VEGUITA GROUNDWATER DENITRIFICATION DEMONSTRATION PROJECT REPORT
VEGUITA, NEW MEXICO
KLEINFELDER PROJECT NO. 58326

December 13, 2006

Prepared for: **State of New Mexico**
Department of Finance and Administration and
New Mexico Environment Department,
Construction Programs Bureau
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An employee owned company

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Mr. Jim Chaisson
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Subject: Rev. 1 Veguita Groundwater Denitrification Demonstration Project Report Veguita, New Mexico

Dear Mr. Chiasson:

Kleinfelder, Inc. is pleased to present Revision 1 of the report for Veguita Groundwater Denitrification Demonstration Project. This revision contains additional analysis and discussion of costs, in response to your request.

The report is divided into two volumes: (1) Text, Figures, Tables, and Appendices A and B; and (2) Appendices C through J. Should any questions arise concerning this report, do not hesitate to contact me at (505) 344-7373.

Respectfully submitted,

KLEINFELDER, INC.

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Volume 1

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1.0 INTRODUCTION

This report documents the Veguita Groundwater Denitrification Demonstration Project conducted in the community of Veguita, New Mexico from February 2005 through August 2006 by Kleinfelder. The project was performed under contract # PSC #05 - 341-1000-0039 executed between the New Mexico Department of Finance and Administration and Kleinfelder. on February 2, 2005 and amendments # 1 through 3 to that contract. The project was funded under Governor Richardson's Water Innovation Fund for a scope of work based on Kleinfelder's proposal dated August 18, 2004.

1.1 Purpose

The purpose of the proposed project was to demonstrate that a technology developed in New Mexico to remove nitrate from groundwater is suitable for use on small-community drinking water contamination problems. If successfully demonstrated, this technology can be used to remediate other nitrate-degraded (contaminated) groundwater resources in the state.

Nitrate is the most widespread contaminant of groundwater in the U.S. and impacts the drinking water of many individuals and small communities throughout New Mexico. In New Mexico, over 217 plumes of nitrate pollution have impacted 709 private wells and have caused the closure of 83 public water-supply wells (Mr. Bart Faris, Program Manager, New Mexico Environment Department Groundwater Quality Bureau, 2004). For most of these communities there is no water source other than groundwater, so many New Mexicans are drinking water with nitrate above the U. S. Environmental Protection Agency's (EPA) maximum contaminant level (MCL) of 10 milligrams per liter (mg/L) nitrate-nitrogen. Excessive levels of nitrate in drinking water are associated with reduced levels of oxygen in the blood and with "blue-baby" syndrome in prenatal and 0-6 months old children that can be fatal (EPA, 2006).

Research conducted by the Department of Chemical and Nuclear Engineering, University of New Mexico (UNM), has shown that nitrate can be removed from groundwater using enhanced in situ bioremediation (EISB) technology. EISB is being deployed for additional field tests of in situ reduction of both nitrate and perchlorate at a number of sites in the U.S. The proposed scope of work was intended to demonstrate that EISB can be used at sites other than the primary test location (Mountainview in Albuquerque's South Valley) to reduce nitrate in groundwater to drinking water standards.

The site selected for the proposed demonstration is an area of 500-800 acres within Abo Valley Subdivision in the unincorporated community of Veguita in Socorro County (Figures 1 and 2). Veguita depends entirely on groundwater from domestic wells for its drinking water. The groundwater table is 55 feet (ft) below ground surface (bgs) and is contaminated with 20-200 milligrams per liter (mg/L) nitrate-nitrogen from fertilizer used previously in a farming operation, levels that are well above the drinking water standard of 10 mg/L.

Nitrate contamination has economic as well as health impacts on small New Mexico communities. Although Veguita is well situated to benefit from growth of light industry around Belen, the community of about 1000 residents is economically disadvantaged and lacks the financial resources to remediate the nitrate or to develop a community water system. Other communities in New Mexico have similar problems – nitrate in groundwater, need for project funding, and limited resources. For these communities, EISB offers a means of potentially restoring water quality relatively quickly (reduction to non-detectable concentrations in weeks to months) and thereby benefiting both public health and the economic viability of the community. Because nitrate contamination impacts other small communities in the state, the EISB demonstration at Veguita can provide valuable information for planning EISB denitrification (EISBD) elsewhere in New Mexico.

1.2 Scope of Work

The scope of work performed in this project consisted of three phases. Upon notice to proceed, Kleinfelder prepared a detailed work plan that included specific procedures for each phase (Kleinfelder, 2005). A summary of this work plan is provided below.

1.2.1 Phase 1 - Water Resource Characterization

Based on information provided to Kleinfelder by the New Mexico Environment Department Groundwater Quality Bureau (GWQB), which determined the presence and levels of nitrate in samples of well water in the Abo Valley area. Phase 1 was planned to characterize the hydrogeologic regime and extent of contamination sufficiently to support decisions concerning the selection of a site for the EISB demonstration. Each EISB system must be designed to fit the hydrogeologic and surface conditions of the specific site; this requires investigations to characterize each site. Site investigations needed to provide this characterization consisted of:

- Aquifer and plume characterization – drilling and sampling of new 2-inch monitoring wells to confirm the locations of the high nitrate levels (hot spots) and aquifer material properties, measuring water table levels, and sampling water and testing it for nitrate content.

- Pumping test – After selecting one hot spot as the demonstration location, installing new 4-inch diameter test wells, conducting a pumping test to determine hydrogeologic properties (e.g., hydraulic conductivity), and verifying water quality of the selected hot spot. Water produced by the pump test was land-applied with NMED approval.

1.2.2 Phase 2 - EISB Treatment Design

Once the hydrogeology and nitrate concentrations in groundwater of the selected hot spot were characterized, the EISBD demonstration system was designed. The size and configuration of the demonstration were based on the results of characterization; however, to produce tangible results within the time allowed in the contract, the size of

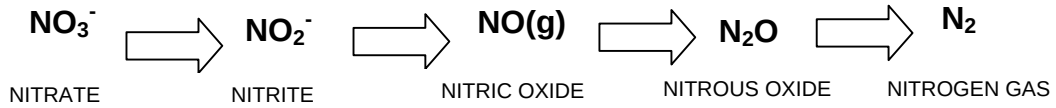
the demonstration (i.e., the number, pattern and spacing between wells) was scaled to achieve denitrification (less than 10 mg/L) of the demonstration area within six months of system start-up.

1.2.3 Phase 3 - EISBD Demonstration

Once the characterization and design phases were completed, the demonstration phase was started. The demonstration consisted of:

- Obtaining a water diversion permit from the New Mexico Office of the State Engineer
- Obtaining permission for temporary discharge from the NMED
- Installing 9 injection wells and 3 extraction wells
- Installing surface equipment (tanks, piping, pumps, electrical service, meters)
- Setting pump(s) in the pumping well(s)
- Preparing chemical amendments (carbon source, nutrient, and tracer)
- Activation of the treatment system – pumping, mixing, and injection
- Operation and monitoring of the treatment system – continued pumping and injection, sampling and testing of groundwater, real-time evaluation of results
- Preparation of a report including a description of the project, results and recommendations

EISB utilizes naturally occurring, indigenous microbes to reduce nitrate to harmless nitrogen gas, as shown below.



This bioreduction occurs in nature; EISB simply enhances the process to achieve in days to months what can naturally occur over decades without enhancement. In EISB, non-toxic food-grade additives (e.g.; molasses, sodium acetate) are injected into the contaminated groundwater, activating natural indigenous bacteria to reduce nitrate to harmless nitrogen gas. The additive is a carbon substrate that acts as an electron donor. The natural microbes in a metabolic process pass the electrons to the nitrate, reducing it to nitrite and then to nitrogen gas.

An EISBD system consists of one or more extraction or pumping wells to withdraw groundwater; an assemblage of pipes, hoses and valves to direct and control water at ground surface; tanks to hold and mix water and amendments (carbon source, nutrient, and tracer as needed) and one or more injection wells to put the additive-water mixture into the contaminated zone of the groundwater. An EISBD system can be as simple as one well that alternates between pumping and injection, or it can be composed of a large array of pumping and injection wells. The Veguita demonstration had one pumping well and eight injection wells into which the molasses-water mixture was injected.

1.3 Report Organization

Sections 2, 3, and 4 of this report contain details for each phase of the project. Section 5 provides an assessment of the results and includes recommendations for future work.

2.0 PHASE 1 - WATER RESOURCE CHARACTERIZATION

Phase I was performed in accordance with the Kleinfelder work plan submitted to the New Mexico Environment Department, Construction Services Division (CSD) on March 14, 2005 (Kleinfelder, 2005). Phase I of this Project included the following tasks:

- Public relations
- Site selection and access
- Water quality characterization
- Pumping test performance and data evaluation

Initially, the public relations task was not part of the proposed scope of work of Phase 1. However, it became apparent that public relations efforts would be critical in achieving acceptance by the community in general and in gaining cooperation of property owners.

2.1 Public Relations

Kleinfelder's initial scope of work was based on the assumption that the Veguita community was aware of its nitrate problem and would be supportive of efforts to develop a safe source of drinking water. However, many of the residents were unaware of the problem, not concerned about it, or suspicious of any state-sponsored actions related to their water. For example, we learned that some residents in the Abo Valley Subdivision had heard that it was the State's intent to plug and abandon private domestic supply wells in favor of a state-sponsored water supply system. This project was perceived by some as being part of such a plan. Consequently, public relations efforts were needed to inform and involve the community, developing the trust and cooperation necessary for the success of the entire project.

Public relations efforts included:

- Several meetings with Mr. Leo Mendoza, local community leader and strong advocate for the improvement of the quality of life for the population near Veguita. Mr. Mendoza graciously agreed to help with property access issues and translated for us during several house-to-house visits that commenced in May 2005.
- A public meeting held in April, 2005 at the La Promesa School in cooperation with the South Central Council of Governments.
- A meeting held with Ms. Diane Bustos, La Promesa School principal, at a drilling site in July, 2005.
- An interview conducted by Ms. Jane Moorman, Valencia County News Bulletin. At the request of Leo Mendoza, the Bulletin ran a story detailing efforts being undertaken to characterize nitrate contamination within the project area.
- Several visits to the community by Mr. Bart Faris, GWQB, with Kleinfelder personnel to speak to residents about the project.

These public relations efforts required time that caused the commencement of other Phase 1 activities to be delayed by several months. However, they succeeded in

generally dispelling suspicions and in eliciting access agreements with several property owners. Although the community has not shown noticeable enthusiasm for the project, there has been no opposition displayed.

2.2 Site Selection and Access

Because of budget and time constraints, the scope of work for this project was limited to a demonstration within a small portion of the total nitrate contamination plume, rather than mitigation of the entire plume. Accordingly, that small portion had to be selected early in the project period.

The selection of a suitable site for the project was based on the following four (4) criteria: (1) the site had to have nitrate contamination in the groundwater at concentrations significantly above the New Mexico Water Quality Control Commission (NMWQCC) Standard of 10 mg/L nitrate (as nitrogen), (2) the site had to be large enough to accommodate the physical demands of the project without interfering with the day- to-day activities of the property owner, (3) the site had to be accessible to heavy equipment, and (4) the property owner had to agree, in writing and without monetary compensation, to the conditions of the project. Of the four (4) criteria, identification of properties containing significant nitrate contamination in groundwater (i.e., criteria #1) was the most critical; therefore, screening of sites for this criteria was the initial focus of the site selection task.

Previous work performed by Mr. Bart Faris and the GWQB in the Abo Valley Subdivision identified three (3) areas within the southeastern portion of the subdivision that were known to contain concentrations of nitrate above NMWQCC Standard (Kleinfelder, 2004). Kleinfelder's first step in selecting a suitable site was to meet with Mr. Faris to confirm that these previously identified areas were appropriate targets for the project and, concurrently, to obtain details concerning the distribution of nitrate contamination in these areas. Mr. Faris stated that, although the data indicated discontinuous areas of contamination, the discontinuities were most likely the result of a lack of data points (i.e., wells) coupled with the fact that some wells were screened significantly deeper than the impacted wells. Therefore, the entire southeastern portion of the subdivision appeared to be an appropriate target for the project.

Once the target area was identified, properties in that area that were physically suitable for the project (i.e., properties that met criteria #2 and #3 above) were identified. Concurrently, property ownership information was obtained from the Socorro County Assessors' office. The property ownership information indicated that Mr. Sylvestre Sisneros, et al owned several properties within the target area including some that met criteria #2 and #3. Mr. Sisneros was contacted and several meetings occurred in April 2005 to discuss the use of his property. Mr. Sisneros stated that he had no problems with the conditions of the project, but after review of the access agreement, he stated that his partner would not sign.

After the efforts with Mr. Sisneros fell through, other property owners in the target area were called and sent access agreements that were written in both English and Spanish.

We received several responses and, after several weeks of meetings and phone calls, successfully negotiated agreements with four owners; locations of the properties are illustrated in Figures 2 and 3. The access agreement had to be re-written later to include clearer language concerning the ownership of wells and equipment to be installed on the property. Copies of the four access agreements are attached in Appendix A. These activities occurred in the months of May, June, and July 2005.

2.3 Water Quality Characterization

After access agreements were fully executed, water quality characterization at these four properties commenced. The activities associated with water quality characterization are summarized below. The results revealed that the property owned by Mr. Pablo Martinez (i.e., Lot 17, Tres Lagunitas Unit) contained the highest concentration of nitrate. The Martinez property had sufficient size (five acres) and was easily accessible. This set of attributes, as well as Mr. Martinez's interest in the project and willingness to grant access, led to the selection of this property as the demonstration treatment site. Figures 2 and 3 illustrate the location of the treatment site.

The water quality characterization task included (1) drilling of four soil borings (i.e., MW-1 through MW-4) at the locations illustrated on Figures 2 and 3 to a maximum depth of approximately 100 ft bgs, (2) sampling and characterizing soils from each boring, (3) installation/development of four monitoring wells, and (4) groundwater sampling and analysis from each well. Field activities for this task were conducted in July through September 2005.

The borings were drilled by Enviro-Drill, Inc., using hollow-stem auger techniques. Soil samples were collected by a combination of continuous coring, split spoon sampling, and drill cutting collection. A degreed geologist described and logged samples. The strata encountered while drilling varied but in general consisted of the following strata:

0 to 25 ft bgs – clayey, sandy, silt

25 to 65 ft bgs – sandy gravels and cobbles with clay stringers

65 to 100 ft bgs – gravelly sands with clay stringers

These sediments are consistent with those described by Love (1999) as belonging to the Abo Valley Fill (Late Pleistocene to Holocene). A generalized stratigraphic column of the treatment site is included in Figure 4 and boring logs and monitoring well construction schematics are provided in Appendix B.

Groundwater was encountered at about 55 ft bgs in wells MW-1, MW-2R, and MW-4. The ground surface elevation of MW-3 was several feet lower that the other wells and, consequently, the depth to water was significantly less at this location. Multiple groundwater measurements indicate a groundwater flow direction from northeast to southwest (Figure 5). The magnitude of the hydraulic gradient is estimated to be 0.001 ft/ft. Table 1 contains a summary of groundwater levels that were measured during the course of the project.

Some difficulties occurred while installing the wells. Once below the water table, saturated sands had a tendency to flow into the hollow portion of the auger. Movement of liquefied soil under these conditions is not uncommon, but requires corrective measures. These problems were mitigated by keeping water inside the auger while drilling and using a plug to seal the bottom of the auger.

After the borings were converted to monitoring wells and the wells were developed, low-flow sampling was used to sample for nitrate and dissolved oxygen (DO) concentrations. Field screening and laboratory analyses results of total dissolved solids and nitrate are summarized in Table 2. Field estimates of nitrate concentrations were determined using a field colorimetric kit from Chemetrics ®. Estimates of total dissolved solids concentrations were made from electrical specific conductance measurements. The laboratory analyses reports are included in Appendix C. Procedures for well development, water level measurements, purging, sampling and the collection of field water quality parameters are provided in Appendix D.

Three of the four monitoring wells sampled contained nitrate concentrations (as determined by laboratory analysis) above the NMWQCC standard of 10 mg/L. Monitoring well MW-3 contained quantifiable concentrations of nitrate but not above NMWQCC standards. The highest concentrations, up to 112.5 mg/L as determined by laboratory analysis, were present in well MW-1. Monitoring well locations and ranges of nitrate (as nitrogen) and dissolved oxygen concentrations are illustrated on Figure 3.

2.4 Pumping Test

The fourth and final task of this phase of the project included the performance of a pumping test and evaluation of the data. The objective of the pumping test was to collect data of sufficient quantity and quality to calculate a hydraulic conductivity value for the project site. Hydraulic conductivity is an important parameter in the understanding of groundwater flow, and an accurate estimation was needed to make informed decisions concerning the locations of injection wells. This task was conducted from October through December 2005 and consisted of the following activities:

- Test well installation
- Test well step testing
- Pumping test design
- Observation well installation
- Antecedent water-level trend evaluation
- Constant rate pumping test performance
- Data evaluation

The first activity in the pumping test was the drilling and construction of test well TW-1 (Appendix B). Test well TW-1 has a total depth of approximately 100 ft bgs, is 6-inches in diameter, and contains 15 ft of 0.030 inch slot stainless steel, high-flow screen. Mud rotary drilling techniques were used to install the well. A well schematic for TW-1 is included in Appendix B.

After installation and development, the well was step-tested to determine an appropriate pumping rate to use during the constant-rate test. Step-testing data indicated that the well could sustain 45 gallons per minute (gpm) with about 13 ft of drawdown and limited potential for dewatering the well. Once this maximum pumping rate was established, a computer program (Aquifer Test Pro ®) that employs an analytical solution to groundwater flow was used to aid in locating observation wells OW-1R and OW-2 at 10 ft. and 20 ft, respectively, from TW-1. Well locations are illustrated on Figure 6.

After observation wells OW-1R and OW-2 were installed and developed, antecedent water levels were measured for five days using automated data loggers. The constant rate test was then performed for a period of 24 hours. Water level measurements were collected in OW-1R, OW-2, TW-1 and MW-1. The data were reduced, and an estimated hydraulic conductivity value of 2.2×10^{-2} centimeters per second (cm/sec) (63 ft/day) was calculated. Hydraulic conductivity was used to assist in determining the location of injection wells.

Data Sheets and Graphs generated during the analysis of the pumping test are included in Appendix E.

3.0 PHASE 2 - EISB TREATMENT SYSTEM DESIGN, REGULATORY PERMITTING AND SYSTEM INSTALLATION

Phase 2 of this Project included the following four tasks:

- Modeling of the aquifer
- System design and
- Regulatory permitting
- System installation

3.1 Modeling of the Aquifer

Aquifer modeling was added to the scope of work to provide a more quantitative basis for well field design than a simpler manual analysis could provide. To develop the design and operational parameters of the treatment system, multiple runs of the MODFLOW ®, MODPATH ®, and MT3D ® computer modeling software were used to predict groundwater flow and molasses concentrations for several potential well field arrangements and pumping rates. The aquifer was modeled based on the information derived from the Phase I pumping test. General assumptions were:

- Sedimentary units in individual layers are homogeneous and isotropic in the horizontal directions
- Vertical hydraulic conductivities are 10% of horizontal conductivities
- The addition of fluids from the injection wells will lower the effective porosity of the formation in the vicinity of the wells.

Design guidelines, which were based on budget, space, technology, and aquifer limitations included:

- No more than 8 injection wells arranged in a circular injection well pattern
- Injection ring radius of 30 to 50 ft.
- Maximum pumping rate of 50 gpm
- Water not used for injection to be discharged/re-injected outside the injection ring
- Even distribution of molasses/water into injection wells (i.e., injection rate and concentration of molasses for each well are equal)
- Uniform vertical distribution of injected amendment in each injection well

The circular wellhead protection configuration was selected because the large contaminant plume and relatively low hydraulic gradient made a circular injection pattern most suitable for treating water drawn to the pumping well from all directions under an imposed hydraulic gradient.

Modeling objectives were to:

- Determine optimum location, spacing, and screen interval of injection wells

- Determine the injection scheme (i.e., injection rate, frequency, duration, and flushing with water) that provides the best molasses treatment ring around the pumping well.
- Estimate concentration of molasses in the aquifer and at the pumping well
- Estimate travel time from injection wells to pumping well

From the modeling, Kleinfelder determined that water used to dilute the molasses and flush well screens should not be pumped/produced from the center well (TW-1). Model travel times were in the range of 1 to 2 days to move water from the injection ring to TW-1 but eight to 14 days are required to convert molasses into biomass. Therefore, a second production well (TW-2) located near the northwest edge of the treatment site was modeled. Extraction from this well was shown to not significantly affect the injection/dispersion of the molasses-treated water.

The modeling estimated that a uniform injection rate of approximately 30 gpm total (split equally between 8 injection wells, at 3.75 gpm/well) for a period of approximately 24 hours should inject sufficient molasses to develop a bio-curtain to denitrify the groundwater. The targeted injection quantity of 4% (by weight) molasses solution (i.e., approximately 40 grams of molasses per liter of solution) was set at 40,000 gallons. Modeling predicted that flushing with an additional 120,000 gallons of unamended water would distribute the molasses into overlapping zones around each injection well and help minimize biofouling of the injection well screens.

Figure 7 shows the predicted groundwater flow and the distribution of molasses at the end of the injection/flushing phase. The isoconcentration contours in Figure 7 show that molasses at a concentration of 750 mg/l should be distributed in a nearly continuous ring at a distance of about 40 ft from TW-1. The model also shows that the concentrated molasses should be kept away from TW-1 due to the injection occurring uniformly around the ring, provided that TW-1 is not pumped during this initial injection event. The model predicted that almost all flow paths that intersect the center well (center of figure) would be nearly horizontal and would pass through the biocurtain; however it should be noted that a homogenous and anisotropic (i.e., K_{sat} horizontal >> K_{sat} vertical) aquifer was assumed.

3.2 System Design

Kleinfelder subcontracted with Gannett Fleming West, Inc. (Gannett) to design the surface system equipment and layout to be suitable for a small community water supply system. If it was desired to automate the treatment system, the Gannett design could be adapted. The Gannett design report is included as Appendix F.

The system utilized:

- A ten-foot square by eight-foot tall building to house and protect pumps, meters and most valving from the environment.
- Four above-ground polyvinyl chloride (PVC) storage/mixing tanks.
- A bulk ‘animal feed’ molasses storage tank.

- PVC pipes connecting tanks, controls and wells.
- Valves to control flows through pipes and tanks.
- Flowmeter/totalizers to meet State Engineer's Office guidelines.

A list of system components is presented in Table 4 and the design drawings are included in Appendix F. A general description of the process follows.

Tank 1 served as the initial dilution tank, where animal feed molasses is mixed with groundwater to dilute the molasses to 16% by weight. Diluted molasses is then drawn from Tank 1 and pumped to either Tank 2 or 3. In either tank, the initial dilution of molasses is further diluted to a final concentration of approximately 4% by weight. Once the molasses solution is homogenized with mixers, it is pumped to Tank 4. Tank 4 serves as a surge tank, to allow for continuous injection into the ring of eight injection wells.

While the Gannett design was suitable for a long-term implementation, for this project, the design was simplified. Changes made to Gannett's original design included substituting manual for electronic meters/totalizers, and substituting simpler units for the centrifugal pumps. Due to the changes in meter types, the requirement for straight pipe runs was eliminated, and because the system was not intended to operate long-term, overhead piping was replaced by floor level piping. Butterfly valves were replaced with gate valves.

3.3 Regulatory Permitting

Kleinfelder conferred with David Anderson of the Albuquerque office of the State Engineer regarding the water rights required for this project. On December 22, 2005, Kleinfelder received a permit for up to 13 wells from the Engineer's office along with a temporary groundwater diversion permit. The system design did not require 13 wells, but due to the time constraints required in getting well permits, the decision was made to err on the high side. The system was permitted to divert up to 80 acre-feet per year, which is equivalent to continuously pumping a well at 50 gpm every day for a year. The permit is attached as Appendix G.

On February 9, 2006, Kleinfelder received a temporary Discharge (Injection) Permit from the Groundwater Quality Bureau of the New Mexico Environment Department. The permit allowed for the diversion and re-injection of up to 43,200 gallons per day of groundwater (approximately 48 acre-feet in a year). The permit was written to count only active pumping days, when either injecting molasses solution or pumping the main well to simulate the operation of a small community water supply system. The system is permitted to run for up to 120 days, non-continuous. The discharge permit is attached as Appendix H.

3.4 System Installation

The EISB system was installed in January and early February 2006. System components are illustrated in Figure 6 and photographs of the system are included in Appendix I. The installation included:

- Drilling, installation, and development of nine (9) injection wells to a nominal depth of 100 ft bgs. Injection wells IW-01 through IW-08 were installed using mud rotary drilling techniques and were completed with 4-inch diameter PVC screen (0.030 inch slot) and casing. Injection well IW-09, which is located outside of the injection ring, contained 4-inch diameter PVC casing and two screen sections (0.030 inch slot), one from 20 to 50 ft bgs and another from 55 to 75 ft bgs;
- Drilling, installation, and development of a 4-inch diameter supply well (TW-02). Supply well TW-02 was located outside of the injection ring and contained 50 ft (50 to 100 ft bgs) of 0.030-inch slot screen;
- Installation of electrical submersible pump in TW-2;
- Installation of gradational slotted (0.010 inch to 0.050 inch, from top to bottom) drop pipes in IW-01 through IW-09; gradational slotting was used to obtain a more even, vertical distribution of fluids;
- Subcontracting with Mesa Feed for molasses delivery and setup;
- Installation of above ground system including:
    - Equipment shed
    - Above ground storage tanks
    - Three (3) transfer pumps
    - Two (2) pressure tanks
    - Totalizing and instantaneous flow meters
    - Piping manifolds with ball valves
- Trenching and installation of underground conveyance piping;
- Connecting underground piping to injection wells;
- Electrical service hookup and wiring.

Also during the period of time when the system was being installed, baseline water level and chemistry data were collected. Results of the measurements are summarized in Tables 1, 2, and 3. Graphs of data from select wells are included in Appendix J.

4.0 PHASE 3 - EISBD DEMONSTRATION

4.1 Operation Chronology

System operation began on February 16, 2006 and effectively concluded on August 15, 2006. Highlights of the six-month operational period include:

- Diverting approximately 1,154,000 gallons of groundwater from the pumping wells in the center of the injection well ring (i.e., TW-01 and TW-03) to IW-01 through IW-09;
- Diverting approximately 163,000 gallons of water from TW-02 located outside of the injection well ring to injection wells IW-01 through IW-08;
- Injecting approximately 2,020 gallons of molasses.

Flowmeter readings collected during this phase are provided in Table 5 and details of the EISBD operations are provided below.

4.1.1 Initial Pumping and Molasses Injection

As indicated on Table 5, pumping initiated on February 16, 2006 at a rate of approximately 20 gpm from TW-2, the well located outside and north of the circular array of injection wells (Figure 6). A total of approximately 55,000 gallons of water was mixed with 1,150 gallons of molasses during the initial molasses injection period of February 16 through 19, 2006, to produce an injection solution of approximately 30 g/L (4% by weight) molasses.

From February 19 to 22, 2006 approximately 105,000 gallons of groundwater were pumped from TW-2 and injected directly into injection wells IW-1 through IW-8 to flush the molasses solution from those wells. This flushing period was performed to (1) reduce the risk of biofouling in the injection wells and (2) drive the solution away from the wells, expanding the molasses-amended zone or biocurtain ring.

It should be noted that, despite efforts to adjust flow rates, the molasses was not distributed evenly into the injection wells. Injection wells IW-01, IW-02, and IW-06 each received approximately 8,000 gallons of molasses solution. Injection wells IW-04 and IW-08 received roughly 7,000 gallons each; and injection wells IW-03, IW-05, and IW-07 received between 4,000 and 6,000 gallons of molasses solution. It is unknown how the molasses was distributed vertically within the aquifer.

Water levels were recorded in OW-1R and OW-2 during the injection period. Values are summarized in Table 1 and are illustrated in Appendix J. As seen in Appendix J, water levels rose in these two wells by roughly 0.3 ft during injection.

4.1.2 Biocurtain Development

From February 22 to March 7, 2006 the system was left idle (no pumping or injection) to allow the natural microbes to metabolize the molasses and reduce the nitrate in the ring. During this time period, water levels, the dissolved oxygen (DO) and the nitrate-nitrogen (NO_3-N) concentrations were measured in OW-1R and OW-2 (Table 2 and 3). As illustrated in the graphs included in Appendix J, the water level returned to near pre-injection conditions during this time period and a drop in DO concentrations from roughly 5 mg/L to 0.3 and 2.6 mg/L were observed in OW-1R and OW-2, respectively. NO_3-O concentrations fluctuated but ended unchanged.

4.1.3 Center Well Pumping

From March 7 to March 18, 2006 well TW-1, located in the center of the injection ring, was pumped at 6.5 gpm to draw approximately 100,000 gallons of water through the biocurtain ring. Pumped water was conveyed to and discharged in injection well IW-09 located outside of the injection well site. Despite predictions from the MODFLOW runs that the denitrified water should have reached the pumping well, the DO and NO_3-N levels were about 3 mg/L and greater than 100 mg/L (based on screening level results), respectively, indicating that the rate of denitrification was slower than expected.

From March 18 to March 30, 2006 pumping from TW-1 was increased to 20 gpm (see graph in Appendix J), and 300,000 gallons of groundwater were pumped from the pumping well. The DO and NO_3-N concentrations measured at the end of this period were unchanged relative to the previous period when TW-01 was pumping at a slower rate.

From March 30 to April 6, 2006 pumping was reduced to about 1 gpm to give more residence time to water passing through the biocurtain in an attempt to improve denitrification. About 20,000 gallons of water were pumped from TW-1 and reinjected into IW-09, located north of the injection well ring. Severe aerobic biofouling developed in IW-09. At the same time, DO and NO_3-N levels were unchanged in TW-1, OW-1R, and OW-2.

Based on the biofouling problems. it was apparent from these results that molasses-amended groundwater was reaching TW-1 without completely participating in nitrate reduction. The likely potential causes for this were identified to be:

- Insufficient molasses mass or molasses solution residence time within the aquifer for biocurtain development
- Uneven distribution of the molasses resulting in windows within the biocurtain
- Rapid flow through the biocurtain along preferential flow paths, leaving insufficient residence time in the biocurtain for denitrification to occur.
- Flow of groundwater under, or over, the biocurtain due to reduction of hydraulic conductivity in the biocurtain caused by biofouling in the soil pores.

In an attempt to reduce the potential for underflow or overflow and draw groundwater through the shallower, injected portion of the aquifer, a new pumping well, TW-03, was installed. TW-3 was installed between April 7 and April 11, 2006 at a location 10 ft from TW-1 to a depth of 77 ft bgs with a screened interval from 55 to 75 ft bgs. This new well was then pumped at 6.5 gpm from April 11 to May 11, 2006 producing 275,000 gallons of water that were reinjected into IW-09. At the end of this period, DO and NO_3-N levels of water pumped from TW-03 were 2 to 3 mg/L and roughly 65 mg/L, respectively. During this time period, DO concentrations in OW-1R dropped from over 5 mg/L to less than 1 mg/L and NO_3-N concentrations dropped from approximately 70 mg/L to 35 mg/L. No significant changes occurred in the DO and NO_3-N concentrations measured in samples collected from OW-2.

After pumping and sampling the new well, TW-03, and finding no substantial improvement in denitrification, another round of molasses injection was performed from May 16 to May 18, 2006 to replenish the carbon source of biological activity. The injection solution consisted of an additional 15,000 gallons of water pumped from TW-03 mixed with 870 gallons of molasses, producing a concentration of 80 g/L (approximately 11% by weight) molasses. The solution was injected into wells IW-01 through IW-08, and then 7,000 gallons of water pumped from TW-03 were injected into these wells to flush the amended solution away from the wells and into the aquifer. Because of the apparent dominating influence of preferential flow paths through the biocurtain ring, and because the location of the path(s) could not be determined, pumping was ceased from May 18 to May 24, 2006 to allow the amended solution to stay in place for regeneration of the biocurtain.

On May 24, 2006 pumping of TW-03 resumed at 8.3 gpm. Pumping continued at this rate until June 16, 2006 producing 275,000 gallons of water that was reinjected into the IW-01 through IW-08. At the end of this period, DO and NO_3-N levels in water pumped from TW-03 were approximately 2 mg/L and 60 mg/L, respectively. The DO concentrations in OW-1R were less than 1 mg/L and NO_3-N ranged from 40 to 50 mg/L. The DO concentrations in OW-2 decreased during this time period from greater than 3 mg/L to less than 1 mg/L. NO_3-N concentrations in OW-2 decreased from roughly 80 to 60 mg/L. This was the first significant decrease in DO and NO_3-N concentrations in samples from OW-2.

From June 16 to August 15, 2006 TW-03 was pumped intermittently at a rate of 1 to 5 gpm, producing approximately 2,000 gallons of water. At the end of this period, DO and NO_3-N levels in water pumped from TW-03 were between 2 and 3 mg/L and 45 to 50 mg/L, respectively. The DO concentrations in OW-1R remained less than 1 mg/l and NO_3-N concentrations rebounded to about 55 mg/L. The DO and NO_3-N concentrations in samples from OW-2 rebounded to approximately 2.5 and 80 mg/L respectively.

4.1.4 System Decommissioning

Veguita site operations ceased on August 15, 2006 so that site demobilization could be commenced by the project completion date of August 31, 2006, which was in effect at that time. At the request of the GWQB, three vicinity-monitoring wells (i.e., MW-2R,

MW-03, and MW-04) and site wells MW-01 and OW-2 were left in place for NMED use for long-term monitoring. At the request of property owner Pablo Martinez, the electrical drop and well# TW-01 were left in place for his future use, in accordance with the property access agreement. Correspondence reflecting these agreements is contained within Appendix A. Other wells were plugged and abandoned in accordance with NMOSE requirements. Plugging reports are included in Appendix B.

The period of performance under the terms of Kleinfelder's contract with the State of New Mexico was extended in Amendment # 3 to allow time to arrange for the safe storage for the EISB equipment. On September 29, 2006, surface facilities were removed and transported to the New Mexico Department of Transportation's District 3 North Urban Maintenance Yard in Albuquerque, New Mexico.

4.2 Results Versus Objectives

The primary objective of this project was to demonstrate that a technology developed in New Mexico to remove nitrate from groundwater (EISBD) is suitable for use on small-community drinking water contamination problems. Subordinate objectives included evaluations of elements of the EISBD program to determine how each could be improved, especially in applications of EISBD to small rural communities.

4.2.1 Removal of Nitrate from Groundwater

The objective of reducing nitrate concentrations in the groundwater in the two pumping wells at Veguita to levels below the 10 ppm drinking water standard was not achieved. However, denitrification around the injection (IW) wells was achieved relatively quickly, and some reduction in nitrate in the observation well (OW-1R) was achieved during the operating life of the system. Because of the insufficient reduction in NO_3-N concentration in the water produced from TW-1/TW-3, a treatment cost analysis was not performed.

4.2.2 Water Resource Characterization

Activities during Phase 1 proved to be insufficient to provide the degree of characterization needed to quantify the aquifer hydrologic properties, especially the amount of spatial variability and the location of preferential flow paths in the aquifer that may have dominated movement of the molasses solution.

4.2.3 System Design

The system design was fundamentally sound and appropriate for the location and scale of this demonstration. The well design was well suited to the hydrogeologic materials; i.e., the wells functioned adequately in both injection and pumping roles. However, the pattern and spacing of the wells may not have intercepted the preferential flow paths that evidently existed within the circular array of wells. More testing, such as tracer studies, should be performed to identify flow paths and flow velocities between the injection wells and pumping wells. Discrete target zones within the aquifer should be identified for molasses injection and groundwater production. The design of surface

plant was well suited to both the location and the operating requirements; surface plant operations met project expectations.

4.2.4 EISBD Demonstration

This third phase of the project did not meet denitrification objectives but provided valuable experience and information that will be useful in subsequent applications of EISBD. Although budget and schedule limitations prevented their applications on this project, methods to measure molasses concentrations and to map the distribution of molasses in the subsurface, such as those discussed in Lane et al (2006), would provide information to detect preferential pathways and, in turn, to adjust injection patterns and rates to achieve more uniform distribution of molasses.

4.2.5 EISBD Cost Analysis

Table 6 lists the actual costs incurred during this project, divided into four categories:

- Capital costs $85,000
- Engineering $91,000
- Operations, Injection $30,800
- Operations, Pumping/Monitoring $79,200

These costs total $286,000. Not included are the administrative costs, taxes, and other costs of this project that are not directly attributable to the EISBD treatment. By separating those costs from this analysis, we take the institutional expenses out of the equation and examine only those types of costs that would be incurred in any EISBD application.

The analysis of cost per 1,000 gallons of water processed through the treatment system is based on the assumption that all water produced would have been reduced in nitrate concentration if sufficient time had been available to accomplish this objective. On that basis the costs are:

- Cost Grand Total/Total Water Produced = $286,000 / 1,052,000 gallons = $270 / 1,000 gallons

- Operation Cost / Total Water Produced = $110,000 / 1,052,000 gallons= $105 / 1,000 gallons

The first of these numbers represents the cost per 1000 gallons when capital and engineering costs are attributed to the production actually experienced; i.e.; costs are pro-rated across the first 1,052,000 gallons produced. If only operating costs are considered, the $105/1000 gallons represents the cost of producing the water over the long term, after capital and engineering costs are amortized.

These costs would be acceptable for production of safe drinking water; bottled water sold at retail stores costs more than $0.10 to $0.27/gallon. These costs would be

excessive for other, non-ingestive uses such as washing. However, it is important to note that the costs of future applications are likely to be lower. Specifically:

- Engineering costs should be reduced as EISBD system components become more standardized, especially for the surface treatment plant. We estimate that in routine applications the engineering costs would be approximately 50% of those experienced on this project.

- Systems operating (pumping/monitoring) costs on this project were high because professional staff had to be used to perform routine operating functions that would normally be performed by local labor trained for those functions. Kleinfelder's costs of labor and travel made the pumping/monitoring costs 2-3 times higher than would be the case when local labor is used.

If the engineering costs are reduced to 50% (to $45,500) and the pumping/monitoring costs are also reduced to 50% (to $39,600) of those experienced on this project, the projected future costs are $191/1,000 gallons total and to $67/1,000 gallons operating cost. These costs are considered to be reasonable for local production of drinking water if applied on a community-wide scale.

5.0 ASSESSMENTS AND RECOMMENDATIONS

5.1 Assessment of Results

Kleinfelder identified the following factors that, we believe, impacted the result of this project. The following paragraphs discuss the factors recommendations are bolded.

5.1.1 Schedule

This project had a performance period of 18 months, dictated largely by the requirements of the Governor's Water Innovation Fund. In our proposed schedule, Kleinfelder expected to be able to start aquifer characterization fieldwork within one month of notice to proceed. This schedule proved to be unrealistic; several months were required to develop support for the project within the Veguita community and to secure property access agreements. **At least three months should be planned for public relations and access agreements before any fieldwork can begin.**

Although denitrification occurs rapidly when the carbon substrate contacts nitrate, schedule for project performance is dependent on the time needed to bring the substrate in contact with the contamination. Without having a detailed knowledge of the hydrogeology of the aquifer within the target zone, prediction of the time needed for denitrification of the entire zone is highly uncertain. **Time and budget for water resource characterization should be proportional to the hydrogeologic uncertainty. Identify the uncertainties and clarifying is an iterative process; therefore, the time necessary to perform this phase of the project must be flexible.**

5.1.2 Project Budget

Under the provisions of the Governor's Water Innovation Fund, each project had to be proposed on a fixed-cost basis. For a remediation project like this one, with a high degree of inherent hydrogeologic uncertainty, prediction of cost is difficult and the contractor assumes considerable risk. In addition, public relations costs were incurred that had not been anticipated, and field labor costs were higher because local technician support could not be recruited. Consequently, Kleinfelder experienced greater cost than the budget covered and completed the work at its own expense. **Wherever possible, contracts for demonstrations of remediation technologies should provide a mechanism for cost recovery when unforeseeable and unavoidable costs are incurred.**

5.1.3 Primary Aquifer Factors Affecting Outcome

Hydrogeologic information about the Veguita area available at the time of the proposal consisted of a few scattered groundwater level measurements and general geologic map of the area (Love, 1999). Because of schedule and budget constraints, Kleinfelder's Phase 1 investigations were limited in scope and could not be detailed enough to discover the local variations in hydrologic properties (hydraulic conductivity,

in particular) that apparently dominated groundwater flow directions and rates. It is evident that:

- Molasses solution moved rapidly, faster than denitrification could occur, through the target zone along preferential pathways that were essentially unaffected by pumping well.
- Despite the circular array of eight injections wells around the target zone, denitrification occurred nonuniformly within the zone.

Where existing hydrogeologic information is sparse, the budget should provide for extensive site characterization, even at the expense of budget for tasks in which uncertainties are less and costs are more manageable.

5.1.4 Primary Design Factors Affecting Outcome

The circular array of injection wells at 50 ft radius from the pumping well would be appropriate for an aquifer in which hydraulic conductivity was relatively homogeneous, an assumption that was reasonable given the minimal characterization that could be performed within the project schedule and budget constraints. However, considering the dominant effect that preferential pathways played on system performance, the well system design should have provided flexibility in selecting well locations based on a multiple-step approach (described below) that would have provided additional, step-wise pumping and aquifer testing opportunities to better characterize the aquifer in three dimensions. As developed in this project, the well pattern was selected before sufficient characterization could be performed, thereby locking in the design and making it essentially unable to be modified for changing conditions. Although the well design and surface systems performed as expected, the well array should have been more readily adaptable to variable hydrogeologic conditions. **Well array designs should be developed in a step-wise process that is integrated with site characterization, leaving the array design flexible and adaptable to hydrogeologic conditions as they are discovered.**

5.2 Future Application at Veguita and in New Mexico

This project has demonstrated the soundness of the well designs and the surface system design. The well designs were typical of wells in alluvium throughout New Mexico and elsewhere; these well designs should be adjusted to local hydrogeologic conditions but, in general, can be applied in any similar hydrogeologic setting. The system design was robust, relatively inexpensive, and adaptable to varying site conditions; it is suitable for application elsewhere with only minor adjustments to fit the site.

The well array pattern used for this project is appropriate where hydraulic conductivity is relatively uniform in the horizontal direction. This was not the case at Veguita, where our observations of system operations revealed that groundwater flow directions and rates are controlled by preferential flow paths. If EISBD is applied again at Veguita or at any location where the hydrogeology is not well known, a coupled multi-step

characterization and well array design process should be implemented. This process may follow several different paths, one of which is:

1. Perform initial characterization with monitoring wells and geophysical surveys, where appropriate; identify discrete target zones within aquifer for molasses injection and groundwater production.

2. Establish a pumping well and one or two nearby monitoring wells to perform pumping tests.

3. Add additional wells for more pumping tests as needed to measure or trace groundwater flow paths. Use well patterns that can subsequently fit into a treatment system.

4. Add carbon amendment to wells selectively to measure distributions and flow rates of amendment. Include tracers to track flow and collect sediment samples or use geophysical means to map molasses distribution.

5. Select amendments and final well spacing to optimize interception of flow paths and residence times to achieve denitrification objectives.

As a treatment technology for groundwater denitrification, EISBD has been demonstrated to work if the carbon substrate can be brought into contact with the contaminated groundwater. In this project, hydrogeologic conditions limited our ability to establish this contact within the available budget and schedule. Future applications should place their primary focus on achieving this contact.

6.0 REFERENCES

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Lane Jr., John W, Day-Lewis, Frederick D., and Casey, Clifton C. "Geophysical Monitoring of a Field-Scale Biostimulation Pilot Project," Ground Water, Vol. 44, No. 3, May-June 2006, pp. 430-443.

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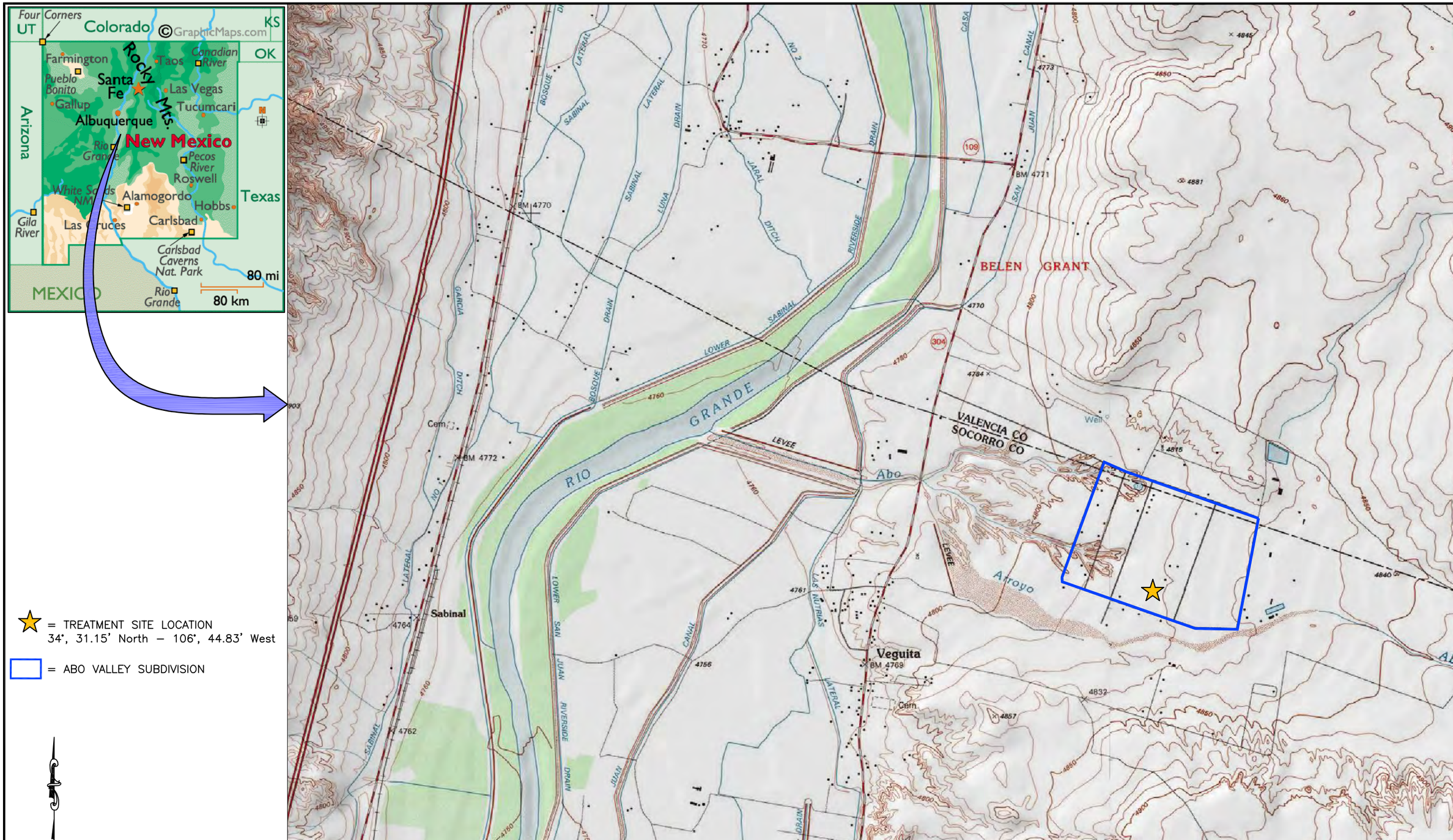
U.S. Environmental Protection Agency, Ground Water & Drinking Water, Consumer Factsheet on Nitrates/Nitrites, February 28, 2006.

FIGURES



★ = TREATMENT SITE LOCATION
34°, 31.15' North – 106°, 44.83' West

▭ = ABO VALLEY SUBDIVISION

Source: Map created with TOPO! 2003 National Geographic

KLEINFELDER		SITE LOCATION MAP Veguita Groundwater Denitrification Demonstration Project Veguita, New Mexico	FIGURE 1
Drawn By: D. Tideman	Date: January 2006		
Project No.: 58326	Filename: 58326_01_0.dwg		
Scale: 1" = 2,000'	Revision: –		

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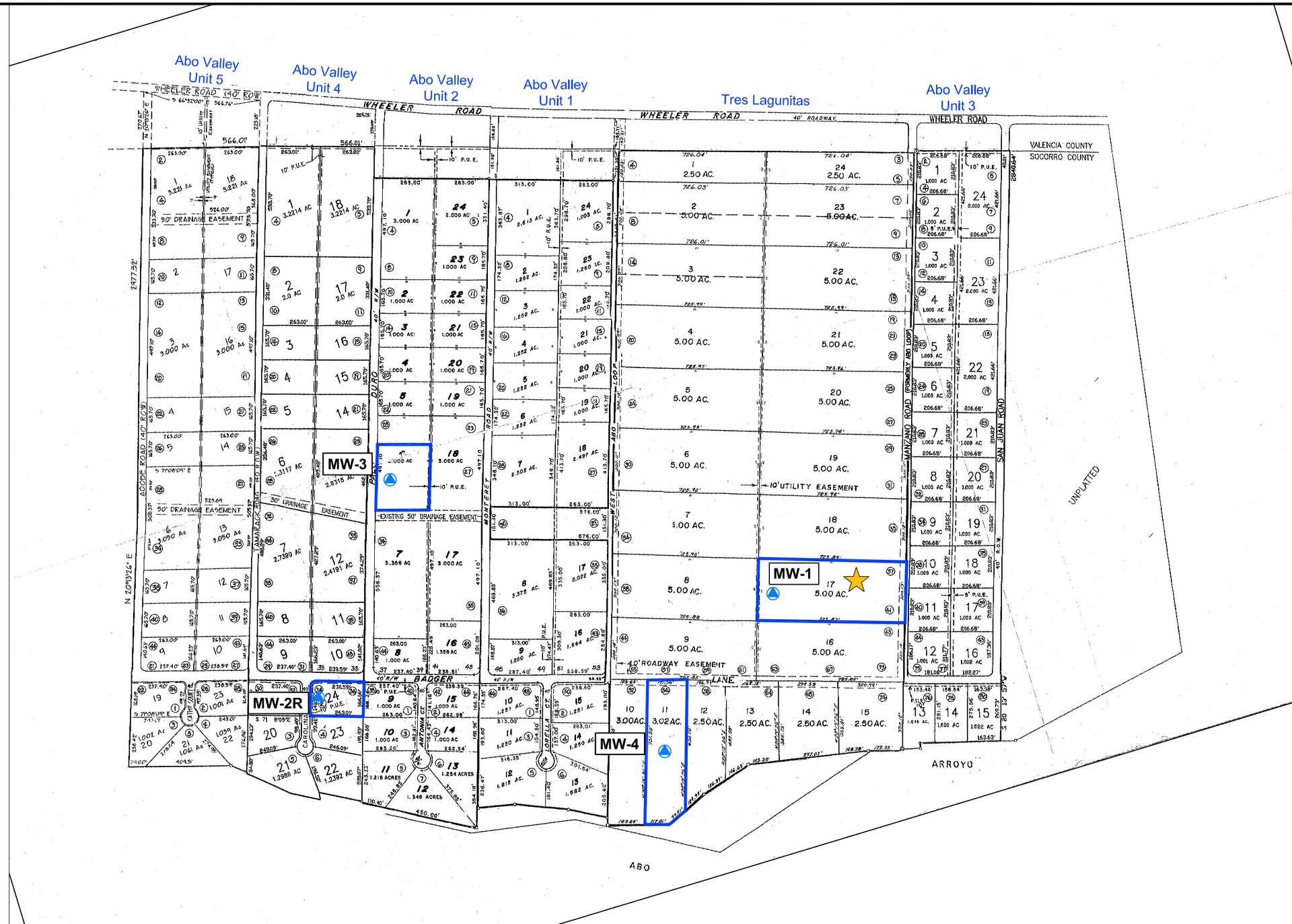

Source: Socorro County Assessors Office

★ = TREATMENT SITE LOCATION

▭ = PROPERTIES WITH ACCESS AGREEMENTS AND MONITORING WELLS

▲ = MONITORING WELL

500 0 250 500

SCALE: 1 inch = 500 ft

KLEINFELDER		ABO VALLEY SUBDIVISION PLAT MAP Veguita Groundwater Denitrification Demonstration Project Veguita, New Mexico	FIGURE 2
Drawn By: D. Tideman	Date: October 2006		
Project No.: 58326	Filename: 58326_02_1.dwg		
Scale: 1" = 500'	Revision: –		

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Source: Map created with Google Earth, 2006

LEGEND

= TREATMENT SITE LOCATION

= ESTIMATED GROUNDWATER FLOW DIRECTION (AUGUST 31, 2005)

= MONITORING WELL LOCATION

NOTE: mg/L = MILLIGRAMS PER LITER

500 0 250 500

SCALE: 1 inch = 500 ft

KLEINFELDER		NITRATE (AS NITROGEN) AND DISSOLVED OXYGEN CONCENTRATIONS August 2005 to July 2006 Veguita Groundwater Denitrification Demonstration Project Veguita, New Mexico	FIGURE 3
Drawn By: D. Tideman	Date: October 2006		
Project No.: 58326	Filename: 58326_03_1.dwg		
Scale: 1" = 500'	Revision: –		

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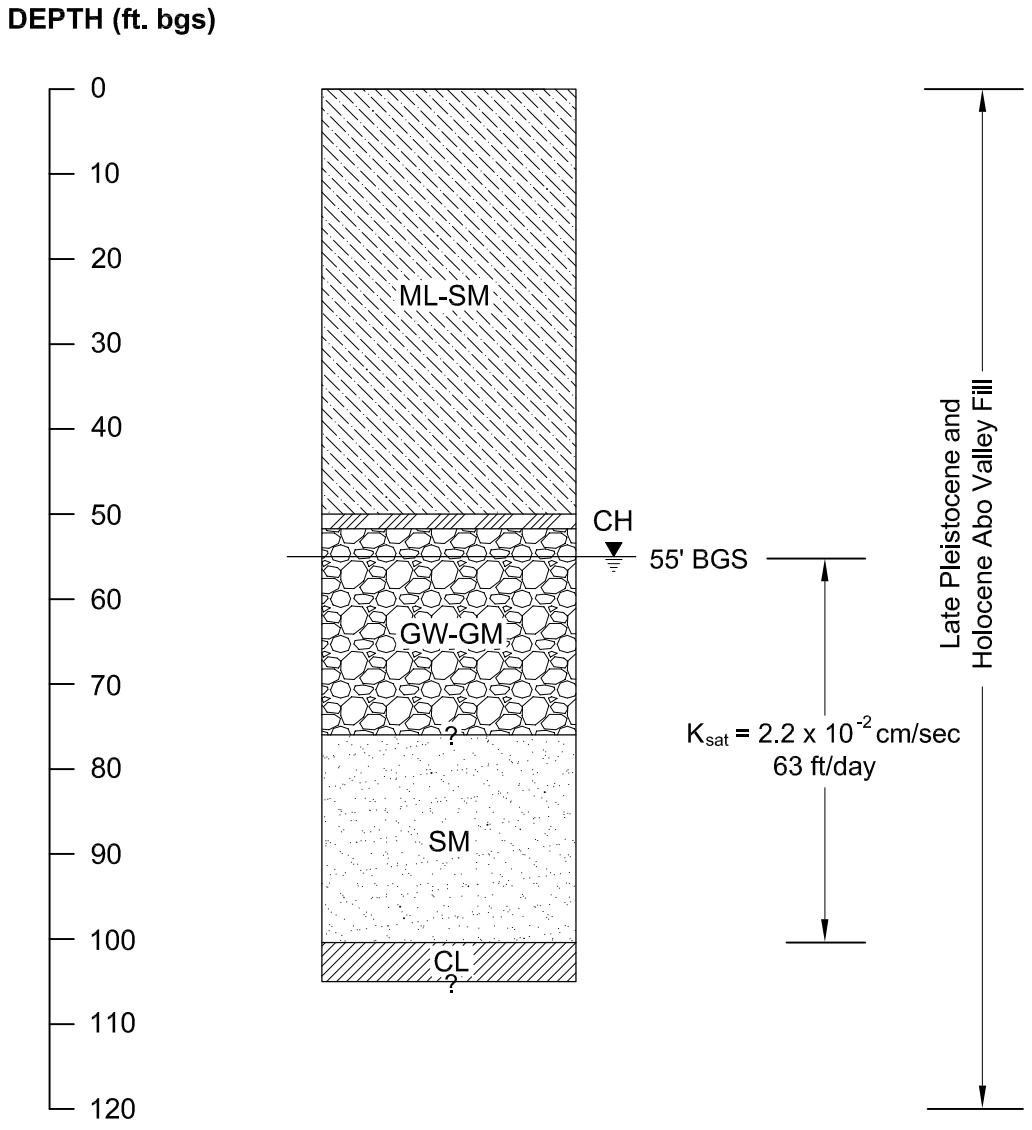

LEGEND

ML- SM	SILT AND SILTY SAND	▼	WATER TABLE
CH	FAT CLAY	K_{sat}	SATURATED HYDRAUIC CONDUCTIVITY
GW - GM	GRAVEL WITH SILT AND SAND	cm/sec	CENTIMETERS PER SECOND
SM	SILTY SAND WITH GRAVEL	ft/day	FEET PER DAY
CL	CLAY		

KLEINFELDER

Drawn By: D.Tideman
Project No.: 58326

Date: September 2006
Filename: 58326_04_1

TREATMENT SITE STRATIGRAPHIC COLUMN
Veguita Groundwater Denitrification Demonstration Project
Veguita, New Mexico

FIGURE
4

G:\ENVIRON\58326 VEGUITA\4.0 TECHNICAL INFORMATION\FIGURES\58326_04_1.DWG

© Kleinfelder, Inc. 2006

Source: Map created with Google Earth, 2006

= Monitoring well location

940.5 = PSE Contour (ft above arbitrary datum)

MW-2R = Monitoring well ID
4759.58 = PSE Elevation (ft above arbitrary datum)

= Estimated Groundwater flow direction

NM = Not Measured

500 0 250 500

SCALE: 1 inch = 500 ft

KLEINFELDER

Drawn By: D. Tideman	Date: September 2006
Project No.: 58326	Filename: 58326_05_1.dwg
Scale: 1" = 500'	Revision: –

POTENTIOMETRIC SURFACE ELEVATIONS
December 6, 2005
Veguita Groundwater Denitrification Demonstration Project
Veguita, New Mexico

FIGURE
5

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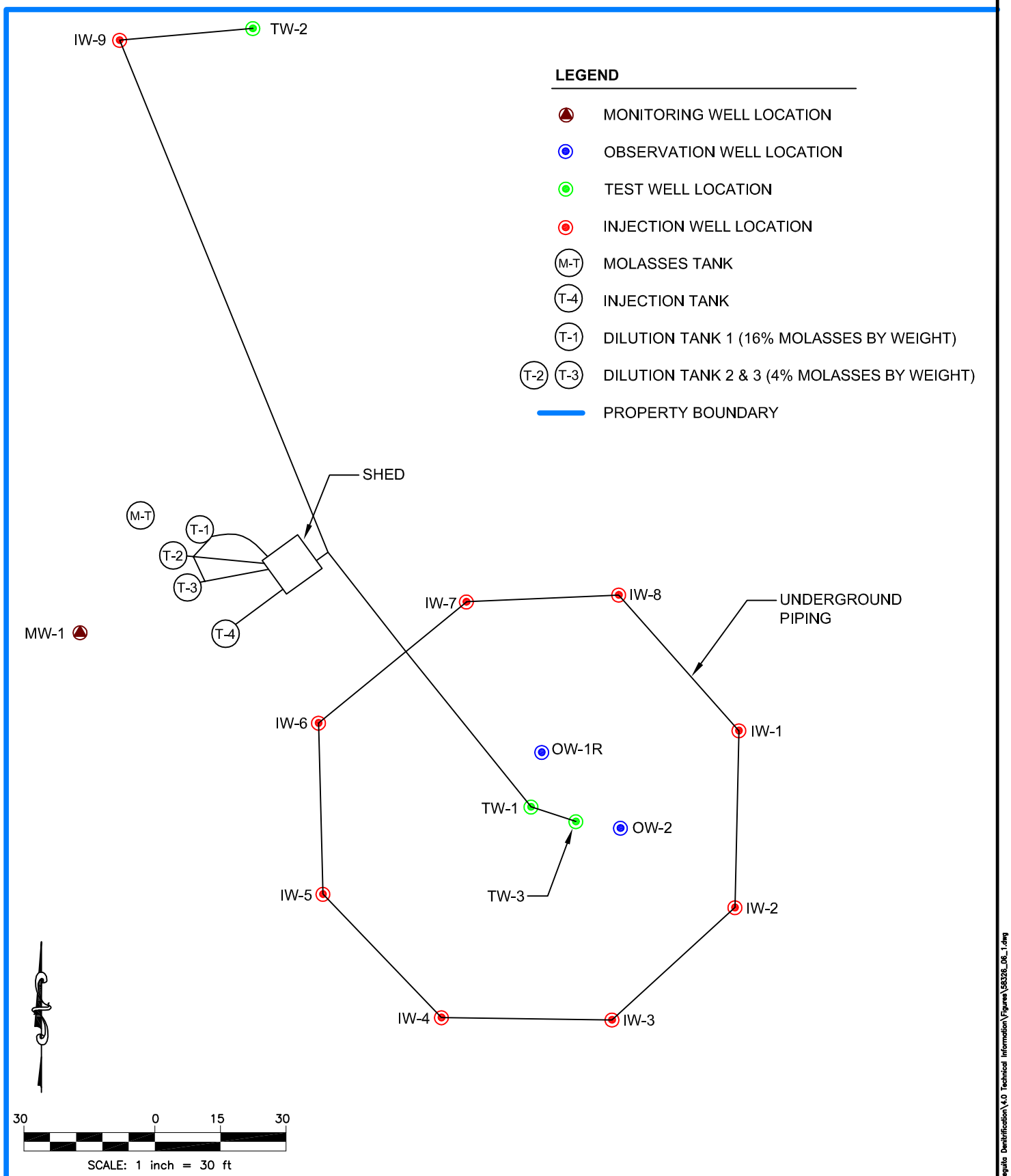

KLEINFELDER

Drawn By: D. Tideman	Date: September 2006
Project No.: 58326	Filename: 58326_06_1.dwg
Scale: 1 inch = 30 ft	Revision: –

TREATMENT SITE PLAN
Veguita Groundwater Denitrification Demonstration Project
Veguita, New Mexico

FIGURE
6

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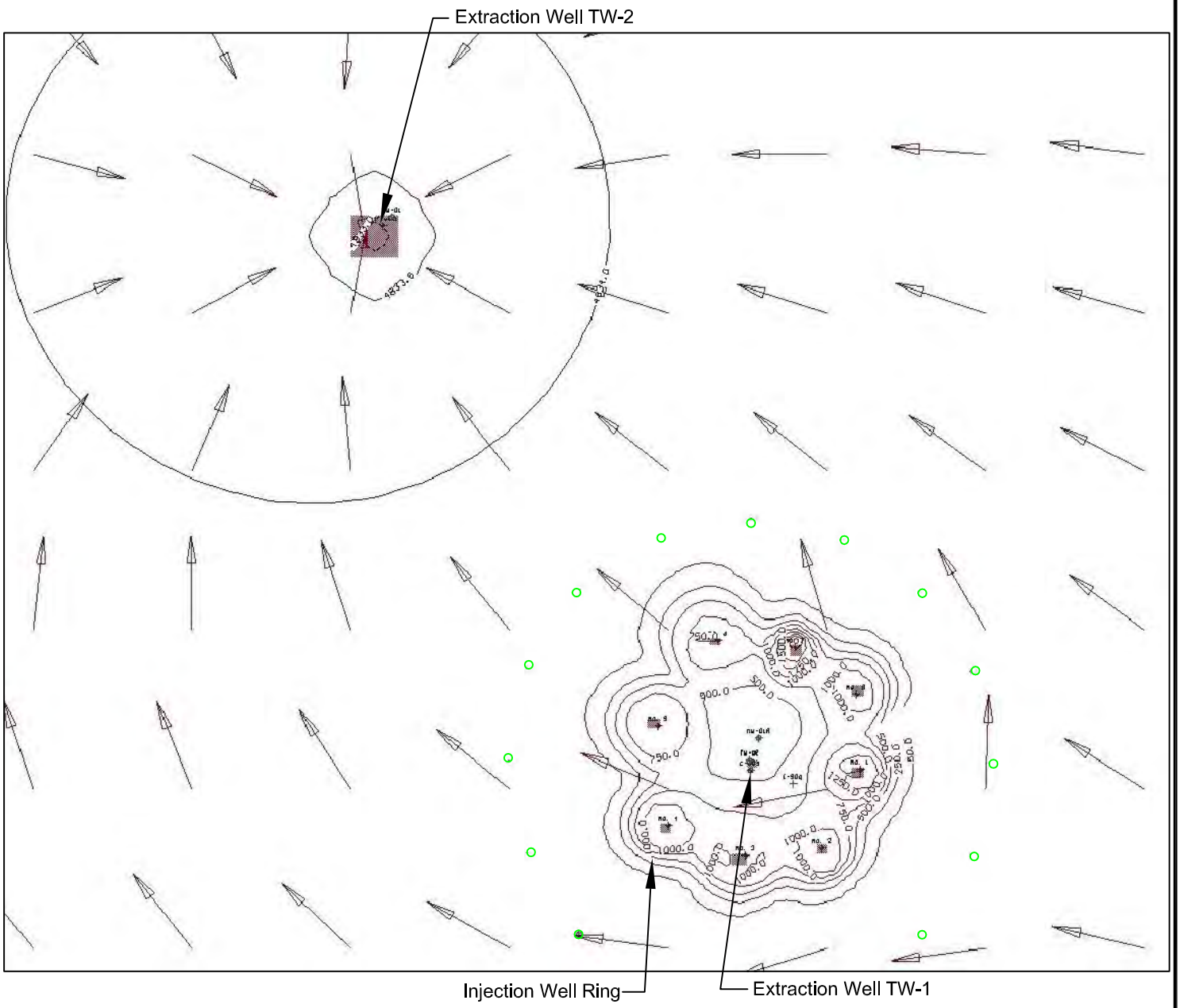

LEGEND

4834.0 = Predicted groundwater elevation, ft amsl

= Particle release point

= Predicted groundwater flow direction

IW-1 = Injection Well

1000 = Predicted isoconcentration contour of molasses, µg/l

TW-1 = Groundwater extraction well

Note: Predictions Based on....

1) 30 Gallons per minute (gpm) extracted from TW-2 for 3 days (72 hours)

2) 1 day (24 hours) of injecting molasses solution (40 grams of molasses per liter of solution) at a rate of 3.75 gpm per well into IW-1 through IW-8

3) 2 days (48 hours of injecting water extracted from TW-2 into IW-1 through IW-8 at a rate of 3.75 gpm per well

80 0 40 80

SCALE: 1 inch = 80 ft

KLEINFELDER

Drawn By: D. Tideman	Date: October 2006
Project No.: 58326	Filename: 58326_07_1.dwg
Scale: 1 inch = 80 ft	Revision: –

PREDICTED GROUNDWATER FLOW AND MOLASSES CONCENTRATIONS

Veguita Groundwater Denitrification Demonstration Project
Veguita, New Mexico

FIGURE

7

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TABLES

Table 1
Groundwater Level Data
Veguita Groundwater Denitrification Demonstration Project

Well ID	Screened Interval[1]	TOC Elevation[2] (A)	Date	Depth to Water[3] (B)	Potentiometric Surface Elevation[4]
IW-1	49-99	N/S	2/16/2006	56.57	N/A
			2/22/2006	55.40	N/A
			3/2/2006	55.73	N/A
			3/7/2006	55.72	N/A
			3/15/2006	55.88	N/A
			3/28/2006	55.91	N/A
			4/5/2006	55.71	N/A
			4/14/2006	56.00	N/A
			4/20/2006	55.97	N/A
			4/28/2006	55.97	N/A
			5/3/2006	55.96	N/A
			5/8/2006	55.99	N/A
			5/9/2006	52.79	N/A
			5/24/2006	59.30	N/A
			5/17/2006	38.16	N/A
			6/1/2006	56.05	N/A
			6/28/2006	56.08	N/A
			7/7/2006	56.01	N/A
IW-2	48-98	N/S	2/16/2006	55.79	N/A
			2/22/2006	55.65	N/A
			3/2/2006	55.93	N/A
			3/7/2006	55.95	N/A
			3/15/2006	56.18	N/A
			3/28/2006	56.18	N/A
			4/5/2006	55.93	N/A
			4/14/2006	56.20	N/A
			4/20/2006	56.20	N/A
			4/28/2006	56.20	N/A
			5/3/2006	56.18	N/A
			5/8/2006	56.19	N/A
			5/9/2006	47.31	N/A
			5/24/2006	55.50	N/A
			5/17/2006	41.85	N/A
			6/1/2006	56.21	N/A
			6/28/2006	56.22	N/A
			7/7/2006	56.20	N/A
IW-3	48-98	N/S	2/16/2006	55.57	N/A
			2/22/2006	55.44	N/A
			3/2/2006	55.69	N/A
			3/7/2006	55.70	N/A
			3/15/2006	55.85	N/A
			3/28/2006	55.90	N/A
			4/5/2006	55.75	N/A
			4/14/2006	55.95	N/A
			4/20/2006	56.03	N/A
			4/28/2006	55.93	N/A
			5/3/2006	55.92	N/A
			5/8/2006	55.97	N/A
			5/9/2006	52.99	N/A
			5/17/2006	51.17	N/A
			5/24/2006	56.03	N/A
			6/1/2006	56.25	N/A
			6/28/2006	55.89	N/A
			7/7/2006	55.96	N/A

Refer to footnotes at end of table

Table 1 (Continued)
Groundwater Level Data
Veguita Groundwater Denitrification Demonstration Project
(Page 2 of 6)

Well ID	Screened Interval[1]	TOC Elevation[2] (A)	Date	Depth to Water[3] (B)	Potentiometric Surface Elevation[4]
IW-4	49-99	N/S	2/16/2006	55.53	N/A
			2/22/2006	55.39	N/A
			3/2/2006	55.67	N/A
			3/7/2006	55.69	N/A
			3/15/2006	56.03	N/A
			3/28/2006	55.81	N/A
			4/5/2006	55.65	N/A
			4/14/2006	55.89	N/A
			4/20/2006	55.86	N/A
			4/28/2006	55.84	N/A
			5/3/2006	55.85	N/A
			5/8/2006	55.94	N/A
			5/9/2006	44.11	N/A
			5/17/2006	39.15	N/A
			5/24/2006	55.01	N/A
			6/1/2006	56.10	N/A
			6/28/2006	56.22	N/A
			7/7/2006	56.04	N/A
IW-5	50-100	N/S	2/16/2006	55.55	N/A
			2/22/2006	55.26	N/A
			3/2/2006	55.55	N/A
			3/7/2006	55.56	N/A
			3/15/2006	56.01	N/A
			3/28/2006	55.68	N/A
			4/5/2006	55.57	N/A
			4/14/2006	55.77	N/A
			4/20/2006	55.78	N/A
			4/28/2006	55.78	N/A
			5/3/2006	55.76	N/A
			5/8/2006	55.79	N/A
			5/9/2006	48.00	N/A
			5/17/2006	43.31	N/A
			5/24/2006	54.48	N/A
			6/28/2006	55.94	N/A
			7/7/2006	55.97	N/A
IW-6	50-100	N/S	2/16/2006	55.19	N/A
			2/22/2006	55.17	N/A
			3/2/2006	55.34	N/A
			3/7/2006	55.37	N/A
			3/15/2006	55.75	N/A
			3/28/2006	55.43	N/A
			4/5/2006	55.35	N/A
			4/14/2006	55.56	N/A
			4/20/2006	55.55	N/A
			4/28/2006	55.55	N/A
			5/3/2006	55.55	N/A
			5/8/2006	55.57	N/A
			5/9/2006	49.62	N/A
			5/17/2006	53.38	N/A
			5/24/2006	55.56	N/A
			6/28/2006	55.45	N/A
			7/7/2006	55.59	N/A

Refer to footnotes at end of table

Table 1 (Continued)
Groundwater Level Data
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Screened Interval[1]	TOC Elevation[2] (A)	Date	Depth to Water[3] (B)	Potentiometric Surface Elevation[4]
IW-7	50-100	N/S	2/16/2006	55.43	N/A
			2/22/2006	49.21	N/A
			3/2/2006	55.60	N/A
			3/3/2006	55.68	N/A
			3/7/2006	55.68	N/A
			3/10/2006	55.69	N/A
			3/15/2006	55.76	N/A
			3/28/2006	55.76	N/A
			4/5/2006	55.61	N/A
			4/14/2006	55.82	N/A
			4/20/2006	55.81	N/A
			4/28/2006	55.78	N/A
			5/3/2006	55.79	N/A
			5/8/2006	55.81	N/A
			5/9/2006	38.43	N/A
			5/17/2006	42.42	N/A
			5/24/2006	55.06	N/A
			6/28/2006	55.86	N/A
			7/7/2006	55.90	N/A
IW-8	50-100	N/S	2/16/2006	55.32	N/A
			2/22/2006	49.33	N/A
			3/2/2006	55.47	N/A
			3/7/2006	55.52	N/A
			3/15/2006	55.65	N/A
			3/28/2006	55.63	N/A
			4/5/2006	55.45	N/A
			4/14/2006	55.67	N/A
			4/20/2006	55.68	N/A
			4/28/2006	55.71	N/A
			5/3/2006	55.67	N/A
			5/8/2006	55.79	N/A
			5/9/2006	38.37	N/A
			5/17/2006	43.80	N/A
			5/24/2006	55.20	N/A
			6/28/2006	55.74	N/A
			7/7/2006	55.72	N/A
IW-9	19-49 and 54-74	N/S	2/20/2006	58.00	N/A
			2/21/2006	57.97	N/A
			2/22/2006	58.90	N/A
			3/2/2006	57.70	N/A
			3/7/2006	59.03	(new csg level +1.25 ft)
			3/15/2006	59.82	N/A
			4/5/2006	59.05	N/A
			4/14/2006	14.95	N/A
			4/18/2006	17.00	N/A
			4/20/2006	15.10	N/A
			4/28/2006	28.41	N/A
			5/3/2006	27.45	N/A
			5/8/2006	43.21	N/A
			5/24/2006	58.02	N/A
			6/1/2006	58.11	N/A

Refer to footnotes at end of table

Table 1 (Continued)
Groundwater Level Data
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Screened Interval[1]	TOC Elevation[2] (A)	Date	Depth to Water[3] (B)	Potentiometric Surface Elevation[4]
MW-1	59-89	4820.00	8/15/2005	59.15	4760.85
			8/31/2005	59.13	4760.87
			11/7/2005	58.92	4761.08
			12/6/2005	58.85	4761.15
			2/16/2006	58.95	4761.05
			2/17/2006	58.91	4761.09
			2/18/2006	58.91	4761.09
			2/19/2006	58.90	4761.10
			2/20/2006	58.91	4761.09
			2/21/2006	58.90	4761.10
			2/22/2006	58.95	4761.05
			3/2/2006	59.03	4760.97
			3/7/2006	59.06	4760.94
			3/15/2006	59.05	4760.95
			3/28/2006	59.12	4760.88
			4/5/2006	59.06	4760.94
			4/14/2006	59.19	4760.81
			4/18/2006	59.21	4760.79
			4/20/2006	59.21	4760.79
			4/28/2006	59.20	4760.80
			5/3/2006	59.21	4760.79
			5/9/2006	59.27	4760.73
			5/17/2006	57.99	4762.01
			6/1/2006	59.32	4760.68
			6/8/2006	59.33	4760.67
			6/16/2006	59.38	4760.62
			6/28/2006	59.33	4760.67
			7/7/2006	59.31	4760.69
MW-2R	61-71	4807.53	8/15/2005	48.17	4759.36
			8/31/2005	48.15	4759.38
			12/6/2005	47.95	4759.58
			2/22/2006	48.21	4759.32
			4/5/2006	48.28	4759.25
			7/7/2006	48.22	4759.31
MW-3	43-54	4800.39	8/15/2005	39.97	4760.42
			8/31/2005	39.95	4760.44
			2/22/2006	39.90	4760.49
			4/5/2006	39.99	4760.40
			7/7/2006	40.03	4760.36
MW-4	54-64	4816.74	8/15/2005	56.81	4759.93
			8/31/2005	56.81	4759.93
			12/6/2005	56.53	4760.21
			2/21/2006	56.60	4760.14
			4/5/2006	56.75	4759.99
			7/7/2006	56.89	4759.85

Refer to footnotes at end of table

Table 1 (Continued)
Groundwater Level Data
Veguita Groundwater Denitrification Demonstration Project
(Page 5 of 6)

Well ID	Screened Interval[1]	TOC Elevation[2] (A)	Date	Depth to Water[3] (B)	Potentiometric Surface Elevation[4]
OW-1R	57-87	4819.71	11/7/2005	56.52	4763.19
			12/6/2005	58.50	4761.21
			2/16/2006	58.59	4761.12
			2/17/2006	58.44	4761.27
			2/18/2006	58.41	4761.30
			2/19/2006	58.43	4761.28
			2/20/2006	58.33	4761.38
			2/21/2006	58.27	4761.44
			2/22/2006	58.45	4761.26
			3/2/2006	58.66	4761.05
			3/7/2006	58.68	4761.03
			3/10/2006	58.83	4760.88
			3/15/2006	58.83	4760.88
			3/18/2006	58.85	4760.86
			3/28/2006	59.24	4760.47
			4/5/2006	58.69	4761.02
			4/14/2006	59.24	4760.47
			4/18/2006	59.18	4760.53
			4/20/2006	59.15	4760.56
			4/28/2006	58.89	4760.82
			5/3/2006	58.89	4760.82
			5/9/2006	59.11	4760.60
			5/17/2006	58.91	4760.80
			5/24/2006	58.92	4760.79
			6/1/2006	59.00	4760.71
			6/8/2006	58.99	4760.72
			6/16/2006	59.06	4760.65
			6/28/2006	58.99	4760.72
			7/7/2006	58.94	4760.77
OW-2	56-86	4819.804	11/7/2005	58.68	4761.12
			12/6/2005	58.59	4761.21
			2/16/2006	58.69	4761.11
			2/17/2006	58.53	4761.27
			2/18/2006	58.51	4761.29
			2/19/2006	58.48	4761.32
			2/20/2006	58.40	4761.40
			2/21/2006	58.33	4761.47
			2/22/2006	58.56	4761.24
			3/2/2006	58.75	4761.05
			3/7/2006	58.78	4761.02
			3/10/2006	58.91	4760.89
			3/15/2006	58.92	4760.88
			3/18/2006	58.91	4760.89
			3/28/2006	59.19	4760.61
			4/5/2006	58.81	4760.99
			4/14/2006	59.42	4760.38
			4/18/2006	59.35	4760.45
			4/20/2006	59.36	4760.44
			4/28/2006	59.14	4760.66
			5/3/2006	59.09	4760.71
			5/9/2006	59.29	4760.51
			5/17/2006	59.02	4760.78
			5/24/2006	59.04	4760.76
			6/1/2006	59.30	4760.50
			6/8/2006	59.22	4760.58
			6/16/2006	59.29	4760.51
			6/28/2006	59.07	4760.73
			7/7/2006	59.05	4760.75

Refer to footnotes at end of table

Table 1 (Continued)
Groundwater Level Data
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Screened Interval[1]	TOC Elevation[2] (A)	Date	Depth to Water[3] (B)	Potentiometric Surface Elevation[4]
TW-1	80-95	4819.43	11/7/2005	58.27	4761.16
			12/6/2005	58.23	4761.20
			2/16/2006	58.29	4761.14
			2/17/2006	58.10	4761.33
			2/18/2006	58.09	4761.34
			2/19/2006	57.97	4761.46
			2/21/2006	57.95	4761.48
			2/22/2006	58.29	4761.14
			3/2/2006	58.40	4761.03
			3/7/2006	55.28	4764.15
			3/15/2006	59.45	4759.98
			3/28/2006	58.39	4761.04
			4/5/2006	58.33	4761.10
			4/14/2006	59.08	4760.35
			4/18/2006	59.01	4760.42
			4/20/2006	59.02	4760.41
			4/28/2006	58.67	4760.76
			5/3/2006	58.66	4760.77
			5/9/2006	58.91	4760.52
			5/17/2006	58.66	4760.77
			5/24/2006	58.66	4760.77
			6/1/2006	58.87	4760.56
			6/8/2006	58.80	4760.63
			6/16/2006	58.86	4760.57
			6/28/2006	58.72	4760.71
			7/7/2006	58.69	4760.74
TW-2	50-100	N/S	2/16/2006	58.09	N/A
			3/2/2006	58.17	N/A
			3/15/2006	58.12	N/A
			4/5/2006	58.20	N/A
			4/14/2006	58.32	N/A
			4/18/2006	58.26	N/A
			4/20/2006	58.27	N/A
			4/28/2006	58.31	N/A
			5/3/2006	57.32	N/A
TW-3	55-75	N/S	4/14/2006	N/M	N/M
			4/20/2006	N/M	N/M
			4/28/2006	N/M	N/M
			5/17/2006	58.92	N/A

1) Measured in feet below ground surface
2) Top of casing (TOC) measured in feet relative to an estimated elevation above mean sea level.
3) Measured in feet below TOC
4) Calculated by A-B
MW = Monitoring Well
TW = Test Well
OW = Observation Well
IW = Injection Well
N/A = Not Available
N/S = Not surveyed
NM = Not Measured

Table 2
Summary of Nitrate and Total Dissolved Solids Analysis Results
Veguita Groundwater Denitrification Demonstration Project

Well ID	Depth (ft, btoc)	Date	Screening Results		HEAL Analytical Results		
			Nitrate[c] (mg/L)	TDS[d] (mg/L)	Nitrate as N (mg/L)	TKN (mg/L)	TDS (mg/L)
IW-1	NM	7/8/2006	0	942	0.5	31	N/A
IW-2	56.18[b]	3/15/2006	0	NM	N/A	N/A	N/A
IW-6	55.75[b]	3/15/2006	0	NM	N/A	N/A	N/A
IW-9	63.00[a]	3/7/2006	37.5-50	1115	78	<5.0	N/A
	61.00[a]	4/5/2006	87.3-100	1864	3.8	17	N/A
	17.00[b]	4/18/2006	62.5 - 75	NM	N/A	N/A	N/A
	15.10[b]	4/20/2006	87.5 - 100	NM	N/A	N/A	N/A
MW-1	65.00[a]	8/24/2005	50 - 62.5	1010	62	<5.0	N/A
	75.00[a]	8/24/2005	25 - 37.5	1010	61	<5.0	N/A
	85.00[a]	8/24/2005	25 - 37.5	1010	61	<5.0	N/A
	64.00[a]	2/16/2006	50-62.5	952	55	<5.0	N/A
	62.50[a]	3/2/2006	87.5-100	948	57	<5.0	N/A
	63.00[a]	3/7/2006	62.5-75	952	57	<5.0	N/A
	59.05[b]	3/15/2006	75-82.5	NM	N/A	N/A	N/A
	59.12[b]	3/28/2006	87.5-100	NM	N/A	N/A	N/A
	61.00[a]	4/6/2006	25-37.5	935	52	<5.0	N/A
	59.19[b]	4/14/2006	75 - 87.5	NM	N/A	N/A	N/A
	59.21[b]	4/18/2006	100-112.5	NM	N/A	N/A	N/A
	59.21b	4/20/2006	87.5 - 100	NM	N/A	N/A	N/A
	61.00[a]	6/1/2006	50-62.5	920	55	<5.0	N/A
	61.00[a]	6/8/2006	37.5-50	1020	58	<1.0	N/A
	61.00[a]	6/16/2006	75-87.5	989	56	<1.0	N/A
	61.00[a]	6/28/2006	62.5-75	1003	57	<5.0	N/A
	61.00[a]	7/7/2006	75-87.5	697	59	<5.0	N/A
MW-2R	48.15[b]	8/31/2005	25 - 37.5	1021	43	<5.0	N/A
	60.00[a]	2/22/2006	25-37.5	968	39	<5.0	1200
	49.00[a]	4/5/2006	<25	715	23	<5.0	N/A
	49.00[a]	7/7/2006	37.5-50	735	38	<5.0	N/A
MW-3	NM	8/15/2005	N/A	471	N/A	N/A	N/A
	39.95[b]	8/31/2005	0	464	3.6	<1.0	N/A
	50.00[a]	2/22/2006	2.5-5.0	445	3.3	<1.0	450
	40.50[a]	4/5/2006	0 - 2.5	441	3.3	<1.0	N/A
	40.50[a]	7/7/2006	0-2.5	302	3.1	<5.0	N/A
MW-4	56.81[b]	8/31/2005	50 - 62.5	994	58	<1.0	N/A
	60.00[a]	2/21/2006	50-62.5	1022	50	<1.0	1100
	57.50[a]	4/5/2006	25-37.5	1029	51	<5.0	N/A
	57.50[a]	7/7/2006	50-62.5	717	50	<5.0	N/A

Refer to footnotes at end of table

Table 2
Nitrate (As Nitrogen) Concentrations in Groundwater
Veguita Groundwater Denitrification Project
(Page 2 of 3)

Well ID	Depth (ft, btoc)	Date	Screening Results		HEAL Analytical Results		
			Nitrate[c] (mg/L)	TDS[d] (mg/L)	Nitrate as N (mg/L)	TKN (mg/L)	TDS (mg/L)
OW-1R	62.00[a]	2/16/2006	87.5-100	941	64	<5.0	N/A
	62.50[a]	3/2/2006	100-112.5	941	67	<5.0	N/A
	62.00[a]	3/7/2006	37.5-50	938	67	<5.0	N/A
	58.83[b]	3/15/2006	112.5-125	NM	N/A	N/A	N/A
	59.24[b]	3/28/2006	112.5-125	NM	N/A	N/A	N/A
	61.00[a]	4/6/2006	50-62.5	1074	69	<5.0	N/A
	59.24b	4/14/2006	62.5 - 75	NM	N/A	N/A	N/A
	59.18[b]	4/18/2006	75 - 87.5	NM	N/A	N/A	N/A
	59.15[b]	4/20/2006	50 - 62.5	NM	N/A	N/A	N/A
	62.00[a]	4/28/2006	37.5 - 50	958	37	<1.0	N/A
	62.00[a]	5/10/2006	50-62.5	1008	39	<5.0	N/A
	62.00[a]	6/2/2006	62.5-75	4.2	38	<5.0	N/A
	62.00[a]	6/8/2006	25-37.5	NM	44	<1.0	N/A
	62.00[a]	6/16/2006	50-62.5	1015	51	<1.0	N/A
	62.00[a]	6/28/2006	50-62.5	1023	52	<1.0	N/A
	62.00[a]	7/7/2006	50-62.5	723	56	<5.0	N/A
OW-2	62.00[a]	2/16/2006	75-87.5	1061	81	<5.0	N/A
	62.50a	3/2/2006	112.5-125	1097	85	<5.0	N/A
	62.00a	3/7/2006	87.5-100	1080	81	<5.0	N/A
	58.92[b]	3/15/2006	112.5-125	NM	N/A	N/A	N/A
	58.91[b]	3/18/2006	75-87.5	NM	N/A	N/A	N/A
	59.19[b]	3/28/2006	112.5-125	NM	N/A	N/A	N/A
	61.00[a]	4/6/2006	37.5-50	1140	86	<5.0	N/A
	59.42[b]	4/14/2006	87.5 - 100	NM	N/A	N/A	N/A
	59.35[b]	4/18/2006	100 - 112.5	NM	N/A	N/A	N/A
	59.36[b]	4/20/2006	87.5 - 100	NM	N/A	N/A	N/A
	61.00[a]	4/28/2006	112.5 - 125	1091	85	<5.0	N/A
	61.00[a]	5/10/2006	87.5-100	1194	84	<5.0	N/A
	61.00[a]	6/1/2006	87.5-100	1065	84	<5.0	N/A
	61.00[a]	6/8/2006	62.5-75	1165	56	<1.0	N/A
	61.00[a]	6/16/2006	75-87.5	1138	81	<1.0	N/A
	61.00[a]	6/28/2006	50-62.5	1206	83	1.3	N/A
	61.00[a]	7/7/2006	75-87.5	815	82	<5.0	N/A

Refer to footnotes at end of table

Table 2
Nitrate (As Nitrogen) Concentrations in Groundwater
Veguita Groundwater Denitrification Project
(Page 3 of 3)

Well ID	Depth (ft, btoc)	Date	Screening Results		HEAL Analytical Results		
			Nitrate[c] (mg/L)	TDS[d] (mg/L)	Nitrate as N (mg/L)	TKN (mg/L)	TDS (mg/L)
TW-1	NM	11/7/2005	50 - 62.5	1007	N/A	N/A	N/A
	NM	11/7/2005	112.5 - 125	1007	N/A	N/A	N/A
	NM	11/15/2005	87.5 - 100	1018	N/A	N/A	N/A
	NM	11/15/2005	100 - 112.5	1018	N/A	N/A	N/A
	NM	11/15/2005	50 - 62.5	1018	N/A	N/A	N/A
	NM	11/15/2005	82.5 - 100	1018	N/A	N/A	N/A
	NM	3/3/2006	75-87.5	1160	94	<5.0	N/A
	NM	3/7/2006	112.5-125	953	87	<5.0	N/A
	NM	3/15/2006	112.5-125	NM	N/A	N/A	N/A
	NM	3/28/2006	112.5-125	NM	N/A	N/A	N/A
	NM	4/6/2006	87.5-100	1115	69	<5.0	N/A
	87.00[a]	5/3/2006	50 - 62.5	1257	70	<5.0	N/A
	87.00[a]	5/10/2006	75-87.5	1354	73	<5.0	N/A
	87.00[a]	6/1/2006	62.5-75	1203	77	<5.0	N/A
	87.00[a]	6/8/2006	50-62.5	1339	76	<5.0	N/A
	87.00[a]	6/16/2006	62.5-75	1325	82	<5.0	N/A
	87.00[a]	6/28/2006	37.5-50	1290	74	1.7	N/A
	87.00[a]	7/7/2006	75-82.5	808	64	<5.0	N/A
TW-3	NM	4/14/2006	62.5 - 75	NM	N/A	N/A	N/A
	NM	4/18/2006	62.5 - 75	NM	N/A	N/A	N/A
	NM	4/20/2006	87.5 - 100	NM	N/A	N/A	N/A
	NM	4/28/2006	50 - 62.5	1118	65	<5.0	N/A
	NM	5/3/2006	62.5 - 75	1105	66	<5.0	N/A
	NM	5/10/2006	75-87.5	1195	64	<5.0	N/A
	NM	5/17/2006	N/A	NM	63	<5.0	N/A
	NM	5/24/2006	50-62.5	NM	N/A	N/A	N/A
	NM	6/1/2006	75-87.5	3.5	65	<5.0	N/A
	NM	6/8/2006	50-62.5	NM	65	<1.0	N/A
	NM	6/16/2006	75-87.5	1156	61	<1.0	N/A
	NM	6/28/2006	25-37.5	1242	46	2.7	N/A
	NM	7/7/2006	62.5-75	806	49	<5.0	N/A
	NM	7/20/2006	25-37.5	1167	59	<5.0	N/A
	NM	8/15/2006	87.5-100	1157	N/A	N/A	N/A
4% Molasses	NM	2/16/2006	N/A	NM	39	450	N/A
Bulk Molasses	NM	3/3/2006	N/A	NM	24	7900	N/A

NM = Not Measured
N/A = Not Analyzed
mg/L = milligrams per liter
New Mexico Water Quality Control Commission standard for nitrate = 10 mg/L
HEAL = Hall Environmental Analysis Laboratory
TKN = Total Kjeldahl Nitrogen
[a] = sample collected by low flow sampling methods with pump intake at depth indicated
[b] = sample collected with a disposable bailer
[c] = value estimated from Chemitrics® Colorimetric Kit
[d] = value estimated from "specific electrical conductance x 0.70" (Driscoll, 1986)
ft,btoc = feet, below top of casing

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
IW-1	2/16/2006[a]	90-100'	4.35
	2/22/2006	90-100'	3.88
		80-90'	3.58
		70-80'	3.47
		60-70'	2.88
		55-60'	2.75
	3/2/2006	90-100'	0.13
		80-90'	0.13
		70-80'	0.11
		60-70'	0.11
		55-60'	0.12
	3/21/2006	90-100'	0.50
		80-90'	0.15
		70-80'	0.14
		60-70'	0.13
		55-60'	0.10
	3/28/2006	90-100'	0.43
		80-90'	0.34
		70-80'	0.32
		60-70'	0.18
		50-60'	0.14
	4/5/2006	90-100'	0.09
		80-90'	0.09
		70-80'	0.09
		60-70'	0.06
		50-60'	0.06
	4/14/2006	90-100'	0.16
		80-90'	0.16
		70-80'	0.15
		60-70'	0.14
		50-60'	0.13
	4/20/2006	90-100'	0.13
		80-90'	0.24
		70-80'	0.19
		60-70'	0.17
		55-60'	0.14

Refer to footnotes at end of table

Well ID	Date	Depth	DO mg/L
IW-2	2/16/2006[a]	90-100'	3.45
	2/22/2006	90-100'	1.87
		80-90'	1.83
		70-80'	1.39
		60-70'	0.93
		55-60'	0.88
	3/2/2006	90-100'	0.08
		80-90'	0.14
		70-80'	0.15
		60-70'	0.15
		55-60'	0.15
	3/28/2006	90-100'	0.22
		80-90'	0.10
		70-80'	0.10
		60-70'	0.11
		55-60'	0.12
	4/5/2006	90-100'	0.12
		80-90'	0.05
		70-80'	0.05
		60-70'	0.06
		55-60'	0.08
	4/14/2006	90-100'	0.09
		80-90'	0.09
		70-80'	0.08
		60-70'	0.06
		55-60'	0.06
	4/20/2006	90-100'	0.06
		80-90'	0.05
		70-80'	0.05
		60-70'	0.04
		55-60'	0.04

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
IW-3	2/16/2006[a]	90-100'	2.93
	2/22/2006	90-100'	0.05
		80-90'	0.05
		70-80'	0.06
		60-70'	0.06
		55-60'	0.13
	3/2/2006	90-100'	0.04
		80-90'	0.04
		70-80'	0.07
	4/5/2006	90-100'	0.05
		80-90'	0.12
		70-80'	0.08
		60-70'	0.06
		50-60'	0.09
	4/14/2006	90-100'	0.03
		80-90'	0.02
		70-80'	0.02
		60-70'	0.02
		50-60'	0.03
	4/20/2006	90-100'	0.06
		80-90'	0.05
		70-80'	0.05
		60-70'	0.04
		55-60'	0.04

Well ID	Date	Depth	DO mg/L
IW-4	2/16/2006[a]	90-100'	1.41
	2/22/2006	90-100'	3.15
		80-90'	3.18
		70-80'	2.93
		60-70'	2.73
		55-60'	2.50
	3/2/2006	90-100'	0.14
		80-90'	0.13
		70-80'	0.14
		60-70'	0.14
		55-60'	0.15
	3/28/2006	90-100'	0.19
		80-90'	0.16
		70-80'	0.14
		60-70'	0.08
		50-60'	0.09
	4/5/2006	90-100'	0.10
		80-90'	0.09
		70-80'	0.07
		60-70'	0.07
		50-60'	0.08
	4/14/2006	90-100'	0.04
		80-90'	0.05
		70-80'	0.05
		60-70'	0.04
		50-60'	0.04
	4/20/2006	90-100'	0.08
		80-90'	0.07
		70-80'	0.09
		60-70'	0.07
		55-60'	0.07

Refer to footnotes at end of table

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
IW-5	2/16/2006[a]	90-100'	3.88
	2/22/2006	90-100'	0.02
		80-90'	0.06
		70-80'	0.08
		60-70'	0.11
		55-60'	0.08
	3/2/2006	90-100'	0.02
		80-90'	0.04
		70-80'	0.06
		60-70'	0.05
		55-60'	0.05
	3/28/2006	90-100'	0.14
		80-90'	0.11
		70-80'	0.09
		60-70'	0.05
		50-60'	0.04
	4/5/2006	90-100'	0.07
		80-90'	0.08
		70-80'	0.05
		60-70'	0.05
		50-60'	0.07
	4/14/2006	90-100'	0.02
		80-90'	0.03
		70-80'	0.03
		60-70'	0.03
		50-60'	0.03
	4/20/2006	90-100'	0.06
		80-90'	0.05
		70-80'	0.05
		60-70'	0.05
		55-60'	0.05

Well ID	Date	Depth	DO mg/L
IW-6	2/16/2006[a]	90-100'	4.04
	2/22/2006	90-100'	1.77
		80-90'	1.49
		70-80'	0.99
		60-70'	0.92
		55-60'	0.97
	3/2/2006	90-100'	0.05
		80-90'	0.01
		70-80'	0.09
		60-70'	0.08
		55-60'	0.09
	3/28/2006	90-100'	0.12
		80-90'	0.10
		70-80'	0.09
		60-70'	0.09
		50-60'	0.09
	4/5/2006	90-100'	0.12
		80-90'	0.10
		70-80'	0.10
		60-70'	0.10
		50-60'	0.11
	4/14/2006	90-100'	0.03
		80-90'	0.03
		70-80'	0.03
		60-70'	0.03
		50-60'	0.04
	4/20/2006	90-100'	0.07
		80-90'	0.05
		70-80'	0.05
		60-70'	0.05
		55-60'	0.05

Refer to footnotes at end of table

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
IW-7	2/16/2006[a]	90-100'	1.96
	2/22/2006	90-100'	1.38
		80-90'	1.28
		70-80'	0.69
		60-70'	0.64
		55-60'	0.30
	3/2/2006	90-100'	0.03
		80-90'	0.06
		70-80'	0.06
		60-70'	0.05
		55-60'	0.05
	3/28/2006	90-100'	0.16
		80-90'	0.13
		70-80'	0.11
		60-70'	0.10
		50-60'	0.11
	4/5/2006	90-100'	0.09
		80-90'	0.07
		70-80'	0.07
		60-70'	0.07
		50-60'	0.07
	4/14/2006	90-100'	0.00
		80-90'	0.02
		70-80'	0.04
		60-70'	0.03
		50-60'	0.01
	4/20/2006	90-100'	0.04
		80-90'	0.03
		70-80'	0.04
		60-70'	0.03
		55-60'	0.03

Well ID	Date	Depth	DO mg/L
IW-8	2/16/2006[a]	90-100'	2.27
	2/22/2006	90-100'	3.34
		80-90'	2.60
		70-80'	1.75
		60-70'	1.58
		55-60'	1.33
	3/2/2006	90-100'	0.00
		80-90'	0.00
		70-80'	0.01
		60-70'	0.01
		55-60'	0.01
	3/28/2006	90-100'	0.11
		80-90'	0.05
		70-80'	0.02
		60-70'	0.02
		50-60'	0.03
	4/5/2006	90-100'	0.19
		80-90'	0.05
		70-80'	0.04
		60-70'	0.04
		50-60'	0.09
	4/14/2006	90-100'	0.00
		80-90'	0.01
		70-80'	0.51
		60-70'	0.46
		50-60'	0.33
	4/20/2006	90-100'	0.04
		80-90'	0.03
		70-80'	0.03
		60-70'	0.03
		55-60'	0.02

Refer to footnotes at end of table

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Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
IW-9	2/22/2006	65'-75'	4.85
		55'-65'	5.93
	3/2/2006	60-70'	4.58
		65'-75"	4.63
	4/5/2006[a]	61'	3.21[+]
	4/14/2006	70-80'	2.80
		60-70'	3.28
		50-60'	3.40
	4/18/2006	65'-75'	3.07
		55-65'	3.17
	4/20/2006	70-80'	2.35
		60-70'	2.43
TW-1	11/15/2005	N/A	5.12
	11/16/2005	N/A	5.33
	2/16/2006[a]	90-100'	0.02
	2/22/2006	90-100'	3.36
		80-90'	3.45
		70-80'	0.17
		60-70'	0.03
	3/2/2006	90-100'	2.79
		80-90'	1.60
	3/28/2006[a]	80'-95'	3.5
	4/6/2006[a]	90-100'	3.18
	4/14/2006	90-95'	0.03
		80-90'	0.07
	4/18/2006	90-95'	0.04
		80-90'	0.08
	4/20/2006	90-100'	0.05
		80-90'	0.03
	5/3/2006[a]	87-100'	2.29[+]
	5/10/2006	80-95'	0.05
			0.09[+]
	5/17/2006	90-100'	0.03
		80-90'	0.04
		70-80'	0.07
		60-70'	0.15
		55-60'	0.27
	6/1/2006[a]	92'	1.65[+]
	6/8/2006[a]	92'	0.83[+]
	6/8/2006a	80-90'	0.04
	6/16/2006	85'	0.68[+]
		80-90'	0.05
	6/28/2006	80-90'	0.10
		85'	0.38[+]

Well ID	Date	Depth	DO mg/L
OW-1R	2/16/2006[a]	90-100'	3.59
	2/21/2006[a]	90-100'	4.90
	2/22/2006	80-90'	3.45
		70-80'	4.46
		60-70'	4.97
		55-60'	4.98
	3/2/2006	80-90'	1.66
		70-80'	1.48
		60-70'	1.15
	3/28/2006	76-87'	5.15
		66-76'	5.20
		56-66'	5.27
	4/5/2006[a]	61'	6.49
	4/14/2006	76-87'	2.17
		66-76'	1.25
		56-66'	0.41
	4/18/2006	76-87'	1.62
		66-76'	1.06
		56-66'	0.21
	4/20/2006	70-80'	1.56
		60-70'	0.53
		55-60'	0.05
	4/28/2006[a]	59-90'	0.53[+]
	5/3/2006	76-87'	0.17
		66-76'	0.06
		66-76'	0.08
	5/10/2006	76-87'	1.04
		66-76'	0.04
		56-66'	0.24
			0.11[+]
	5/17/2006	80-90'	0.2
		70-80'	0.10
		60-70'	0.40
		55-60'	0.90

Refer to footnotes at end of table

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
TW-2	2/16/2006[a]	90-100'	7.98
	3/2/2006	90-100'	1.05
		80-90'	0.97
		70-80'	1.03
		60-70'	1.31
TW-3	4/14/2006[a]	55 - 65	0.25*
	4/18/2006[a]	62.5 - 75	2.02*
	4/20/2006[a]	55 - 75	2.31*
	4/28/2006[a]	55 - 75	3.04**
	5/3/2006[a]	55 - 75	2.41**
	5/8/2006		2.06+
	5/10/2006		2.30+
	7/7/2006[a]	55 - 75	>1.0**

Well ID	Date	Depth	DO mg/L
OW-1R cont.	6/2/2006	80-90'	0.10
		70-80'	0.20
		60-70'	0.20
		55-60'	0.70
	6/8/2006		1.55+
	6/8/2006	70-80'	0.02
		60-70'	0.03
		55-60'	0.05
	6/16/2006	63'	1.3+
		70-80'	0.04
		60-70'	0.03
		55-60'	0.02
	6/28/2006	80-90'	0.06
		70-80'	0.05
		60-70'	0.05
		50-60'	0.05
		65'	0.28+
	7/7/2006	80-90'	0.2-0.3
		70-80'	0.3-0.4

Refer to footnotes at end of table

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
OW-2	2/16/2006[a]	90-100'	5.02
	2/21/2006[a]	90-100'	5.37
	2/22/2006	80-90'	0.07
		70-80'	4.75
		60-70'	4.89
		55-60'	5.04
	3/2/2006	80-90'	0.20
		70-80'	0.56
		60-70'	1.03
	3/18/2006	90-100'	0.45
		80-90'	5.32
		70-80'	5.43
		60-70'	5.46
	3/28/2006	76-87'	5.41
		66-76'	5.50
		56-66'	5.55
	4/5/2006[a]	61'	7.46
	4/14/2006	76-87'	4.73
		66-76'	5.06
		56-66'	5.60
	4/18/2006	76-87'	4.97
		66-76'	5.31
		56-64'	5.85
	4/20/2006	70-80'	4.48
		60-70'	4.74
		55-60'	5.19
	4/28/2006[a]	61'	5.26[+]
	5/3/2006	76-87'	4.68
		66-76'	4.63
		56-66'	4.59
	5/10/2006	76-87'	4.59
		66-76'	4.58
		56-66'	4.10
			4.14[+]
	5/17/2006	80-90'	4.45
		70-80'	2.88
		60-70'	3.80
		55-60'	4.57

Refer to footnotes at end of table

Well ID	Date	Depth	DO mg/L
MW-1	8/2/2005	N/A	5.00
	8/24/2005[a]	65	3.27
	8/24/2005[a]	75	3.11
	8/24/2005a	85	3.33
	2/16/2006[a]	90-100'	6.16
	2/22/2006	90-100'	0.12
		80-90'	4.34
		70-80'	4.34
		60-70'	4.47
		55-60'	6.29
	3/28/2009	80-90'	5.28
		70-80'	5.29
		60-70'	5.33
	4/5/2006[a]	61'	6.62
	4/14/2006	80-90'	4.71
		70-80'	4.73
		60-70'	4.78
	4/18/2006	80-90'	5.12
		70-80'	5.16
		60-70'	5.19
	4/20/2006	80-90'	4.29
		70-80'	4.34
		60-70'	4.35
	6/1/2006		11.04
	6/8/2006	80-90'	5.16
		70-80'	5.14
		60-70'	5.16
	6/16/2006	63'	4.49
		90-100'	0.06
		80-90'	4.39
		70-80'	4.39
		60-70'	4.53
	6/28/2006	90-100'	4.60
		80-90'	4.64
		70-80'	4.64
		60-70'	4.95
		62'	5.43

Table 3
Dissolved Oxygen Analysis Results
Veguita Groundwater Denitrification Demonstration Project
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Well ID	Date	Depth	DO mg/L
OW-2 cont.			
	6/1/2006[a]		3.92[+]
	6/8/2006		1.94[+]
	6/8/2006	70-80'	4.24
		60-70'	3.11
		55-60'	1.79
	6/16/2006	62'	1.14[+]
		90-100'	0.11
		80-90'	2.43
		70-80'	1.56
		60-70'	0.47
	6/28/2006	90-100'	0.05
		80-90'	0.04
		70-80'	0.05
		60-70'	0.06
		50-60'	0.12
		63'	2.52[+]
	7/7/2006	70-80'	>1.0
		60-70'	>1.0

Well ID	Date	Depth	DO mg/L
MW-2R	8/2/2005	N/A	5.35
	8/15/2005	N/A	3.41
	4/5/2006[a]	49	1.35
MW-3	8/15/2005	N/A	4.34
	4/5/2006a	40.5	5.14
MW-4	8/15/2005	N/A	5.43
	4/5/2006a	57-50'	7.06

Footnotes: a = sample collected by low-flow sampling; all other data collected in-situ
* measurements obtained from pressure tank inside shed.
** measurements obtained form sample port at well.
range of values obtained from Chemetrics fieldscreen kit
[+] measurements obtained from YSI 556, all others from YSI 550A

Table 4
EISB Equipment List
Veguita Groundwater Denitrification Demonstration Project

Wells	Tanks	Pumps	Gauges	Miscellaneous
4, 2-Inch Diameter Monitoring Wells	1 large well pressure tank	3 surface mounted transfer pumps	8 Dwyer Instantaneous Flow Meters	1, 12 X 12 shed
2, 2-Inch Diameter Observation Wells	1 small pressure tank	1 electrical submersible pump	11 Totalizing Flow Meters	PVC Piping (various diameters)
10, 4-Inch Diameter Injection Wells	1 – 1,100 gallon poly tank			3 liquid mixers
3 Test Wells (1, 6-Inch Diameter, 2, 4-Inch Diameter	1 – 450 gallon poly tank			Valves (various sizes)
	1 – 500 gallon poly tank			

Table 5
Flow Meter Readings
Veguita Groundwater Denitrification Demonstration Project

		1" Hays 8-MT Flow Meters				3/4" Hays 6-MT Flow Meters								
	OSE Well #	RG-86495 POD1	RG-86495 POD12	RG-86495 POD2	RG-86495 POD11	RG-86495 POD4	RG-86495 POD3	RG-86495 POD10	RG-86495 POD9	RG-86495 POD8	RG-86495 POD7	RG-86495 POD6	RG-86495 POD5	
	KA Well # ->	TW-1	TW-3	TW-2	IW-9	IW-2	IW-1	IW-8	IW-7	IW-6	IW-5	IW-4	IW-3	
	Meter # ->	32003574		32062522	31812804	31860199	26495505	26495489	31860202	26495494	26495506	31829298	31829127	
Date	Time:	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	Comments
2/16/2006	9:30	86	New well, pump installed 4/11/06.	1,767	116	45	36	61	40	41	52	50	52	Initial readings begin Molasses mixing.
2/17/2006	0:07	86		20,578	116	1,989	2,116	2,424	1,822	2,585	2,344	2,454	2,654	Continue Molasses injection.
2/17/2006	19:55	86		38,212	116	4,964	5,251	4,227	3,156	5,205	4,447	5,080	4,544	End Molasses, start Flush
2/18/2006	13:05	86		50,815	116	8,117	7,858	6,355	3,156	7,839	4,447	7,254	4,544	End flush, re-start Molasses
2/18/2006	18:07	86		52,785	116	8,117	7,858	6,742	3,533	7,839	5,124	7,254	5,163	End Molasses, start short Flush
2/18/2006	19:37	76		54,959	116	8,117	7,858	6,910	3,612	8,254	5,856	7,254	5,926	End flush, re-start Molasses injection
2/19/2006	9:15	86		54,959	116	8,117	7,858	6,910	4,192	8,254	5,856	NR	5,926	End Molasses, Begin Flushing
2/20/2006	14:30	86		100,660	116	NR	NR	12,978	5,421	12,318	16,510	12,143	16,434	Continue Flushing, attempt to balance wells
2/21/2006	16:30	86		141,969	116	18,546	18,606	18,055	8,339	17,894	20,361	18,770	20,483	Flush/Balance Continues
2/22/2006	9:50	86		157,862	116	20,657	20,847	20,685	10,641	22,327	20,361	20,897	20,483	
2/22/2006	13:45	86		160,472	116	NR	NR	21,555	11,615	23,050	NR	NR	NR	
2/22/2006	15:30	86		161,422	116	NR	NR	21,987	12,113	NR	NR	NR	NR	End flushing. Clean/flush mixing tanks
2/22/2006	17:15	86		162,877	116	NR	NR	NR	NR	NR	NR	NR	NR	Pump off. Tanks 1, 2 & 3 clean.
3/2/2006	10:16	86		162,877	116	20,668	20,868	21,998	12,124	23,050	20,361	20,915	20,484	
3/3/2006	12:00	936		NR	224	NR	NR	NR	NR	NR	NR	NR	NR	Purge TW-1 to sample, flush Tank 4
3/7/2006	10:35	936		162,877	224	NR	NR	NR	NR	NR	NR	NR	NR	Begin Pumping Phase from TW-1.
3/7/2006	17:30	1,607		NR	732	NR	NR	NR	NR	NR	NR	NR	NR	
3/8/2006	13:41	9,657		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
3/10/2006	13:30	28,212		NR	24,558	NR	NR	NR	NR	NR	NR	NR	NR	
3/13/2006	7:45	53,240		NR	48,977	NR	NR	NR	NR	NR	NR	NR	NR	Continue Pumping Phase from TW-1
3/15/2006	7:30	70,861		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
3/15/2006	10:30	72,516		NR	66,755	NR	NR	NR	NR	NR	NR	NR	NR	
3/15/2006	12:50	73,468		NR	66,901	NR	NR	NR	NR	NR	NR	NR	NR	
3/18/2006	13:45	105,369		NR	98,651	NR	NR	NR	NR	NR	NR	NR	NR	
3/18/2006	14:16	105,528		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Increase TW-1 pumping rate to ~ 15 gpm
3/18/2006	14:57	106,144		162,877	99,435	NR	NR	NR	NR	NR	NR	NR	NR	
3/21/2006	13:10	169,882		NR	164,954	NR	NR	NR	NR	NR	NR	NR	NR	
3/24/2006	11:00	239,744		NR	238,821	NR	NR	NR	NR	NR	NR	NR	NR	Increase TW-1 pumping rate to ~ 29 gpm
3/28/2006	9:00	404,946		NR	405,145	NR	NR	NR	NR	NR	NR	NR	NR	Well likely off at 9:00 due to overflow of IW9
3/30/2006	8:45	449,101		NR	450,351	NR	NR	NR	NR	NR	NR	NR	NR	Well off at 8:45 due to overflow of IW9
3/31/2006	10:00	449,135		NR	450,386	NR	NR	NR	NR	NR	NR	NR	NR	TW-1/IW-9 flow only for screening
4/5/2006	16:29	449,135		NR	450,386	NR	NR	NR	NR	NR	NR	NR	NR	Restart TW-1/IW-9, purge to sample.
4/6/2006	17:10	473,280		162,877	470,569	20,669	20,859	21,988	12,114	23,050	20,361	20,915	20,484	TW-1 off after sampling.
4/11/2006	15:20	473,334		NR	470,596	NR	NR	NR	NR	NR	NR	NR	NR	Flow TW-1 just to test piping
4/11/2006	18:50	473,340	473,340			NR	NR	NR	NR	NR	NR	NR	NR	Begin Recording TW-3 on meter # 32003574
4/14/2006	14:11		511,032	NR	506,182	NR	NR	NR	NR	NR	NR	NR	NR	Flow now from TW-3.
4/18/2006	11:30		554,108	NR	547,165	NR	NR	NR	NR	NR	NR	NR	NR	
4/20/2006	11:30		574,730	NR	566,700	NR	NR	NR	NR	NR	NR	NR	NR	
4/20/2006	14:30		575,974	NR	567,876	NR	NR	NR	NR	NR	NR	NR	NR	
4/28/2006	8:33		662,470	NR	651,435	NR	NR	NR	NR	NR	NR	NR	NR	
4/28/2006	12:15		662,664	NR	651,580	NR	NR	NR	NR	NR	NR	NR	NR	
4/28/2006	13:15		663,040	NR	651,867	NR	NR	NR	NR	NR	NR	NR	NR	
5/3/2006	10:55		714,471	NR	692,505	NR	NR	NR	NR	NR	NR	NR	NR	
5/3/2006	15:05		714,648	NR	692,686	NR	NR	NR	NR	NR	NR	NR	NR	
5/8/2006	12:00		724,702	162,877	711,597	20,662	20,868	21,997	12,124	23,050	20,361	20,915	20,484	began injection to IW 1-9
5/8/2006	15:38		724,968	162,877	711,598	20,856	21,068	22,218	12,367	23,175	20,518	21,049	20,692	TW 1 gauge not spinning (TW-3)
5/10/2006	10:40		742,511			22,371	22,623	24,065	14,129	25,277	22,558	24,150	23,582	IW-4 shut off due to excessive leaking
5/11/2006	**9:15**		**750,346**			**23,612**	**23,852**	**25,080**	**15,414**	**27,488**	**24,305**	**24,150**	**25,870**	**began mollasses injection**
5/11/2006	17:30		754,726			24,132	24,408					24,703	26,455	
5/12/2006	10:40		756,268			24,198	24,475					24,777	26,533	
5/12/2006	17:00		760,113			24,877	25,312					25,825	27,335	ended injection of IW 1-4
5/13/2006	8:20		760,359			24,960	25,425	25,090	15,414	27,488	24,395	25,912	27,418	began injection to IW 5-8
5/13/2006	19:30		765,571			25,012	25,566	26,121	16,663	29,388	25,938	26,030	27,543	ended injection of IW 5-8
5/15/2006	17:10		767,121					26,164	16,711	29,480	26,017			
5/15/2006	19:00		767,191					26,405	16,883	29,866	26,076			
5/16/2006	10:05		767,395					26,469	16,924	29,947	26,103			
5/16/2006	**13:55**		**768,299**			**25,280**	**25,833**					**26,298**	**27,788**	
5/17/2006	11:25		769,161			25,701	26,394					26,612	28,479	
5/17/2006	**18:50**		**774,166**			**26,349**	**27,268**					**26,930**	**29,296**	
5/18/2006	10:35		774,166					26,469	16,924	29,947	26,103			
5/18/2006	**13:05**		**775,754**					**26,803**	**17,279**	**30,455**	**26,319**			
5/24/2006	**17:57**		**775,765**	**162,877**	**711,291**	**26,349**	**27,268**	**26,803**	**17,289**	**30,456**	**26,310**	**26,940**	**29,296**	
6/1/2006	16:00		906,469	162,887	711,291	26,369	27,267	44,320	38,799	42,315	40,853	26,944	29,206	dials not spinning on IW 5-8
6/4/2006	11:00		909,564					44,400	38,842	42,387	40,885			
6/5/2006	16:20		935,260			26,418	27,304	46,100	43,605	47,286	40,917	26,955	29,231	
6/9/2006	14:35		967,198		711,591	27,200	28,427	48,541	43,798	48,870	48,472	26,968	30,245	
6/16/2006	14:50		1,050,563			33,237	38,030	52,259	45,038	61,385	48,472	26,968	44,244	
7/17/2006	17:30		1,052,022		711,796	33,240	38,031	52,259	45,049	61,914	48,472	27,134	44,268	

Notes: NR - Not Recorded

IW-2 Shaded Columns Denote Injection Wells within EISB injection ring.

Blank Cells = Not Measured

Table 6
Actual Costs

Capital Costs		
Item Description	**Amount**	**Comments**
Injection/Extraction Wells	$66,000	Includes: • 9 injection wells to 100 ft • 2 extraction wells to 100 ft
Treatment System	$31,000	Includes: • Underground conveyance PVC piping • 4 plastic tanks • Mixers • Submersible and surface mounted transfer pumps • Electrical
Total	**$85,000**	
Engineering		
Permitting and Design	$66,000	Includes: • Construction drawings and specification • Office of the State Engineer Permit • Temporary permission to discharge from NMED
Construction Oversight	$25,000	
Total	**$91,000**	
Operations – Molasses Injection		
Molasses	$4,900	Total for 5,000 gallons and set up; Approximately 2,000 gallons were used
Labor & ODCs 1st event	$21,000	Injection occurred from February 16 to February 22, 2006; 1,150 gallons of molasses injected
Labor & ODCs 2nd event	$4,900	Injection occurred from May 16 to May 18, 2006; 870 gallons of molasses injected
Total	**$30,800**	Total cost of molasses injected = $15.40 per gallon
Operations – Pumping/Monitoring		
Labor	$66,000	Includes travel, data collection, and permit reporting

Table 6 (continued)
Actual Costs

Power	$400	
Analysis	$2,600	Includes field screening for NO3
Equipment/Vehicle Rental	$10,200	Includes: • Water level meters • Specific conductance, pH, DO, Temp meter
Total	**$79,200**	
Grand Total	**$286,000**	Total groundwater produced = 1,052,000 gallons over 26 week period (average = 4 gpm)

APPENDIX A

Access Agreements and Property Owner Correspondence

KLEINFELDER
An employee owned company

September 13, 2006
File No.: 58326.NB-ALB06LT004

Mr. Bart Faris
Ground Water Quality Bureau
New Mexico Environment Department
5500 San Antonio Dr. NE
Albuquerque, NM 87109

SUBJECT: VEGUITA GROUNDWATER DENITRIFICATION DEMONSTRATION PROJECT MONITORING WELLS TO BE LEFT IN PLACE

Dear Mr. Faris:

The Veguita Project field activities have been completed. Kleinfelder is arranging for site demobilization activities including plugging of wells that will not be retained for later use. You have indicated that the New Mexico Environment Department (NMED) Ground Water Quality Bureau would like to keep several monitor wells constructed for this project intact and functional for continuing use for monitoring ground water levels and quality sampling. Specifically, you would like Kleinfelder to leave in place and *not* abandon:

- Monitoring wells MW-01 and OW-2 on the Martinez property and
- Monitoring wells MW-2, 3, and 4 on other properties in the Abo Valley Subdivision.

In order to document your wishes concerning the disposition of these monitoring wells, *please sign and return one copy of this letter to indicate your agreement with these dispositions.*

All wells other will be plugged and abandoned in accordance with the requirements of the Office of the State Engineer. These include IW-01 through IW-09, TW-02, and OW-01R.

Transfer of Responsibility

You will be notified in writing when Kleinfelder has completed site demobilization activities. On the date of that notification, ownership and responsibility for subsequent use of the above-listed monitoring wells will transfer to NMED.

KLEINFELDER 8300 Jefferson NE, Suite B, Albuquerque, NM 87113 (505) 344-7373 (505) 344-1711 fax

Any agreements for access to these monitoring wells after the date of notification will be between the property owners and NMED; Kleinfelder will have no authority or role in such agreements.

If you agree to these actions and dispositions, please sign below, keep one copy and return a copy to us. Thank you for your cooperation.

Respectfully submitted,
KLEINFELDER, INC.

Joe A. Galemore, P.G.
Senior Project Manager

Approved and accepted:

for New Mexico Environment Dept.

Date: 9-13-06

CC: Jim Chaisson

KLEINFELDER 8300 Jefferson NE, Suite B, Albuquerque, NM 87113 (505) 344-7373 (505) 344-1711 fax

KLEINFELDER
An employee owned company

September 13, 2006
File No.: 58326.NB-ALB06LT005

Pablo Martinez
313 Clark Road SW
Albuquerque, NM 87105

SUBJECT: VEGUITA GROUNDWATER DENITRIFICATION DEMONSTRATION PROJECT FACILITIES TO BE LEFT IN PLACE

Dear Mr. Martinez:

Thank you again for your support of the denitrification demonstration project referenced above that was conducted on your property. Kleinfelder is arranging for site demobilization activities including plugging of wells that you do not wish to retain for later use, removal of surface facilities except the electric poles and power drop, and general clean-up of project debris.

In order to document your wishes concerning the disposition of project facilities on your property, we have listed below the facilities and equipment that will be left in place for your use, the facilities to be retained for use by the New Mexico Environment Department (NMED) Ground Water Quality Bureau for periodic sampling and monitoring, and the faculties and equipment to be removed from the site. *Please sign and return one copy of this letter to indicate your agreement with these dispositions.* A stamped and addressed envelope is included for your convenience in returning the signed copy.

Property to be left in place for your future use:

- Well TW-01, with a lockable cap. No pump will be left in the well.
- The power poles and electric wire (electrical drop) installed for this project from the transmission line to your property. However, electrical service will be shut off and Kleinfelder's account with Socorro Electric will be closed.

Property to be left in place for NMED use:

- Monitor wells MW-01 and OW-2

Property to be abandoned in place:

All wells other than TW-01, MW-01 and OW-2, to be plugged and abandoned in accordance with the requirements of the Office of the State Engineer. These include IW-

KLEINFELDER 8300 Jefferson NE, Suite B, Albuquerque, NM 87113 (505) 344-7373 (505) 344-1711 fax

01 through IW-09, TW-02, and OW-01R. Plugging and abandonment consists of filling the wells with a cement/bentonite grout and cutting the well to a depth of approximately 3 feet below grade.

Transfer of Responsibility

You will be notified in writing when Kleinfelder has completed site demobilization activities. On the date of that notification, ownership and responsibility for subsequent use of well TW-01 and the electrical drop will transfer to you. You will be responsible for obtaining a permit for TW-01 if you choose to pump water from this well.

Any agreements for access by NMED to monitor wells MW-01 and OW-2 after the date of notification will be between yourself and NMED; Kleinfelder will have no authority or role in such agreement.

Disposition of Other Project Property and Equipment

All other property and equipment used on this project is owned by either Kleinfelder or the State of New Mexico and will be removed, including the pump in TW-03, pitless adapters, shed, tanks, valves, meters and other plumbing control devices. Below-ground piping will be left in place, and any piping that is above ground will be cut to about a foot below grade and capped.

If you agree to these actions and dispositions, please sign below, keep one copy and sign and return a copy to us. Thank you for your cooperation.

Respectfully submitted,
KLEINFELDER, INC.

Joe A. Galemore, P.G.
Senior Project Manager

Approved and accepted:

Pablo Martinez

Date: 9/13/06

CC: Jim Chaisson
Enclosure

KLEINFELDER 8300 Jefferson NE, Suite B, Albuquerque, NM 87113 (505) 344-7373 (505) 344-1711 fax

Proj. # 58326
Property Access Agt.

USO DE LA SUPERFICIE Y EL DAÑO ACUERDO

Este Acuerdo se hace y es entrado en entre **Jose y Maria Morales**, de **P.O. Box 531, Veguita, NM 87062**, "(DUEÑO)" y Kleinfelder, S.a., de 8300 Jefferson Blvd. NE, la Serie B, Albuquerque, Nuevo México 87113 ("INGENIERO").

RECITACIONES

Jose y Maria Morales ("DUEÑO") por este medio concede Kleinfelder, S.a.. y subcontratista(s) (colectivamente "INGENIERO") el permiso para entrar en el TERRENO que será el lugar de la instalación de uno o más aljibe monitorealdo. El TERRENO sido conoció y designó de **Lot 24; Abo Valley Unit 4**, en el Mapa Impuesto de Condado de Socorro. El permiso para el acceso a el TERRENO por el INGENIERO será para un período de 18 meses de la fecha efectivo de este acuerdo.

PROPÓSITO

El INGENIERO y el DUEÑO del TERRENO entran en este Acuerdo para que INGENIERO puede entrar en el Luagar para realizar los servicios como requerido por el Departmento de Finanzas y Administración (DFA) del Estado de Nuevo Mexico bajo el Contrato de Servicios Profesionales Numero 05-341-1000-0039 firmado en el 2/02/05. El INGENIERO está de acuerdo actuar conforme con todos estatutos aplicables y las regulas en conducido tales actividades.

COMPROMISOS DE INGENIERO

En de vuelta para concedido INGENIERO el acceso a el TERRENO para los servicios realizará, el INGENIERO esta de acuerdo a lo siguiente:

a. INGENIERO dará el DUEÑO del TERRENO (y el inquilino [es decir, ocupante actual del TERRENO si diferente del DUEÑO del TERRENO]) aviso razonable antes de iniciado en-lugar actividades algunas.
b. El INGENIERO realizará, a el grado mayor practicable, estas actividades en un modo que minimiza interferencia con alguno en curso responsabilidades u otro dia a dia uso del DUEÑO de el TERRENO. Si el INGENIERO determina que alguno actividad puede afecta con el DUEÑO del TERRENO o manejo del inquilino, INGENIERO notificará primero y consultará con el DUEÑO del TERRENO y el inquilino antes de inciado alguno servicios. El DUEÑO del TERRENO y el inquilino tendrán oportunidad de ser el presente par actividad alguna en-lugar.
c. El INGENIERO esta de acuerdo, cuando practicable, devolver el TERRENO a la condición que existió antes el uso o el ocupación del INGENIERO del TERRENO.
d. Si INGENIERO determina que alguno aljibe montará es no necesitará para el alcance de la trabaja bajo el antes mencionado contracto con DFA, el INGENIERO quitará alguno bombas de agua y tubería de aguade el aljibe,

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despues cerrará apropiado y sellará el aljibe si el DUEÑO solicitará. El DUEÑO puede escoja tener el aljibe dejó en lugar para el uso del DUEÑO, y en este caso el aljibe hará el propiedad del DUEÑO y el DUEÑO asumirá todo responsabilidad asoció con el uso de aljibe.

e. INGENIERO no perturbará, se interpondra con, llenará, o obstruirá alguno arroyo, embalse, fuente, otro aljibe, o otro nacimiento de agua en la tierra de DUEÑO.

INDEMNIZACIÓN

El acuerdo de los Partidos para indemnizar uno al otro, como el conjunto adelante en este párrafo, no aplicará a cualquiera reclama, las acciones o los daños que pueden surgir fuera de, sean ocasionará por, o por el resultado de ninguna condición que existe en, o que existieron en, el TERRENO en el tiempo de la ejecución de este acuerdo, o en tiempo antes de la ejecución de este Acuerdo o eso fue causado por El DUEÑO de PROPIEDAD o inquilino.

Indemnización. A la extensión máxima permitida por la ley, cualquiera de los dos Partido indemnizará el otro, y si aplicable, sus oficiales, los directores, los empleados, los agentes, los sucesores y asigna, y tiene inocuo de cualquier y todo reclama, las obligaciones, las demandas, los juicios, las pérdidas, los daños y los costos (inclusive cualquier honorarios razonables de abogado), hasta el punto para surgir fuera de o relacionado a actividades en el TERRENO de DUEÑO (incluyendo, sin la limitación, cualquiera reclama que las operaciones de Ingeniero a continuación son o ilegal, no autorizado, o Constituya una interferencia impropia con cualquier partidos derechos, o haya dañado las tierras o las operaciones de hacendados adyacentes).

Las infracciones por Terceros Partidos. Nada contenido en este Acuerdo se interpretará para permitir DUEÑO para traer cualquier acción contra INGENIERO para cualquier herida o el cambio en el TERRENO causada por terceros partidos, resultando de causas más allá del control de INGENIERO, o de cualquier acción prudente aceptó de buena fe por el INGENIERO bajo condiciones de emergencia para prevenir, disminuir, o para mitigar la herida significativa a la vida, el daño a el TERRENO o el daño a el TERRENO.

El GENERAL CONDICIONA

1. La Tierra. El DUEÑO tiene los intereses en y posee la superficie del siguiente TERRENO situado descrito en:

Subdivisión Abo Valley Unit 4 Numero del Terreno 24

el
Municipio N/A la Gama _____ la sección _____

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el Condado Socorro el Estado New Mexico

Este Acuerdo cubre las actividades de INGENIERO en y en el acceso a través de el TERRENO encima de-descrito sólo. El DUEÑO justifica y representa al INGENIERO que al mejor de su conocimiento: (i) el TERRENO descrita en esto es ahora y siempre continuará de ahora en adelante ser mantenido en la conformidad repleta con todo federal, el estado y las leyes y las regulaciones ambientales locales, e (ii) al la fecha de esto no hay las materias peligrosas, las sustancias, los desechos, ni sustancias ambientalmente reguladas (incluyendo, sin la limitación, ninguna materia que contiene asbesto, el petróleo, o ninguna sustancia o el ingrediente tóxicos), de otra manera que la contaminación del nitrato, localizado en, en o bajo el TERRENO o para ser utilizado en la conexión con eso, y eso no hay condición ambiental que existe en el TERRENO que puede prohibir o puede estorbar el uso de el TERRENO para los propósitos expuso arriba.

2. Los Derechos Superficiales Sólo. A pesar de cualquier otra provisión de este Acuerdo, los derechos otorgaron para INGENIERO a continuación será limitado a operaciones relacionada a la perforación, la instalación, y probando del aljibe y la construcción y la operación de un sistema del refuerzo.

3. Derecho de Manera. El INGENIERO de becas de DUEÑO, sus empleados y agentes designados, un derecho de la manera privado entrar sobre y para utilizar el TERRENO encima de-descrito para el propósito de completar sus servicios al Estado de nuevo méxico.

4. La Notificación y la Consulta. El INGENIERO notificará DUEÑO y a inquilino antes de la entrada sobre el TERRENO de DUEÑO y consultará con DUEÑO en cuanto a la ubicación de cada aljibe, u otra facilidad para ser colocada en el TERRENO de DUEÑO. A la extensión máxima posible, el INGENIERO utilizará los caminos existentes en el TERRENO de DUEÑO para sus operaciones, y si la construcción de un camino nuevo se requiere, INGENIERO consultará con DUEÑO, y tal consulta siguiente localiza el camino nuevo en una manera para causar lo menos interferencia con operaciones de DUEÑO en el TERRENO afectada.

5. La Terminación de Derechos. Los derechos otorgados por DUEÑO para INGENIERO terminará cuándo INGENIERO deja sus operaciones en el TERRENO, sobre la notificación de INGENIERO al DUEÑO de la intención de INGENIERO de dejar las operaciones, o si DUEÑO tan elige, sobre una infracción de este Acuerdo por INGENIERO, el que ocurrirá primero. Sobre la terminación de este Acuerdo, el INGENIERO ejecutará y entregará al DUEÑO una liberación de recordable y rendición buena y suficiente de todos derechos de INGENIERO bajo este Acuerdo, y quitará inmediatamente todo equipo y el TERRENO utilizado o colocado por INGENIERO en el TERRENO de DUEÑO a menos que de otro modo concordado a por el DUEÑO en la escritura.

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6. Derechos de Inexclusiva. Los derechos otorgados por DUEÑO para INGENIERO son inexclusiva, y el DUEÑO reservan el derecho de utilizar todos caminos del acceso y toda superficie y los usos subterráneos de el TERRENO afectada por este Acuerdo y el derecho de otorgar servidumbres sucesivas sobre eso o a través de en tales términos y condicionan como DUEÑO cree necesario o conveniente.

7. Pagos. El DUEÑO concuerda que ese INGENIERO no será responsable de ningún pago a cambio de los derechos otorgados bajo este Acuerdo.

8. Restauración de Superficie. A menos que DUEÑO de otro modo concuerde en la escritura, sobre la terminación de cualquiera de operaciones de INGENIERO en el TERRENO de DUEÑO, el INGENIERO será responsable de restaurar la superficie de la tierra de el TERRENO a la condición funcional que existió antes el trabajo de INGENIERO en el TERRENO empezó. . Todo tal restauración se realizará en conformidad con todo federal, el estado, y las leyes y las regulaciones locales. El INGENIERO restaurará y nivelará la superficie de la tierra afectada por tales operaciones terminadas como cerca de como posible a los contornos que existieron antes de tales operaciones. El INGENIERO restaurará todas áreas perturbadas causadas por las operaciones del INGENIERO dentro de seis (6) meses después que la terminación de actividades a menos que tiempo inclemente prevendrá tal rehabilitación y la restauración dentro de ese período de tiempo.

9. Ubicaciones. Todo los alijebes sitio y ubicaciones de equipo de refuerzo serán susceptibles consentir de DUEÑO. Ninguna envoltura ni morar la unidad ni otro edificio permanente se construirán ni serán colocados en el TERRENO de DUEÑO por INGENIERO. El INGENIERO proporcionará a DUEÑO con una parcela que muestra la longitud y la ubicación de todo, albijes inmediatamente después de su instalación.

10. Operaciones. El INGENIERO irá mantiene siempre los aljibes sitios, el recinto del equipo, y los derechos de la manera del camino seguros y en la orden buena. INGENIERO no permitirá la liberación ni la descarga de ninguna sustancia química ni desechos tóxicos ni peligrosos en el TERRENO de DUEÑO. El INGENIERO quitará sólo la cantidad mínima de vegetación necesaria para la instalación del aljibe y el equipo de proyecto de demostración. Ninguna construcción ni las actividades rutinarias de la conservación se realizarán durante períodos cuando la tierra es demasiado mojó para sostener adecuadamente el equipo de la construcción. El DUEÑO será notificado antes de probar del aljibe y midiendo y el DUEÑO o sus agentes o los representantes tendrán el derecho de ser el presente durante tal probando y medición. El DUEÑO puede verificar los resultados de estas pruebas y medidas, en DUEÑO único costo.

14. Cercas. El INGENIERO puede instalar o puede construir las cercas acciones-apretados o cercos convenientes alrededor de alguna área peligrosa, inclusive cualquiera oponen donde INGENIERO taladra los aljibes.

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15. Nota. La nota puede ser dada a cualquier partido a este Acuerdo depositando el mismo en los Estados Unidos envía el franqueo prepagado, debidamente dirigido al otro partido en el conjunto de la dirección fuera debajo de la firma del partido en este Acuerdo. Tal nota se creerá entregó cuando depositado en los Estados Unidos envía.

16. Persona designada de Contacto. El INGENIERO y el DUEÑO hacen cada de vez en cuando designa a un individuo, con apropiado teléfono y números de fax de horas 24, que deberá ser la persona primaria del contacto para discusiones y decisiones con respecto a asuntos relacionó a este Acuerdo.

17. La construcción del Acuerdo. Este Acuerdo se interpretará bajo las leyes del Estado de Nuevo México.

18. No-Asignar. Ni el Partido asignará el Acuerdo a cualquier otra entidad o en total o en parte, a menos que el otro Partido consentirá en la escritura a tal tarea.

19. Efecto Obligatorio. Este Acuerdo ata sobre los sucesores y asigna de ambos Partidos. Este Acuerdo, inclusive cualquier Fijación (fijaciones), representa el acuerdo entero entre los partidos con respecto al acceso del sitio para el INGENIERO, y desbanca todo antes de negociaciones de acceso, antes de las representaciones, o antes de los acuerdos, o escrito u oral entre los partidos a menos que de otro modo exprese indicado.

20. Modificaciones. Cualquier modificación a este Acuerdo estará en la escritura a menos que INGENIERO, en su única discreción, determinará las circunstancias permiten de otro modo. Dónde cualquier modificación de concordado-sobre es verbal, el INGENIERO documentará la modificación, en la escritura, firmas tan pronto como practicables y seguras por ambos partidos.

21. Ninguna Renuncia. La aplicación de este Acuerdo será a voluntad del DUEÑO, y de ninguna tolerancia por DUEÑO de ejercitar sus derechos a continuación en caso de ninguna infracción de cualquier conjunto del término adelante en esto no serán creídos ni serán interpretados para ser una renuncia por INGENIERO de tal término ni de ninguna infracción subsiguiente del mismo ni cualquier otro término de este Acuerdo ni de derechos de INGENIERO. Ninguna demora ni la omisión por DUEÑO en el ejercicio de correcto ni el remedio dañará tal correcto ni el remedio ni es interpretado como una renuncia.

22. Los Gravámenes subsiguientes en el TERRENO. Ningunas provisiones de este Acuerdo se interpretarán dañando como la habilidad de DUEÑO para utilizar el TERRENO para la garantía colateral para pedir prestado propósitos, con tal de que cualquier hipoteca o el gravamen que surjan de allí y registrados antes de y antes de posterior al recordation de este Acuerdo se hará subordinado a este Acuerdo.

23. Disputas. Los partidos concuerdan en resolverse cualquiera disputa primero negociando en de buena fe. Si esto falla, entonces ambos Partidos concuerdan en procurar resolverse el reclamo o la disputa por mediación de acuerdo con las Reglas de Mediación

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de Industria de Construcción de AAA entonces vigente dentro de cuarenta y cinco (45) días del servicio de nota escrita.

DUEÑO

Nombre (firma) de Jose Morales

Nombre (impresión) de JOSE MORALES

Título de _____

Fechó: 7-9-05

INGENIERO

Nombre (firma) de Joe A. Galemore

Nombre (impresión) de Joe A. Galemore

Título de Project Manager

Fechó: 7-9-05

As amended per Amendment 1 JAG 7-9-05

L.M. 7-9-05

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Amendment 1 5Aa

SURFACE USE AND DAMAGE AGREEMENT
Addendum

a. PROPERTY OWNER may choose to have the well left in place for the PROPERTY OWNER's use, and in this case:
   - The well shall become the property of the PROPERTY OWNER,
   - The PROPERTY OWNER shall assume all liability associated with its use,
   - The PROPERTY OWNER shall register the well with the Office of the State Engineer,
   - The PROPERTY OWNER shall ascertain and secure his water right related to use of the well.
   - ENGINEER provides no assurance to PROPERTY OWNER concerning water rights or water quality related to the use of the well.

Joe A. Golen 7-9-05

L.M. 7-9-05

58326 Access Agreement

SURFACE USE AND DAMAGE AGREEMENT

This Agreement is made and entered into between **Pablo and Anna Martinez** of **313 Clark Road SW, Albuquerque, NM 87105** ("PROPERTY OWNER") and **Kleinfelder, Inc,** of 8300 Jefferson Blvd NE, Suite B, Albuquerque, New Mexico 87113 ("ENGINEER").

RECITALS

Mr. Pablo Martinez ("PROPERTY OWNER") hereby grants Kleinfelder, Inc. and subcontractor(s) (collectively "ENGINEER") permission to enter upon the PROPERTY that will be the location of the installation of one or more monitoring wells, and that may also be the location of 1) the installation of recovery and injection wells; 2) tanks, pipes, pumps, and related temporary facilities; 3) testing of these wells, and 4) operation of a groundwater denitrification demonstration system. The PROPERTY is known and designated as **Lot 17; Tres Lagunitas**, on the Tax Map of Socorro County. Permission for access to the PROPERTY by the ENGINEER will be for a period of 18 months from the effective date of this agreement.

PURPOSE

ENGINEER and the PROPERTY OWNER are entering into this Agreement so that ENGINEER may enter upon the Site to perform services as required by the Department of Finance and Administration (DFA) of the State of New Mexico under the Professional Services Contract No. 05-341-1000-0039 signed on 2/02/05. ENGINEER agrees to act in accordance with all applicable statutes and regulations in conducting such activities.

ENGINEER'S COMMITMENTS

In return for granting ENGINEER access to the PROPERTY for the services to be performed, ENGINEER agrees to the following:

a. ENGINEER will give the PROPERTY OWNER (and tenant [i.e., current occupant of PROPERTY if different from PROPERTY OWNER]) reasonable notice before commencing any on-site activities.
b. ENGINEER will, to the greatest practicable extent, perform these activities in a way that minimizes interference with any ongoing business or other day to day use by the PROPERTY OWNER. If ENGINEER determines that any activity may interfere with the PROPERTY OWNER's or tenant's operations, ENGINEER will first notify and consult with the PROPERTY OWNER and tenant before commencing any services. The PROPERTY OWNER and tenant will have the opportunity to be present for any on-site activity.
c. ENGINEER agrees, as practicable, to return the PROPERTY to the general condition that existed before ENGINEER's use or occupancy of the PROPERTY.
d. If ENGINEER determines that any well installed is no longer needed for the scope of work under the aforementioned contract with DFA, ENGINEER shall remove any pump and pipe from the well, then properly close and seal the well. Alternatively, the

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PROPERTY OWNER may choose to have the well left in place for the PROPERTY OWNER's use, and in this case:

- The well shall become the property of the PROPERTY OWNER,
- The PROPERTY OWNER shall assume all liability associated with its use,
- The PROPERTY OWNER shall register the well with the Office of the State Engineer,
- The PROPERTY OWNER shall ascertain and secure his water right related to use of the well.
- ENGINEER provides no assurance to PROPERTY OWNER concerning water rights or water quality related to the use of the well.

e. ENGINEER shall not disturb, interfere with, fill, or block any creek, reservoir, spring, previously installed well, or other source of water on PROPERTY OWNER's land.

f. If ENGINEER determines that modifications made to the property (e.g., placement of utility poles and fencing) for the purpose of drilling wells or operating the groundwater denitrification system are no longer needed for the scope of work under the aforementioned contract with DFA, ENGINEER shall remove such modification and repair the property to its original condition. Alternatively, the PROPERTY OWNER may choose to have the modification left in place for the PROPERTY OWNER's use, and in this case the modification shall become the property of the PROPERTY OWNER and the PROPERTY OWNER will assume all liability associated with its existence and use.

INDEMNIFICATION

The agreement of the Parties to indemnify each other, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by, or result from any condition existing on, or which did exist on, the PROPERTY at the time of the execution of this agreement, or at any time prior to the execution of this Agreement or that was caused by the PROPERTY OWNER or tenant.

Indemnification. To the maximum extent permitted by law, each Party will indemnify the other, and if applicable, its officers, directors, employees, agents, successors and assigns, and hold harmless from any and all claims, liabilities, demands, suits, losses, damages and costs (including any reasonable attorney fees), to the extent arising out of or related to activities on the PROPERTY (including, without limitation, any claims that Engineer's operations hereunder are either illegal, unauthorized, or constitute an improper interference with any parties' rights, or have damaged the lands or operations of adjacent landowners). Acceptance by PROPERTY OWNER of any and all materials, construction, installation, or design (collectively called WORK PRODUCT) provided by ENGINEER and left in place for use by PROPERTY OWNER shall release ENGINEER from any subsequent responsibility for the WORK PRODUCT and such use shall be at PROPERTY OWNER's risk and cost.

Violations by Third Parties. Nothing contained in this Agreement shall be construed to entitle PROPERTY OWNER to bring any action against ENGINEER for any injury or change in the PROPERTY caused by third parties, resulting from causes beyond the ENGINEER's control, or from any prudent action taken in good faith by the ENGINEER under emergency conditions to

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prevent, abate, or mitigate significant injury to life, damage to property or harm to the PROPERTY.

GENERAL CONDITIONS

1. The Land. PROPERTY OWNER holds interests in and owns the surface of the following described PROPERTY situated in:

Subdivision Tres Lagunitas Lot # 17

Township N/A Range _____ Section _____

County Socorro State New Mexico

This Agreement covers ENGINEER's activities on and access across the above-described PROPERTY only. The PROPERTY OWNER warrants and represents to the ENGINEER that to the best of its knowledge: (i) the PROPERTY described herein is now and at all times hereafter will continue to be maintained in full compliance with all federal, state and local environmental laws and regulations, and (ii) as of the date hereof there are no hazardous materials, substances, wastes, or environmentally regulated substances (including, without limitation, any materials containing asbestos, petroleum, or any toxic substance or ingredient), other than nitrate contamination, located on, in or under the PROPERTY or being used in connection therewith, and that there is no environmental condition existing on the PROPERTY that may prohibit or impede use of the PROPERTY for the purposes set forth above.

2. Shallow Rights Only. Notwithstanding any other provision of this Agreement, the rights granted to ENGINEER hereunder shall be limited to operations related to the drilling, installation, and testing of wells and the construction and operation of a remediation system.

3. Right-of-Way. PROPERTY OWNER grants ENGINEER, its employees and designated agents, a private right-of-way to enter upon and use the above-described PROPERTY for the purpose of completing its services to the State of New Mexico.

4.Notification and Consultation. ENGINEER shall notify PROPERTY OWNER and tenant prior to entry upon the PROPERTY and shall consult with PROPERTY OWNER as to the location of each well, or other facility to be placed on the PROPERTY. To the maximum extent possible, ENGINEER will use existing roads on the PROPERTY for its operations, and if construction of a new road is required, ENGINEER will consult with PROPERTY OWNER, and following such consultation locate the new road in a manner so as to cause the least interference with PROPERTY OWNER's operations on the affected PROPERTY.

5. Termination of Rights. The rights granted by PROPERTY OWNER to ENGINEER shall terminate when ENGINEER ceases its operations on the PROPERTY, upon ENGINEER's notification to PROPERTY OWNER of ENGINEER's intention to cease operations, or if PROPERTY OWNER so elects, upon a breach of this Agreement by ENGINEER, whichever shall

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occur first. Upon termination of this Agreement, ENGINEER will execute and deliver to PROPERTY OWNER a good and sufficient recordable release and surrender of all of ENGINEER's rights under this Agreement, and will promptly remove all equipment and property used or placed by ENGINEER on the PROPERTY unless otherwise agreed to by PROPERTY OWNER in writing.

6. Nonexclusive Rights. The rights granted by PROPERTY OWNER to ENGINEER are nonexclusive, and PROPERTY OWNER reserves the right to use all access roads and all surface and subsurface uses of the PROPERTY affected by this Agreement and the right to grant successive easements thereon or across on such terms and conditions as PROPERTY OWNER deems necessary or advisable.

7. Payments. PROPERTY OWNER agrees that ENGINEER will not be liable for any payments in exchange for the rights granted under this Agreement.

8. Surface Restoration. Unless PROPERTY OWNER otherwise agrees in writing, upon termination of any of ENGINEER's operations on the PROPERTY, ENGINEER will be responsible for restoring the land surface of the PROPERTY to the functional condition that existed before the ENGINEER's work on the PROPERTY began. . All such restoration shall be performed in compliance with all federal, state, and local laws and regulations. ENGINEER will restore and level the surface of the land affected by such terminated operations as near as possible to the contours which existed prior to such operations. ENGINEER shall restore all disturbed areas caused by ENGINEER's operations within six (6) months after termination of activities unless inclement weather prevents such rehabilitation and restoration within that time period.

9. Locations. All well site and remediation equipment locations shall be subject to consent of PROPERTY OWNER. No housing or dwelling unit or other permanent building shall be constructed or placed on the PROPERTY by ENGINEER. ENGINEER shall provide OWNER with a plat showing the length and location of all wells promptly after their installation

10. Operations. ENGINEER shall at all times keep the well sites, equipment compound, and the road rights-of-way safe and in good order. ENGINEER shall not permit the release or discharge of any toxic or hazardous chemicals or wastes on the PROPERTY. ENGINEER shall remove only the minimum amount of vegetation necessary for the installation of wells and demonstration project equipment. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment. PROPERTY OWNER shall be notified prior to well testing and measuring and PROPERTY OWNER or its agents or representatives shall have the right to be present during such testing and measuring. PROPERTY OWNER may verify the results of these tests and measurements, at PROPERTY OWNER's sole cost.

14. Fences. ENGINEER may install or construct stock-tight fences or suitable enclosures around any dangerous area, including any pits where ENGINEER drills wells.

15. Notice. Notice may be given to either party to this Agreement by depositing the same in the United States mail postage prepaid, duly addressed to the other party at the address set out below

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the party's signature on this Agreement. Such notice shall be deemed delivered when deposited in the United States mail.

16. Designated Contact Person. ENGINEER and PROPERTY OWNER will each from time to time designate an individual, with appropriate 24 hour telephone and fax numbers, who is to be the primary contact person for discussions and decisions concerning matters related to this Agreement.

17. Construction of Agreement. This Agreement shall be construed under the laws of the State of New Mexico.

18. Non-Assignability. Neither Party will assign the Agreement to any other entity either in whole or in part, unless the other Party consents in writing to such assignment.

19. Binding Effect. This Agreement is binding upon the successors and assigns of both Parties. This Agreement, including any Attachment(s), represents the entire agreement between the parties concerning site access for ENGINEER, and supersedes all prior access negotiations, representations, or agreements, either written or oral between the parties unless otherwise expressly stated.

20. Modifications. Any modification to this Agreement shall be in writing unless ENGINEER, in its sole discretion, determines circumstances allow otherwise. Where any agreed-upon modification is verbal, ENGINEER will document the modification, in writing, as soon as practicable and secure signatures by both parties.

21. No Waiver. Enforcement of this Agreement shall be at the discretion of the PROPERTY OWNER, and any forbearance by PROPERTY OWNER to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be deemed or construed to be a waiver by ENGINEER of such term or of any subsequent breach of the same or any other term of this Agreement or of ENGINEER's rights. No delay or omission by PROPERTY OWNER in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

22. Subsequent Liens on Property. No provisions of this Agreement shall be construed as impairing the ability of PROPERTY OWNER to use the PROPERTY for collateral for borrowing purposes, provided that any mortgage or lien arising therefrom and recorded prior and subsequent to the recordation of this Agreement shall be made subordinate to this Agreement.

23. Disputes. Parties agree to resolve any disputes first by negotiating in good faith. If this fails, then both Parties agree to attempt to resolve the claim or dispute by mediation in accordance with the AAA Construction Industry Mediation Rules then in effect within forty-five (45) days from service of written notice.

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PROPERTY OWNER

Pablo S Martinez

Name (Signature)

PABLO S MARTINEZ

Name (Print)

Title

Dated: 7/22/05

ENGINEER

Joe A Gulemore

Name (Signature)

Joe A Gulemore

Name (Print)

Project Manager

Title

Dated: 7-22-05

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July 8, 2005

To whom it may concern:

I, Anna Marie Instenes (formerly Anna Marie Martinez) approve all decisions made by my father, Pablo J. Martinez, concerning the property I co-own with him in Socorro, NM, on Manzano Rd., Lot #17.

If you have any questions, please call me at (925) 426-7770.

Sincerely,

Anna Marie Instenes

Anna Marie Instenes

Anna Marie Martinez

Anna Marie Martinez

3088 Tonopah Circle
Pleasanton, CA 94588

State of California
County of ALAMEDA

Subscribed and sworn to (or affirmed) before me on
this 8th **day of** July, **20** 05,
by Anna Marie Instenes,
personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

(Seal) **Signature**

JEFF BEARDEN
COMM. #1394992
NOTARY PUBLIC - CALIFORNIA
ALAMEDA COUNTY
My Comm. Expires Jan. 21, 2007

Proj # 58326
Property Access Agrt.

USO DE LA SUPERFICIE Y EL DAÑO ACUERDO

Este Acuerdo se hace y es entrado en entre **Tereso y Senaida Rodriguez**, de **54 Badger Ln.,, Veguita, NM 87062**, "(DUEÑO)" y Kleinfelder, S.a., de 8300 Jefferson Blvd. NE, la Serie B, Albuquerque, Nuevo México 87113 ("INGENIERO").

RECITACIONES

Tereso and Senaida Rodriguez ("DUEÑO") por este medio concede Kleinfelder, S.a.. y subcontratista(s) (colectivamente "INGENIERO") el permiso para entrar en el TERRENO que será el lugar de la instalación de uno o más aljibe monitorealdo. El TERRENO sido conoció y designó de **Lot 11; Tres Lagunitas**, en el Mapa Impuesto de Condado de Socorro. El permiso para el acceso a el TERRENO por el INGENIERO será para un período de 18 meses de la fecha efectivo de este acuerdo.

PROPÓSITO

El INGENIERO y el DUEÑO del TERRENO entran en este Acuerdo para que INGENIERO puede entrar en el Luagar para realizar los servicios como requerido por el Departmento de Finanzas y Administración (DFA) del Estado de Nuevo Mexico bajo el Contrato de Servicios Profesionales Numero 05-341-1000-0039 firmado en el 2/02/05. El INGENIERO está de acuerdo actuar conforme con todos estatutos aplicables y las regulas en conducido tales actividades.

COMPROMISOS DE INGENIERO

En de vuelta para concedido INGENIERO el acceso a el TERRENO para los servicios realizará, el INGENIERO esta de acuerdo a lo siguiente:

a. INGENIERO dará el DUEÑO del TERRENO (y el inquilino [es decir, ocupante actual del TERRENO si diferente del DUEÑO del TERRENO]) aviso razonable antes de iniciado en-lugar actividades algunas.
b. El INGENIERO realizará, a el grado mayor practicable, estas actividades en un modo que minimiza interferencia con alguno en curso responsabilidades u otro dia a dia uso del DUEÑO de el TERRENO. Si el INGENIERO determina que alguno actividad puede afecta con el DUEÑO del TERRENO o manejo del inquilino, INGENIERO notificará primero y consultará con el DUEÑO del TERRENO y el inquilino antes de inciado alguno servicios. El DUEÑO del TERRENO y el inquilino tendrán oportunidad de ser el presente par actividad alguna en-lugar.
c. El INGENIERO esta de acuerdo, cuando practicable, devolver el TERRENO a la condición que existió antes el uso o el ocupación del INGENIERO del TERRENO.
d. Si INGENIERO determina que alguno aljibe montará es no necesitará para el alcance de la trabaja bajo el antes mencionado contracto con DFA, el INGENIERO quitará alguno bombas de agua y tubería de aguade el aljibe,

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despues cerrará apropiado y sellará el aljibe si el DUEÑO solicitará. El DUEÑO puede escoja tener el aljibe dejó en lugar para el uso del DUEÑO, y en este caso el aljibe hará el propiedad del DUEÑO y el DUEÑO asumirá todo responsabilidad asoció con el uso de aljibe.

e. INGENIERO no perturbará, se interpondra con, llenará, o obstruirá alguno arroyo, embalse, fuente, otro aljibe, o otro nacimiento de agua en la tierra de DUEÑO.

INDEMNIZACIÓN

El acuerdo de los Partidos para indemnizar uno al otro, como el conjunto adelante en este párrafo, no aplicará a cualquiera reclama, las acciones o los daños que pueden surgir fuera de, sean ocasionará por, o por el resultado de ninguna condición que existe en, o que existieron en, el TERRENO en el tiempo de la ejecución de este acuerdo, o en tiempo antes de la ejecución de este Acuerdo o eso fue causado por El DUEÑO de PROPIEDAD o inquilino.

Indemnización. A la extensión máxima permitida por la ley, cualquiera de los dos Partido indemnizará el otro, y si aplicable, sus oficiales, los directores, los empleados, los agentes, los sucesores y asigna, y tiene inocuo de cualquier y todo reclama, las obligaciones, las demandas, los juicios, las pérdidas, los daños y los costos (inclusive cualquier honorarios razonables de abogado), hasta el punto para surgir fuera de o relacionado a actividades en el TERRENO de DUEÑO (incluyendo, sin la limitación, cualquiera reclama que las operaciones de Ingeniero a continuación son o ilegal, no autorizado, o Constituya una interferencia impropia con cualquier partidos derechos, o haya dañado las tierras o las operaciones de hacendados adyacentes).

Las infracciones por Terceros Partidos. Nada contenido en este Acuerdo se interpretará para permitir DUEÑO para traer cualquier acción contra INGENIERO para cualquier herida o el cambio en el TERRENO causada por terceros partidos, resultando de causas más allá del control de INGENIERO, o de cualquier acción prudente aceptó de buena fe por el INGENIERO bajo condiciones de emergencia para prevenir, disminuir, o para mitigar la herida significativa a la vida, el daño a el TERRENO o el daño a el TERRENO.

El GENERAL CONDICIONA

1. La Tierra. El DUEÑO tiene los intereses en y posee la superficie del siguiente TERRENO situado descrito en:

Subdivisión Tres Lagunitas Numero del Terreno 11

el
Municipio N/A la Gama _____ la sección _____

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el Condado Socorro el Estado New Mexico

Este Acuerdo cubre las actividades de INGENIERO en y en el acceso a través de el TERRENO encima de-descrito sólo. El DUEÑO justifica y representa al INGENIERO que al mejor de su conocimiento: (i) el TERRENO descrita en esto es ahora y siempre continuará de ahora en adelante ser mantenido en la conformidad repleta con todo federal, el estado y las leyes y las regulaciones ambientales locales, e (ii) al la fecha de esto no hay las materias peligrosas, las sustancias, los desechos, ni sustancias ambientalmente reguladas (incluyendo, sin la limitación, ninguna materia que contiene asbesto, el petróleo, o ninguna sustancia o el ingrediente tóxicos), de otra manera que la contaminación del nitrato, localizado en, en o bajo el TERRENO o para ser utilizado en la conexión con eso, y eso no hay condición ambiental que existe en el TERRENO que puede prohibir o puede estorbar el uso de el TERRENO para los propósitos expuso arriba.

2. Los Derechos Superficiales Sólo. A pesar de cualquier otra provisión de este Acuerdo, los derechos otorgaron para INGENIERO a continuación será limitado a operaciones relacionada a la perforación, la instalación, y probando del aljibe y la construcción y la operación de un sistema del refuerzo.

3. Derecho de Manera. El INGENIERO de becas de DUEÑO, sus empleados y agentes designados, un derecho de la manera privado entrar sobre y para utilizar el TERRENO encima de-descrito para el propósito de completar sus servicios al Estado de nuevo méxico.

4. La Notificación y la Consulta. El INGENIERO notificará DUEÑO y a inquilino antes de la entrada sobre el TERRENO de DUEÑO y consultará con DUEÑO en cuanto a la ubicación de cada aljibe, u otra facilidad para ser colocada en el TERRENO de DUEÑO. A la extensión máxima posible, el INGENIERO utilizará los caminos existentes en el TERRENO de DUEÑO para sus operaciones, y si la construcción de un camino nuevo se requiere, INGENIERO consultará con DUEÑO, y tal consulta siguiente localiza el camino nuevo en una manera para causar lo menos interferencia con operaciones de DUEÑO en el TERRENO afectada.

5. La Terminación de Derechos. Los derechos otorgados por DUEÑO para INGENIERO terminará cuándo INGENIERO deja sus operaciones en el TERRENO, sobre la notificación de INGENIERO al DUEÑO de la intención de INGENIERO de dejar las operaciones, o si DUEÑO tan elige, sobre una infracción de este Acuerdo por INGENIERO, el que ocurrirá primero. Sobre la terminación de este Acuerdo, el INGENIERO ejecutará y entregará al DUEÑO una liberación de recordable y rendición buena y suficiente de todos derechos de INGENIERO bajo este Acuerdo, y quitará inmediatamente todo equipo y el TERRENO utilizado o colocado por INGENIERO en el TERRENO de DUEÑO a menos que de otro modo concordado a por el DUEÑO en la escritura.

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6. Derechos de Inexclusiva. Los derechos otorgados por DUEÑO para INGENIERO son inexclusiva, y el DUEÑO reservan el derecho de utilizar todos caminos del acceso y toda superficie y los usos subterráneos de el TERRENO afectada por este Acuerdo y el derecho de otorgar servidumbres sucesivas sobre eso o a través de en tales términos y condicionan como DUEÑO cree necesario o conveniente.

7. Pagos. El DUEÑO concuerda que ese INGENIERO no será responsable de ningún pago a cambio de los derechos otorgados bajo este Acuerdo.

8. Restauración de Superficie. A menos que DUEÑO de otro modo concuerde en la escritura, sobre la terminación de cualquiera de operaciones de INGENIERO en el TERRENO de DUEÑO, el INGENIERO será responsable de restaurar la superficie de la tierra de el TERRENO a la condición funcional que existió antes el trabajo de INGENIERO en el TERRENO empezó. . Todo tal restauración se realizará en conformidad con todo federal, el estado, y las leyes y las regulaciones locales. El INGENIERO restaurará y nivelará la superficie de la tierra afectada por tales operaciones terminadas como cerca de como posible a los contornos que existieron antes de tales operaciones. El INGENIERO restaurará todas áreas perturbadas causadas por las operaciones del INGENIERO dentro de seis (6) meses después que la terminación de actividades a menos que tiempo inclemente prevendrá tal rehabilitación y la restauración dentro de ese período de tiempo.

9. Ubicaciones. Todo los alijebes sitio y ubicaciones de equipo de refuerzo serán susceptibles consentir de DUEÑO. Ninguna envoltura ni morar la unidad ni otro edificio permanente se construirán ni serán colocados en el TERRENO de DUEÑO por INGENIERO. El INGENIERO proporcionará a DUEÑO con una parcela que muestra la longitud y la ubicación de todo, albijes inmediatamente después de su instalación.

10. Operaciones. El INGENIERO irá mantiene siempre los aljibes sitios, el recinto del equipo, y los derechos de la manera del camino seguros y en la orden buena. INGENIERO no permitirá la liberación ni la descarga de ninguna sustancia química ni desechos tóxicos ni peligrosos en el TERRENO de DUEÑO. El INGENIERO quitará sólo la cantidad mínima de vegetación necesaria para la instalación del aljibe y el equipo de proyecto de demostración. Ninguna construcción ni las actividades rutinarias de la conservación se realizarán durante períodos cuando la tierra es demasiado mojó para sostener adecuadamente el equipo de la construcción. El DUEÑO será notificado antes de probar del aljibe y midiendo y el DUEÑO o sus agentes o los representantes tendrán el derecho de ser el presente durante tal probando y medición. El DUEÑO puede verificar los resultados de estas pruebas y medidas, en DUEÑO único costo.

14. Cercas. El INGENIERO puede instalar o puede construir las cercas acciones-apretados o cercos convenientes alrededor de alguna área peligrosa, inclusive cualquiera oponen donde INGENIERO taladra los aljibes.

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15. Nota. La nota puede ser dada a cualquier partido a este Acuerdo depositando el mismo en los Estados Unidos envía el franqueo prepagado, debidamente dirigido al otro partido en el conjunto de la dirección fuera debajo de la firma del partido en este Acuerdo. Tal nota se creerá entregó cuando depositado en los Estados Unidos envía.

16. Persona designada de Contacto. El INGENIERO y el DUEÑO hacen cada de vez en cuando designa a un individuo, con apropiado teléfono y números de fax de horas 24, que deberá ser la persona primaria del contacto para discusiones y decisiones con respecto a asuntos relacionó a este Acuerdo.

17. La construcción del Acuerdo. Este Acuerdo se interpretará bajo las leyes del Estado de Nuevo México.

18. No-Asignar. Ni el Partido asignará el Acuerdo a cualquier otra entidad o en total o en parte, a menos que el otro Partido consentirá en la escritura a tal tarea.

19. Efecto Obligatorio. Este Acuerdo ata sobre los sucesores y asigna de ambos Partidos. Este Acuerdo, inclusive cualquier Fijación (fijaciones), representa el acuerdo entero entre los partidos con respecto al acceso del sitio para el INGENIERO, y desbanca todo antes de negociaciones de acceso, antes de las representaciones, o antes de los acuerdos, o escrito u oral entre los partidos a menos que de otro modo exprese indicado.

20. Modificaciones. Cualquier modificación a este Acuerdo estará en la escritura a menos que INGENIERO, en su única discreción, determinará las circunstancias permiten de otro modo. Dónde cualquier modificación de concordado-sobre es verbal, el INGENIERO documentará la modificación, en la escritura, firmas tan pronto como practicables y seguras por ambos partidos.

21. Ninguna Renuncia. La aplicación de este Acuerdo será a voluntad del DUEÑO, y de ninguna tolerancia por DUEÑO de ejercitar sus derechos a continuación en caso de ninguna infracción de cualquier conjunto del término adelante en esto no serán creídos ni serán interpretados para ser una renuncia por INGENIERO de tal término ni de ninguna infracción subsiguiente del mismo ni cualquier otro término de este Acuerdo ni de derechos de INGENIERO. Ninguna demora ni la omisión por DUEÑO en el ejercicio de correcto ni el remedio dañará tal correcto ni el remedio ni es interpretado como una renuncia.

22. Los Gravámenes subsiguientes en el TERRENO. Ningunas provisiones de este Acuerdo se interpretarán dañando como la habilidad de DUEÑO para utilizar el TERRENO para la garantía colateral para pedir prestado propósitos, con tal de que cualquier hipoteca o el gravamen que surjan de allí y registrados antes de y antes de posterior al recordation de este Acuerdo se hará subordinado a este Acuerdo.

23. Disputas. Los partidos concuerdan en resolverse cualquiera disputa primero negociando en de buena fe. Si esto falla, entonces ambos Partidos concuerdan en procurar resolverse el reclamo o la disputa por mediación de acuerdo con las Reglas de Mediación

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de Industria de Construcción de AAA entonces vigente dentro de cuarenta y cinco (45) días del servicio de nota escrita.

DUEÑO

Nombre (firma) de Senaida Rodriguez

Nombre (impresión) de SENAIDA-Rodriguez

Título de 9 de Julio

Fechó: _____

INGENIERO

Nombre (firma) de Joe A Galemore

Nombre (impresión) de Joe A Galemore

Título de Project Manager

Fechó: 7-9-05

As amended per Amendment 1 JAG 7-9-05

S-R-9 de Julio

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SURFACE USE AND DAMAGE AGREEMENT
Addendum

a. PROPERTY OWNER may choose to have the well left in place for the PROPERTY OWNER's use, and in this case:
   - The well shall become the property of the PROPERTY OWNER,
   - The PROPERTY OWNER shall assume all liability associated with its use,
   - The PROPERTY OWNER shall register the well with the Office of the State Engineer,
   - The PROPERTY OWNER shall ascertain and secure his water right related to use of the well.
   - ENGINEER provides no assurance to PROPERTY OWNER concerning water rights or water quality related to the use of the well.

Jon A. Galvez
7-9-05
Senaida Rodriguez
9 de Julio

Project Communications

SURFACE USE AND DAMAGE AGREEMENT

and Orel Stanflee

This Agreement is made and entered into between, **Velinda ~~& Miera~~ Valenzuela of 32 Palo Duro, Veguita, NM. 87062** ("PROPERTY OWNER") and **Kleinfelder, Inc,** of 8300 Jefferson Blvd NE, Suite B, Albuquerque, New Mexico 87113 ("ENGINEER").

RECITALS

Ms. Velinda Valenzuela and Orel Stanflee ~~Ms. Veronica Romero~~ ("PROPERTY OWNER") hereby grants Kleinfelder, Inc. and subcontractor(s) (collectively "ENGINEER") permission to enter upon the PROPERTY that will be the location of the installation of one or more monitoring wells, and that may also be the location of 1) the installation of recovery and injection wells; 2) tanks, pipes, pumps, and related temporary facilities; 3) testing of these wells, and 4) operation of a groundwater denitrification demonstration system. The PROPERTY is known and designated as **Lot 6; Abo Valley Unit 2**, on the Tax Map of Socorro County. Permission for access to the PROPERTY by the ENGINEER will be for a period of 18 months from the effective date of this agreement.

PURPOSE

ENGINEER and the PROPERTY OWNER are entering into this Agreement so that ENGINEER may enter upon the Site to perform services as required by the Department of Finance and Administration (DFA) of the State of New Mexico under the Professional Services Contract No. 05-341-1000-0039 signed on 2/02/05. ENGINEER agrees to act in accordance with all applicable statutes and regulations in conducting such activities.

ENGINEER'S COMMITMENTS

In return for granting ENGINEER access to the PROPERTY for the services to be performed, ENGINEER agrees to the following:

a. ENGINEER will give the PROPERTY OWNER (and tenant [i.e., current occupant of PROPERTY if different from PROPERTY OWNER]) reasonable notice before commencing any on-site activities.

b. ENGINEER will, to the greatest practicable extent, perform these activities in a way that minimizes interference with any ongoing business or other day to day use by the PROPERTY OWNER. If ENGINEER determines that any activity may interfere with the PROPERTY OWNER's or tenant's operations, ENGINEER will first notify and consult with the PROPERTY OWNER and tenant before commencing any services. The PROPERTY OWNER and tenant will have the opportunity to be present for any on-site activity.

c. ENGINEER agrees, as practicable, to return the PROPERTY to the general condition that existed before ENGINEER's use or occupancy of the PROPERTY.

d. If ENGINEER determines that any well installed is no longer needed for the scope of work under the aforementioned contract with DFA, ENGINEER shall remove any pump and pipe from the well, then properly close and seal the well. Alternatively, the

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PROPERTY OWNER may choose to have the well left in place for the PROPERTY OWNER's use, and in this case:

- The well shall become the property of the PROPERTY OWNER,
- The PROPERTY OWNER shall assume all liability associated with its use,
- The PROPERTY OWNER shall register the well with the Office of the State Engineer,
- The PROPERTY OWNER shall ascertain and secure his water right related to use of the well.
- ENGINEER provides no assurance to PROPERTY OWNER concerning water rights or water quality related to the use of the well.

e. ENGINEER shall not disturb, interfere with, fill, or block any creek, reservoir, spring, previously installed well, or other source of water on PROPERTY OWNER's land.

f. If ENGINEER determines that modifications made to the property (e.g., placement of utility poles and fencing) for the purpose of drilling wells or operating the groundwater denitrification system are no longer needed for the scope of work under the aforementioned contract with DFA, ENGINEER shall remove such modification and repair the property to its original condition. Alternatively, the PROPERTY OWNER may choose to have the modification left in place for the PROPERTY OWNER's use, and in this case the modification shall become the property of the PROPERTY OWNER and the PROPERTY OWNER will assume all liability associated with its existence and use.

INDEMNIFICATION

The agreement of the Parties to indemnify each other, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by, or result from any condition existing on, or which did exist on, the PROPERTY at the time of the execution of this agreement, or at any time prior to the execution of this Agreement or that was caused by the PROPERTY OWNER or tenant.

Indemnification. To the maximum extent permitted by law, each Party will indemnify the other, and if applicable, its officers, directors, employees, agents, successors and assigns, and hold harmless from any and all claims, liabilities, demands, suits, losses, damages and costs (including any reasonable attorney fees), to the extent arising out of or related to activities on the PROPERTY (including, without limitation, any claims that Engineer's operations hereunder are either illegal, unauthorized, or constitute an improper interference with any parties' rights, or have damaged the lands or operations of adjacent landowners). Acceptance by PROPERTY OWNER of any and all materials, construction, installation, or design (collectively called WORK PRODUCT) provided by ENGINEER and left in place for use by PROPERTY OWNER shall release ENGINEER from any subsequent responsibility for the WORK PRODUCT and such use shall be at PROPERTY OWNER's risk and cost.

Violations by Third Parties. Nothing contained in this Agreement shall be construed to entitle PROPERTY OWNER to bring any action against ENGINEER for any injury or change in the PROPERTY caused by third parties, resulting from causes beyond the ENGINEER's control, or from any prudent action taken in good faith by the ENGINEER under emergency conditions to

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prevent, abate, or mitigate significant injury to life, damage to property or harm to the PROPERTY.

GENERAL CONDITIONS

1. The Land. PROPERTY OWNER holds interests in and owns the surface of the following described PROPERTY situated in:

Subdivision Abo Valley Unit 2 Lot # 6

Township N/A Range _____ Section _____

County Socorro State New Mexico

This Agreement covers ENGINEER's activities on and access across the above-described PROPERTY only. The PROPERTY OWNER warrants and represents to the ENGINEER that to the best of its knowledge: (i) the PROPERTY described herein is now and at all times hereafter will continue to be maintained in full compliance with all federal, state and local environmental laws and regulations, and (ii) as of the date hereof there are no hazardous materials, substances, wastes, or environmentally regulated substances (including, without limitation, any materials containing asbestos, petroleum, or any toxic substance or ingredient), other than nitrate contamination, located on, in or under the PROPERTY or being used in connection therewith, and that there is no environmental condition existing on the PROPERTY that may prohibit or impede use of the PROPERTY for the purposes set forth above.

2. Shallow Rights Only. Notwithstanding any other provision of this Agreement, the rights granted to ENGINEER hereunder shall be limited to operations related to the drilling, installation, and testing of wells and the construction and operation of a remediation system.

3. Right-of-Way. PROPERTY OWNER grants ENGINEER, its employees and designated agents, a private right-of-way to enter upon and use the above-described PROPERTY for the purpose of completing its services to the State of New Mexico.

4.Notification and Consultation. ENGINEER shall notify PROPERTY OWNER and tenant prior to entry upon the PROPERTY and shall consult with PROPERTY OWNER as to the location of each well, or other facility to be placed on the PROPERTY. To the maximum extent possible, ENGINEER will use existing roads on the PROPERTY for its operations, and if construction of a new road is required, ENGINEER will consult with PROPERTY OWNER, and following such consultation locate the new road in a manner so as to cause the least interference with PROPERTY OWNER's operations on the affected PROPERTY.

5. Termination of Rights. The rights granted by PROPERTY OWNER to ENGINEER shall terminate when ENGINEER ceases its operations on the PROPERTY, upon ENGINEER's notification to PROPERTY OWNER of ENGINEER's intention to cease operations, or if PROPERTY OWNER so elects, upon a breach of this Agreement by ENGINEER, whichever shall

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occur first. Upon termination of this Agreement, ENGINEER will execute and deliver to PROPERTY OWNER a good and sufficient recordable release and surrender of all of ENGINEER's rights under this Agreement, and will promptly remove all equipment and property used or placed by ENGINEER on the PROPERTY unless otherwise agreed to by PROPERTY OWNER in writing.

6. Nonexclusive Rights. The rights granted by PROPERTY OWNER to ENGINEER are nonexclusive, and PROPERTY OWNER reserves the right to use all access roads and all surface and subsurface uses of the PROPERTY affected by this Agreement and the right to grant successive easements thereon or across on such terms and conditions as PROPERTY OWNER deems necessary or advisable.

7. Payments. PROPERTY OWNER agrees that ENGINEER will not be liable for any payments in exchange for the rights granted under this Agreement.

8. Surface Restoration. Unless PROPERTY OWNER otherwise agrees in writing, upon termination of any of ENGINEER's operations on the PROPERTY, ENGINEER will be responsible for restoring the land surface of the PROPERTY to the functional condition that existed before the ENGINEER's work on the PROPERTY began. All such restoration shall be performed in compliance with all federal, state, and local laws and regulations. ENGINEER will restore and level the surface of the land affected by such terminated operations as near as possible to the contours which existed prior to such operations. ENGINEER shall restore all disturbed areas caused by ENGINEER's operations within six (6) months after termination of activities unless inclement weather prevents such rehabilitation and restoration within that time period.

9. Locations. All well site and remediation equipment locations shall be subject to consent of PROPERTY OWNER. No housing or dwelling unit or other permanent building shall be constructed or placed on the PROPERTY by ENGINEER. ENGINEER shall provide OWNER with a plat showing the length and location of all wells promptly after their installation

10. Operations. ENGINEER shall at all times keep the well sites, equipment compound, and the road rights-of-way safe and in good order. ENGINEER shall not permit the release or discharge of any toxic or hazardous chemicals or wastes on the PROPERTY. ENGINEER shall remove only the minimum amount of vegetation necessary for the installation of wells and demonstration project equipment. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment. PROPERTY OWNER shall be notified prior to well testing and measuring and PROPERTY OWNER or its agents or representatives shall have the right to be present during such testing and measuring. PROPERTY OWNER may verify the results of these tests and measurements, at PROPERTY OWNER's sole cost.

14. Fences. ENGINEER may install or construct stock-tight fences or suitable enclosures around any dangerous area, including any pits where ENGINEER drills wells.

15. Notice. Notice may be given to either party to this Agreement by depositing the same in the United States mail postage prepaid, duly addressed to the other party at the address set out below

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the party's signature on this Agreement. Such notice shall be deemed delivered when deposited in the United States mail.

16. Designated Contact Person. ENGINEER and PROPERTY OWNER will each from time to time designate an individual, with appropriate 24 hour telephone and fax numbers, who is to be the primary contact person for discussions and decisions concerning matters related to this Agreement.

17. Construction of Agreement. This Agreement shall be construed under the laws of the State of New Mexico.

18. Non-Assignability. Neither Party will assign the Agreement to any other entity either in whole or in part, unless the other Party consents in writing to such assignment.

19. Binding Effect. This Agreement is binding upon the successors and assigns of both Parties. This Agreement, including any Attachment(s), represents the entire agreement between the parties concerning site access for ENGINEER, and supersedes all prior access negotiations, representations, or agreements, either written or oral between the parties unless otherwise expressly stated.

20. Modifications. Any modification to this Agreement shall be in writing unless ENGINEER, in its sole discretion, determines circumstances allow otherwise. Where any agreed-upon modification is verbal, ENGINEER will document the modification, in writing, as soon as practicable and secure signatures by both parties.

21. No Waiver. Enforcement of this Agreement shall be at the discretion of the PROPERTY OWNER, and any forbearance by PROPERTY OWNER to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be deemed or construed to be a waiver by ENGINEER of such term or of any subsequent breach of the same or any other term of this Agreement or of ENGINEER's rights. No delay or omission by PROPERTY OWNER in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

22. Subsequent Liens on Property. No provisions of this Agreement shall be construed as impairing the ability of PROPERTY OWNER to use the PROPERTY for collateral for borrowing purposes, provided that any mortgage or lien arising therefrom and recorded prior and subsequent to the recordation of this Agreement shall be made subordinate to this Agreement.

23. Disputes. Parties agree to resolve any disputes first by negotiating in good faith. If this fails, then both Parties agree to attempt to resolve the claim or dispute by mediation in accordance with the AAA Construction Industry Mediation Rules then in effect within forty-five (45) days from service of written notice.

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PROPERTY OWNER

Val Valenzuela

Name (Signature)

VAL VALENZUELA

Name (Print)

Title

Dated: 8-3-05

ENGINEER

Joe A Galemore

Name (Signature)

Joe A Galemore

Name (Print)

Project Manager

Title

Dated: 8-3-05

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58326
Proj. Comm.

SURFACE USE AND DAMAGE AGREEMENT

This Agreement is made and entered into between **Veronica Romero** of **P.O. Box 123 Bosque, NM. 87006** ("PROPERTY OWNER") and **Kleinfelder, Inc,** of 8300 Jefferson Blvd NE, Suite B, Albuquerque, New Mexico 87113 ("ENGINEER").

RECITALS

Ms. Veronica Romero ("PROPERTY OWNER") hereby grants Kleinfelder, Inc. and subcontractor(s) (collectively "ENGINEER") permission to enter upon the PROPERTY that will be the location of the installation of one or more monitoring wells, and that may also be the location of 1) the installation of recovery and injection wells; 2) tanks, pipes, pumps, and related temporary facilities; 3) testing of these wells, and 4) operation of a groundwater denitrification demonstration system. The PROPERTY is known and designated as **Lot 8; Tres Lagunitas**, on the Tax Map of Socorro County. Permission for access to the PROPERTY by the ENGINEER will be for a period of 18 months from the effective date of this agreement.

PURPOSE

ENGINEER and the PROPERTY OWNER are entering into this Agreement so that ENGINEER may enter upon the Site to perform services as required by the Department of Finance and Administration (DFA) of the State of New Mexico under the Professional Services Contract No. 05-341-1000-0039 signed on 2/02/05. ENGINEER agrees to act in accordance with all applicable statutes and regulations in conducting such activities.

ENGINEER'S COMMITMENTS

In return for granting ENGINEER access to the PROPERTY for the services to be performed, ENGINEER agrees to the following:

a. ENGINEER will give the PROPERTY OWNER (and tenant [i.e., current occupant of PROPERTY if different from PROPERTY OWNER]) reasonable notice before commencing any on-site activities.
b. ENGINEER will, to the greatest practicable extent, perform these activities in a way that minimizes interference with any ongoing business or other day to day use by the PROPERTY OWNER. If ENGINEER determines that any activity may interfere with the PROPERTY OWNER's or tenant's operations, ENGINEER will first notify and consult with the PROPERTY OWNER and tenant before commencing any services. The PROPERTY OWNER and tenant will have the opportunity to be present for any on-site activity.
c. ENGINEER agrees, as practicable, to return the PROPERTY to the general condition that existed before ENGINEER's use or occupancy of the PROPERTY.
d. If ENGINEER determines that any well installed is no longer needed for the scope of work under the aforementioned contract with DFA, ENGINEER shall remove any pump and pipe from the well, then properly close and seal the well. Alternatively, the

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PROPERTY OWNER may choose to have the well left in place for the PROPERTY OWNER's use, and in this case:

- The well shall become the property of the PROPERTY OWNER,
- The PROPERTY OWNER shall assume all liability associated with its use,
- The PROPERTY OWNER shall register the well with the Office of the State Engineer,
- The PROPERTY OWNER shall ascertain and secure his water right related to use of the well.
- ENGINEER provides no assurance to PROPERTY OWNER concerning water rights or water quality related to the use of the well.

e. ENGINEER shall not disturb, interfere with, fill, or block any creek, reservoir, spring, previously installed well, or other source of water on PROPERTY OWNER's land.

f. If ENGINEER determines that modifications made to the property (e.g., placement of utility poles and fencing) for the purpose of drilling wells or operating the groundwater denitrification system are no longer needed for the scope of work under the aforementioned contract with DFA, ENGINEER shall remove such modification and repair the property to its original condition. Alternatively, the PROPERTY OWNER may choose to have the modification left in place for the PROPERTY OWNER's use, and in this case the modification shall become the property of the PROPERTY OWNER and the PROPERTY OWNER will assume all liability associated with its existence and use.

INDEMNIFICATION

The agreement of the Parties to indemnify each other, as set forth in this paragraph, shall not apply to any claims, actions or damages that may arise out of, be occasioned by, or result from any condition existing on, or which did exist on, the PROPERTY at the time of the execution of this agreement, or at any time prior to the execution of this Agreement or that was caused by the PROPERTY OWNER or tenant.

Indemnification. To the maximum extent permitted by law, each Party will indemnify the other, and if applicable, its officers, directors, employees, agents, successors and assigns, and hold harmless from any and all claims, liabilities, demands, suits, losses, damages and costs (including any reasonable attorney fees), to the extent arising out of or related to activities on the PROPERTY (including, without limitation, any claims that Engineer's operations hereunder are either illegal, unauthorized, or constitute an improper interference with any parties' rights, or have damaged the lands or operations of adjacent landowners). Acceptance by PROPERTY OWNER of any and all materials, construction, installation, or design (collectively called WORK PRODUCT) provided by ENGINEER and left in place for use by PROPERTY OWNER shall release ENGINEER from any subsequent responsibility for the WORK PRODUCT and such use shall be at PROPERTY OWNER's risk and cost.

Violations by Third Parties. Nothing contained in this Agreement shall be construed to entitle PROPERTY OWNER to bring any action against ENGINEER for any injury or change in the PROPERTY caused by third parties, resulting from causes beyond the ENGINEER's control, or from any prudent action taken in good faith by the ENGINEER under emergency conditions to

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prevent, abate, or mitigate significant injury to life, damage to property or harm to the PROPERTY.

GENERAL CONDITIONS

1. The Land. PROPERTY OWNER holds interests in and owns the surface of the following described PROPERTY situated in:

Subdivision Tres Lagunitas Lot # 8

Township N/A Range _____ Section _____

County Socorro State New Mexico

This Agreement covers ENGINEER's activities on and access across the above-described PROPERTY only. The PROPERTY OWNER warrants and represents to the ENGINEER that to the best of its knowledge: (i) the PROPERTY described herein is now and at all times hereafter will continue to be maintained in full compliance with all federal, state and local environmental laws and regulations, and (ii) as of the date hereof there are no hazardous materials, substances, wastes, or environmentally regulated substances (including, without limitation, any materials containing asbestos, petroleum, or any toxic substance or ingredient), other than nitrate contamination, located on, in or under the PROPERTY or being used in connection therewith, and that there is no environmental condition existing on the PROPERTY that may prohibit or impede use of the PROPERTY for the purposes set forth above.

2. Shallow Rights Only. Notwithstanding any other provision of this Agreement, the rights granted to ENGINEER hereunder shall be limited to operations related to the drilling, installation, and testing of wells and the construction and operation of a remediation system.

3. Right-of-Way. PROPERTY OWNER grants ENGINEER, its employees and designated agents, a private right-of-way to enter upon and use the above-described PROPERTY for the purpose of completing its services to the State of New Mexico.

4.Notification and Consultation. ENGINEER shall notify PROPERTY OWNER and tenant prior to entry upon the PROPERTY and shall consult with PROPERTY OWNER as to the location of each well, or other facility to be placed on the PROPERTY. To the maximum extent possible, ENGINEER will use existing roads on the PROPERTY for its operations, and if construction of a new road is required, ENGINEER will consult with PROPERTY OWNER, and following such consultation locate the new road in a manner so as to cause the least interference with PROPERTY OWNER's operations on the affected PROPERTY.

5. Termination of Rights. The rights granted by PROPERTY OWNER to ENGINEER shall terminate when ENGINEER ceases its operations on the PROPERTY, upon ENGINEER's notification to PROPERTY OWNER of ENGINEER's intention to cease operations, or if PROPERTY OWNER so elects, upon a breach of this Agreement by ENGINEER, whichever shall

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occur first. Upon termination of this Agreement, ENGINEER will execute and deliver to PROPERTY OWNER a good and sufficient recordable release and surrender of all of ENGINEER's rights under this Agreement, and will promptly remove all equipment and property used or placed by ENGINEER on the PROPERTY unless otherwise agreed to by PROPERTY OWNER in writing.

6. Nonexclusive Rights. The rights granted by PROPERTY OWNER to ENGINEER are nonexclusive, and PROPERTY OWNER reserves the right to use all access roads and all surface and subsurface uses of the PROPERTY affected by this Agreement and the right to grant successive easements thereon or across on such terms and conditions as PROPERTY OWNER deems necessary or advisable.

7. Payments. PROPERTY OWNER agrees that ENGINEER will not be liable for any payments in exchange for the rights granted under this Agreement.

8. Surface Restoration. Unless PROPERTY OWNER otherwise agrees in writing, upon termination of any of ENGINEER's operations on the PROPERTY, ENGINEER will be responsible for restoring the land surface of the PROPERTY to the functional condition that existed before the ENGINEER's work on the PROPERTY began. . All such restoration shall be performed in compliance with all federal, state, and local laws and regulations. ENGINEER will restore and level the surface of the land affected by such terminated operations as near as possible to the contours which existed prior to such operations. ENGINEER shall restore all disturbed areas caused by ENGINEER's operations within six (6) months after termination of activities unless inclement weather prevents such rehabilitation and restoration within that time period.

9. Locations. All well site and remediation equipment locations shall be subject to consent of PROPERTY OWNER. No housing or dwelling unit or other permanent building shall be constructed or placed on the PROPERTY by ENGINEER. ENGINEER shall provide OWNER with a plat showing the length and location of all wells promptly after their installation

10. Operations. ENGINEER shall at all times keep the well sites, equipment compound, and the road rights-of-way safe and in good order. ENGINEER shall not permit the release or discharge of any toxic or hazardous chemicals or wastes on the PROPERTY. ENGINEER shall remove only the minimum amount of vegetation necessary for the installation of wells and demonstration project equipment. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment. PROPERTY OWNER shall be notified prior to well testing and measuring and PROPERTY OWNER or its agents or representatives shall have the right to be present during such testing and measuring. PROPERTY OWNER may verify the results of these tests and measurements, at PROPERTY OWNER's sole cost.

14. Fences. ENGINEER may install or construct stock-tight fences or suitable enclosures around any dangerous area, including any pits where ENGINEER drills wells.

15. Notice. Notice may be given to either party to this Agreement by depositing the same in the United States mail postage prepaid, duly addressed to the other party at the address set out below

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the party's signature on this Agreement. Such notice shall be deemed delivered when deposited in the United States mail.

16. Designated Contact Person. ENGINEER and PROPERTY OWNER will each from time to time designate an individual, with appropriate 24 hour telephone and fax numbers, who is to be the primary contact person for discussions and decisions concerning matters related to this Agreement.

17. Construction of Agreement. This Agreement shall be construed under the laws of the State of New Mexico.

18. Non-Assignability. Neither Party will assign the Agreement to any other entity either in whole or in part, unless the other Party consents in writing to such assignment.

19. Binding Effect. This Agreement is binding upon the successors and assigns of both Parties. This Agreement, including any Attachment(s), represents the entire agreement between the parties concerning site access for ENGINEER, and supersedes all prior access negotiations, representations, or agreements, either written or oral between the parties unless otherwise expressly stated.

20. Modifications. Any modification to this Agreement shall be in writing unless ENGINEER, in its sole discretion, determines circumstances allow otherwise. Where any agreed-upon modification is verbal, ENGINEER will document the modification, in writing, as soon as practicable and secure signatures by both parties.

21. No Waiver. Enforcement of this Agreement shall be at the discretion of the PROPERTY OWNER, and any forbearance by PROPERTY OWNER to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be deemed or construed to be a waiver by ENGINEER of such term or of any subsequent breach of the same or any other term of this Agreement or of ENGINEER's rights. No delay or omission by PROPERTY OWNER in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

22. Subsequent Liens on Property. No provisions of this Agreement shall be construed as impairing the ability of PROPERTY OWNER to use the PROPERTY for collateral for borrowing purposes, provided that any mortgage or lien arising therefrom and recorded prior and subsequent to the recordation of this Agreement shall be made subordinate to this Agreement.

23. Disputes. Parties agree to resolve any disputes first by negotiating in good faith. If this fails, then both Parties agree to attempt to resolve the claim or dispute by mediation in accordance with the AAA Construction Industry Mediation Rules then in effect within forty-five (45) days from service of written notice.

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PROPERTY OWNER

Veronica D Romero
Name (Signature)

Veronica D Romero
Name (Print)

owner
Title

Dated: _____

ENGINEER

Joe A. Gulemoie
Name (Signature)

Joe A. Gulemoie
Name (Print)

Project Manager
Title

Dated: 7-28-05

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APPENDIX B

Boring Logs, Well Construction Schematics,

OSE Well Records and Plugging Reports

THE UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS SILTY CLAYS LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

KA-LOG KEY 10/2/06

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

PARTICLE SIZE LIMITS

CLAY	SILT	SAND			GRAVEL		COBBLES	BOULDERS
		Fine	Medium	Coarse	Fine	Coarse		

0.002 mm #200 #40 #10 #4 3/4" 3" 12"

Terminology Used to Describe Soils Relative to their Standard Penetration (N) in blows per foot (ASTM D1586)

Relative Firmness		Relative Consistency		Relative Density	
SILTS, CLAYS & COHESIVE GRANULAR SOILS (partially saturated)	N	SILTS & CLAYS (saturated or near saturated)	N	SANDS AND GRAVELS (uncemented/cohesionless)	N
Hard	50+	Hard	30+	Very Dense	50+
Very Stiff	31-50	Very Stiff	16-30	Dense	31-50
Stiff	16-30	Stiff	9-15	Medium Dense	11-30
Medium Stiff	9-15	Medium Stiff	5-8	Loose	5-10
Soft	5-8	Soft	3-4	Very Loose	0-4
Very Soft	0-4	Very Soft	0-2		

▽ Initial Water Reading ▼ Second Water Reading

KLEINFELDER

Legend of Symbols and Terms

Veguita Denitrification Demonstration
Veguita, NM
58326

FIGURE

KA-LOG_KEY_58326-VEGUITA.GPJ NEWKALOG.PLOG.GDT 10/2/06

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KLEINFELDER

Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 7/27/2005	58326	Veguita Denitrification Demo	MW-1
Completed: 7/30/2005			
Backfilled: 7/30/2005	Rig Type: CME 75	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.146'	Longitude: 106°44.831'	Location: Tres Lagunitas Lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
58.83	7:47:00 AM	7/27/2005
56.52	9:30:00 AM	8/2/2005

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0			A				FINE SANDY SILT (ML) - light brown (5YR5/6), Dry	Cement Cap (0-2')
	5			SPT	18			5.0' El. 4811.0'; CLAYEY SILT (ML) - light brown (5YR5/6), dry, very fine sand	
				A				7.0' El. 4809.0'; Increased consolidation (5.5'-7'); SILTY VERY FINE SAND (SM) - light brown (5YR5/6), dry, clay, low plasticity	
	10			SPT	13			10.7' El. 4805.3'; 11.0' CLAYEY SILT (ML) - light brown (5YR5/6), dry, very fine sand El. 4805.0'	
				A				14.0' VERY FINE SAND (SP) - light brown (5YR5/6), dry El. 4802.0'	
	15			SPT	20			15.8' CLAYEY SILT (ML) - light brown (5YR5/6), dry, very fine sand El. 4800.2'; SILTY FINE-COARSE SAND (SM) - light brown (5YR5/6), dry, subangular-subround sand grains	
				A					
	20			SPT	40			Moist, clay (20'-20.7'), subangular-subround sand grains; Grayish orange (10YR7/4), moist, trace gravels (0.5"-1.5"), subangular-subround sand grains	
				A					
	25			SPT	77			26.0' Light brown (5YR5/6), dry, clay (25'-25.4'), subangular-subround sand grains El. 4790.0'; 26.2' El. 4789.8'; Grayish orange (10YR7/4), dry to moist, subangular-subround sand grains	95:5 Cement: Bentonite (2'-51.3')
				A				CLAY WITH FINE-COARSE SAND & GRAVELS (CL) - moderate brown (5YR4/4), moist, subangular-subround sand grains, angular-round quartzite gravels (0.5"-1.5")	
	30			SPT	31			34.0' GRAVELLY SILTY FINCE-COARSE SAND (SM) - grayish orange (10YR7/4), dry, subangular-subround sand grains, angular-round quartzite gravels (0.5"-1.5") El. 4782.0'	
				A					
	35			SPT	23			FINE-MEDIUM SAND SOME GRAVELS (SW) - grayish orange (10YR7/4), moist, subangular-subround sand grains, angular-round quartzite gravels (0.5"-1.5")	
				A					
	40			SPT	83				
				A				44.0' El. 4772.0'; CLAYEY SILTY GRAVELLY FINE-COARSE SAND (SM) - pale yellowish orange (10YR6/2), moist to wet, subangular-subround sand grains, angular-round quartzite gravels (0.5"-1.5")	
	45			SPT	52				
				A					
	50							50.0' El. 4766.0'	

Additional Groundwater Measurements

Depth (ft)	Hour	Date
55.92	10:34:00 AM	11/18/2005

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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KLEINFELDER

Monitoring Well Log

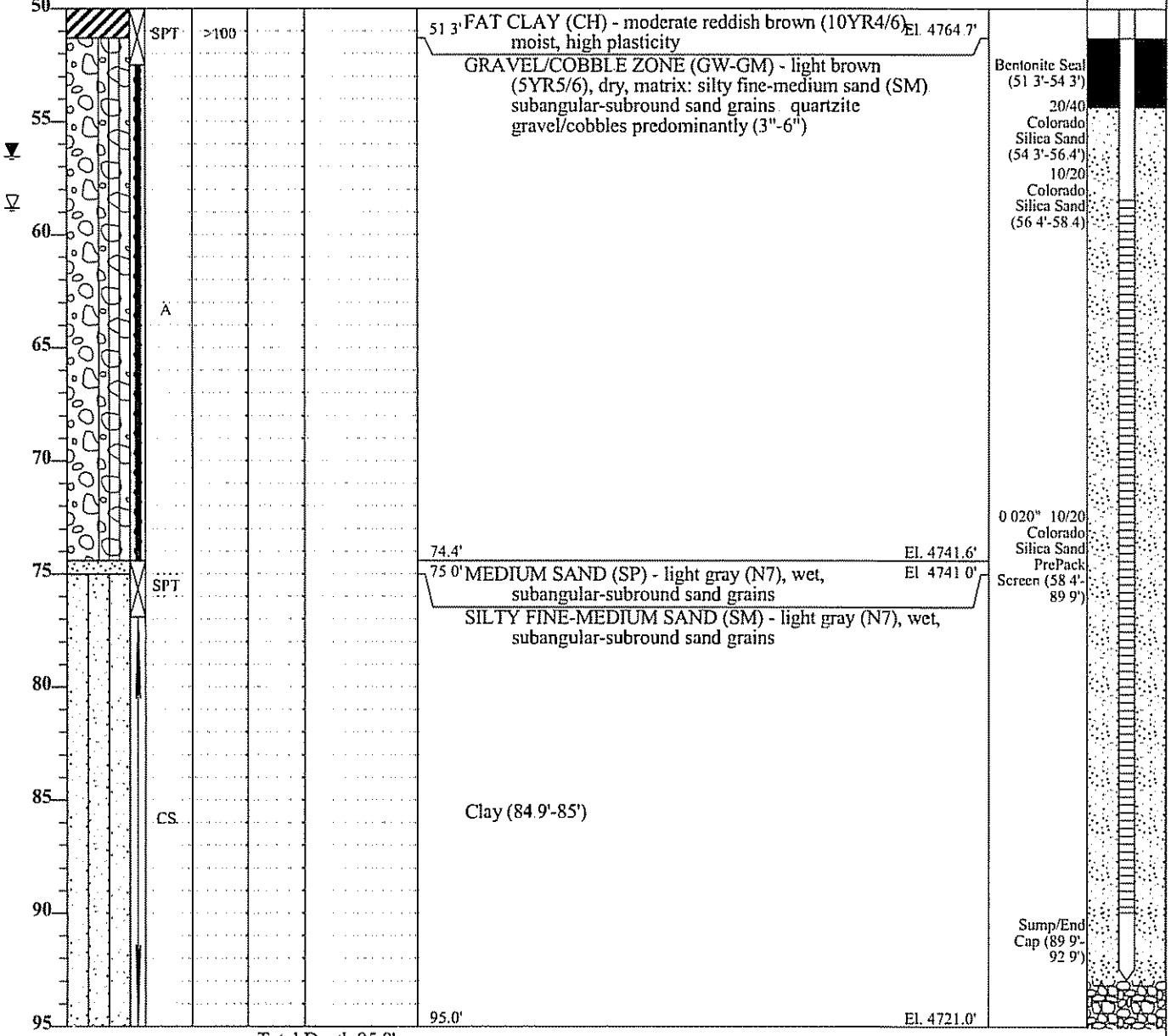
Date		Project Number	Project	Well No.
Started: 7/27/2005		58326	Veguita Denitrification Demo	MW-1
Completed: 7/30/2005				
Backfilled: 7/30/2005		Rig Type: CME 75	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.146'		Longitude: 106°44.831'	Location: Tres Lagunitas Lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
58.83	7:47:00 AM	7/27/2005
56.52	9:30:00 AM	8/2/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.



Total Depth 95 0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date
55.92	10:34:00 AM	11/18/2005

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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KLEINFELDER

Monitoring Well Log

Date	Started: 7/28/2005	Project Number 58326	Project Veguita Denitrification Demo	Well No. MW-2
	Completed: 7/28/2005			
	Backfilled: 7/28/2005	Rig Type: CME 75	Elevation:	Logged By: Lee Dalton
Latitude:		Longitude:	Location: Abo Valley Unit 4/Lot 24	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							FINE SANDY SILT (ML) - light brown (5YR5/6), dry	
	5								
	10								
	15							15.0' SILTY FINE SAND (SM) - light brown (5YR5/6), dry, few coarse subangular-subround sand grains	
	20							21.0' SILTY FINE-COARSE SAND WITH GRAVELS & COBBLES (SM) - light brown (5YR5/6), dry, subangular-subround sand grains, subround-round quartzite gravels/cobbles (1"-3")	
	25			A					
	30								
	35							Some thin fragemets of clay @ 35'	
	40							40.0' GRAVEL ZONE (GW-GM) - light brown (5YR5/6), dry, matrix: silty fine-coarse sand	
	45							Light brown (5YR5/6), moist, matrix: clayey silty fine-coarse sand	
	50								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 7/28/2005	58326	Veguita Denitrification Demo	MW-2
Completed: 7/28/2005			
Backfilled: 7/28/2005	Rig Type: CME 75	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Abo Valley Unit 4/Lot 24	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater Depth (ft)	Hour	Date

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	50							GRAVEL ZONE (GW-GM) - light brown (5YR5/6), dry, matrix: silty fine-coarse sand Moderate brown (5YR4/4), moist, matrix: fine-coarse sand, few clay and silt; some subround-round quartzite cobbles (2"-3")	
				A					
	55			SPT					
				A					
								59.7'	
	60			SPT				60.2' FAT CLAY (CH) - light brown (5YR5/6), moist, high plasticity	
				A					
				SPT				SILTY FINE-COARSE SAND WITH GRAVELS (SM) - grayish orange (10YR7/4), wet, subangular-subround sand grains. subround-round quartzite gravels/cobbles (0.51"-1.5") Light brown (5YR5/6), wet, subangular-subround sand grains. subround-round quartzite gravels/cobbles (0.51"-1.5")	
	65								
	70								
				A					
								75.0'	
	75							CLAYEY SILTY FINE-COARSE SAND (SM) - light brown (5YR5/6), wet, subangular-subround sand grains. subround-round quartzite gravels/cobbles (0.51"-1.5")	
	80								
								84.0'	

Total Depth 84.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 7/28/2005	58326	Veguita Denitrification Demo	MW-2R
Completed: 7/30/2005			
Backfilled: 7/30/2005	Rig Type: CME 75	Elevation: 4564.0'	Logged By: Lee Dalton
Latitude: 34°31.186'	Longitude: 106°45.277'	Location: Abo Valley Unit 4/Lot 24	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
44.6	7:36:00 PM	7/29/2005
45.6	1:32:00 PM	8/2/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.

0

FINE SANDY SILT (ML) - light brown (5YR5/6), dry, finning up (increased silt concentration up sequence)

Cement (0-2')

5

10

15

95:5 Cement: Bentonite (2'-36 3')

20

25 — A

25.0' El. 4539.0'

SILTY FINE SAND FEW COARSE SAND, GRAVELS, & COBBLES (SM) - light brown (5YR5/6), dry, subangular-subround sand grains, angular-subround quartzite gravels/cobbles (0 5"-3")

30

35

Slough (36 3'-39 7')

40

40.0' El. 4524.0'

CLAYEY SILTY FINE-COARSE SAND SOME GRAVELS/COBBLES (SM) - moderate brown (5YR3/4), dry, subangular-subround sand grains, angular-subround quartzite gravels/cobbles (0 5"-3")

Bentonite Seal (36 3'-39 7')

45

Slough (43 6'-56 6')

50

50.0' El. 4514.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 7/28/2005	58326	Veguita Denitrification Demo	MW-2R
Completed: 7/30/2005			
Backfilled: 7/30/2005	Rig Type: CME 75	Elevation: 4564.0'	Logged By: Lee Dalton
Latitude: 34°31.186'	Longitude: 106°45.277'	Location: Abo Valley Unit 4/Lot 24	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
44.6	7:36:00 PM	7/29/2005
45.6	1:32:00 PM	8/2/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.

50

55

60

65

70

75

80

85

A

GRAVEL/COBBLE ZONE (GW-GM) - light brown (5YR5/6), dry, matrix: silty fine-coarse sand. subangular-subround sand grains, angular-subround quartzite gravels/cobbles (0.5"-5")

Light brown (5YR5/6), dry, matrix: clayey silty fine-coarse sand. subangular-subround sand grains, angular-subround quartzite gravels/cobbles (0.5"-5")

65.0' El. 4499.0'

SILTY FINE-COARSE SAND (SM) - moderate brown (5YR3/4), wet, subangular-subround sand grains

Moderate brown (5YR3/4), wet, clay, subangular-subround sand grains

89.0' El. 4475.0'

Total Depth 89.0'

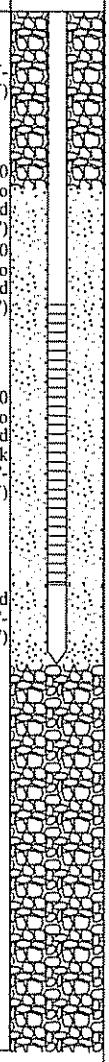
Slough (43.6'-56.6')

20/40 Colorado Silica Sand (39.7'-43.6')

10/20 Colorado Silica Sand (43.6'-56.6')

0.020" 10/20 Colorado Silica Sand PrePack Screen (61'-71.5')

Sump/End Cap (71.5'-74.5')



Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hoor	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

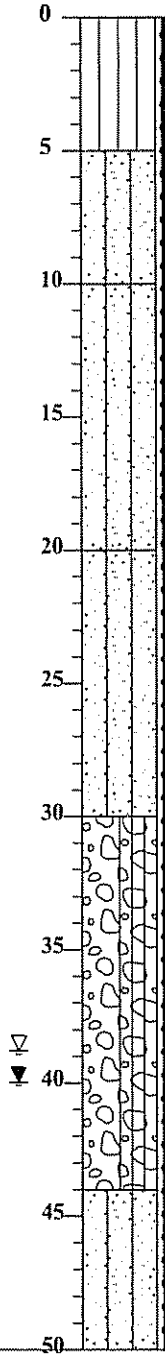
Date	Project Number	Project	Well No.
Started: 8/8/2005	58326	Veguita Denitrification Demo	MW-3
Completed: 8/10/2005			
Backfilled: 8/10/2005	Rig Type: CME 75	Elevation: 4707.0'	Logged By: Lee Dalton
Latitude: 34°31.32'	Longitude: 106°45.153'	Location: Abo Valley Unit 2/Lot 34	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
38.8	4:40:00 PM	8/8/2005
39.97	12:25:00 PM	8/15/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.



Depth	Visual Classification
0	FINE SANDY SILTY (ML) - grayish orange (10YR7/4), dry
5.0' El. 4702.0'	SILTY FINE-MEDIUM SAND FEW GRAVELS (SM) - light brown (5YR6/4), dry, one subround quartzite cobble (3"), subangular-subround sand grains; subround quartzite gravel (0.5"-1")
10.0' El. 4697.0'	SILTY FINE-COARSE SAND SOME GRAVELS (SM) - light brown (5YR6/4), dry, subangular-subround sand grains; subround-round quartzite gravel (0.5"-1")
20.0' El. 4687.0'	SILTY FINE-COARSE SAND SOME GRAVELS & CLAY (SM) - moderate brown (5YR3/4), dry, subangular-subround sand grains; subround-round quartzite gravel (0.5"-1")
	Moderate brown (5YR4/4), dry, subangular-subround sand grains; subround-round quartzite gravel (0.5"-1")
30.0' El. 4677.0'	GRAVEL/COBBLE ZONE (GW-GM) - moderate brown (5YR4/4), dry, subround-round quartzite gravels/cobbles (0.5"-3"); matrix: silty fine-medium sand, subangular-subround sand grains
44.0' El. 4663.0'	SILTY FINE-MEDIUM SAND (SM) - light gray (N7), wet, subangular-subround sand grains

Sample Taken: A

WELL CONST.: Cement Cap (0-2'); 95:5 Cement: Bentonite (2'-34.6'); Bentonite Seal (34.6'-37.6'); 20/40 Colorado Silica Sand (37.6'-38.6'); 10/20 Colorado Silica Sand (38.6'-43.52'); 0.020" 10/20 Colorado Silica Sand PrePack Screen (38.6'-43.5')

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 8/8/2005	58326	Veguita Denitrification Demo	MW-3
Completed: 8/10/2005			
Backfilled: 8/10/2005	Rig Type: CME 75	Elevation: 4707.0'	Logged By: Lee Dalton
Latitude: 34°31.32'	Longitude: 106°45.153'	Location: Abo Valley Unit 2/Lot 34	

Sample Type:
D - Disturbed Sample
CS - 3.5" I.D. Continuous Sampler
SPT - 2" O.D. 1.38" I.D. Tube Sample
U - 3" O.D. 2.42" I.D. Ring Sample
ST - 3" O.D. Thin-Walled Shelby Tube
NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
38.8	4:40:00 PM	8/8/2005
39.97	12:25:00 PM	8/15/2005

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	50							SILTY FINE-MEDIUM SAND (SM) - light gray (N7), wet, subangular-subround sand grains	
				A					
	55								Sump/End Cap (54'-57')
								57.5' El. 4649.5'	

Total Depth 57.5'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 8/9/2005	58326	Veguita Denitrification Demo	MW-4
Completed: 8/10/2005			
Backfilled: 8/10/2005	Rig Type: CME 75	Elevation: 4618.0'	Logged By: Lee Dalton
Latitude: 34°31.052'	Longitude: 106°44.961'	Location: Tres Lagunitas Lot 11	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
54.35	4:32:00 PM	8/10/2005
56.81	12:00:00 PM	8/15/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.

Depth (ft)	Visual Classification	Sample Type	Penetration Resistance (Blows per foot)
0	FINE SANDY SILT (ML) - light brown (5YR5/6), dry		
10.0' (El. 4608.0')	SILTY VERY FINE-MEDIUM SAND FEW GRAVELS (ML) - light brown (5YR5/6), dry to moist, subangular-subround sand grains; subround quartzite gravels (0.5"-1")		
15.0' (El. 4603.0')	SILTY FINE-MEDIUM SAND FEW CLAY & GRAVELS (SM) - moderate brown (5YR4/4), moist, subangular-subround sand grains; subround quartzite gravels (0.5"-1")	A	
32.5' (El. 4585.5')	GRAVEL/COBBLE ZONE (GW-GM) - moderate brown (5YR4/4), moist, gravel/cobble finning up sequence, matrix: silty fine-medium sand (sm), subangular-subround sand grains; subround quartzite gravels (0.5"-1")		
45.0' (El. 4573.0')	FINE-MEDIUM SAND FEW GRAVELS (SW) - pale yellowish brown (10YR6/2), moist to wet, subangular-subround sand grains; subround quartzite gravels (0.5"-1")	SPT	40
		SPT	>50
		SPT	50/8

WELL CONST.: Cement Cap (0-2'); 95:5 Cement: Bentonite (2'-47.9'); Bentonite Seal (47.9'-51.3')

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

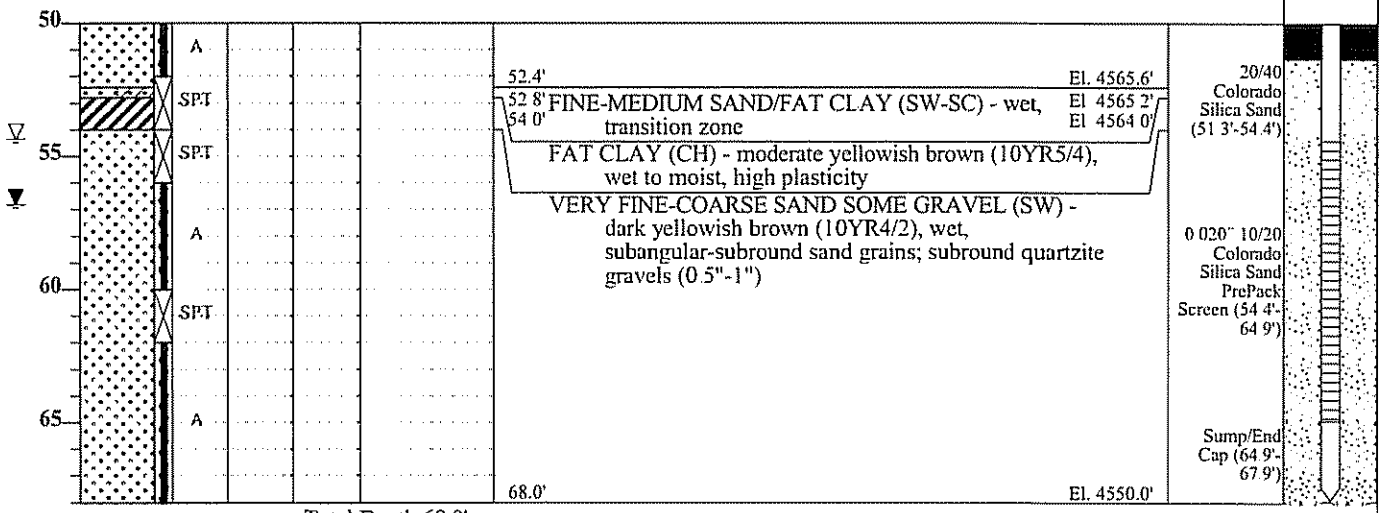
Date	Project Number	Project	Well No.
Started: 8/9/2005	58326	Veguita Denitrification Demo	MW-4
Completed: 8/10/2005			
Backfilled: 8/10/2005	Rig Type: CME 75	Elevation: 4618.0'	Logged By: Lee Dalton
Latitude: 34°31.052'	Longitude: 106°44.961'	Location: Tres Lagunitas Lot 11	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
54.35	4:32:00 PM	8/10/2005
56.81	12:00:00 PM	8/15/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.



52.4' El. 4565.6'

52.8' FINE-MEDIUM SAND/FAT CLAY (SW-SC) - wet, transition zone El. 4565.2'

54.0' El. 4564.0'

FAT CLAY (CH) - moderate yellowish brown (10YR5/4), wet to moist, high plasticity

VERY FINE-COARSE SAND SOME GRAVEL (SW) - dark yellowish brown (10YR4/2), wet, subangular-subround sand grains; subround quartzite gravels (0.5"-1")

68.0' El. 4550.0'

WELL CONST.:
- 20/40 Colorado Silica Sand (51.3'-54.4')
- 0.020" 10/20 Colorado Silica Sand PrePack Screen (54.4'-64.9')
- Sump/End Cap (64.9'-67.9')

Total Depth 68.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 11/1/2005		58326	Veguita Denitrification Demo	OW-1R
Completed: 11/1/2005				
Backfilled: 11/1/2005		Rig Type: CME 75	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.141'		Longitude: 106°44.804'	Location: Tres Lagunitas Lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
54.06	10:24:00 AM	11/18/2005

Groundwater Depth (ft.) / Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
0							SILT (ML) - red-brown, dry, well graded, few fine sands	Cement Cap (0-2')
5							5.0' El. 4811.0' SANDY SILT (ML) - red-brown, dry, well graded, 20% fine sands	
10								
15							15.0' El. 4801.0' SANDY SILT (ML) - red-brown, dry, well graded, few quartzite gravels up to 1"	
20								
25			A				23.0' El. 4793.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: sandy silt (ML) some clay, fine sands (20%)	95:5 Cement: Bentonite (2'-48.4')
30							29.0' El. 4787.0' GRAVEL ZONE (GW) - light brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: silty fine-coarse sand (SM), subangular-subround sand (70%)	
35							35.0' El. 4781.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand (70%)	
40							43.0' El. 4773.0' SILTY FINE-MEDIUM SAND (SM) - light brown, dry to cuttings wet @ 80' bgs to TD (90'bgs), well graded	
45								
50								Bentonite Seal (48.4'-52.3')

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 11/1/2005	58326	Veguita Denitrification Demo	OW-1R
Completed: 11/1/2005			
Backfilled: 11/1/2005	Rig Type: CME 75	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.141'	Longitude: 106°44.804'	Location: Tres Lagunitas Lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
54.06	10:24:00 AM	11/18/2005

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.

50, 55, 60, 65, 70, 75, 80, 85, 90

SILTY FINE-MEDIUM SAND (SM) - light brown, dry to cuttings wet @ 80' bgs to TD (90'bgs), well graded

90.2' El. 4725.8'

Total Depth 90.2'

WELL CONST.:
- Bentonite Seal (48.4'-52.3')
- 20/40 Colorado Silica Sand (53.1'-54.5')
- 10/20 Colorado Silica Sand (54.5'-56.65')
- 0.010" Prepack Screen with 10/20 Colorado Silica Sand
- Sump/End Cap (87.2'-90.2')

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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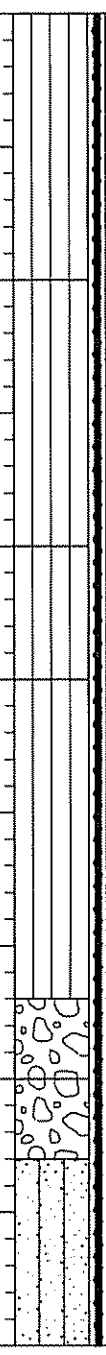
Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 11/3/2005		58326	Veguita Denitrification Demo	OW-2
Completed: 11/3/2005				
Backfilled: 11/3/2005		Rig Type: CME 75	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.140'		Longitude: 106°44.801'	Location: Tres Lagunitas Lot 17	

Sample Type:
D - Disturbed Sample
CS - 3.5" I.D. Continuous Sampler
SPT - 2" O.D. 1.38" I.D. Tube Sample
U - 3" O.D. 2.42" I.D. Ring Sample
ST - 3" O.D. Thin-Walled Shelby Tube
NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.18	9:20:00 AM	11/7/2005



Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							SILT (ML) - red-brown, dry, well graded, few fine sands	Cement Cap (0-2')
	10.0'							El. 4806.0'	
	10							SANDY SILT (ML) - red-brown, dry, well graded, some clay, fine sands (20%)	
	20.0'							El. 4796.0'	
	20							SANDY SILT (ML) - red-brown, dry, well graded, some clay, few quartzite gravels subround-round up to 1", fine sands (20%)	
	25.0'							El. 4791.0'	95:5 Cement: Bentonite (2'-47')
	25			A				GRAVELLY FINE-MEDIUM SANDY SILT (ML) - red-brown, dry, well graded, few clay, subangular-subround sand (30%), quartizite gravels subround-round up to 1"	
	37.0'							El. 4779.0'	
	40 0'							GRAVEL ZONE (GW) - red-brown, dry, well graded, few quartzite cobbles subround-round up to 3.5", Matrix: fine-coarse sandy silt (ML), subangular-subround sand (30%). Gavels: quartzite subround-round up to 3". El. 4776 0'	
	43 0'							GRAVEL ZONE (GW) - light brown, dry, well graded, few quartzite cobbles subround-round up to 3.5", Matrix: silty fine-coarse sand (SM), subangular-subround sand (70%). Gavels: quartzite subround-round up to 3". El. 4773 0'	
	50							SILTY FINE-COARSE SAND (SM) - red-brown, dry, well graded, subangular-subround sand (70%), driller comented "based on drilling response that there may be a thin clay layer below the gravel zone"	Bentonite Seal (47'-52 1')

Additional Groundwater Measurements

Depth (ft)	Hour	Date	Depth (ft)	Hour	Date	Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 11/3/2005	58326	Veguita Denitrification Demo	OW-2
Completed: 11/3/2005			
Backfilled: 11/3/2005	Rig Type: CME 75	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.140'	Longitude: 106°44.801'	Location: Tres Lagunitas Lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.18	9:20:00 AM	11/7/2005

Columns: Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.

Depth (ft)	Visual Classification	Well Const.
50	SILTY FINE-COARSE SAND (SM) - red-brown, dry, well graded, subangular-subround sand (70%), driller cemented "based on drilling response that there may be a thin clay layer below the gravel zone"	Bentonite Seal (47'-52 1')
		20/40 Colorado Silica Sand (52 1'-54 1')
55		10/20 Colorado Silica Sand (54 1'-56 3')
60	Light brown	
65		
70	A	0 020 prepack screen with 10/20 Colorado Silica Sand (56 3'-86.95')
72.0'	El. 4744.0'	
	SILTY FINE-COARSE SAND (SM) - red, moist, well graded, subangular-subround sand (80%)	
75	75.0' El. 4741.0'	
	No Returns on cuttings	
80		
85	85.0' El. 4731.0'	
	SILTY FINE-MEDIUM SAND (SM) - light brown, wet, well graded, subangular-subround sand (80%)	Sump/End Cap (87'-90')
90	90.0' El. 4726.0'	

Total Depth 90 0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 11/2/2005		58326	Veguita Denitrification Demo	TW-1
Completed: 11/4/2005				
Backfilled: 11/4/2005	Rig Type: Gardner-Denver 1500	Elevation: 4816.0'	Logged By: Lee Dalton	
Latitude: 34°31.139'	Longitude: 106°44.804'	Location: Tres Lagunitas Lot 17		

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.07	11:08:00 AM	11/18/2005

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0								Cement Cap (0-2')
	5								
	10								
	15								
	20								
	25								95:5 Cement: Bentonite (2'-62')
	30								
	35								
	40								
	45								
	50								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 11/2/2005		58326	Veguita Denitrification Demo	TW-1
Completed: 11/4/2005				
Backfilled: 11/4/2005	Rig Type: Gardner-Denver 1500		Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.139'	Longitude: 106°44.804'		Location: Tres Lagunitas Lot 17	

Sample Type:
D - Disturbed Sample
CS - 3.5" I.D. Continuous Sampler
SPT - 2" O.D. 1.38" I.D. Tube Sample
U - 3" O.D. 2.42" I.D. Ring Sample
ST - 3" O.D. Thin-Walled Shelby Tube
NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.07	11:08:00 AM	11/18/2005

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	50								
	55								95:5 Cement: Bentonite (2'-62')
	60								
	65								Bentonite Seal (62'-66') 20/40 Colorado Silica Sand (66'-67')
	70								8/16 Colorado Silica Sand (67'-79.6')
	75								
	80								
	85								0.030 stainless steel screen backfilled with 8/16 Colorado Silica Sand (79.6'-94.6')
	90								
	95								8/16 Colorado Silica Sand (94.6'-99.5')
	100								End Cap

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 11/2/2005	58326	Veguita Denitrification Demo	TW-1
Completed: 11/4/2005			
Backfilled: 11/4/2005	Rig Type: Gardner-Denver 1500	Elevation: 4816.0'	Logged By: Lee Dalton
Latitude: 34°31.139'	Longitude: 106°44.804'	Location: Tres Lagunitas Lot 17	

Sample Type:
D - Disturbed Sample
CS - 3.5" I.D. Continuous Sampler
SPT - 2" O.D. 1.38" I.D. Tube Sample
U - 3" O.D. 2.42" I.D. Ring Sample
ST - 3" O.D. Thin-Walled Shelby Tube
NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.07	11:08:00 AM	11/18/2005

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
						Total Depth 100.0'			(99.5'-100')

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/5/2006	58326	Veguita Denitrification Demonstration	IW-1
Completed: 1/6/2006			
Backfilled: 1/6/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56	10:10:00 AM	4/14/2006

Groundwater Depth (ft.) / Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
5								
10								
15								95:5 Cement: Bentonite (2'-34')
20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	
25		A						
30								
35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	Bentonite Seal (34'-42.4')
40								
45								20/40 Colorado Silica Sand (42.4'-46') 8/16 Colorado Silica Sand (46'-98 8')
50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (48 7'-98 7')
55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 1/5/2006		58326	Veguita Denitrification Demonstration	IW-1
Completed: 1/6/2006				
Backfilled: 1/6/2006		Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:		Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56	10:10:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
∇	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75			A					0.030 prepack screen with 8/16 Colorado Silica Sand (48 7'-98 7')
	80								
	85								
	90								
	95								
	100							100.0'	End Cap

Total Depth 100.0' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 1/9/2006		58326	Veguita Denitrification Demonstration	IW-2
Completed: 1/10/2006				
Backfilled: 1/10/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton	
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17		

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.2	10:12:00 AM	4/14/2006

Groundwater Depth (ft.) / Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
5								
10								
15								
20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-37')
25			A					
30								
35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
40								Bentonite Seal (37'-43')
45								20/40 Colorado Silica Sand (43'-45.2') 8/16 Colorado Silica Sand (45 2'-98 1')
50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (48'-98')
55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/9/2006	58326	Veguita Denitrification Demonstration	IW-2
Completed: 1/10/2006			
Backfilled: 1/10/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
56.2	10:12:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75								0.030 prepack screen with 8/16 Colorado Silica Sand (48'-98')
	80			A					
	85								
	90								
	95								End Cap
	100							104.5'	

Total Depth 104.5' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/11/2006	58326	Veguita Denitrification Demonstration	IW-3
Completed: 1/13/2006			
Backfilled: 1/13/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.95	10:14:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
	5								
	10								
	15								95:5 Cement: Bentonite (2'-27')
	20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	
	25								
	30			A					Bentonite Seal (27'-33 5')
	35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	20/40 Colorado Silica Sand (33 5'-43 7')
	40								
	45								8/16 Colorado Silica Sand (43 7'-97 6')
	50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (47 5'-97 5')
	55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 1/11/2006		58326	Veguita Denitrification Demonstration	IW-3
Completed: 1/13/2006				
Backfilled: 1/13/2006	Rig Type: Gardner-Denver 1000		Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:		Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.95	10:14:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75								0.030 prepack screen with 8/16 Colorado Silica Sand (47.5'-97.5')
				A					
	80								
	85								
	90								
	95								End Cap
	100							101.4'	

Total Depth 101.4' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Started: 1/17/2006	Project Number	Project	Well No.
	Completed: 1/18/2006	58326	Veguita Denitrification Demonstration	IW-4
	Backfilled: 1/18/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton

Latitude: | Longitude: | Location: Tres Lagunitas Subdivision, lot 17

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.89	10:15:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
	5								
	10								
	15								
	20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-37 3')
	25			A					
	30								
	35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
	40								Bentonite Seal (37 3'-43 7')
	45								20/40 Colorado Silica Sand (43.7'-44 5') 8/16 Colorado Silica Sand (44 5'-98 7')
	50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (48 6'-98 6')
	55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/17/2006	58326	Veguita Denitrification Demonstration	IW-4
Completed: 1/18/2006			
Backfilled: 1/18/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.89	10:15:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75								0 030 prepack screen with 8/16 Colorado Silica Sand (48 6'-98 6')
	80			A					
	85								
	90								
	95								
	100							103.0'	End Cap

Total Depth 103 0' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/26/2006	58326	Veguita Denitrification Demonstration	IW-5
Completed: 1/27/2006			
Backfilled: 1/27/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.77	10:17:00 AM	4/14/2006

Groundwater Depth (ft.) / Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
5								
10								
15								
20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-38 7')
25			A					
30								
35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
40								Bentonite Seal (38 7'-43 7')
45								20/40 Colorado Silica Sand (43 7'-45 9') 8/16 Colorado Silica Sand (45 9'-99 85')
50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (49 8'-99 8')
55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/26/2006	58326	Veguita Denitrification Demonstration	IW-5
Completed: 1/27/2006			
Backfilled: 1/27/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.77	10:17:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75			A					0 030 prepack screen with 8/16 Colorado Silica Sand (49 8'-99 8')
	80								
	85								
	90								
	95							99.9'	End Cap

Total Depth 99 9' Drilling Method: Mud Rotary (8 5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/24/2006	58326	Veguita Denitrification Demonstration	IW-6
Completed: 1/25/2006			
Backfilled: 1/25/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.56	10:18:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
	5								
	10								
	15								
	20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-42')
	25			A					
	30								
	35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
	40								
	45								Bentonite Seal (42'-47')
									20/40 Colorado Silica Sand (47'-48')
	50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	8/16 Colorado Silica Sand (48'-100 05")
	55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/24/2006	58326	Veguita Denitrification Demonstration	IW-6
Completed: 1/25/2006			
Backfilled: 1/25/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.56	10:18:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75			A					
	80								0.030 prepack screen with 8/16 Colorado Silica Sand (50'-100')
	85								
	90								
	95								
	100							100.1'	End Cap

Total Depth 100.1' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/22/2006	58326	Veguita Denitrification Demonstration	IW-7
Completed: 1/23/2006			
Backfilled: 1/23/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.82	10:19:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
	5								
	10								
	15								
	20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-39 6')
	25			A					
	30								
	35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
	40								Bentonite Seal (39 6'-44 4')
	45								20/40 Colorado Silica Sand (44.4'-47 3') 8/16 Colorado Silica Sand (47 3'-99 9')
	50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (49 8'-99 8')
	55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Started: 1/22/2006	Project Number	Project	Well No.
	Completed: 1/23/2006	58326	Veguita Denitrification Demonstration	IW-7
	Backfilled: 1/23/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:		Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.82	10:19:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75			A					0 030 prepack screen with 8/16 Colorado Silica Sand (49 8'-99 8')
	80								
	85								
	90								
	95								
	100							100.0'	End Cap

Total Depth 100 0' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/19/2006	58326	Veguita Denitrification Demonstration	IW-8
Completed: 1/20/2006			
Backfilled: 1/20/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.67	10:20:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
	5								
	10								
	15								
	20							20.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-40 0')
	25								
	30			A					
	35							35.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
	40								Bentonite Seal (40 0'-43 6')
	45								20/40 Colorado Silica Sand (43 6'-46 3') 8/16 Colorado Silica Sand (46 3'-100")
	50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0 030 prepack screen with 8/16 Colorado Silica Sand (49 9'-99 9')
	55								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

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Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/19/2006	58326	Veguita Denitrification Demonstration	IW-8
Completed: 1/20/2006			
Backfilled: 1/20/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type:
D - Disturbed Sample
CS - 3.5" I.D. Continuous Sampler
SPT - 2" O.D. 1.38" I.D. Tube Sample
U - 3" O.D. 2.42" I.D. Ring Sample
ST - 3" O.D. Thin-Walled Shelby Tube
NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.67	10:20:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75								0 030 prepack screen with 8/16 Colorado Silica Sand (49 9'-99 9')
	80			A					
	85								
	90								
	95								
	100							100.0'	End Cap
								CLAY (CL) - lithology based upon drillers comments	
	105								
	110								

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/19/2006	58326	Veguita Denitrification Demonstration	IW-8
Completed: 1/20/2006			
Backfilled: 1/20/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.67	10:20:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	110							CLAY (CL) - lithology based upon drillers comments	
	115			A					
	120							120.0'	

Total Depth 120.0' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/17/2006	58326	Veguita Denitrification Demonstration	IW-9
Completed: 1/18/2006			
Backfilled: 1/18/2006	Rig Type: CME 75	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	0							CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
	5								95:5 Cement: Bentonite (2'-11')
	10								Bentonite Seal (11'-14')
	15							15.0' GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	8/16 Colorado Silica Sand (14'-19')
	20								
	25								
	30			A					0.030 prepack screen with 8/16 Colorado Silica Sand (19'-49')
	35								
	40							40.0' GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
	45								
	50							50.0' SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	Bentonite Seal (49'-52')
	55								8/16 Colorado Silica Sand (52'-54'))

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/17/2006	58326	Veguita Denitrification Demonstration	IW-9
Completed: 1/18/2006			
Backfilled: 1/18/2006	Rig Type: CME 75	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater Depth (ft)	Hour	Date

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65			A					0.020 prepack screen with 8/16 Colorado Silica Sand (54'-74')
	70								
	75							75.0'	End Cap

Total Depth 75.0'

Drilling Method: HSA (9" OD)

* 2.5' stickup.

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/22/2006	58326	Veguita Denitrification Demonstration	TW-2
Completed: 1/23/2006			
Backfilled: 1/23/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.82	10:19:00 AM	4/14/2006

Columns: Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.

Depth (ft)	Visual Classification	WELL CONST.
0	CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
20.0'	GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-39 6')
35.0'	GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	Bentonite Seal (39 6'-44.4')
		20/40 Colorado Silica Sand (44.4'-47 3')
		8/16 Colorado Silica Sand (47 3'-99 9')
50.0'	SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	0.030 prepack screen with 8/16 Colorado Silica Sand (49 8'-99 8')

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

Date	Project Number	Project	Well No.
Started: 1/22/2006	58326	Veguita Denitrification Demonstration	TW-2
Completed: 1/23/2006			
Backfilled: 1/23/2006	Rig Type: Gardner-Denver 1000	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
55.82	10:19:00 AM	4/14/2006

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
▽	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								
	65								
	70								
	75			A					0 030 prepack screen with 8/16 Colorado Silica Sand (49 8'-99 8')
	80								
	85								
	90								
	95								
	100							100.0'	End Cap

Total Depth 100 0' Drilling Method: Mud Rotary (8.5" OD)

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

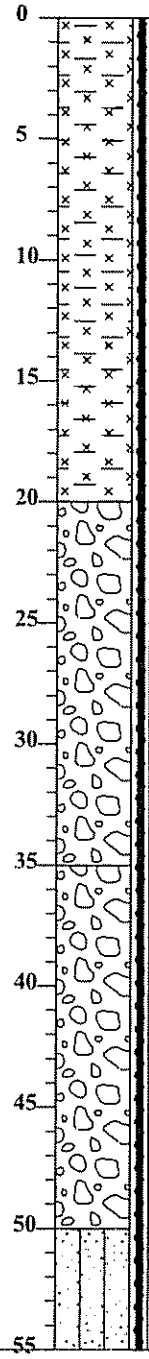
Date	Project Number	Project	Well No.
Started: 4/6/2006	58326	Veguita Denitrification Demonstration	TW-3
Completed: 4/7/2006			
Backfilled: 4/7/2006	Rig Type: CME 75	Elevation:	Logged By: Lee Dalton
Latitude:	Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type:
D - Disturbed Sample
CS - 3.5" I.D. Continuous Sampler
SPT - 2" O.D. 1.38" I.D. Tube Sample
U - 3" O.D. 2.42" I.D. Ring Sample
ST - 3" O.D. Thin-Walled Shelby Tube
NR - No Recovery

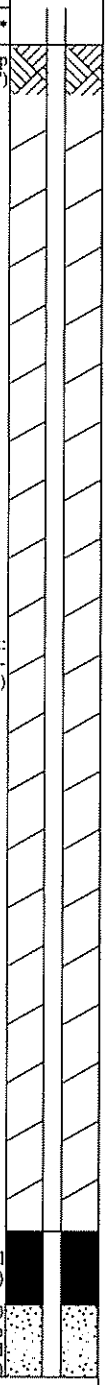
Groundwater

Depth (ft)	Hour	Date

Groundwater Depth (ft.) | Depth (ft.) | Graphical Log | Sample Taken | Sample Type | Penetration Resistance (Blows per foot) | PID Heated Headspace Reading, ppm | Analytical Sample Number | Visual Classification | WELL CONST.



Depth (ft.)	Visual Classification	WELL CONST.
0	CLAYEY SILT (SITLCL) - light brown, dry, few fine sands	Cement Cap (0-2')
20.0'	GRAVEL ZONE (GW) - red-brown, dry, well graded, Gravels: round quartzite up to 1"; Matrix: fine sandy silt (ML) some clay, fine sands ~20%	95:5 Cement: Bentonite (2'-49')
35.0'	GRAVEL/COBBLE ZONE (GW) - light brown, dry, well graded, Gravel/Cobble: round quartzite up to 4"; Matrix: silty fine-coarse sand (SM), subangular-subround sand ~70%	
50.0'	SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	Bentonite Seal (49'-52')
		10/20 Colorado Silica Sand (52'-77.65')



Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

KLEINFELDER

Monitoring Well Log

Date		Project Number	Project	Well No.
Started: 4/6/2006		58326	Veguita Denitrification Demonstration	TW-3
Completed: 4/7/2006				
Backfilled: 4/7/2006		Rig Type: CME 75	Elevation:	Logged By: Lee Dalton
Latitude:		Longitude:	Location: Tres Lagunitas Subdivision, lot 17	

Sample Type: D - Disturbed Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date

Groundwater Depth (ft.)	Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONST.
	55							SILTY FINE-COARSE SAND (SM) - light brown, dry-wet, well graded, subangular-subround sand grains	
	60								0.030 prepack screen with 10/20 Colorado Silica Sand (55.2'-75.3')
	65			A					
	70								
	75							77.7'	End Cap

Total Depth 77.7' Drilling Method: HSA (10 3/4" OD)

* 2.5' stickup

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Kleinfelder Inc., Copyright 10/2/2006

OSE Well Records

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M Coordinate System
Central Zone in the ____ Grant.
U S G S Quad Map ____

C Latitude: 34 d 31.141 m ____ s Longitude: 106 d 44.795 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G Other: ____

H Give State Engineer File Number if existing well: ____

I On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/4/06 ; Completed: 1/8/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in.; total depth of well: 98 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 7" ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	30
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	98	100		48	98

7. 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	30	8.75"		14	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #1

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.

Walt Branum /TE
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.134 m ____ s Longitude: 106 d 44.796 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: _____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/9/06 ; Completed: 1/10/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in.; total depth of well: 98 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 60 ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	30
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	98	100		48	98

7. 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	37	8.75"		12	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #2

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

Walt Branum/TB
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.130 m ____ s Longitude: 106 d 44.802 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/11/06 ; Completed: 1/12/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in.; total depth of well: 98 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 7.5" ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	37
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5OD			-2	98	100		48	98

7. 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	37	8.75"		6	Tremmie pipe

8. 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.			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers
100	120	20	Clay

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #3

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

Walt Branum/TB
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant.
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.130 m ____ s Longitude: 106 d 44.809 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No ____, Map No ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/17/06 ; Completed: 1/18/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in ; total depth of well: 99 ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 8" ft

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	37
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	99	101		49	99

7. 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	37	8.75"		6	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #4

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

Walt Branum
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant.
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.136 m ____ s Longitude: 106 d 44.814 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No ____, Map No ____, of the ____ Hydrographic Survey

F. Lot No 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/24/06 ; Completed: 1/25/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in.; total depth of well: 99 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 9.5" ft

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	36
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	99	101		49	99

7. 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	40	8.75"		6	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers
100	120	20	Clay

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #5

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.

Walt Branum
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.143 m ____ s Longitude: 106 d 44.813 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. ____, Map No ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/26/06 ; Completed: 1/27/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in ; total depth of well: 100 ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 6.5" ft.

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	36
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	
100	120	20	Clay	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	100	102		50	100

7. 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	40	8.75"		6	Tremmie pipe

8. 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.			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers
100	120	20	Clay

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #6

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.

Walt Branum / RJ
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; **FWL** _____; **FSL** _____; **Use** _____; **Location No.** _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.147 m ____ s Longitude: 106 d 44.807 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No _____, Map No _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: _____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/21/06 ; Completed: 1/23/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in.; total depth of well: 99.5 ft;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 8" ft

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	36
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	
100	120	20	Clay	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	99.5	101.5		49	99.5

7. 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	40	8.75"		6	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers
100	120	20	Clay

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #7

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.

Walt Branum / RJ
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County

B X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant.
U.S.G.S. Quad Map ____

C Latitude: 34 d 31.146 m ____ s Longitude: 106 d 44.799 m ____ s

D East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E Tract No ____, Map No ____, of the ____ Hydrographic Survey

F. Lot No 17, Block No ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County

G Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/19/06 ; Completed: 1/20/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in.; total depth of well: 100 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 8.5" ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	36
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	
100	120	20	Clay	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	100	102		50	100

7. 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	37	8.75"		6	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers
100	120	20	Clay

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #8

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

Walt Branum/TB
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M. in ____ County.

B. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant. U.S.G.S. Quad Map ____

C. Latitude: 34 d 31 m 9 s Longitude: 106 d 44 m 50 s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD ____ (27 or 83)

E. Tract No. ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/18/06 ; Completed: 1/19/06 ; Type tools: Hollow Stem Auger ;
Size of hole: 10.75 in.; total depth of well: 74 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 55 '4" ft

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
20	35	15	Gravel	5.5
35	74	39	Sand and clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	74	76		24	74

7. 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	20	10.75"		16	Tremmie pipe

8. 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.			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	20	20	Sand and gravel
20	35	15	Gravel
35	74	39	Sand and clay stringers

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well # 9

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.

Brian Hitchcock/RG
Brian Hitchcock, Driller

04/14/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.169 m ____ s Longitude: 106 d 44.815 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No _____, Map No _____, of the _____ Hydrographic Survey

F. Lot No 17, Block No _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**

Work Phone: **505-877-1030**
Home Phone: _____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 1/30/06 ; Completed: 1/31/06 ; Type tools: Mud Rotary ;
Size of hole: 8.75 in ; total depth of well: 99 ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 59' 1.5" ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
17	50	33	Gravel	36
50	60	10	Clay	
60	100	40	Coarse sand with clay stringers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	99	101		49	99

7. 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	39	8.75"		6	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	17	17	Clay
17	50	33	Gravel
50	60	10	Clay
60	100	40	Coarse sand with clay stringers
100	120	20	Clay

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Test Well

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.

Walt Branum / RD
Walt Branum, Driller

02/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = ____ feet, Y = ____ feet, N.M. Coordinate System
____ Zone in the ____ Grant.
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31 m 8 s Longitude: 106 d 44 m 48 s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD ____ (27 or 83)

E. Tract No. ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 4/6/06 ; Completed: 4/7/06 ; Type tools: Hollow Stem Auger ;
Size of hole: 10.75 in ; total depth of well: 77.5 ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 57' ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
25	50	25	Sand and gravel	20
50	78	28	Sand with gravel layers	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4.5 OD			-2	77.5	79.5		55	75
Perf. 5.5 OD								

7. 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	20	10.75"		16	Tremmie pipe

8. 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.			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	25	25	Silty sand
25	50	25	Sand and gravel
50	78	28	Sand with gravel layers

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Test Well No. 3

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.

Brian Hitchcock/RG
Brian Hitchcock, Driller

04/14/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.138 m ____ s Longitude: 106 d 44.804 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: **WD-225**
Name: **Rodgers & Co., Inc.**
Agent: **Clarence Rodgers**
Mailing Address: **2615 Isleta Blvd. SW**
City: **Albuquerque,**
Work Phone: **505-877-1030**
Home Phone: ____
State: **NM** Zip: **87105**

4. DRILLING RECORD

Drilling began: 11/1/05 ; Completed: 11/4/05 ; Type tools: Mud Rotary ;
Size of hole: 12.25 in.; total depth of well: 95 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 57' 10.5" ft.

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)
61	104	43	Small gravels, medium to coarse sand	45

6. RECORD OF CASING

Diameter (inches)	Pounds per ft	Threads per in	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8 OD			-2.5	95	97.5		75	90

7. 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	66	12.25"		81	Tremmie pipe

8. 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			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	3	3	Top soil
3	43	40	Gravel and cobbles
43	57	14	Coarse gravels
57	61	4	Gravels, tan clay
61	104	43	Small gravels, medium to coarse sand

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Extraction Well

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.

John Torres / RS
John Torres, Driller

2/23/06
(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

OSE Plugging Reports

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.141 m ___ s Longitude: 106 d 44.795 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. _____, Map No _____, of the _____ Hydrographic Survey

F. Lot No 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____
Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in.; total depth of well: _____ ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.
Address: 2615 Isleta Blvd. SW Albuquerque, NM
Plugging Method: Portland cement/5% bentonite pumped through tubing
Date Well Plugged: September 14, 2006

Plugging approved by: _____
State Engineer Representative

No	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1.	0	98	14
2.			
3			
4.			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #1

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.134 m ____ s Longitude: 106 d 44.796 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____
Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in ; total depth of well: _____ ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	0	98	14
2.			
3.			
4			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #2

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.130 m ____ s Longitude: 106 d 44.802 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____

Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in.; total depth of well: _____ ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.
Address: 2615 Isleta Blvd. SW Albuquerque, NM
Plugging Method: Portland cement/5% bentonite pumped through tubing
Date Well Plugged: September 14, 2006

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	0	98	14
2			
3			
4			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #3

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.130 m ____ s Longitude: 106 d 44.809 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____

Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in.; total depth of well: _____ ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. RECORD OF MUDDING AND CEMENTING

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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feet of Cement
1.	0	99	14
2.			
3.			
4.			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #4

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the ____ Grant.
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.136 m ____ s Longitude: 106 d 44.814 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: ____
Name: ____
Agent: ____
Mailing Address: ____
City: ____

Work Phone: ____
Home Phone: ____
State: ____ Zip: ____

4. DRILLING RECORD

Drilling began: ____ ; Completed: ____ ; Type tools: ____ ;
Size of hole: ____ in.; total depth of well: ____ ft;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: ____ ft.

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	0	99	14
2			
3			
4			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #5

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County

B X = 350,226.319 feet, Y = 1,280,633.316 feet, N M Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C Latitude: 34 d 31.143 m ____ s Longitude: 106 d 44.813 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____
Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in ; total depth of well: _____ ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. RECORD OF MUDDING AND CEMENTING

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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No	Depth in Feet Top	Bottom	Cubic Feet of Cement
1	0	100	14
2			
3			
4			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #6

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

(mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M. in ____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System Central Zone in the ____ Grant
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31.147 m ____ s Longitude: 106 d 44.807 m ____ s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No ____, Map No ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: ____
Name: ____
Agent: ____
Mailing Address: ____
City: ____

Work Phone: ____
Home Phone: ____
State: ____ Zip: ____

4. DRILLING RECORD

Drilling began: ____ ; Completed: ____ ; Type tools: ____ ;
Size of hole: ____ in ; total depth of well: ____ ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: ____ ft

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1.	0	99.5	14
2.			
3.			
4.			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #7

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.146 m ____ s Longitude: 106 d 44.799 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____
Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in.; total depth of well: _____ ft;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	0	100	14
2			
3			
4			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well #8

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31 m 9 s Longitude: 106 d 44 m 50 s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD _____ (27 or 83)

E. Tract No. _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____
Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in ; total depth of well: _____ ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	0	74	13
2			
3			
4			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Injection Well # 9

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque
Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = 350,226.319 feet, Y = 1,280,633.316 feet, N.M. Coordinate System
Central Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.169 m ____ s Longitude: 106 d 44.815 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD 27 (27 or 83)

E. Tract No. _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____
Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in ; total depth of well: _____ ft ;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1.	0	99	14
2.			
3.			
4.			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Test Well 2

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in ____ County.

B. X = ____ feet, Y = ____ feet, N.M. Coordinate System
____ Zone in the ____ Grant.
U.S.G.S. Quad Map ____

C. Latitude: 34 d 31 m 8 s Longitude: 106 d 44 m 48 s

D. East ____ (m), North ____ (m), UTM Zone 13, NAD ____ (27 or 83)

E. Tract No. ____, Map No. ____, of the ____ Hydrographic Survey

F. Lot No. 17, Block No. ____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: ____

H. Give State Engineer File Number if existing well: ____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: ____
Name: ____
Agent: ____
Mailing Address: ____
City: ____

Work Phone: ____
Home Phone: ____
State: ____ Zip: ____

4. DRILLING RECORD

Drilling began: ____ ; Completed: ____ ; Type tools: ____ ;
Size of hole: ____ in.; total depth of well: ____ ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: ____ ft.

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.
Address: 2615 Isleta Blvd. SW Albuquerque, NM
Plugging Method: Portland cement/5% bentonite pumped through tubing
Date Well Plugged: September 14, 2006

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1.	0	77.5	12
2			
3.			
4			
5.			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Test Well No. 3

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

File Number: Unknown

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: Kleinfelder
Contact: Bill Huey, PE
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505-344-7373
Home Phone: 505-235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known

A. ____ 1/4 ____ 1/4 ____ 1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 34 d 31.141 m ____ s Longitude: 106 d 44.804 m ____ s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD ____ (27 or 83)

E. Tract No. _____, Map No. _____, of the _____ Hydrographic Survey

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the
Abo Valley Ranch Subdivision recorded in Socorro County.

G. Other: _____

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): Pablo Martinez

3. DRILLING CONTRACTOR

License Number: _____
Name: _____
Agent: _____
Mailing Address: _____
City: _____

Work Phone: _____
Home Phone: _____
State: _____ Zip: _____

4. DRILLING RECORD

Drilling began: _____ ; Completed: _____ ; Type tools: _____ ;
Size of hole: _____ in.; total depth of well: _____ ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: _____ ft.

File Number: Unknown

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

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

7. 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

8. PLUGGING RECORD

Plugging Contractor: Rodgers & Co., Inc.

Address: 2615 Isleta Blvd. SW Albuquerque, NM

Plugging Method: Portland cement/5% bentonite pumped through tubing

Date Well Plugged: September 14, 2006

Plugging approved by: _____

State Engineer Representative

No	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1.	0	90	3
2			
3			
4.			
5			

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Well # OW-1R
Driller unknown
2" well

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 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad _____; FWL _____; FSL _____; Use _____; Location No. _____

Volume 2

Rev. 1 Veguita Groundwater Denitrification Demonstration Project Report

APPENDIX C

Laboratory Reports

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

MAR 0 6 2006

MAR - 6 2006

COVER LETTER

Thursday, March 02, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No : 0602174

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/17/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0602174	**Collection Date:**	2/16/2006 11:49:00 AM
Project:	Vequita	**Date Received:**	2/17/2006
Lab ID:	0602174-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	81	1 0		mg/L	10	2/25/2006
EPA METHOD 351.3: TKN						Analyst: CMC
Nitrogen, Kjeldahl, Total	ND	5 0		mg/L	1	2/21/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0602174	**Collection Date:**	2/16/2006 2:12:00 PM
Project:	Vequita	**Date Received:**	2/17/2006
Lab ID:	0602174-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	64	0 50		mg/L	5	2/25/2006
EPA METHOD 351 3: TKN						Analyst: **CMC**
Nitrogen, Kjeldahl, Total	ND	5 0		mg/L	1	2/21/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0602174	**Collection Date:**	2/16/2006 3:40:00 PM
Project:	Vequita	**Date Received:**	2/17/2006
Lab ID:	0602174-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	55	0.50		mg/L	5	3/1/2006
EPA METHOD 351.3: TKN						Analyst: **CMC**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	2/21/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	4% Solution
Lab Order:	0602174	**Collection Date:**	2/16/2006 3:55:00 PM
Project:	Vequita	**Date Received:**	2/17/2006
Lab ID:	0602174-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	39	1.0		mg/L	10	2/17/2006
EPA METHOD 351.3: TKN						Analyst: **CMC**
Nitrogen, Kjeldahl, Total	450	10		mg/L	1	2/21/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT: Kleinfelder
Work Order: 0602174
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18314**
Client ID: **ZZZZZ** Batch ID: R18314 TestNo: **E300** Analysis Date: **2/17/2006** SeqNo: **451690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18314**
Client ID: **ZZZZZ** Batch ID: R18314 TestNo: **E300** Analysis Date: **2/17/2006** SeqNo: **451722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18397**
Client ID: **ZZZZZ** Batch ID: R18397 TestNo: **E300** Analysis Date: **2/25/2006** SeqNo: **453876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18443**
Client ID: **ZZZZZ** Batch ID: R18443 TestNo: **E300** Analysis Date: **3/1/2006** SeqNo: **454889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS-ST300-06005** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18314**
Client ID: **ZZZZZ** Batch ID: R18314 TestNo: **E300** Analysis Date: **2/17/2006** SeqNo: **451691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.328	0.10	2.5	0	93.1	90	110				
Nitrate (As N)+Nitrite (As N)	3.307	0.10	3.5	0	94.5	90	110				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0602174
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCS-ST300-06005 SampType: LCS TestCode: 300_W Units: mg/L Prep Date: RunNo: 18314
Client ID: ZZZZZ Batch ID: R18314 TestNo: E300 Analysis Date: 2/18/2006 SeqNo: 451723

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.303	0.10	2.5	0	92.1	90	110				
Nitrate (As N)+Nitrite (As N)	3.290	0.10	3.5	0	94.0	90	110				

Sample ID: LCS-ST300-06005 SampType: LCS TestCode: 300_W Units: mg/L Prep Date: RunNo: 18397
Client ID: ZZZZZ Batch ID: R18397 TestNo: E300 Analysis Date: 2/25/2006 SeqNo: 453877

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.329	0.10	2.5	0	93.1	90	110				

Sample ID: LCS-ST300-06005 SampType: LCS TestCode: 300_W Units: mg/L Prep Date: RunNo: 18443
Client ID: ZZZZZ Batch ID: R18443 TestNo: E300 Analysis Date: 3/1/2006 SeqNo: 454890

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.327	0.10	3.5	0	95.0	90	110				

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0602174
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-9828	SampType: MBLK	TestCode: TKN_W	Units: mg/L	Prep Date: 2/21/2006	RunNo: 18352
Client ID: ZZZZZ	Batch ID: 9828	TestNo: E351.3		Analysis Date: 2/21/2006	SeqNo: 452674

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-9828	SampType: LCS	TestCode: TKN_W	Units: mg/L	Prep Date: 2/21/2006	RunNo: 18352
Client ID: ZZZZZ	Batch ID: 9828	TestNo: E351.3		Analysis Date: 2/21/2006	SeqNo: 452675

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	8.960	1.0	10	0	89.6	80	120				

Sample ID: 0602174-01AMS	SampType: MS	TestCode: TKN_W	Units: mg/L	Prep Date: 2/21/2006	RunNo: 18352
Client ID: OW-2	Batch ID: 9828	TestNo: E351.3		Analysis Date: 2/21/2006	SeqNo: 452679

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
itrogen, Kjeldahl, Total	35.00	5.0	50	0	70.0	75	125				S

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Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 2/17/2006

Work Order Number 0602174 | Received by GLS

Checklist completed by Lizer Hedenkoz (Signature) 2/17/06 (Date)

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Project Name: Vequita

Address:

Project #: 58326

Project Manager: Joe Galemore

Phone #:

Sampler: JDB

Fax #:

Sample Temperature: 1°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0602174	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TDK	Nitrate			Air Bubbles or Headspace (Y or N)
2/16/06	1149	H_2O	OW-2	2/500mL			✓	-1													✓	✓			
2/16/06	1412	H_2O	OW-1R	2/500mL			✓	-2													✓	✓			
2/16/06	1540	H_2O	MW-1	2/500mL			✓	-3													✓	✓			
2/16/06	1555	H_2O	4% solution	2/500mL			✓	-4													✓	✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
2/17/06	1100	[signature]	[signature] 2/17/06 1100
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: E-mail results to Joe Galemore.
used 4 HEAL folks

58326.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

COVER LETTER

Wednesday, March 01, 2006

MAR 0 2 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0602207

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/22/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *01-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-4
Lab Order:	0602207	**Collection Date:**	2/21/2006 3:35:00 PM
Project:	Vequita	**Date Received:**	2/22/2006
Lab ID:	0602207-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	50	0.50		mg/L	5	2/23/2006
EPA METHOD 160.1: TDS						Analyst: ks
Total Dissolved Solids	1100	50		mg/L	1	2/27/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	2/27/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *01-Mar-06*

CLIENT: Kleinfelder
Work Order: 0602207
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18361
Client ID: ZZZZZ	Batch ID: R18361	TestNo: E300		Analysis Date: 2/22/2006	SeqNo: 452900

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									

Sample ID: LCS-ST300-06005	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18361
Client ID: ZZZZZ	Batch ID: R18361	TestNo: E300		Analysis Date: 2/22/2006	SeqNo: 452901

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.348	0.10	2.5	0	93.9	90	110				

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Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0602207
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TDS_W

Sample ID: MB-9872	SampType: MBLK	TestCode: TDS_W	Units: mg/L	Prep Date: 2/27/2006	RunNo: 18420
Client ID: ZZZZZ	Batch ID: 9872	TestNo: E160.1		Analysis Date: 2/27/2006	SeqNo: 454383

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

Sample ID: LCS-9872	SampType: LCS	TestCode: TDS_W	Units: mg/L	Prep Date: 2/27/2006	RunNo: 18420
Client ID: ZZZZZ	Batch ID: 9872	TestNo: E160.1		Analysis Date: 2/27/2006	SeqNo: 454384

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1052	50	1000	35	102	80	120				

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Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0602207
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-9874 | SampType: MBLK | TestCode: TKN_W | Units: mg/L | Prep Date: 2/27/2006 | RunNo: 18410
Client ID: ZZZZZ | Batch ID: 9874 | TestNo: E351.3 | Analysis Date: 2/27/2006 | SeqNo: 454088

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-9874 | SampType: LCS | TestCode: TKN_W | Units: mg/L | Prep Date: 2/27/2006 | RunNo: 18410
Client ID: ZZZZZ | Batch ID: 9874 | TestNo: E351.3 | Analysis Date: 2/27/2006 | SeqNo: 454089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.08	1.0	10	0	101	80	120				

4 / 5

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 2/22/2006

Work Order Number 0602207

Received by AT

Checklist completed by Lisa Hedrick (Signature) 2/22/06 (Date)

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 3° *4° C ± 2 Acceptable* If given sufficient time to cool

COMMENTS:

Client contacted Date contacted: Person contacted

Contacted by: Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address:

Phone #:

Fax #:

Project Name: Veguita

Project #: 58326.3

Project Manager: Joe A Galemore

Sampler: Mike Emms / JAG

Sample Temperature: 3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	NO_3 (EPA 300)	TKN (351.2)	TDS (160.1)		Air Bubbles or Headspace (Y or N)
2-21-	1535	Aq	MW-4 JAG	1/2/500ml			1	0602207 -1														X	X		
"	"	"	"	1/500ml				-1													X		X		

Date: 2-22-06 Time: 1000 Relinquished By: (Signature) Received By: (Signature) 2/22/06

Date: Time: Relinquished By: (Signature) Received By: (Signature) 1000

Remarks: Samples were field filtered

1. DEFINITIONS

1.1 "Acceptance of a sample" means the determination of HEAL to proceed with work following receipt and inspection of such sample.

1.2 "Customer" means the individual or entity who may request laboratory services and his or its heirs, successors, assigns, and representatives

1.3 HEAL means Hall Environmental Analysis Laboratory its employees, servants, agents, and representative.

1.4 "Price schedule" means HEAL'S standard price schedule, as such, document may be amended from time to time by HEAL.

1.5 "Results" mean data generated by HEAL from the analysis of one or more samples.

1.6 "Terms and Conditions" mean these Terms and Conditions of sale, including the Price Schedule, and any additions or amendments hereto which are agreed to in writing by HEAL as provided in Section 7.1

2. ORDERS

2.1 The customer may order services by submitting a written purchase order to HEAL, by placing a telephone order, which will be subsequently confirmed in writing, or by negotiated contract. Any such order constitutes a) an acceptance by the Customer of HEAL'S offer to do business with the Customer under these Terms and Conditions, and b) an agreement to be bound by these Terms and Conditions. The Customer's delivery of samples to HEAL constitutes the Customer's express assent to be governed by these Terms and Conditions. HEAL reserves the right to refuse to proceed with work at any time based upon an unfavorable customer credit report.

2.2 Any order placed by the Customer under Section 2.1 is subject to a minimum cancellation charge of $250.

3. PAYMENT TERMS

3.1 Services performed by HEAL will be in accordance with prices quoted and later confirmed in writing or as stated on the Price Schedule, which prices are subject to change periodically without notice. The Customer should confirm with HEAL the current price prior to placing an order for work.

3.2 Payment terms are net 30 days from the date of invoice by HEAL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) per month or portion thereof from the due date until the date of payment. All payments shall be made in United State currency.

3.3 The prices stated on the Price Schedule do not include any sales, use or other taxes unless specifically stated. Such taxes will be added to invoice prices when required.

4. RECEIPT OF SAMPLES AND DELIVERY OF SERVICES

4.1 Prior to HEAL'S Acceptance of any sample (or after any revocation of Acceptance), the entire risk of loss or damage to such sample will remain with the Customer. In no event will HEAL have any responsibility or liability for the action or inaction of HEAL'S carrier shipping or delivering any sample to or from HEAL'S premises.

4.2 HEAL reserves the absolute right, exercisable at any time to refuse delivery of, refuse to accept, or revoke Acceptance of, any sample which in the sole judgement of HEAL a) is of unsuitable volume, b) unsuitable containers as required for the requested analysis, or c) may be or become unsuitable for, or may pose a risk in, handling, transport or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance and whether or not such presence has been disclosed to HEAL by the Customer.

4.3 Where applicable, HEAL will use analytical methodologies which are in substantial conformity with U.S. Environmental Protection Agency (EPA), state agency, American Society for Testing and Materials (ASTM), Association of Official Analytical Chemist (AOAC), Standard Methods for the examination of Water and Wastewater, or other recognized methodologies. HEAL reserves the right to deviate from these methodologies, if necessary or appropriate due to the nature of composition of the sample or otherwise based on the reasonable judgement of HEAL, which deviation, if any will be made on a basis consistent with recognized standards of industry and/ or HEAL'S Standard Operating Procedures.

4.4 Upon timely delivery of samples, HEAL will use its best efforts to comply with storage, processing and analytical holding time limits as set forth in applicable EPA or state guidelines or otherwise requested by the Customer or set forth on the Price Schedule. However, unless specifically made part of a written agreement between HEAL and the Customer, such time limits cannot be guaranteed. Unless specifically indicated on the Price Schedule or expressly made part of a written agreement between HEAL and the Customer, analytical turnaround times are not guaranteed

4.5 At HEAL'S sole discretion, verbal Results may be given in advance of the written report of Results. Such verbal Results are TENTATIVE RESULTS ONLY, subject to confirmation or change based on HEAL'S standard quality assurance review procedures.

5. WARRANTIES, LIABILITY AND INDEMNIFICATION

5.1 HEAL warrants only that its services will fulfill obligations set forth in Section 4.3 and 4.4 hereof. This warranty is the sole and exclusive warranty given by HEAL in connection with any such services, and HEAL gives and makes no other representation or warranty of any kind, express or implied. No representative of HEAL is authorized to give or make any other representation or warranty or modify the warranty in any way.

5.2 The liability and obligations of HEAL, and the remedies of the Customer in connection with any services performed by HEAL will be limited to repeating the services performed or, at the sole option of HEAL, refunding in full or in part fees paid by the Customer for such services. HEAL'S obligation to repeat any services with respect to any sample will be contingent on the Customer's providing, at the request of HEAL and at the Customer's expense, an additional sample if necessary Any reanalysis generating Results consistent with the Original Results will be at the Customer's expense. Except as otherwise specifically provided herein, HEAL shall have no liability, obligation or responsibility of any kind for any losses, costs, expenses, or other damages (including but not limited to any special, indirect, incidental or consequential damages) for any representation or warranty of a kind with respect to HEAL'S Services or Results.

5.3 In no event shall HEAL have any responsibility or liability to the Customer for any failure or delay in performance by HEAL, which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of HEAL. Such cause and circumstance shall include, but not be limited to, acts of God, acts of Customer, acts of orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disputes, difficulties or delays in transportation, mail or delivery services, inability to obtain from HEAL usual sources sufficient services or supplies, or any other cause beyond HEAL'S reasonable control.

5.4 All results provided by HEAL are strictly for the use of its Customers, and HEAL is in no way responsible for the use of such results by Customers or third parties. All results should be considered in their entirety, and HEAL is in no way responsible for the separation, detachment, or other use of any portion of the results.

5.5 The customer represents and warrants that any sample delivered to HEAL will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by the customer. The Customer further warrants that any sample containing any hazardous substance, which is to be delivered to HEAL'S premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

5.6 It is understood and agreed that all samples and cuttings of materials containing hazardous contaminants are the property and the responsibility of the Customer. All contaminated samples and laboratory byproducts will be returned to the Customer for disposal. It is understood and agreed that HEAL is not, and has no responsibility as, a generator, treater, storer, or disposer of hazardous or toxic substances found or identified at a site, and the Customer agrees to assume the responsibility for the foregoing.

5.7 The Customer shall indemnify and hold harmless HEAL from and against any and all claims, suits, judgements, damages, losses, liabilities, expenses, payments, taxes, duties, fines and/or other costs (including but not limited to liability to a third party) arising out of a) the presence of hazardous substances in any sample of the Customer regardless of the Customer's compliance with paragraph 5.5 hereof b) accidents occurring during the transport of any sample of the Customer, c) events control, or d) negligence by the Customer in the use, evaluation, or application of Results provided by HEAL.

5.8 Should any Customer sample, due to its matrix or constituents of its matrix, cause the operations of any HEAL instrumentation to be reduced, stopped, or altered, HEAL is entitled to compensation by the Customer for any loss of revenue due to the instrument's downtime, and/or the parts and labor necessary to bring the instruments back to its former operating condition The amount of compensation is negotiable upon acceptance of these Terms and Conditions and the individual circumstances warranting the reimbursement.

6. ENTIRE AGREEMENT; SEVERABILITY

6.1 These Terms and Conditions, together with any additions or revisions which may be agreed to in writing by HEAL as provided in Section 7.1, embodied the whole agreement of the parties. There are no promises, terms, conditions, understandings, obligations or agreements other than those contained herein, unless made in accordance with Section 7.1, and these Terms and Conditions shall supersede all previous communications, representations, or agreements, either verbal or written, between the Customer and HEAL. HEAL specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Customer to HEAL

6.2 The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions, the intent of the parties being that the provisions be severable.

7. AMENDMENTS AND WAIVERS

7.1 HEAL shall not be subject to or bound by any provision, term or condition which is in addition to or inconsistent or conflicting with these Terms and Conditions. HEAL shall not be deemed to have amended or waived and provision, term or condition, or have given any required consent or approval, or to have waived any breach by the Customer of any of these Terms and Conditions unless specifically set forth in writing and executed on behalf of HEAL by a duly authorized officer. No other employee, servant, agent or representatives of HEAL has any authority whatsoever to add to, delete, alter or vary any of these Terms and Conditions in any manner, or to give any consent, approval or waiver, and HEAL shall not be bound by any such purported addition, deletion, alteration, variation, consent, approval or waiver.

7.2 No waiver by HEAL of any provision, term or condition hereof or of any breach by or obligation of the Customer hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of the Customer.

8. SAMPLE STORAGE

8.1 Bulk samples will be retained for thirty (30) days after the analytical report has been issued unless alternate arrangements have been made in advance Storage of samples or extracts for longer periods is by request only. Sample storage charges depend upon storage requirements and duration. Nominally, a sample storage fee of $5.00 per sample, per month will be billed monthly unless other arrangements are made. If requested, unused sample material may be returned at the client's expense. Materials, which are identified as hazardous, will be returned to the client or disposed of as hazardous waste and billed at the rate of $25.00 per sample. HEAL reserves the right to return all dibenzodioxins/dibenzofurans to the client.

9. SECTION HEADING

9.1 The section headings of these Terms and Conditions are intended solely for convenient reference and shall not define, limit or affect in any way These Terms and Conditions or their interpretations.

10. GOVERNING LAW

10.1 These Terms and Conditions, and transaction or agreement, to which they apply, shall be governed both as to interpretation and performance by the laws of the State of New Mexico.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, March 02, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0602224

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/23/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-2R
Lab Order:	0602224	**Collection Date:**	2/22/2006 11:48:00 AM
Project:	Vequita	**Date Received:**	2/23/2006
Lab ID:	0602224-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	39	0.50		mg/L	5	3/1/2006
EPA METHOD 160.1: TDS						Analyst: **ks**
Total Dissolved Solids	1200	50		mg/L	1	2/27/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	2/27/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-3
Lab Order:	0602224	**Collection Date:**	2/22/2006 2:38:00 PM
Project:	Vequita	**Date Received:**	2/23/2006
Lab ID:	0602224-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	3.3	0.10		mg/L	1	2/24/2006
EPA METHOD 160.1: TDS						Analyst: **ks**
Total Dissolved Solids	450	50		mg/L	1	2/27/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	2/27/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *02-Mar-06*

CLIENT: Kleinfelder
Work Order: 0602224
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18388**
Client ID: **ZZZZZ** Batch ID: **R18388** TestNo: **E300** Analysis Date: **2/24/2006** SeqNo: **453580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18425**
Client ID: **ZZZZZ** Batch ID: **R18425** TestNo: **E300** Analysis Date: **2/28/2006** SeqNo: **454513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS-ST300-06005** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18388**
Client ID: **ZZZZZ** Batch ID: **R18388** TestNo: **E300** Analysis Date: **2/24/2006** SeqNo: **453581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.299	0.10	2.5	0	91.9	90	110				
Nitrate (As N)+Nitrite (As N)	3.285	0.10	3.5	0	93.8	90	110				

Sample ID: **LCS-ST300-06005** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18425**
Client ID: **ZZZZZ** Batch ID: **R18425** TestNo: **E300** Analysis Date: **2/28/2006** SeqNo: **454514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.246	0.10	3.5	0	92.7	90	110				

3 / 6

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0602224
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TDS_W

Sample ID: **MB-9872** SampType: **MBLK** TestCode: **TDS_W** Units: **mg/L** Prep Date: **2/27/2006** RunNo: **18420**
Client ID: **ZZZZZ** Batch ID: **9872** TestNo: **E160.1** Analysis Date: **2/27/2006** SeqNo: **454383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

Sample ID: **MB-9879** SampType: **MBLK** TestCode: **TDS_W** Units: **mg/L** Prep Date: **2/27/2006** RunNo: **18421**
Client ID: **ZZZZZ** Batch ID: **9879** TestNo: **E160.1** Analysis Date: **2/27/2006** SeqNo: **454407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

Sample ID: **LCS-9872** SampType: **LCS** TestCode: **TDS_W** Units: **mg/L** Prep Date: **2/27/2006** RunNo: **18420**
Client ID: **ZZZZZ** Batch ID: **9872** TestNo: **E160.1** Analysis Date: **2/27/2006** SeqNo: **454384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
otal Dissolved Solids	1052	50	1000	35	102	80	120				

Sample ID: **LCS-9879** SampType: **LCS** TestCode: **TDS_W** Units: **mg/L** Prep Date: **2/27/2006** RunNo: **18421**
Client ID: **ZZZZZ** Batch ID: **9879** TestNo: **E160.1** Analysis Date: **2/27/2006** SeqNo: **454408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1101	50	1000	0	110	80	120				

4 / 6

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0602224
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-9874	SampType: MBLK	TestCode: TKN_W	Units: mg/L	Prep Date: 2/27/2006	RunNo: 18410
Client ID: ZZZZZ	Batch ID: 9874	TestNo: E351.3		Analysis Date: 2/27/2006	SeqNo: 454088

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-9874	SampType: LCS	TestCode: TKN_W	Units: mg/L	Prep Date: 2/27/2006	RunNo: 18410
Client ID: ZZZZZ	Batch ID: 9874	TestNo: E351.3		Analysis Date: 2/27/2006	SeqNo: 454089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.08	1.0	10	0	101	80	120				

5 / 6

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 2/23/2006

Work Order Number 0602224 | Received by AT

Checklist completed by Lisa Hedrick 2/23/06
Signature Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **5°** *4° C ± 2 Acceptable*
If given sufficient time to cool

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

Client: Kleinfelder

Address:

Phone #:

Fax #:

Project Name: Vegquita

Project #: 58326.3

Project Manager: Joe A. Galemore

Sampler: Mike Emms / Bill Huey

Sample Temperature: 5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0602224	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	NO_3 (EPA 300)	TKN (351.2)	TDS (160.1)		Air Bubbles or Headspace (Y or N)
2-22-06	1148	Aq	MW-2R	1/500mL			1	-1														X			
"	"	"	"	1/500mL				-1													X		X		
"	1438	"	MW-3	1/500mL			1	-2														X			
"	"	"	"	1/500mL				-2													X		X		

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
2/23/06	0930	[signature]	[signature] 2/23/06 0930
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Samples were feild filtered

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

MAR 1 3 2006

COVER LETTER

Friday, March 10, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita Denitrification

Order No.: 0603034

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/3/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0603034	**Collection Date:**	3/2/2006 4:09:00 PM
Project:	Vequita Denitrification	**Date Received:**	3/3/2006
Lab ID:	0603034-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	57	1.0		mg/L	10	3/6/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/7/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0603034	**Collection Date:**	3/2/2006 6:44:00 PM
Project:	Vequita Denitrification	**Date Received:**	3/3/2006
Lab ID:	0603034-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	67	1.0		mg/L	10	3/6/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/7/2006

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0603034	**Collection Date:**	3/2/2006 5:33:00 PM
Project:	Vequita Denitrification	**Date Received:**	3/3/2006
Lab ID:	0603034-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	85	1.0		mg/L	10	3/6/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/7/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT: Kleinfelder
Work Order: 0603034
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18475**
Client ID: **ZZZZZ** Batch ID: **R18475** TestNo: **E300** Analysis Date: **3/3/2006** SeqNo: **456288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18487**
Client ID: **ZZZZZ** Batch ID: **R18487** TestNo: **E300** Analysis Date: **3/6/2006** SeqNo: **456618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS-ST300-06005** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18475**
Client ID: **ZZZZZ** Batch ID: **R18475** TestNo: **E300** Analysis Date: **3/3/2006** SeqNo: **456289**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.452	0.10	3.5	0	98.6	90	110				

Sample ID: **LCS ST300-06005** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18487**
Client ID: **ZZZZZ** Batch ID: **R18487** TestNo: **E300** Analysis Date: **3/6/2006** SeqNo: **456619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.304	0.10	3.5	0	94.4	90	110				

4 / 6

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0603034
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-9934 | SampType: MBLK | TestCode: TKN_W | Units: mg/L | Prep Date: 3/6/2006 | RunNo: 18485
Client ID: ZZZZZ | Batch ID: 9934 | TestNo: E351.3 | Analysis Date: 3/7/2006 | SeqNo: 456507

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-9934 | SampType: LCS | TestCode: TKN_W | Units: mg/L | Prep Date: 3/6/2006 | RunNo: 18485
Client ID: ZZZZZ | Batch ID: 9934 | TestNo: E351.3 | Analysis Date: 3/7/2006 | SeqNo: 456508

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.520	1.0	10	0	95.2	80	120				

Sample ID: 0603034-01AMS | SampType: MS | TestCode: TKN_W | Units: mg/L | Prep Date: 3/6/2006 | RunNo: 18485
Client ID: MW-1 | Batch ID: 9934 | TestNo: E351.3 | Analysis Date: 3/7/2006 | SeqNo: 456515

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	42.00	5.0	50	2.1	79.8	75	125				

5/6

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 3/3/2006

Work Order Number 0603034 | Received by AT

Checklist completed by [signature] Signature | Date 3/3/06

Matrix | Carrier name | Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **2°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

Client: Kleinfelder

Project Name: Vequita Denitrification

Address:

Project #: 58326

Project Manager: Joe Galemore

Phone #:

Sampler: LWD / M. Emms

Fax #:

Sample Temperature: 2°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	Nitrate			Air Bubbles or Headspace (Y or N)
3/2/06	1609	H_2O	MW-1	1/500mL			H_2SO_4	0603034-1													✓				
3/2/06	~~1615~~ 1609	H_2O	MW-1	1/500mL				-1														✓			
3/2/06	1844	H_2O	OW-1R	2/500mL			✓	-2													✓	✓			
3/2/06	1733	H_2O	OW-2	1/500mL				-3														✓			
3/2/06	1735	H_2O	OW-2	1/500mL			✓	-3													✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
3/3/06	0830	[signature]	[signature] 0830 3/3/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: email results to Joe Galemore.
JGalemore@Kleinfelder.com
H_2O has been filtered

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

MAR 1 3 2006

COVER LETTER

Friday, March 10, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita Denitrification

Order No.: 0603056

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/3/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0603056	**Collection Date:**	3/3/2006 11:00:00 AM
Project:	Vequita Denitrification	**Date Received:**	3/3/2006
Lab ID:	0603056-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	94	1 0		mg/L	10	3/6/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen. Kjeldahl. Total	ND	1 0		mg/L	1	3/7/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Methnd Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitatioo limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	Molasses
Lab Order:	0603056	**Collection Date:**	3/3/2006 10:30:00 AM
Project:	Vequita Denitrification	**Date Received:**	3/3/2006
Lab ID:	0603056-02	**Matrix:**	SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 9056A: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	24	6.0		mg/Kg	20	3/6/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Total Kjeldahl	7900	50		mg/Kg	1	3/7/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *10-Mar-06*

CLIENT: Kleinfelder
Work Order: 0603056
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID: MB-9932	SampType: MBLK	TestCode: 300_S	Units: mg/Kg	Prep Date: 3/6/2006	RunNo: 18487
Client ID: ZZZZZ	Batch ID: 9932	TestNo: E300		Analysis Date: 3/6/2006	SeqNo: 456659

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.30									

Sample ID: LCS-9932	SampType: LCS	TestCode: 300_S	Units: mg/Kg	Prep Date: 3/6/2006	RunNo: 18487
Client ID: ZZZZZ	Batch ID: 9932	TestNo: E300		Analysis Date: 3/6/2006	SeqNo: 456660

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	7.088	0.30	7.5	0	94.5	90	110				

3 / 7

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0603056
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MBLK | SampType: MBLK | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 18475
Client ID: ZZZZZ | Batch ID: R18475 | TestNo: E300 | Analysis Date: 3/3/2006 | SeqNo: 456288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: MBLK | SampType: MBLK | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 18487
Client ID: ZZZZZ | Batch ID: R18487 | TestNo: E300 | Analysis Date: 3/6/2006 | SeqNo: 456618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: LCS-ST300-06005 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 18475
Client ID: ZZZZZ | Batch ID: R18475 | TestNo: E300 | Analysis Date: 3/3/2006 | SeqNo: 456289

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.452	0.10	3.5	0	98.6	90	110				

Sample ID: LCS ST300-06005 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 18487
Client ID: ZZZZZ | Batch ID: R18487 | TestNo: E300 | Analysis Date: 3/6/2006 | SeqNo: 456619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.304	0.10	3.5	0	94.4	90	110				

4 / 7

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0603056
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_S

Sample ID: MB-9939	SampType: MBLK	TestCode: TKN_S	Units: mg/Kg	Prep Date: 3/7/2006	RunNo: 18500
Client ID: ZZZZZ	Batch ID: 9939	TestNo: M4500-Norg		Analysis Date: 3/7/2006	SeqNo: 456933

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	ND	50									

Sample ID: LCS-9939	SampType: LCS	TestCode: TKN_S	Units: mg/Kg	Prep Date: 3/7/2006	RunNo: 18500
Client ID: ZZZZZ	Batch ID: 9939	TestNo: M4500-Norg		Analysis Date: 3/7/2006	SeqNo: 456934

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	1008	50	1000	0	101	80	120				

5 / 7

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0603056
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-9934	SampType: MBLK	TestCode: TKN_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 18485
Client ID: ZZZZZ	Batch ID: 9934	TestNo: E351.3		Analysis Date: 3/7/2006	SeqNo: 456507

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-9934	SampType: LCS	TestCode: TKN_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 18485
Client ID: ZZZZZ	Batch ID: 9934	TestNo: E351.3		Analysis Date: 3/7/2006	SeqNo: 456508

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.520	1.0	10	0	95.2	80	120				

6/7

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 3/3/2006

Work Order Number 0603056

Received by AT

Checklist completed by Signature Date 3-3-06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **4°** *4° C ± 2 Acceptable*
If given sufficient time to cool

COMMENTS:

Client contacted Date contacted: Person contacted

Contacted by: Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Project Name: Vequita Denitrification

Address:

Project #: 58326

Project Manager: Joe Galemore

Phone #:

Sampler: LWD

Fax #:

Sample Temperature: 4°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0603056	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	Nitrate			Air Bubbles or Headspace (Y or N)
3/3/06	1100	H_2O	TW-1				✓	-1													✓	✓			
3/3/06	1030	~~H_2O~~ ~~AQ~~	Molasses				✓	-2													✓	✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
3/3/06	1325	[signature]	[signature] 3/3/06 1325
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: TW-1 has been filtered. Email results to Joe Galemore
JGalemore@Kleinfelder.com

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, March 14, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0603091

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/8/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ▪ Suite D ▪ Albuquerque, NM 87109
505 345 3975 ▪ Fax 505 345 4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *14-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	Vequita IW 9
Lab Order:	0603091	**Collection Date:**	3/7/2006 11:10:00 AM
Project:	Vequita	**Date Received:**	3/8/2006
Lab ID:	0603091-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrite (As N)	0 66	0 10		mg/L	1	3/8/2006
Nitrogen, Nitrate (As N)	78	1 0		mg/L	10	3/9/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5 0		mg/L	1	3/11/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below qoantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0603091	**Collection Date:**	3/7/2006 12:15:00 PM
Project:	Vequita	**Date Received:**	3/8/2006
Lab ID:	0603091-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrite (As N)	1.6	0.10		mg/L	1	3/8/2006
Nitrogen, Nitrate (As N)	67	1.0		mg/L	10	3/9/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/11/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0603091	**Collection Date:**	3/7/2006 1:00:00 PM
Project:	Vequita	**Date Received:**	3/8/2006
Lab ID:	0603091-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	81	1.0		mg/L	10	3/9/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/11/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0603091	**Collection Date:**	3/7/2006 4:15:00 PM
Project:	Vequita	**Date Received:**	3/8/2006
Lab ID:	0603091-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	3/8/2006
Nitrogen, Nitrate (As N)	57	1.0		mg/L	10	3/9/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/11/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Mar-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0603091	**Collection Date:**	3/7/2006 5:05:00 PM
Project:	Vequita	**Date Received:**	3/8/2006
Lab ID:	0603091-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	3/8/2006
Nitrogen, Nitrate (As N)	87	1.0		mg/L	10	3/9/2006
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	3/11/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Mar-06*

CLIENT: Kleinfelder
Work Order: 0603091
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: mg/L Prep Date: RunNo: **18519**
Client ID: **ZZZZZ** Batch ID: **R18519** TestNo: **E300** Analysis Date: **3/8/2006** SeqNo: **457787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: mg/L Prep Date: RunNo: **18519**
Client ID: **ZZZZZ** Batch ID: **R18519** TestNo: **E300** Analysis Date: **3/9/2006** SeqNo: **457842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									

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Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: mg/L Prep Date: RunNo: **18529**
Client ID: **ZZZZZ** Batch ID: **R18529** TestNo: **E300** Analysis Date: **3/9/2006** SeqNo: **459151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS ST300-06005** SampType: **LCS** TestCode: **300_W** Units: mg/L Prep Date: RunNo: **18519**
Client ID: **ZZZZZ** Batch ID: **R18519** TestNo: **E300** Analysis Date: **3/8/2006** SeqNo: **457788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	1.004	0.10	1	0	100	90	110				
Nitrogen, Nitrate (As N)	2.476	0.10	2.5	0	99.0	90	110				
Nitrate (As N)+Nitrite (As N)	3.480	0.10	3.5	0	99.4	90	110				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0603091
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCS ST300-06005 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 18519
Client ID: ZZZZZ | Batch ID: R18519 | TestNo: E300 | Analysis Date: 3/9/2006 | SeqNo: 457843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	1.030	0.10	1	0	103	90	110				
Nitrogen, Nitrate (As N)	2.547	0.10	2.5	0	102	90	110				
Nitrate (As N)+Nitrite (As N)	3.577	0.10	3.5	0	102	90	110				

Sample ID: LCS ST300-06005 | SampType: LCS | TestCode: 300_W | Units: mg/L | Prep Date: | RunNo: 18529
Client ID: ZZZZZ | Batch ID: R18529 | TestNo: E300 | Analysis Date: 3/9/2006 | SeqNo: 459152

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.338	0.10	3.5	0	95.4	90	110				

7 / 9

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0603091
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-9958 | SampType: MBLK | TestCode: TKN_W | Units: mg/L | Prep Date: 3/10/2006 | RunNo: 18550
Client ID: ZZZZZ | Batch ID: 9958 | TestNo: E351.3 | Analysis Date: 3/11/2006 | SeqNo: 459833

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-9958 | SampType: LCS | TestCode: TKN_W | Units: mg/L | Prep Date: 3/10/2006 | RunNo: 18550
Client ID: ZZZZZ | Batch ID: 9958 | TestNo: E351.3 | Analysis Date: 3/11/2006 | SeqNo: 459834

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.520	1.0	10	0	95.2	80	120				

Sample ID: 0603091-05AMS | SampType: MS | TestCode: TKN_W | Units: mg/L | Prep Date: 3/10/2006 | RunNo: 18550
Client ID: TW-1 | Batch ID: 9958 | TestNo: E351.3 | Analysis Date: 3/11/2006 | SeqNo: 459852

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	46.90	5.0	50	0	93.8	75	125				

6 / 8

Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 3/8/2006

Work Order Number 0603091

Received by GLS

Checklist completed by [signature] 3/8/06
Signature Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable*
If given sufficient time to cool

COMMENTS:

Client contacted Date contacted: Person contacted

Contacted by: Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☒ Level 4 ☐ Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder
8300 Jefferson NE, Ste B
Address: Albuquerque NM 87113

Project Name: Vesuvia
Project #: 58326.3
Project Manager: Joe Galemore
Sampler: B. Huey / M. Enns
Sample Temperature: 1°

Phone #: 505/344-7373
Fax #: 505/344-1711

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	HEAL No. 0603091	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate/Nitrite	TKN			Air Bubbles or Headspace (Y or N)
3/7/06	1110	W	Vesuvia IW 9	2-500ml			1	-1													X	X			
	1215		OW-1R				1	-2													X	X			
	1300		OW-2				1	-3													X	X			
	1615		MW-1				1	-4													X	X			
3/7/06	1705	W	TW-1	2-500ml			1	-5													X	X			

3/7/06

3/7/06

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/8/06	0949	[signature]	[signature] 3-8-06 949
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

APR 1 8 2006

COVER LETTER

Friday, April 14, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita Denitrification

Order No.: 0604062

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 8 sample(s) on 4/7/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-4
Lab Order:	0604062	**Collection Date:**	4/5/2006 11:11:00 AM
Project:	Vequita Denitrification	**Date Received:**	4/7/2006
Lab ID:	0604062-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	51	0.50		mg/L	5	4/7/2006 3:57:27 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	4/10/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-2R
Lab Order:	0604062	**Collection Date:**	4/5/2006 12:18:00 PM
Project:	Vequita Denitrification	**Date Received:**	4/7/2006
Lab ID:	0604062-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	23	0.50		mg/L	5	4/7/2006 3:40:03 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	4/10/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-3
Lab Order:	0604062	**Collection Date:**	4/5/2006 1:40:00 PM
Project:	Vequita Denitrification	**Date Received:**	4/7/2006
Lab ID:	0604062-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	3.3	0.10		mg/L	1	4/7/2006 11:49:59 AM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	4/10/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	IW-9
Lab Order:	0604062	**Collection Date:**	4/5/2006 3:00:00 PM
Project:	Vequita Denitrification	**Date Received:**	4/7/2006
Lab ID:	0604062-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	3.8	0.10		mg/L	1	4/7/2006 12:07:23 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	17	1.0		mg/L	1	4/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0604062	**Collection Date:**	4/6/2006 11:50:00 AM
Project:	Vequita Denitrification	**Date Received:**	4/7/2006
Lab ID:	0604062-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	52	0.50		mg/L	5	4/10/2006 4:42:27 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	4/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0604062	**Collection Date:**	4/6/2006 1:15:00 PM
Project:	Vequita Denitrification	**Date Received:**	4/7/2006
Lab ID:	0604062-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	86	1.0		mg/L	10	4/10/2006 4:59:52 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	4/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	Client Sample ID:	OW-1R
Lab Order:	0604062	Collection Date:	4/6/2006 2:50:00 PM
Project:	Vequita Denitrification	Date Received:	4/7/2006
Lab ID:	0604062-07	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	69	1.0		mg/L	10	4/10/2006 5:17:16 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	4/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Kleinfelder	Client Sample ID:	TW-1
Lab Order:	0604062	Collection Date:	4/6/2006 5:10:00 PM
Project:	Vequita Denitrification	Date Received:	4/7/2006
Lab ID:	0604062-08	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	69	1.0		mg/L	10	4/10/2006 5:34:41 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	4/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT: Kleinfelder
Work Order: 0604062
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18868**
Client ID: **ZZZZZ** Batch ID: **R18868** TestNo: **E300** Analysis Date: **4/7/2006** SeqNo: **467971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18884**
Client ID: **ZZZZZ** Batch ID: **R18884** TestNo: **E300** Analysis Date: **4/10/2006** SeqNo: **468580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18868**
Client ID: **ZZZZZ** Batch ID: **R18868** TestNo: **E300** Analysis Date: **4/7/2006** SeqNo: **467972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.388	0.10	2.5	0	95.5	90	110				
Nitrate (As N)+Nitrite (As N)	3.370	0.10	3.5	0	96.3	90	110				

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18884**
Client ID: **ZZZZZ** Batch ID: **R18884** TestNo: **E300** Analysis Date: **4/10/2006** SeqNo: **468581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.470	0.10	3.5	0	99.1	90	110				

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Qualifiers:
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0604062
Project: Vequita Denitrification

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: **MB-10149** SampType: **MBLK** TestCode: **TKN_W** Units: **mg/L** Prep Date: **4/10/2006** RunNo: **18886**
Client ID: **ZZZZZ** Batch ID: **10149** TestNo: **E351.3** Analysis Date: **4/10/2006** SeqNo: **468627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: **MB-10165** SampType: **MBLK** TestCode: **TKN_W** Units: **mg/L** Prep Date: **4/13/2006** RunNo: **18920**
Client ID: **ZZZZZ** Batch ID: **10165** TestNo: **E351.3** Analysis Date: **4/13/2006** SeqNo: **469904**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: **LCS-10149** SampType: **LCS** TestCode: **TKN_W** Units: **mg/L** Prep Date: **4/10/2006** RunNo: **18886**
Client ID: **ZZZZZ** Batch ID: **10149** TestNo: **E351.3** Analysis Date: **4/10/2006** SeqNo: **468628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.940	1.0	10	0	99.4	80	120				

Sample ID: **LCS-10165** SampType: **LCS** TestCode: **TKN_W** Units: **mg/L** Prep Date: **4/13/2006** RunNo: **18920**
Client ID: **ZZZZZ** Batch ID: **10165** TestNo: **E351.3** Analysis Date: **4/13/2006** SeqNo: **469905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.940	1.0	10	0	99.4	80	120				

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Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 4/7/2006

Work Order Number 0604062 | Received by GLS

Checklist completed by Signature E Schlipper Date 4-7-06

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **4°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Project Name: Vequita

Address:

Project #: 58326.3

Project Manager: Joe Galemore

Phone #:

Sampler: LWD

Fax #:

Sample Temperature: 4°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. D604062	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate	TKN			Air Bubbles or Headspace (Y or N)
4/5/06	1111	H_2O	MW-4	2/500mL			✓	1													✓	✓			
4/5/06	1218	H_2O	MW-2R	2/500mL			✓	2													✓	✓			
4/5/06	1340	H_2O	MW-3	2/500mL			✓	3													✓	✓			
4/5/06	1500	H_2O	IW-9	2/500mL			✓	4													✓	✓			
4/6/06	1150	H_2O	MW-1	2/500mL			✓	5													✓	✓			
4/6/06	1315	H_2O	OW-2	2/500mL			✓	6													✓	✓			
4/6/06	1450	H_2O	OW-1R	2/500mL			✓	7													✓	✓			
4/6/06	1710	H_2O	TW-1	2/500mL			✓	8													✓	✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
4/7/06	1055	[signature]	[signature] 4-7-06 1055
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: IW-9 Not Filtered.
Email results to Joe Galemore.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

MAY 0 8 2006

COVER LETTER

Friday, May 05, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0604291

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/28/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *05-May-06*

CLIENT:	Kleinfelder	Client Sample ID:	OW-2
Lab Order:	0604291	Collection Date:	4/28/2006 2:45:00 PM
Project:	Vequita	Date Received:	4/28/2006
Lab ID:	0604291-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	85	1.0		mg/L	10	5/1/2006 8:55:01 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/2/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *05-May-06*

CLIENT: Kleinfelder
Work Order: 0604291
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19108**
Client ID: **ZZZZZ** Batch ID: **R19108** TestNo: **E300** Analysis Date: **4/28/2006** SeqNo: **475062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19115**
Client ID: **ZZZZZ** Batch ID: **R19115** TestNo: **E300** Analysis Date: **5/1/2006** SeqNo: **475214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19108**
Client ID: **ZZZZZ** Batch ID: **R19108** TestNo: **E300** Analysis Date: **4/28/2006** SeqNo: **475063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.288	0.10	3.5	0	93.9	90	110				

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19115**
Client ID: **ZZZZZ** Batch ID: **R19115** TestNo: **E300** Analysis Date: **5/1/2006** SeqNo: **475215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.401	0.10	3.5	0	97.2	90	110				

2 / 4

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0604291
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-10304 | SampType: MBLK | TestCode: TKN_W | Units: mg/L | Prep Date: 5/2/2006 | RunNo: 19134
Client ID: ZZZZZ | Batch ID: 10304 | TestNo: E351.3 | Analysis Date: 5/2/2006 | SeqNo: 475599

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-10304 | SampType: LCS | TestCode: TKN_W | Units: mg/L | Prep Date: 5/2/2006 | RunNo: 19134
Client ID: ZZZZZ | Batch ID: 10304 | TestNo: E351.3 | Analysis Date: 5/2/2006 | SeqNo: 475600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.800	1.0	10	0	98.0	80	120				

3 / 4

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 4/28/2006

Work Order Number 0604291 | Received by AT

Checklist completed by _____ Signature | Date 4/28/06

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **12°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder Assoc.

Address: 8300 Jefferson NE
ABQ, NM. 87113

Phone #: (505) 344-7373

Fax #: (505) 344-1711

Project Name: Vequita

Project #: 58326

Project Manager: Joe Galemore

Sampler: LWD

Sample Temperature: 12 ^

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate-2	TKN			Air Bubbles or Headspace (Y or N)
4/28/06	1445	H_2O	OW-2	2/500mL			✓	0604291													✓	✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
4/28/06	1700	[signature]	[signature]
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 4/28/06 1700

Remarks: Email results to Joe Galemore

HALL ENVIRONMENTAL ANALYSIS LABORATORY

MAY 0 8 2006

COVER LETTER

Friday, May 05, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0604285

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/28/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *05-May-06*

CLIENT:	Kleinfelder	Client Sample ID:	OW-1R
Lab Order:	0604285	Collection Date:	4/28/2006 12:00:00 PM
Project:	Vequita	Date Received:	4/28/2006
Lab ID:	0604285-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	37	0.50		mg/L	5	5/2/2006 8:05:49 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	5/2/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *05-May-06*

CLIENT:	Kleinfelder	Client Sample ID:	TW-3
Lab Order:	0604285	Collection Date:	4/28/2006 1:10:00 PM
Project:	Vequita	Date Received:	4/28/2006
Lab ID:	0604285-02	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	65	1.0		mg/L	10	5/1/2006 7:45:23 PM
EPA METHOD 351.3: TKN						Analyst: TES
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/2/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *05-May-06*

CLIENT: Kleinfelder
Work Order: 0604285
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19108**
Client ID: **ZZZZZ** Batch ID: **R19108** TestNo: **E300** Analysis Date: **4/28/2006** SeqNo: **475062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19115**
Client ID: **ZZZZZ** Batch ID: **R19115** TestNo: **E300** Analysis Date: **5/1/2006** SeqNo: **475214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19130**
Client ID: **ZZZZZ** Batch ID: **R19130** TestNo: **E300** Analysis Date: **5/2/2006** SeqNo: **475497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	ND	0.10									

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19108**
Client ID: **ZZZZZ** Batch ID: **R19108** TestNo: **E300** Analysis Date: **4/28/2006** SeqNo: **475063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.288	0.10	3.5	0	93.9	90	110				

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **19115**
Client ID: **ZZZZZ** Batch ID: **R19115** TestNo: **E300** Analysis Date: **5/1/2006** SeqNo: **475215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.401	0.10	3.5	0	97.2	90	110				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0604285
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 19130
Client ID: ZZZZZ	Batch ID: R19130	TestNo: E300		Analysis Date: 5/2/2006	SeqNo: 475498

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (As N)+Nitrite (As N)	3.372	0.10	3.5	0	96.4	90	110				

4 / 6

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Kleinfelder
Work Order: 0604285
Project: Vequita

ANALYTICAL QC SUMMARY REPORT

TestCode: TKN_W

Sample ID: MB-10304	SampType: MBLK	TestCode: TKN_W	Units: mg/L	Prep Date: 5/2/2006	RunNo: 19134
Client ID: ZZZZZ	Batch ID: 10304	TestNo: E351.3		Analysis Date: 5/2/2006	SeqNo: 475599

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0									

Sample ID: LCS-10304	SampType: LCS	TestCode: TKN_W	Units: mg/L	Prep Date: 5/2/2006	RunNo: 19134
Client ID: ZZZZZ	Batch ID: 10304	TestNo: E351.3		Analysis Date: 5/2/2006	SeqNo: 475600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.800	1.0	10	0	98.0	80	120				

5 / 6

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 4/28/2006

Work Order Number 0604285

Received by AT

Checklist completed by Signature Date 4/28/06

Matrix Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 3° *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder
Address: 8300 Jefferson
Phone #: 344-7373
Fax #:

Project Name: Vegnita
Project #: 58326
Project Manager: Joe A. Galemore
Sampler: Lee Dalton/JAG
Sample Temperature: 3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	Nitrate - Nitrogen			Air Bubbles or Headspace (Y or N)
4-28-06	1200	H_2O	OW-1R	1/250			X	0604285-1													X				
4-28-06	1200	H_2O	OW-1R	1/250				-1														X			
4-28-06	1310	H_2O	~~JAG~~ TW-3	1/250			X	-2													X				
4-28-06	1310	H_2O	TW-3	1/250				-2														X			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
4-28-06	1504	Joe A. Galemore	[signature]
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 4/28/06 1504

Remarks:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

MAY 1 2 2006

COVER LETTER

Wednesday, May 10, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0605041

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/4/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *10-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0605041	**Collection Date:**	5/3/2006 1:34:00 PM
Project:	Vequita	**Date Received:**	5/4/2006
Lab ID:	0605041-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	70	0.50		mg/L	5	5/4/2006 6:35:24 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/9/2006

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *10-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0605041	**Collection Date:**	5/3/2006 3:00:00 PM
Project:	Vequita	**Date Received:**	5/4/2006
Lab ID:	0605041-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	66	1.0		mg/L	10	5/4/2006 8:54:41 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/9/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Vequita
Work Order: 0605041

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									Batch ID: **R19162**
Sample ID: MBLK		*MBLK*							Analysis Date: 5/4/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06006		*LCS*							Analysis Date: 5/4/2006
Nitrogen, Nitrate (As N)	2.393	mg/L	0.10	95.7	90	110			
Method: E351.3									Batch ID: **10377**
Sample ID: MB-10377		*MBLK*							Analysis Date: 5/9/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10377		*LCS*							Analysis Date: 5/9/2006
Nitrogen, Kjeldahl, Total	10.08	mg/L	1.0	101	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 5/4/2006

Work Order Number 0605041 | Received by LMM

Checklist completed by [signature] 5-4-06
Signature Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 6° *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address:

Phone #:

Fax #:

Project Name: Vequita

Project #: 58326

Project Manager: Joe Galemore

Sampler: LWD

Sample Temperature: 6°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0605041	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate - 2	TKN			Air Bubbles or Headspace (Y or N)
5/3/06	1334	H_2O	TW-1	2/500mL			✓	-1													✓	✓			
5/3/06	1500	H_2O	TW-3	2/500mL			✓	-2													✓	✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
5/4/06	10:00	[signature]	[signature] 5/4/06 1000
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Email results to Joe Galemore.
+ 1 case of field filters 20 per box

HALL ENVIRONMENTAL ANALYSIS LABORATORY

MAY 1 6 2006

COVER LETTER

Monday, May 15, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0605118

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/10/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *15-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0605118	**Collection Date:**	5/10/2006 12:18:00 PM
Project:	Vequita	**Date Received:**	5/10/2006
Lab ID:	0605118-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	73	1.0		mg/L	10	5/11/2006 8:17:12 PM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/12/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *15-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0605118	**Collection Date:**	5/10/2006 1:05:00 PM
Project:	Vequita	**Date Received:**	5/10/2006
Lab ID:	0605118-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	64	1.0		mg/L	10	5/11/2006 8:34:37 PM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *15-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0605118	**Collection Date:**	5/10/2006 1:34:00 PM
Project:	Vequita	**Date Received:**	5/10/2006
Lab ID:	0605118-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	84	1.0		mg/L	10	5/11/2006 8:52:02 PM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *15-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0605118	**Collection Date:**	5/10/2006 2:20:00 PM
Project:	Vequita	**Date Received:**	5/10/2006
Lab ID:	0605118-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	39	1.0		mg/L	10	5/11/2006 9:44:15 PM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Vequita **Work Order:** 0605118

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									Batch ID: **R19234**
Sample ID: MBLK		*MBLK*							Analysis Date: 5/11/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 5/12/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06006		*LCS*							Analysis Date: 5/11/2006
Nitrogen, Nitrate (As N)	2.458	mg/L	0.10	98.3	90	110			
Sample ID: LCS ST300-06006		*LCS*							Analysis Date: 5/12/2006
Nitrogen, Nitrate (As N)	2.467	mg/L	0.10	98.7	90	110			
Method: E351.3									Batch ID: **10403**
Sample ID: MB-10403		*MBLK*							Analysis Date: 5/12/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10403		*LCS*							Analysis Date: 5/12/2006
Nitrogen, Kjeldahl, Total	9.660	mg/L	1.0	96.6	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spik 5 / 6very outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 5/11/2006

Work Order Number 0605118

Received by AT

Checklist completed by _____ Signature | Date 5/11/06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **11°** *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☐ Level 4 ☐ Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder Inc

Address: 8300 Jefferson NE Ste B
ABQ, NM 87113

Phone #: 344-7373

Fax #:

Project Name: Veguita

Project #: 58326

Project Manager: Joe Galemore

Sampler: M.R.S. J.H.

Sample Temperature: 11°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate - Nitrite	TKN			Air Bubbles or Headspace (Y or N)
5-10-06	1218	Ag	TW-1	2			✓	0605118-1													✓	✓			
	1305		TW-3	2			✓	-2													✓	✓			
	1334		OW-2	2			✓	-3													✓	✓			
	1420		OW-1R	2			✓	-4													✓	✓			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
5-10-06	5:00 pm	[signature]	Lisa Fedeko 1700 5/10/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: We would like results as soon as possible please, Thanks
per JG Rush MT 5/11/06

MAY 24 2006

HALL ENVIRONMENTAL ANALYSIS LABORATORY

COVER LETTER

Monday, May 22, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita Injection

Order No.: 0605182

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/18/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *22-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0605182	**Collection Date:**	5/17/2006 12:30:00 PM
Project:	Vequita Injection	**Date Received:**	5/18/2006
Lab ID:	0605182-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	63	1.0		mg/L	10	5/18/2006 7:09:23 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	5/18/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *22-May-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	T-4
Lab Order:	0605182	**Collection Date:**	5/17/2006 12:50:00 PM
Project:	Vequita Injection	**Date Received:**	5/18/2006
Lab ID:	0605182-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	66	2.0		mg/L	20	5/18/2006 11:17:30 AM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	900	10		mg/L	1	5/18/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Vequita Injection **Work Order:** 0605182

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300								Batch ID:	**R19316**
Sample ID: MBLK		*MBLK*						Analysis Date:	5/18/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06006		*LCS*						Analysis Date:	5/18/2006
Nitrogen, Nitrate (As N)	2.479	mg/L	0.10	99.2	90	110			
Method: E351.3								Batch ID:	**10447**
Sample ID: MB-10447		*MBLK*						Analysis Date:	5/18/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10447		*LCS*						Analysis Date:	5/18/2006
Nitrogen, Kjeldahl, Total	10.08	mg/L	1.0	101	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spi 3 / 4very outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 5/18/2006

Work Order Number 0605182

Received by AT

Checklist completed by _____ Signature _____ Date 5/18/06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **2°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: per JH Sample ID collected @ 1250 is T-4 not TW-3 / AT 5/18/06

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☒ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: KLEINFELDER, INC.

Address: 8300 JEFFERSON NE. SUITE B
ALBUQUERQUE, NM 87113

Phone #: (505) 344-7373

Fax #: 344-1711

Project Name: Vequita Injection

Project #: 58326

Project Manager: JOE GALEMORE

Sampler: J. HILLER

Sample Temperature: 2°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	NO3			Air Bubbles or Headspace (Y or N)
5-17-06	1230	WATER	TW-3	2/~~2~~500			1	0605182-1													✓	✓			Y
5-17-06	1250	WATER	~~TW-3~~ T-4 AT	2/~~2~~500			1	-2													✓	✓			Y

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
5-18-06	0810		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			5/18/06 0810

Remarks: 1x500 ml unpres

JUN 0 7 2006

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, June 05, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0605270

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/25/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ▪ Suite D ▪ Albuquerque, NM 87109
505 345 3975 ▪ Fax 505 345 4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *05-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0605270	**Collection Date:**	5/24/2006 6:30:00 PM
Project:	Veguita	**Date Received:**	5/25/2006
Lab ID:	0605270-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	61	1.0		mg/L	10	5/26/2006 3:16:18 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	6/3/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Veguita

Work Order: 0605270

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									Batch ID: R19403
Sample ID: MBLK		*MBLK*							Analysis Date: 5/25/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 5/26/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 5/26/2006
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 5/25/2006
Nitrogen, Nitrate (As N)	2.429	mg/L	0.10	97.2	90	110			
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 5/26/2006
Nitrogen, Nitrate (As N)	2.348	mg/L	0.10	93.9	90	110			
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 5/26/2006
Nitrogen, Nitrate (As N)	2.412	mg/L	0.10	96.5	90	110			
Method: E351.3									Batch ID: 10551
Sample ID: MB-10551		*MBLK*							Analysis Date: 6/3/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10551		*LCS*							Analysis Date: 6/3/2006
Nitrogen, Kjeldahl, Total	9.800	mg/L	1.0	98.0	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 5/25/2006

Work Order Number 0605270

Received by LMM

Checklist completed by Lisa Hedykas 5/25/06
Signature Date

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 5° *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address:

Phone #:

Fax #:

Project Name: Vegnita

Project #: 58326.3

Project Manager: Joe A. Galemore

Sampler: JAG / Justin Ball

Sample Temperature: 0°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0605270	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	NO_3-N	TKN		Dye Dilution	Air Bubbles or Headspace (Y or N)
5/24/06	1630	Ag	TW-3	1/500ml			X	-1														X			
5/24/06	1830	Ag	TW-3	1/500ml				-1													X				
5/24/06	1830	Ag	TW-3	3/L				-1																X	

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
5-25-06	840	[signature]	[signature] 5/25/06 0840
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:
Standard Turnaround; NO EDD

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, June 12, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0606028

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/2/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *12-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0606028	**Collection Date:**	6/1/2006 9:20:00 AM
Project:	Vequita	**Date Received:**	6/2/2006
Lab ID:	0606028-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	65	1.0		mg/L	10	6/9/2006 6:28:58 AM
EPA METHOD 351.3: TKN						Analyst: TES
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	6/8/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *12-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0606028	**Collection Date:**	6/1/2006 11:15:00 AM
Project:	Vequita	**Date Received:**	6/2/2006
Lab ID:	0606028-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	84	1.0		mg/L	10	6/9/2006 6:46:22 AM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	6/8/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *12-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0606028	**Collection Date:**	6/1/2006 1:35:00 PM
Project:	Vequita	**Date Received:**	6/2/2006
Lab ID:	0606028-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	77	1.0		mg/L	10	6/9/2006 7:03:47 AM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	6/8/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *12-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0606028	**Collection Date:**	6/1/2006 2:30:00 PM
Project:	Vequita	**Date Received:**	6/2/2006
Lab ID:	0606028-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	55	1.0		mg/L	10	6/9/2006 7:21:11 AM
EPA METHOD 351.3: TKN						Analyst: TES
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	6/8/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Vequita

Work Order: 0606028

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									**Batch ID: R19490**
Sample ID: MBLK		*MBLK*							Analysis Date: 6/2/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 6/8/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/2/2006
Nitrate (As N)+Nitrite (As N)	3.312	mg/L	0.10	94.6	90	110			
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/8/2006
Nitrate (As N)+Nitrite (As N)	3.366	mg/L	0.10	96.2	90	110			
Method: E351.3									**Batch ID: 10589**
Sample ID: MB-10589		*MBLK*							Analysis Date: 6/8/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10589		*LCS*							Analysis Date: 6/8/2006
Nitrogen, Kjeldahl, Total	9.940	mg/L	1.0	99.4	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 6/2/2006

Work Order Number 0606028

Received by AT

Checklist completed by _____ Signature | Date 6/2/06

Matrix Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 6° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☑ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address: 8300 Jefferson NE
Albuquerque NM 87113

Phone #: 505 344-7373
Fax #: -1711

Project Name: Veguita

Project #: 58326.3

Project Manager: Joe Galemore

Sampler: Justin Ball

Sample Temperature: 5.8 °C

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4/None	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate	TKN			Air Bubbles or Headspace (Y or N)
6/1/06	9:20	GW	TW-3	2/250ml			1/1	0606028-1													X	X			
6/1/06	11:15	↓	OW-2	↓			↓	-2													X	X			
↓	13:35	↓	TW-1	↓			↓	-3													X	X			
↓	14:30	↓	MW-1	↓			↓	-4													X	X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
6/2/06	9:00	Justin Ball	[signature]
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 6/2/06 0900

Remarks: All samples field filtered 0.45µ
Email results to Joe Galemore

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, June 13, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita

Order No.: 0606037

Dear Joe Galemore:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/2/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *13-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0606037	**Collection Date:**	6/2/2006 12:10:00 PM
Project:	Vequita	**Date Received:**	6/2/2006
Lab ID:	0606037-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	38	0.50		mg/L	5	6/10/2006 11:08:44 PM
EPA METHOD 351.3: TKN						Analyst: **CMC**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/9/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Vequita **Work Order:** 0606037

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									Batch ID: R19490
Sample ID: MBLK		*MBLK*							Analysis Date: 6/2/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 6/10/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/2/2006
Nitrate (As N)+Nitrite (As N)	3.312	mg/L	0.10	94.6	90	110			
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/10/2006
Nitrate (As N)+Nitrite (As N)	3.356	mg/L	0.10	95.9	90	110			
Method: E351.3									Batch ID: 10592
Sample ID: MB-10592		*MBLK*							Analysis Date: 6/9/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10592		*LCS*							Analysis Date: 6/9/2006
Nitrogen, Kjeldahl, Total	10.08	mg/L	1.0	101	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 6/2/2006

Work Order Number 0606037

Received by AT

Checklist completed by _____ Signature _____ Date 6/2/06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **15°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☐ Level 4 ☐ Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: KLEINFELDER, INC.

Address: 8300 JEFFERSON NE
Albuquerque NM
87113

Phone #: (505) 344-7373

Fax #: (505) 344-1711

Project Name: VEGUITA.

Project #: 58326 / TASK 3

Project Manager: Joe Galamore

Sampler: J. Hiller

Sample Temperature: 15

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: ~~$HgCl_2$~~	Preservative: ~~HNO_3~~	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EOB (Method 504.1)	EOC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	NO_3			Air Bubbles or Headspace (Y or N)
6-2-06	1210	W	OW-1R	3 ~~3~~ 4/500	2	0	1	0600037-1													1	1			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
6-2-06	1410	[signature]	[signature] 6/2/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 1410

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, June 28, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0606099

Dear Joe Galemore:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 6/8/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0606099	**Collection Date:**	6/8/2006 9:50:00 AM
Project:	Veguita	**Date Received:**	6/8/2006
Lab ID:	0606099-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	65	1.0		mg/L	10	6/17/2006 5:38:04 PM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0606099	**Collection Date:**	6/8/2006 10:40:00 AM
Project:	Veguita	**Date Received:**	6/8/2006
Lab ID:	0606099-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	76	0.50		mg/L	5	6/17/2006 5:55:28 PM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0606099	**Collection Date:**	6/8/2006 12:40:00 PM
Project:	Veguita	**Date Received:**	6/8/2006
Lab ID:	0606099-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	44	0.50		mg/L	5	6/17/2006 6:12:52 PM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0606099	**Collection Date:**	6/8/2006 9:15:00 AM
Project:	Veguita	**Date Received:**	6/8/2006
Lab ID:	0606099-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	56	1.0		mg/L	10	6/17/2006 7:05:06 PM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0606099	**Collection Date:**	6/8/2006 1:50:00 PM
Project:	Veguita	**Date Received:**	6/8/2006
Lab ID:	0606099-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	58	0.50		mg/L	5	6/21/2006 2:15:20 PM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Veguita

Work Order: 0606099

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									Batch ID: R19564
Sample ID: MBLK		*MBLK*							Analysis Date: 6/9/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 6/17/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 6/21/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/9/2006
Nitrate (As N)+Nitrite (As N)	3.339	mg/L	0.10	95.4	90	110			
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/17/2006
Nitrate (As N)+Nitrite (As N)	3.459	mg/L	0.10	98.8	90	110			
Sample ID: LCS ST300-06008		*LCS*							Analysis Date: 6/21/2006
Nitrate (As N)+Nitrite (As N)	3.473	mg/L	0.10	99.2	90	110			
Method: E351.3									Batch ID: 10611
Sample ID: MB-10611		*MBLK*							Analysis Date: 6/14/2006
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10611		*LCS*							Analysis Date: 6/14/2006
Nitrogen, Kjeldahl, Total	9.940	mg/L	1.0	99.4	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN | Date and Time Received: 6/8/2006

Work Order Number 0606099 | Received by AT

Checklist completed by _____ Signature | 6/8/06 Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 6° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☒ Level 4 ☐ Other:

Client: Kleinfelder

Project Name: Veguita

Address: 8300 Jefferson, Albuquerque, NM 87113

Project #: 58326

Project Manager: Justin Ball / Joe Gailmore

Phone #: 505-344-7373

Sampler: Justin Ball

Fax #:

Sample Temperature: 6°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: None/$HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate	TKN			Air Bubbles or Headspace (Y or N)
6-8-06	9:50A	GW	TW-3	2/500mL	X		X	0606099-1													X	X			
↓	10:40A	↓	TW-1	↓	X		X	-2													X	X			
	12:40P		OW-1R		X		X	-3													X	X			
	9:15A		OW-2		X		X	-4													X	X			
	13:50		MW-1		X		X	-5													X	X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
6-8-06	16:10	Justin D Ball	[signature]	6/8/06 16:10
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: Field Filter

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, June 30, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0606184

Dear Joe Galemore:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 6/16/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0606184	**Collection Date:**	6/16/2006 9:15:00 AM
Project:	Veguita	**Date Received:**	6/16/2006
Lab ID:	0606184-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	61	0.50		mg/L	5	6/21/2006 2:43:02 AM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/26/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0606184	**Collection Date:**	6/16/2006 10:00:00 AM
Project:	Veguita	**Date Received:**	6/16/2006
Lab ID:	0606184-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	82	0.50		mg/L	5	6/21/2006 3:00:26 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/26/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0606184	**Collection Date:**	6/16/2006 11:05:00 AM
Project:	Veguita	**Date Received:**	6/16/2006
Lab ID:	0606184-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	81	0.50		mg/L	5	6/21/2006 3:17:50 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/26/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0606184	**Collection Date:**	6/16/2006 12:20:00 PM
Project:	Veguita	**Date Received:**	6/16/2006
Lab ID:	0606184-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	51	0.50		mg/L	5	6/21/2006 3:35:14 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/26/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Jun-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0606184	**Collection Date:**	6/16/2006 1:40:00 PM
Project:	Veguita	**Date Received:**	6/16/2006
Lab ID:	0606184-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	56	0.50		mg/L	5	6/21/2006 3:52:39 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/26/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Veguita

Work Order: 0606184

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									Batch ID: R19683
Sample ID: MBLK		*MBLK*							Analysis Date: 6/17/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*							Analysis Date: 6/20/2006
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/17/2006
Nitrate (As N)+Nitrite (As N)	3.459	mg/L	0.10	98.8	90	110			
Sample ID: LCS ST300-06007		*LCS*							Analysis Date: 6/20/2006
Nitrate (As N)+Nitrite (As N)	3.481	mg/L	0.10	99.5	90	110			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 6/16/2006

Work Order Number 0606184

Received by GLS

Checklist completed by Signature Date 6-16-06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 6° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder Inc

Address: 8300 Jefferson NE, Ste. B
ABQ, NM 87113

Phone #: (505) 344-7373

Fax #: (505) 344-1711

Project Name: Veguita

Project #: 58326.5

Project Manager: Joe Galemore

Sampler: M. Emmons

Sample Temperature: 6°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0606184	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate-Nitrite	TKN			Air Bubbles or Headspace (Y or N)
8/16/06	0915	Ag	TW-3	1/500mL			X	1													✓	✓			
	0915		TW-3					1													✓	✓			
	1000		TW-1				X	2																	
	1000		TW-1					2																	
	1105		OW-2				X	3																	
	1105		OW-2					3																	
	1220		OW-1R				X	4																	
	1220		OW-1R					4																	
	1340		MW-1				X	5																	
	1340		MW-1					5																	

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	Date:	Time:
8/16/06	1627	[signature]	[signature]	8/16/06	1627
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)		

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, July 11, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0606324

Dear Joe Galemore:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 6/28/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE Suite D Albuquerque, NM 87109
505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0606324	**Collection Date:**	6/28/2006 9:20:00 AM
Project:	Veguita	**Date Received:**	6/28/2006
Lab ID:	0606324-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	74	1.0		mg/L	10	7/10/2006 12:10:09 PM
EPA METHOD 351.3: TKN						Analyst: TES
Nitrogen, Kjeldahl, Total	1.7	1.0		mg/L	1	7/3/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0606324	**Collection Date:**	6/28/2006 10:00:00 AM
Project:	Veguita	**Date Received:**	6/28/2006
Lab ID:	0606324-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrogen, Nitrite (As N)	0.50	0.50		mg/L	5	6/30/2006 3:55:59 AM
Nitrogen, Nitrate (As N)	46	0.50		mg/L	5	6/30/2006 3:55:59 AM
EPA METHOD 351.3: TKN						Analyst: TES
Nitrogen, Kjeldahl, Total	2.7	1.0		mg/L	1	7/3/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0606324	**Collection Date:**	6/28/2006 10:30:00 AM
Project:	Veguita	**Date Received:**	6/28/2006
Lab ID:	0606324-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	52	0.50		mg/L	5	7/10/2006 12:27:33 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/3/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0606324	**Collection Date:**	6/28/2006 1:10:00 PM
Project:	Veguita	**Date Received:**	6/28/2006
Lab ID:	0606324-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	83	1.0		mg/L	10	7/10/2006 12:44:58 PM
EPA METHOD 351.3: TKN						Analyst: **TES**
Nitrogen, Kjeldahl, Total	1.3	1.0		mg/L	1	7/3/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0606324	**Collection Date:**	6/28/2006 2:45:00 PM
Project:	Veguita	**Date Received:**	6/28/2006
Lab ID:	0606324-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	57	0.50		mg/L	5	7/10/2006 1:02:22 PM
EPA METHOD 351.3: TKN						Analyst: TES
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/3/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Veguita

Work Order: 0606324

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID:	R19746	Analysis Date:	6/29/2006 9:34:28 AM	
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*			Batch ID:	R19746	Analysis Date:	6/29/2006 5:29:17 PM	
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: MBLK		*MBLK*			Batch ID:	R19848	Analysis Date:	7/10/2006 10:25:40 AM	
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06008		*LCS*			Batch ID:	R19746	Analysis Date:	6/29/2006 9:51:52 AM	
Nitrogen, Nitrite (As N)	1.008	mg/L	0.10	101	90	110			
Nitrogen, Nitrate (As N)	2.479	mg/L	0.10	99.2	90	110			
Nitrate (As N)+Nitrite (As N)	3.487	mg/L	0.10	99.6	90	110			
Sample ID: LCS ST300-06008		*LCS*			Batch ID:	R19746	Analysis Date:	6/29/2006 5:46:41 PM	
Nitrogen, Nitrite (As N)	1.019	mg/L	0.10	102	90	110			
Nitrogen, Nitrate (As N)	2.419	mg/L	0.10	96.8	90	110			
Nitrate (As N)+Nitrite (As N)	3.438	mg/L	0.10	98.2	90	110			
Sample ID: LCS ST300-06008		*LCS*			Batch ID:	R19848	Analysis Date:	7/10/2006 10:43:05 AM	
Nitrate (As N)+Nitrite (As N)	3.486	mg/L	0.10	99.6	90	110			
Method: E351.3									
Sample ID: MB-10736		*MBLK*			Batch ID:	10736	Analysis Date:	7/3/2006	
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: MB-10745		*MBLK*			Batch ID:	10745	Analysis Date:	7/3/2006	
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10736		*LCS*			Batch ID:	10736	Analysis Date:	7/3/2006	
Nitrogen, Kjeldahl, Total	9.940	mg/L	1.0	99.4	80	120			
Sample ID: LCS-10745		*LCS*			Batch ID:	10745	Analysis Date:	7/3/2006	
Nitrogen, Kjeldahl, Total	9.940	mg/L	1.0	99.4	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 6/28/2006

Work Order Number 0606324

Received by GLS

Checklist completed by _____ Signature _____ Date 6-29-06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 4° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder Inc

Address: 8300 Jefferson St B NE
ABQ, NM 87113

Phone #: (505) 344-7373

Fax #:

Project Name: Veguita

Project #: ~~58326.3~~ 58326.3

Project Manager: Joe Galemore

Sampler: Mike Emms

Sample Temperature: 4°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	HEAL No. 06006324	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	Nitrate - Nitrite			Air Bubbles or Headspace (Y or N)
6/28/06	0920	Aq	TW-1	2/500mL			1	1																	
	1000		TW-3				1	2																	
	1030		OW-1R				1	3																	
	1310		OW-2				1	4																	
	1445		MW-1				1	5																	

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
6/28/06	1643	[signature]	[signature] 6-28-06 1643
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, July 17, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0607076

Dear Joe Galemore:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 7/10/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-3
Lab Order:	0607076	**Collection Date:**	7/7/2006 1:20:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	3.1	0.50		mg/L	5	7/11/2006 9:20:57 AM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	7/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-2R
Lab Order:	0607076	**Collection Date:**	7/7/2006 2:50:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrate (As N)+Nitrite (As N)	38	0.50		mg/L	5	7/11/2006 9:38:22 AM
EPA METHOD 351.3: TKN						Analyst: **ks**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-4
Lab Order:	0607076	**Collection Date:**	7/7/2006 4:10:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	50	0.50		mg/L	5	7/11/2006 9:55:47 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	MW-1
Lab Order:	0607076	**Collection Date:**	7/7/2006 5:00:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	59	0.50		mg/L	5	7/11/2006 10:48:01 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-1R
Lab Order:	0607076	**Collection Date:**	7/7/2006 5:45:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	56	0.50		mg/L	5	7/11/2006 11:05:25 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-1
Lab Order:	0607076	**Collection Date:**	7/7/2006 6:35:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	64	0.50		mg/L	5	7/11/2006 11:22:49 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/12/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0607076	**Collection Date:**	7/7/2006 7:30:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	49	0.50		mg/L	5	7/11/2006 11:40:14 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/12/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	OW-2
Lab Order:	0607076	**Collection Date:**	7/7/2006 8:20:00 PM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	82	0.50		mg/L	5	7/11/2006 11:57:38 AM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	7/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jul-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	1W-1
Lab Order:	0607076	**Collection Date:**	7/8/2006 9:30:00 AM
Project:	Veguita	**Date Received:**	7/10/2006
Lab ID:	0607076-09	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	7/11/2006 12:15:03 PM
EPA METHOD 351.3: TKN						Analyst: ks
Nitrogen, Kjeldahl, Total	31	5.0		mg/L	1	7/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Veguita

Work Order: 0607076

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID:	**R19848**	Analysis Date:	7/10/2006 10:25:40 AM	
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06008		*LCS*			Batch ID:	**R19848**	Analysis Date:	7/10/2006 10:43:05 AM	
Nitrate (As N)+Nitrite (As N)	3.486	mg/L	0.10	99.6	90	110			
Method: E351.3									
Sample ID: MB-10786		*MBLK*			Batch ID:	**10786**	Analysis Date:	7/12/2006	
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: MB-10798		*MBLK*			Batch ID:	**10798**	Analysis Date:	7/13/2006	
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS-10786		*LCS*			Batch ID:	**10786**	Analysis Date:	7/12/2006	
Nitrogen, Kjeldahl, Total	9.800	mg/L	1.0	98.0	80	120			
Sample ID: LCS-10798		*LCS*			Batch ID:	**10798**	Analysis Date:	7/13/2006	
Nitrogen, Kjeldahl, Total	9.800	mg/L	1.0	98.0	80	120			
Sample ID: 0607076-01A MS		*MS*			Batch ID:	**10786**	Analysis Date:	7/12/2006	
Nitrogen, Kjeldahl, Total	9.660	mg/L	1.0	96.6	75	125			

Qualifiers:

E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 7/10/2006

Work Order Number 0607076

Received by AT

Checklist completed by _____ Signature | Date 7/10/06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☐	No ☑		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 3° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder Inc
Address: 8300 Jefferson NE Ste. B
ABQ, NM 87113
Phone #: (505) 344-7373
Fax #:

Project Name: Vegvita
Project #: 58326.3
Project Manager: Joe Gakmore
Sampler: M. Emms
Sample Temperature: 3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	Nitrate-Nitrite			Air Bubbles or Headspace (Y or N)
7/8/06	1320	Aq	MW 3	1/500mL			X	0607076-1																	
				1/125mL																					
	1450		MW 2R	1/500mL			X	-2																	
				1/125mL																					
	1610		MW-4	1/500mL			X	-3																	
				1/125mL																					
	1700		MW 1	1/500mL			X	-4																	
				1/125mL																					
	1745		OW-1R	1/500mL			X	-5																	
				1/125mL																					
	1835		TW-1	1/500mL			X	-6																	
				1/125mL																					

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
7/10/06	0915	[signature]	[signature]	7-10-06 915
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address: 8200 Jefferson Ste B
ABQ, NM 87113

Phone #: 344.7373

Fax #:

Project Name: Veguita

Project #: 58326.3

Project Manager: Joe Gakmore

Sampler: M. Emms

Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	HEAL No.
7/7/06	1930 ~~1605~~	Aq	TW-3	1/500mL			X	0607076-7
				1/125mL				
	2020 ~~0900~~		OW-2	1/500mL			X	-8
				1/125mL				
7/8/06	0930		IW-1	1/500mL			X	-9
				1/125mL				

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TKN	Nitrate - Nitrite			Air Bubbles or Headspace (Y or N)

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	Remarks:
7/10/06	0915	[signature]	[signature] 7-10-06 0945	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, August 02, 2006

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0607229

Dear Joe Galemore:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/20/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Aug-06*

CLIENT:	Kleinfelder	**Client Sample ID:**	TW-3
Lab Order:	0607229	**Collection Date:**	7/20/2006 12:17:00 PM
Project:	Veguita	**Date Received:**	7/20/2006
Lab ID:	0607229-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Nitrogen, Nitrate (As N)	59	1.0		mg/L	10	7/21/2006 2:14:53 AM
EPA METHOD 351.3: TKN						Analyst: **MAP**
Nitrogen, Kjeldahl, Total	ND	5.0		mg/L	1	8/1/2006

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Kleinfelder
Project: Veguita

Work Order: 0607229

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID:	R19983	Analysis Date:	7/20/2006 11:27:04 AM	
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Sample ID: LCS ST300-06008		*LCS*			Batch ID:	R19983	Analysis Date:	7/20/2006 11:44:28 AM	
Nitrogen, Nitrate (As N)	2.440	mg/L	0.10	97.6	90	110			
Method: E351.3									
Sample ID: MBLK-10920		*MBLK*			Batch ID:	10920	Analysis Date:	8/1/2006	
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0						
Sample ID: LCS1-10920		*LCS*			Batch ID:	10920	Analysis Date:	8/1/2006	
Nitrogen, Kjeldahl, Total	9.800	mg/L	1.0	93.8	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 7/20/2006

Work Order Number 0607229

Received by AT

Checklist completed by _____ Signature _____ Date 7/20/06

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **11°** *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address:

Phone #:

Fax #:

Project Name: Vequita

Project #: 58326

Project Manager: Joe Galemore

Sampler: [illegible]

Sample Temperature: 11

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl$_2$	Preservative HNO$_3$	Preservative H$_2$SO$_4$	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate-N	TKN			Air Bubbles or Headspace (Y or N)
7/20/06	1217	H2O	TW-3	1/500mL				0607229-1													✓				
7/20/06	1217	H2O	TW-3	1/500mL			✓	-1														✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
7/20/06	1345	[signature]	[signature]
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 7/20/06 1345

ANALYSIS REQUEST

Remarks: Rush turn around on Nitrate-N
Email results to Joe Galemore.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

SEP 0 7 2005

COVER LETTER

September 02, 2005

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113
TEL: (505) 344-7373
FAX (505) 344-1711

RE: Veguita

Order No.: 0508283

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 3 samples on 8/24/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *02-Sep-05*

CLIENT: Kleinfelder
Project: Veguita
Lab Order: 0508283

Lab ID: 0508283-01
Collection Date: 8/24/2005 11:25:00 AM
Client Sample ID: MW-1 65'
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	62	0.50		mg/L	5	8/25/2005

Lab ID: 0508283-02
Collection Date: 8/24/2005 11:57:00 AM
Client Sample ID: MW-1 75'
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	61	0.50		mg/L	5	8/25/2005

Lab ID: 0508283-03
Collection Date: 8/24/2005 12:22:00 PM
Client Sample ID: MW-1 85'
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Nitrogen, Nitrate (As N)	61	0.50		mg/L	5	8/25/2005

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *02-Sep-05*

CLIENT: Kleinfelder
Work Order: 0508283
Project: Veguita

QC SUMMARY REPORT

Method Blank

Sample ID **MBLK** Batch ID: **R16423** Test Code: **E300** Units: **mg/L** Analysis Date **8/24/2005** Prep Date

Client ID: Run ID: **LC_050824A** SeqNo: **391843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *02-Sep-05*

CLIENT: Kleinfelder
Work Order: 0508283
Project: Veguita

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS ST300-05021** Batch ID: **R16423** Test Code: **E300** Units: **mg/L** Analysis Date **8/24/2005** Prep Date

Client ID: Run ID: **LC_050824A** SeqNo: **391844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5134	0.1	0.5	0	103	90	110	0			
Chloride	4.804	0.1	5	0	96.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9619	0.1	1	0	96.2	90	110	0			
Bromide	2.533	0.5	2.5	0	101	90	110	0			
Nitrogen, Nitrate (As N)	2.441	0.1	2.5	0	97.6	90	110	0			
Phosphorus, Orthophosphate (As P)	4.966	0.5	5	0	99.3	90	110	0			
Sulfate	9.911	0.5	10	0	99.1	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.403	0.1	3.5	0	97.2	90	110	0			

3 / 4

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

/

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 8/24/2005

Work Order Number 0508283

Received by SSB

Checklist completed by _____ Signature _____ Date 8-24-05

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? **6°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☑ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address: 8300 Jefferson

Phone #: 344-7373

Fax #:

Project Name: Veguita

Project #: 58326 · Task 1

Project Manager: Joe A Gakmore

Sampler: JAG / Bert Faris

Sample Temperature: 6

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0508283	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate (EPA 300)				Air Bubbles or Headspace (Y or N)
8/24/05	1125	H_2O	MW-1-65'	2/125ml			1	-1													✓				
8/24/05	1157	H_2O	MW-1-75'	2/125ml			1	2													✓				
8/24/05	1222	H_2O	MW-1-85'	2/125ml			1	3													✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/24/05	4:08pm	[signature]	[signature]
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 8/24/05 16:08

Remarks: 1 sample preserved } 3 both field filtered
1 " unpreserved

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

SEP 1 2 2005

COVER LETTER

September 09, 2005

Joe Galemore
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113
TEL: (505) 344-7373
FAX (505) 344-1711

RE: Vequita Denitrification

Order No.: 0508357

Dear Joe Galemore:

Hall Environmental Analysis Laboratory received 3 samples on 8/31/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505 345 3975 ■ Fax 505 345 4107
www hallenvironmental com

Hall Environmental Analysis Laboratory

Date: *09-Sep-05*

CLIENT: Kleinfelder
Project: Vequita Denitrification
Lab Order: 0508357

Lab ID: 0508357-01
Client Sample ID: MW-4
Collection Date: 8/31/2005 10:19:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	58	0.50		mg/L	5	9/2/2005

Lab ID: 0508357-02
Client Sample ID: MW-2R
Collection Date: 8/31/2005 12:20:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrate (As N)+Nitrite (As N)	43	0.50		mg/L	5	9/2/2005

Lab ID: 0508357-03
Client Sample ID: MW-3
Collection Date: 8/31/2005 12:23:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Nitrogen, Nitrate (As N)	3.6	0.10		mg/L	1	8/31/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *09-Sep-05*

CLIENT: Kleinfelder
Work Order: 0508357
Project: Vequita Denitrification

QC SUMMARY REPORT

Method Blank

Sample ID **MBLK** Batch ID: **R16516** Test Code: **E300** Units: **mg/L** Analysis Date **8/31/2005** Prep Date
Client ID: Run ID: **LC_050831A** SeqNo: **394567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.1									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID **MBLK** Batch ID: **R16525** Test Code: **E300** Units: **mg/L** Analysis Date **9/1/2005** Prep Date
Client ID: Run ID: **LC_050901A** SeqNo: **394799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.1									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID **MBLK** Batch ID: **R16552** Test Code: **E300** Units: **mg/L** Analysis Date **9/2/2005** Prep Date
Client ID: Run ID: **LC_050902A** SeqNo: **395763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.1									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; j - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Date: *09-Sep-05*

CLIENT: Kleinfelder
Work Order: 0508357
Project: Vequita Denitrification

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS ST300-05021** Batch ID: **R16516** Test Code: **E300** Units: **mg/L** Analysis Date **8/31/2005** Prep Date
Client ID: Run ID: **LC_050831A** SeqNo: **394568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.447	0.1	2.5	0	97.9	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.369	0.1	3.5	0	96.2	90	110	0			

Sample ID **LCS ST300-05021** Batch ID: **R16525** Test Code: **E300** Units: **mg/L** Analysis Date **9/1/2005** Prep Date
Client ID: Run ID: **LC_050901A** SeqNo: **394800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.456	0.1	2.5	0	98.2	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.397	0.1	3.5	0	97.1	90	110	0			

Sample ID **LCS ST300-05021** Batch ID: **R16552** Test Code: **E300** Units: **mg/L** Analysis Date **9/2/2005** Prep Date
Client ID: Run ID: **LC_050902A** SeqNo: **395764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.464	0.1	2.5	0	98.6	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.456	0.1	3.5	0	98.7	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name KLEIN

Date and Time Received: 8/31/2005

Work Order Number 0508357

Received by SSB

Checklist completed by Signature Date 8/31/05

Matrix

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Container/Temp Blank temperature? 6° *4° C ± 2 Acceptable* If given sufficient time to cool

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Kleinfelder

Address:

Phone #:

Fax #:

Project Name: Vequita Denitrification

Project #: 58326

Project Manager: Joe Galemore

Sampler: Lee Dalton

Sample Temperature: 6°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No. 0508357	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EOC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Nitrate				Air Bubbles or Headspace (Y or N)
8-31-05	1019	H_2O	MW-4	2/125mL			✓	-1													✓				
8-31-05	1220	H_2O	~~MW-3~~ MW-2R	2/125mL			✓	-2													✓				
8-31-05	1223	H_2O	~~MW-2R~~ MW-3	2/125mL			✓	-3													✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8-31-05	1615	Lee D	[signature]
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 8/31/05 16:15

Remarks: Email results to Joe Galemore.

State of New Mexico

SCIENTIFIC LABORATORY DIVISION

Department of Health

P.O. Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
(505) 841-2500

WATER CHEMISTRY SECTION (505) 841-2555

Sample Collection Date: 8/24/2005 **Time:** 11:25 **By:** FARIS
Sampling Location: MW-1 @ 65
Sample Type: wf

SLD No.: WC-200502342

Request ID No.:	2377262
Received at SLD:	8/25/2005
User:	55321
Subm:	60
WSS #:	0

This Copy of Report for:

NMED Dist #1 Office, Albuquerque
Drinking Water Bureau
5500 San Antonio Dr. NE
Albuquerque, NM 87109

Distribution to:
NMED GWQ Bureau Abatement and Assessmen
NMED Dist #1 Office, Albuquerque {S}

Water Chemistry Section - File Copy

ANALYTICAL RESULTS

Analyte	Result	Units	Analysis Date	EPA Method No.	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Ammonia	<0.1	mG/L	9/9/2005	350.1	0.1	1	0.1	Jeff Robb	
Nitrate + Nitrite	64	mG/L	9/20/2005	353.2	0.1	100	10	Adam Pimentel	
TKN	<0.1	mG/L	9/12/2005	351.2	0.1	1	0.1	Jeff Robb	

Received
SEP 2 [illegible] 2005
Distrib[illegible]

Laboratory Comments:

Reviewed by Chris Dean
Supervisor, Water Chemistry Section

Date Printed: 23-Sep-05

Data Qualifier Codes and Definitions

A - See comments section below
D - Spike recovery <80% or >120%
F - Matrix interference suspected
G - Inconsistent results, suggest re-sampling
H - Sample analyzed in duplicate
J - Estimated quantity only, analyte was detected at a level below which an accurate Quantitation can be given
K - Holding time exceeded at laboratory
L - Result for this analyte equals or exceeds EPA MCL
M - Result for this analyte equals or exceeds EPA action level
N - Insufficient sample to verify results
P - Sample rejected/ voided at laboratory
Q - Sample submitted to laboratory past holding time
V - External control value <80% or >120% of theoretical value
W - Ion balance criteria exceeded
X - Daily control value <80% or >120% of theoretical value

State of New Mexico

SCIENTIFIC LABORATORY DIVISION

Department of Health

P.O. Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
(505) 841-2500

WATER CHEMISTRY SECTION (505) 841-2555

Sample Collection Date: 8/24/2005 **Time:** 11:57 **By:** FARIS
Sampling Location: MW-1 @ 75FT
Sample Type: wf

SLD No.: WC-200502343

Request ID No.:	2377263
Received at SLD:	8/25/2005
User:	55321
Subm:	60
WSS #:	0

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Drinking Water Bureau
5500 San Antonio Dr. NE
Albuquerque, NM 87109

Distribution to:
NMED GWQ Bureau Abatement and Assessmen
NMED Dist #1 Office, Albuquerque (S)

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ANALYTICAL RESULTS

Analyte	Result	Units	Analysis Date	EPA Method No.	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
TKN	<0.1	mG/L	9/12/2005	351.2	0.1	1	0.1	Jeff Robb	
Ammonia	<0.1	mG/L	9/9/2005	350.1	0.1	1	0.1	Jeff Robb	
Nitrate + Nitrite	63	mG/L	9/20/2005	353.2	0.1	100	10	Adam Pimentel	

Received
SEP 29 2005
District 1

Laboratory Comments:

Reviewed by Chris Dean
Supervisor, Water Chemistry Section

Date Printed: 23-Sep-05

Data Qualifier Codes and Definitions

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F - Matrix interference suspected
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K - Holding time exceeded at laboratory
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State of New Mexico

SCIENTIFIC LABORATORY DIVISION

Department of Health

P.O. Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
(505) 841-2500

WATER CHEMISTRY SECTION (505) 841-2555

Sample Collection Date: 8/31/2005 **Time:** 12:20 **By:** FARIS
Sampling Location: MW-2
Sample Type: wn

SLD No.: WC-200502397

Request ID No.:	2375049
Received at SLD:	9/1/2005
User:	55321
Subm:	60
WSS #:	0

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Drinking Water Bureau
5500 San Antonio Dr. NE
Albuquerque, NM 87109

Distribution to:
NMED GWQ Bureau Abatement and Assessmen
NMED Dist #1 Office, Albuquerque {S}

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ANALYTICAL RESULTS

Analyte	Result	Units	Analysis Date	EPA Method No.	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
TKN	0 31	mG/L	9/20/2005	351.2	0 1	1	0 1	Jeff Robb	
Ammonia	<0 1	mG/L	9/9/2005	350 1	0 1	1	0 1	Jeff Robb	
Nitrate + Nitrite	46	mG/L	9/23/2005	353 2	0 1	10	1	Adam Pimentel	

OCT 11 2005

Laboratory Comments:

Reviewed by Chris Dean
Supervisor, Water Chemistry Section Date Printed: 05-Oct-05

Data Qualifier Codes and Definitions

A - See comments section below
D - Spike recovery <80% or >120%
F - Matrix interference suspected
G - Inconsistent results, suggest re-sampling
H - Sample analyzed in duplicate
J - Estimated quantity only, analyte was detected at a level below which an accurate Quantitation can be given
K - Holding time exceeded at laboratory
L - Result for this analyte equals or exceeds EPA MCL
M - Result for this analyte equals or exceeds EPA action level
N - Insufficient sample to verify results
P - Sample rejected/ voided at laboratory
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W - Ion balance criteria exceeded
X - Daily control value <80% or >120% of theoretical value

State of New Mexico

SCIENTIFIC LABORATORY DIVISION

Department of Health

P O. Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
(505) 841-2500

WATER CHEMISTRY SECTION (505) 841-2555

Sample Collection Date: 8/31/2005 **Time:** 12:23 **By:** FARIS
Sampling Location: MW-3
Sample Type: wn

SLD No.: WC-200502398

Request ID No.:	2375050
Received at SLD:	9/1/2005
User:	55321
Subm:	60
WSS #:	0

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5500 San Antonio Dr. NE
Albuquerque, NM 87109

Distribution to:
NMED GWQ Bureau Abatement and Assessmen
NMED Dist #1 Office, Albuquerque (S)

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ANALYTICAL RESULTS

Analyte	Result	Units	Analysis Date	EPA Method No.	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
TKN	0 17	mG/L	9/20/2005	351.2	0 1	1	0.1	Jeff Robb	
Ammonia	<0 1	mG/L	9/9/2005	350.1	0 1	1	0.1	Jeff Robb	
Nitrate + Nitrite	3.9	mG/L	9/23/2005	353.2	0.1	1	0.1	Adam Pimentel	

Received
OCT 11 2005

Laboratory Comments:

Reviewed by Chris Dean
Supervisor, Water Chemistry Section Date Printed: 05-Oct-05

Data Qualifier Codes and Definitions

A - See comments section below
D - Spike recovery <80% or >120%
F - Matrix interference suspected
G - Inconsistent results, suggest re-sampling
H - Sample analyzed in duplicate
J - Estimated quantity only, analyte was detected at a level below which an accurate Quantitation can be given
K - Holding time exceeded at laboratory
L - Result for this analyte equals or exceeds EPA MCL
M - Result for this analyte equals or exceeds EPA action level
N - Insufficient sample to verify results
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X - Daily control value <80% or >120% of theoretical value

State of New Mexico

SCIENTIFIC LABORATORY DIVISION

Department of Health

P.O. Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
(505) 841-2500

WATER CHEMISTRY SECTION (505) 841-2555

Sample Collection Date: 8/31/2005 **Time:** 10:19 **By:** FARIS
Sampling Location: MW-4
Sample Type: wn

SLD No.: WC-200502399

Request ID No.:	2375051
Received at SLD:	9/1/2005
User:	55321
Subm:	60
WSS #:	0

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NMED Dist #1 Office, Albuquerque
Drinking Water Bureau
5500 San Antonio Dr. NE
Albuquerque, NM 87109

Distribution to:
NMED GWQ Bureau Abatement and Assessmen
NMED Dist #1 Office, Albuquerque (S)

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ANALYTICAL RESULTS

Analyte	Result	Units	Analysis Date	EPA Method No.	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
TKN	0.38	mG/L	9/20/2005	351.2	0.1	1	0.1	Jeff Robb	
Ammonia	<0.1	mG/L	9/19/2005	350.1	0.1	1	0.1	Jeff Robb	
Nitrate + Nitrite	61	mG/L	9/23/2005	353.2	0.1	10	1	Adam Pimentel	

Received
OCT 11 2005
District 1

Laboratory Comments:

Reviewed by Chris Dean
Supervisor, Water Chemistry Section Date Printed: 05-Oct-05

Data Qualifier Codes and Definitions

A - See comments section below
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H - Sample analyzed in duplicate
J - Estimated quantity only, analyte was detected at a level below which an accurate Quantitation can be given
K - Holding time exceeded at laboratory
L - Result for this analyte equals or exceeds EPA MCL
M - Result for this analyte equals or exceeds EPA action level
N - Insufficient sample to verify results
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W - Ion balance criteria exceeded
X - Daily control value <80% or >120% of theoretical value

APPENDIX D

Field Operating Procedures

Field Operating Procedures

Soil Sampling Procedure – Before collecting each soil sample, the continuous sampler or split-spoon sampler and other soil sampling tools will be cleaned using a solution of Alconox and clean tap water. The sampler will then be rinsed with additional distilled water. New disposable latex gloves will be used for all soil sampling procedures to minimize the potential for cross contamination.

Upon retrieval of the sampler, a degreed geologist will first collect samples for field screening and laboratory analysis. Once these samples have been secured and preserved as required, the geologist will document percent recovery of the interval targeted for sampling and log the sample in accordance with American Society Testing and Materials (ASTM) standard D 2488-00 (ASTM 2000) for the description and identification of soils, visual-manual procedure.

Soil samples collected for field screening by the heated-headspace method will be collected in accordance with the SOP below and analyzed with a Rae Systems, Model PGM-761S Photo-Ionization Detector (PID), or equivalent. The PID will be calibrated daily to 100-parts per million (ppm) using isobutylene span gas as specified in the users' manual. The samples used for field-screening purposes will be collected from each distinct lithologic unit and obviously stained areas. At a minimum, one field-screen sample will be obtained from each 5-foot (ft) section of soil, where the quantity of soil obtained during sampling allows.

The second soil sample or samples will be collected for possible laboratory analyses in laboratory-supplied glassware. Each sample will be placed on ice in a cooler until selection of samples for laboratory analyses is made. Selected samples will remain in the cooler, which will be maintained at a temperature of 4 degrees Celsius or less and under the custody of the sampler until properly relinquished. Chain-of custody documentation will follow the samples until delivered to the laboratory analysis.

Monitoring Well Development - Development of monitoring wells shall be conducted in accordance with the following procedures:

Monitoring well development equipment will be decontaminated (in accordance with our decontamination SOP) before any development activities are initiated.

1. Water level measurements will be collected in accordance with our groundwater sampling SOP
2. Well volumes will be calculated
3. Well development equipment will be assembled, depending on the development method used (e.g., bailer or pump), and development activities will be initiated

4. Field parameters will be measured (e.g., temperature, pH, specific conductance) after each well volume and recorded in a field log book or field data sheet

5. A weighted bailer will be placed in the well and lowered until it is near the top of the screen or water surface, the bailer will be alternately raised and lowered through the vertical distance of one to two feet; the velocity of the motion will depend upon the tightness of the formation in which the well is installed

6. After surging the well a few times at a given depth, the bailer will be moved deeper by one or two feet;

7. Steps 5 and 6 will be repeated until the bailer has been lowered to the bottom of the screened section of the well

8. The bailer will be raised out of the well and the well will be purged of sediment that may have accumulated due to the surging

9. Steps 5 through 8 will be repeated until the purge water remains clear and field parameters have stabilized

If the well is pumped to dryness or near dryness, the water level will be allowed to sufficiently recover (to the static level) before the next development period is initiated

All field decisions and data will be document in a field logbook.

Fluid Level Gauging (TNRCC, 2001)

1. Remove well casing caps from all wells to allow for water level equilibration.

2. Start at the least contaminated well, if known.

3. Inspect the well for signs of tampering or other damage. If tampering is suspected, (i.e., casing is damaged, lock or cap is missing) this shall be recorded in the field log book and on the well sampling form and reported to the Project Manager.

4. Note location, time of day, and date in field notebook or appropriate log form.

5. Turn on the meter.

6. Press the battery check button (if so equipped). A solid tone will be heard if the battery is good.

7. Lower measuring device or equivalent (i.e., permanently installed tranducers or airline) into well, unreeling the measuring tape from the spool of the meter as you go.

8. Continue lowering the probe until a tone is heard. This tone indicates that the probe has come in contact with fluid. If using an interface probe, note tones that differentiate LNAPL from water.

9. Holding the measuring tape near the measuring reference point, alternately raise and lower the probe across the depth at which the tone sounds. This will ensure that you have an accurate measurement of the depth to water. Record the distance from the surface to the referenced measuring point on well casing in site logbook. Alternatively, if there is no reference point, note that water level measurement is from top of steel casing, top of PVC riser pipe, from ground surface, or some other position on the wellhead, typically on the north edge. Fluid measurement should be recorded to the nearest 0.01 foot.

10. Measure total depth of well (at least twice to confirm measurement) and record in the site logbook or field data sheet. Total depth measurements should be recorded to the nearest 0.01 foot.

11. If the field investigator suspects that excessive sediment buildup may be occurring at the bottom of the well, the measured total depth should be compared with the total depth at the time of drilling (from boring log). If the sediment thickness exceeds one foot, or is excessively impeding the flow of groundwater through the well screen, the well shall be redeveloped.

12. Decontaminate probe.

13. If LNAPL is present, continue downward and repeat procedure. The presence of LNAPL can be confirmed using a clear bailer by lowering the bailer to just below the top of the water surface, removing the bailer, and observing the contents.

Groundwater Sampling by Bailing – Before sampling groundwater, the interface probe will be used to measure the depth to groundwater and to check for the presence of LNAPL. After the depth to groundwater is measured, each groundwater monitoring well will be purged to allow fresh groundwater from the aquifer to enter the well. Kleinfelder will attempt to remove a minimum of three well volumes of groundwater from each well using either disposable bailers or a small electric pump until either the parameters of temperature, conductivity, pH, and turbidity have stabilized, or the well becomes dry. Field parameters will be collected at a frequency of approximately once every ½ casing volume.

New disposable latex gloves will be worn for each sampling event to minimize the possibility of cross contamination. Groundwater samples will be collected in laboratory-prepared glassware using the appropriate preservative and kept on ice until laboratory submittal. Submittal of groundwater samples will be performed under chain-of-custody procedures to the selected laboratory. Kleinfelder will submit the collected samples under chain-of-custody.

Groundwater Sampling using Low Flow Techniques –

<u>Low-flow Purging <L/min (0.26gpm), Low-flow Sampling <300ml/min (0.3L/min or 0.1 gpm) and Monitoring Indicator Parameters for Stability in a Closed Flow-through Cell</u>

1. SLOWLY lower the pump to the *middle* of the well's screened area. (A dedicated system is recommended.) Securely fasten the power cable and sample tubing at the top of the well. Connect the power source, controller box, gas source, etc., to the pumping equipment.

2. Connect the sample tubing to the water entry point of the closed flow-through cell.

   Closed Flow-Through Cell

   Air pockets may exist in the upper neck of each port hole that has a probe inserted into it – this is not a problem. Just make sure the probe's sensors are completely submerged in water during use.

   Avoid exposing the flow-through cell to extreme heat and sun in the summer and freezing temperatures in the winter.

3. Set up and calibrate all indicator parameter instruments and place each probe into its respective port of the closed flow-through cell.

4. Set the pump controller to the desired purging rate (i.e., <1L/min). Do *not* use a valve to reduce the flow from a pump; valves can cause an "orfice" effect that can cause a sample agitation and alteration.

5. Record the "purging time start," and start purging the well at a rate of 1 L/min or less. During purging, the water level in the well should not decrease significantly and should stabilize after purging for a few minutes. If the water level continues to decline while purging, decrease the purging rate if possible. Record the "purging flow rate" as an average. Use a graduated beaker, cylinder, calibrated bucket or other device to measure the flow rate while purging and sampling.

6a. Purge the well until you have taken at least three consecutive readings that are within the following ranges for the following indicator parameters:

   - Dissolved Oxygen+/- 0.2 mg/L
   - Specific Conductance+/- 5.0µmhos/ cm for values <1000 µmhos/ cm; +/- 10.0 µmhos/ cm for values >1000 µmhos/ cm
   - pH +/- 0.1 pH units
   - Temperature +/- 0.1 ºC
   - Turbidity <5 NTUs (*Required* if metals samples will not be filtered. *Recommended* if sorptive compounds or elements are collected. *Optional*, but recommended, if other compounds or elements are collected).
   - Eh (*optional)* +/- 30 mv

Readings should be collected every ~2 minutes or ~0.5 well volumes or more apart.

Stable dissolved oxygen, specific conductance and turbidity readings are considered the most reliable parameters for indicating that stagnant water has been replaced by formation water. You may adjust the +/- ranges and which indicator parameters you use to indicate that stagnant water has been replaced by formation water to reflect site-specific data, geochemistry, and hydrogeologic conditions.

Turbidity stabilization and NTU readings below 5 are required if you will not be filtering metals samples. In addition, monitor turbidity stabilization when collecting sorptive, hydrophobic, or high octanol-water partition coefficient (Kow) compounds or elements.

OR

6b. Purge the well until the readings for indicator parameters listed above (or well-specific indicator parameters) vary within +/-10% over three or more consecutive readings, spaced ~2 minutes or ~0.5 well volumes or more apart.

7. Record the final three stable readings for each indicator parameter on the "Well Specific Field Sheet – Monitoring Wells" (Appendix A), or use the project specific data sheet.

8. Record the "volume purged," "purging time stop," "purged dry (Y/N)," and any problems purging.

- Collect samples as described in the sample collection procedure. Record "sample flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event.

Investigation-Derived Waste Management – Cuttings from the soil borings identified through field-screening procedures as containing 100 ppm or greater volatile organic compounds (VOCs) will be placed in 55-gallon drums and disposed of at a regulated disposal facility. Assuming there is adequate physical space located onsite, cuttings that are identified as containing less than 100 ppm VOCs will be thin-spread onsite. Should there not be sufficient space to dispose of cutting onsite, they will be containerized, manifested, and transported to an off-site regulated facility.

Groundwater not containing LNAPLs generated from well development and purging will be placed on an impervious surface and allowed to evaporate. Groundwater containing LNAPLs will be placed in 55-gallon drums and disposed of at a regulated disposal facility.

Documentation – Fieldwork will be documented in a field book and photographed. Soil will be described in accordance with ASTM standard D 2488-00 (ASTM, 2000) and will be documented on a boring log. An as-built drawing of the monitoring well(s) will be included in the field book. If available, contaminant screening results and groundwater quality results obtained in the field may be stored in automatic data loggers contained within the field instrumentation.

Decontamination – The drill rig and down-hole drilling equipment will be decontaminated with a steam cleaner before mobilizing to the Site. The down-hole equipment will also be decontaminated between boring locations. All sampling and measuring equipment that will or may come in contact with the sample will be decontaminated between samples with a water/detergent wash, tap water rinse, and deionized water rinse.

References

ASTM, 2000. Designation D 2488-00, “Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).”

NMED, 2000. “Guidelines for Corrective Action,” March 13, 2000.

Texas Natural Resource Conservation Commission (TNRCC), 2001. “Standard Operating Procedure No. 7.1, Water Level/Sediment Measurement”, April 25, 2001.

APPENDIX E

Pumping Test Data

Date	Time	ET (sec)	Chan[1] Temperature Fahrenheit	ET (sec)	ET (min)	Chan[2] Pressure Feet H2O
11/7/2005	16:07:22	5860	66.98	0	0	15.844
11/7/2005	16:07:27	5865	66.98	5	0.08	16.161
11/7/2005	16:07:32	5870	66.98	10	0.17	16.776
11/7/2005	16:07:37	5875	66.98	15	0.25	17.307
11/7/2005	16:07:42	5880	66.98	20	0.33	17.737
11/7/2005	16:07:47	5885	66.98	25	0.42	18.123
11/7/2005	16:07:52	5890	66.98	30	0.50	18.455
11/7/2005	16:07:57	5895	66.98	35	0.58	18.748
11/7/2005	16:08:02	5900	66.98	40	0.67	18.989
11/7/2005	16:08:07	5905	66.98	45	0.75	19.2
11/7/2005	16:08:12	5910	67	50	0.83	19.38
11/7/2005	16:08:17	5915	67	55	0.92	19.533
11/7/2005	16:08:22	5920	67	60	1.00	19.67
11/7/2005	16:08:27	5925	67.02	65	1.08	19.792
11/7/2005	16:08:32	5930	67.02	70	1.17	19.901
11/7/2005	16:08:37	5935	67.04	75	1.25	19.975
11/7/2005	16:08:42	5940	67.04	80	1.33	20.049
11/7/2005	16:08:47	5945	67.04	85	1.42	20.115
11/7/2005	16:08:52	5950	67.07	90	1.50	20.179
11/7/2005	16:08:57	5955	67.07	95	1.58	20.224
11/7/2005	16:09:02	5960	67.07	100	1.67	20.277
11/7/2005	16:09:07	5965	67.09	105	1.75	20.319
11/7/2005	16:09:12	5970	67.09	110	1.83	20.348
11/7/2005	16:09:17	5975	67.09	115	1.92	20.391
11/7/2005	16:09:22	5980	67.09	120	2.00	20.42
11/7/2005	16:09:27	5985	67.11	125	2.08	20.452
11/7/2005	16:09:32	5990	67.11	130	2.17	20.47
11/7/2005	16:09:37	5995	67.11	135	2.25	20.494
11/7/2005	16:09:42	6000	67.11	140	2.33	20.51
11/7/2005	16:09:47	6005	67.11	145	2.42	20.521
11/7/2005	16:09:52	6010	67.11	150	2.50	20.534
11/7/2005	16:09:57	6015	67.11	155	2.58	20.547
11/7/2005	16:10:02	6020	67.13	160	2.67	20.555
11/7/2005	16:10:07	6025	67.11	165	2.75	20.552
11/7/2005	16:10:12	6030	67.11	170	2.83	20.571
11/7/2005	16:10:17	6035	67.13	175	2.92	20.563
11/7/2005	16:10:22	6040	67.13	180	3.00	20.59
11/7/2005	16:10:27	6045	67.13	185	3.08	20.59
11/7/2005	16:10:32	6050	67.13	190	3.17	20.59
11/7/2005	16:10:37	6055	67.13	195	3.25	20.59
11/7/2005	16:10:42	6060	67.13	200	3.33	20.59
11/7/2005	16:10:47	6065	67.13	205	3.42	20.6
11/7/2005	16:10:52	6070	67.13	210	3.50	20.6
11/7/2005	16:10:57	6075	67.13	215	3.58	20.608
11/7/2005	16:11:02	6080	67.13	220	3.67	20.603
11/7/2005	16:11:07	6085	67.13	225	3.75	20.611
11/7/2005	16:11:12	6090	67.11	230	3.83	20.589
11/7/2005	16:11:17	6095	67.11	235	3.92	20.597
11/7/2005	16:11:22	6100	67.11	240	4.00	20.594
11/7/2005	16:11:27	6105	67.11	245	4.08	20.597
11/7/2005	16:11:32	6110	67.11	250	4.17	20.618
11/7/2005	16:11:37	6115	67.11	255	4.25	20.602
11/7/2005	16:11:42	6120	67.11	260	4.33	20.602
11/7/2005	16:11:47	6125	67.11	265	4.42	20.613
11/7/2005	16:11:52	6130	67.11	270	4.50	20.594
11/7/2005	16:11:57	6135	67.11	275	4.58	20.613
11/7/2005	16:12:02	6140	67.11	280	4.67	20.608
11/7/2005	16:12:07	6145	67.11	285	4.75	20.618
11/7/2005	16:12:12	6150	67.11	290	4.83	20.616

$y = 0.0007x + 20.437$

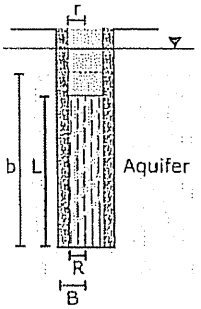
hours	seconds	
24	86400	80.92

11/7/2005	16:12:17	6155	67.11	295	4.92	20.613
11/7/2005	16:12:22	6160	67.11	300	5.00	20.616
11/7/2005	16:12:27	6165	67.11	305	5.08	20.626
11/7/2005	16:12:32	6170	67.09	310	5.17	20.615
11/7/2005	16:12:37	6175	67.11	315	5.25	20.621
11/7/2005	16:12:42	6180	67.11	320	5.33	20.624
11/7/2005	16:12:47	6185	67.11	325	5.42	20.637
11/7/2005	16:12:52	6190	67.09	330	5.50	20.642
11/7/2005	16:12:57	6195	67.09	335	5.58	20.631
11/7/2005	16:13:02	6200	67.09	340	5.67	20.639
11/7/2005	16:13:07	6205	67.09	345	5.75	20.636
11/7/2005	16:13:12	6210	67.09	350	5.83	20.649
11/7/2005	16:13:17	6215	67.09	355	5.92	20.647
11/7/2005	16:13:22	6220	67.09	360	6.00	20.673
11/7/2005	16:13:27	6225	67.09	365	6.08	20.684
11/7/2005	16:13:32	6230	67.09	370	6.17	20.665
11/7/2005	16:13:37	6235	67.09	375	6.25	20.679
11/7/2005	16:13:42	6240	67.09	380	6.33	20.676
11/7/2005	16:13:47	6245	67.07	385	6.42	20.689
11/7/2005	16:13:52	6250	67.07	390	6.50	20.683
11/7/2005	16:13:57	6255	67.07	395	6.58	20.699
11/7/2005	16:14:02	6260	67.07	400	6.67	20.686
11/7/2005	16:14:07	6265	67.07	405	6.75	20.715
11/7/2005	16:14:12	6270	67.07	410	6.83	20.699
11/7/2005	16:14:17	6275	67.07	415	6.92	20.712
11/7/2005	16:14:22	6280	67.07	420	7.00	20.726
11/7/2005	16:14:27	6285	67.07	425	7.08	20.718
11/7/2005	16:14:32	6290	67.07	430	7.17	20.715
11/7/2005	16:14:37	6295	67.07	435	7.25	20.734
11/7/2005	16:14:42	6300	67.07	440	7.33	20.739
11/7/2005	16:14:47	6305	67.04	445	7.42	20.738
11/7/2005	16:14:52	6310	67.04	450	7.50	20.733
11/7/2005	16:14:57	6315	67.04	455	7.58	20.741
11/7/2005	16:15:02	6320	67.04	460	7.67	20.738
11/7/2005	16:15:07	6325	67.04	465	7.75	20.749
11/7/2005	16:15:12	6330	67.04	470	7.83	20.752
11/7/2005	16:15:17	6335	67.04	475	7.92	20.765
11/7/2005	16:15:22	6340	67.04	480	8.00	20.754
11/7/2005	16:15:27	6345	67.04	485	8.08	20.762
11/7/2005	16:15:32	6350	67.04	490	8.17	20.775
11/7/2005	16:15:37	6355	67.04	495	8.25	20.794
11/7/2005	16:15:42	6360	67.04	500	8.33	20.765
11/7/2005	16:15:47	6365	67.04	505	8.42	20.778
11/7/2005	16:15:52	6370	67.02	510	8.50	20.762
11/7/2005	16:15:57	6375	67.02	515	8.58	20.783
11/7/2005	16:16:02	6380	67.02	520	8.67	20.778
11/7/2005	16:16:07	6385	67.02	525	8.75	20.78
11/7/2005	16:16:12	6390	67.02	530	8.83	20.783
11/7/2005	16:16:17	6395	67.02	535	8.92	20.772
11/7/2005	16:16:22	6400	67.02	540	9.00	20.783
11/7/2005	16:16:27	6405	67.02	545	9.08	20.778
11/7/2005	16:16:32	6410	67.02	550	9.17	20.801

Neuman w/ Partial Penetration Correct

City, State/Province Address Contact Info Company Name	Wells
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

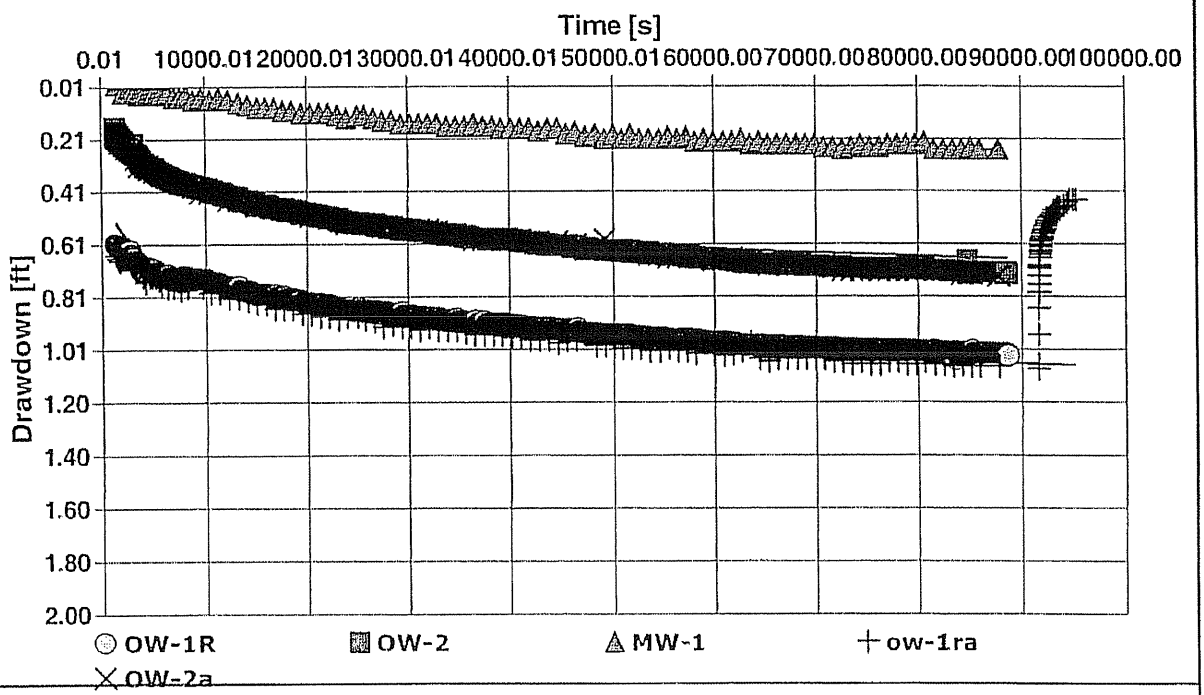
Location: Veguita, NM



	Name	X [ft]	Y [ft]	Elevation (amsl)	Benchmark [ft]	Penetration	L [ft]	B [ft]
1	OW-1R	0	10			Partially	31.2	0.2916
2	OW-2	20	0			Partially	31	0.2916
3	MW-1	-100	0			Partially	33.4	0.3333
4	TW-1	0	0			Partially	15	1.0208
5	ow-1ra	0	10			Partially	31.2	0.2916
6	OW-2a	20	0			Partially	31	0.2916

City, State/Province Address Contact Info Company Name	Pumping Test Analysis Report
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

Location: Veguita, NM	Pumping Test: Pumping Test 1	Pumping well: TW-1
Test conducted by: Justin Ball		Test date: 11/21/2005
Analysis performed by: JAG	Neuman	Date: 11/28/2005
Aquifer Thickness: 100 00 ft	Discharge rate: 45 [U S gal/min]	



Calculation after Neuman

Observation well	Transmissivity [ft²/d]	K [ft/d]	Specific Yield	Ratio Sy/S	Radial distance to PW [ft]
OW-1R	$7\ 00 \times 10^{3}$	$7\ 00 \times 10^{1}$	$4\ 88 \times 10^{-2}$	$1\ 00 \times 10^{1}$	10 0
OW-2	$7\ 50 \times 10^{3}$	$7\ 50 \times 10^{1}$	$1\ 00 \times 10^{-1}$	$1\ 00 \times 10^{2}$	20 0
MW-1	$8\ 06 \times 10^{3}$	$8\ 06 \times 10^{1}$	$1\ 00 \times 10^{-1}$	$1\ 00 \times 10^{2}$	100 0
ow-1ra	$6\ 00 \times 10^{3}$	$6\ 00 \times 10^{1}$	$1\ 00 \times 10^{-1}$	$1\ 00 \times 10^{2}$	10 0
OW-2a	$7\ 50 \times 10^{3}$	$7\ 50 \times 10^{1}$	$1\ 00 \times 10^{-1}$	$1\ 00 \times 10^{2}$	20 0
Average	$7\ 21 \times 10^{3}$	$7\ 21 \times 10^{1}$	$8\ 98 \times 10^{-2}$	$8\ 20 \times 10^{1}$	

City, State/Province Address Contact Info Company Name	Pumping Test Analysis Report
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

Location: Veguita, NM	Pumping Test: Pumping Test 1	Pumping well: TW-1
Test conducted by: Justin Ball		Test date: 11/21/2005
Aquifer Thickness: 100 00 ft	Discharge rate: 45 [U S gal/min]	

	Analysis Name	Analysis performed by	Date	Method name	Well	T [ft²/d]	K [ft/d]	S
1	Neuman	JAG	11/28/2005	Neuman	OW-1R	$7\ 00 \times 10^{3}$	$7\ 00 \times 10^{1}$	$4\ 88 \times 10^{-2}$
2	Neuman	JAG	11/28/2005	Neuman	OW-2	$7\ 50 \times 10^{3}$	$7\ 50 \times 10^{1}$	$1\ 00 \times 10^{-1}$
3	Neuman	JAG	11/28/2005	Neuman	MW-1	$8\ 06 \times 10^{3}$	$8\ 06 \times 10^{1}$	$1\ 00 \times 10^{-1}$
4	Neuman	JAG	11/28/2005	Neuman	ow-1ra	$6\ 00 \times 10^{3}$	$6\ 00 \times 10^{1}$	$1\ 00 \times 10^{-1}$
5	Neuman	JAG	11/28/2005	Neuman	OW-2a	$7\ 50 \times 10^{3}$	$7\ 50 \times 10^{1}$	$1\ 00 \times 10^{-1}$
					Average	$7\ 21 \times 10^{3}$	$7\ 21 \times 10^{1}$	$8\ 98 \times 10^{-2}$

KLEINFELDER

SHEET 1 OF 1

PROJECT Veguita PROJECT NO. 58326.1

SUBJECT Pumping Test Analysis BY Joe A. Gutmore DATE 11-29-05

REVIEWED BY DATE

Purpose – Analyze pumping test data using Aquifer Test Pro V. 4.0 (Waterloo Hydrogeologic, 2005)

Data – Manual Measurements (TW-1, OW-01R, OW-02, & MW-01 sheets attached); Data Logger for TW-01, OW-01R, OW-02 files on CD (attached);

Pumping Rate – 45 gpm from 11-15-05 13:22:00 to 11-16-05 14:49:36 (logger time) Field time 11-15-05 13:20:00 to 11-16-05 14:47:00; Totalizer = 618,736 gals − 554,723 = 64,013 gals ≈ 42 gpm (used 45 gpm for analysis)

Results (See attached reports)

	K (ft/day) Neuman	Theis	Recovery	
TW-1	—	—	130**	130
OW-01R	65*	28	110	68
OW-02	75	32	—	54
MW-01	81	—		81

Arithmetic Average 83 ft/d

Geometric Average of 7 = 63

* Average of logger and manual data

** From Driscoll Calculator

Convert to cm/s $= \frac{83\ ft}{d} \times \frac{12\ in}{ft} \times \frac{2.54\ cm}{1\ in} \times \frac{1\ d}{86{,}400\ s}$

$= 2.9 \times 10^{-2}$ cm/sec

Geometric Ave = 2.2×10^{-2} cm/sec

KLEINFELDER

SHEET 1 OF ____

PROJECT Vegnita PROJECT NO. 58326

SUBJECT Pumping Test Analysis BY JMO DATE 11-29-05

TW-1 Recovery REVIEWED BY ____ DATE ____

Objective – Calculate hydraulic conductivity (k) from

$T = k\,b$ where T = Transmissivity

b = Aquifer Thickness, 100 ft (assumed)

From Driscoll, 1986 $T = \dfrac{264\,Q}{\Delta s'}$

where Q = Pumping Rate, gpm = 45 gpm

$\Delta s'$ = Residual drawdown in one log cycle

= 0.4 − 0.28 = 0.12 (See graph)

T = Transmissivity, gpd/ft

$$T = \frac{264(45)}{0.12}$$

$$= 99{,}000 \text{ gpd/ft}$$

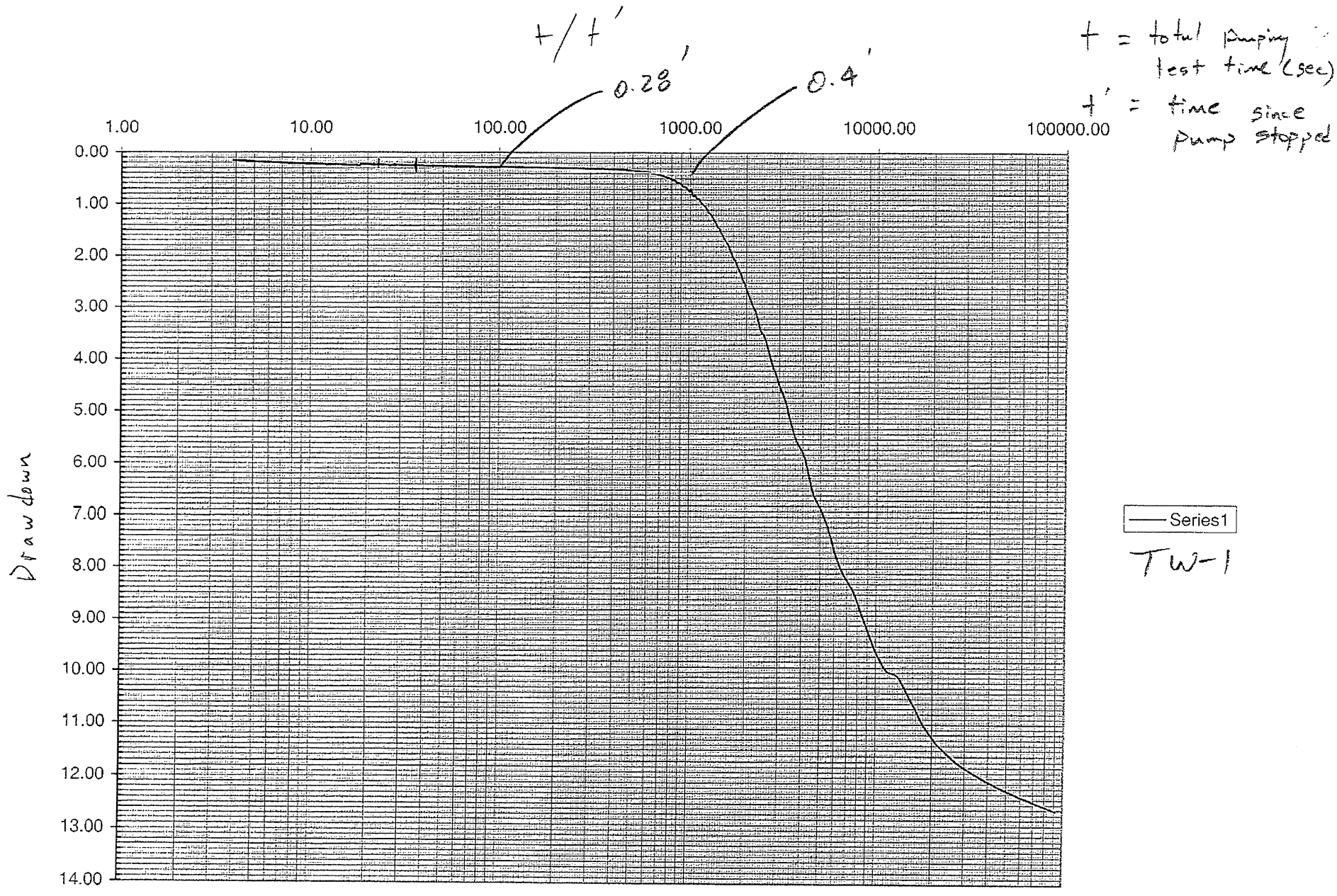
$$\therefore k = \frac{99{,}000 \text{ gpd/ft}}{100 \text{ ft}} = 990 \text{ gpd/ft}^2$$

Convert to cm/sec

$$\frac{990 \text{ g}}{\text{d} \cdot \text{ft}^2} \times \frac{\text{ft}^3}{7.481 \text{ g}} \times \frac{12 \text{ in}}{1 \text{ ft}} \times \frac{2.54 \text{ cm}}{1 \text{ in}} \times \frac{1 \text{ d}}{86{,}400 \text{ s}}$$

$$= 4.7 \times 10^{-2} \text{ cm/sec}$$

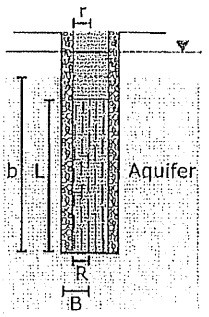
$$= 130 \text{ ft/day}$$


t/t'
0.28'
0.4'
t = total pumping test time (sec)
t' = time since pump stopped
1.00
10.00
100.00
1000.00
10000.00
100000.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
Drawdown
Series1
TW-1

Recovery Analysis

City, State/Province Address Contact Info Company Name	Wells
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

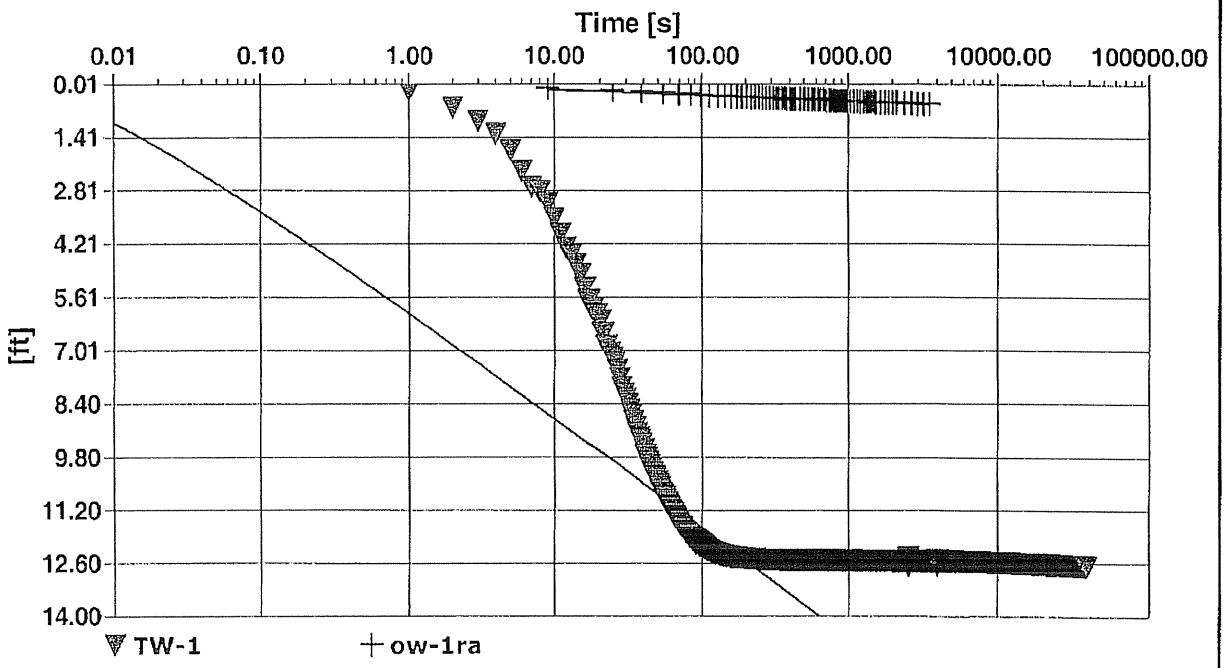
Location: Veguita, NM



	Name	X [ft]	Y [ft]	Elevation (amsl)	Benchmark [ft]	Penetration	L [ft]	B [ft]
1	OW-1R	0	10			Partially	31.2	0.2916
2	OW-2	20	0			Partially	31	0.2916
3	MW-1	-100	0			Partially	33.4	0.2916
4	TW-1	0	0			Partially	15	1.0208
5	ow-1ra	0	10			Partially	31.2	0.2916
6	OW-2a	20	0			Partially	31	0.2916

City, State/Province Address Contact Info Company Name	Pumping Test Analysis Report
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

Location: Veguita, NM	Pumping Test: Pumping Test 1	Pumping well: TW-1
Test conducted by: Justin Ball		Test date: 11/21/2005
Analysis performed by: JAG	Recovery Analysis	Date: 11/28/2005
Aquifer Thickness: 100.00 ft	Discharge: variable, average rate 26.292 [U.S. gal/min]	



Calculation after AGARWAL + Theis with Jacob Correction

Observation well	Transmissivity [ft²/d]	K [ft/d]	Storage coefficient	Radial distance to PW [ft]
TW-1	~~6.20×10^{2}~~	~~6.20×10^{0}~~	~~3.35×10^{-4}~~	~~0.5~~
ow-1ra	1.06×10^{4}	1.06×10^{2}	2.56×10^{-3}	10.0
Average	~~5.61×10^{0}~~	~~5.61×10^{-1}~~	~~1.45×10^{-3}~~	

City, State/Province Address Contact Info Company Name	Pumping Test Analysis Report
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

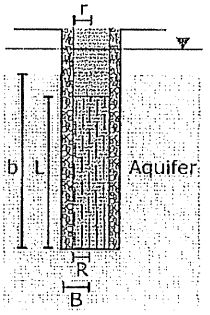
Location: Veguita, NM	Pumping Test: Pumping Test 1	Pumping well: TW-1
Test conducted by: ~~Justin Ball~~ JAG		Test date: 11/21/2005
Aquifer Thickness: 100.00 ft	Discharge: variable, average rate 26.292 [U.S. gal/min]	

	Analysis Name	Analysis performed by	Date	Method name	Well	T [ft²/d]	K [ft/d]	S
1	Recovery Analysis	JAG	11/28/2005	AGARWAL + Theis	wTW-1cob Correction	~~6.20×10^{2}~~	~~6.20×10^{0}~~	~~3.35×10^{-4}~~
2	Recovery Analysis	JAG	11/28/2005	AGARWAL + Theis	wow-1raob Correction	1.06×10^{4}	1.06×10^{2}	2.56×10^{-3}
					Average	~~5.61×10^{3}~~	~~5.61×10^{1}~~	~~1.45×10^{-3}~~

Theis w/ Jacob Correction for Unconfined

City, State/Province Address Contact Info Company Name	Wells
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

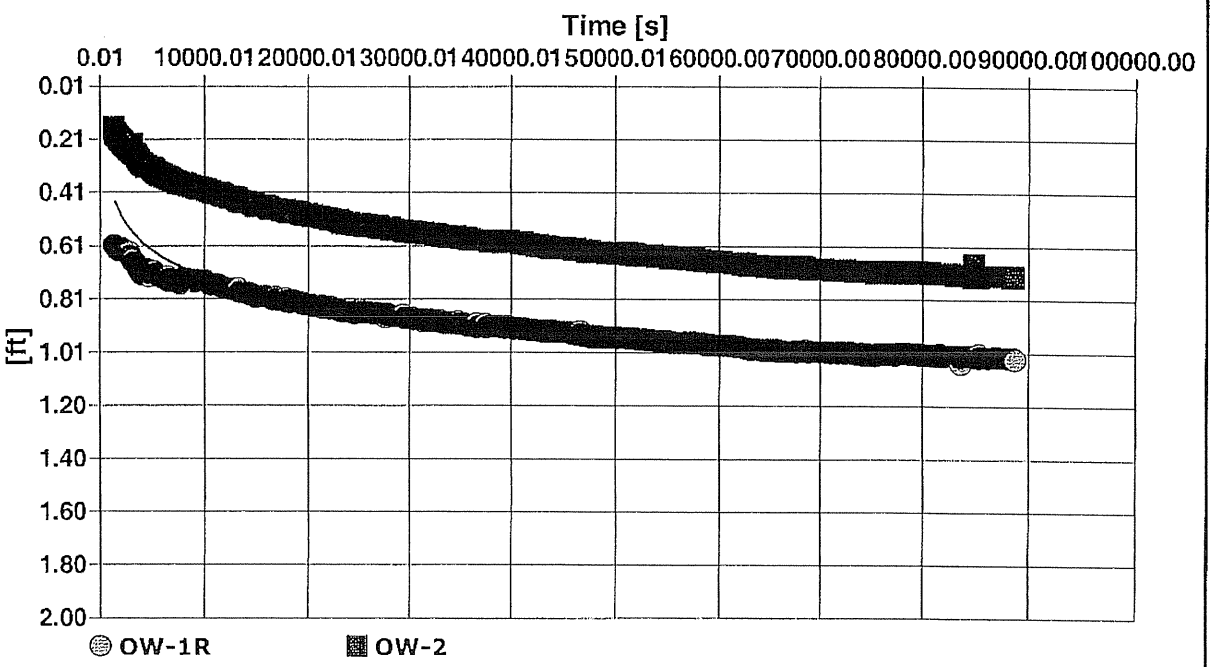
Location: Veguita, NM



	Name	X [ft]	Y [ft]	Elevation (amsl)	Benchmark [ft]	Penetration	L [ft]	B [ft]
1	OW-1R	0	10			Partially	31.2	0.2916
2	OW-2	20	0			Partially	31	0.2916
3	MW-1	-100	0			Partially	33.4	0.3333
4	TW-1	0	0			Partially	15	1.0208
5	ow-1ra	0	10			Partially	31.2	0.2916
6	OW-2a	20	0			Partially	31	0.2916

City, State/Province Address Contact Info Company Name	Pumping Test Analysis Report
	Project: Veguita Denitrification Project
	Number: 58326
	Client:

Location: Veguita, NM	Pumping Test: Pumping Test 1	Pumping well: TW-1
Test conducted by: Justin Ball		Test date: 11/21/2005
Analysis performed by: JAG	Theis w/ Jacob	Date: 11/28/2005
Aquifer Thickness: 100.00 ft	Discharge: variable, average rate 26.292 [U.S. gal/min]	



Calculation after Theis with Jacob Correction

Observation well	Transmissivity [ft²/d]	K [ft/d]	Storage coefficient	Radial distance to PW [ft]	
OW-1R	2.80×10^{3}	2.80×10^{1}	4.88×10^{-2}	10.0	
OW-2	3.20×10^{3}	3.20×10^{1}	6.57×10^{-2}	20.0	
Average	3.00×10^{3}	3.00×10^{1}	5.73×10^{-2}		

City, State/Province Address Contact Info Company Name	Pumping Test Analysis Report Project: Veguita Denitrification Project Number: 58326 Client:

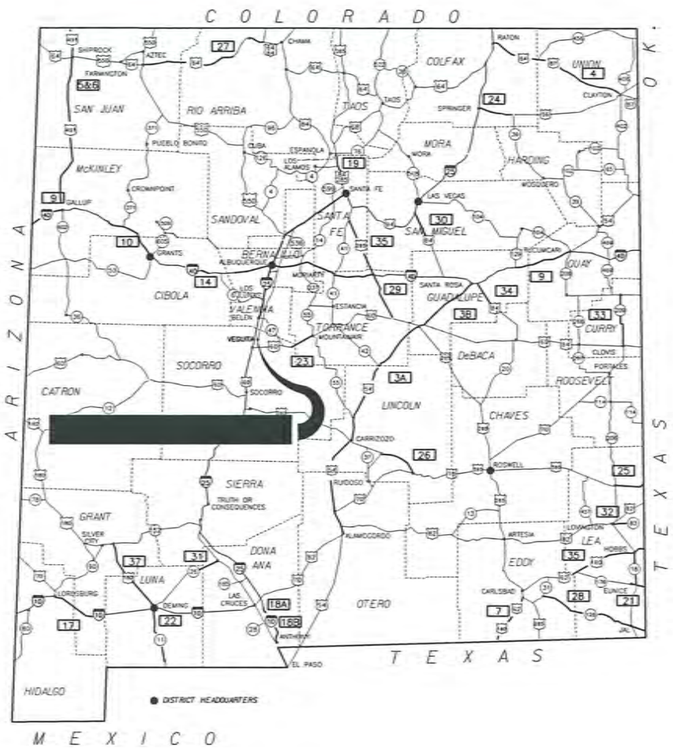
Location: Veguita, NM	Pumping Test: Pumping Test 1	Pumping well: TW-1
Test conducted by: Justin Ball		Test date: 11/21/2005
Aquifer Thickness: 100.00 ft	Discharge: variable, average rate 26.292 [U.S. gal/min]	

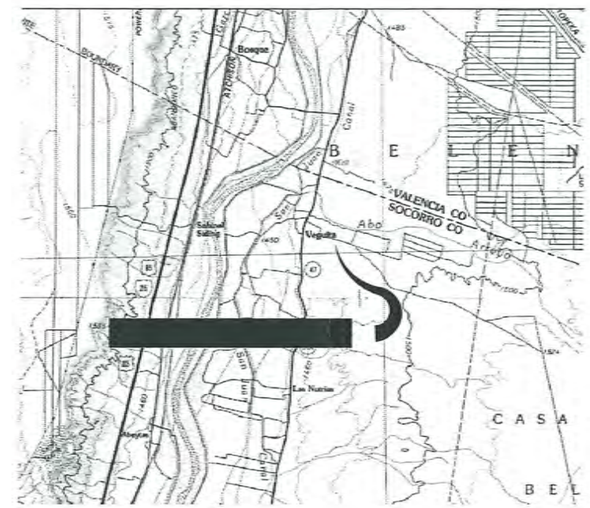
	Analysis Name	Analysis performed by	Date	Method name	Well	T [ft²/d]	K [ft/d]	S
1	Theis w/ Jacob	JAG	11/28/2005	Theis with Jacob Co	OW-1R	2.80×10^{3}	2.80×10^{1}	4.88×10^{-2}
2	Theis w/ Jacob	JAG	11/28/2005	Theis with Jacob Co	OW-2	3.20×10^{3}	3.20×10^{1}	6.57×10^{-2}
					Average	3.00×10^{3}	3.00×10^{1}	5.73×10^{-2}

APPENDIX F

EISB System Design

ABO VALLEY RANCH SUDIVISION
VEGUITA, NEW MEXICO
DENITRIFICATION DEMONSTRATION PROJECT
JANUARY 2006





INDEX OF SHEETS

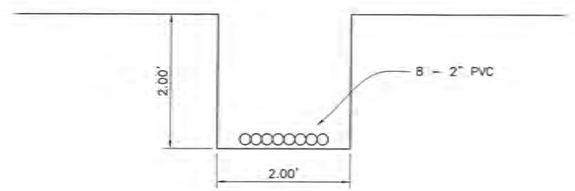
NUMBER	DESCRIPTION
1	COVER SHEET / LOCATION MAP / SHEET INDEX
2	PROCESS DIAGRAM
3	SITE PLAN AND SITE PIPING PLAN
4	MOLASSES INJECTION SYSTEM DETAILS
5	MISCELLANEOUS DETAILS
6	SCHEDULES
7	SCHEDULES

PREPARED BY

Gannett Fleming West, Inc.

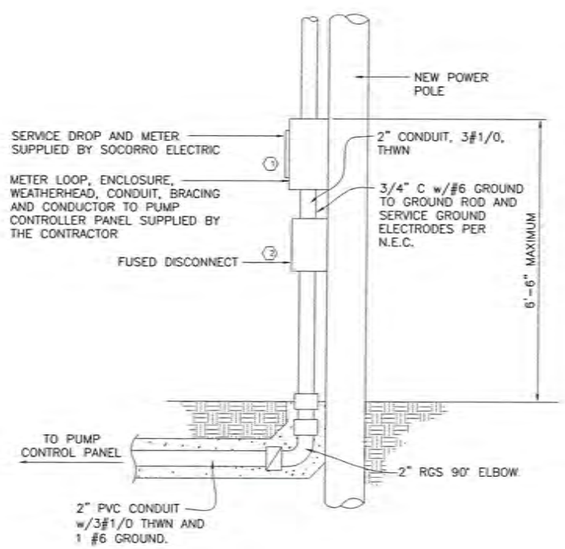
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
Office: (505) 265-8468 Facsimile: (505) 881-2513

WILLIAM E. LEYSENGOLD NEW MEXICO 5315 REGISTERED PROFESSIONAL ENGINEER



TRENCH DETAIL

SCALE: 1" =1'-0"



ELECTRICAL SERVICE RISER DETAIL

N.T.S.

KEYED NOTES:

1. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL 200A METER ENCLOSURE AND ALL REQUIRED WIRING FOR 120/240 V, SINGLE PHASE SERVICE.
2. 3-POLE, 80A, 240V, 1 PHASE HEAVY DUTY SAFETY SWITCH, WITH 150A FUSIBLE SAFETY SWITCH WITH BUSSMEN FUSETRONS.

ELECTRICAL GENERAL NOTES:

1. ALL CONDUIT SHOWN DIAGRAMMATICALLY. ACTUAL CONDUIT ROUTING TO BE DETERMINED BY CONTRACTOR.
2. CONDUITS SHALL BE BUSHED FOR CABLE PROTECTION DURING PULLING. CABLES WILL BE SUPPORTED WITH A "SPLIT-TYPE" GRIP.
3. ALL ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN NEMA ENCLOSURES WITH WATERTIGHT CONNECTIONS.
4. ALL ELECTRICAL CONDUIT, CONNECTIONS, DISCONNECTS, WIRING, ETC. SHALL MEET THE REQUIREMENTS OF THE NEC.
5. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH SOCORRO ELECTRIC TO ENSURE SERVICE AND ALL APPURTENANCES ARE CORRECT.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SYSTEM PERFORMANCE INCLUDING TESTING, STARTUP AND COMMISSIONS.
7. CONTRACTOR SHALL FIELD LOCATE SERVICE POLE.

WILLIAM E. LEVENHOOR NEW MEXICO 5315 REGISTERED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

VEGUITA GROUND WATER DENITRIFICATION DEMONSTRATION PROJECT
VEGUITA, SOCORRO COUNTY, NEW MEXICO

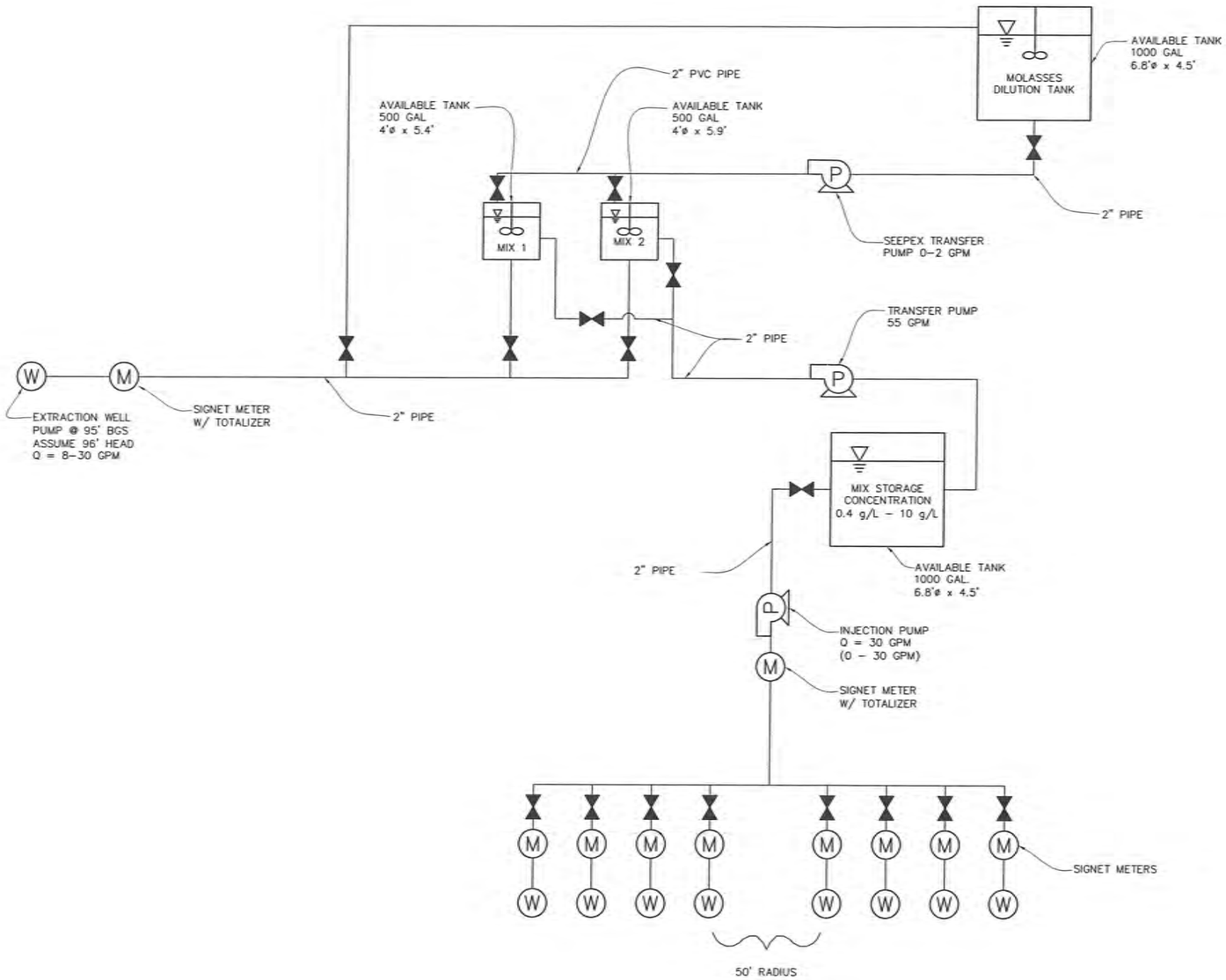
Gannett Fleming West, Inc.
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
Office: (505) 265-8468 Facsimile: (505) 881-2513

MISCELLANEOUS DETAILS

ENGR'S FILE NO.	DRAWN:	BRS	DATE:	JAN. 2006
45391	CHECKED:	WGL	SCALE:	AS SHOWN

N.M. PROJECT NO. _____ SHEET 5

MISCELLANEOUS DETAILS
K:\PROJECTS\45391\CADD\Finish\Demitrification Plant\Arch\AD-2000.dwg
Last Saved: 1/09/2006 1:08 PM; Plotted Date: 01/13/06; Plotted By: Steve Bird



LEGEND

- WELL
- FLOW METER
- VALVE
- PUMP
- MIXER
- AVAILABLE TANK

PROCESS DIAGRAM

NO SCALE

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

VEGUITA GROUND WATER DENITRIFICATION
DEMONSTRATION PROJECT
VEGUITA, SOCORRO COUNTY, NEW MEXICO

Gannett Fleming West, Inc.
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
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WILLIAM E. LEYENDECKER
NEW MEXICO
5315
REGISTERED PROFESSIONAL ENGINEER

PROCESS DIAGRAM

ENGR'S FILE NO.	DRAWN:	BRS	DATE:	JAN. 2006
45391	CHECKED:	WGL	SCALE:	AS SHOWN

N.M. PROJECT NO. _____ SHEET 2

Process Diagram
K:\PROJECTS\45391\400\Fabian\Denitrification Process Diagram 01-10-06.dwg
Layout: Layout2 Date/Time: 1/12/2006 3:14 PM Plotted Date: By: J.H. Sheet: Sheet 2

Minute by Minute Flow - Projected for 2 hours - Starting Day 1, Minute 0

Minute	Vol. Dilute Molasses Entering Molasses Holding Tank (gpm)	Vol. Dilute Molasses Exiting Molasses Holding Tank (gpm)	Vol. In Molasses Holding Tank (gal)	Mix Tank 1 status	Mix Tank 2 Status	Volume Raw Water entering Mix Tank 1 (gpm)	Volume Dilute Molasses Exiting Mix Tank 1 (gpm)	Volume Mix Tank 1 (gal)	Volume Raw Water entering Mix Tank 2 (gpm)	Volume Dilute Molasses Exiting Mix Tank 2 (gpm)	Volume Mix Tank 2 (gal)	Raw Water Pump Rate (gpm)	Molasses Pump Rate (gpm)
0	0	0	1000	mixing	mixing	0	0	500	0	0	500	0	0
1	0	30	970	mixing	mixing	0	0	500	0	0	500	0	0
2	0	30	940	mixing	mixing	0	0	500	0	0	500	0	0
3	0	30	910	mixing	mixing	0	0	500	0	0	500	0	0
4	0	30	880	mixing	mixing	0	0	500	0	0	500	0	0
5	0	30	850	mixing	mixing	0	0	500	0	0	500	0	0
6	0	30	820	mixing	mixing	0	0	500	0	0	500	0	0
7	0	30	790	mixing	mixing	0	0	500	0	0	500	0	0
8	55	30	815	draining	mixing	0	55	445	0	0	500	0	0
9	55	30	840	draining	mixing	0	55	390	0	0	500	0	0
10	55	30	865	draining	mixing	0	55	335	0	0	500	0	0
11	55	30	890	draining	mixing	0	55	280	0	0	500	0	0
12	55	30	915	draining	mixing	0	55	225	0	0	500	0	0
13	55	30	940	draining	mixing	0	55	170	0	0	500	0	0
14	55	30	965	draining	mixing	0	55	115	0	0	500	0	0
15	55	30	990	draining	mixing	0	55	60	0	0	500	0	0
16	55	30	1015	draining	mixing	0	55	5	0	0	500	0	0
17	0	30	985	filling	mixing	30	0	35	0	0	500	30	0.43-2.2
18	0	30	955	filling	mixing	30	0	65	0	0	500	30	0-2.2
19	0	30	925	filling	mixing	30	0	95	0	0	500	30	0-2.2
20	0	30	895	filling	mixing	30	0	125	0	0	500	30	0-2.2
21	0	30	865	filling	mixing	30	0	155	0	0	500	30	0-2.2
22	0	30	835	filling	mixing	30	0	185	0	0	500	30	0
23	0	30	805	filling	mixing	30	0	215	0	0	500	30	0
24	0	30	775	filling	mixing	30	0	245	0	0	500	30	0
25	55	30	800	filling	draining	30	0	275	0	55	445	30	0
26	55	30	825	filling	draining	30	0	305	0	55	390	30	0
27	55	30	850	filling	draining	30	0	335	0	55	335	30	0
28	55	30	875	filling	draining	30	0	365	0	55	280	30	0
29	55	30	900	filling	draining	30	0	395	0	55	225	30	0
30	55	30	925	filling	draining	30	0	425	0	55	170	30	0
31	55	30	950	filling	draining	30	0	455	0	55	115	30	0
32	55	30	975	filling	draining	30	0	485	0	55	60	30	0
33	55	30	1000	filling	draining	15	0	500	15	55	20	30	0
34	0	30	970	mixing	filling	0	0	500	30	0	50	30	0.43-2.2
35	0	30	940	mixing	filling	0	0	500	30	0	80	30	0-2.2
36	0	30	910	mixing	filling	0	0	500	30	0	110	30	0-2.2
37	0	30	880	mixing	filling	0	0	500	30	0	140	30	0-2.2
38	0	30	850	mixing	filling	0	0	500	30	0	170	30	0-2.2
39	0	30	820	mixing	filling	0	0	500	30	0	200	30	0
40	0	30	790	mixing	filling	0	0	500	30	0	230	30	0
41	55	30	815	draining	filling	0	55	445	30	0	260	30	0
42	55	30	840	draining	filling	0	55	390	30	0	290	30	0
43	55	30	865	draining	filling	0	55	335	30	0	320	30	0
44	55	30	890	draining	filling	0	55	280	30	0	350	30	0
45	55	30	915	draining	filling	0	55	225	30	0	380	30	0
46	55	30	940	draining	filling	0	55	170	30	0	410	30	0
47	55	30	965	draining	filling	0	55	115	30	0	440	30	0
48	55	30	990	draining	filling	0	55	60	30	0	470	30	0
49	55	30	1015	draining	filling	0	55	5	30	0	500	30	0
50	0	30	985	filling	filling	15	0	20	15	0	515	30	0.43-2.2
51	0	30	955	filling	mixing	30	0	50	0	0	515	30	0-2.2
52	0	30	925	filling	mixing	30	0	80	0	0	515	30	0-2.2
53	0	30	895	filling	mixing	30	0	110	0	0	515	30	0-2.2
54	0	30	865	filling	mixing	30	0	140	0	0	515	30	0-2.2
55	0	30	835	filling	mixing	30	0	170	0	0	515	30	0
56	0	30	805	filling	mixing	30	0	200	0	0	515	30	0
57	0	30	775	filling	mixing	30	0	230	0	0	515	30	0
58	55	30	800	filling	draining	30	0	260	0	55	460	30	0
59	55	30	825	filling	draining	30	0	290	0	55	405	30	0
60	55	30	850	filling	draining	30	0	320	0	55	350	30	0
61	55	30	875	filling	draining	30	0	350	0	55	295	30	0
62	55	30	900	filling	draining	30	0	380	0	55	240	30	0
63	55	30	925	filling	draining	30	0	410	0	55	185	30	0
64	55	30	950	filling	draining	30	0	440	0	55	130	30	0
65	55	30	975	filling	draining	30	0	470	0	55	75	30	0
66	55	30	1000	mixing	draining	0	0	470	0	55	20	0	0
67	0	30	970	mixing	filling	0	0	470	30	0	50	30	0.43-2.2
68	0	30	940	mixing	filling	0	0	470	30	0	80	30	0-2.2
69	0	30	910	mixing	filling	0	0	470	30	0	110	30	0-2.2
70	0	30	880	mixing	filling	0	0	470	30	0	140	30	0-2.2

Minute by Minute Flow - Projected for 2 hours - Starting Day 1, Minute 0

Minute	Vol. Dilute Molasses Entering Molasses Holding Tank (gpm)	Vol. Dilute Molasses Exiting Molasses Holding Tank (gpm)	Vol. In Molasses Holding Tank (gal)	Mix Tank 1 status	Mix Tank 2 Status	Volume Raw Water entering Mix Tank 1 (gpm)	Volume Dilute Molasses Exiting Mix Tank 1 (gpm)	Volume Mix Tank 1 (gal)	Volume Raw Water entering Mix Tank 2 (gpm)	Volume Dilute Molasses Exiting Mix Tank 2 (gpm)	Volume Mix Tank 2 (gal)	Raw Water Pump Rate (gpm)	Molasses Pump Rate (gpm)
71	0	30	850	mixing	filling	0	0	470	30	0	170	30	0-2.2
72	0	30	820	mixing	filling	0	0	470	30	0	200	30	0
73	0	30	790	mixing	filling	0	0	470	30	0	230	30	0
74	55	30	815	draining	filling	0	55	415	30	0	260	30	0
75	55	30	840	draining	filling	0	55	360	30	0	290	30	0
76	55	30	865	draining	filling	0	55	305	30	0	320	30	0
77	55	30	890	draining	filling	0	55	250	30	0	350	30	0
78	55	30	915	draining	filling	0	55	195	30	0	380	30	0
79	55	30	940	draining	filling	0	55	140	30	0	410	30	0
80	55	30	965	draining	filling	0	55	85	30	0	440	30	0
81	55	30	990	draining	filling	0	55	30	30	0	470	30	0
82	55	30	1015	draining	filling	0	55	-25	30	0	500	30	0
83	0	30	985	filling	mixing	30	0	5	0	0	500	30	0.43-2.2
84	0	30	955	filling	mixing	30	0	35	0	0	500	30	0-2.2
85	0	30	925	filling	mixing	30	0	65	0	0	500	30	0-2.2
86	0	30	895	filling	mixing	30	0	95	0	0	500	30	0-2.2
87	0	30	865	filling	mixing	30	0	125	0	0	500	30	0-2.2
88	0	30	835	filling	mixing	30	0	155	0	0	500	30	0
89	0	30	805	filling	mixing	30	0	185	0	0	500	30	0
90	0	30	775	filling	draining	30	0	215	0	0	500	30	0
91	55	30	800	filling	draining	30	0	245	0	55	445	30	0
92	55	30	825	filling	draining	30	0	275	0	55	390	30	0
93	55	30	850	filling	draining	30	0	305	0	55	335	30	0
94	55	30	875	filling	draining	30	0	335	0	55	280	30	0
95	55	30	900	filling	draining	30	0	365	0	55	225	30	0
96	55	30	925	filling	draining	30	0	395	0	55	170	30	0
97	55	30	950	filling	draining	30	0	425	0	55	115	30	0
98	55	30	975	filling	draining	30	0	455	0	55	60	30	0
99	55	30	1000	filling	filling	30	0	485	30	0	90	60	0.43-2.2
100	0	30	970	mixing	filling	0	0	485	30	0	120	30	0-2.2
101	0	30	940	mixing	filling	0	0	485	30	0	150	30	0-2.2
102	0	30	910	mixing	filling	0	0	485	30	0	180	30	0-2.2
103	0	30	880	mixing	filling	0	0	485	30	0	210	30	0-2.2
104	0	30	850	mixing	filling	0	0	485	30	0	240	30	0
105	0	30	820	mixing	filling	0	0	485	30	0	270	30	0
106	0	30	790	mixing	filling	0	0	485	30	0	300	30	0
107	55	30	815	draining	filling	0	55	430	30	0	330	30	0
108	55	30	840	draining	filling	0	55	375	30	0	360	30	0
109	55	30	865	draining	filling	0	55	320	30	0	390	30	0
110	55	30	890	draining	filling	0	55	265	30	0	420	30	0
111	55	30	915	draining	filling	0	55	210	30	0	450	30	0
112	55	30	940	draining	filling	0	55	155	30	0	480	30	0
113	55	30	965	draining	filling	0	55	100	30	0	510	30	0
114	55	30	990	draining	mixing	0	55	45	0	0	510	0	0
115	55	30	1015	draining	mixing	0	55	-10	0	0	510	0	0
116	0	30	985	filling	mixing	30	0	20	0	0	510	30	0.43-2.2
117	0	30	955	filling	mixing	30	0	50	0	0	510	30	0-2.2
118	0	30	925	filling	mixing	30	0	80	0	0	510	30	0-2.2
119	0	30	895	filling	mixing	30	0	110	0	0	510	30	0-2.2
120	0	30	865	filling	mixing	30	0	140	0	0	510	30	0-2.2
121	0	30	835	filling	mixing	30	0	170	0	0	510	30	0

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

VEGUITA GROUND WATER DENITRIFICATION DEMONSTRATION PROJECT
VEGUITA, SOCORRO COUNTY, NEW MEXICO

Gannett Fleming West, Inc.
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
Office: (505) 265-8468 Facsimile: (505) 881-2513

WILLIAM E. LEYENDECKER NEW MEXICO 5315 REGISTERED PROFESSIONAL ENGINEER

SCHEDULES (2)

ENGR'S FILE NO. 45391 | DRAWN: BRS | DATE: JAN. 2006 | CHECKED: WGL | SCALE: AS SHOWN

N.M. PROJECT NO. ______ SHEET 7

Equipment	Description	Estimated Cost	Quoted Cost	Supplier	Notes
Building	Fabricated by contractor on site	N/A	N/A	Contractor	
Dilution Tank to Mix Tank Transfer Pump	Seepex 1-6LBN	$1,000	N/A	TP Pump & Pipe, Albuquerque	
In-tank Mixers	Neptune Model DT-1.0, Cole-Parmer Item EW-50316-02 - 2 ea	$1,500	N/A	Neptune of Colorado or Cole-Parmer Catalog	Use one available in tank mixer for first dilution tank and new mixer for second dilution
Flow meters	Signet #P-5130-PO, 11 each	N/A	$4,719	TP Pump & Pipe, Albuquerque	If possible, use 3 available meters and purchase 8 if flow rates are compatible
Flow Totalizers	Signet #8150, 3 each	N/A	$2,235	TP Pump & Pipe, Albuquerque	If possible, use 3 available meters and totalizers if flow rates are compatible
Extraction Well Pump	Grundfos #30 SQE10C-130	N/A	$1,290	TP Pump & Pipe, Albuquerque	
Injection Pump System	GRUNDFOS 'CRE-Plus' Simplex Water Booster System Model #CR5-2P	N/A	$5,600	TP Pump & Pipe, Albuquerque	As a cost savings it is possible to gravity flow to injection wells, eliminate pump system
Mix Tank to Storage Transfer Pump	55 gallons per minute, -3 to 3 feet of head	N/A	N/A		If possible, use Lutz Transfer pump or centrifugal pump available from previous work
2" PVC	Contractor to supply	N/A	N/A	Contractor to decide	
Fittings & Valves	PVC pipe fittings and valves as necessary, contractor to supply	N/A	N/A	Contractor to decide	
500 gallon tank	2 each	0	0	Available from previous work, contractor to transport	
1,000 gallon tank	2 each	0	0	Available from previous work, contractor to transport	

Continuous Extraction/Injection Operation Scenario			
	Flow Exit Rate	Duration	Destination
Extraction Well	30gpm	24hrs./day	Alternates between Mixing Tank 1 and Mixing Tank 2 every 16-17 minutes
Intermediate Molasses Dilution	0.43 - 2.2 gpm	1-5 minutes	Alternates between Mixing Tank 1 and Mixing Tank 2 every 16-17 minutes
Mix Tank 1 - Dilute Molasses	55gpm	8-9 minutes	Dilute Molasses Holding Tank every 32-33 minutes, alternates with Mix Tank 2
Mix Tank 2 - Dilute Molasses	55gpm	8-9 minutes	Dilute Molasses Holding Tank every 32-33 minutes, alternates with Mix Tank 1
Molasses Holding Tank	30 gpm	24hrs./day	Injection Wells 1-8

Desired Molasses Injection Concentration (g/L)	Required Volume to Molasses Dilution Tank (500 gallon tank)	Pump Rate (gpm)	Pump Duration (minutes:seconds)
0.4	0.43	0.43	1:00
0.5	0.54	0.54	1:00
0.6	0.65	0.65	1:00
0.7	0.76	0.76	1:00
0.8	0.86	0.86	1:00
0.9	0.97	0.97	1:00
1.0	1.08	0.54	2:00
1.2	1.29	0.65	2:00
1.4	1.51	0.76	2:00
1.6	1.73	0.86	2:00
1.8	1.94	0.97	2:00
2.0	2.16	1.08	2:00
2.2	2.37	1.19	2:00
2.4	2.59	1.29	2:00
2.6	2.81	1.40	2:00
2.8	3.02	1.51	2:00
3.0	3.24	1.62	2:00
3.2	3.45	1.73	2:00
3.4	3.67	1.83	2:00
3.6	3.88	1.94	2:00
3.8	4.10	2.00	2:03
4.0	4.32	2.00	2:10
4.2	4.53	2.00	2:16
4.4	4.75	2.00	2:22
4.6	4.96	2.00	2:29
4.8	5.18	2.00	2:35
5.0	5.40	2.00	2:42
5.2	5.61	2.00	2:49
5.4	5.83	2.00	2:55
5.6	6.04	2.00	3:01
5.8	6.26	2.00	3:08
6.0	6.47	2.00	3:14
6.2	6.69	2.00	3:21
6.4	6.91	2.00	3:27
6.6	7.12	2.00	3:34
6.8	7.34	2.00	3:40
7.0	7.55	2.00	3:47
7.2	7.77	2.00	3:53
7.4	7.99	2.00	3:59
7.6	8.20	2.00	4:06
7.8	8.42	2.00	4:13
8.0	8.63	2.00	4:19
8.2	8.85	2.00	4:25
8.4	9.06	2.00	4:32
8.6	9.28	2.00	4:38
8.8	9.50	2.00	4:45
9.0	9.71	2.00	4:52
9.2	9.93	2.00	4:58
9.4	10.14	2.00	5:04
9.6	10.36	2.00	5:11
9.8	10.58	2.00	5:17
10.0	10.79	2.00	5:24

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

VEGUITA GROUND WATER DENITRIFICATION DEMONSTRATION PROJECT
VEGUITA, SOCORRO COUNTY, NEW MEXICO

WILLIAM E. LEYENDECKER NEW MEXICO 5315 REGISTERED PROFESSIONAL ENGINEER

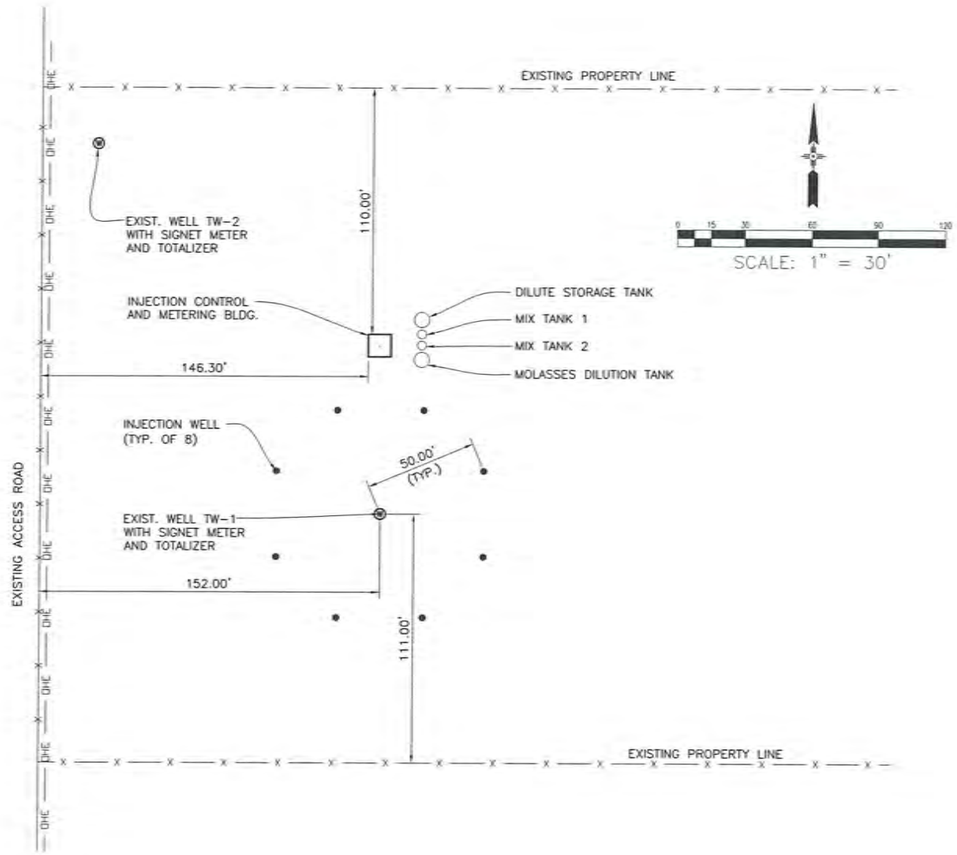
Gannett Fleming West, Inc.
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
Office: (505) 265-8468 Facsimile: (505) 881-2513

SCHEDULES

ENGR'S FILE NO.	DRAWN:	BRS	DATE:	JAN. 2006
45391	CHECKED:	WGL	SCALE:	AS SHOWN

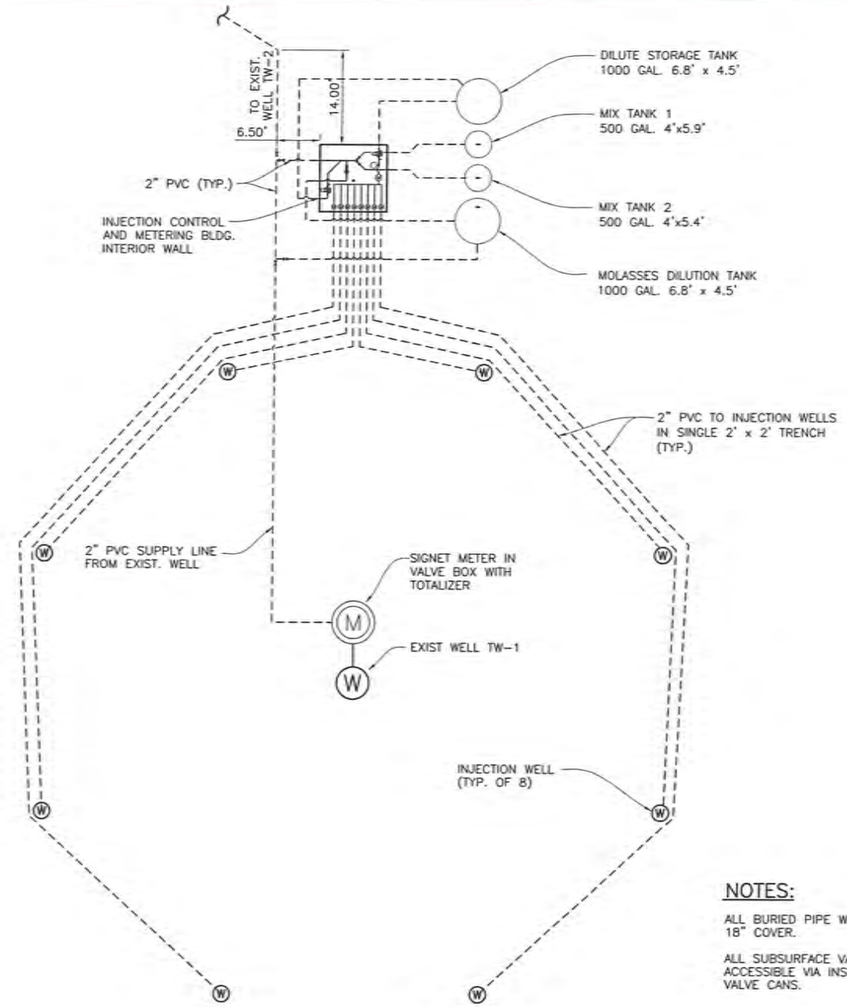
N.M. PROJECT NO. _____ SHEET 6

Schedules
K:\PROJECTS\45391\GAD\Exhibit\Denitrification Project\Diagram 01-10-06.dwg
Last Saved: 1/10/2006 2:24 PM | Printed Date: By:JTB, Bill Leyendecker, Brad R.



SITE PLAN

SCALE: 1" = 50'



SITE PIPING LAYOUT PLAN

SCALE: 1" = 10'

NOTES:

ALL BURIED PIPE WILL HAVE A MINIMUM 18" COVER.

ALL SUBSURFACE VALVES WILL BE ACCESSIBLE VIA INSTALLATION OF VALVE CANS.

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

VEGUITA GROUND WATER DENITRIFICATION DEMONSTRATION PROJECT
VEGUITA, SOCORRO COUNTY, NEW MEXICO

WILLIAM E. LEVENGOOD NEW MEXICO 5315 REGISTERED PROFESSIONAL ENGINEER

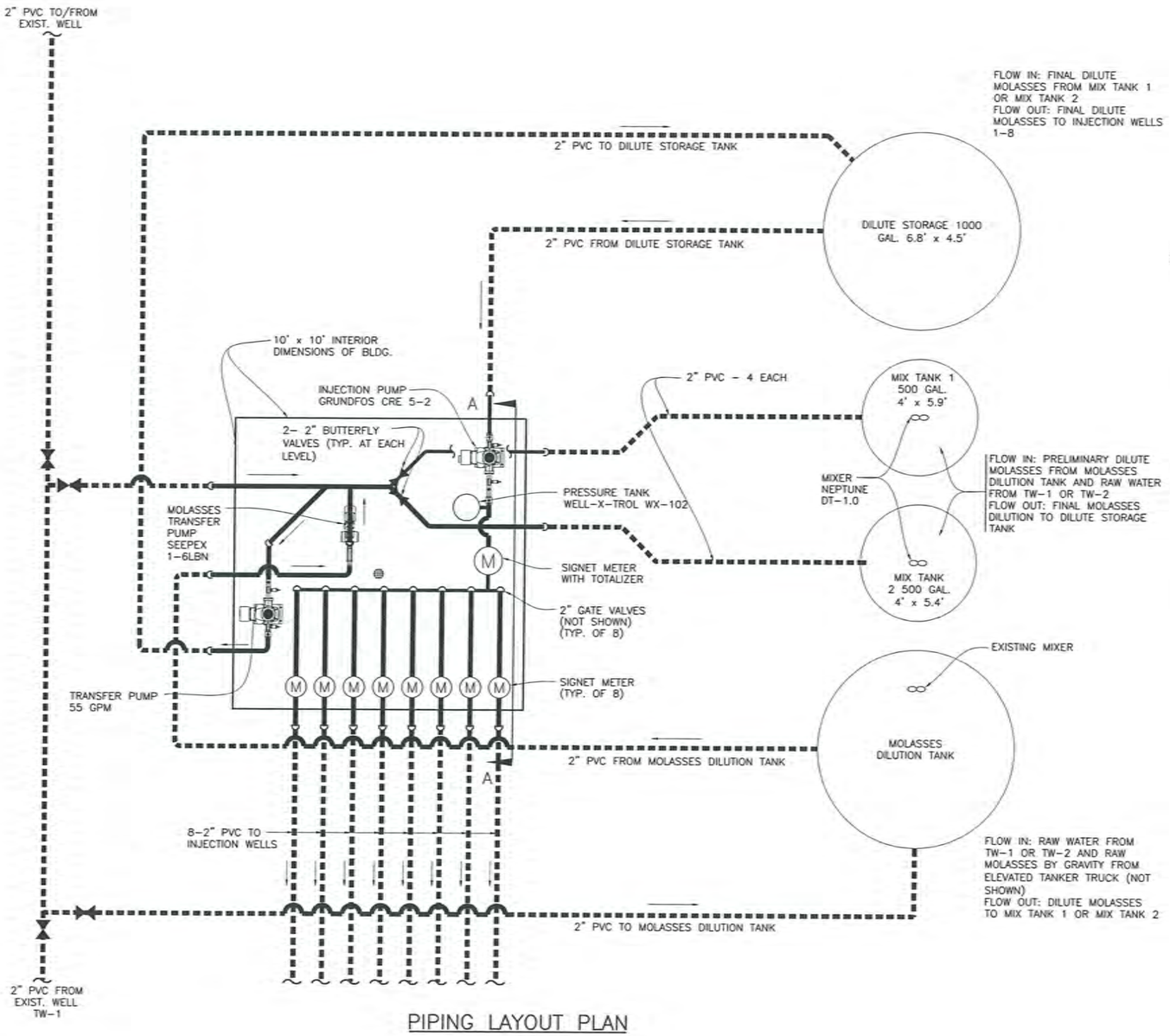
Gannett Fleming West, Inc.
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
Office: (505) 265-8468 Facsimile: (505) 881-2513

MOLASSES INJECTION SYSTEM
SITE PLANS

ENGR'S FILE NO.	DRAWN:	BRS	DATE:	JAN. 2006
45391	CHECKED:	WGL	SCALE:	AS SHOWN

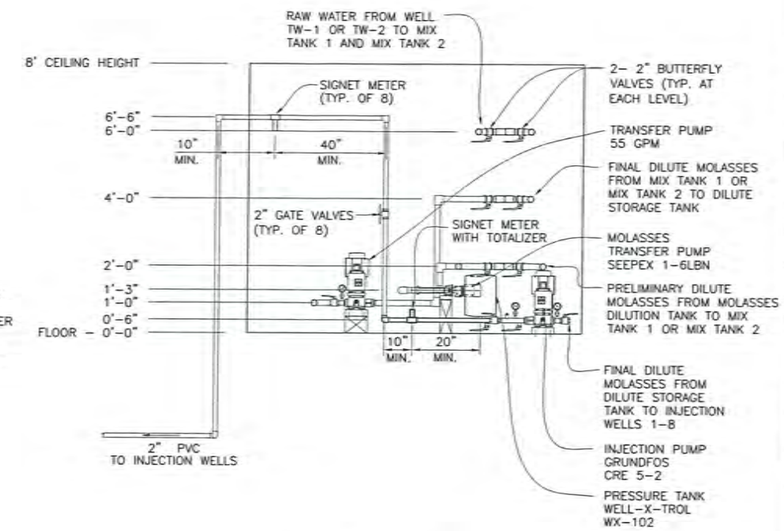
N.M. PROJECT NO. _____ SHEET 3

MOLASSES INJECTION SYSTEM SITE PLANS
K:\PROJECTS\45391\CAD\45391 Denitrification Plant AutoCAD 2000.dwg
Plotted Date-By:5/24/2006 4:01 PM | Plotted Date-By:5/24/2006 Brian Sales, Brian R.



PIPING LAYOUT PLAN

SCALE: 1/2" =1'-0"



SECTION A-A

SCALE: 1/2" =1'-0"

NO.	DESCRIPTION	DATE	BY
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

VEGUITA GROUND WATER DENITRIFICATION DEMONSTRATION PROJECT
VEGUITA, SOCORRO COUNTY, NEW MEXICO

Gannett Fleming West, Inc.
2155 Louisiana NE, Suite 7000 Albuquerque, New Mexico 87110
Office: (505) 265-8468 Facsimile: (505) 881-2513

WILLIAM E. LEYENDECKER NEW MEXICO 5315 REGISTERED PROFESSIONAL ENGINEER

MOLASSES INJECTION SYSTEM DETAILS

ENGR'S FILE NO.	DRAWN:	BRS	DATE:	JAN. 2006
45391	CHECKED:	WGL	SCALE:	AS SHOWN

N.M. PROJECT NO. _____ SHEET 4

MOLASSES INJECTION SYSTEM DETAILS
K:\PROJECTS\45391\CADD\Exhibit\Denitrification Plans AutoCAD 2000.dwg
Last Saved: 1/26/2006 1:04 PM Printed Date-01-27/14/06-Steele, Brad R.

APPENDIX G

New Mexico Office of State Engineer Permit

MAY 0 5 2006

Vegnita 583263
Permit

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

DISTRICT I

JOHN R. D'ANTONIO, JR., P.E.
NEW MEXICO STATE ENGINEER

121 Tijeras NE, Suite 2000
Albuquerque, NM 87102
(505) 764-3888

May 3, 2006

Bill Huey, P.E.
Kleinfelder
8300 Jefferson, NE Suite B
Albuquerque, NM 87113

RE: File No. RG-86495

Dear Mr. Huey:

Enclosed you will find the State Engineer's Order amending your permit's Conditions of Approval to permit a total of 13 extraction and injection wells, combined.

Sincerely,

Wayne G. Canon
Water Resource Supervisor

Enclosure as stated

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

IN THE MATTER OF THE PERMIT TO APPROPRIATE GROUND WATER IN THE MIDDLE RIO GRANDE UNDERGROUND WATER BASIN OF THE STATE OF NEW MEXICO UNDER THE NAME OF KLEINFELDER	)))))	Permit No. RG-86495

ORDER

WHEREAS, on the 20th day of January, 2006, the State Engineer did approve Permit RG-86495 for one (1) extraction well and up to twelve (12) injection wells; and

WHEREAS, on the 1st day of March, 2006, the permittee notified the State Engineer by letter that localized aquifer characteristics required the drilling of additional extraction wells, but the total number of wells would not exceed the number of permitted wells; and

NOW, THEREFORE, the State Engineer of the State of New Mexico does hereby amend the Conditions of Approval of Permit RG-86495 to permit the drilling of no more than thirteen (13) extraction and injection wells, combined, to be numbered RG-86495 POD1 through RG-86495 POD13.

WITNESS my hand and official seal this 3 day of May 2006.

John R. D'Antonio Jr., P.E.
New Mexico State Engineer

By: W Canon

Wayne G. Canon
District 1

John R. D Antonio, Jr., P.E.
State Engineer

Albuquerque Office
121 TIJERAS NE, SUITE 2000
ALBUQUERQUE, NM 87102

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 347023
File Nbr: RG-86495

December 20, 2005

BILL HUEY, PE
KLEINFELDER
8300 JEFFERSON NE
SUITE B
ALBUQUERQUE, NM 87113

DEC 22 2005

Greetings:

Enclosed is your copy of Permit RG-86495, which has been approved subject to the conditions set forth on the approval page thereof.

In accordance with Section 19.27.4.29 NMAC, the well driller shall file complete well records with the State Engineer and Kleinfelder no later than 20 days after completion of well drilling. In no event shall the well records be filed later than December 31, 2006.

Your authorization under this permit will expire on December 31, 2006.

Sincerely,

David B. Anderson
Water Resource Specialist
(505)764-3888

Enclosure
cc: WATERS Project

nonappcw

HC1-36680
$325

File Number: RG - 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT
TO APPROPRIATE UNDERGROUND WATER

1. APPLICANT

Name: Kleinfelder
Contact: Bill Huey, P.E.
Address: 8300 Jefferson NE
Suite B
City: Albuquerque

Work Phone: 505/344-7373
Home Phone: 505/235-2725
State: NM Zip: 87113

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

C. Latitude: 34 d 31 m 9 s Longitude: 106 d 44 m 50 s

F. Lot No. 17, Block No. _____ of Unit/Tract Tres Lagunitas of the Abo Valley Ranch Subdivision recorded in Socorro County.

I. On land owned by (required): Pablo Martinez

3. WELL INFORMATION

One (1) extraction well, Approximate depth 100 feet; Outside diameter of casing 6 inches.
Up to 12 re-injection wells, Approximate depth 100 feet; Outside diameter of casing 4 inches.
Name of well driller and driller license number Rogers & Co., Inc.; WD 225.

4. QUANTITY

BAH 12/14/05

Consumptive Use: 10 acre-feet per annum
Diversion Amount: 80 acre-feet per annum

5. PURPOSE OF USE

Domestic: ___ Livestock: ___ Irrigation: ___ Municipal: ___ Industrial: ___
Commercial: ___ Other (specify): Denitrification Demonstration Project for
Specific use: NM Dept. of Finance and Administration

The project is intended to remediate nitrate contamination in the aquifer from current levels (60 to 100 mg/l) to less than 10 mg/l

File Number: _____ Trn Number: 347023

File Number: RG 86495

NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT
TO APPROPRIATE UNDERGROUND WATER

6. PLACE OF USE

5.0 acres of land described as follows: Lot 17, Tract Tres Lagunitas of the Abo Valley Ranch subdivision in Socorro County.

Subdivision of Section (District or Hydrographic Survey)	Section (Map No.)	Township (Tract No.)	Range	Acres

Who is the owner of the land? Pablo Martinez

7. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Kleinfelder, Inc., under contract with the New Mexico Dept. of Finance and Administration and in Coordination with the N.M. Environment Dept., is about to begin field work on a groundwater denitrification demonstration project. The purpose of the project is to demonstrate that a technology developed by University of New Mexico (UNM) to remove nitrate from groundwater is suitable for use on a small-community drinking water scale contamination problem. The site selected for the demonstration is located in Veguita, Socorro County. It is lot 17, of the Tres Lagunitas Tract of the Abo Valley Subdivision. The demonstration project is scheduled to end before December 31, 2006.

Groundwater at the site is contaminated with 60 to 100 parts per million (ppm) nitrate-nitrogen from previous fertilizer use in a farming operation. The NMED groundwater standard is 10-ppm or milligrams per liter (mg/l). Water with this level of contamination can cause adverse health effects if consumed.

The nitrate will be removed from the groundwater using "Enhanced In-Situ Bioremediation" (EISB) technology patented by UNM. EISB utilizes naturally occurring, ubiquitous microbes to reduce nitrate to harmless nitrogen gas. This bioremediation occurs in nature. EISB simply enhances the process to achieve in months what normally takes decades. In EISB, non-toxic, food-grade additives are injected into the contaminated groundwater activating the indigenous bacteria to metabolically reduce nitrate to harmless nitrogen gas. The additives act as a carbon substrate electron donor to allow the reduction of nitrate to nitrogen gas. See attached sheet.

ACKNOWLEDGEMENT FOR NATURAL PERSONS

I, Bill Huey (Please Print) affirm that the foregoing statements are true to the best of my knowledge and belief, By: _____

Applicant Signature _____ Applicant Signature _____

File Number: _____ Trn Number: 347023

Form: wr-05

File Number: RG-56495

NEW MEXICO OFFICE OF THE STATE ENGINEER
APPLICATION FOR PERMIT
TO APPROPRIATE UNDERGROUND WATER

ACTION OF STATE ENGINEER

This application is approved ~~denied~~ ~~partially approved~~ provided it is not exercised to the detriment of any other having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare; and further subject to the following conditions: _____

SEE ATTACHED CONDITIONS OF APPROVAL

Witness my hand and seal this 20th day of December, 20 05

JOHN R. D'ANTONIO, JR., P.E.
STATE ENGINEER, State Engineer

By: D Canon

File Number: _____ Trn Number: 347023

Form: wr-05

Form: wr-05

7.0 ADDITIONAL STATEMENTS OR EXPLANATIONS: Continued

The groundwater denitrification process will include pumping a six-inch extraction well at 50 to 100 gallons per minute (gpm) of groundwater intermittently for about 3 months. A portion of the groundwater will be mixed with the food-grade additives and re-injected. Some consumption (i.e., less than 1 acre foot) of groundwater will occur through evaporation during this mixing process. The remainder of the produced groundwater will be reintroduced into the subsurface through up to twelve (12) 4-inch injection wells and/or infiltration galleries. Consequently, very little consumptive use of the groundwater will occur.

The extraction well will be cased with 6-inch casing and set to a nominal 100 foot depth. Each injection well (up to 12, depending on aquifer characteristics from a pump test of the extraction well) will be cased with 4-inch casing. The injection wells will also be set to a nominal depth of 100 feet.

This demonstration project has the backing of the New Mexico Department of Finance and Administration, the New Mexico Environment Department-Ground Water Quality Bureau, Socorro County, and the unincorporated village of Veguita.

Kleinfelder has held town meetings to describe what we intend to demonstrate. The village is behind the work that we will do.

The use of the groundwater will only be for a short time, and the quality of the groundwater will be improved by our actions. Currently the aquifer in this location is non-potable under NMED guidelines. At the successful conclusion of our project, a portion of the aquifer will be restored to drinking water quality.

CONDITIONS OF APPROVAL

This application is hereby approved for the drilling of one (1) extraction well and up to twelve (12) injection wells and the diversion of up to 80 acre-feet per annum and no consumptive use subject to the following Conditions of Approval:

1. This application is approved as follows:

Permittee:	Kleinfelder, 8300 Jefferson NE, Suite B, Albuquerque, NM 87113
Permit Number:	RG-86495
Application File Date:	November 14, 2005
Notice for Publication:	Waived
Affidavit of Publication:	N/A
Priority:	N/A
Source:	Ground water
Point of Diversion:	RG-86495 POD1, located near a point (X=350,226.319 feet; Y=1,280,633.316 feet), NAD 1927, Central Zone, New Mexico State Plane Coordinate System, on Lot 17, Tract Tres Lagunitas, Abo Valley Ranch Subdivision, Socorro County, New Mexico.
Purpose of Use:	Denitrification Demonstration Project
Place of Use:	5.0 acres of land, owned by Pablo Martinez, described as Lot 17, Tract Tres Lagunitas, Abo Valley Ranch Subdivision, Socorro County, New Mexico.
Amount of Water:	80 acre-feet per annum diversion for one (1) year. No consumptive use.

2. The requirement for publication of Public Notice is hereby waived pursuant to SE 66-1, Article 1-17.2.

3. Prior to any drilling of wells, Kleinfelder shall obtain appropriate permits as mandated by the New Mexico Environment Department for injection of water into an aquifer.

4. Prior to any drilling of wells, Kleinfelder shall obtain written permission from the landowner, Pablo Martinez, to drill wells upon his property.

5. Prior to any drilling of wells, Kleinfelder shall provide to the OSE written documentation of compliance with above items numbered 1 and 2.

6. Well No. RG-86495 POD1 shall be equipped with a totalizing meter, installed at the wellhead before any distribution line branch. Each injection well shall also be equipped with a totalizing meter.

7. Prior to any diversion of water, the OSE shall be notified in writing of the makes, models, serial numbers, units, multipliers, and number of free-moving dials of the above-described totalizing meters.

8. Meter records from Well No. RG-86495 POD1 all injection wells shall be submitted to the Albuquerque Office of the State Engineer on or before the 10th day of each month for the preceding calendar month.

9. All wells shall be a well driller licensed by the New Mexico State Engineer.

10. If artesian water is encountered, the permittee shall construct all wells in a manner that will preclude the commingling of water between the artesian aquifer and water in the overlying formation.

11. All water diverted from Well No. RG-86495 POD1 shall be injected back into the same hydro-geologic strata from which it was diverted (as documented by means of well samples, geophysical well log and cross-sectional data).

12. Upon completion of the project, all wells shall be plugged or otherwise maintained so that no water may be diverted from said wells unless the State Engineer approves a separate permit authorizing the use of the wells.

13. No water shall be put to beneficial use under this authorization.

14. The granting of this permit shall not establish a water right or relieve the permittee of any liability for detriment to or impairment of existing water rights.

15. The State Engineer retains jurisdiction over this permit in order to prevent waste and detriment to or impairment of existing water rights to the extent practicable.

16. By the granting of this authorization, the OSE neither endorses nor validates the study or the results obtained therefrom.

17. This authorization shall expire on December 31, 2006.

Witness my hand and seal this 20th day of December, A.D. 2005.

JOHN R. D'ANTONIO, JR., P.E.
NEW MEXICO STATE ENGINEER

By: _____
Wayne G. Canon
Water Resource Supervisor

TRN: 347023

APPENDIX H

New Mexico Environment Department, Temporary Permission to Discharge

State of New Mexico
ENVIRONMENT DEPARTMENT
Ground Water Quality Bureau
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502-6110
Telephone (505) 827-2918
Fax (505) 827-2965

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 9, 2006

Joe Galemore, Project Manager
Kleinfelder Inc.
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

RE: Temporary Permission to Discharge, Veguita Ground Water Denitrification Project

Dear Mr. Galemore:

The New Mexico Environment Department has reviewed Kleinfelder Inc.'s request for temporary permission to conduct a ground water denitrification demonstration project using enhanced in-situ bioremediation technology. The application consists of the materials submitted by Joe Galemore, Project Manager, and Bill Huey, Senior Remediation Engineer, of Kleinfelder Inc., dated November 4, 2005, and the additional information received on January 25 and February 6, 2006. This demonstration project requires the extraction, amendment and re-injection of ground water to develop an in-situ biocurtain to promote denitrification of an existing ground water nitrate contamination plume. No more than 43,200 gallons per day (gpd) of nutrient amended ground water shall be discharged (injected) into eight injection wells and 43,200 gpd of bioremediated ground water shall be extracted from the treatment zone and re-injected into groundwater outside the treatment zone. The proposed discharge location is at 37 and 41 Monzano Road in the Abo Valley Ranch Subdivision in Veguita, at latitude 34° 31.14' North and longitude -106° 44.83' West, Socorro County. Ground water below the site is at a depth of approximately 60 feet and has an existing nitrate-nitrogen concentration of 63 milligrams per liter and a total dissolved solids concentration of approximately 1190 milligrams per liter.

The temporary discharge is briefly described as follows:

The denitrification demonstration project using enhanced in-situ bioremediation technology shall occur in four phases: 1) nutrient amended ground water injection; 2) injection well screen flushing; 3) biocurtain development; and 4) center well (TW-1) pumping. The treatment zone is set-up to create a circular biocurtain with eight injection wells (IW-1 thru IW-8) located in a circle surrounding a center extraction well (TW-1). Additionally, the demonstration site has an extraction/injection well (TW-2) located outside of the biocurtain radius (treatment zone), and two observation wells (OW-1R and OW-2) located within the radius of the biocurtain.

The purpose of Phase 1 is to create and provide a nutrient additive necessary to activate the indigenous bacteria thus creating the biocurtain and shall occur in three injection events spread out over the duration of the project. This phase consists of extracting ground water from TW-2, located northwest of the treatment zone, to be amended with up to 40 gallons of molasses and 0.2 lbs of trimetaphosphate (TMP) creating 1000-gallon batches. Up to 43,200 gpd (approximately 43 1000-gallon batches) of amended ground water shall be discharged (injected) into IW-1 through IW-8 during each of the three injection events, with each event lasting 24 hours.

After the injection of the amended ground water is complete, additional ground water (not amended) shall be pumped directly from TW-2 into IW-1 through IW-8 to flush the screens within the injection wells (Phase 2). Flushing will occur continuously for three days at a rate of 3.75 gallons per minute (gpm) for a total of 130,000 gallons of ground water transferred from TW-2 to the injection wells over the 3-day flushing event. Upon completion of the injection well screen flushing, the system shall remain at rest (deactivated) allowing the development of the biocurtain (Phase 3). Once the desired dissolved oxygen (DO) concentrations are achieved, Phase 4 will commence. The estimated period for biocurtain development is 14 days.

Phase 4 consists of extracting ground water from the center well (TW-1) pulling the existing nitrate contamination plume through the biocurtain so that denitrification can occur. Up to 43,200 gpd of bioremediated ground water shall be pumped continuously from TW-1 and re-injected into ground water via TW-2. This transfer of ground water shall continue until an increase in nitrate is seen in the observation wells and/or TW-1 (within the treatment zone). At this time the biocurtain will need to be revitalized with nutrients and the cycle begins again at Phase 1.

Pursuant to 20.6.2.3106.B NMAC of the New Mexico Water Quality Control Commission Regulations, temporary permission to discharge for a total of 120 days (non-consecutive) is hereby granted for the above referenced discharge. This temporary permission to discharge shall expire once 120 days of Phase 1 and Phase 4 pumping (discharge) has occurred, or upon completion of the demonstration project, whichever occurs first. This temporary authorization is contingent upon discharging as described in your request and is subject to the following conditions:

General

1. Kleinfelder Inc. is authorized to inject (discharge) up to 43,200 gpd of nutrient amended ground water into eight injection wells (IW-1 thru IW-8) to create a biocurtain for the purpose of demonstrating enhanced in-situ bioremediation in an existing nitrate contamination plume. Additionally, Kleinfelder Inc. is also authorized to extract up to 43,200 gpd of bioremediated ground water from TW-1 within the treatment zone to be re-injected back into ground water located outside the treatment zone via TW-2. [20.6.2.3104 NMAC]

2. METHODOLOGY - Unless otherwise approved in writing by NMED, Kleinfelder Inc. shall conduct sampling and analysis in accordance with the most recent edition of the following documents:
   a. American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18th, 19th or current);
   b. U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste;
   c. U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey;
   d. American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Water;
   e. U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition; and
   f. Methods of Soil Analysis: Part I Physical and Mineralogical Methods, and Part 2. Chemical and Microbiological Properties, American Society of Agronomy.

   [20.6.2.3107.B NMAC]

3. Kleinfelder Inc. shall submit monthly monitoring reports to NMED by the end of each month until completion of the demonstration project or the expiration of the Temporary Permission to Discharge. As detailed in other conditions in this Temporary Permission, the reports shall include: injection and extraction volumes; a log of active pump-days; depth-to-water measurements; and analytical results from nutrient amendment and ground water sampling. Any inadvertent omissions from this summary of a monitoring or reporting requirement shall not relieve Kleinfelder Inc. of responsibility for compliance with that requirement. [20.6.2.3107 NMAC]

4. Kleinfelder Inc. shall maintain a log of the number of days within a month that the system is actively pumping (injection and extraction) and the associated Phase (1, 2, or 4) in which the pumping is occurring. The number of pump-days occurring in Phase 1 and Phase 4 shall be used to determine the 120-day discharge period allowed under this Temporary Permission to Discharge. A copy of the active pump-days log shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3106.B NMAC, 20.6.2.3107 NMAC]

Phase 1: Nutrient Amended Ground Water Injection

5. Kleinfelder Inc. shall measure the daily volume of ground water extracted from TW-2 and added to the nutrient amendment using a totalizing flow meter. Daily meter readings including units of measurement and extracted volumes for each Phase 1 event shall be submitted to NMED in monthly monitoring reports. The flow meter shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H(1) NMAC]

6. Kleinfelder Inc. shall maintain a batch mixing report for each Phase 1 event recording the amount of molasses and TMP added to each 1000-gallon batch of nutrient amendment. A copy of the batch mixing report shall be submitted to NMED in monthly monitoring reports. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H(1) NMAC]

7. Kleinfelder Inc. shall measure the daily volume of nutrient amendment injected into each of the eight injection wells using totalizing flow meters. Daily meter readings including units of measurement, nutrient amendment volumes injected into each well and the overall total nutrient amendment injected into the system for each Phase 1 event shall be submitted to NMED in monthly monitoring reports. The flow meters shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H(1) NMAC]

8. Kleinfelder Inc. shall collect a sample of the nutrient amendment mixture during each Phase 1 event and analyze for nitrate-nitrogen (NO_3-N) and total Kjeldahl nitrogen (TKN). Analytical results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

9. During each Phase 1 event, Kleinfelder Inc. shall measure the daily DO concentrations and depth-to-water levels to the nearest hundredth of a foot in: Injection Wells 1 thru 8; TW-1; TW-2; OW-1R; OW-2; and MW-1. A log of these results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

Phase 2: Injection Well Screen Flushing

10. Kleinfelder Inc. shall measure the daily volume of ground water extracted from TW-2 and re-injected into each of eight the injection wells using totalizing flow meters. Daily meter readings including units of measurement, the total extracted volume from TW-2, and the volume injected into each injection well, for each Phase 2 event shall be submitted to NMED in monthly monitoring reports. The flow meters shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H(1) NMAC]

11. During each Phase 2 event, Kleinfelder Inc. shall measure the daily DO concentrations and depth-to-water levels to the nearest hundredth of an inch in: Injection Wells 1 thru 8; TW-1; TW-2; OW-1R; OW-2; and MW-1. A log of these results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

Phase 3: Biocurtain Development

12. During each Phase 3 event, Kleinfelder Inc. shall measure weekly DO concentrations and depth-to-water levels to the nearest hundredth of a foot in Injection Wells 1 thru 8. A log of these results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

13. During each Phase 3 event, Kleinfelder Inc. shall perform weekly ground water sampling in wells: TW-1; OW-1R; OW-2; and MW-1. Ground water sampling shall be performed according to the following procedure:
    1) Measure the depth-to-ground water to the nearest hundredth of a foot.
    2) Measure DO concentrations and determine nitrate concentrations using field-screening methods.
    3) Prior to obtaining samples, wells MW-1, OW-1R and OW-2, shall be purged using a low flow purging and sampling technique as proposed January 25, 2006.
    4) Prior to obtaining samples, well TW-1 shall be purged using the standard three well volumes of water from the well as proposed January 25, 2006.
    5) Ground water samples obtain from each well shall be analyzed for nitrate-nitrogen (NO_3-N), and total Kjeldahl nitrogen (TKN).

    Depth-to-water, DO and field screened nitrate measurements, and analytical results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

Phase 4: Center Well (TW-1) Pumping

14. During each Phase 4 event, Kleinfelder Inc. shall measure the daily volume of ground water extracted from TW-1 and re-injected into TW-2 using a totalizing flow meter. Daily meter readings including units of measurement and the volume extracted from TW-1 and injected into TW-2 shall be submitted to NMED in monthly monitoring reports. The flow meters shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H(1) NMAC]

15. During each Phase 4 event, Kleinfelder Inc. shall measure weekly DO concentrations and depth-to-water levels to the nearest hundredth of a foot in: Injection Wells 1 thru 8; TW-1; TW-2; OW-1R; OW-2; and MW-1. As well as, determine weekly nitrate concentrations using field screening methods for TW-1; TW-2; OW-1R; OW-2; and MW-1. A log of these measurements shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

16. During each Phase 4 event, Kleinfelder Inc. shall perform monthly ground water sampling in wells: TW-1; TW-2; OW-1R; OW-2; and MW-1. Ground water sampling shall be performed according to the following procedure:
    1) Measure the depth-to-ground water to the nearest hundredth of a foot.

2) Prior to obtaining samples, wells MW-1, OW-1R and OW-2, shall be purged using a low flow purging and sampling technique as proposed January 25, 2006.
3) Prior to obtaining samples, well TW-1 shall be purged using the standard three well volumes of water from the well as proposed January 25, 2006.
4) Ground water samples obtain from each well shall be analyzed for nitrate-nitrogen (NO_3-N), and total Kjeldahl nitrogen (TKN).

Depth-to-water and analytical results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

Additional Ground Water Monitoring

17. Kleinfelder Inc. shall perform monthly ground water sampling in monitoring wells: MW-2R; MW-3; and MW-4. Ground water sampling shall be performed according to the following procedure:
    1) Measure the depth-to-ground water to the nearest hundredth of a foot.
    2) Measure DO concentrations and determine nitrate concentrations using field-screening methods.
    3) Prior to obtaining samples, monitoring wells shall be purged using a low flow purging and sampling technique as proposed January 25, 2006.
    4) Ground water samples obtain from each monitoring well shall be analyzed for nitrate-nitrogen (NO_3-N), and total Kjeldahl nitrogen (TKN).

    Depth-to-water, DO and field screen nitrate measurements, and analytical results shall be submitted to NMED in the monthly monitoring reports. [20.6.2.3107 NMAC]

Closure

18. Upon closure of the facility, Kleinfelder Inc. shall perform the following closure measures:
    1) Remove all pumping equipment, nutrient amendment mixing equipment and distribution lines from the site.
    2) Continue ground water monitoring in TW-1, TW-2, MW-1, MW-2R, MW-3 and MW-4 as described in Condition 17 of this letter for 6 months after closure to observe any changes in ground water quality at the site.
    3) Following notification from NMED that post-closure monitoring may cease, Kleinfelder Inc. shall plug and abandon all project wells for which the property owner(s) and or NMED-GWQB Remediation Oversight Section have not assumed ownership and liability. The transfer of ownership and liability for any of the project wells shall be made in writing and a copy of the agreement submitted to NMED. Wells to be plugged and abandoned shall be done so in accordance with NMED Guidelines for Monitoring Well Construction and Abandonment (copy enclosed) and any other applicable federal, state, and/or local laws and regulations.
    4) When all post-closure requirements have been met, Kleinfelder Inc. may request to terminate the requirements imposed under this Temporary Permission to Discharge.

    [20.6.2.3107.A(11) NMAC]

This approval does not relieve you of your responsibility to comply with any other applicable federal, state, and/or local laws and regulations, such as zoning requirements and nuisance ordinances. Also, this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters.

If you have any questions, please contact Kimberly Kirby of the Ground Water Pollution Prevention Section at (505) 222-9523.

Sincerely,

George Schuman for W. Olson

William C. Olson, Chief
Ground Water Quality Bureau

WO:KK/kk

enc: NMED Monitoring Well Construction and Abandonment Guidelines, dated June 6, 2000

cc: Charles Lundstrum, District Manager, NMED District V
NMED Socorro Field Office
Socorro County File
Jim Sizemore, State Engineer's Office

NM ENVIRONMENT DEPARTMENT - GROUND WATER POLLUTION PREVENTION SECTION
MONITORING WELL CONSTRUCTION AND ABANDONMENT GUIDELINES

Purpose: These guidelines provide minimum construction and abandonment standards for drilled monitoring wells to be sampled for general chemistry analyses. There may be additional requirements if hydrocarbons or other chemicals are involved. Different guidelines may also apply for other types of well construction (eg., driven wells)

General Drilling Specifications:

1. No contaminants shall be present in the drilling fluids.
2. All drill bits, drill rods, and down-hole tools shall be thoroughly cleaned immediately prior to the start of drilling.
3. The bore hole diameter shall be drilled a minimum of 4 inches larger than the casing diameter to allow for the emplacement of sand and sealant.
4. After completion, the well should be allowed to stabilize for 24 hours before development is initiated.
5. The well shall be developed so that formation water flows freely through the screen and is not turbid, and all sediment has been removed from the well.

Well Specifications: (Refer to figure on reverse side.)

1. Schedule 40 or heavier PVC pipe, not less than 2 inches ID, shall be used as casing. The casing shall extend from the top of the screen to at least one foot above ground surface. No glues shall be used at casing joints; threaded PVC is preferred. The top of the casing must be protected by a cap, and the exposed casing must be protected by a locking shroud. The shroud shall be large enough in diameter to allow easy access for removal of the plastic cap on the PVC casing.
2. A 20-foot section of machine slotted or other manufactured screen shall be installed. A slot size of 0.010-inch is generally adequate for most installations. (No hack-saw slotting.)
3. The top of the screen shall be 5 feet above the water table to allow for seasonal fluctuations. A variance should be sought for screening intervals in very shallow groundwater (< 10 feet).
4. The screen section shall have centralizers at the top and bottom.
5. The annular space from 2 feet below the bottom of the screen to 2 feet above the top of the screen shall be packed with clean, medium to coarse sand. The sand pack shall be properly sized to prevent fine particles in the formation from entering the well. For wells deeper than 30 feet, the sand shall be placed by a tremmie pipe. The well should be surged or bailed to settle the sand pack and additional sand added, if necessary, before the bentonite/cement is emplaced.
6. The annular space above the sand pack shall be grouted or sealed at least 2 feet above the sand pack. Pressure grouting with bentonite or cement using a tremmie pipe is preferred. An alternative is to form a bentonite seal by emplacing and hydrating bentonite pellets (0.25 or 0.5 inch in size). Adequate time should be allowed for the bentonite/cement to cure before placing materials on top of the seal.
7. The annular space above the bentonite/cement seal can be filled with uncontaminated drill cuttings, clean sandy clay or fine grained soil to within 10 feet of the ground surface. The remaining 10 feet must be sealed with a bentonite-cement grout seal (2 to 8% bentonite by weight) and allowed to cure for at least 24 hours before installing a surface pad.
8. A 2-foot minimum radius, 4-inch minimum thickness concrete pad shall be poured around the shroud. The concrete and surrounding soil shall be sloped to direct rainfall and runoff away from the shroud.

Abandonment:

1. Monitoring wells no longer in use shall be plugged in such a manner as to prevent migration of surface runoff or ground water along the length of the well casing. Where possible, this shall be accomplished by removing the well casing and pumping expanding cement from the bottom to the top of the well using a tremmie pipe. If the casing cannot be removed, the casing shall be ripped or perforated and pressure grouted along its entire length.
2. Filling with bentonite pellets from the bottom to the top is an acceptable alternative to pressure grouting.
3. After abandonment, written notification must be submitted to the GWPPS with date and method of abandonment.

Variances: Requests for variances from these guidelines shall be submitted in writing to the Program Manager, NMED Ground Water Pollution Prevention Section (GWPPS), 1190 St. Francis Drive, P.O. Box 26110, Santa Fe, NM 87502. Each request shall explain in detail the evidence supporting the request. The GWPPS approval also shall be in writing.

Signed: Maura Hanning

Maura Hanning, Program Manager, GWPPS

Date: 10-16-2000

APPENDIX I

Photographs of EISB Treatment System

Photo #1: Equipment Shed and Powerdrop

Photo #2: Equipment Shed Contents

Photo #3: Small Pressure Tank, Instantaneous Flow Meters, and Totalizing Flow Meters

Photo #4: Transfer Pumps

Photo #5: Large Pressure Tank for Supply Wells

Photo #6: Totalizing Flow Meters for TW-1,-2,-3, and IW-9

Photo #7: Mixing Tanks and Molasses Holding Tank

Photo #8: Storage Tank Array. Large Tank on stand in front contains Molasses.

Photo #9: Trenching from Equipment Shed to Injection Wells

Photo #10: Injection Well Piping Installation

Photo #11: Installation of Electrical Submersible Pump in TW-2

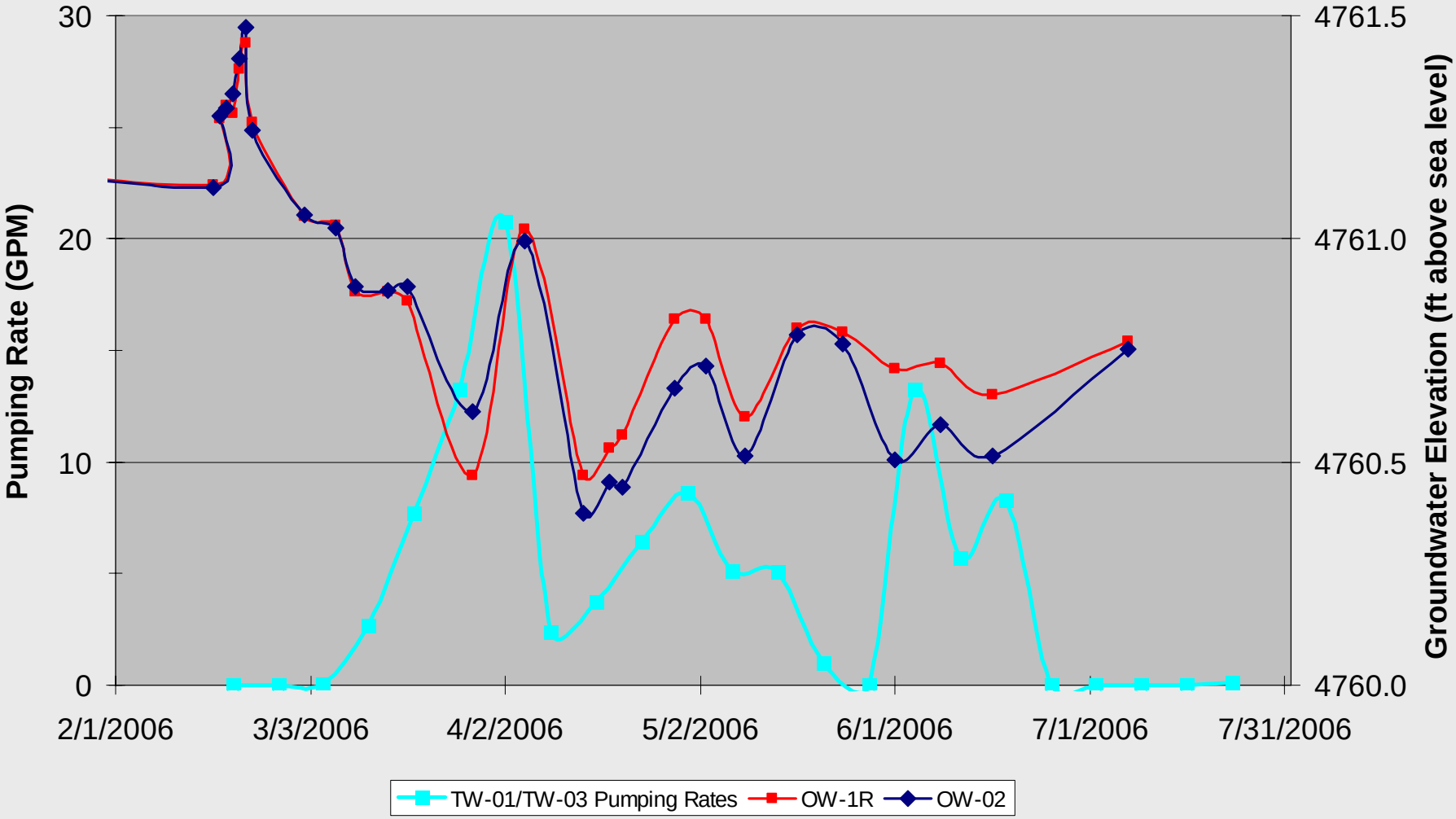
Photo #12: Piping and Electrical Conduit from TW-1 to Equipment Shed

Photo #13: Injection Well Drop Pipes; Note increase in Screen slot size from 0.010 inches to 0.050 inches.

Photo #14: Piping from Injection System to Injection Well

APPENDIX J

Graphs of Water Level, Flow Rates, and Water Quality Data


30
20
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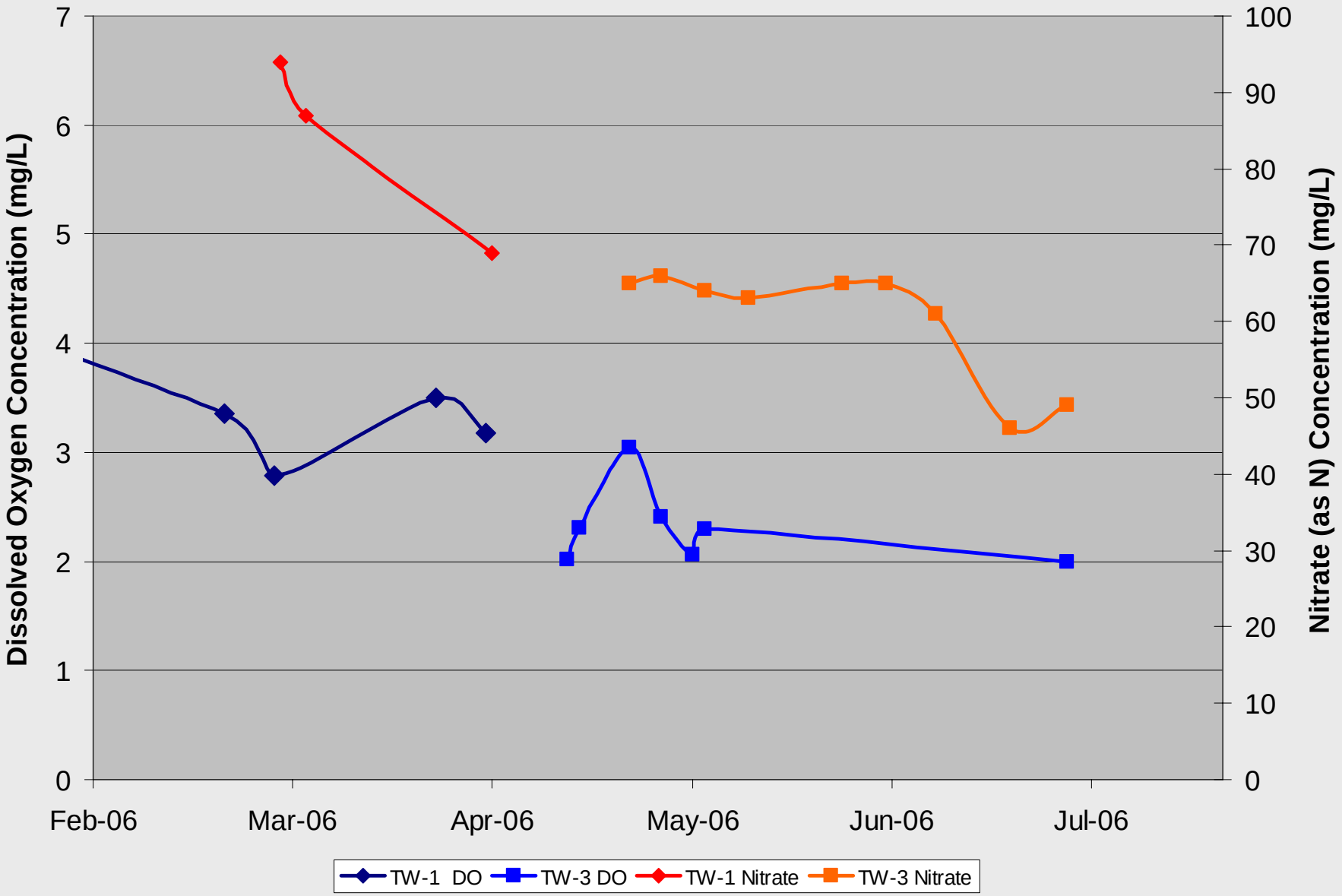
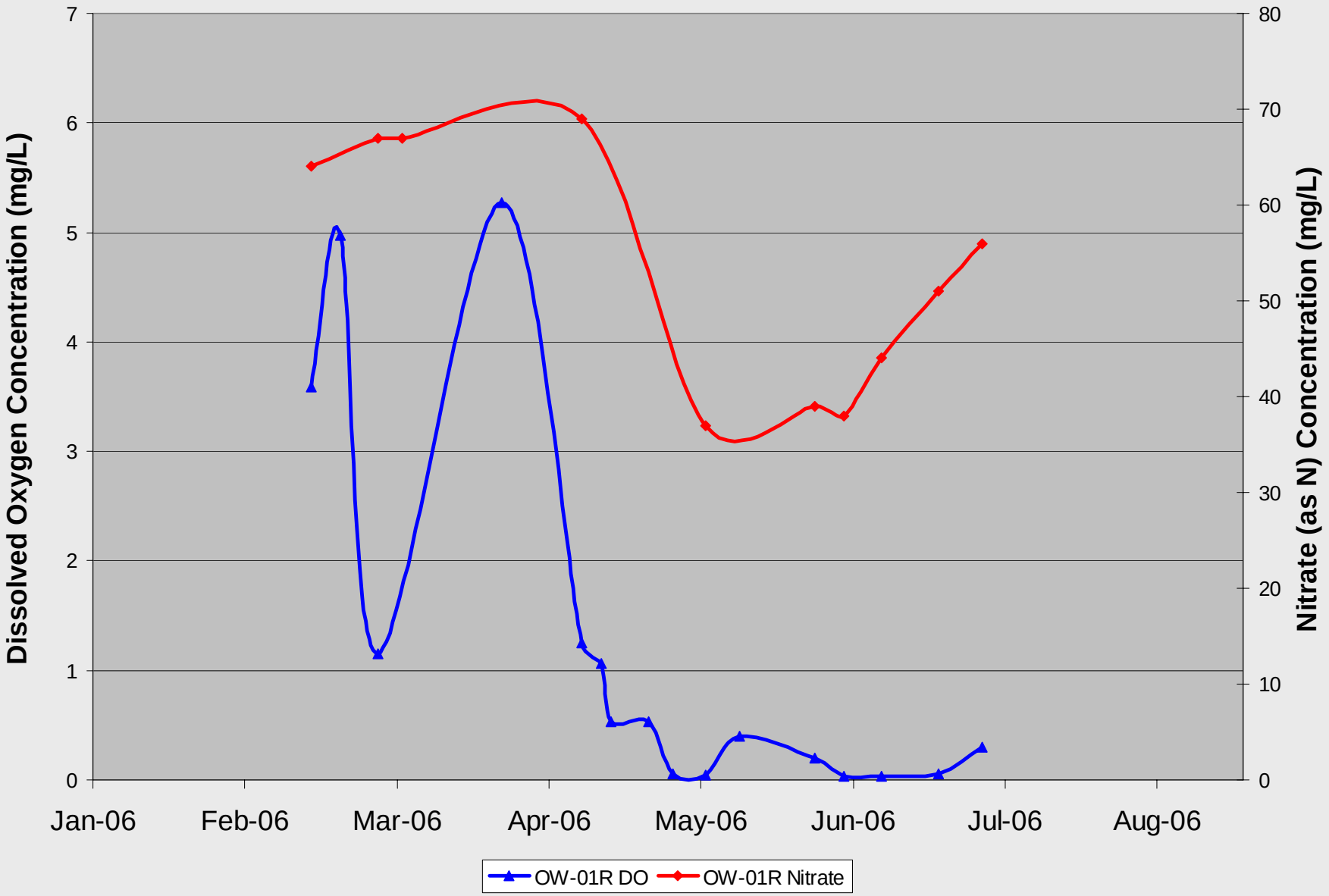
Pumping Rate (GPM)
4761.5
4761.0
4760.5
4760.0
Groundwater Elevation (ft above sea level)
2/1/2006
3/3/2006
4/2/2006
5/2/2006
6/1/2006
7/1/2006
7/31/2006
TW-01/TW-03 Pumping Rates
OW-1R
OW-02


Dissolved Oxygen Concentration (mg/L)
Nitrate (as N) Concentration (mg/L)
0
1
2
3
4
5
6
7
0
10
20
30
40
50
60
70
80
90
100
Feb-06
Mar-06
Apr-06
May-06
Jun-06
Jul-06
TW-1 DO
TW-3 DO
TW-1 Nitrate
TW-3 Nitrate


Dissolved Oxygen Concentration (mg/L)
Nitrate (as N) Concentration (mg/L)
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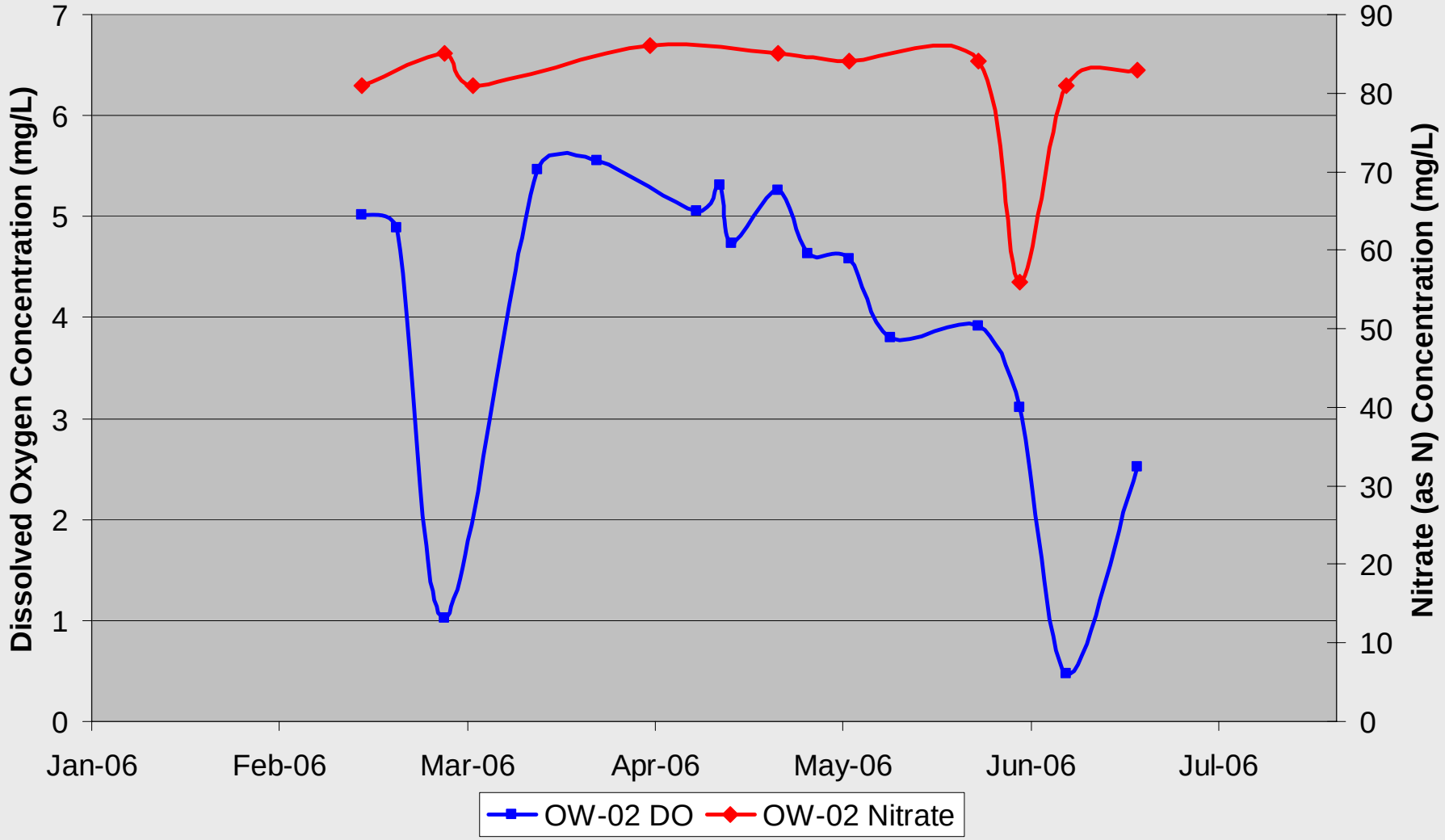
1
2
3
4
5
6
7
0
10
20
30
40
50
60
70
80
Jan-06
Feb-06
Mar-06
Apr-06
May-06
Jun-06
Jul-06
Aug-06
OW-01R DO
OW-01R Nitrate


Dissolved Oxygen Concentration (mg/L)
Nitrate (as N) Concentration (mg/L)
0
1
2
3
4
5
6
7
0
10
20
30
40
50
60
70
80
90
Jan-06
Feb-06
Mar-06
Apr-06
May-06
Jun-06
Jul-06
OW-02 DO
OW-02 Nitrate