100 mls
PW-27	Cordova	Tpu	12/11/03		
PW-28	Sacoman	Tpu	12/11/03		
PW-31	Echwaldo	Ttd/Tpu	12/19/03	Absent	<1/100 mls
PW-32	Fresquez	Ttd	3/31/04	Absent	<1/100 mls
PW-34	Roybal	Tpm	12/19/04	Absent	<1/100 mls
PW-37	Dominguez	Qa	2/26/04	Absent	<1/100 mls
PW-38	Vasquez	Tpmc/fault	2/27/04	Present	<1/100 mls
PW-39	Lopez	Tpm	4/27/04	Absent	<1/100 mls
PW-40	Roybal	Tpu	12/11/03	Absent	<1/100 mls
PW-45	Fields	Tpu/Tpm	4/1/04	Absent	<1/100 mls
PW-46	Valdez	Tpu	3/11/04	Absent	<1/100 mls
PW-48	Tafoya	Ttd	4/28/04	Absent	<1/100 mls
PW-50	Lovato	Ttd	4/22/04	Absent	<1/100 mls
PW-51	Lovato	Ttd	2/26/04	Absent	<1/100 mls
PW-54	Wagner	Ttd/Tpu	5/6/04	Absent	<1/100 mls
PW-57	Roybal	Tpu	2/26/04	Absent	<1/100 mls
PW-60	Romero	Ttd/Tpu	4/29/04	Absent	<1/100 mls
PW-64	Gonzales	Tpu/Tpm	3/10/04	Absent	<1/100 mls
PW-65	Sandoval	Qa	3/18/04	Absent	<1/100 mls
PW-66	Medina	Tpm	3/11/04	NA	<1/100 mls
PW-67	Montoya	Qa/Tpu/Tpm	4/1/04	Absent	<1/100 mls
PW-69	Stanley	Tpm	3/31/04	NA	<1/100 mls
PW-71	Trujillo	Tpu/Tpm	2/25/04		<1/100 mls
Picuris Pueblo Water Quality Code (3) General Standards				*none*	*none*
PS-76	Suncorner Springs		5/5/04	Present	<1/100 mls
PS-77	Dogwater Spring		4/22/04	Present	<1/100 mls
PS-81	Aspen Springs		5/5/04	Present	<1/100 mls
PS-93	Unknown Spring		12/19/03		
Picuris Pueblo Water Quality Code (3) Designated Use Standards (A)				*none*	***200col/100ml (c)***
PSW-1	Chamisal Creek		12/11/03		
PSW-3	Embudo		2/13/04		
Picuris Pueblo Water Quality Code (3) Designated Use Standards (B)				*none*	***200col/100ml (c)***
PSW-2	Rio Chiquito		3/17/04		
PSW-4	Rio Pueblo above WWTP		2/13/04		
PSW-5	Rio Pueblo above Telephone Canyon		2/13/04		
PSW-6	Rio Pueblo above Embudo		2/13/04		
PSW-7	Rio Pueblo below WWTP		2/13/04		
PSW-8	Santa Barbara above Embudo		2/13/04		
PSW-9	Santa Barbara above Chiquito		2/13/04		

(1) US Environmental Protection Agency National Primary and Secondary Drinking Water Standards. (MCL = Maximum Contaminant Level)

(2) New Mexico Water Quality Control Commission NMAC 20.6.2

(3) Water Quality Code for the Picuris Pueblo, adopted May 11, 1995; revised May, 2000.

(A) Most stringent standards for all designated uses (marginal coldwater fishery, warm water fishery, irrigation, livestock watering, wildlife habitat, primary contact, and recharge of domestic water supply) in streams and tributaries below confluence of Rio Pueblo and Rio Santa Barbara.

(B) Most stringent standards for designated uses (recharge of domestic water supply, fish culture, high quality coldwater fishery, irrigation, livestock watering, wildlife habitat, municipal & industrial water supply, and primary contact) in streams and tributaries above confluence of Rio Pueblo and Rio Santa Barbara.

(c) Standard for primary contact.

Table C4–Explanation

COLUMN HEADING	EXPLANATION
Site ID	All records are given a Site ID for tracking purpose, including wells, surface water and springs.
Site Name	Last name of well owner, or name of spring or surface water site.
Geologic Formation	Interpreted geologic formation of water bearing zone(s)
Date Sampled	Date water sample was collected by NMBGMR
TDS	Total Dissolved Solids
Ca	Calcium
Mg	Magnesium
Na	Sodium
K	Potassium
HCO3	Bicarbonate ion
SO4	Sulfate
Cl	Chloride
Br	Bromide
NO3(N)	Nitrate as Nitrogen
Fe	Iron
Mn	Manganese
F	Flouride
Sr	Strontium
SiO2	Silica
Al	Aluminum
As	Arsenic
Ba	Barium
B	Boron
Cu	Copper
Li	Lithium
Mo	Molybdenum
U	Uranium
V	Vanadium
Zn	Zinc

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	3/18/04 09:15	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0320
Sample Description	PW-4				
pH	7.96	TDS (ppm)	330	Conductivity (uS/cm)	560

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	53		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.005		Molybdenum (Mo)	0.014	
Bicarbonate (HCO_3^-)	230	3.77	Barium (Ba)	0.028		Nickel (Ni)	< 0.001	
Bromide (Br)	0.14	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.5	0.16	Boron (B)	0.34		Strontium (Sr)	0.3	0.01
Fluoride (F^-)	3.3	0.17	Cadmium (Cd)	< 0.001		Silica (SiO_2)	16	
Nitrate (NO_3^-)	< 0.1	0.00	Chromium (Cr)	0.003		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	68	1.42	Copper (Cu)	0.013		Uranium (U)	0.008	
Sodium (Na)	95	4.13	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.001	
Potassium (K)	4.5	0.12	Lead (Pb)	< 0.001		Zinc (Zn)	0.002	0.00
Magnesium (Mg)	1.9	0.16	Lithium (Li)	0.069				
Calcium (Ca)	18	0.90	Manganese (Mn)	0.002	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	5.31
Total epm Anions	5.52
% Difference	-1.91
Charges:	$90.00

Approved by: Terry Tolan

Date received: 03/19/04
Date completed: 03/24/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-4

SLD Number: 200401846 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 9:15:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-TSOSIES
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

See Comments

Comment: Laboratory accident, please resubmit sample.

Date Out: 3/19/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-4

SLD Number: 200401841 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 9:15:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-4 TSOSIES
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/18/04 at 4:23pm.

Date Out: 3/19/04 **Analyst:** cdg

CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1758
Sample Description	PW-6				
pH	7.68	TDS (ppm)	250	Conductivity (uS/cm)	285

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	156		Aluminum (Al_2O_3)	0.003	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	0.001		Molybdenum (Mo)	0.002	
Bicarbonate (HCO_3^-)	184	3.02	Barium (Ba)	0.1		Nickel (Ni)	< 0.001	
Bromide (Br)	0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	0.001	
Chloride (Cl^-)	3.4	0.10	Boron (B)	0.031		Strontium (Sr)	0.33	0.01
Fluoride (F^-)	0.38	0.02	Cadmium (Cd)	< 0.001		Silica (SiO_2)	49	
Nitrate (NO_3^-)	3.1	0.05	Chromium (Cr)	0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	22	0.46	Copper (Cu)	0.13		Uranium (U)	0.006	
Sodium (Na)	14	0.61	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.003	
Potassium (K)	4.3	0.11	Lead (Pb)	< 0.001		Zinc (Zn)	0.04	0.00
Magnesium (Mg)	5.7	0.47	Lithium (Li)	0.009				
Calcium (Ca)	53	2.64	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	3.84
Total epm Anions	3.64
% Difference	2.68
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/24/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-6

SLD Number: 200401634 **Date/Time Rec'd:** 3/10/04 2:55:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 11:45:00 AM
Disinfected:
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-6 RAEL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/10/04 at 3:53pm.

Date Out: 3/11/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-6

SLD Number: 200401638 **Date/Time Rec'd:** 3/10/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 11:45:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-6 RAEL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/15/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	2/27/04 11:45	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0197
Sample Description	PW-6A				
pH	8.32	TDS (ppm)	230	Conductivity (uS/cm)	344

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	143		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.001		Molybdenum (Mo)	0.001	
Bicarbonate (HCO_3^-)	173	2.84	Barium (Ba)	0.11		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	3.3	0.09	Boron (B)	0.02		Strontium (Sr)	0.29	0.01
Fluoride (F^-)	0.4	0.02	Cadmium (Cd)	< 0.001		Silica (SiO_2)	49	
Nitrate (NO_3^-)	3.2	0.05	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	23	0.48	Copper (Cu)	< 0.001		Uranium (U)	0.005	
Sodium (Na)	11	0.48	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.003	
Potassium (K)	3.8	0.10	Lead (Pb)	< 0.001		Zinc (Zn)	0.009	0.00
Magnesium (Mg)	5.5	0.45	Lithium (Li)	0.007				
Calcium (Ca)	48	2.40	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Talon Newton
New Mexico Bureau of Geology

Total epm Cations	3.43
Total epm Anions	3.48
% Difference	-0.72
Charges:	$90.00

Approved by: Talon Newton

Date received: 02/27/04
Date completed: 03/17/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-6A

SLD Number: 200401633 **Date/Time Rec'd:** 3/10/04 2:55:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 11:45:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-6A
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/10/04 at 3:48pm.

Date Out: 3/11/04 **Analyst:** cdg CD6

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-6A

SLD Number: 200401637 **Date/Time Rec'd:** 3/10/04 2:55:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 11:45:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-6A RAEL
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/15/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1755
Sample Description	PW-8				
pH	7.47	TDS (ppm)	310	Conductivity (uS/cm)	394

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	207		Aluminum (Al_2O_3)	0.12	0.01	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	0.003		Molybdenum (Mo)	0.002	
Bicarbonate (HCO_3^-)	256	4.20	Barium (Ba)	0.12		Nickel (Ni)	0.001	
Bromide (Br)	0.15	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	0.002	
Chloride (Cl^-)	9.3	0.26	Boron (B)	0.03		Strontium (Sr)	0.6	0.01
Fluoride (F^-)	0.67	0.04	Cadmium (Cd)	< 0.001		Silica (SiO_2)	46	
Nitrate (NO_3^-)	3.5	0.06	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	23	0.48	Copper (Cu)	0.02		Uranium (U)	0.008	
Sodium (Na)	21	0.91	Iron (Fe)	0.41	0.02	Vanadium (V)	0.006	
Potassium (K)	3.5	0.09	Lead (Pb)	0.003		Zinc (Zn)	0.12	0.00
Magnesium (Mg)	8.5	0.70	Lithium (Li)	0.018				
Calcium (Ca)	69	3.44	Manganese (Mn)	0.006	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	5.20
Total epm Anions	5.03
% Difference	1.64
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/24/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

DW-8

SLD Number: 200401639 **Date/Time Rec'd:** 3/10/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 12:00:00 PM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-8 MEAD
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/11/04 **Analyst:** cdg

CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-8

SLD Number: 200401635 **Date/Time Rec'd:** 3/10/04 2:55:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 12:00:00 PM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-8 MEAD
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 3/10/04 at 3:57pm.

Date Out: 3/11/04 **Analyst:** cdg

CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0328	County		Township, Range	
Collection Date	3/31/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-15 Picoris Pueblo Community Well				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$60.00
pH	7.45
Conductivity (uS/cm)	433
TDS (ppm) (calculation)	268
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	199	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	237	3.8844
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	3.9	0.1100
Fluoride (F-)	0.21	0.0111
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	2.9	0.0468
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	24	0.4997
Major Cations		
Sodium (Na)	8.8	0.3828
Potassium (K)	1.8	0.0466
Magnesium (Mg)	8.4	0.6910
Calcium (Ca)	67	3.2830
Total epm Cations		4.41
Total epm Anions		4.55
% Difference		-1.53

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0328	County		Township, Range	
Collection Date	3/31/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-15 Picoris Pueblo Community Well				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	< 0.001	0.0000
Antimony (Sb)	< 0.001	
Arsenic (As)	< 0.001	
Barium (Ba)	0.14	
Beryllium (Be)	< 0.001	
Boron (B)	0.016	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.004	
Cobalt (Co)	< 0.001	
Copper (Cu)	< 0.001	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.004	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	0.002	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.48	0.0110
Silica (SiO2)	32	
Silicon (Si)	15	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	< 0.001	
Uranium (U)	0.008	
Vanadium (V)	0.002	
Zinc (Zn)	0.001	0.0000

Approved By:

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-15

SLD Number: 200402009 **Date/Time Rec'd:** 3/31/04 3:33:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/31/04
Time Collected: 9:38:00 AM
Disinfected:
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Community
Collected By: TALON NEWTON
Sample Location: PW-15 PUEBLO
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/1/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-15

SLD Number: 200402007 **Date/Time Rec'd:** 3/31/04 3:33:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/31/04
Time Collected: 9:30:00 AM
Disinfected:
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Community
Collected By: TALON NEWTON
Sample Location: PW-15 PUEBLO
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 3/31/04 at 4:19pm.

Date Out: 4/1/04 **Analyst:** cdg

CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0588	County		Township, Range	
Collection Date	5/6/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-17 Cordova				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2004
CHARGES	$60.00
pH	7.23
Conductivity (uS/cm)	844
TDS (ppm) (calculation)	485
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	365	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	450	7.3755
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	8.3	0.2341
Fluoride (F-)	0.77	0.0405
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	14	0.2258
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	35	0.7287
Major Cations		
Sodium (Na)	28	1.2180
Potassium (K)	1.1	0.0285
Magnesium (Mg)	19	1.5629
Calcium (Ca)	117	5.7330
Total epm Cations		8.65
Total epm Anions		8.60
% Difference		0.24

Approved By:

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0588	County		Township, Range	
Collection Date	5/6/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-17 Cordova				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	0.012	0.0013
Antimony (Sb)	< 0.001	
Arsenic (As)	0.005	
Barium (Ba)	0.19	
Beryllium (Be)	< 0.001	
Boron (B)	0.071	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.006	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.013	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	0.001	
Lithium (Li)	0.043	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	0.0001	
Molybdenum (Mo)	0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	4.3	0.0981
Silica (SiO2)	32	
Silicon (Si)	15	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.008	
Uranium (U)	0.014	
Vanadium (V)	0.012	
Zinc (Zn)	0.12	0.0037

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-17

SLD Number: 200402867 **Date/Time Rec'd:** 5/6/04 12:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/6/04
Time Collected: 9:45:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-17 CORDOVA
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 5/6/04 at 4:39pm.

Date Out: 5/7/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-17

SLD Number: 200402870 **Date/Time Rec'd:** 5/6/04 12:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/6/04
Time Collected: 9:48:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-17 CORDOVA
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 5/7/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1761
Sample Description	PW-21				
pH	7.77	TDS (ppm)	300	Conductivity (uS/cm)	392

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	231		Aluminum (Al_2O_3)	0.004	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	0.003		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	265	4.34	Barium (Ba)	0.082		Nickel (Ni)	< 0.001	
Bromide (Br)	0.04	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.8	0.14	Boron (B)	0.021		Strontium (Sr)	0.59	0.01
Fluoride (F^-)	0.59	0.03	Cadmium (Cd)	< 0.001		Silica (SiO_2)	43	
Nitrate (NO_3^-)	3.8	0.06	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	20	0.42	Copper (Cu)	0.022		Uranium (U)	0.004	
Sodium (Na)	8.1	0.35	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.003	
Potassium (K)	3	0.08	Lead (Pb)	< 0.001		Zinc (Zn)	0.065	0.00
Magnesium (Mg)	16	1.32	Lithium (Li)	0.011				
Calcium (Ca)	66	3.29	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	5.05
Total epm Anions	4.99
% Difference	0.66
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/19/03
Date completed: 12/24/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-21

SLD Number: 200401673 **Date/Time Rec'd:** 3/11/04 2:46:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/11/04
Time Collected: 11:50:00 AM
Disinfected:
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-21 LOPEZ
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/11/04 at 3:55pm.

Date Out: 3/12/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-21

SLD Number: 200401676 **Date/Time Rec'd:** 3/11/04 2:46:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/11/04
Time Collected: 11:50:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-21 LOPEZ
County: SOCORRO
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/12/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1756
Sample Description	PW-24				
pH	7.34	TDS (ppm)	320	Conductivity (uS/cm)	418

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	261		Aluminum (Al_2O_3)	0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	285	4.67	Barium (Ba)	0.14		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.7	0.16	Boron (B)	0.023		Strontium (Sr)	0.46	0.01
Fluoride (F^-)	0.29	0.02	Cadmium (Cd)	< 0.001		Silica (SiO_2)	41	
Nitrate (NO_3^-)	2.1	0.03	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	29	0.60	Copper (Cu)	0.015		Uranium (U)	0.003	
Sodium (Na)	4.9	0.21	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.002	
Potassium (K)	3	0.08	Lead (Pb)	0.001		Zinc (Zn)	0.15	0.00
Magnesium (Mg)	13	1.07	Lithium (Li)	0.004				
Calcium (Ca)	83	4.14	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	5.52
Total epm Anions	5.48
% Difference	0.28
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/25/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-24

SLD Number: 200401844 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 11:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-24 GUAULE
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/19/04 **Analyst:** cdg CDG

Microbiological Water Report

PW-24

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200401839 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 11:00:00 AM
Disinfected: Y
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-24 GUAULE
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/18/04 at 4:08pm.

Date Out: 3/19/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1757
Sample Description	PW-27				
pH	7.58	TDS (ppm)	360	Conductivity (uS/cm)	438

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	219		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.003		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	308	5.05	Barium (Ba)	0.18		Nickel (Ni)	< 0.001	
Bromide (Br)	0.11	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	7.1	0.20	Boron (B)	0.04		Strontium (Sr)	1.1	0.03
Fluoride (F^-)	0.65	0.03	Cadmium (Cd)	< 0.001		Silica (SiO_2)	54	
Nitrate (NO_3^-)	4.8	0.08	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	22	0.46	Copper (Cu)	0.009		Uranium (U)	0.03	
Sodium (Na)	27	1.17	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.004	
Potassium (K)	6.4	0.16	Lead (Pb)	0.004		Zinc (Zn)	0.47	0.01
Magnesium (Mg)	12	0.99	Lithium (Li)	0.026				
Calcium (Ca)	68	3.39	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	5.76
Total epm Anions	5.82
% Difference	-0.53
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/24/03

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1759
Sample Description	PW-28				
pH	7.79	TDS (ppm)	200	Conductivity (uS/cm)	257

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	131		Aluminum (Al_2O_3)	0.003	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	0.002		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	178	2.92	Barium (Ba)	0.08		Nickel (Ni)	< 0.001	
Bromide (Br)	0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	2.2	0.06	Boron (B)	0.034		Strontium (Sr)	0.63	0.01
Fluoride (F^-)	0.14	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	23	
Nitrate (NO_3^-)	0.97	0.02	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	19	0.40	Copper (Cu)	0.092		Uranium (U)	0.006	
Sodium (Na)	15	0.65	Iron (Fe)	0.89	0.05	Vanadium (V)	0.008	
Potassium (K)	1.8	0.05	Lead (Pb)	0.001		Zinc (Zn)	0.055	0.00
Magnesium (Mg)	5.8	0.48	Lithium (Li)	0.012				
Calcium (Ca)	43	2.15	Manganese (Mn)	0.003	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	3.39
Total epm Anions	3.40
% Difference	-0.20
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/24/03

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1762
Sample Description	PW-31				
pH	7.38	TDS (ppm)	180	Conductivity (uS/cm)	264

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	134		Aluminum (Al_2O_3)	0.18	0.02	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	105	1.72	Barium (Ba)	0.05		Nickel (Ni)	0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	3.1	0.09	Boron (B)	0.01		Strontium (Sr)	0.21	0.00
Fluoride (F^-)	0.12	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	6.8	
Nitrate (NO_3^-)	0.72	0.01	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	62	1.29	Copper (Cu)	0.41		Uranium (U)	< 0.001	
Sodium (Na)	6.5	0.28	Iron (Fe)	0.47	0.03	Vanadium (V)	< 0.001	
Potassium (K)	0.74	0.02	Lead (Pb)	0.002		Zinc (Zn)	0.059	0.00
Magnesium (Mg)	5.9	0.49	Lithium (Li)	0.003				
Calcium (Ca)	44	2.20	Manganese (Mn)	0.005	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	3.03
Total epm Anions	3.12
% Difference	-1.34
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/19/03
Date completed: 12/24/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-31

SLD Number: 200401260 **Date/Time Rec'd:** 2/25/04 12:31:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/25/04
Time Collected: 8:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-31 ECHWALDO
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/1/04 **Analyst:** cdg CD6

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-31

SLD Number: 200401263 **Date/Time Rec'd:** 2/25/04 12:31:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/25/04
Time Collected: 8:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-31 ECHWALDO
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 2/25/04 at 2:22pm.

Date Out: 2/26/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

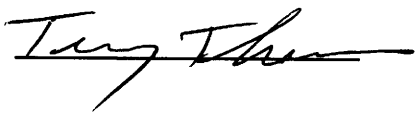
GENERAL CHEMISTRY FORM

Lab. Number	04-0331	County		Township, Range	
Collection Date	3/31/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-32 Fresquez				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$60.00
pH	7.85
Conductivity (uS/cm)	283
TDS (ppm) (calculation)	164
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	131	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	176	2.8846
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	3.7	0.1044
Fluoride (F-)	0.26	0.0137
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	1.2	0.0194
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	9.2	0.1915
Major Cations		
Sodium (Na)	11	0.4785
Potassium (K)	1.1	0.0285
Magnesium (Mg)	6.2	0.5100
Calcium (Ca)	43	2.1070
Total epm Cations		3.13
Total epm Anions		3.21
% Difference		-1.24

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

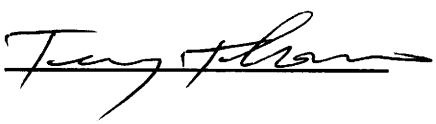
TRACE METALS FORM

Lab. Number	04-0331	County		Township, Range	
Collection Date	3/31/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-32 Fresquez				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/2004
Date Completed	4/13/2004
CHARGES	$30.00

ANALYSIS	**Conc. (ppm)**	**epm**
Aluminum (Al2O3)	< 0.001	0.0000
Antimony (Sb)	< 0.001	
Arsenic (As)	0.001	
Barium (Ba)	0.16	
Beryllium (Be)	< 0.001	
Boron (B)	0.016	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.002	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.008	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.013	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.44	0.0100
Silica (SiO2)	18	
Silicon (Si)	8.4	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	< 0.001	
Uranium (U)	0.002	
Vanadium (V)	0.002	
Zinc (Zn)	0.021	0.0006

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-32

SLD Number: 200402010 **Date/Time Rec'd:** 3/31/04 3:33:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/31/04
Time Collected: 12:20:00 PM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-32 FRESQUEZ
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/3/04 **Analyst:** cdg CD6

Microbiological Water Report

PW-32

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200402008 **Date/Time Rec'd:** 3/31/04 3:33:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/31/04
Time Collected: 12:20:00 PM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-32 FRESQUEZ
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 3/31/04 at 4:23pm.

Date Out: 4/1/04 **Analyst:** cdg

CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1763
Sample Description	PW-34				
pH	7.56	TDS (ppm)	280	Conductivity (uS/cm)	383

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	229		Aluminum (Al_2O_3)	0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	252	4.13	Barium (Ba)	0.26		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	7.2	0.20	Boron (B)	0.014		Strontium (Sr)	0.31	0.01
Fluoride (F^-)	0.18	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	31	
Nitrate (NO_3^-)	3.3	0.05	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	19	0.40	Copper (Cu)	0.024		Uranium (U)	0.002	
Sodium (Na)	5.3	0.23	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.001	
Potassium (K)	1.2	0.03	Lead (Pb)	0.005		Zinc (Zn)	0.97	0.03
Magnesium (Mg)	6.5	0.53	Lithium (Li)	0.006				
Calcium (Ca)	81	4.04	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	4.87
Total epm Anions	4.79
% Difference	0.86
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/19/03
Date completed: 12/24/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-34

SLD Number: 200401261 **Date/Time Rec'd:** 2/25/04 12:32:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/25/04
Time Collected: 9:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-34 ROYBAL
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 2/26/04 **Analyst:** cdg

CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-34

SLD Number: 200401264 **Date/Time Rec'd:** 2/25/04 12:31:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/25/04
Time Collected: 9:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-34 ROYBAL
County: SOCORRO
WSS Code: **0**

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 2/25/04 at 2:27pm.

Date Out: 2/26/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	2/26/04 10:55	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0198
Sample Description	PW-37				
pH	7.91	TDS (ppm)	320	Conductivity (uS/cm)	534

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	245		Aluminum (Al_2O_3)	0.018	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.002		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	305	5.00	Barium (Ba)	0.31		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5	0.14	Boron (B)	0.027		Strontium (Sr)	0.39	0.01
Fluoride (F^-)	0.23	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	34	
Nitrate (NO_3^-)	2.8	0.05	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	21	0.44	Copper (Cu)	0.007		Uranium (U)	0.003	
Sodium (Na)	11	0.48	Iron (Fe)	0.084	0.00	Vanadium (V)	0.007	
Potassium (K)	1.4	0.04	Lead (Pb)	< 0.001		Zinc (Zn)	0.015	0.00
Magnesium (Mg)	9.1	0.75	Lithium (Li)	0.01				
Calcium (Ca)	83	4.14	Manganese (Mn)	0.002	0.00			

Name, Address and Phone:
Talon Newton
New Mexico Bureau of Geology

Total epm Cations	5.42
Total epm Anions	5.63
% Difference	-1.93
Charges:	$90.00

Approved by: Tony Lucas

Date received: 02/27/04
Date completed: 03/17/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-37

SLD Number: 200401308 **Date/Time Rec'd:** 2/26/04 2:26:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/26/04
Time Collected: 10:55:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-37 DOMINGUEZ
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 2/27/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	2/27/04 11:05	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0199
Sample Description	PW-38				
pH	8.12	TDS (ppm)	330	Conductivity (uS/cm)	524

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	213		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.003		Molybdenum (Mo)	0.001	
Bicarbonate (HCO_3^-)	265	4.34	Barium (Ba)	0.22		Nickel (Ni)	< 0.001	
Bromide (Br)	0.13	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	24	0.68	Boron (B)	0.013		Strontium (Sr)	0.53	0.01
Fluoride (F^-)	0.45	0.02	Cadmium (Cd)	< 0.001		Silica (SiO_2)	55	
Nitrate (NO_3^-)	2.3	0.04	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	17	0.35	Copper (Cu)	0.002		Uranium (U)	0.004	
Sodium (Na)	19	0.83	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.011	
Potassium (K)	3.5	0.09	Lead (Pb)	< 0.001		Zinc (Zn)	0.013	0.00
Magnesium (Mg)	10	0.82	Lithium (Li)	0.017				
Calcium (Ca)	69	3.44	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Talon Newton
New Mexico Bureau of Geology

Total epm Cations	5.19
Total epm Anions	5.44
% Difference	-2.28
Charges:	$90.00

Approved by:

Date received: 02/27/04
Date completed: 03/17/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-38

SLD Number: 200401842 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 11:45:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-38 VASQUEZ
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter + **PRESENT**
Fecal Coliforms - **ABSENT**

Comment: TNTC of noncoliforms.

Date Out: 3/22/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-38

SLD Number: 200401837 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 11:45:00 AM
Disinfected:
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-38 VASQUEZ
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/18/04 at 3:59pm.

Date Out: 3/19/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0584	County		Township, Range	
Collection Date	4/27/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-39 Lopez				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/3/2004
Date Completed	5/19/2004
CHARGES	$60.00
pH	7.57
Conductivity (uS/cm)	513
TDS (ppm) (calculation)	301
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	242	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	271	4.4417
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	8	0.2257
Fluoride (F-)	0.13	0.0068
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	1.2	0.0194
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	20	0.4164
Major Cations		
Sodium (Na)	4.9	0.2132
Potassium (K)	1.9	0.0492
Magnesium (Mg)	9.4	0.7732
Calcium (Ca)	83	4.0670

Total epm Cations	5.12
Total epm Anions	5.11
% Difference	0.07

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0584	County		Township, Range	
Collection Date	4/27/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-39 Lopez				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/3/2004
Date Completed	5/19/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	< 0.001	0.0000
Antimony (Sb)	< 0.001	
Arsenic (As)	< 0.001	
Barium (Ba)	0.23	
Beryllium (Be)	< 0.001	
Boron (B)	0.014	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.003	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.002	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.005	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.62	0.0141
Silica (SiO2)	36	
Silicon (Si)	17	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.001	
Uranium (U)	0.004	
Vanadium (V)	0.002	
Zinc (Zn)	0.008	0.0002

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-39

SLD Number: 200402694 **Date/Time Rec'd:** 4/29/04 3:02:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/29/04
Time Collected: 9:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-39 LOPEZ
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 4/29/04 at 3:45pm.

Date Out: 4/30/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-39

SLD Number: 200402696 **Date/Time Rec'd:** 4/29/04 3:02:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/29/04
Time Collected: 9:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-39 LOPEZ
County: TAOS
WSS Code: **0**

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/30/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1753
Sample Description	PW-40				
pH	7.10	TDS (ppm)	260	Conductivity (uS/cm)	364

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	211		Aluminum (Al_2O_3)	0.005	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	247	4.05	Barium (Ba)	0.15		Nickel (Ni)	< 0.001	
Bromide (Br)	0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.5	0.16	Boron (B)	0.013		Strontium (Sr)	0.34	0.01
Fluoride (F^-)	0.13	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	20	
Nitrate (NO_3^-)	2.1	0.03	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	24	0.50	Copper (Cu)	0.008		Uranium (U)	0.002	
Sodium (Na)	6.9	0.30	Iron (Fe)	< 0.05	0.00	Vanadium (V)	< 0.001	
Potassium (K)	1.3	0.03	Lead (Pb)	< 0.001		Zinc (Zn)	0.005	0.00
Magnesium (Mg)	6.9	0.57	Lithium (Li)	0.005				
Calcium (Ca)	73	3.64	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	4.55
Total epm Anions	4.75
% Difference	-2.08
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/24/03

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-40

SLD Number: 200401843 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 11:25:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-40 ROYBAL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/19/04 **Analyst:** cdg CD6

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-40

SLD Number: 200401838 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 11:25:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-40 ROYBAL
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/18/04 at 4:04pm.

Date Out: 3/19/04 **Analyst:** cdg

CDL

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0327	County		Township, Range	
Collection Date	4/1/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-45A Rodriguez				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$60.00
pH	7.16
Conductivity (uS/cm)	433
TDS (ppm) (calculation)	248
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	192	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	176	2.8846
Major Anions		
Bromide (Br)	0.1	0.0013
Chloride (Cl-)	4.8	0.1354
Fluoride (F-)	0.13	0.0068
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	< 0.1	0.0000
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	62	1.2908
Major Cations		
Sodium (Na)	6.2	0.2697
Potassium (K)	0.56	0.0145
Magnesium (Mg)	7.4	0.6087
Calcium (Ca)	66	3.2340
Total epm Cations		4.14
Total epm Anions		4.32
% Difference		-2.08

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0327	County		Township, Range	
Collection Date	4/1/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-45A Rodriguez				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$30.00

ANALYSIS	**Conc. (ppm)**	**epm**
Aluminum (Al2O3)	0.004	0.0004
Antimony (Sb)	< 0.001	
Arsenic (As)	< 0.001	
Barium (Ba)	0.11	
Beryllium (Be)	< 0.001	
Boron (B)	0.009	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.004	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.001	
Iron (Fe)	0.13	0.0070
Lead (Pb)	< 0.001	
Lithium (Li)	0.002	
Manganese (Mn)	0.002	0.0001
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.34	0.0078
Silica (SiO2)	13	
Silicon (Si)	5.9	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	< 0.001	
Uranium (U)	0.001	
Vanadium (V)	0.001	
Zinc (Zn)	0.035	0.0011

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-45A

SLD Number: 200402040 **Date/Time Rec'd:** 4/1/04 3:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/1/04
Time Collected: 12:25:00 PM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-45A RODRIGUEZ
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/2/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-45A

SLD Number: 200402037 **Date/Time Rec'd:** 4/1/04 3:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/1/04
Time Collected: 12:25:00 PM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-45A RODRIGUIEZ
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 4/1/04 at 4:07pm.

Date Out: 4/2/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	3/11/04 11:00	Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0300
Sample Description	PW-46				
pH	7.48	TDS (ppm)	250	Conductivity (uS/cm)	427

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	193		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	205	3.36	Barium (Ba)	0.13		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	6.7	0.19	Boron (B)	0.013		Strontium (Sr)	0.32	0.01
Fluoride (F^-)	0.2	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	23	
Nitrate (NO_3^-)	8.5	0.14	Chromium (Cr)	0.003		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	25	0.52	Copper (Cu)	0.004		Uranium (U)	0.001	
Sodium (Na)	4.7	0.20	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.004	
Potassium (K)	1.2	0.03	Lead (Pb)	< 0.001		Zinc (Zn)	0.007	0.00
Magnesium (Mg)	6.3	0.52	Lithium (Li)	0.004				
Calcium (Ca)	67	3.34	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	4.10
Total epm Anions	4.22
% Difference	-1.36
Charges:	$90.00

Approved by:

Date received: 03/12/04
Date completed: 03/22/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-46

SLD Number: 200401677 **Date/Time Rec'd:** 3/11/04 2:46:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/11/04
Time Collected: 11:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-46 VALDEZ
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/12/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-46

SLD Number: 200401674 **Date/Time Rec'd:** 3/11/04 2:46:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/11/04
Time Collected: 11:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-46 VALDEZ
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 3/11/04 at 4:00pm.

Date Out: 3/12/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0586	County		Township, Range	
Collection Date	4/28/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-48 Tafoya				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/3/2004
Date Completed	5/19/2004
CHARGES	$60.00
pH	7.59
Conductivity (uS/cm)	493
TDS (ppm) (calculation)	306
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	227	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	278	4.5564
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	3.1	0.0875
Fluoride (F-)	0.98	0.0516
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	2.6	0.0419
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	19	0.3956
Major Cations		
Sodium (Na)	16	0.6960
Potassium (K)	1	0.0259
Magnesium (Mg)	11	0.9049
Calcium (Ca)	74	3.6260
Total epm Cations		5.27
Total epm Anions		5.13
% Difference		1.34

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0586	County		Township, Range	
Collection Date	4/28/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-48 Tafoya				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/3/2004
Date Completed	5/19/2004
CHARGES	$30.00

ANALYSIS	**Conc. (ppm)**	**epm**
Aluminum (Al2O3)	0.001	0.0001
Antimony (Sb)	< 0.001	
Arsenic (As)	0.003	
Barium (Ba)	0.11	
Beryllium (Be)	< 0.001	
Boron (B)	0.025	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.003	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.002	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.02	
Manganese (Mn)	0.001	0.0001
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.81	0.0185
Silica (SiO2)	39	
Silicon (Si)	18	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	< 0.001	
Uranium (U)	0.007	
Vanadium (V)	0.01	
Zinc (Zn)	0.024	0.0007

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-48

SLD Number: 200402651 **Date/Time Rec'd:** 4/28/04 2:06:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/28/04
Time Collected: 11:55:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-48 TAFOYA
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/30/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-48

SLD Number: 200402652 **Date/Time Rec'd:** 4/28/04 2:07:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/28/04
Time Collected: 10:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-48 TAFOYA
County: TAOS
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 4/28/04 at 4:34pm.

Date Out: 4/30/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0569	County		Township, Range	
Collection Date	4/22/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-50 Lovato				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/23/2004
Date Completed	5/10/2004
CHARGES	$60.00
pH	7.53
Conductivity (uS/cm)	500
TDS (ppm) (calculation)	298
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	244	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	279	4.5728
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	1.9	0.0536
Fluoride (F-)	0.31	0.0163
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	2.1	0.0339
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	24	0.4997
Major Cations		
Sodium (Na)	6.3	0.2741
Potassium (K)	0.44	0.0114
Magnesium (Mg)	11	0.9049
Calcium (Ca)	81	3.9690
Total epm Cations		5.19
Total epm Anions		5.18
% Difference		0.11

Approved By:

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0569	County		Township, Range	
Collection Date	4/22/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-50 Lovato				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/23/2004
Date Completed	5/10/2004
CHARGES	$30.00

ANALYSIS	**Conc. (ppm)**	**epm**
Aluminum (Al2O3)	0.002	0.0002
Antimony (Sb)	< 0.001	
Arsenic (As)	0.004	
Barium (Ba)	0.25	
Beryllium (Be)	< 0.001	
Boron (B)	0.018	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.003	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.003	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.012	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	0.0003	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	1.2	0.0274
Silica (SiO2)	30	
Silicon (Si)	14	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.002	
Uranium (U)	0.005	
Vanadium (V)	0.007	
Zinc (Zn)	0.017	0.0005

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-50

SLD Number: 200402550 **Date/Time Rec'd:** 4/22/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/22/04
Time Collected: 11:55:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-50 LOVATO
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 4/22/04 at 3:48pm.

Date Out: 4/23/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-50

SLD Number: 200402553 **Date/Time Rec'd:** 4/22/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/22/04
Time Collected: 11:55:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-50 LOVATO
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/23/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	2/26/04 9:55	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0200
Sample Description	PW-51				
pH	7.65	TDS (ppm)	360	Conductivity (uS/cm)	580

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	244		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.011		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	311	5.10	Barium (Ba)	0.15		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	8.6	0.24	Boron (B)	0.027		Strontium (Sr)	0.82	0.02
Fluoride (F^-)	0.59	0.03	Cadmium (Cd)	< 0.001		Silica (SiO_2)	45	
Nitrate (NO_3^-)	11	0.18	Chromium (Cr)	0.007		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	29	0.60	Copper (Cu)	0.002		Uranium (U)	0.012	
Sodium (Na)	20	0.87	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.011	
Potassium (K)	3.2	0.08	Lead (Pb)	< 0.001		Zinc (Zn)	0.001	0.00
Magnesium (Mg)	12	0.99	Lithium (Li)	0.02				
Calcium (Ca)	78	3.89	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Talon Newton
New Mexico Bureau of Geology

Total epm Cations	5.85
Total epm Anions	6.15
% Difference	-2.52
Charges:	$90.00

Approved by: Tony Thurman

Date received: 02/27/04
Date completed: 03/17/04

Microbiological Water Report

PW-51

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200401309 **Date/Time Rec'd:** 2/26/04 2:26:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/26/04
Time Collected: 9:55:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-51 LOVATO
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 2/27/04 **Analyst:** cdg

CD6

Microbiological Water Report

PW-51

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200401306 **Date/Time Rec'd:** 2/26/04 2:25:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/26/04
Time Collected: 9:55:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-51 LOVATO
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 2/26/04 at 3:50pm.

Date Out: 2/27/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0590	County		Township, Range	
Collection Date	5/6/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-54 Wagner				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2004
CHARGES	$60.00
pH	7.49
Conductivity (uS/cm)	642
TDS (ppm) (calculation)	381
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	249	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	330	5.4087
Major Anions		
Bromide (Br)	0.15	0.0019
Chloride (Cl-)	9.1	0.2567
Fluoride (F-)	0.74	0.0390
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	4.6	0.0742
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	29	0.6038
Major Cations		
Sodium (Na)	33	1.4355
Potassium (K)	2.7	0.0698
Magnesium (Mg)	14	1.1516
Calcium (Ca)	78	3.8220
Total epm Cations		6.53
Total epm Anions		6.38
% Difference		1.12

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0590	County		Township, Range	
Collection Date	5/6/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-54 Wagner				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	< 0.001	0.0000
Antimony (Sb)	< 0.001	
Arsenic (As)	0.003	
Barium (Ba)	0.11	
Beryllium (Be)	< 0.001	
Boron (B)	0.038	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.004	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.041	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.025	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	0.002	
Nickel (Ni)	< 0.001	
Selenium (Se)	0.001	
Strontium (Sr)	2.2	0.0502
Silica (SiO2)	43	
Silicon (Si)	20	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.006	
Uranium (U)	0.019	
Vanadium (V)	0.007	
Zinc (Zn)	0.004	0.0001

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-54

SLD Number: 200402868 **Date/Time Rec'd:** 5/6/04 12:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/6/04
Time Collected: 8:10:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-54 WAGNER
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 5/6/04 at 4:43pm.

Date Out: 5/7/04 **Analyst:** cdg CD6

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-54

SLD Number: 200402869 **Date/Time Rec'd:** 5/6/04 12:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/6/04
Time Collected: 8:15:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-54 WAGNER
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 5/10/04 **Analyst:** cdg

CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	2/26/04 09:30	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0201
Sample Description	PW-57				
pH	7.83	TDS (ppm)	320	Conductivity (uS/cm)	510

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	206		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.003		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	290	4.75	Barium (Ba)	0.2		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	3.2	0.09	Boron (B)	0.019		Strontium (Sr)	1.1	0.03
Fluoride (F^-)	0.63	0.03	Cadmium (Cd)	< 0.001		Silica (SiO_2)	55	
Nitrate (NO_3^-)	0.97	0.02	Chromium (Cr)	0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	18	0.37	Copper (Cu)	0.002		Uranium (U)	0.007	
Sodium (Na)	17	0.74	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.005	
Potassium (K)	5.7	0.15	Lead (Pb)	< 0.001		Zinc (Zn)	0.007	0.00
Magnesium (Mg)	13	1.07	Lithium (Li)	0.017				
Calcium (Ca)	61	3.04	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Talon Newton
New Mexico Bureau of Geology

Total epm Cations	5.02
Total epm Anions	5.27
% Difference	-2.36
Charges:	$90.00

Approved by: Terry Thorn

Date received: 02/27/04
Date completed: 03/17/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-57

SLD Number: 200401310 **Date/Time Rec'd:** 2/26/04 2:26:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/26/04
Time Collected: 9:25:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-57 ROYBAL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 2/27/04 **Analyst:** cdg

CD6

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-57

SLD Number: 200401307 **Date/Time Rec'd:** 2/26/04 2:25:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/26/04
Time Collected: 9:25:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-57 ROYBAL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 2/26/04 at 3:54pm.

Date Out: 2/27/04 **Analyst:** cdg

CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

GENERAL CHEMISTRY FORM

Lab. Number	04-0585	County		Township, Range	
Collection Date	4/29/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-60 Romero				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/3/2004
Date Completed	5/19/2004
CHARGES	$60.00
pH	7.5
Conductivity (uS/cm)	550
TDS (ppm) (calculation)	344
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	244	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	306	5.0153
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	4.7	0.1326
Fluoride (F-)	0.45	0.0237
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	5.2	0.0839
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	25	0.5205
Major Cations		
Sodium (Na)	24	1.0440
Potassium (K)	1.9	0.0492
Magnesium (Mg)	14	1.1516
Calcium (Ca)	76	3.7240

Total epm Cations	6.00
Total epm Anions	5.78
% Difference	1.93

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0585	County		Township, Range	
Collection Date	4/29/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-60 Romero				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/3/2004
Date Completed	5/19/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	< 0.001	0.0000
Antimony (Sb)	< 0.001	
Arsenic (As)	0.002	
Barium (Ba)	0.15	
Beryllium (Be)	< 0.001	
Boron (B)	0.027	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.003	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.001	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.017	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	1.5	0.0342
Silica (SiO2)	39	
Silicon (Si)	18	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.002	
Uranium (U)	0.01	
Vanadium (V)	0.007	
Zinc (Zn)	0.013	0.0004

Approved By: 

Microbiological Water Report

PW-60

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200402695 **Date/Time Rec'd:** 4/29/04 3:02:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/29/04
Time Collected: 10:40:00 AM
Disinfected:
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-60 ROMERO
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 4/29/04 at 3:50pm.

Date Out: 4/30/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-60

SLD Number: 200402697 **Date/Time Rec'd:** 4/29/04 3:02:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/29/04
Time Collected: 10:40:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-60 ROMERO
County: TAOS
WSS Code: **0**

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/30/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	3/10/04 10:25	Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0302
Sample Description	PW-~~66~~ 64				
pH	7.54	TDS (ppm)	290	Conductivity (uS/cm)	462

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	195		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	255	4.18	Barium (Ba)	0.22		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.9	0.14	Boron (B)	0.015		Strontium (Sr)	0.37	0.01
Fluoride (F^-)	0.21	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	47	
Nitrate (NO_3^-)	3.7	0.06	Chromium (Cr)	0.004		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	16	0.33	Copper (Cu)	0.003		Uranium (U)	0.004	
Sodium (Na)	9.6	0.42	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.004	
Potassium (K)	3.3	0.08	Lead (Pb)	< 0.001		Zinc (Zn)	0.086	0.00
Magnesium (Mg)	6.2	0.51	Lithium (Li)	0.007				
Calcium (Ca)	68	3.39	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	4.42
Total epm Anions	4.72
% Difference	-3.34
Charges:	$90.00

Approved by: Terry Thomas

Date received: 03/12/04
Date completed: 03/22/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-64

SLD Number: 200401640 **Date/Time Rec'd:** 3/10/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 10:25:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-64 GONZALES
County:
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/11/04 **Analyst:** cdg

CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-64

SLD Number: 200401636 **Date/Time Rec'd:** 3/10/04 2:55:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/10/04
Time Collected: 10:25:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-64 GONZALES
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 3/10/04 at 4:01pm.

Date Out: 3/11/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	3/18/04 10:00	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0319
Sample Description	PW-65				
pH	7.19	TDS (ppm)	360	Conductivity (uS/cm)	647

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	289		Aluminum (Al_2O_3)	0.003	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	365	5.98	Barium (Ba)	0.14		Nickel (Ni)	0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	6.1	0.17	Boron (B)	0.014		Strontium (Sr)	0.5	0.01
Fluoride (F^-)	0.14	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	29	
Nitrate (NO_3^-)	0.36	0.01	Chromium (Cr)	0.005		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	24	0.50	Copper (Cu)	0.14		Uranium (U)	0.007	
Sodium (Na)	8.3	0.36	Iron (Fe)	0.43	0.02	Vanadium (V)	0.002	
Potassium (K)	2.7	0.07	Lead (Pb)	0.006		Zinc (Zn)	0.071	0.00
Magnesium (Mg)	12	0.99	Lithium (Li)	0.002				
Calcium (Ca)	96	4.79	Manganese (Mn)	0.49	0.04			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	6.28
Total epm Anions	6.67
% Difference	-2.99
Charges:	$90.00

Approved by:

Date received: 03/19/04
Date completed: 03/24/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-65

SLD Number: 200401845 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 10:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-65 SANDOVAL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 3/22/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-65

SLD Number: 200401840 **Date/Time Rec'd:** 3/18/04 2:47:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/18/04
Time Collected: 10:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-65 SANDOVAL
County:
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 3/18/04 at 4:12pm.

Date Out: 3/19/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	3/11/04 09:36	Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0301
Sample Description	PW-66				
pH	7.31	TDS (ppm)	340	Conductivity (uS/cm)	573

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	266		Aluminum (Al_2O_3)	0.02	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	0.008		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	325	5.33	Barium (Ba)	0.11		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.8	0.14	Boron (B)	0.025		Strontium (Sr)	0.57	0.01
Fluoride (F^-)	0.34	0.02	Cadmium (Cd)	< 0.001		Silica (SiO_2)	39	
Nitrate (NO_3^-)	2	0.03	Chromium (Cr)	0.005		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	25	0.52	Copper (Cu)	0.012		Uranium (U)	0.002	
Sodium (Na)	6	0.26	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.015	
Potassium (K)	1.8	0.05	Lead (Pb)	0.003		Zinc (Zn)	0.027	0.00
Magnesium (Mg)	9.5	0.78	Lithium (Li)	0.017				
Calcium (Ca)	91	4.54	Manganese (Mn)	0.002	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	5.65
Total epm Anions	6.03
% Difference	-3.32
Charges:	$90.00

Approved by:

Date received: 03/12/04
Date completed: 03/22/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-66

SLD Number: 200401675 **Date/Time Rec'd:** 3/11/04 2:46:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/11/04
Time Collected: 9:36:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-66 MEDINA
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 3/11/04 at 4:06pm.

Date Out: 3/12/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-66

SLD Number: 200401678 **Date/Time Rec'd:** 3/11/04 2:46:00 PM

Submitter: 998 **User:** 64000

Date Collected: 3/11/04
Time Collected: 9:36:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-66 MEDINA
County: SOCORRO
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

TNTC Noncoliforms-Resample & Request MMO-MUG Test

Date Out: 3/15/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

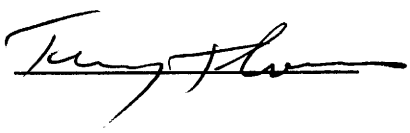
GENERAL CHEMISTRY FORM

Lab. Number	04-0330	County		Township, Range	
Collection Date	4/1/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-67 Montoya				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$60.00
pH	7.35
Conductivity (uS/cm)	497
TDS (ppm) (calculation)	259
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	223	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	247	4.0483
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	7.7	0.2172
Fluoride (F-)	0.19	0.0100
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	6.5	0.1048
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	28	0.5830
Major Cations		
Sodium (Na)	7.1	0.3089
Potassium (K)	0.34	0.0088
Magnesium (Mg)	7.6	0.6252
Calcium (Ca)	78	3.8220
Total epm Cations		4.77
Total epm Anions		4.96
% Difference		-1.96

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

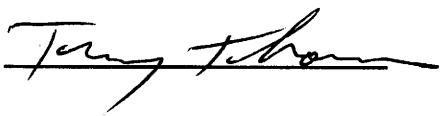
TRACE METALS FORM

Lab. Number	04-0330	County		Township, Range	
Collection Date	4/1/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-67 Montoya				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/2004
Date Completed	4/13/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	0.001	0.0001
Antimony (Sb)	< 0.001	
Arsenic (As)	< 0.001	
Barium (Ba)	0.2	
Beryllium (Be)	< 0.001	
Boron (B)	0.017	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.003	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.084	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	< 0.001	
Lithium (Li)	0.006	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.33	0.0075
Silica (SiO2)	21	
Silicon (Si)	9.8	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	< 0.001	
Uranium (U)	0.002	
Vanadium (V)	0.003	
Zinc (Zn)	0.009	0.0003

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-67

SLD Number: 200402038 **Date/Time Rec'd:** 4/1/04 3:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/1/04
Time Collected: 9:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-67 MONTOYA
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 4/2/04 **Analyst:** cdg CDG

Microbiological Water Report

PW-67

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200402035 **Date/Time Rec'd:** 4/1/04 3:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/1/04
Time Collected: 9:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-67 MONTOYA
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 4/1/04 at 3:58pm.

Date Out: 4/2/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

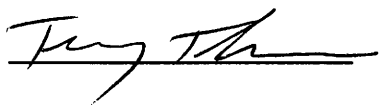
GENERAL CHEMISTRY FORM

Lab. Number	04-0329	County		Township, Range	
Collection Date	3/31/04	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-69 Stanley				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/04
Date Completed	4/13/04
CHARGES	$60.00
pH	7.84
Conductivity (uS/cm)	410
TDS (ppm) (calculation)	231
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	81	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	156	2.5568
Major Anions		
Bromide (Br)	0.13	0.0016
Chloride (Cl-)	9.8	0.2765
Fluoride (F-)	10	0.5264
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	2.3	0.0371
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	39	0.8120
Major Cations		
Sodium (Na)	58	2.5230
Potassium (K)	2.9	0.0750
Magnesium (Mg)	4.1	0.3373
Calcium (Ca)	26	1.2740
Total epm Cations		4.22
Total epm Anions		4.21
% Difference		0.16

Approved By: 

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NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

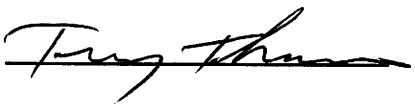
TRACE METALS FORM

Lab. Number	04-0329	County		Township, Range	
Collection Date	3/31/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-69 Stanley				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/6/2004
Date Completed	4/13/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	0.001	0.0001
Antimony (Sb)	< 0.001	
Arsenic (As)	0.008	
Barium (Ba)	0.006	
Beryllium (Be)	< 0.001	
Boron (B)	0.16	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.002	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.019	
Iron (Fe)	< 0.05	0.0000
Lead (Pb)	0.002	
Lithium (Li)	0.026	
Manganese (Mn)	< 0.001	0.0000
Mercury (Hg)	0.0001	
Molybdenum (Mo)	0.011	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.54	0.0123
Silica (SiO2)	21	
Silicon (Si)	9.7	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	< 0.001	
Uranium (U)	0.012	
Vanadium (V)	0.001	
Zinc (Zn)	0.076	0.0023

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-69

SLD Number: 200402036 **Date/Time Rec'd:** 4/1/04 3:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/1/04
Time Collected: 10:05:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-69 STANLEY
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 4/1/04 at 4:03pm.

Date Out: 4/2/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-69

SLD Number: 200402039 **Date/Time Rec'd:** 4/1/04 3:35:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/1/04
Time Collected: 10:05:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-69 STANLEY
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Confluent Growth Noncoliforms-Resample/Request MMO

Date Out: 4/5/04 **Analyst:** mlm

mlm

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date	2/25/04 09:00	Collected By	Newton	Section	
Well Depth		Water Depth		Lab. number	04-0202
Sample Description	PW-71				
pH	7.54	TDS (ppm)	230	Conductivity (uS/cm)	400

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	181		Aluminum (Al_2O_3)	< 0.001	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	203	3.33	Barium (Ba)	0.14		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.7	0.13	Boron (B)	0.007		Strontium (Sr)	0.28	0.01
Fluoride (F^-)	0.11	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	12	
Nitrate (NO_3^-)	0.71	0.01	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	33	0.69	Copper (Cu)	0.11		Uranium (U)	0.002	
Sodium (Na)	7.9	0.34	Iron (Fe)	0.18	0.01	Vanadium (V)	< 0.001	
Potassium (K)	0.62	0.02	Lead (Pb)	0.005		Zinc (Zn)	0.15	0.00
Magnesium (Mg)	6.4	0.53	Lithium (Li)	0.003				
Calcium (Ca)	62	3.09	Manganese (Mn)	0.003	0.00			

Name, Address and Phone:
Talon Newton
New Mexico Bureau of Geology

Total epm Cations	4.00
Total epm Anions	4.16
% Difference	-2.00
Charges:	$90.00

Approved by: Tony Thomas

Date received: 02/27/04
Date completed: 03/17/04

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-71

SLD Number: 200401262 **Date/Time Rec'd:** 2/25/04 12:31:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/25/04
Time Collected: 9:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-71 TRUJILLO
County: SOCORRO
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter - **ABSENT**

Date Out: 2/26/04 **Analyst:** cdg CD6

Microbiological Water Report

PW-71

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200401265 **Date/Time Rec'd:** 2/25/04 12:31:00 PM

Submitter: 998 **User:** 64000

Date Collected: 2/25/04
Time Collected: 9:00:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Private Well
Collected By: TALON NEWTON
Sample Location: PW-71 TRUJILLO
County: SOCORRO
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 2/25/04 at 2:39pm.

Date Out: 2/26/04 **Analyst:** cdg CD6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

PS-76

GENERAL CHEMISTRY FORM

Lab. Number	04-0587	County		Township, Range	
Collection Date	5/5/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-76 Suncorner				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2204
CHARGES	$60.00
pH	7.99
Conductivity (uS/cm)	526
TDS (ppm) (calculation)	292
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	220	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	281	4.6056
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	12	0.3385
Fluoride (F-)	0.36	0.0190
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	< 0.1	0.0000
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	9.1	0.1895
Major Cations		
Sodium (Na)	17	0.7395
Potassium (K)	1.4	0.0362
Magnesium (Mg)	8.8	0.7239
Calcium (Ca)	75	3.6750
Total epm Cations		5.37
Total epm Anions		5.15
% Difference		2.07

Approved By: 

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0587	County		Township, Range	
Collection Date	5/5/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-76 Suncorner				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2204
CHARGES	$30.00

ANALYSIS	**Conc. (ppm)**	**epm**
Aluminum (Al2O3)	0.66	0.0734
Antimony (Sb)	< 0.001	
Arsenic (As)	0.001	
Barium (Ba)	0.32	
Beryllium (Be)	< 0.001	
Boron (B)	0.022	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.004	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.003	
Iron (Fe)	1.3	0.0698
Lead (Pb)	0.001	
Lithium (Li)	0.019	
Manganese (Mn)	0.34	0.0248
Mercury (Hg)	0.0002	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	0.002	
Selenium (Se)	< 0.001	
Strontium (Sr)	1.2	0.0274
Silica (SiO2)	25	
Silicon (Si)	11.6	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.077	
Uranium (U)	0.002	
Vanadium (V)	0.003	
Zinc (Zn)	0.004	0.0001

Approved By: 

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-76

SLD Number: 200402846 **Date/Time Rec'd:** 5/5/04 3:04:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/5/04
Time Collected: 11:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Other: SPRING
Collected By: TALON NEWTON
Sample Location: PW-76 SUNCORNER SPRINGS
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter	<	1 /100 mls

Comment: Sample analyzed on 5/5/04 at 4:28pm.

Date Out: 5/7/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

SLD Number: 200402848 **Date/Time Rec'd:** 5/5/04 3:05:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/5/04
Time Collected: 11:30:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Other: SPRING
Collected By: TALON NEWTON
Sample Location: PW-76 SUNCORNER SPRINGS
County: TAOS
WSS Code: **0**

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter	+	**PRESENT**
Fecal Coliforms	-	**ABSENT**

Comment: Confluent growth

Date Out: 5/7/04 **Analyst:** cdg CDG

PS-77

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

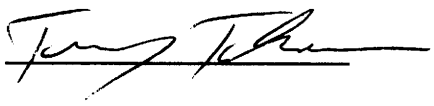
GENERAL CHEMISTRY FORM

Lab. Number	04-0570	County		Township, Range	
Collection Date	4/22/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-77 Spring				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/23/2004
Date Completed	5/10/2004
CHARGES	$60.00
pH	8.2
Conductivity (uS/cm)	517
TDS (ppm) (calculation)	329
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	247	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	303	4.9662
Major Anions		
Bromide (Br)	< 0.1	0.0000
Chloride (Cl-)	2.7	0.0762
Fluoride (F-)	0.19	0.0100
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	1.8	0.0290
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	15	0.3123
Major Cations		
Sodium (Na)	11	0.4785
Potassium (K)	2.8	0.0724
Magnesium (Mg)	7.5	0.6170
Calcium (Ca)	88	4.3120
Total epm Cations		5.56
Total epm Anions		5.39
% Difference		1.54

Approved By: 

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NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

Lab. Number	04-0570	County		Township, Range	
Collection Date	4/22/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-77 Spring				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	4/23/2004
Date Completed	5/10/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	0.2	0.0222
Antimony (Sb)	< 0.001	
Arsenic (As)	0.001	
Barium (Ba)	0.35	
Beryllium (Be)	< 0.001	
Boron (B)	0.014	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.003	
Cobalt (Co)	< 0.001	
Copper (Cu)	< 0.001	
Iron (Fe)	0.52	0.0279
Lead (Pb)	0.001	
Lithium (Li)	0.008	
Manganese (Mn)	0.17	0.0124
Mercury (Hg)	0.0001	
Molybdenum (Mo)	< 0.001	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.88	0.0201
Silica (SiO2)	47	
Silicon (Si)	22	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.041	
Uranium (U)	0.006	
Vanadium (V)	0.006	
Zinc (Zn)	0.001	0.0000

Approved By:

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-77

SLD Number: 200402551 **Date/Time Rec'd:** 4/22/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/22/04
Time Collected: 10:10:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Other: SPRING
Collected By: TALON NEWTON
Sample Location: PW-77 SPRING
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 4/22/04 at 3:54pm.

Date Out: 4/22/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-77

SLD Number: 200402552 **Date/Time Rec'd:** 4/22/04 2:56:00 PM

Submitter: 998 **User:** 64000

Date Collected: 4/22/04
Time Collected: 10:10:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Other: SPRING
Collected By: TALON NEWTON
Sample Location: PW-77 SPRING
County: TAOS
WSS Code: 0

Client

Attention: PEGGY JOHNSON
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter	+	**PRESENT**
Fecal Coliforms	-	**ABSENT**

Date Out: 4/26/04 **Analyst:** cdg CDG

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 LEROY PLACE, SOCORRO, NM 87801
PH: 505-835-5416 FAX: 505-835-6333

PS-81

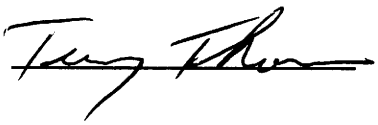
GENERAL CHEMISTRY FORM

Lab. Number	04-0589	County		Township, Range	
Collection Date	5/5/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-81 Aspen Springs				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2004
CHARGES	$60.00
pH	8.08
Conductivity (uS/cm)	355
TDS (ppm) (calculation)	202
TDS (ppm) (gravimetric)	

ANALYSIS	**Conc. (ppm)**	**epm**
Hardness (CaCO3)	117	
Alkalinity		
Carbonate (CO32-)		0.0000
Bicarbonate (HCO3-)	182	2.9830
Major Anions		
Bromide (Br)	0.11	0.0014
Chloride (Cl-)	7.4	0.2088
Fluoride (F-)	0.31	0.0163
Nitrite (NO2-)	< 0.1	0.0000
Nitrate (NO3-)	0.14	0.0023
Phosphate (PO43-)	< 0.5	0.0000
Sulfate (SO42-)	10	0.2082
Major Cations		
Sodium (Na)	27	1.1745
Potassium (K)	1.3	0.0336
Magnesium (Mg)	5.7	0.4689
Calcium (Ca)	38	1.8620
Total epm Cations		3.58
Total epm Anions		3.42
% Difference		2.34

Approved By: 

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PH: 505-835-5416 FAX: 505-835-6333

TRACE METALS FORM

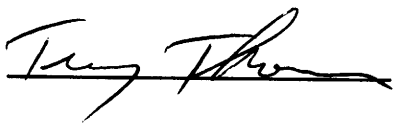
Lab. Number	04-0589	County		Township, Range	
Collection Date	5/5/2004	Collected By	T. Newton	Section	
Well Depth		Water Depth		Basin	
Sample Description	PW-81 Aspen Springs				

Name	Peggy Johnson
Address	New Mexico Bureau of Geology
Address 2	
City, State, Zip code	
Phone	
FAX	
Email	

Date Received	5/7/2004
Date Completed	5/20/2004
CHARGES	$30.00

ANALYSIS	Conc. (ppm)	epm
Aluminum (Al2O3)	0.17	0.0189
Antimony (Sb)	< 0.001	
Arsenic (As)	0.002	
Barium (Ba)	0.28	
Beryllium (Be)	< 0.001	
Boron (B)	0.013	
Cadmium (Cd)	< 0.001	
Chromium (Cr)	0.002	
Cobalt (Co)	< 0.001	
Copper (Cu)	0.002	
Iron (Fe)	0.27	0.0145
Lead (Pb)	< 0.001	
Lithium (Li)	0.015	
Manganese (Mn)	0.016	0.0012
Mercury (Hg)	< 0.0001	
Molybdenum (Mo)	0.006	
Nickel (Ni)	< 0.001	
Selenium (Se)	< 0.001	
Strontium (Sr)	0.45	0.0103
Silica (SiO2)	21	
Silicon (Si)	9.7	
Silver (Ag)	< 0.001	
Thalium (Tl)	< 0.001	
Thorium (Th)	< 0.001	
Tin (Sn)	< 0.001	
Titanium (Ti)	0.058	
Uranium (U)	0.027	
Vanadium (V)	0.001	
Zinc (Zn)	0.002	0.0001

Approved By:



Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-81

SLD Number: 200402849 **Date/Time Rec'd:** 5/5/04 3:05:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/5/04
Time Collected: 9:40:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Total Coliform - Membrane Filter
Other Analysis:
Type of System: Other: SPRING
Collected By: TALON NEWTON
Sample Location: PW-81 ASPEN SPRINGS
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Total Coliform - Membrane Filter	+	**PRESENT**
Fecal Coliforms	-	**ABSENT**

Comment: Confluent growth

Date Out: 5/7/04 **Analyst:** cdg CDG

Microbiological Water Report

DEPARTMENT OF HEALTH
STATE OF NEW MEXICO
Scientific Laboratory Division
700 Camino de Salud, N.E.
P.O. Box 4700
Albuquerque, NM 87196-4700

Section: (505) 841-2537
Fax: (505) 841-2543

PW-81

SLD Number: 200402847 **Date/Time Rec'd:** 5/5/04 3:05:00 PM

Submitter: 998 **User:** 64000

Date Collected: 5/5/04
Time Collected: 9:40:00 AM
Disinfected: N
Residual:

Reason for Sampling: Special Sample
Analysis Requested: Fecal Coliform - Membrane Filter
Other Analysis:
Type of System: Other: SPRING
Collected By: TALON NEWTON
Sample Location: PW-81 ASPEN SPRING
County: TAOS
WSS Code: 0

Client

Attention: ***PEGGY JOHNSON***
NEW MEXICO BUREAU OF GEOLOGY
801 LEROY PLACE

SOCORRO, NM 87801-

Laboratory Results:

Fecal Coliform - Membrane Filter < 1 /100 mls

Comment: Sample analyzed on 5/5/04 at 4:33pm.

Date Out: 5/7/04 **Analyst:** cdg CDG

PS-93

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1764
Sample Description	PW-93				
pH	7.47	TDS (ppm)	280	Conductivity (uS/cm)	388

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	230		Aluminum (Al_2O_3)	0.003	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	247	4.05	Barium (Ba)	0.19		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.4	0.12	Boron (B)	0.015		Strontium (Sr)	0.37	0.01
Fluoride (F^-)	0.25	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	20	
Nitrate (NO_3^-)	1.9	0.03	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	31	0.65	Copper (Cu)	0.018		Uranium (U)	0.001	
Sodium (Na)	6.5	0.28	Iron (Fe)	0.11	0.01	Vanadium (V)	0.004	
Potassium (K)	1.7	0.04	Lead (Pb)	< 0.001		Zinc (Zn)	0.17	0.01
Magnesium (Mg)	6.7	0.55	Lithium (Li)	0.006				
Calcium (Ca)	81	4.04	Manganese (Mn)	< 0.001	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations	4.94
Total epm Anions	4.86
% Difference	0.79
Charges:	$35.00

Approved by: Lynn Brandvold

Date received: 12/19/03
Date completed: 12/24/03

PSW-1

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	03-1754
Sample Description	Chamisal Crak				
pH	7.71	TDS (ppm)	340	Conductivity (uS/cm)	461

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	278		Aluminum (Al_2O_3)	0.005	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})			Arsenic (As)	0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	326	5.34	Barium (Ba)	0.26		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.8	0.16	Boron (B)	0.027		Strontium (Sr)	0.49	0.01
Fluoride (F^-)	0.37	0.02	Cadmium (Cd)	< 0.001		Silica (SiO_2)	31	
Nitrate (NO_3^-)	1.2	0.02	Chromium (Cr)	< 0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	23	0.48	Copper (Cu)	< 0.001		Uranium (U)	0.005	
Sodium (Na)	12	0.52	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.003	
Potassium (K)	1.4	0.04	Lead (Pb)	< 0.001		Zinc (Zn)	< 0.001	0.00
Magnesium (Mg)	10	0.82	Lithium (Li)	0.01				
Calcium (Ca)	95	4.74	Manganese (Mn)	0.007	0.00			

Name, Address and Phone:
Patty Jackson

Total epm Cations 6.13
Total epm Anions 6.02
% Difference 0.89

Charges: $35.00

Approved by: Lynn Brandvold

Date received: 12/11/03
Date completed: 12/24/03

PSW2

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0067
Sample Description	Chiquito				
pH	7.65	TDS (ppm)	190	Conductivity (uS/cm)	262

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	146		Aluminum (Al_2O_3)	0.043	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	166	2.72	Barium (Ba)	0.11		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	3.3	0.09	Boron (B)	0.005		Strontium (Sr)	0.23	0.01
Fluoride (F^-)	0.19	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	11	
Nitrate (NO_3^-)	0.6	0.01	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	27	0.56	Copper (Cu)	< 0.001		Uranium (U)	0.001	
Sodium (Na)	6.3	0.27	Iron (Fe)	0.051	0.00	Vanadium (V)	0.001	
Potassium (K)	0.78	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	0.091	0.00
Magnesium (Mg)	5.8	0.48	Lithium (Li)	0.004		Titanium (Ti)	0.002	
Calcium (Ca)	49	2.45	Manganese (Mn)	0.018	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	3.23
Total epm Anions	3.40
% Difference	-2.45
Charges:	$90.00

Approved by: Terry Tilson

Date received: 02/13/04
Date completed: 03/17/04

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

PSW-3

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0062
Sample Description	Embuda				
pH	7.78	TDS (ppm)	200	Conductivity (uS/cm)	269

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	156		Aluminum (Al_2O_3)	0.042	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	167	2.74	Barium (Ba)	0.081		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.4	0.12	Boron (B)	0.006		Strontium (Sr)	0.3	0.01
Fluoride (F^-)	0.15	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	12	
Nitrate (NO_3^-)	0.17	0.00	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	30	0.62	Copper (Cu)	< 0.001		Uranium (U)	0.002	
Sodium (Na)	5.8	0.25	Iron (Fe)	0.05	0.00	Vanadium (V)	0.001	
Potassium (K)	0.93	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	< 0.001	0.00
Magnesium (Mg)	6.4	0.53	Lithium (Li)	0.003		Titanium (Ti)	0.002	
Calcium (Ca)	52	2.59	Manganese (Mn)	0.014	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	3.41
Total epm Anions	3.50
% Difference	-1.21
Charges:	$90.00

Approved by: Terry Tilman

Date received: 02/13/04
Date completed: 03/17/04

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

PSW-4

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0060
Sample Description	RPasp				
pH	7.84	TDS (ppm)	220	Conductivity (uS/cm)	312

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	177		Aluminum (Al_2O_3)	0.03	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	197	3.23	Barium (Ba)	0.069		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.2	0.15	Boron (B)	0.006		Strontium (Sr)	0.41	0.01
Fluoride (F^-)	0.17	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	13	
Nitrate (NO_3^-)	0.36	0.01	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	34	0.71	Copper (Cu)	< 0.001		Uranium (U)	0.002	
Sodium (Na)	6	0.26	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.001	
Potassium (K)	0.86	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	< 0.001	0.00
Magnesium (Mg)	7.7	0.63	Lithium (Li)	0.004		Titanium (Ti)	0.002	
Calcium (Ca)	58	2.89	Manganese (Mn)	0.007	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	3.82
Total epm Anions	4.10
% Difference	-3.46
Charges:	$90.00

Approved by:

Date received: 02/13/04
Date completed: 03/17/04

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

PSW-5

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0066
Sample Description	Rio Pueblo above Telephone cyn				
pH	7.59	TDS (ppm)	190	Conductivity (uS/cm)	278

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	158		Aluminum (Al_2O_3)	0.014	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	163	2.67	Barium (Ba)	0.048		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.8	0.14	Boron (B)	0.004		Strontium (Sr)	0.36	0.01
Fluoride (F^-)	0.14	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	7.3	
Nitrate (NO_3^-)	0.19	0.00	Chromium (Cr)	0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	35	0.73	Copper (Cu)	< 0.001		Uranium (U)	0.002	
Sodium (Na)	4.8	0.21	Iron (Fe)	< 0.05	0.00	Vanadium (V)	< 0.001	
Potassium (K)	0.59	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	0.002	0.00
Magnesium (Mg)	6.8	0.56	Lithium (Li)	0.002		Titanium (Ti)	< 0.001	
Calcium (Ca)	52	2.59	Manganese (Mn)	0.017	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	3.39
Total epm Anions	3.55
% Difference	-2.26
Charges:	$90.00

Approved by: Terry Johnson

Date received: 02/13/04
Date completed: 03/17/04

PSW-6

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0063
Sample Description	RPaE				
pH	7.37	TDS (ppm)	200	Conductivity (uS/cm)	264

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	161		Aluminum (Al_2O_3)	0.094	0.01	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	168	2.75	Barium (Ba)	0.066		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.5	0.16	Boron (B)	0.006		Strontium (Sr)	0.37	0.01
Fluoride (F^-)	0.16	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	12	
Nitrate (NO_3^-)	0.25	0.00	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	31	0.65	Copper (Cu)	< 0.001		Uranium (U)	0.002	
Sodium (Na)	5.8	0.25	Iron (Fe)	0.094	0.01	Vanadium (V)	0.001	
Potassium (K)	0.86	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	< 0.001	0.00
Magnesium (Mg)	7	0.58	Lithium (Li)	0.003		Titanium (Ti)	0.003	
Calcium (Ca)	53	2.64	Manganese (Mn)	0.02	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	3.52
Total epm Anions	3.57
% Difference	-0.65
Charges:	$90.00

Approved by: Terry Thomas

Date received: 02/13/04
Date completed: 03/17/04

PSW-7

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0061
Sample Description	RPbsp				
pH	7.53	TDS (ppm)	220	Conductivity (uS/cm)	296

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	174		Aluminum (Al_2O_3)	0.036	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	193	3.16	Barium (Ba)	0.071		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	5.3	0.15	Boron (B)	0.007		Strontium (Sr)	0.4	0.01
Fluoride (F^-)	0.19	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	13	
Nitrate (NO_3^-)	0.4	0.01	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	33	0.69	Copper (Cu)	< 0.001		Uranium (U)	0.002	
Sodium (Na)	6	0.26	Iron (Fe)	0.066	0.00	Vanadium (V)	0.001	
Potassium (K)	0.97	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	0.32	0.01
Magnesium (Mg)	7.6	0.63	Lithium (Li)	0.003		Titanium (Ti)	0.002	
Calcium (Ca)	57	2.84	Manganese (Mn)	0.014	0.00			

Name, Address and Phone:
Peggy Johnson
New Mexico Bureau of Geology

Total epm Cations	3.78
Total epm Anions	4.02
% Difference	-2.99
Charges:	$90.00

Approved by: Tony Thurman

Date received: 02/13/04
Date completed: 03/17/04

PSWB

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0064
Sample Description	SBaE				
pH	7.70	TDS (ppm)	190	Conductivity (uS/cm)	260

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	154		Aluminum (Al_2O_3)	0.022	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	166	2.72	Barium (Ba)	0.094		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	4.2	0.12	Boron (B)	0.005		Strontium (Sr)	0.24	0.01
Fluoride (F^-)	0.21	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	11	
Nitrate (NO_3^-)	0.2	0.00	Chromium (Cr)	0.002		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	30	0.62	Copper (Cu)	< 0.001		Uranium (U)	0.001	
Sodium (Na)	5.5	0.24	Iron (Fe)	< 0.05	0.00	Vanadium (V)	0.001	
Potassium (K)	0.95	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	< 0.001	0.00
Magnesium (Mg)	5.8	0.48	Lithium (Li)	0.003		Titanium (Ti)	0.001	
Calcium (Ca)	52	2.59	Manganese (Mn)	0.013	0.00			

Name, Address and Phone:
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Total epm Cations	3.34
Total epm Anions	3.48
% Difference	-1.96
Charges:	$90.00

Approved by: Terry Tolman

Date received: 02/13/04
Date completed: 03/17/04

PSW-9

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES
NEW MEXICO TECH
801 Leroy Place, Socorro, NM 87801

REPORT OF WATER ANALYSES

Basin		County		Township, Range	
Collection Date		Collected By		Section	
Well Depth		Water Depth		Lab. number	04-0065
Sample Description	SBaC				
pH	7.54	TDS (ppm)	170	Conductivity (uS/cm)	237

ANALYSIS	ppm	epm	ANALYSIS	ppm	epm	ANALYSIS	ppm	epm
Hardness ($CaCO_3$)	132		Aluminum (Al_2O_3)	0.002	0.00	Mercury (Hg)	< 0.0001	
Carbonate (CO_3^{2-})		0.00	Arsenic (As)	< 0.001		Molybdenum (Mo)	< 0.001	
Bicarbonate (HCO_3^-)	127	2.08	Barium (Ba)	0.053		Nickel (Ni)	< 0.001	
Bromide (Br)	< 0.1	0.00	Beryllium (Be)	< 0.001		Selenium (Se)	< 0.001	
Chloride (Cl^-)	3.9	0.11	Boron (B)	0.003		Strontium (Sr)	0.2	0.00
Fluoride (F^-)	0.14	0.01	Cadmium (Cd)	< 0.001		Silica (SiO_2)	6.6	
Nitrate (NO_3^-)	0.16	0.00	Chromium (Cr)	0.001		Silver (Ag)	< 0.001	
Phosphate (PO_4^{3-})	< 0.5	0.00	Cobalt (Co)	< 0.001		Thorium (Th)	< 0.001	
Sulfate (SO_4^{2-})	37	0.77	Copper (Cu)	< 0.001		Uranium (U)	< 0.001	
Sodium (Na)	3.7	0.16	Iron (Fe)	< 0.05	0.00	Vanadium (V)	< 0.001	
Potassium (K)	0.79	0.02	Lead (Pb)	< 0.001		Zinc (Zn)	< 0.001	0.00
Magnesium (Mg)	4.8	0.39	Lithium (Li)	0.001		Titanium (Ti)	< 0.001	
Calcium (Ca)	45	2.25	Manganese (Mn)	0.004	0.00			

Name, Address and Phone:
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New Mexico Bureau of Geology

Total epm Cations	2.83
Total epm Anions	2.97
% Difference	-2.51
Charges:	$90.00

Approved by: Tracy Thiessen

Date received: 02/13/04
Date completed: 03/17/04