

Case No. 84739

IN THE SUPREME COURT OF THE STATE OF NEVADA

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ADAM SULLIVAN, P.E., NEVADA  
STATE ENGINEER, et al.

Appellants,

vs.

LINCOLN COUNTY WATER  
DISTRICT, et al.

**JOINT APPENDIX**

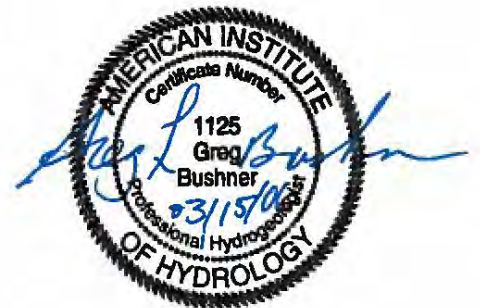
**VOLUME 42 OF 49**



**FINAL WELL  
COMPLETION REPORT  
KANE SPRINGS VALLEY,  
LINCOLN COUNTY, NEVADA**

**Prepared for  
LINCOLN COUNTY WATER  
DISTRICT AND VIDLER WATER  
COMPANY**

**URS Job No. 23444322  
March 15, 2006**



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## LIST OF ACRONYMS

amsl	Above Mean Sea Level
API	American Petroleum Institute
bgs	Below ground surface
°F	degree Fahrenheit
Del Mar	Del Mar Analytical Laboratory
gpm	Gallons per minute
gpm/ft	Gallons per minute per foot
HSLA	high strength low alloy
Lang	Lang Exploratory Drilling
µmhos	Micromhos
NTU	Nephelometric Turbidity Units
NAVD 88	North American Vertical Datum of 1988
OD	Outside Diameter
SC	Specific Conductance
S	Storage Coefficient
TD	Total Depth
TDS	Total Dissolved Solids
T	Transmissivity
URS	URS Corporation
USGS	United States Geological Survey
Vidler	Vidler Water Company



## 1.0 INTRODUCTION

The Well Completion Report for Well KPW-1 located in Kane Springs Valley, Lincoln County, Nevada, provides the technical data demonstrating the productive capability of the carbonate-rock aquifer in this area of southern Nevada. This well was constructed to produce a large volume of groundwater and was tested continuously at a pumping rate of 1,800 gallons per minute (gpm) for a period of 7 days. The impacts of the aquifer test were monitored using the project monitor well, KMW-1, located 144 feet southwest of the production well KPW-1. The purpose of this work effort is to support water rights and the development of groundwater from Kane Springs Valley for municipal and industrial use in Coyote Spring Valley.

In order to accomplish this work, Vidler Water Company (Vidler) of Carson City, Nevada, contracted the services of URS Corporation (URS) of Phoenix, Arizona, to provide technical services for the drilling, construction, and testing of a monitor well and a production well in Kane Springs Valley, Nevada. URS was responsible for providing construction oversight of the Kane Springs project in order to ensure the work was conducted in accordance with the project specifications (Vidler 2005).

It should be noted that pertinent data collected for this project is documented in the appendices; additional project data is contained in a data package that is provided under separate cover.



## 2.0 GEOGRAPHIC SETTING

### 2.1 PHYSIOGRAPHY

Most of Nevada, including Kane Springs Valley, lies in the Basin and Range physiographic province, which is characterized by north- to northwest-trending mountain ranges separated by elongated alluvial valleys. The mountain ranges bounding Kane Springs Valley include the Delamar Mountains to the northwest and the Meadow Valley Mountains to the southeast. Kane Springs Valley trends northeast southwest and extends from Coyote Spring Valley, at the southwestern end, near Highway 93, to the northeastern end near Elgin, a distance of approximately 40 miles (see Figure 1). The exact locations are shown on Figure 2.

The U.S. Geological Survey (USGS) and the Nevada Division of Water Resources, Department of Conservation and Natural Resources, have divided the State of Nevada into 14 distinct hydrologic areas called Hydrographic Regions or Basins. The Kane Springs Valley is located in the Colorado River Basin, designated as Basin 13.

The 14 principal hydrographic basins are sub-divided into 256 Hydrographic Areas and Sub-areas. The smaller hydrographic areas typically comprise a valley, a portion of a valley, or terminal basin. Kane Springs Valley is located in the Kane Springs Valley Hydrographic Area/Sub-Area (#206) of the Colorado River Basin (Figure 3). Kane Springs Valley is a "non-designated" groundwater basin. Designated groundwater basins are basins where permitted groundwater rights approach or exceed the estimated average annual recharge and the water resources are being depleted or require additional administration.





### 3.0 GEOLOGY

Well KPW-1 was sited near the point where the Willow Springs Fault merges into the Kane Springs Wash fault zone (Swadley et al. 1994). The Willow Springs Fault is a normal fault that bounds the eastern flank of the Delamar Mountains and forms the topographic boundary on the east side of Kane Springs Valley, to the northeast of KPW-1 and KMW-1 sites (Figure 4). The Kane Springs Wash fault zone, to the east of the well site, is a left-lateral oblique-slip fault zone (Swadley et al. 1994) affecting both Tertiary (recent) and Paleozoic (older) rocks.

To the southwest of KPW-1, there is a small hill that is composed of Simonson Dolomite, and Sevy Dolomite (Figure 4). The outcrops on the hill are composed of carbonate formations, which represent the up-thrown (footwall) block of the Kane Springs Wash fault zone at the southern end of the valley.

The well was sited in close proximity to the Willow Springs Fault and Kane Springs Wash fault zone (Figure 4) in an area of extensive tectonic activity, leading to significant fracturing of the carbonate-rock aquifer. By locating the well in a highly fractured geologic terrain, the well is drilled in rocks with a secondary permeability that has been enhanced by faulting and fracturing. Further discussion of the lithology penetrated by the KMW-1 and KPW-1 boreholes, in addition to the geophysical logs run in each borehole is provided in Section 4.0.



## 4.0 MONITOR AND PRODUCTION WELL CONSTRUCTION

Vidler contracted the services of Lang Exploratory Drilling (Lang) of Salt Lake City, Utah, for the drilling and construction of one monitor well and one production well in Kane Springs Valley. The locations of the wells, referred to as the Kane Springs Monitor Well No. 1 (KMW-1) and the Kane Springs Production Well No. 1 (KPW-1), are shown on Figure 2.

The field portion of the project was initiated in late September 2005 and consisted of the drilling, geophysical logging, well construction, well development, and aquifer testing, including water quality sampling, of KMW-1 and KPW-1. Field activities associated with the work at Kane Springs Valley were completed by January 15, 2006.

Due to the remote location of this basin, it was necessary to obtain water for drilling far from the well site. Water for drilling in Kane Springs Valley was trucked in from Bedroc, Inc. (Bedroc), a recycling facility, approximately 8 miles west of the well site. Lang hauled water or contracted with Bedroc for delivery of the water. The water from Bedroc was sampled July 28, 2005 for analysis by Del Mar Analytical (Del Mar), a State-certified laboratory. This was done in order to ensure there were no water quality issues with the source water and as part of standard operating procedures used in the drilling fluid (mud) program conducted by Lang. A copy of the analytical results from Del Mar can be found in Appendix A. There was nothing in the water used for the drilling of KMW-1 and KPW-1 that would be of concern for the outcome of the project.

### 4.1 MONITOR WELL KMW-1

The monitor well, KMW-1, is located in Township 11 South, Range 64 East, in the SW $\frac{1}{4}$  of the NE $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 6 at a surface elevation of 2,870.6 feet above mean sea level (amsl) based upon the North American Vertical Datum of 1988 (NAVD 88) (Stantec 2006). KMW-1 was drilled first in order to assess the hydrogeology of the Kane Springs Valley, obtain data to support the drilling of a water production well, and to assist in revising the preliminary production well design.

#### 4.1.1 Borehole Drilling

Lang began the construction of KMW-1 on September 29, 2005 by drilling a 26-inch diameter borehole to 37 feet below ground surface (bgs). Twenty-inch outside diameter (OD) surface casing was then set in the borehole to 37 feet bgs and cemented in place. Drilling below the surface casing conducted using a 12 $\frac{1}{4}$ -inch diameter bit with Lang utilizing the flooded reverse circulation drilling method.





During the drilling operations, drill cuttings were collected at 10-foot intervals and placed on visquene in sequence from the top of the borehole to the bottom. A portion of these cuttings was placed in cloth sample collection bags. The cuttings were also placed in chip trays and kept for future reference.

The KMW-1 borehole penetrated to a total depth (TD) of 2,013 feet bgs on October 9, 2005. Cuttings from the borehole were logged during the drilling of the KMW-1 borehole, and after the TD had been reached, geophysical logging was conducted. Both of these activities are discussed below.

#### 4.1.2 Lithologic Logging

The lithology penetrated during the drilling for the conductor casing and of the pilot borehole is documented in Appendix B. This log was prepared based on the following information collected including rock type (lithology), color, shape, sorting, matrix, faults and fractures, solution features, porosity, permeability, penetration rate, sampling depths and times, and drill rig response during drilling.

After the drilling of the borehole for KMW-1, a lithologic log was prepared to detail the strata penetrated by the drilling for KMW-1 (Appendix B). In general, the KMW-1 borehole penetrated predominantly microcrystalline carbonate rock (dolostone and limestone) with a fine-grained fabric and evidence of faulting and fracturing. Small-scale solution features (i.e., vugs) indicative of karst development were also observed in the cuttings.

Quartzite was encountered from approximately 1,340 to 1,380 feet bgs. A clay unit lies directly above the quartzite, with the samples resembling fault gouge. The fault gouge directly above metamorphic rock in a carbonate unit indicates that the borehole encountered faulting.

The boring logs were used in association with the geophysical logs, discussed below, to finalize the design of the monitor well.

#### 4.1.3 Geophysical Logging

Welenco, Inc. (Welenco) of Bakersfield, California, provided geophysical logging of KMW-1 on October 10, 2005. The logs conducted were:

- Spontaneous Potential (SP)
- Short Normal and Long Normal Resistivity logs
- Gamma Ray



- Guard
- Sonic Porosity and Variable Density
- Fluid Temperature
- A four-arm caliper
- Wellbore Drift Survey

The logs run by Welenco were used in conjunction with the lithologic logs and the samples from the borehole drilling to finalize the design of the monitor well.

**Spontaneous Potential (SP):** A spontaneous-potential log is a record of potentials or voltages that develop at the contacts between different lithologies. The SP log is used to select the contacts of shale or clay beds in a sand aquifer penetrated by a borehole. The natural flow of current is also affected by variations in salinity in the borehole.

The SP log run in KMW-1 does not show any significant signatures on the KMW-1 log. Given that the gravel encountered in KMW-1 is derived from a carbonate source, this is expected since the lithology in the borehole is basically the same over the entire depth. There are localized variations in the SP log (e.g., from 545 to 570 feet bgs, see Figure 5), but there is no information in the lithologic log to indicate the nature of this response. Such responses may be effects due to localized rock morphology.

**Short-Normal and Long-Normal-Resistivity:** Normal-resistivity logs record the electrical resistivity of the borehole environment, and the surrounding rocks and water, as measured by variably spaced potential electrodes on the logging probe. The current produced is changed manually by the logging technician. As resistivity increases, current decreases. In less resistive rocks (e.g., clay), the potential drops, and in more resistive rocks (e.g., quartzite), the voltage will rise. Resistivity logs work only in fluid-filled holes, and because the fluid level in KMW-1 was at 430 feet bgs, that is where the log begins.

The resistivity logs correlate well with the lithologic log. An example of this is at 600 feet bgs when the lithologic log no longer contains clay, and the resistivity response elevates (see Figure 5). The logs show a decrease in resistivity when the clay, possibly fault gouge, is logged at 1,340 feet bgs. The quartzite directly below the clay, at 1,350 feet bgs, then produces an elevated response in the resistivity logs. It is important to note that there is an invaded zone in the KMW-1 borehole as illustrated by the fact that the short- and long-normal log curves do not lie on top of each other. This is caused by drilling fluid invasion into the formation, and as such,

the short normal (16-inch) is influenced by the drilling fluid, while the long normal (64-inch) is not.

**Gamma Ray:** Gamma ray logging measures the naturally occurring radiation emitted from formation materials encountered in the borehole. Clays and shales contain high concentrations of radioactive isotopes usually composed of potassium-rich minerals. Sandstone, quartzite, and limestone are composed primarily of silica-rich and carbonate-rich minerals and therefore typically emit low levels of radiation. Interbedded clays and silts, or mixtures of limestone, clays, and silts, may emit radiation originating from these impurities within the primarily carbonate host rock. Gravel with potassium-rich minerals and granite will also emit radiation that will be recorded in a gamma ray log.

The gamma ray log from KMW-1 does not contain thick intervals characterized by high gamma response. Gamma ray responses from potassium-rich units (e.g., clay) are typically over 100 American Petroleum Institute (API) units. While there is a great deal of variation in the gamma response, most of it is well below 100 API units. In the lower part of the KMW-1 borehole, there are points where the gamma response approaches and exceeds 100 API units (see Figure 5). The primary reason for this is due to the clay layers, like the one noted in the lithologic log from 1,680 to 1,690 feet bgs. In addition, the clay or fault gouge from 1,340 to 1,350 feet bgs shows up clearly on the gamma log.

**Guard:** The guard log is one of several different types of focused-resistivity logs used in geophysical logging. The current flows in a guard log, and hence the measurement, is focused in a disk that is concentric with and perpendicular to the logging tool (sonde). With this approach, it is possible to measure the resistivity of thin beds or resistive rocks in wells containing conductive fluids. Focused-resistivity logs can provide high resolution and great penetration under conditions where other resistivity systems may fail. The response of a guard log can only be obtained in fluid-filled holes, and as such, the log begins at 430 feet bgs (see Figure 5), where the fluid level is.

The guard log response is very similar to resistivity values in the short- and long-normal logs. The log response is not as smooth though because of the focused-resistivity that the guard log is able to provide. It can be seen that there are no significant small bedding features that posed problems for well design and/or construction of KMW-1.

**Sonic Porosity and Variable Density:** The sonic log uses sonic pulses to determine competency of the borehole. This log is strongly affected by porosity and the mechanical strength of the formation. The more porous the borehole wall, the slower the travel time of the acoustic signal.



The variable density log provides important information about fractures and solution features. The fluid level in the borehole dictates where the sonic log may be started, so the log begins at 430 feet bgs, where the top of the fluid is.

The static water level in KMW-1 is below 990 feet bgs, so the porosity above that point is not critical to the water yielded by this well. Below 990 feet bgs, the porosity is very low (see Figure 5). At a few points, the porosity exceeds 20%, but for the most part, the porosity is less than 10%. Some intervals were logged with porosity values less than 5%. It is important to note that the Carbonate-rock aquifer is fractured rock that demonstrates characteristics of porous media. Because the flow is controlled by the fracture architecture, the low porosity values logged are not a critical indicator to the flow from the well.

**Fluid Temperature:** Temperature logs record the temperature of the fluid in the borehole. The logs are useful for identifying vertical flow in the borehole between zones of differing hydraulic head penetrated by wells, and sometimes for identifying flow through the borehole by water of a lower temperature. Borehole flow between zones is indicated by temperature gradients that are less than the geothermal gradient, which averages about 1.5 degree Fahrenheit (°F) per 100 feet of depth.

The borehole temperature at the surface of KMW-1 when it was logged was approximately 95°F. Based on average geothermal gradient, the temperature at the bottom of the borehole would be expected to be 125°F. The bottom hole temperature recorded during the geophysical logging was approximately 105°F. From 1,500 to 1,700 feet bgs the temperature does not vary significantly (see Figure 5), which may be due to fluid mixing. The second important point to note is the decrease in temperature below 1,700 feet bgs.

**A 4-arm Caliper:** Caliper logs record borehole diameter. Changes in borehole diameter are related to well construction, such as casing or drilling-bit size, and to fracturing or caving along the borehole wall. Because borehole diameter commonly affects log response, the caliper log is useful in the analysis of other geophysical logs.

Overall, the borehole diameter is fairly constant. There is a slight deviation between the X-caliper and Y-caliper from 1,000 to 1,100 feet bgs, and then again from 1,375 to 2,000 feet bgs (see Figure 5). The difference is very minimal and is related to the deviation in the borehole. The deviation in the borehole was far enough from vertical that the caliper tool was not hanging vertically, but rather, laying over to one side. As such, the arms could not open in a normal operating manner and recorded borehole diameters, with the Y-caliper, less than the bit size of

12¼ inches. Significant deviation in the KMW-1 borehole can be seen above 325 feet bgs. Fluid loss occurred during drilling when the zone at 260 feet bgs was encountered.

**Wellbore Drift Survey:** A wellbore drift survey is used to make sure a borehole is properly aligned for setting casing and meets the technical specifications required for pump installation. The survey is a directional survey that records the direction and deviation from vertical of the borehole. With the drift survey, the direction and dip of the borehole can be seen, as well as the true depth below surface.

The KMW-1 borehole had approximately 58 feet of deviation from the surface to the bottom of the hole. The direction of the deviation was to the southeast. In the first 800 feet of the borehole, there was less than 10 feet of drift, and in the next 500 feet there was an additional 10 feet of drift. Over the final 700 feet of the borehole, there was over 35 feet of additional drift. The drift in this borehole was likely due to a combination of drilling through fractured hard rock and the weight on the bit. The drift in this well does not affect its function as a monitor well.

#### 4.1.4 Final Well Design and Construction

Following the on-site review of the lithologic and geophysical logs by representatives of Vidler, URS, CH2M HILL, and Feast Geosciences, a final well design was prepared and submitted to Lang. KMW-1 consists of 5½-inch OD high strength low alloy (HSLA) steel casing set to 1,920 feet bgs with five separate 20-foot sections of perforated steel casing (Figure 6). The intervals where perforated casing was set are:

- 1,100 to 1,120 feet bgs
- 1,320 to 1,340 feet bgs
- 1,500 to 1,520 feet bgs
- 1,740 to 1,760 feet bgs
- 1,880 to 1,900 feet bgs

The 5½-inch OD casing was set to 1,920 feet bgs, and the annulus was filter packed to 955 feet bgs. Bentonite hole plug was placed on top of the filter pack to 881 feet bgs with a neat cement seal from 881 feet bgs to the surface (Figure 6).

#### 4.1.5 Water Level Measurements

KMW-1 was completed to monitor the water level in the carbonate-rock aquifer. Specifically, the well was constructed for use as a monitoring point during the pumping of the production well, KPW-1. The distance from KMW-1 to KPW-1 is 143.81 feet (Stantec 2006).

All groundwater measurements were recorded from the top of the casing using the same water level sounding device. The static water level on December 6, 2005, prior to step-discharge testing, was 991.80 feet bgs. On Figure 6, the static water level shown is 992.06 feet bgs and was obtained on January 5, 2006, prior to the constant-rate aquifer test conducted on KPW-1. Static water level in the monitor well (and the production well) varies slightly with time due to changes in barometric pressure. Groundwater levels recorded during aquifer testing are discussed in Section 5.0 (Aquifer Testing).

#### 4.1.6 Well Development

The development of KMW-1 was accomplished by airlifting water from the well after construction. During the development, the well was surged by means of air-lift pumping until the field water quality parameters being monitored had stabilized. The field water quality parameters were: pH, specific conductivity (SC), total dissolved solids [(TDS), which was calculated based on SC], and temperature (this information is provided under separate cover). Water quality samples were not collected from well KMW-1.

### 4.2 PRODUCTION WELL KPW-1

Following the construction and development of KMW-1, Lang began work on the production well, KPW-1. The location of KPW-1 is in the SW $\frac{1}{4}$  of the NE $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 6, of Township 11 South, Range 64 East, at an elevation of 2,871.2 feet amsl based upon NAVD 88 (Stantec 2006). The drilling of the borehole for KPW-1 was also conducted using the flooded reverse circulation method of drilling.

#### 4.2.1 Borehole Drilling

On October 16, 2005, Lang began drilling the surface casing interval of the KPW-1 borehole with a 38-inch diameter bit. The TD for the 38-inch diameter interval of the borehole was 80 feet bgs. Thirty four-inch OD casing was then set to 80 feet bgs and cemented in place. The drilling continued with a 26-inch diameter bit to a TD of 2,017 feet bgs. The TD of KPW-1 was reached on November 2, 2005.



During the drilling of the KPW-1 borehole, drill cuttings collected from the drilling operations were logged. Geophysical logging was conducted after the TD had been reached. The lithologic and geophysical logging were performed in a similar fashion to the logging of the KMW-1 borehole, and both types of logging are discussed below.

#### 4.2.2 Lithologic Logging

The approach used to log the samples from the drilling of the KPW-1 borehole was the same as the approach used to log cuttings from the drilling of the KMW-1 borehole, and the reader is directed back to Section 4.1.2 for more information. The KPW-1 borehole also penetrated predominantly microcrystalline carbonate rock (dolostone and limestone) with a fine-grained fabric and evidence of faulting and fracturing. Solution features, indicative of karst, were also apparent in the samples from the drilling of the KPW-1 borehole (Appendix B).

The distinctive units from KMW-1 were observed in KPW-1, but at greater depth. This is a result of the dip of the bed or faulting in the area, or possibly, a combination of the two. The quartzite encountered at approximately 1,340 to 1,380 feet bgs in KMW-1 was encountered at 1,425 feet bgs. If the difference in depth is only a function of the dip of the beds, it corresponds to a dip of approximately 30 degrees (°). A clay unit resembling fault gouge, as in KMW-1, also overlies the quartzite in KPW-1.

The Boring Logs from KPW-1 (see associated data compilation document) were used in association with the geophysical logs, as well as the lithologic and geophysical logs from KMW-1, to finalize the design of the production well. Discussion of the geophysical logs is provided below (see Figure 7).

#### 4.2.3 Geophysical Logging

Welenco also provided the geophysical logging for well KPW-1 on November 2, 2005. Due to the size of the wellbore the sonic porosity and variably density logs were not run in the KPW-1 borehole. The following logs were run in the KPW-1 borehole (for a description of each geophysical log refer to Section 4.1.3):

- SP
- Short Normal and Long Normal Resistivity logs
- Gamma Ray
- Guard
- Fluid Temperature



- A 4-arm caliper
- Well bore Drift Survey

In order to finalize the design of the production well, geophysical logs run by Welenco were used in conjunction with the geophysical logs from KMW-1, the lithologic logs from KPW-1 and KMW-1, and the samples from the drilling of both boreholes (see Figure 7).

**Short-Normal and Long-Normal-Resistivity:** The resistivity logs for well KPW-1 correlate well with the KMW-1 resistivity logs. In much of the borehole, the resistivity values are very close to those in the KMW-1 log (see 1,000 to 1,100 feet bgs on Figure 7). The larger size of the KPW-1 borehole, in comparison to the KMW-1 borehole, is an important reason that the logs do not match perfectly. Another reason the logs are not more similar is the dip, or structural offset, of the beds between the two boreholes. The top quartzite in KMW-1 was logged at 1,350 feet bgs, while the top of the quartzite in KPW-1 was logged at 1,425 feet bgs. Given the differences between the KMW-1 and KPW-1 boreholes, the logs compare very well.

**Gamma Ray:** In general, the KPW-1 gamma log compares very well with the KMW-1 log. The difference in the two borehole sizes does not really affect the logs, as they compare almost identically in numerous places (e.g., from 590 to 600 feet bgs, see Figure 7). The reason for the differences between the logs is also the dip, or structural offset, in the beds between the KMW-1 and KPW-1. The clay, or fault gouge, above the quartzite is a good example of this. In KMW-1, the clay, or fault gouge, above 1,350 feet bgs had a gamma response of almost 50 API, while the same interval in KPW-1 was much lower. In KPW-1, the clay, or fault gouge, at 1,425 feet bgs had a gamma response of almost 48 API units, while the same depth interval in KMW-1 was significantly lower.

**Guard:** The guard log run in KPW-1 compares well with the KMW-1 log, with the difference related to the different depths the same bedding is found in each hole. Despite this, some intervals of the logs show the same response. The interval from 1,180 to 1,220 feet bgs exhibits (see Figure 7) a resistivity of approximately 1,200 ohmmeters in both boreholes. There is no real borehole effect on the guard log of KPW-1 in comparison to KMW-1.

**A 4-arm Caliper:** The caliper logs on the KMW-1 borehole and the KPW-1 borehole were run on two significantly different diameter boreholes. The deviation in the borehole in KMW-1 is of the same nature to the deviation in KPW-1. Because of the deviation in the borehole, the sonde was far enough from vertical that the tool was actually laying over to one side. With the tool unable to operate in a normal manner, the borehole diameters recorded by the Y-caliper are less than the bit size of 26 inches.

**Wellbore Drift Survey:** There were approximately 30 feet of deviation from the surface to the bottom of the borehole in KPW-1. The deviation was directed to the southwest. Overall, the deviation in KPW-1 is not as great as in KMW-1, but the bulk of the drift occurs in the final 800 to 900 feet of the borehole. The technical specifications (Vidler 2005) state the "...pilot boring shall not be allowed to deviate more than 0.90 feet of the borehole depth, and not more than a total of 17.4 feet at 2,000 feet of borehole depth." Although the deviation in this borehole exceeded the plumbness and alignment requirement of the specifications, it did not materially affect the functionality of the complete well and the ability to equip the well with a high capacity submersible pump.

#### 4.2.4 Final Well Design and Construction

After reviewing the lithologic logs and geophysical logs from both KPW-1 and KMW-1, representatives of URS prepared a final well design and submitted it to Lang. KPW-1 consists of 18 $\frac{3}{4}$ -inch OD HSLA steel casing set to 2,012 feet bgs. The well was constructed with blank casing from the surface to 1,020 feet bgs, 1,840 to 1,882 feet bgs (for a pump gallery), and 2,002 to 2,012 feet bgs (for a sump). The perforated casing is set from 1,020 to 1,840 feet bgs and 1,882 to 2,002 feet bgs (Figure 8).

The annulus of the 18 $\frac{3}{4}$ -inch OD steel casing was filter packed to 302 feet bgs. A neat cement seal was placed on top of the filter pack to land surface.

#### 4.2.5 Well Development

Development of KPW-1 was accomplished by swabbing and air-lift pumping following well construction, along with pump and surge methods prior to aquifer testing. The swabbing and air-lift pumping was accomplished by: (1) swabbing and air-lifting from the bottom to the top of the perforated interval within the casing; (2) swabbing a liquid polymer mud dispersant into the well from the top to the bottom of the perforated interval of casing; and (3) swabbing and air-lifting from the bottom to the top of the perforated interval of casing. The liquid polymer dispersant used was Aqua-Clear PFD. This polymer serves as a dispersant to provide for drilling mud and sediment removal from the formation and gravel pack. Aqua-Clear PFD contains no phosphates.

During these three phases of airlift development, field water quality parameters (pH, SC, TDS, temperature, and the solids content, using an Imhoff cone), were monitored along with the flow from the well. This was done to assess the progress of development by the improvement in water quality and/or flow.



The water quality from KPW-1 did not change significantly during the airlifting segments of this part of development. The flow from the well did decrease moving up the well. This is a function of the submergence (Doubek and Beale 1992), and not related to the development process or aquifer characteristics.

After the swabbing and airlift development, prior to aquifer testing, the well was further developed with a submersible pump set at approximately 1,860 feet bgs. The development was conducted using a pump and surge approach to stress the aquifer and return the formation to the state it was in prior to the drilling operations. Pumping rates during the pump and surge development ranged from 800 to 2,000 gpm.

The pump and surge development began on December 5, 2005, and was completed on December 8, 2005. Field water quality parameters (pH, SC, TDS, temperature, and turbidity) were monitored along with the flow and drawdown. This was done to assess the progress of development by improvement in water quality, flow, and specific capacity. As in the airlift development, water quality did not change significantly. The specific capacity of the well did improve noticeably. In the early stages of pump development, at approximately 1,100 gpm, the well had a specific capacity of approximately 12.5 gpm per foot of drawdown (gpm/ft). At the end of the pump development, when the specific capacity had stabilized, the well exhibited a specific capacity of approximately 14.7 gpm/ft at flows in excess of 2,000 gpm.

#### 4.2.6 Water Quality Sampling

KPW-1 was sampled on January 10, 2006. The laboratory analytical results are provided in Appendix C and discussed in Section 6.0, Water Quality Sampling and Testing.

All groundwater measurements were recorded from the top of the casing using the same water level sounding device. On December 6, 2005, prior to step-discharge testing, the static water level was 991.26 feet bgs. Prior to the constant-rate aquifer test on January 5, 2006, the static water level was 991.75 feet bgs. As in KMW-1, the static water level in the well varies slightly with time due to changes in barometric pressure.

Water levels recorded during aquifer testing are discussed in Section 5.0 (Aquifer Testing) and provided in Appendix D.





## 5.0 AQUIFER TESTING

A 12-hour step-discharge test and a 7-day (168-hour) constant-rate aquifer test, including a recovery period, were planned for well KPW-1. The step-discharge test was conducted in order to (1) select a pumping rate for the constant-rate pumping test, (2) evaluate the efficiency of the well, and (3) provide baseline data for the well to evaluate potential future changes in well efficiency or performance. In addition to the stated objectives for the step-discharge drawdown test, a 7-day aquifer test was selected (1) to provide a demonstration of aquifer sustainability, (2) to determine aquifer characteristics, including transmissivity and storage coefficients (using data from well KMW-1), and (3) to evaluate hydrologic boundaries, if encountered.

For all the aquifer testing of KPW-1 and KMW-1, water levels were initially measured with a hand-held water level indicator. The water level was used to set the reference water level in a LevelTROLL 700 (LevelTroll) transducer set in each well. The LevelTroll, manufactured by In-Situ Inc. of Fort Collins, Colorado, was used to monitor and record water level changes. During the testing, the LevelTroll recorded the pumping water level, and manual measurements were taken with a hand-held water level indicator as a check against the LevelTroll measurements and to serve as a backup in the event anything should happen to the electronic data. Water quality was also measured and recorded during the test with a YSI 556 MPS Multi-Probe, capable of measuring pH, SC, TDS, and temperature. In addition, a Hach 2100P was used to measure the turbidity of the water pumped from the well.

Equipment problems did not allow all the steps of the step-discharge test to be conducted in an uninterrupted manner. In addition, equipment failure terminated the aquifer test prior to the scheduled pump shut off. Due to the unscheduled end of the pumping portion of the test, a second 7-day constant-rate test was scheduled. Additional equipment problems occurred prior to the scheduled completion of the second constant-rate aquifer test, preventing the collection of the recovery data for the pumping that had occurred to that time. The test was restarted after approximately 1½ hours of no pumping and recovery data were collected at the end of the second aquifer test. The equipment failures that occurred did not affect the use of the monitor or production well data for this aquifer test analysis.

Descriptions of the step-discharge test (December 2005) and constant-rate test (January 2006) are provided below.

## 5.1 DECEMBER 2005 AQUIFER TESTING

### 5.1.1 Step-Discharge Testing

The step-discharge test of the carbonate-rock aquifer, penetrated by KPW-1 and KMW-1, was initiated on December 8, 2005 at 11:30 PM (23:30) at a rate of 900 gpm. A time versus water level plot of the step-discharge test was developed for KPW-1 (Figure 9) and for KMW-1 (Figure 10) based on the data collected during the test for both KPW-1 and KMW-1 (see Appendix D).

The change in drawdown, during the first phase of testing, for KPW-1 and KMW-1, was not significant after the first 5 minutes of the step (see Figures 9 and 10, respectively). Following 120 minutes of pumping at 900 gpm, the rate was increased to 1,200 gpm. Within approximately 30 minutes of pumping at 1,200 gpm, the drawdown did not increase significantly. This step of the test was conducted for a total of 240 minutes before increasing the flow to 1,500 gpm. When the pumping rate was increased to 1,500 gpm, the total elapsed time of testing was 360 minutes (6 hours). The drawdown changed significantly in the first 40 minutes of this step, but did not increase appreciably after that. After pumping at 1,500 gpm for 240 minutes, the pumping rate was increased to 1,800 gpm. At the start of the 1,800 gpm step, the test had been in progress for 10 hours. Drawdown leveled off quickly again in the 1,800 gpm step, and the time for the step was planned to be 480 minutes (8 hours), however due to equipment failure the step test ended unexpectedly after approximately 4 hours and 50 minutes (occurring on December 9, 2005). An extension of the 1,800 gpm rate was continued the following day for an additional 6 hours before increasing the flow to 2,000 gpm. Due to the pumping equipment limitations the pump could not sustain the 2,000 gpm rate for more than 10 minutes. The step-discharge rate test was concluded on December 10, 2005.

Based on the time-water level plot of the step-discharge test, the pumping rate selected for the constant-rate testing of KPW-1 was 1,800 gpm. This selection was based on the ability of KPW-1 to perform at 1,800 gpm with a water level that would not hinder sustainable yield or threaten the safe operation of the pump.

### 5.1.2 Constant-Rate Testing

The constant-rate test KPW-1 began on December 11, 2005 at 4:00 PM (16:00) at a rate of 1,800 gpm. A "critical time" of approximately 10.4 minutes (see Figure 11) was calculated for the constant-rate pump test using the method of Shafer (1978). The critical time is the time

beyond which the test is no longer affected by casing storage. For this test, it would reflect data from 10 minutes forward through the end at the test.

In the first 11 minutes of pumping, the drawdown was approximately 154 feet. By the end of the first 24-hour period of pumping, the water level was 1,165 feet bgs, which corresponded to a drawdown of approximately 173 feet. During the next 75 hours of pumping (4,500 minutes), the drawdown only increased by approximately 4 feet (a pumping water level of 1,169 feet bgs).

After almost 6,000 minutes (4 days, 4 hours) of pumping, equipment problems ended the test unexpectedly. Because the end of the test was not planned, the transducer had not been reset to record water levels using logarithmic sampling as initially planned. Given this, the recovery data were sampled at a large time interval and did not provide concise measurements of the recovery data. These recovery data did not allow for a precise drawdown analysis in conjunction with AQTESOLV (Duffield 1996). Further discussion of the drawdown analysis for the quantification of the carbonate-rock aquifer permeability in Kane Springs Valley, based on the January 2006 testing, is provided below.

Because the initial aquifer test did not meet the objective of a 7-day test due to equipment failure, another constant-rate aquifer test was scheduled for January 2006. Data from the January test were used to determine aquifer parameters including transmissivity and storage coefficient.

## 5.2 JANUARY 2006 AQUIFER TESTING

### 5.2.1 Constant-Rate Testing

A second constant-rate test of KPW-1 began on January 5, 2006 at 10:30 AM (10:30) at a rate of 1,800 gpm. A time versus water level plot of the data collected during the constant-rate discharge test was developed for KPW-1 (Figure 11) and for KMW-1 (Figure 12). The data collected during the constant-rate discharge test for both KPW-1 and KMW-1 are provided in Appendix D

The "critical time" for the 2006 constant-rate aquifer test is approximately 10.2 minutes. The first 11 minutes of pumping resulted in a drawdown of approximately 154 feet. After the first 24-hour period of pumping, the water level was 1,164 feet bgs, which corresponds to a drawdown of approximately 172 feet. Over approximately the next 127 hours of pumping (over 7,600 minutes), the drawdown only increased by approximately 6 feet (a pumping water level of 1,170 feet bgs).

With 12½ hours remaining in the test, equipment problems created a generator shut down and the pump stopped. This abrupt termination of the test was unexpected, and as such, the





transducer had not been reset to record water levels using logarithmic sampling. Because of this, the recovery data are very “coarse” and do not allow for precise analysis of the data in conjunction with AQTESOLV (Duffield 1996). The total time of the aquifer test was 169 hours of pumping (7 days) and an additional 23 hours of recovery after the pump was shut off. There was over 99% recovery in less than 65 minutes from when the pump shut off. Although the test was restarted in approximately 90 minutes, the drawdown at the time of the planned end of pumping was less than when the generator shut off unexpectedly. A more detailed discussion of the drawdown analysis of the second constant-rate test of KPW-1 in January 2006 is provided below.

### 5.2.2 Aquifer Test Analysis

Data collected from the aquifer testing during the pumping of well KPW-1 were analyzed using several methods that are applied to aquifer systems representative of porous media or alluvial aquifer systems. The recovery data collected from well KPW-1, as well as both responses to pumping and recovery data collected from the monitor well KMW-1, were used in the aquifer test analysis. These data were used as opposed to the water level data collected during the pumping of well KPW-1 to quantify aquifer performance without pump-induced turbulence during the test. The monitor well is sufficiently close to the pumping well and responded effectively during the pumping of well KPW-1 such that the water level response can be used in the hydraulic analysis of the aquifer test data.

The basis for this analysis is use of the Theis (1935) equation, or derivatives thereof (Hantush 1960, and Hantush-Jacob 1956), to determine aquifer characteristics that include transmissivity (T) and storage coefficient (S [unitless]). T represents the ease with which water will flow through a unit width of an aquifer system, and storage coefficient represents “...the volume of water the aquifer releases from or takes into storage per unit of surface area of the aquifer per unit decline or rise of head...” (Walton 1979). Use of this equation includes several simplifying assumptions that are rarely met under actual field conditions. The main assumptions include:

- The aquifer is isotropic and homogeneous
- The aquifer is of infinite extent
- The aquifer is of constant saturated thickness
- The pumping well is 100% efficient and the screened interval penetrates the entire thickness of the aquifer





For the purpose of applying the Theis equation (or any derivatives thereof) to results of the Kane Springs Valley aquifer testing data these assumptions have been met satisfactorily to analyze the data. For instance, the carbonate-rock aquifer system in the vicinity of KPW-1 and KMW-1 is large enough in areal extent that the pumping influence is small in relation to the aquifer, therefore this assumption would be valid.

An analysis of the pumping water level responses from well KMW-1 provides a reasonable estimate of T and S for a regional aquifer system (see Appendix E). Results using the Hantush-Jacob (1956) and Hantush (1960) methods gave estimates of T that ranged from 32,189 gpd/ft to 87,067gpd/ft. A reasonable approximation of the T value for the regional aquifer system would be 50,000 gpd/ft. Storage coefficient values represent a semi-confined system and would be on the order of  $1.9 \times 10^{-4}$ .

Monitor well recovery (after the pump pumping portion of the aquifer test had concluded) data were also analyzed for representative aquifer characteristics by plotting residual drawdown (data represented by the difference of actual water level response during recovery and the static water level) versus  $t/t'$  (which represents the total time since the pump was turned on divided by the time since recovery started). The Theis equation (Theis 1935) was for residual drawdown data and the T value increased by an order of magnitude as compared to the T values derived using Hantush (1960) or Hantush-Jacob (1956). Also, as shown in the residual drawdown (log-log) graph, where these data, plotted as a straight line, intersect the zero drawdown value is indicative of the conditions within an idealized aquifer system. A value of 2 or more on the zero drawdown x-intercept indicates that a recharge boundary is affecting the pumping well (Driscoll 1986). This explains the quick recovery of the well after the pump is shut off for approximately one hour (Appendix D). It is evident then from the aquifer testing of well KPW-1 that the residual recovery data represents fault induced high T (Figure 13).

In the case of the carbonate-rock aquifer system tested in the vicinity of well KPW-1 and KMW-1 the following statements can be made.

- The carbonate-rock aquifer behaves as a porous media similar to an alluvial aquifer system and therefore can be analyzed as such
- T values calculated from the aquifer test data indicate both a regional response and a fault induced flow to the well
  - T values representative of the regional aquifer are approximately 50,000 gpd/ft

- T values representative of the fault induced flow zone are approximately 300,000 gpd/ft as demonstrated from analysis of recovery data from the pumped well and the monitor well (Appendix E)
- Residual drawdown data demonstrate that hydraulic barriers to groundwater flow were not encountered during the 7-day aquifer test
- S values are on the order of  $1.9 \times 10^{-4}$



## 6.0 WATER QUALITY SAMPLING AND TESTING

Toward the end of the constant-rate discharge testing of KPW-1, URS collected a water sample for analysis of general water chemistry and isotopic data (Appendix C). During all phases of the aquifer testing, including both the step-discharge rate and constant-rate testing, URS collected field water quality parameters.

Vidler contracted the services of Del Mar Analytical Laboratories, of Phoenix, Arizona, for analysis of general water chemistry and the University of Arizona Isotope Geochemistry Laboratory for analysis of the isotopic samples. The protocols and sampling procedures followed during the sampling can be found in the Field Data Collection Work Plan (URS 2005).

The sample taken from KPW-1 was analyzed for the following analytes:

- Aluminum
- Arsenic
- Calcium
- Iron
- Magnesium
- Potassium
- Silica
- Sodium
- Iron, Dissolved
- Manganese, Dissolved
- Bicarbonate, Alkalinity as CaCO<sub>3</sub>
- Chloride
- Fluoride
- Sulfate
- Total Dissolved Solids (TDS)

The laboratory analytical results are presented on Table 1, along with the Federal Drinking Water Standards. The results for Arsenic, Iron, Fluoride, and TDS exceeded the Federal Drinking Water Standards.

## 7.0 SUMMARY AND CONCLUSIONS

A 7-day constant-rate aquifer test was successfully completed at well KPW-1 pumping at a sustained rate of 1,800 gpm. The effects of the pumped well were monitored in a nearby monitor well KMW-1. The following conclusions can be made.

- The well was sited in close proximity to the Willow Springs Fault and Kane Springs Wash fault zone (Figure 4) in an area of extensive tectonic activity, leading to significant fracturing of the carbonate-rock aquifer. By locating the well in a highly fractured geologic terrain, the well is drilled in rocks with a secondary permeability that has been enhanced by faulting and fracturing. This is observed in the drill cuttings by the existence of fracture planes and small-scale solution features (i.e., vugs) indicative of karst development.
- Quartzite was encountered at approximately 1,340 to 1,380 feet bgs in the monitor well borehole. A clay unit lies directly above the quartzite, with the samples resembling fault gouge. The fault gouge directly above metamorphic rock in a carbonate unit indicates that the borehole encountered faulting.
- Porosity is less than 10% and some intervals were logged with porosity values less than 5%. It is important to note that the carbonate-rock aquifer is fractured rock that behaves like porous media. Because the flow is controlled by the fracture architecture, the low porosity values logged are not a critical indicator to the flow from the well.
- The distinctive units from KMW-1 were observed in KPW-1, but at greater depth. This is a result of the dip of the bed or faulting in the area, or possibly, a combination of the two. The quartzite encountered at approximately 1,340 to 1,380 feet bgs in KMW-1 was encountered at 1,425 feet bgs in KPW-1. If the difference in depth is only a function of the dip of the bedding, it corresponds to a dip of approximately 30°. A clay unit resembling fault gouge, as in KMW-1, also overlies the quartzite in KPW-1.
- Although the deviation in this borehole exceeded the plumbness and alignment requirement of the specifications, it did not materially affect the functionality of the complete well and the ability to equip the well with a high capacity submersible pump.
- Based on the time-water level plot of the step-discharge test, the pumping rate selected for the constant-rate testing of KPW-1 was 1,800 gpm. This selection was based on the



ability of KPW-1 to perform at 1,800 gpm with a water level that would not hinder sustainable yield or threaten the safe operation of the pump.

- A constant-rate test of KPW-1 was conducted in January 2006 at a rate of 1,800 gpm for a period of 169 hours (over 10,000 minutes) during which time water level data were collected in both the production (pumping) well and monitor well. The resulting drawdown at the end of the test was 172 feet, which yields a specific capacity of 10.5 gpm/ft. Recovery data were collected in both wells after the pump was shut off.
- In the case of the carbonate-rock aquifer system tested in the vicinity of well KPW-1 and KMW-1 the following statements can be made.
  - Transmissivity resulting from applying the Theis (1935) equation yields approximately 300,000 gpd/ft using the residual drawdown data from the monitor and production wells.
  - Applying the Hantush (1959) method for a leaky confined aquifer yields a T value of 90,000 gpd/ft from the monitor well.
  - Residual drawdown data demonstrate that hydraulic barriers to groundwater flow were not encountered during the 7-day aquifer test.
  - It is evident then from the aquifer testing of well KPW-1 that the residual recovery data represents fault induced high T.
  - The carbonate-rock aquifer behaves as a porous media similar to an alluvial aquifer system and thereby can be analyzed as such.
- Water quality of the production well met drinking water quality standards with the exception of Arsenic, Iron, Fluoride, and TDS.

## 8.0 REFERENCES

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**TABLES**

**Table 1**  
**Laboratory Analytical Results for the KPW-1 Water Sample**

Analyte	Reporting Limit (mg/L)	Laboratory Analytical Results (mg/L)	Federal Drinking Water MCL <sup>1,2</sup> (mg/L)
Aluminum	0.5	ND <sup>3</sup> ✓	0.05-0.2
Arsenic	0.006	0.046 ✓	0.01
Calcium	2.0	48 ✓	NS <sup>4</sup>
Iron	0.2	0.69 ✓	0.3*
Magnesium	0.5	14 ✓	125.0*
Potassium	2.0	18 ✓	NS
Silica	2.5	49 ✓	NS
Sodium	50	150 ✓	NS
Iron, Dissolved <sup>5</sup>	0.2	ND	0.3*
Manganese, Dissolved <sup>6</sup>	0.02	ND	0.05*
Bicarbonate, Alkalinity as CaCO <sub>3</sub>	5.0	280	NS
Chloride	5.0	63	250.0
Fluoride	0.1	6.1	2.0-4.0
Sulfate	5.0	140	250.0*
Total Dissolved Solids (TDS)	20	650	500.0*

<sup>1</sup>MCL: Maximum Contaminant Limit

<sup>2</sup>The Nevada drinking water standards are no more restrictive than the Federal standards.

<sup>3</sup>ND: Analyte was below the laboratory detection limit.

<sup>4</sup>NS: No Federal standard listed.

<sup>5</sup>The standard listed is for Iron, but not the dissolved species.

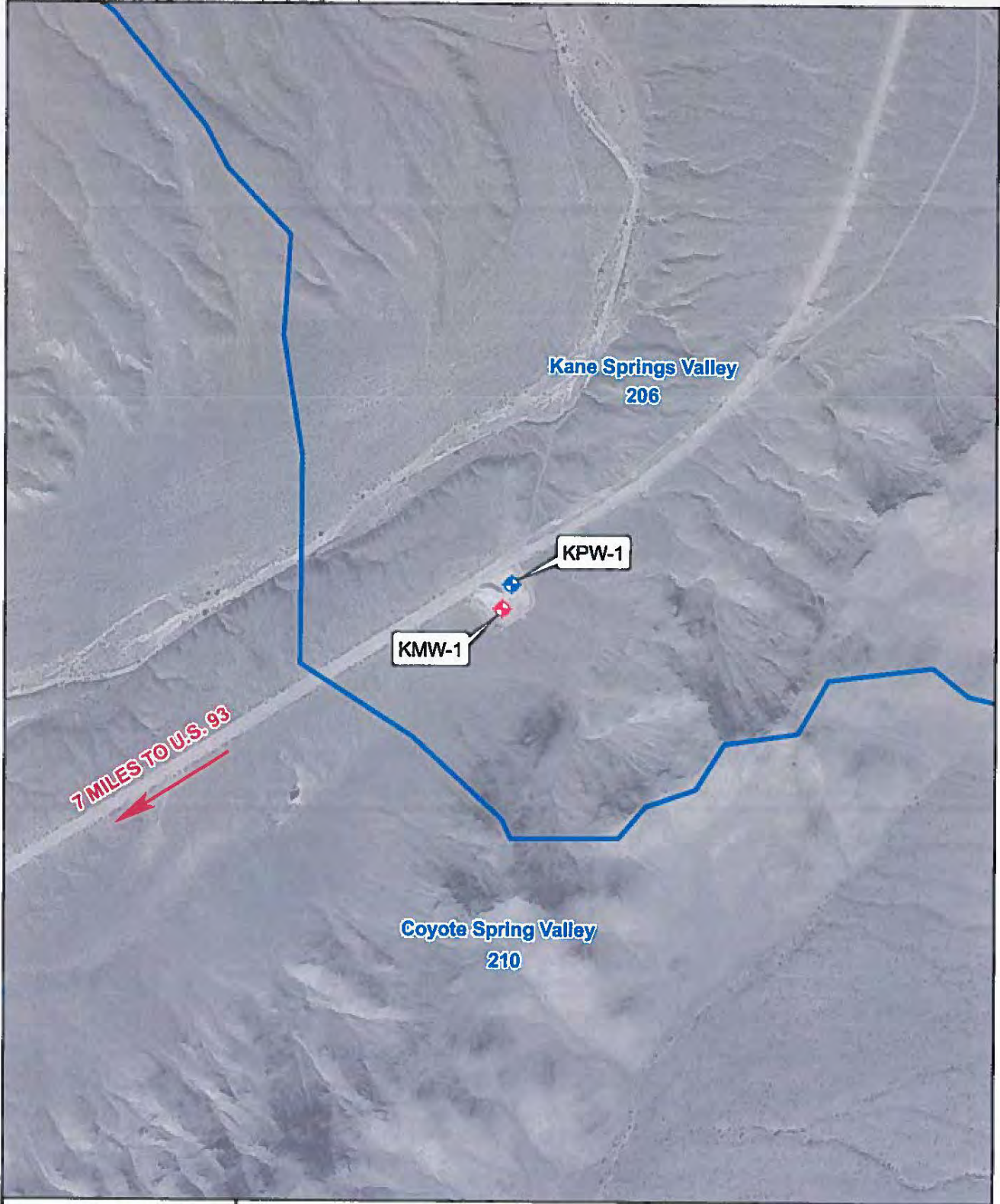
<sup>6</sup>The standard listed is for Manganese, but not the dissolved species.

\* Secondary drinking water quality standards



**FIGURES**





**Legend**

- Kane Springs Production Well (KPW-1)
- Kane Springs Monitor Well (KMW-1)
- Hydrographic Boundary

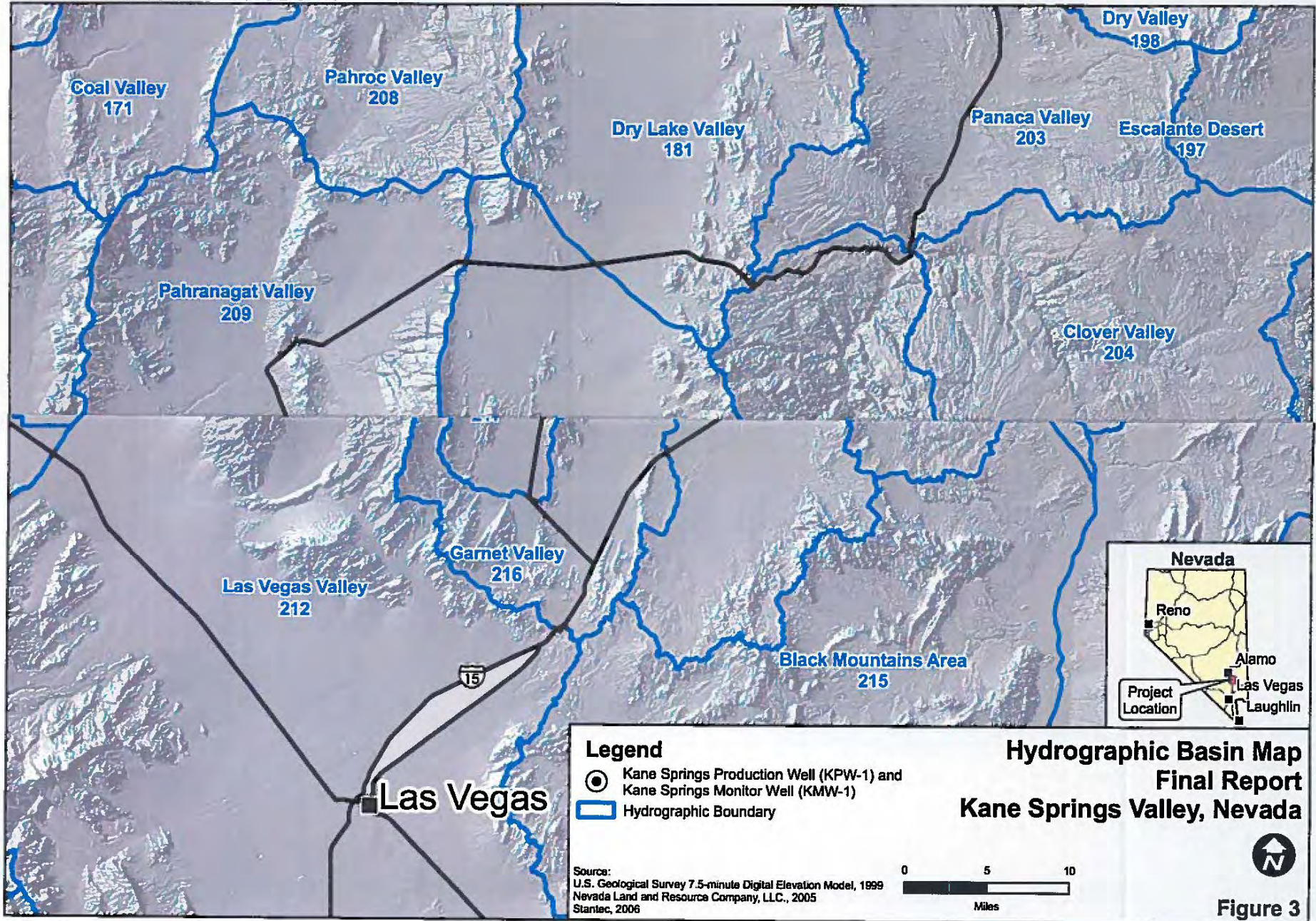
Source:  
U.S. Geologic Survey Digital Ortho-Quadrangle, 1994  
Nevada Land and Resource Company, LLC., 2005  
Slantec, 2006

**Well Location Map  
Final Report  
Kane Springs Valley, Nevada**



**Figure 2**

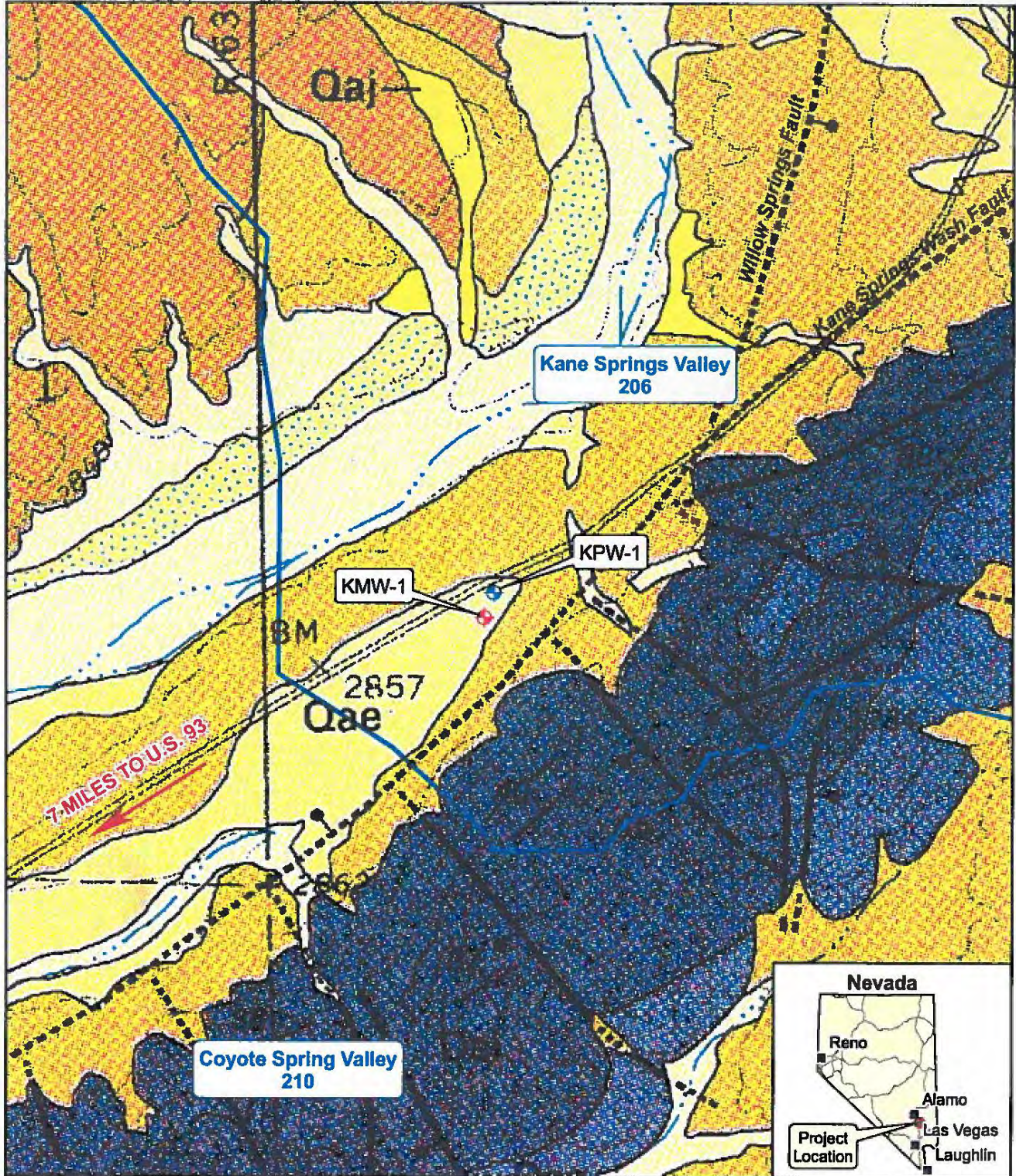




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**Legend**

- DSI- Simonsen Dolomite (Middle Devonian)
- DSE- Sevy Dolomite (Early Devonian)
- QAE- Alluvium (Early Holocene and Late Pleistocene)
- QAJ- Alluvium of Jumbo Wash (Middle Pleistocene)
- QAL- Alluvium (Late Holocene)
- QAW- Alluvium of Willow Spring (Middle Pleistocene)
- QS- Sheet Sand Deposits (Holocene)

- Kane Springs Production Well (KPW-1)
- Kane Springs Monitor Well (KMW-1)
- Hydrographic Boundary
- Contact
- Fault
- $\begin{matrix} 20 \\ \swarrow \end{matrix}$  Fault Showing Dip
- $\begin{matrix} 20 \\ \swarrow \end{matrix}$  Strike and Dip of Beds Inclined
- $\begin{matrix} 20 \\ \swarrow \end{matrix}$  Height of Eroded Fault Scarp

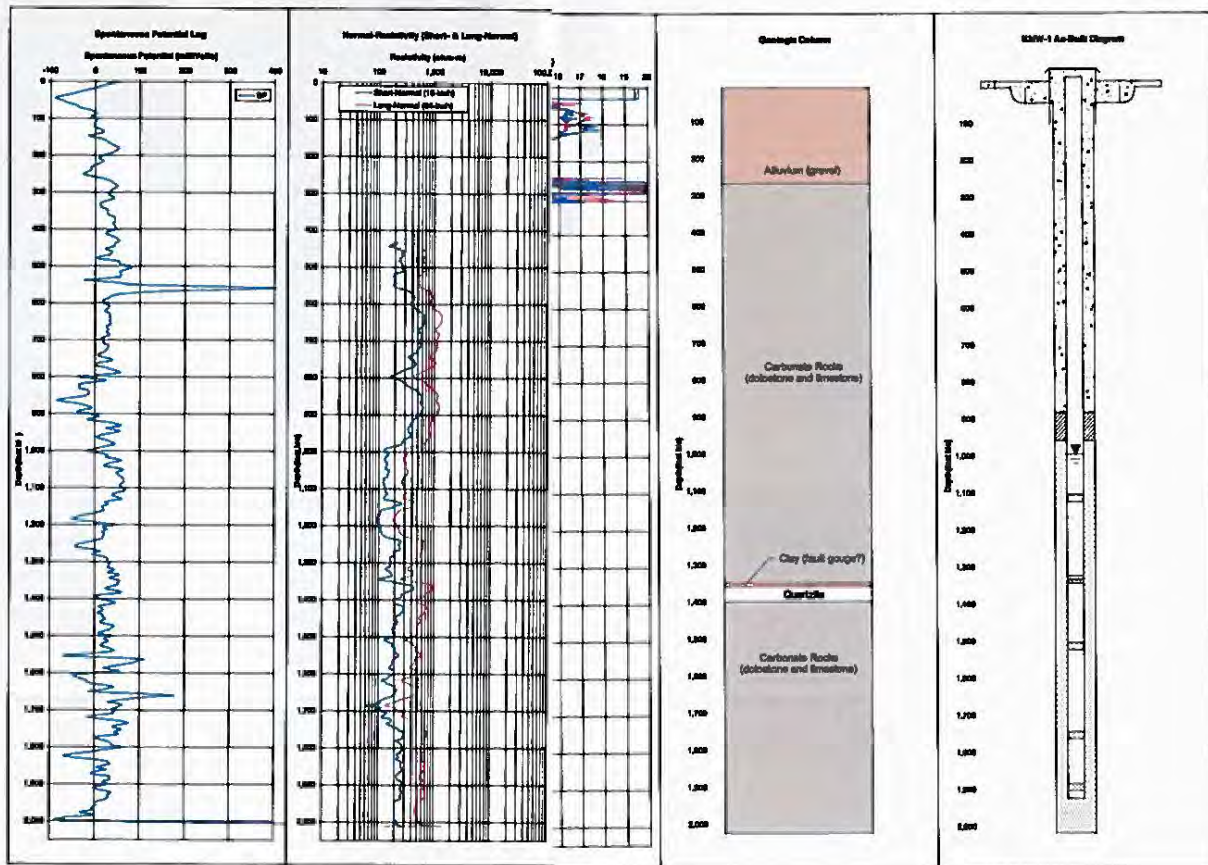
**Geology Map  
Final Report  
Kane Springs Valley,  
Nevada**

Source:  
U.S. Geologic Survey Geologic Map, Lincoln County, 1988-87  
Nevada Land and Resource Company, LLC, 2005



**Figure 4**





### Well (KMW-1) Construction Diagram

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Kane Springs Valley, Nevada

Figure 5

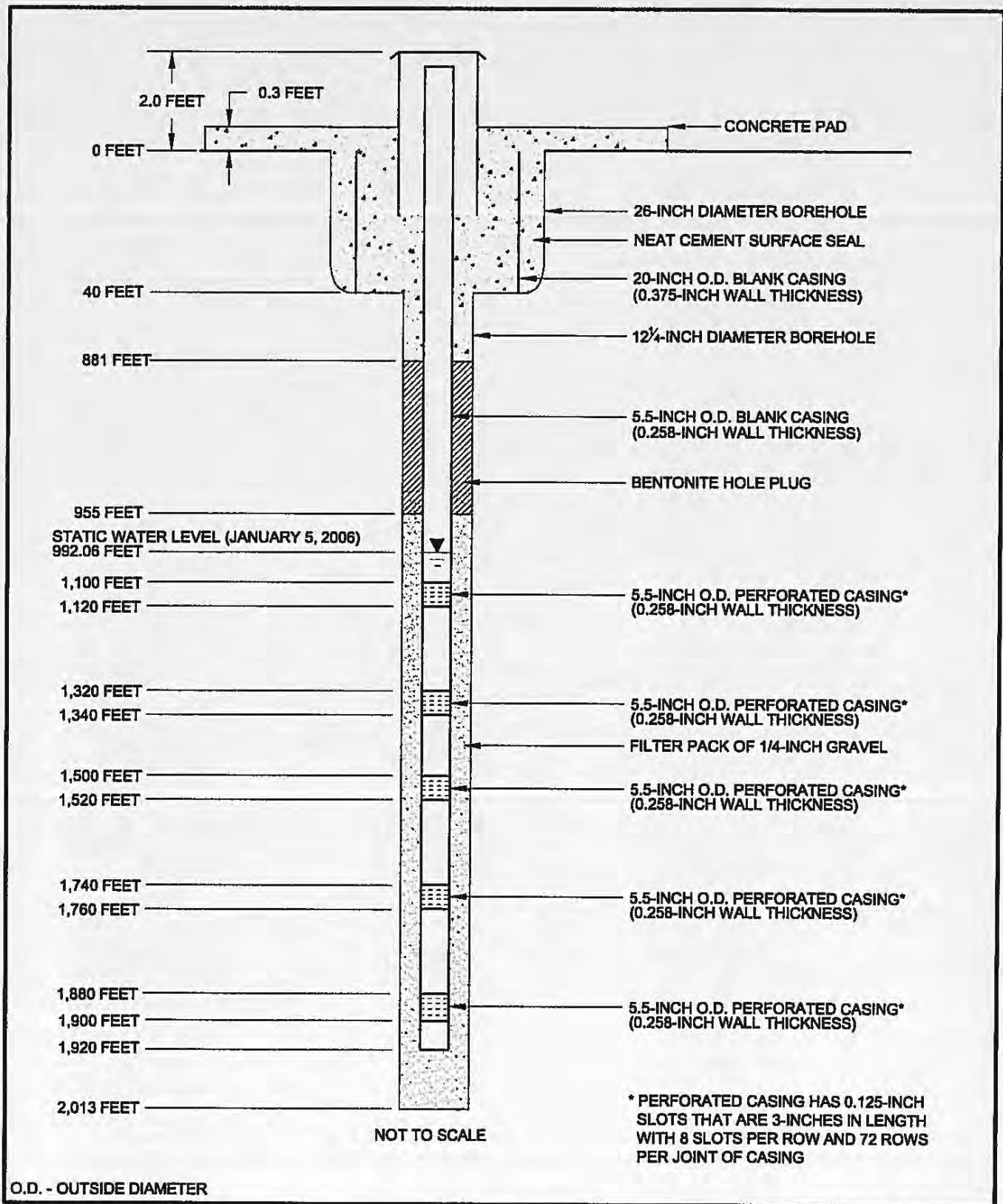


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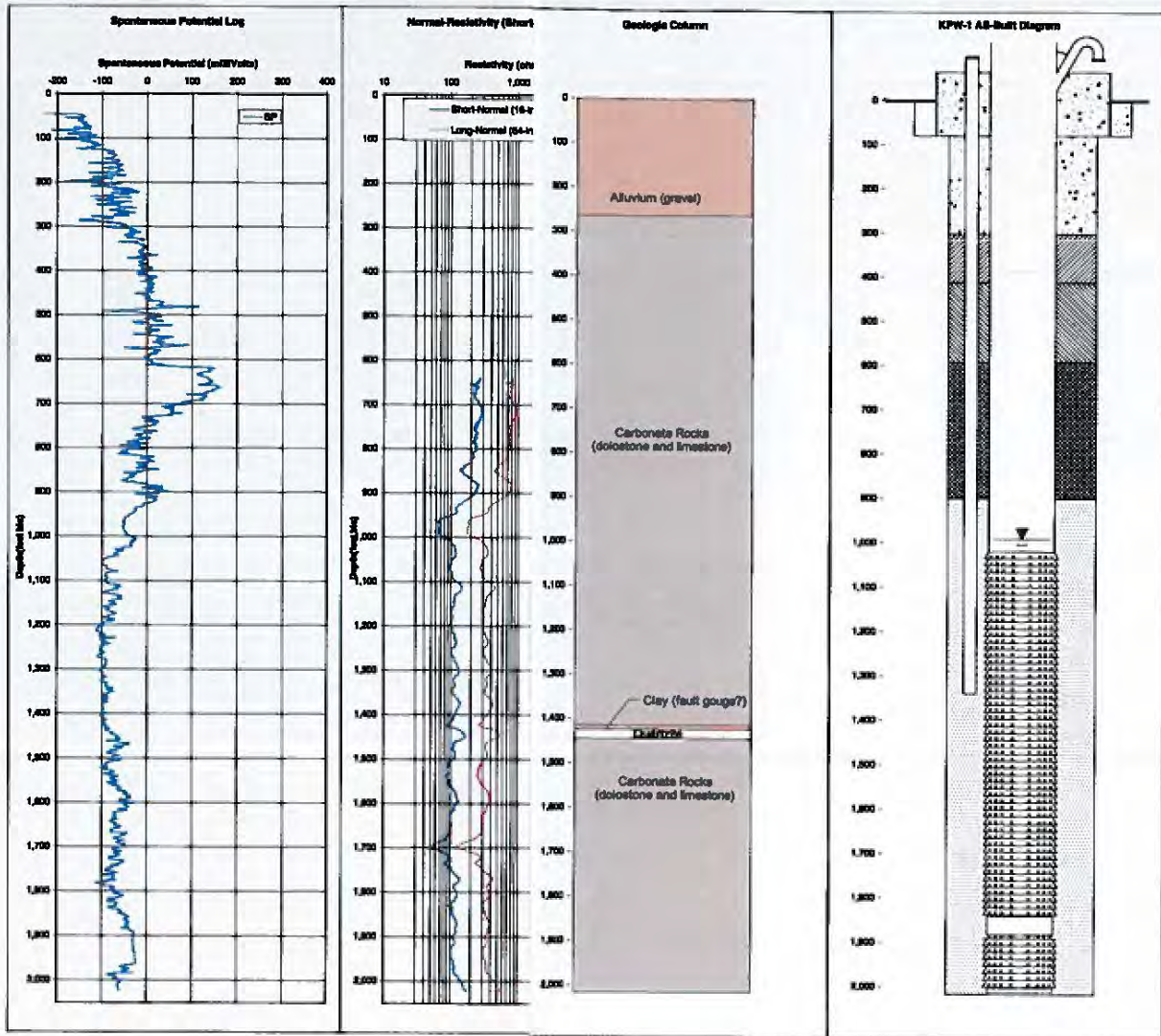
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Kane Springs Monitor Well (KMW-1)  
As-Built Diagram  
Final Report  
Kane Springs Valley, Nevada



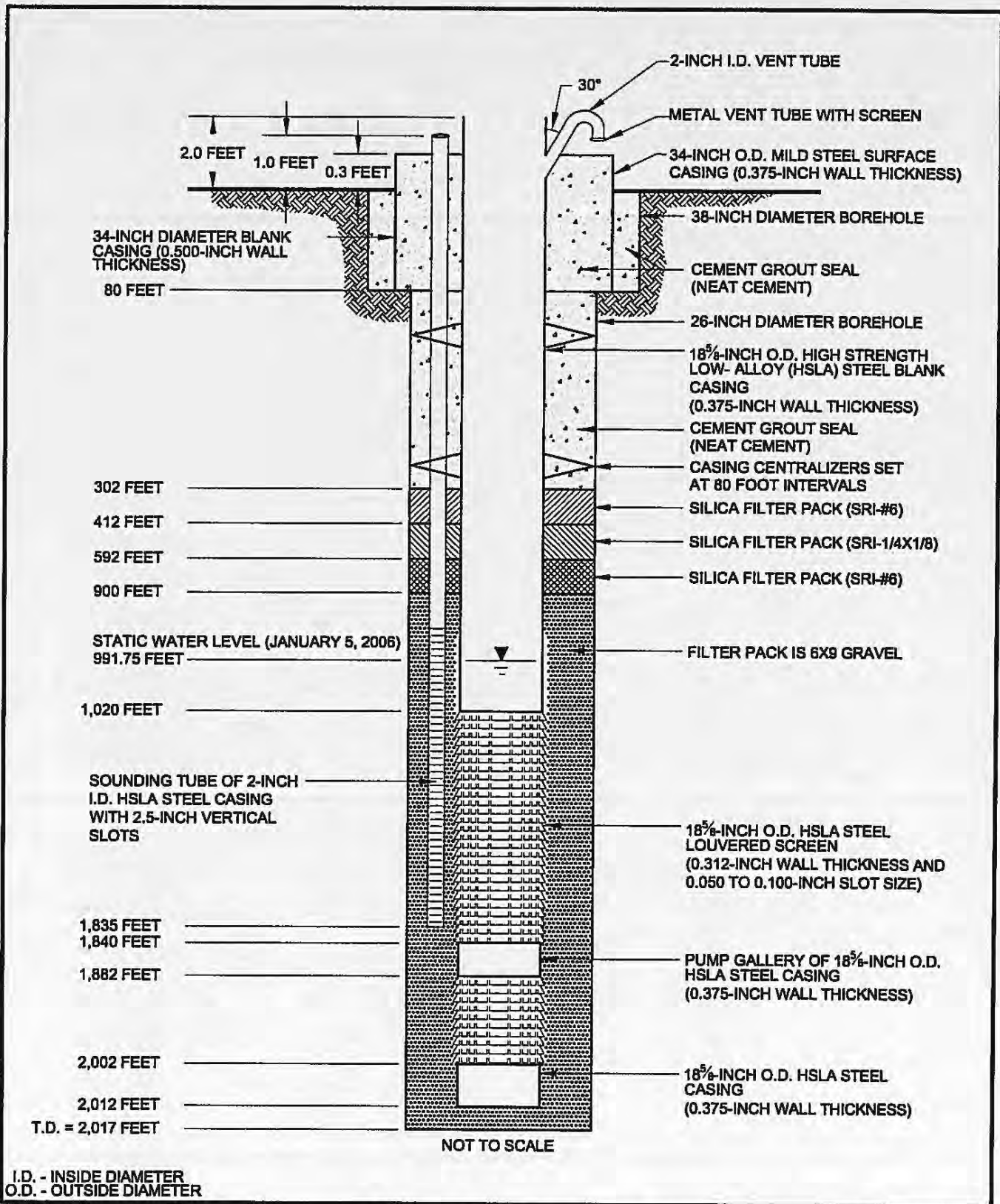


### Vell (KPW-1) Construction Diagram

Final Report  
Kane Springs Valley, Nevada

Figure 7





**Kane Springs Production Well (KPW-1)  
As-Built Diagram  
Final Report  
Kane Springs Valley, Nevada**





Figure 9. Step-Discharge Test  
Kane Springs Production Well (KPW-1)  
Water Levels  
December 2005

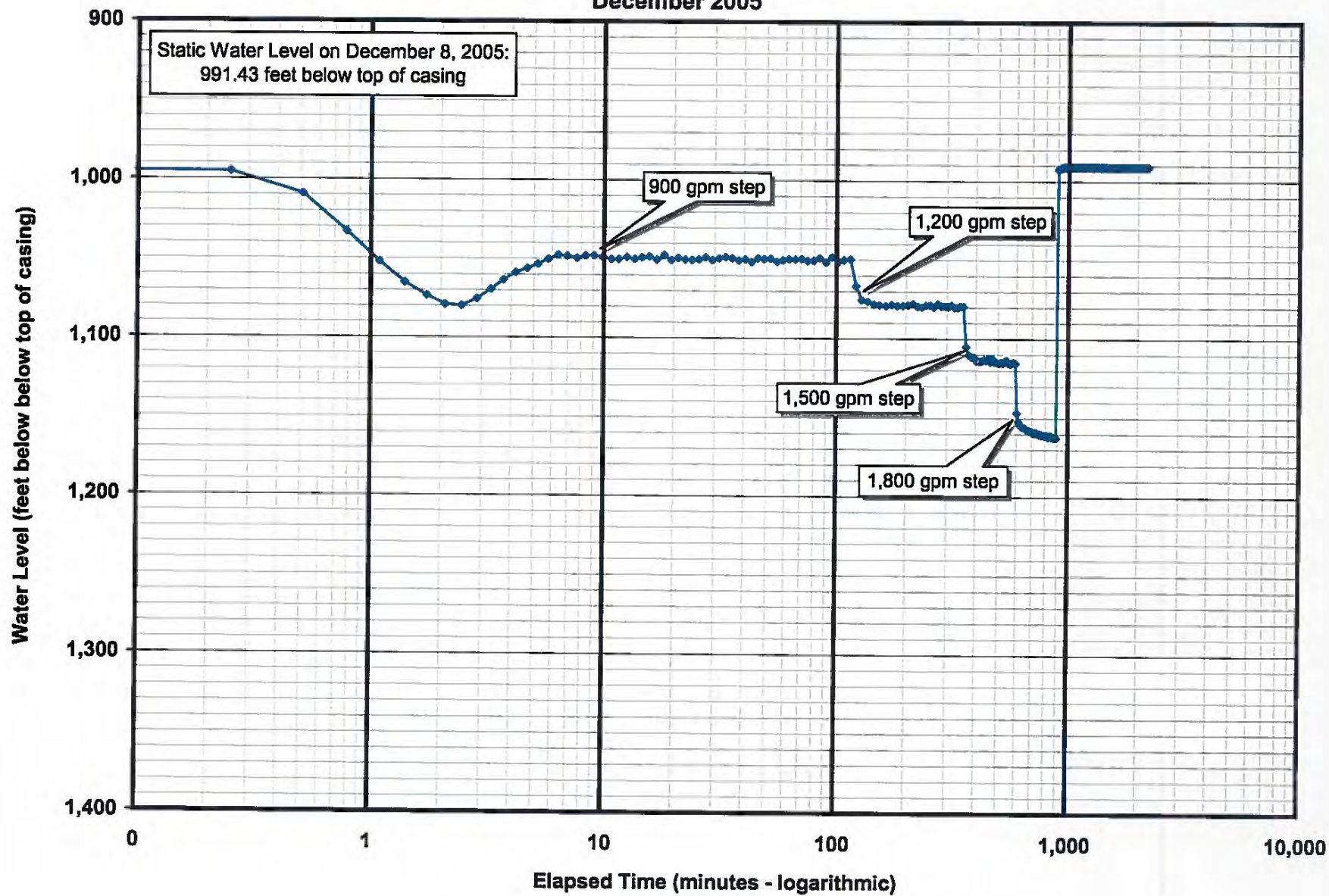




Figure 10. Step-Discharge Aquifer Test 1  
Kane Springs Monitor Well (KMW-1)  
Water Levels  
(December 2005)

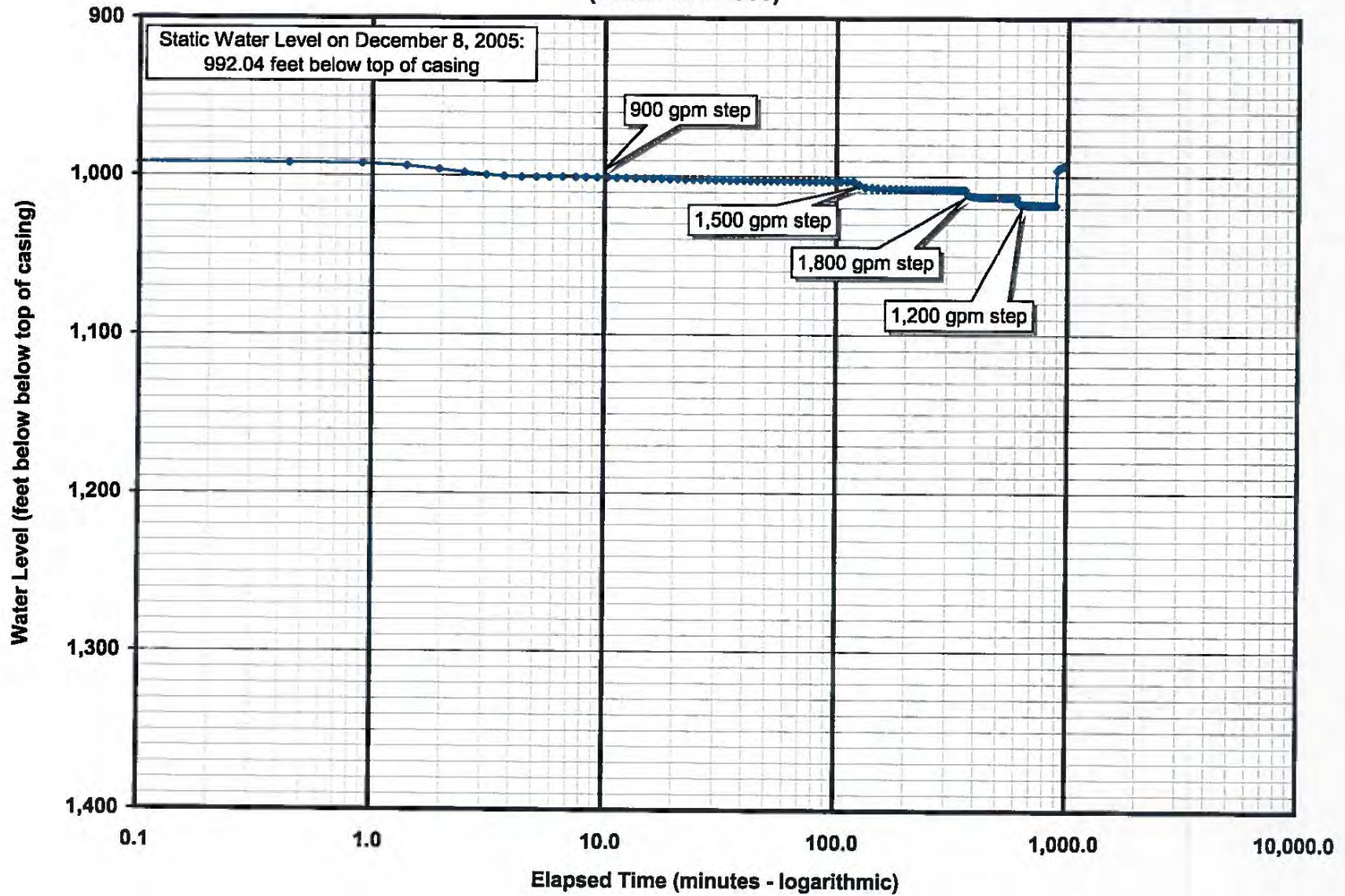
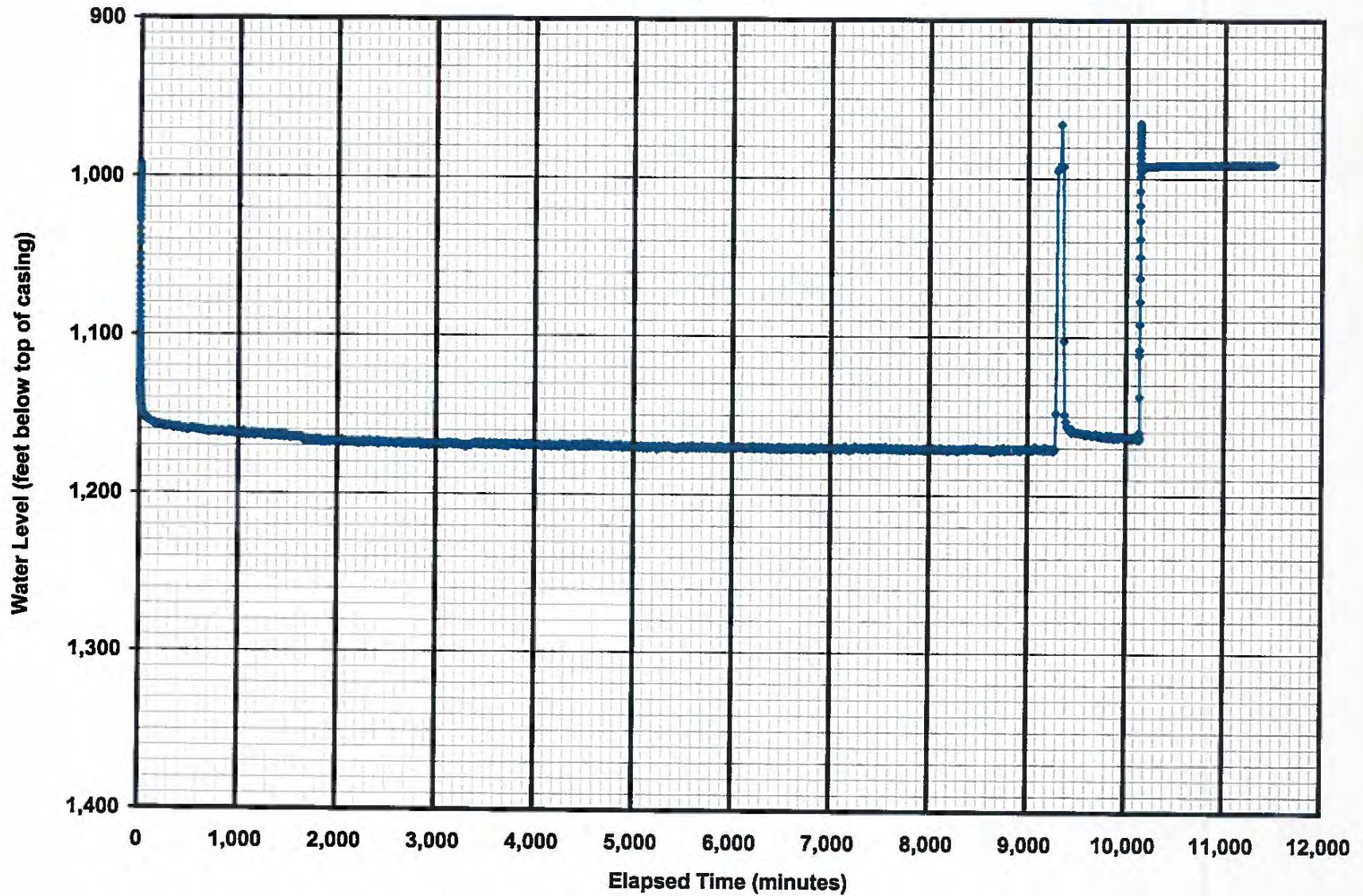




Figure 11. Constant-Rate Aquifer Test  
KPW-1 (Pumping Well)  
Water Level Response  
(January 2006)

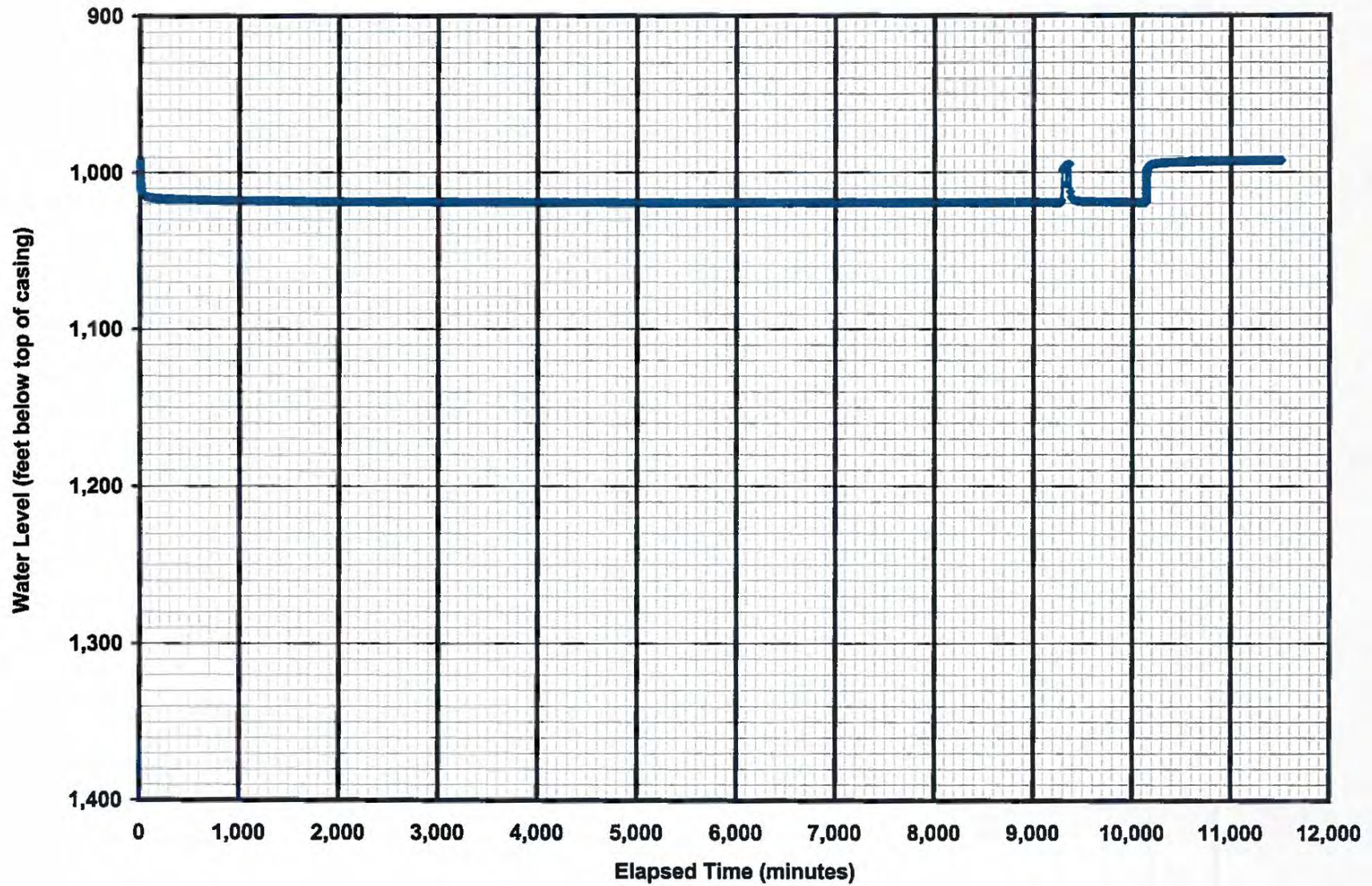


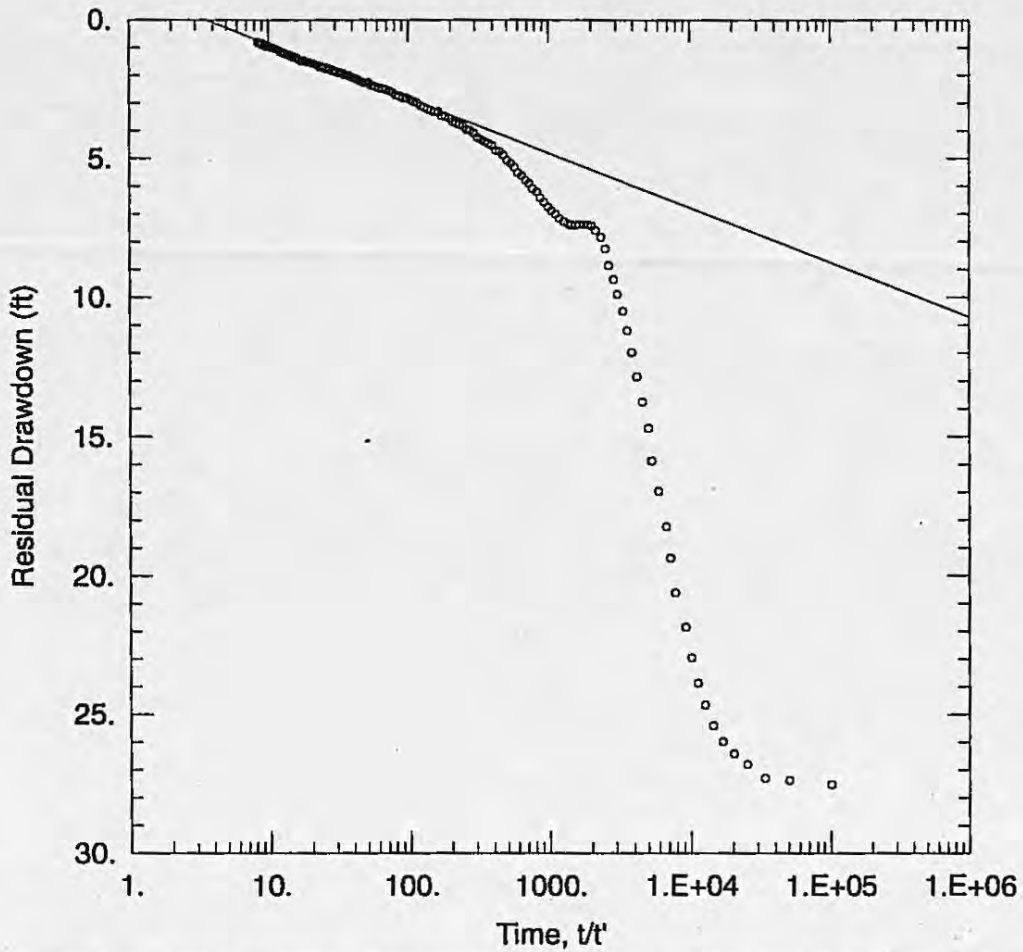
SE ROA 51677

JA\_16808



Figure 12. Constant-Rate Aquifer Test  
KMW-1 (Monitor Well)  
Water Level Response  
(January 2006)





**KANE SPRINGS PRODUCTION WELL CONSTANT-RATE AQUIFER TEST**

Data Set: C:\... \Kane Springs 2006 CR rec 2 KMW-1 solution 1f.agt  
 Date: 03/05/06 Time: 13:55:48

**AQUIFER DATA**

Saturated Thickness: 1025. ft Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA**

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
KPW-1	0	0	o KMW-1	0	143.82

**SOLUTION**

Aquifer Model: Confined Solution Method: Theis (Recovery)  
 T = 3.228E+04 ft<sup>2</sup>/day S/S' = 3.593

Figure 13. Aquifer Test Results (Aqtesolv Plot) KMW-1 Residual Drawdown





**APPENDIX A**  
**SOURCE WATER LABORATORY RESULTS**



LABORATORY REPORT

Prepared For: Vidler Water Co.-Nevada  
704 W. Nye Lane, Suite 201  
Carson City, NV 89703  
Attention: Dave Merrill

Project: Coyote Springs

Sampled: 07/28/05  
Received: 07/29/05  
Revised: 09/09/05 09:47

NELAP #01109CA Nevada #AZ907

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This entire report was reviewed and approved for release.*

CASE NARRATIVE

LABORATORY ID

POG0716-01  
POG0716-02

CLIENT ID

Coyote Drill Water  
Trip Blank

MATRIX

Water  
Water

- SAMPLE RECEIPT:** Samples were received intact, at 4°C, on ice and with chain of custody documentation.
- HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
- PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.
- QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.
- COMMENTS:** This report has been revised to include Alkalinity, Aluminum, Calcium, Potassium, Selenium, Silica and Sodium per the client's request 8/31/05.
- SUBCONTRACTED:** Refer to the last page for specific subcontract laboratory information included in this report.
- ADDITIONAL INFORMATION:** R-11 - RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

Reviewed By:

Del Mar Analytical - Phoenix  
Linda Eshelman  
Project Manager



er Water Co.-Nevada W. Nye Lane, Suite 201 Carson City, NV 89703 Attention: Dave Merrill	Project ID: Coyote Springs  Report Number: POG0716	Sampled: 07/28/05 Received: 07/29/05
---------------------------------------------------------------------------------------------------	----------------------------------------------------------	-----------------------------------------

## EXTRACTABLE FUEL HYDROCARBONS (EPA 3510/8015B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01RE1 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
DRO (C10-C22)	EPA 8015B	P5H0112	0.25	ND	0.943	8/1/2005	8/1/2005	
ORO (C22-C32)	EPA 8015B	P5H0112	0.25	ND	0.943	8/1/2005	8/1/2005	
Total (C10-C32)	EPA 8015B	P5H0112	0.50	ND	0.943	8/1/2005	8/1/2005	
Surrogate: n-Docosane (60-140%)					85 %			

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Report Number: POG0716

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Received: 07/29/05

## VOLATILE FUEL HYDROCARBONS (EPA 5030B/8015B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water) - cont.								
Reporting Units: mg/l								
Volatiles Fuel Hydrocarbons	EPA 8015B	P5H0421	0.20	ND	1	8/4/2005	8/4/2005	
Surrogate: 4-BFB (FID) (60-130%)				104 %				

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Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

### TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
Aluminum	EPA 200.7	P5I0104	0.50	ND	1	9/1/2005	9/1/2005	
Antimony	EPA 200.9	P5H0402	0.0040	ND	1	8/4/2005	8/8/2005	
Arsenic	EPA 200.9	P5H0402	0.0030	0.0031	1	8/4/2005	8/5/2005	
Barium	EPA 200.7	P5H0401	0.010	0.085	1	8/4/2005	8/5/2005	
Beryllium	EPA 200.7	P5H0401	0.0040	ND	1	8/4/2005	8/5/2005	
Cadmium	EPA 200.7	P5H0401	0.0050	ND	1	8/4/2005	8/5/2005	
Calcium	EPA 200.7	P5I0104	2.0	43	1	9/1/2005	9/1/2005	
Chromium	EPA 200.7	P5H0401	0.010	ND	1	8/4/2005	8/5/2005	
Copper	EPA 200.7	P5H0401	0.020	ND	1	8/4/2005	8/5/2005	
Iron	EPA 200.7	P5H0401	0.20	ND	1	8/4/2005	8/5/2005	
Magnesium	EPA 200.7	P5H0401	0.50	29	1	8/4/2005	8/5/2005	
Manganese	EPA 200.7	P5H0401	0.020	ND	1	8/4/2005	8/5/2005	
Mercury	EPA 245.1	P5H0211	0.00020	ND	1	8/2/2005	8/2/2005	
Nickel	EPA 200.7	P5H0401	0.050	ND	1	8/4/2005	8/5/2005	
Potassium	EPA 258.1	P5I0102	1.0	4.3	1	9/1/2005	9/8/2005	
Selenium	EPA 200.9	P5I0111	0.0040	ND	1	9/2/2005	9/6/2005	
Silica	EPA 200.7	P5I0104	2.5	23	1	9/1/2005	9/1/2005	
Sodium	EPA 273.1	P5I0102	25	43	5	9/1/2005	9/8/2005	
Thallium	EPA 200.9	P5H0402	0.0020	ND	1	8/4/2005	8/8/2005	
Zinc	EPA 200.7	P5H0401	0.050	ND	1	8/4/2005	8/5/2005	

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 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: POG0716-01 (Coyote Drill Water - Water)</b>								
Reporting Units: mg/l								
Alkalinity as CaCO <sub>3</sub>	SM2320B	P5H3105	5.0	220	1	8/31/2005	8/31/2005	H-1
Nitrate/Nitrite-N	EPA 300.0	P5G2901	0.20	ND	1	7/29/2005	7/29/2005	
Nitrate-N	EPA 300.0	P5G2901	0.10	0.15	1	7/29/2005	7/29/2005	
Nitrite-N	EPA 300.0	P5G2901	0.10	ND	1	7/29/2005	7/29/2005	
Sulfate	EPA 300.0	P5H0509	5.0	59	10	8/5/2005	8/6/2005	
Total Dissolved Solids	SM2540C	P5H0210	20	330	1	8/2/2005	8/2/2005	
<b>Sample ID: POG0716-01RE1 (Coyote Drill Water - Water)</b>								
Reporting Units: mg/l								
Chloride	EPA 300.0	P5H0509	5.0	28	10	8/5/2005	8/6/2005	
Fluoride	EPA 300.0	P5H0509	0.10	0.34	1	8/5/2005	8/6/2005	

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## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
Total Cyanide	SM4500-CN-C,E	5G29090	0.020	ND	1	7/29/2005	8/2/2005	

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Report Number: POG0716

Sampled: 07/28/05

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## PURGEABLE ORGANIC COMPOUNDS BY GC/MS (EPA 524.2)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
Benzene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Bromodichloromethane	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Bromoform	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Carbon tetrachloride	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Chlorobenzene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Chloroform	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Dibromochloromethane	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,2-Dichlorobenzene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,4-Dichlorobenzene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,2-Dichloroethane	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,1-Dichloroethene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
cis-1,2-Dichloroethene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
trans-1,2-Dichloroethene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,2-Dichloropropane	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,2,4-Trichlorobenzene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,1,1-Trichloroethane	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
1,1,2-Trichloroethane	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Trichloroethene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Vinyl chloride	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
m,p-Xylenes	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
o-Xylene	EPA 524.2	C5H0401	0.00050	ND	1	8/4/2005	8/4/2005	
Xylenes, Total	EPA 524.2	C5H0401	0.0015	ND	1	8/4/2005	8/4/2005	
<b>Trihalomethanes, Total</b>	EPA 524.2	C5H0401	0.00050	<b>&lt;0.0005</b>	1	8/4/2005	8/4/2005	
Surrogate: 4-Bromofluorobenzene (70-130%)				93 %				
Surrogate: 1,2-Dichlorobenzene-d4 (70-130%)				102 %				

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### EDB AND DBCP IN WATER BY GC/ECD (EPA 504.1)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
1,2-Dibromoethane (EDB)	EPA 504.1	C5H0322	0.000010	ND	1.01	8/3/2005	8/3/2005	
1,2-Dibromo-3-chloropropane	EPA 504.1	C5H0322	0.000020	ND	1.01	8/3/2005	8/3/2005	
Surrogate: 4-Bromofluorobenzene (65-170%)				131 %				

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Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: POG0716-01 (Coyote Drill Water - Water)</b>								
Reporting Units: mg/l								
Alachlor	EPA 525.2	C5H0203	0.00020	ND	0.952	8/2/2005	8/3/2005	
Atrazine	EPA 525.2	C5H0203	0.00010	ND	0.952	8/2/2005	8/3/2005	
Benzo(a)pyrene	EPA 525.2	C5H0203	0.000020	ND	0.952	8/2/2005	8/3/2005	
Di(2-ethylhexyl)adipate	EPA 525.2	C5H0203	0.00060	ND	0.952	8/2/2005	8/3/2005	
Di(2-ethylhexyl)phthalate	EPA 525.2	C5H0203	0.00060	ND	0.952	8/2/2005	8/3/2005	
Hexachlorobenzene	EPA 525.2	C5H0203	0.00010	ND	0.952	8/2/2005	8/3/2005	
Hexachlorocyclopentadiene	EPA 525.2	C5H0203	0.00010	ND	0.952	8/2/2005	8/3/2005	
Simazine	EPA 525.2	C5H0203	0.000070	ND	0.952	8/2/2005	8/3/2005	
Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)				99 %				
Surrogate: Triphenylphosphate (70-130%)				108 %				
Surrogate: Perylene-d12 (70-130%)				88 %				

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Sampled: 07/28/05

Received: 07/29/05

## CHLORINATED ACIDS (EPA 515.4)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
2,4-D	EPA 515.4	C5H0303	0.00010	ND	1	8/3/2005	8/4/2005	
Dalapon	EPA 515.4	C5H0303	0.0010	ND	1	8/3/2005	8/4/2005	
Dinoseb	EPA 515.4	C5H0303	0.00020	ND	1	8/3/2005	8/4/2005	
Pentachlorophenol	EPA 515.4	C5H0303	0.000040	ND	1	8/3/2005	8/4/2005	
Picloram	EPA 515.4	C5H0303	0.00010	ND	1	8/3/2005	8/4/2005	
2,4,5-TP (Silvex)	EPA 515.4	C5H0303	0.00020	ND	1	8/3/2005	8/4/2005	
Surrogate: 2,4-Dichlorophenylacetic acid (70-130%)				100 %				

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Received: 07/29/05

## CARBAMATES/CARBAMOXYLOXIME PESTICIDES BY HPLC (EPA 531.1)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
Aldicarb Sulfoxide	EPA 531.1	C5H1104	0.00050	ND	1	8/11/2005	8/11/2005	
Aldicarb Sulfone	EPA 531.1	C5H1104	0.00080	ND	1	8/11/2005	8/11/2005	
Oxamyl	EPA 531.1	C5H1104	0.0020	ND	1	8/11/2005	8/11/2005	
Methomyl	EPA 531.1	C5H1104	0.0010	ND	1	8/11/2005	8/11/2005	
3-Hydroxycarbofuran	EPA 531.1	C5H1104	0.0010	ND	1	8/11/2005	8/11/2005	
Aldicarb	EPA 531.1	C5H1104	0.00050	ND	1	8/11/2005	8/11/2005	
Carbofuran	EPA 531.1	C5H1104	0.00090	ND	1	8/11/2005	8/11/2005	
Carbaryl	EPA 531.1	C5H1104	0.0010	ND	1	8/11/2005	8/11/2005	

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Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

### ENDOTHALL (EPA 548.1)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
Endothall	EPA 548.1	C5G2909	0.0090	ND	1	7/29/2005	7/30/2005	M2

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## GLYPHOSATE (EPA 547)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POG0716-01 (Coyote Drill Water - Water)								
Reporting Units: mg/l								
Glyphosate	EPA 547	C5G2905	0.0060	ND	1	7/29/2005	7/29/2005	

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**DIQUAT (EPA 549.2)**

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: POG0716-01 (Coyote Drill Water - Water)</b>								
<b>Reporting Units: mg/l</b>								
Diquat	EPA 549.2	C5H0304	0.00040	ND	1	8/3/2005	8/3/2005	

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**SHORT HOLD TIME DETAIL REPORT**

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Coyote Drill Water (POG0716-01) - Water EPA 300.0	2	07/28/2005 11:15	07/29/2005 08:00	07/29/2005 10:51	07/29/2005 11:26

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SE ROA 51696



Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### EXTRACTABLE FUEL HYDROCARBONS (EPA 3510/8015B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0112 Extracted: 08/01/05</b>										
<b>Blank Analyzed: 08/01/2005 (P5H0112-BLK1)</b>										
DRO (C10-C22)	ND	0.25	mg/l							
ORO (C22-C32)	ND	0.25	mg/l							
Total (C10-C32)	ND	0.50	mg/l							
Surrogate: n-Docosane	0.356		mg/l	0.400		89	60-140			
<b>LCS Analyzed: 08/01/2005 (P5H0112-BS1)</b>										
DRO (C10-C22)	1.57	0.25	mg/l	2.00		78	55-130			M-NR1
ORO (C22-C32)	1.93	0.25	mg/l	2.00		96	55-145			
Surrogate: n-Docosane	0.361		mg/l	0.400		90	60-140			
<b>Group Analyzed: 08/01/2005 (P5H0112-BSD1)</b>										
DRO (C10-C22)	1.59	0.25	mg/l	2.00		80	55-130	1	25	
ORO (C22-C32)	1.99	0.25	mg/l	2.00		100	55-145	3	20	
Surrogate: n-Docosane	0.373		mg/l	0.400		93	60-140			

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 SE ROA 51697

Silver Water Co.-Nevada  
 1000 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

**METHOD BLANK/QC DATA**
**VOLATILE FUEL HYDROCARBONS (EPA 5030B/8015B)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD RPD	Data Qualifiers
<b>Batch: P5H0421 Extracted: 08/04/05</b>									
<b>Blank Analyzed: 08/04/2005 (P5H0421-BLK1)</b>									
Volatile Fuel Hydrocarbons	ND	0.20	mg/l						
Surrogate: 4-BFB (FID)	0.0847		mg/l	0.0800		106	60-130		
<b>LCS Analyzed: 08/04/2005 (P5H0421-BS2)</b>									
Volatile Fuel Hydrocarbons	0.471	0.20	mg/l	0.500		94	80-115		
Surrogate: 4-BFB (FID)	0.0868		mg/l	0.0800		108	60-130		
<b>LCS Dup Analyzed: 08/05/2005 (P5H0421-BSD2)</b>									
Volatile Fuel Hydrocarbons	0.490	0.20	mg/l	0.500		98	80-115	4	20
Surrogate: 4-BFB (FID)	0.0848		mg/l	0.0800		106	60-130		
<b>Spike Analyzed: 08/04/2005 (P5H0421-MS2) Source: POG0716-01</b>									
Volatile Fuel Hydrocarbons	0.467	0.20	mg/l	0.500	0.035	86	75-115		
Surrogate: 4-BFB (FID)	0.0839		mg/l	0.0800		105	60-130		
<b>Matrix Spike Dup Analyzed: 08/04/2005 (P5H0421-MSD2) Source: POG0716-01</b>									
Volatile Fuel Hydrocarbons	0.478	0.20	mg/l	0.500	0.035	89	75-115	2	15
Surrogate: 4-BFB (FID)	0.0840		mg/l	0.0800		105	60-130		

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SE ROA 51698

JA\_16829



Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0211 Extracted: 08/02/05</b>										
<b>Blank Analyzed: 08/02/2005 (P5H0211-BLK1)</b>										
Mercury	ND	0.00020	mg/l							
<b>LCS Analyzed: 08/02/2005 (P5H0211-BS1)</b>										
Mercury	0.00859	0.00020	mg/l	0.00800		107	85-115			
<b>LCS Dup Analyzed: 08/02/2005 (P5H0211-BSD1)</b>										
Mercury	0.00804	0.00020	mg/l	0.00800		100	85-115	7	15	
<b>Matrix Spike Analyzed: 08/02/2005 (P5H0211-MS1)</b>										
Mercury	0.00821	0.00020	mg/l	0.00800	ND	103	85-115			
					<b>Source: POG0724-01</b>					
<b>Matrix Spike Dup Analyzed: 08/02/2005 (P5H0211-MSD1)</b>										
Mercury	0.00827	0.00020	mg/l	0.00800	ND	103	85-115	1	15	
					<b>Source: POG0724-01</b>					
<b>Batch: P5H0401 Extracted: 08/04/05</b>										
<b>Blank Analyzed: 08/04/2005 (P5H0401-BLK1)</b>										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0040	mg/l							
Cadmium	ND	0.0050	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.020	mg/l							
Iron	ND	0.20	mg/l							
Magnesium	ND	0.50	mg/l							
Manganese	ND	0.020	mg/l							
Nickel	ND	0.050	mg/l							
Zinc	ND	0.050	mg/l							

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SE ROA 51699

JA\_16830



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 W. Nye Lane, Suite 201  
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 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0401 Extracted: 08/04/05</b>										
<b>Blank Analyzed: 08/05/2005 (P5H0401-BLK2)</b>										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0040	mg/l							
Cadmium	ND	0.0050	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.020	mg/l							
Iron	ND	0.20	mg/l							
Magnesium	ND	0.50	mg/l							
Manganese	ND	0.020	mg/l							
Nickel	ND	0.050	mg/l							
Zinc	ND	0.050	mg/l							
<b>Blank Analyzed: 08/05/2005 (P5H0401-BLK3)</b>										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0040	mg/l							
Cadmium	ND	0.0050	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.020	mg/l							
Iron	ND	0.20	mg/l							
Magnesium	ND	0.50	mg/l							
Manganese	ND	0.020	mg/l							
Nickel	ND	0.050	mg/l							
Zinc	ND	0.050	mg/l							
<b>LCS Analyzed: 08/04/2005 (P5H0401-BS1)</b>										
Barium	0.982	0.010	mg/l	0.999		98	85-115			
Beryllium	1.01	0.0040	mg/l	0.999		101	85-115			
Cadmium	1.01	0.0050	mg/l	0.999		101	85-115			
Chromium	0.970	0.010	mg/l	0.999		97	85-115			
Copper	0.977	0.020	mg/l	0.999		98	85-115			
Iron	9.91	0.20	mg/l	9.99		99	85-115			
Magnesium	10.3	0.50	mg/l	9.99		103	85-115			
Manganese	0.963	0.020	mg/l	0.999		96	85-115			
Nickel	0.945	0.050	mg/l	0.999		95	85-115			
Zinc	1.02	0.050	mg/l	0.999		102	85-115			

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 SE ROA 51700

Water Co.-Nevada W. Nye Lane, Suite 201 Carson City, NV 89703 Attention: Dave Merrill	Project ID: Coyote Springs  Report Number: POG0716	Sampled: 07/28/05 Received: 07/29/05
------------------------------------------------------------------------------------------------	----------------------------------------------------------	-----------------------------------------

## METHOD BLANK/QC DATA

### TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0401 Extracted: 08/04/05</b>										
<b>LCS Dup Analyzed: 08/04/2005 (P5H0401-BSD1)</b>										
Barium	0.963	0.010	mg/l	0.999		96	85-115	2	20	
Beryllium	1.00	0.0040	mg/l	0.999		100	85-115	1	20	
Cadmium	0.981	0.0050	mg/l	0.999		98	85-115	3	20	
Chromium	0.957	0.010	mg/l	0.999		96	85-115	1	20	
Copper	0.958	0.020	mg/l	0.999		96	85-115	2	20	
Iron	9.81	0.20	mg/l	9.99		98	85-115	1	20	
Magnesium	10.0	0.50	mg/l	9.99		100	85-115	3	20	
Manganese	0.950	0.020	mg/l	0.999		95	85-115	1	20	
Nickel	0.945	0.050	mg/l	0.999		95	85-115	0	20	
Zinc	1.02	0.050	mg/l	0.999		102	85-115	0	20	

<b>Matrix Spike Analyzed: 08/04/2005 (P5H0401-MS1)</b>					<b>Source: POG0778-03</b>					
Barium	1.19	0.010	mg/l	0.999	0.20	99	70-130			
Beryllium	1.10	0.0040	mg/l	0.999	0.00067	110	70-130			
Cadmium	1.02	0.0050	mg/l	0.999	ND	102	70-130			
Chromium	1.00	0.010	mg/l	0.999	ND	100	70-130			
Copper	1.11	0.020	mg/l	0.999	0.052	106	70-130			
Iron	10.5	0.20	mg/l	9.99	0.20	103	70-130			
Magnesium	65.4	0.50	mg/l	9.99	55	104	70-130			
Manganese	1.02	0.020	mg/l	0.999	0.020	100	70-130			
Nickel	0.958	0.050	mg/l	0.999	ND	96	70-130			
Zinc	1.19	0.050	mg/l	0.999	0.091	110	70-130			

<b>Matrix Spike Dup Analyzed: 08/04/2005 (P5H0401-MSD1)</b>					<b>Source: POG0778-03</b>					
Barium	1.20	0.010	mg/l	0.999	0.20	100	70-130	1	20	
Beryllium	1.10	0.0040	mg/l	0.999	0.00067	110	70-130	0	20	
Cadmium	1.04	0.0050	mg/l	0.999	ND	104	70-130	2	20	
Chromium	1.02	0.010	mg/l	0.999	ND	102	70-130	2	20	
Copper	1.11	0.020	mg/l	0.999	0.052	106	70-130	0	20	
Iron	10.5	0.20	mg/l	9.99	0.20	103	70-130	0	20	
Magnesium	65.6	0.50	mg/l	9.99	55	106	70-130	0	20	
Manganese	1.02	0.020	mg/l	0.999	0.020	100	70-130	0	20	
Nickel	0.974	0.050	mg/l	0.999	ND	97	70-130	2	20	
Zinc	1.22	0.050	mg/l	0.999	0.091	113	70-130	2	20	

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SE ROA 51701

JA\_16832





Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0402 Extracted: 08/04/05</b>										
<b>Blank Analyzed: 08/05/2005-08/08/2005 (P5H0402-BLK1)</b>										
Antimony	ND	0.0040	mg/l							
Arsenic	ND	0.0030	mg/l							
Thallium	ND	0.0020	mg/l							
<b>Blank Analyzed: 08/05/2005 (P5H0402-BLK2)</b>										
Arsenic	ND	0.0030	mg/l							
<b>LCS Analyzed: 08/05/2005-08/08/2005 (P5H0402-BS1)</b>										
Antimony	0.0221	0.0040	mg/l	0.0200		110	85-115			
Arsenic	0.0221	0.0030	mg/l	0.0200		110	85-115			
Thallium	0.0102	0.0020	mg/l	0.0100		102	85-115			
<b>LCS Dup Analyzed: 08/05/2005-08/08/2005 (P5H0402-BSD1)</b>										
Antimony	0.0213	0.0040	mg/l	0.0200		106	85-115	4	15	
Arsenic	0.0219	0.0030	mg/l	0.0200		110	85-115	1	15	
Thallium	0.0103	0.0020	mg/l	0.0100		103	85-115	1	20	
<b>Matrix Spike Analyzed: 08/05/2005-08/08/2005 (P5H0402-MS1) Source: POG0747-02</b>										
Antimony	0.0208	0.0040	mg/l	0.0200	ND	104	70-130			
Arsenic	0.0230	0.0030	mg/l	0.0200	0.0030	100	70-130			
Thallium	0.00960	0.0020	mg/l	0.0100	ND	96	70-130			
<b>Matrix Spike Dup Analyzed: 08/05/2005-08/08/2005 (P5H0402-MSD1) Source: POG0747-02</b>										
Antimony	0.0209	0.0040	mg/l	0.0200	ND	104	70-130	1	15	
Arsenic	0.0240	0.0030	mg/l	0.0200	0.0030	105	70-130	4	15	
Thallium	0.00973	0.0020	mg/l	0.0100	ND	97	70-130	1	20	

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SE ROA 51702

JA\_16833



# Del Mar Analytical

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er Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: P5I0102 Extracted: 09/01/05</b>										
<b>Blank Analyzed: 09/08/2005 (P5I0102-BLK1)</b>										
Potassium	ND	1.0	mg/l							
Sodium	ND	5.0	mg/l							
<b>LCS Analyzed: 09/08/2005 (P5I0102-BS1)</b>										
Potassium	10.5	1.0	mg/l	10.0		105	85-115			
Sodium	10.8	5.0	mg/l	10.0		108	85-115			
<b>LCS Dup Analyzed: 09/08/2005 (P5I0102-BSD1)</b>										
Potassium	10.6	1.0	mg/l	10.0		106	85-115	1	15	
Sodium	10.8	5.0	mg/l	10.0		108	85-115	0	15	
<b>Matrix Spike Analyzed: 09/08/2005 (P5I0102-MS1) Source: POH0877-01</b>										
Potassium	16.4	2.0	mg/l	10.0	7.6	88	85-115			
Sodium	250	100	mg/l	10.0	230	200	85-115			M-HA
<b>Matrix Spike Dup Analyzed: 09/08/2005 (P5I0102-MSD1) Source: POH0877-01</b>										
Potassium	17.4	2.0	mg/l	10.0	7.6	98	85-115	6	15	
Sodium	238	100	mg/l	10.0	230	80	85-115	5	15	M-HA
<b>Batch: P5I0104 Extracted: 09/01/05</b>										
<b>Blank Analyzed: 09/01/2005 (P5I0104-BLK1)</b>										
Aluminum	ND	0.50	mg/l							
Calcium	ND	2.0	mg/l							
Silica	ND	2.5	mg/l							
<b>LCS Analyzed: 09/01/2005 (P5I0104-BS1)</b>										
Aluminum	1.07	0.50	mg/l	0.999		107	85-115			
Calcium	10.7	2.0	mg/l	9.99		107	85-115			
Silica	20.7	2.5	mg/l	21.4		97	85-115			

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SE ROA 51703

JA\_16834

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 W. Nye Lane, Suite 201  
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 Attention: Dave Merrill

Project ID: Coyote Springs


Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

**METHOD BLANK/QC DATA**
**TOTAL RECOVERABLE METALS**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5I0104 Extracted: 09/01/05</b>										
<b>LCS Dup Analyzed: 09/01/2005 (P5I0104-BSD1)</b>										
Aluminum	1.05	0.50	mg/l	0.999		105	85-115	2		20
Calcium	10.6	2.0	mg/l	9.99		106	85-115	1		20
Silica	20.5	2.5	mg/l	21.4		96	85-115	1		20
<b>Matrix Spike Analyzed: 09/01/2005 (P5I0104-MS1) Source: POH0877-04</b>										
Aluminum	1.09	0.50	mg/l	0.999	ND	109	70-130			
Calcium	87.8	2.0	mg/l	9.99	77	108	70-130			
Silica	29.3	2.5	mg/l	21.4	8.4	98	70-130			
<b>Matrix Spike Dup Analyzed: 09/01/2005 (P5I0104-MSD1) Source: POH0877-04</b>										
Aluminum	1.10	0.50	mg/l	0.999	ND	110	70-130	1		20
Calcium	86.9	2.0	mg/l	9.99	77	99	70-130	1		20
Silica	29.5	2.5	mg/l	21.4	8.4	99	70-130	1		20
<b>Batch: P5I0111 Extracted: 09/02/05</b>										
<b>Blank Analyzed: 09/06/2005 (P5I0111-BLK1)</b>										
Selenium	ND	0.0040	mg/l							
<b>LCS Analyzed: 09/06/2005 (P5I0111-BS1)</b>										
Selenium	0.0188	0.0040	mg/l	0.0200		94	85-115			
<b>LCS Dup Analyzed: 09/06/2005 (P5I0111-BSD1)</b>										
Selenium	0.0189	0.0040	mg/l	0.0200		94	85-115	1		15
<b>Matrix Spike Analyzed: 09/06/2005 (P5I0111-MS1) Source: POH0877-03</b>										
Selenium	0.0243	0.0040	mg/l	0.0200	0.0082	80	70-130			


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 SE ROA 51704

JA\_16835





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W. Nye Lane, Suite 201  
Carson City, NV 89703  
Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5I0111 Extracted: 09/02/05</b>										
<b>Matrix Spike Dup Analyzed: 09/06/2005 (P5I0111-MSD1)</b>					<b>Source: POH0877-03</b>					
Selenium	0.0246	0.0040	mg/l	0.0200	0.0082	82	70-130	1	15	

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SE ROA 51705

JA\_16836

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 W. Nye Lane, Suite 201  
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 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5G2901 Extracted: 07/29/05</b>										
<b>Blank Analyzed: 07/29/2005 (P5G2901-BLK1)</b>										
Nitrite-N	ND	0.10	mg/l							
Nitrate-N	ND	0.10	mg/l							
Nitrate/Nitrite-N	ND	0.20	mg/l							
<b>LCS Analyzed: 07/29/2005 (P5G2901-BS1)</b>										
Nitrate-N	2.51	0.10	mg/l	2.50		100	90-110			
Nitrite-N	2.57	0.10	mg/l	2.50		103	90-110			
<b>LCS Dup Analyzed: 07/29/2005 (P5G2901-BSD1)</b>										
Nitrate-N	2.47	0.10	mg/l	2.50		99	90-110	2	15	
Nitrite-N	2.55	0.10	mg/l	2.50		102	90-110	1	15	
<b>Matrix Spike Analyzed: 07/29/2005 (P5G2901-MS1) Source: POG0770-01RE1</b>										
Nitrite-N	26.8	1.0	mg/l	25.0	ND	107	80-120			
Nitrate-N	25.9	1.0	mg/l	25.0	ND	104	80-120			
<b>Matrix Spike Dup Analyzed: 07/29/2005 (P5G2901-MSD1) Source: POG0770-01RE1</b>										
Nitrate-N	26.1	1.0	mg/l	25.0	ND	104	80-120	1	15	
Nitrite-N	27.1	1.0	mg/l	25.0	ND	108	80-120	1	15	
<b>Batch: P5H0210 Extracted: 08/02/05</b>										
<b>Blank Analyzed: 08/02/2005 (P5H0210-BLK1)</b>										
Total Dissolved Solids	ND	20	mg/l							
<b>LCS Analyzed: 08/02/2005 (P5H0210-BS1)</b>										
Total Dissolved Solids	384	20	mg/l	400		96	80-115			

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 SE ROA 51706

JA\_16837



City Water Co.-Nevada 1700 W. Nye Lane, Suite 201 Carson City, NV 89703 Attention: Dave Merrill	Project ID: Coyote Springs  Report Number: POG0716	Sampled: 07/28/05 Received: 07/29/05
----------------------------------------------------------------------------------------------------------	----------------------------------------------------------	-----------------------------------------

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0210 Extracted: 08/02/05</b>										
<b>LCS Dup Analyzed: 08/02/2005 (P5H0210-BSD1)</b>										
Total Dissolved Solids	390	20	mg/l	400		98	80-115	2	10	
<b>Duplicate Analyzed: 08/02/2005 (P5H0210-DUP1)</b>										
Total Dissolved Solids	346	20	mg/l		330			5	10	Source: POG0716-01
<b>Duplicate Analyzed: 08/02/2005 (P5H0210-DUP2)</b>										
Total Dissolved Solids	208	20	mg/l		200			4	10	Source: POG0768-01
<b>Batch: P5H0509 Extracted: 08/05/05</b>										
<b>Blank Analyzed: 08/05/2005 (P5H0509-BLK1)</b>										
Fluoride	ND	0.50	mg/l							
Fluoride	ND	0.10	mg/l							
Sulfate	ND	0.50	mg/l							
<b>LCS Analyzed: 08/05/2005 (P5H0509-BS1)</b>										
Sulfate	4.98	0.50	mg/l	5.00		100	90-110			
Fluoride	2.32	0.10	mg/l	2.50		93	90-110			
Chloride	4.80	0.50	mg/l	5.00		96	90-110			
<b>LCS Dup Analyzed: 08/05/2005 (P5H0509-BSD1)</b>										
Sulfate	4.96	0.50	mg/l	5.00		99	90-110	0	15	
Fluoride	2.33	0.10	mg/l	2.50		93	90-110	0	20	
Chloride	4.79	0.50	mg/l	5.00		96	90-110	0	15	
<b>Matrix Spike Analyzed: 08/05/2005 (P5H0509-MS1)</b>										
Fluoride	26.1	1.0	mg/l	25.0	1.7	98	80-120			
Sulfate	193	5.0	mg/l	50.0	160	66	80-120			M2
Chloride	64.1	5.0	mg/l	50.0	12	104	80-120			

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SE ROA 51707

JA\_16838

per Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

 Project ID: Coyote Springs  
 Report Number: POG0716

 Sampled: 07/28/05  
 Received: 07/29/05

**METHOD BLANK/QC DATA**
**INORGANICS**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P5H0509 Extracted: 08/05/05</b>										
<b>Matrix Spike Dup Analyzed: 08/05/2005 (P5H0509-MSD1)</b>					<b>Source: POH0174-03RE1</b>					
Sulfate	189	5.0	mg/l	50.0	160	58	80-120	2	15	M2
Fluoride	26.3	1.0	mg/l	25.0	1.7	98	80-120	1	20	
Chloride	64.2	5.0	mg/l	50.0	12	104	80-120	0	15	
<b>Batch: P5H3105 Extracted: 08/31/05</b>										
<b>Duplicate Analyzed: 08/31/2005 (P5H3105-DUP1)</b>					<b>Source: POH0722-01</b>					
Alkalinity as CaCO3	90.0	5.0	mg/l		90			0	20	
<b>Reference Analyzed: 08/31/2005 (P5H3105-SRM1)</b>										
Alkalinity as CaCO3	84.0	5.0	mg/l	89.0		94	90-105.7			

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 SE ROA 51708

JA\_16839



er Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

 Project ID: Coyote Springs  
 Report Number: POG0716

 Sampled: 07/28/05  
 Received: 07/29/05

**METHOD BLANK/QC DATA**
**INORGANICS**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: 5G29090 Extracted: 07/29/05</b>										
<b>Blank Analyzed: 08/02/2005 (5G29090-BLK1)</b>										
Total Cyanide	ND	0.020	mg/l							
<b>LCS Analyzed: 08/02/2005 (5G29090-BS1)</b>										
Total Cyanide	0.196	0.020	mg/l	0.200		98	90-110			
<b>Matrix Spike Analyzed: 08/02/2005 (5G29090-MS1)</b>										
Total Cyanide	0.183	0.020	mg/l	0.200	ND	92	70-115			
<b>Matrix Spike Dup Analyzed: 08/02/2005 (5G29090-MSD1)</b>										
Total Cyanide	0.185	0.020	mg/l	0.200	ND	92	70-115	1	15	

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 SE ROA 51709

JA\_16840



er Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### PURGEABLE ORGANIC COMPOUNDS BY GC/MS (EPA 524.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0401 Extracted: 08/04/05</b>										
<b>Blank Analyzed: 08/04/2005 (C5H0401-BLK1)</b>										
Benzene	ND	0.00050	mg/l							
Bromodichloromethane	ND	0.00050	mg/l							
Bromoform	ND	0.00050	mg/l							
Carbon tetrachloride	ND	0.00050	mg/l							
Chlorobenzene	ND	0.00050	mg/l							
Chloroform	ND	0.00050	mg/l							
Dibromochloromethane	ND	0.00050	mg/l							
1,2-Dichlorobenzene	ND	0.00050	mg/l							
1,4-Dichlorobenzene	ND	0.00050	mg/l							
1,1-Dichloroethane	ND	0.00050	mg/l							
1,2-Dichloroethane	ND	0.00050	mg/l							
cis-1,2-Dichloroethane	ND	0.00050	mg/l							
trans-1,2-Dichloroethane	ND	0.00050	mg/l							
1,2-Dichloropropane	ND	0.00050	mg/l							
Ethylbenzene	ND	0.00050	mg/l							
Methylene chloride	ND	0.00050	mg/l							
Styrene	ND	0.00050	mg/l							
Tetrachloroethene	ND	0.00050	mg/l							
Toluene	ND	0.00050	mg/l							
1,2,4-Trichlorobenzene	ND	0.00050	mg/l							
1,1,1-Trichloroethane	ND	0.00050	mg/l							
1,1,2-Trichloroethane	ND	0.00050	mg/l							
Trichloroethene	ND	0.00050	mg/l							
Vinyl chloride	ND	0.00050	mg/l							
m,p-Xylenes	ND	0.00050	mg/l							
o-Xylene	ND	0.00050	mg/l							
Xylenes, Total	ND	0.0015	mg/l							
Trihalomethanes, Total	<0.0005	0.00050	mg/l							
Surrogate: 4-Bromofluorobenzene	0.00452		mg/l	0.00500		90	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	0.00477		mg/l	0.00500		95	70-130			

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SE ROA 51710

JA\_16841



Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs  
 Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### PURGEABLE ORGANIC COMPOUNDS BY GC/MS (EPA 524.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0401 Extracted: 08/04/05</b>										
<b>LCS Analyzed: 08/04/2005 (C5H0401-BS1)</b>										
Benzene	0.00484	0.00050	mg/l	0.00500		97	70-130			
Bromodichloromethane	0.00504	0.00050	mg/l	0.00500		101	70-130			
Bromoform	0.00441	0.00050	mg/l	0.00500		88	70-130			
Carbon tetrachloride	0.00548	0.00050	mg/l	0.00500		110	70-130			
Chlorobenzene	0.00487	0.00050	mg/l	0.00500		97	70-130			
Chloroform	0.00509	0.00050	mg/l	0.00500		102	70-130			
Dibromochloromethane	0.00505	0.00050	mg/l	0.00500		101	70-130			
1,2-Dichlorobenzene	0.00511	0.00050	mg/l	0.00500		102	70-130			
1,4-Dichlorobenzene	0.00511	0.00050	mg/l	0.00500		102	70-130			
1,1,1-Trichloroethane	0.00494	0.00050	mg/l	0.00500		99	70-130			
1,1,2-Trichloroethane	0.00496	0.00050	mg/l	0.00500		99	70-130			
cis-1,2-Dichloroethene	0.00506	0.00050	mg/l	0.00500		101	70-130			
trans-1,2-Dichloroethene	0.00515	0.00050	mg/l	0.00500		103	70-130			
1,2-Dichloropropane	0.00468	0.00050	mg/l	0.00500		94	70-130			
Ethylbenzene	0.00510	0.00050	mg/l	0.00500		102	70-130			
Methylene chloride	0.00451	0.00050	mg/l	0.00500		90	70-130			
Styrene	0.00507	0.00050	mg/l	0.00500		101	70-130			
Tetrachloroethene	0.00514	0.00050	mg/l	0.00500		103	70-130			
Toluene	0.00451	0.00050	mg/l	0.00500		90	70-130			
1,2,4-Trichlorobenzene	0.00515	0.00050	mg/l	0.00500		103	70-130			
1,1,1-Trichloroethane	0.00533	0.00050	mg/l	0.00500		107	70-130			
1,1,2-Trichloroethane	0.00488	0.00050	mg/l	0.00500		98	70-130			
Trichloroethene	0.00501	0.00050	mg/l	0.00500		100	70-130			
Vinyl chloride	0.00447	0.00050	mg/l	0.00500		89	70-130			
m,p-Xylenes	0.0105	0.00050	mg/l	0.0100		105	70-130			
o-Xylene	0.00508	0.00050	mg/l	0.00500		102	70-130			
Xylenes, Total	0.0156	0.0015	mg/l	0.0150		104	70-130			
Trihalomethanes, Total	0.0196	0.00050	mg/l	0.0200		98	70-130			
Surrogate: 4-Bromofluorobenzene	0.00524		mg/l	0.00500		105	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	0.00541		mg/l	0.00500		108	70-130			

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SE ROA 51711

JA\_16842

Silver Water Co.-Nevada  
 100 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

 Project ID: Coyote Springs  
 Report Number: POG0716

 Sampled: 07/28/05  
 Received: 07/29/05

**METHOD BLANK/QC DATA**
**PURGEABLE ORGANIC COMPOUNDS BY GC/MS (EPA 524.2)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: CSH0401 Extracted: 08/04/05</b>										
<b>Matrix Spike Analyzed: 08/04/2005 (CSH0401-MS1)</b>					<b>Source: COG0906-01</b>					
Benzene	0.00485	0.00050	mg/l	0.00500	ND	97	60-125			
Bromodichloromethane	0.00511	0.00050	mg/l	0.00500	ND	102	70-145			
Bromoform	0.00419	0.00050	mg/l	0.00500	ND	84	55-145			
Carbon tetrachloride	0.00517	0.00050	mg/l	0.00500	ND	103	70-150			
Chlorobenzene	0.00486	0.00050	mg/l	0.00500	ND	97	65-130			
Chloroform	0.00515	0.00050	mg/l	0.00500	0.00012	101	55-140			
Dibromochloromethane	0.00491	0.00050	mg/l	0.00500	0.00011	96	65-145			
1,2-Dichlorobenzene	0.00497	0.00050	mg/l	0.00500	ND	99	65-135			
1,4-Dichlorobenzene	0.00493	0.00050	mg/l	0.00500	ND	99	65-135			
1,1-Dichloroethane	0.00483	0.00050	mg/l	0.00500	ND	97	65-135			
1,2-Dichloroethane	0.00499	0.00050	mg/l	0.00500	ND	100	60-135			
cis-1,2-Dichloroethane	0.00504	0.00050	mg/l	0.00500	ND	101	60-125			
trans-1,2-Dichloroethane	0.00506	0.00050	mg/l	0.00500	ND	101	60-125			
1,2-Dichloropropane	0.00458	0.00050	mg/l	0.00500	ND	92	65-120			
Ethylbenzene	0.00517	0.00050	mg/l	0.00500	ND	103	60-135			
Methylene chloride	0.00448	0.00050	mg/l	0.00500	ND	90	65-135			
Styrene	0.00508	0.00050	mg/l	0.00500	ND	102	10-150			
Tetrachloroethene	0.00503	0.00050	mg/l	0.00500	ND	101	65-130			
Toluene	0.00454	0.00050	mg/l	0.00500	ND	91	60-120			
1,2,4-Trichlorobenzene	0.00470	0.00050	mg/l	0.00500	ND	94	65-140			
1,1,1-Trichloroethane	0.00527	0.00050	mg/l	0.00500	ND	105	65-145			
1,1,2-Trichloroethane	0.00476	0.00050	mg/l	0.00500	ND	95	60-125			
Trichloroethene	0.00507	0.00050	mg/l	0.00500	ND	101	65-130			
Vinyl chloride	0.00438	0.00050	mg/l	0.00500	ND	88	60-120			
m,p-Xylenes	0.0105	0.00050	mg/l	0.0100	ND	105	60-135			
o-Xylene	0.00515	0.00050	mg/l	0.00500	ND	103	60-135			
Xylenes, Total	0.0156	0.0015	mg/l	0.0150	ND	104	60-135			
Trihalomethanes, Total	0.0194	0.00050	mg/l	0.0200	0.00023	96	55-150			
Surrogate: 4-Bromofluorobenzene	0.00519		mg/l	0.00500		104	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	0.00509		mg/l	0.00500		102	70-130			

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 Project Manager

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 SE ROA 51712

JA\_16843





Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### PURGEABLE ORGANIC COMPOUNDS BY GC/MS (EPA 524.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0401 Extracted: 08/04/05</b>										
<b>Matrix Spike Dup Analyzed: 08/04/2005 (C5H0401-MSD1)</b>					<b>Source: COG0906-01</b>					
Benzene	0.00526	0.00050	mg/l	0.00500	ND	105	60-125	8	15	
Bromodichloromethane	0.00549	0.00050	mg/l	0.00500	ND	110	70-145	7	15	
Bromoform	0.00443	0.00050	mg/l	0.00500	ND	89	55-145	6	20	
Carbon tetrachloride	0.00573	0.00050	mg/l	0.00500	ND	115	70-150	10	20	
Chlorobenzene	0.00528	0.00050	mg/l	0.00500	ND	106	65-130	8	15	
Chloroform	0.00551	0.00050	mg/l	0.00500	0.00012	108	55-140	7	15	
Dibromochloromethane	0.00532	0.00050	mg/l	0.00500	0.00011	104	65-145	8	15	
1,2-Dichlorobenzene	0.00525	0.00050	mg/l	0.00500	ND	105	65-135	5	15	
1,4-Dichlorobenzene	0.00536	0.00050	mg/l	0.00500	ND	107	65-135	8	20	
1,1-Dichloroethane	0.00515	0.00050	mg/l	0.00500	ND	103	65-135	6	15	
1,1-Dichloroethene	0.00558	0.00050	mg/l	0.00500	ND	112	60-135	11	15	
cis-1,2-Dichloroethene	0.00538	0.00050	mg/l	0.00500	ND	108	60-125	7	15	
trans-1,2-Dichloroethene	0.00557	0.00050	mg/l	0.00500	ND	111	60-125	10	15	
1,2-Dichloropropane	0.00505	0.00050	mg/l	0.00500	ND	101	65-120	10	15	
Ethylbenzene	0.00559	0.00050	mg/l	0.00500	ND	112	60-135	8	15	
Methylene chloride	0.00478	0.00050	mg/l	0.00500	ND	96	65-135	6	15	
Styrene	0.00555	0.00050	mg/l	0.00500	ND	111	10-150	9	20	
Tetrachloroethene	0.00542	0.00050	mg/l	0.00500	ND	108	65-130	7	15	
Toluene	0.00484	0.00050	mg/l	0.00500	ND	97	60-120	6	15	
1,2,4-Trichlorobenzene	0.00524	0.00050	mg/l	0.00500	ND	105	65-140	11	20	
1,1,1-Trichloroethane	0.00568	0.00050	mg/l	0.00500	ND	114	65-145	7	15	
1,1,2-Trichloroethane	0.00519	0.00050	mg/l	0.00500	ND	104	60-125	9	15	
Trichloroethene	0.00547	0.00050	mg/l	0.00500	ND	109	65-130	8	15	
Vinyl chloride	0.00502	0.00050	mg/l	0.00500	ND	100	60-120	14	35	
m,p-Xylenes	0.0114	0.00050	mg/l	0.0100	ND	114	60-135	8	15	
o-Xylene	0.00550	0.00050	mg/l	0.00500	ND	110	60-135	7	15	
Xylenes, Total	0.0168	0.0015	mg/l	0.0150	ND	112	60-135	7	15	
Trihalomethanes, Total	0.0208	0.00050	mg/l	0.0200	0.00023	103	55-150	7	15	
Surrogate: 4-Bromofluorobenzene	0.00515		mg/l	0.00500		103	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	0.00520		mg/l	0.00500		104	70-130			

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SE ROA 51713

JA\_16844

Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

**METHOD BLANK/QC DATA**
**EDB AND DBCP-IN WATER BY GC/ECD (EPA 504.1)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0322 Extracted: 08/03/05</b>										
<b>Blank Analyzed: 08/03/2005 (C5H0322-BLK1)</b>										
1,2-Dibromoethane (EDB)	ND	0.000010	mg/l							
1,2-Dibromo-3-chloropropane	ND	0.000020	mg/l							
Surrogate: 4-Bromofluorobenzene	0.00673		mg/l	0.00500		135	65-170			
<b>LCS Analyzed: 08/03/2005 (C5H0322-BS1)</b>										
1,2-Dibromoethane (EDB)	0.000237	0.000010	mg/l	0.000250		95	70-130			
1,2-Dibromo-3-chloropropane	0.000228	0.000020	mg/l	0.000250		91	70-130			
Surrogate: 4-Bromofluorobenzene	0.00667		mg/l	0.00500		133	65-170			
<b>LCS Dup Analyzed: 08/04/2005 (C5H0322-BSD1)</b>										
1,2-Dibromoethane (EDB)	0.000102	0.000010	mg/l	0.000100		102	70-130	7	30	
1,2-Dibromo-3-chloropropane	0.0000943	0.000020	mg/l	0.000100		94	70-130	3	30	
Surrogate: 4-Bromofluorobenzene	0.00664		mg/l	0.00500		133	65-170			
<b>Matrix Spike Analyzed: 08/03/2005 (C5H0322-MS1)</b>										
<b>Source: COH0102-01</b>										
1,2-Dibromoethane (EDB)	0.000216	0.000010	mg/l	0.000250	ND	86	60-130			
Surrogate: 4-Bromofluorobenzene	0.00679		mg/l	0.00500		136	65-170			

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SE ROA 51714

JA\_16845



er Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs  
 Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0203 Extracted: 08/02/05</b>										
<b>Blank Analyzed: 08/03/2005 (C5H0203-BLK1)</b>										
Alachlor	ND	0.00020	mg/l							
Atrazine	ND	0.00010	mg/l							
Benzo(a)pyrene	ND	0.000020	mg/l							
Di(2-ethylhexyl)adipate	ND	0.00060	mg/l							
Di(2-ethylhexyl)phthalate	ND	0.00060	mg/l							
Hexachlorobenzene	ND	0.00010	mg/l							
Hexachlorocyclopentadiene	ND	0.00010	mg/l							
Simazine	ND	0.000070	mg/l							
Surrogate: 1,3-Dimethyl-2-nitrobenzene	0.00522		mg/l	0.00500		104	70-130			
Surrogate: Triphenylphosphate	0.00492		mg/l	0.00500		98	70-130			
Surrogate: Perylene-d12	0.00373		mg/l	0.00500		75	70-130			
<b>LCS Analyzed: 08/03/2005 (C5H0203-BS1)</b>										
Alachlor	0.00530	0.00020	mg/l	0.00500		106	70-130			
Atrazine	0.00508	0.00010	mg/l	0.00500		102	70-130			
Benzo(a)pyrene	0.00439	0.000020	mg/l	0.00500		88	70-130			
Di(2-ethylhexyl)adipate	0.0104	0.00060	mg/l	0.0100		104	70-130			
Di(2-ethylhexyl)phthalate	0.0111	0.00060	mg/l	0.0100		111	70-130			
Hexachlorobenzene	0.00543	0.00010	mg/l	0.00500		109	70-130			
Hexachlorocyclopentadiene	0.00804	0.00010	mg/l	0.0100		80	70-130			
Simazine	0.00486	0.000070	mg/l	0.00500		97	70-130			
Surrogate: 1,3-Dimethyl-2-nitrobenzene	0.00459		mg/l	0.00500		92	70-130			
Surrogate: Triphenylphosphate	0.00506		mg/l	0.00500		101	70-130			
Surrogate: Perylene-d12	0.00409		mg/l	0.00500		82	70-130			
<b>LCS Dup Analyzed: 08/03/2005 (C5H0203-BSD1)</b>										
Alachlor	0.00539	0.00020	mg/l	0.00500		108	70-130	2	30	
Atrazine	0.00524	0.00010	mg/l	0.00500		105	70-130	3	30	
Benzo(a)pyrene	0.00450	0.000020	mg/l	0.00500		90	70-130	2	30	
Di(2-ethylhexyl)adipate	0.0105	0.00060	mg/l	0.0100		105	70-130	1	30	
Di(2-ethylhexyl)phthalate	0.0116	0.00060	mg/l	0.0100		116	70-130	4	30	
Hexachlorobenzene	0.00547	0.00010	mg/l	0.00500		109	70-130	1	30	
Hexachlorocyclopentadiene	0.00828	0.00010	mg/l	0.0100		83	70-130	3	30	
Simazine	0.00501	0.000070	mg/l	0.00500		100	70-130	3	30	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	0.00487		mg/l	0.00500		97	70-130			
Surrogate: Triphenylphosphate	0.00510		mg/l	0.00500		102	70-130			

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SE ROA 51715

JA\_16846



Mer Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0203 Extracted: 08/02/05</b>										
<b>LCS Dup Analyzed: 08/03/2005 (C5H0203-BSD1)</b>										
Surrogate: Perylene-d12	0.00423		mg/l	0.00500		85	70-130			
<b>Matrix Spike Analyzed: 08/03/2005 (C5H0203-MS1)</b>										
<b>Source: COG0952-01</b>										
Alachlor	0.00543	0.00020	mg/l	0.00495	ND	110	70-130			
Atrazine	0.00478	0.00010	mg/l	0.00495	ND	97	70-130			
Benzo(a)pyrene	0.00391	0.000020	mg/l	0.00495	ND	79	70-130			
Di(2-ethylhexyl)adipate	0.0106	0.00060	mg/l	0.00990	ND	107	70-130			
Di(2-ethylhexyl)phthalate	0.0118	0.00060	mg/l	0.00990	ND	119	70-130			
Hexachlorobenzene	0.00585	0.00010	mg/l	0.00495	ND	118	70-130			
Hexachlorocyclopentadiene	0.00885	0.00010	mg/l	0.00990	ND	89	70-130			
Surrogate: 1,3-Dimethyl-2-nitrobenzene	0.00512	0.000070	mg/l	0.00495	ND	104	70-130			
Surrogate: Triphenylphosphate	0.00505		mg/l	0.00495		102	70-130			
Surrogate: Perylene-d12	0.00422		mg/l	0.00495		85	70-130			

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SE ROA 51716

JA\_16847



er Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs  
 Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### CHLORINATED ACIDS (EPA 515.4)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0303 Extracted: 08/03/05</b>										
<b>Blank Analyzed: 08/03/2005 (C5H0303-BLK1)</b>										
2,4-D	ND	0.00010	mg/l							
Dalapon	ND	0.0010	mg/l							
Dinoseb	ND	0.00020	mg/l							
Pentachlorophenol	ND	0.000040	mg/l							
Picloram	ND	0.00010	mg/l							
2,4,5-TP (Silvex)	ND	0.00020	mg/l							
Surrogate: 2,4-Dichlorophenylacetic acid	0.0237		mg/l	0.0200		118	70-130			
<b>LCS Analyzed: 08/03/2005 (C5H0303-BS1)</b>										
2,4-D	0.00146	0.00010	mg/l	0.00200		73	70-130			
Dalapon	0.00195	0.0010	mg/l	0.00200		97	70-130			
Dinoseb	0.00235	0.00020	mg/l	0.00200		118	70-130			
Pentachlorophenol	0.000219	0.000040	mg/l	0.000200		110	70-130			
Picloram	0.00208	0.00010	mg/l	0.00200		104	70-130			
2,4,5-TP (Silvex)	0.000403	0.00020	mg/l	0.000500		81	70-130			
Surrogate: 2,4-Dichlorophenylacetic acid	0.0228		mg/l	0.0200		114	70-130			
<b>LCS Dup Analyzed: 08/04/2005 (C5H0303-BSD1)</b>										
2,4-D	0.00344	0.00010	mg/l	0.00400		86	70-130	16	20	
Dalapon	0.00423	0.0010	mg/l	0.00400		106	70-130	9	20	
Dinoseb	0.00464	0.00020	mg/l	0.00400		116	70-130	2	20	
Pentachlorophenol	0.000449	0.000040	mg/l	0.000400		112	70-130	2	20	
Picloram	0.00392	0.00010	mg/l	0.00400		98	70-130	6	20	
2,4,5-TP (Silvex)	0.000961	0.00020	mg/l	0.00100		96	70-130	17	20	
Surrogate: 2,4-Dichlorophenylacetic acid	0.0222		mg/l	0.0200		111	70-130			
<b>Matrix Spike Analyzed: 08/03/2005 (C5H0303-MS1)</b>										
<b>Source: COG0679-01</b>										
2,4-D	0.000425	0.00010	mg/l	0.00200	ND	21	70-130			M2
Dalapon	0.00290	0.0010	mg/l	0.00200	ND	145	70-130			M1
Dinoseb	0.00224	0.00020	mg/l	0.00200	ND	112	70-130			
Pentachlorophenol	0.000210	0.000040	mg/l	0.000200	ND	105	70-130			
Picloram	0.00212	0.00010	mg/l	0.00200	ND	106	70-130			
2,4,5-TP (Silvex)	0.000454	0.00020	mg/l	0.000500	ND	91	70-130			
Surrogate: 2,4-Dichlorophenylacetic acid	0.0209		mg/l	0.0200		104	70-130			

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 Project Manager

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Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### CHLORINATED ACIDS (EPA 515.4)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: CSH0303 Extracted: 08/03/05</b>										
<b>Matrix Spike Analyzed: 08/03/2005 (CSH0303-MS2)</b>					<b>Source: COG0681-01</b>					
2,4-D	0.00166	0.00010	mg/l	0.00200	ND	83	70-130			
Dalapon	0.00321	0.0010	mg/l	0.00200	ND	160	70-130			MI
Dinoseb	0.00238	0.00020	mg/l	0.00200	ND	119	70-130			
Pentachlorophenol	0.000191	0.000040	mg/l	0.000200	ND	96	70-130			
Picloram	0.00278	0.00010	mg/l	0.00200	ND	139	70-130			MI
2,4,5-TP (Silvex)	0.000633	0.00020	mg/l	0.000500	ND	127	70-130			
Surrogate: 2,4-Dichlorophenylacetic acid	0.00304		mg/l	0.0200		15	70-130			Z

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 SE ROA 51718



Water Co.-Nevada  
 141 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs  
 Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### CARBAMATES/CARBAMOXYLOXIME PESTICIDES BY HPLC (EPA 531.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
<b>Batch: C5H1104 Extracted: 08/11/05</b>										
<b>Blank Analyzed: 08/11/2005 (C5H1104-BLK1)</b>										
Aldicarb Sulfoxide	ND	0.00050	mg/l							
Aldicarb Sulfone	ND	0.00080	mg/l							
Oxamyl	ND	0.0020	mg/l							
Methomyl	ND	0.0010	mg/l							
3-Hydroxycarbofuran	ND	0.0010	mg/l							
Aldicarb	ND	0.00050	mg/l							
Carbofuran	ND	0.00090	mg/l							
Carbaryl	ND	0.0010	mg/l							
<b>LCS Analyzed: 08/11/2005 (C5H1104-BS1)</b>										
Aldicarb Sulfoxide	0.0204	0.00050	mg/l	0.0200		102	80-120			
Aldicarb Sulfone	0.0207	0.00080	mg/l	0.0200		104	80-120			
Oxamyl	0.0209	0.0020	mg/l	0.0200		104	80-120			
Methomyl	0.0212	0.0010	mg/l	0.0200		106	80-120			
3-Hydroxycarbofuran	0.0217	0.0010	mg/l	0.0200		108	80-120			
Aldicarb	0.0224	0.00050	mg/l	0.0200		112	80-120			
Carbofuran	0.0197	0.00090	mg/l	0.0200		98	80-120			
Carbaryl	0.0202	0.0010	mg/l	0.0200		101	80-120			
<b>LCS Dup Analyzed: 08/12/2005 (C5H1104-BSD1)</b>										
Aldicarb Sulfoxide	0.0200	0.00050	mg/l	0.0200		100	80-120	2	20	
Aldicarb Sulfone	0.0204	0.00080	mg/l	0.0200		102	80-120	2	20	
Oxamyl	0.0205	0.0020	mg/l	0.0200		102	80-120	2	20	
Methomyl	0.0204	0.0010	mg/l	0.0200		102	80-120	4	20	
3-Hydroxycarbofuran	0.0214	0.0010	mg/l	0.0200		107	80-120	1	20	
Aldicarb	0.0199	0.00050	mg/l	0.0200		100	80-120	11	20	
Carbofuran	0.0197	0.00090	mg/l	0.0200		98	80-120	0	20	
Carbaryl	0.0199	0.0010	mg/l	0.0200		100	80-120	1	20	

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 Linda Eshelman  
 Project Manager

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 SE ROA 51719



Water Co.-Nevada  
W. Nye Lane, Suite 201  
Carson City, NV 89703  
Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

METHOD BLANK/QC DATA

CARBAMATES/CARBAMOXYLOXIME PESTICIDES BY HPLC (EPA 531.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H1104 Extracted: 08/11/05</b>										
<b>Matrix Spike Analyzed: 08/11/2005 (C5H1104-MS1)</b>					<b>Source: COG0899-01</b>					
Aldicarb Sulfoxide	0.0200	0.00050	mg/l	0.0200	ND	100	65-135			
Aldicarb Sulfone	0.0197	0.00080	mg/l	0.0200	ND	98	65-135			
Oxamyl	0.0197	0.0020	mg/l	0.0200	ND	98	65-135			
Methomyl	0.0199	0.0010	mg/l	0.0200	ND	100	65-135			
3-Hydroxycarbofuran	0.0206	0.0010	mg/l	0.0200	ND	103	65-135			
Aldicarb	0.0204	0.00050	mg/l	0.0200	ND	102	65-135			
Carbofuran	0.0191	0.00090	mg/l	0.0200	ND	96	65-135			
Carbaryl	0.0196	0.0010	mg/l	0.0200	ND	98	65-135			

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SE ROA 51720

JA\_16851





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 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### ENDOTHALL (EPA 548.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
<b>Batch: C5G2909 Extracted: 07/29/05</b>										
<b>Blank Analyzed: 07/30/2005 (C5G2909-BLK1)</b>										
Endothall	ND	0.0090	mg/l							
<b>LCS Analyzed: 07/30/2005 (C5G2909-BS1)</b>										
Endothall	0.0369	0.0090	mg/l	0.0500		74	40-130			
<b>LCS Dup Analyzed: 07/30/2005 (C5G2909-BSD1)</b>										
Endothall	0.0265	0.0090	mg/l	0.0500		53	40-130	33	30	R-11
<b>Matrix Spike Analyzed: 07/30/2005 (C5G2909-MS1)</b>										
Endothall	0.0107	0.0090	mg/l	0.0500	ND	21	40-130			M2

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SE ROA 51721

JA\_16852

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 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## METHOD BLANK/QC DATA

### GLYPHOSATE (EPA 547)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: C5G2905 Extracted: 07/29/05</b>										
<b>Blank Analyzed: 07/29/2005 (C5G2905-BLK1)</b>										
Glyphosate	ND	0.0060	mg/l							
<b>LCS Analyzed: 07/29/2005 (C5G2905-BS1)</b>										
Glyphosate	0.0203	0.0060	mg/l	0.0250		81	80-125			
<b>LCS Dup Analyzed: 07/29/2005 (C5G2905-BSD1)</b>										
Glyphosate	0.0210	0.0060	mg/l	0.0250		84	80-125	4	25	
<b>Matrix Spike Analyzed: 07/29/2005 (C5G2905-MS1)</b>										
Glyphosate	0.0232	0.0060	mg/l	0.0250	ND	93	80-125			

Source: POG0716-01

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 Project Manager

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SE ROA 51722

JA\_16853

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 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05  
 Received: 07/29/05

## METHOD BLANK/QC DATA

### DIQUAT (EPA 549.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: C5H0304 Extracted: 08/03/05</b>										
<b>Blank Analyzed: 08/03/2005 (C5H0304-BLK1)</b>										
Diquat	ND	0.00040	mg/l							
<b>LCS Analyzed: 08/03/2005 (C5H0304-BS1)</b>										
Diquat	0.0342	0.00040	mg/l	0.0400		86	70-120			
<b>LCS Dup Analyzed: 08/03/2005 (C5H0304-BSD1)</b>										
Diquat	0.0364	0.00040	mg/l	0.0400		91	70-120	6	20	
<b>Matrix Spike Analyzed: 08/03/2005 (C5H0304-MS1)</b>										
					<b>Source: COG0899-01</b>					
Diquat	0.0333	0.00040	mg/l	0.0400	ND	83	70-120			

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 Project Manager

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SE ROA 51723

JA\_16854

Water Co.-Nevada  
W. Nyc Lane, Suite 201  
Carson City, NV 89703  
Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05


Received: 07/29/05

**DATA QUALIFIERS AND DEFINITIONS**

- H-1** Sample analysis performed past the method-specified holding time per client's approval.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M-HA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R-11** RPD exceeded the laboratory control limit. See case narrative.
- Z** Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

**ADDITIONAL COMMENTS****For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :**

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

  
**Del Mar Analytical - Phoenix**  
Linda Eshelman  
Project Manager

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SE ROA 51724

JA\_16855





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er Water Co.-Nevada  
 W. Nye Lane, Suite 201  
 Carson City, NV 89703  
 Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

## Certification Summary

### Del Mar Analytical - Phoenix

Method	Matrix	Nelac	Nevada
1613A/1613B	Water		
425.1	Water		
EPA 200.7	Water		X
EPA 200.9	Water		X
EPA 245.1	Water		X
EPA 258.1	Water		X
EPA 273.1	Water		X
EPA 300.0	Water		X
EPA 504.1	Water		
EPA 508	Water		
EPA 515.4	Water		
EPA 524.2	Water		
EPA 525.2	Water		
EPA 531.1	Water		
EPA 547	Water		
EPA 548.1	Water		
EPA 549.1	Water		
EPA 8015B	Water	X	X
EPA 900.0	Water		
EPA 903.1	Water		
EPA 904.0	Water		
SM2120B	Water		
SM2150B	Water		X
SM2320B	Water		X
SM2540C	Water		X
SM4500-CN,C-E	Water		
SM9223B	Water		
TEM	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at [www.dmalabs.com](http://www.dmalabs.com).

### Subcontracted Laboratories

#### Columbia Analytical Services - Kelso Arizona Cert #AZ0339

1317 So. 13th Ave. - Kelso, WA 98626

Analysis Performed: 508.1

Samples: POG0716-01

#### Del Mar Analytical California Cert #1169, Arizona Cert #AZ0062, Nevada Cert #CA0242

1014 E. Cooley Dr., Ste. A - Colton, CA 92324

Method Performed: EPA 504.1

### Del Mar Analytical - Phoenix

Linda Eshelman

Project Manager

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SE ROA 51725

JA\_16856

Mer Water Co.-Nevada  
W. Nye Lane, Suite 201  
Carson City, NV 89703  
Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

**Del Mar Analytical** California Cert #1169, Arizona Cert #AZ0062, Nevada Cert #CA0242

1014 E. Cooley Dr., Ste. A - Colton, CA 92324

Samples: POG0716-01

Method Performed: EPA 515.4

Samples: POG0716-01

Method Performed: EPA 524.2

Samples: POG0716-01

Method Performed: EPA 525.2

Samples: POG0716-01

Method Performed: EPA 531.1

Samples: POG0716-01

Method Performed: EPA 547

Samples: POG0716-01

Method Performed: EPA 548.1

Samples: POG0716-01

Method Performed: EPA 549.2

Samples: POG0716-01

**Del Mar Analytical** NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63

17461 Derian Ave. Suite 100 - Irvine, CA 92614

Method Performed: SM4500-CN-C,E

Samples: POG0716-01

**EX Analytical Services** Nevada Cert #NV-18

2545 Chandler Ave. #8 - Las Vegas, NV 89120

Analysis Performed: Color

Samples: POG0716-01

Analysis Performed: Odor

Samples: POG0716-01

Analysis Performed: Surfactants-I

Samples: POG0716-01

Analysis Performed: T. Col-P/A(Coilert)

Samples: POG0716-01

**Fiberquant Analytical** Arizona Cert #AZ0633

5025 S.33rd Street - Phoenix, AZ 85040

Analysis Performed: Asbestos By TEM

Samples: POG0716-01

**Pace Analytical** Arizona Cert #AZ0014

1700 Elm Street, Suite 200 - Minneapolis, MN 55414

Analysis Performed: Dioxin only (1613B)O

Samples: POG0716-01

**Radiation Safety Engineering, Inc.** Arizona Cert #AZ0462

3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha

Samples: POG0716-01

Analysis Performed: Gross Beta

Samples: POG0716-01

**Del Mar Analytical - Phoenix**

Linda Eshelman

Project Manager

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SE ROA 51726

JA\_16857



# Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297  
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689  
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851  
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Mer Water Co.-Nevada  
W. Nye Lane, Suite 201  
Carson City, NV 89703  
Attention: Dave Merrill

Project ID: Coyote Springs

Report Number: POG0716

Sampled: 07/28/05

Received: 07/29/05

**Radiation Safety Engineering, Inc.** *Arizona Cert #AZ0462*

3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Radium 226

Samples: POG0716-01

Analysis Performed: Radium 228

Samples: POG0716-01

**Del Mar Analytical - Phoenix**  
Linda Eshelman  
Project Manager

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SE ROA 51727

JA\_16858



LOG0091 - P060710

Del Mar Analytical

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CHAIN OF CUSTODY FORM

17461 Darian Ave., #100, Irvine, CA 92614 (949) 260-3299 FAX (949) 260-3299  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4887 FAX (909) 370-1046  
 9830 South 51st St., Suite B-12D, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851  
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 796-3620 FAX (702) 798-3628

Page 1 of 3

Client Name/Address: VIDLER WATER CO. 704 W. NYE LANE CARSON CITY NV 89703			Project/PO Number: COYOTE SPRINGS				Analysis Required												
Project Manager: DAVE MERRILL, PE 775 885 5000 x102			Phone Number: 775 885 5000 x102				504.1	METALS - SEE LINDA	Asbestos	531.1	Cl F NO2 NO3 TDS	508	Color odor	Cyanide	1613.B Dioxin	(field pH 7.3)			
Sampler: JAY PIPER / CHER HILL			Fax Number: 775 885 5005																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	504.1	METALS - SEE LINDA	Asbestos	531.1	Cl F NO2 NO3 TDS	508	Color odor	Cyanide	1613.B Dioxin	Special Instructions			
COYOTE DRILL WATER	GW	VOA	3	7-28-05	1115	Na bisulf	X									COLOR, 2FEEL			
↓	↓	Poly	1	↓	↓	HNO3		X								odor - south			
		Poly	1				X										WEST ANALYTICAL		
		VOA (60)	3					X											
		Poly	1					X											504, 531.
		Amber	2						Sulfur Sodium					X					SEE, → DMAC
		Poly (50)	1												X				Cyanide - DMAC
		Amber	2						Na OH							X			Dioxin - face
																mimesal			
																	508 - Columbia Kelso		
Relinquished By: Jay Piper			Date/Time: 7/28/05/1515			Received By: Linda			Date/Time: 7/28/05 15:15			Turnaround Time: (Check)							
Relinquished By:			Date/Time:			Received By:			Date/Time: 7/29/05			same day _____ 72 hours _____							
Relinquished By:			Date/Time:			Received in Lab By: Linda			Date/Time: 7/29/05 0800			24 hours _____ 5 days _____							
Relinquished By:			Date/Time:			Received in Lab By:			Date/Time:			48 hours _____ normal _____							
Relinquished By:			Date/Time:			Received in Lab By:			Date/Time:			Sample Integrity: (Check)							
Relinquished By:			Date/Time:			Received in Lab By:			Date/Time:			Intact _____ on Ice 7.40							

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CA 01N

4.4

SE ROA 51728





# Del Mar Analytical

A TEST AMERICA COMPANY

LOG10091 - PO 50716

## CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-3299 FAX (949) 260-3299  
1014 E. Conley Dr., Suite A, Colton, CA 92324 (909) 370-1048 FAX (909) 370-1048  
9830 South 51st St., Suite B-12D, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851  
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 796-3620 FAX (702) 798-3628

Page 2 of 3

Client Name/Address: DAVID MERRILL PE VIDLER WATER CO 704 W NYE LN CARSON CITY NV			Project/PO Number: CORONA SPRINGS				Analysis Required									
Project Manager: JIM PIPER / CUMM			Phone Number: 775 885 8500				547.1	548.1	515.4	547	Redischam	524.2	525.2	5 subjects	T-Stat Coliform	
Sampler: JIM PIPER / CUMM			Fax Number: 775 885 5005													
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives									Special Instructions	
CORONA DRINK WATER	GW	brown Poly	1	7-28-05	1115	H2SO4	X								POG 07.6-01	
		Amber (250)	1	7-28-05	1115	BSulfite		X							MBA'S	
		Amber	2			NR Sulfite			X						+ coliform	
		VOA 60	3			N.S. Sulfite			X						to section	
		poly	1							X					best	
		VOA	3			Asc + HCl					X				enrichment	
		Amber	1			Sod Sulfite						X			Effect	
		other	1			Sod B.Sulfite							X		(small specimen jar)	
		Poly	1										X		✓ 519, 548, 515.4, 547, 524.2, 525	
															TO DMAC	
Relinquished By: <i>Jim Piper</i>			Date/Time: 7-28-05/1500			Received By: <i>Salmon</i>			Date/Time: 7/28/05 3:15			Turnaround Time: (Check)				
Relinquished By: _____			Date/Time: _____			Received By: _____			Date/Time: _____			same day _____ 72 hours _____				
Relinquished By: _____			Date/Time: _____			Received in Lab By: _____			Date/Time: 7/29/05 - 0800			24 hours _____ 5 days _____				
Relinquished By: _____			Date/Time: _____			Received in Lab By: _____			Date/Time: _____			48 hours _____ normal _____				
Relinquished By: _____			Date/Time: _____			Received in Lab By: _____			Date/Time: _____			Sample Integrity: (Check)				
Relinquished By: _____			Date/Time: _____			Received in Lab By: _____			Date/Time: _____			intact _____ on ice _____				

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

SE ROA 51729

JA\_16860



A TEST AMERICA COMPANY

CHAIN OF CUSTODY FORM

LOG0091 - PO# 0716

17461 Denan Ave., #100, Irvine, CA 92614 (949) 260-3299 FAX (949) 260-3299  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-1046 FAX (909) 370-1046  
 9830 South 51st St., Suite B-12D, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851  
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3628

Client Name/Address: VIDLER WATER CO 704 WINTHROP LANE CARSON CITY NV 89703			Project/PO Number: COYOTE SPRINGS				Analysis Required												
Project Manager: DAVID MERRILL, PE			Phone Number: 775 885 5000 x102				8015B GMS	8015B GMS	Trip Blank										
Sampler: JIM PIPER / CARM			Fax Number: 775 885 5005																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	8015B GMS	8015B GMS	Trip Blank	Special Instructions									
COYOTE DRILL (WITH ↓	GW	Amber	2	7-28-05	11:15	—	X			POG0716-01									
	GW	VDA	3	↓	↓	HCl		X		↓									
	GW	VDA	2	↓	↓	—			X	POG0716-02									
Relinquished By: <i>Jim Piper</i>			Date/Time: 7-28-05 1115				Received By: <i>Salman</i>			Date/Time: 7/28/05 3:15				Turnaround Time: (Check)					
Relinquished By: _____			Date/Time: _____				Received By: _____			Date/Time: _____				same day _____ 72 hours _____					
Relinquished By: _____			Date/Time: _____				Received in Lab By: _____			Date/Time: 7/29/05 0800				24 hours _____ 5 days _____					
Relinquished By: _____			Date/Time: _____				Received in Lab By: _____			Date/Time: _____				48 hours _____ normal _____					
Relinquished By: _____			Date/Time: _____				Received in Lab By: _____			Date/Time: _____				Sample Integrity: (Check)					
Relinquished By: _____			Date/Time: _____				Received in Lab By: _____			Date/Time: _____				intact _____ on Ice _____					

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

SE ROA 51730

SE ROA 51731

JA\_16862

**APPENDIX B**  
**LITHOLOGIC LOG FOR KMW-1 AND KPW-1**



### Kane Springs Production Well (KPW-1) Lithologic Log

0 to 10	Gravel; GP; poorly graded gravel and sand; moderate yellowish brown (10YR 5/4) calcareous sand, dusky brown (5YR 2/2) calcareous shale, and light gray (N7) light gray (N7) and moderate reddish brown (10R 4/6) limestone gravel; sphericity is angular to subangular.
10 to 20	Gravel; GP as above.
20 to 30	Gravel; GP as above.
30 to 40	Gravel; GP as above with dark gray (N3) dolostone gravel.
40 to 50	Gravel; GP as above.
50 to 60	Gravel; GP as above.
60 to 70	Gravel; GP as above.
70 to 80	Gravel; GP as above.
80 to 90	Gravel; GP as above with a small amount of dark gray (N3) dolostone gravel. Penetration rate: 11.6 minutes per foot.
90 to 100	Gravel; GP as above. Penetration rate: 4.05 minutes per foot.
100 to 110	Gravel; GP as above with a small amount of grayish red (5R 4/2) clay is soft and sticky; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 4.05 minutes per foot.
110 to 120	Gravel; GP as above. Penetration rate: 4.1 minutes per foot.
120 to 130	Gravel, sand, and clay mixture; GC; dusky brown (5YR 2/2) calcareous shale, moderate reddish brown (10R 4/6) limestone, and dark gray (N3) dolostone with grayish red (5R 4/2) calcareous clay; clay is soft and sticky; clay has high apparent primary porosity and low apparent primary permeability; sphericity of limestone, dolostone, and shale is angular to subangular. Penetration rate: 4.1 minutes per foot.
130 to 140	Gravel, sand, and clay mixture; GC as above with more dolostone gravel. Penetration rate: 3 minutes per foot.

140 to 150	Gravel, sand, and clay mixture; GC as above. Penetration rate: 3 minutes per foot.
150 to 160	Gravel, sand, and clay mixture; GC as above. Penetration rate: 3.66 minutes per foot.
160 to 170	Gravel, sand, and clay mixture; GC as above. Penetration rate: 3.66 minutes per foot.
170 to 180	Gravel, sand, and clay mixture; GC as above. Penetration rate: 2.75 minutes per foot.
180 to 190	Gravel, sand, and clay mixture; GC as above. Penetration rate: 2.75 minutes per foot. <b>NOTE:</b> The bottom hole assembly (BHA) had a drill collar added so that the depth samples are taken at has shifted 5 feet, but sample are still being taken every 10 feet.
190 to 195	Gravel, sand, and clay mixture; GC as above. Penetration rate: 2.75 minutes per foot.
195 to 205	Gravel, sand, and clay mixture; GC as above with less clay. Penetration rate: 5.8 minutes per foot.
205 to 215	Gravel; GP; poorly graded gravel; pale reddish brown (10R 5/4) calcareous sandstone and medium light gray (N6) limestone with a small amount of grayish red (5R 4/2) clay; clay is soft and sticky; clay has high apparent primary porosity and low apparent primary permeability; sphericity of limestone and sandstone is angular to subangular. Penetration rate: 5.8 minutes per foot.
215 to 225	Gravel; GP; poorly graded gravel without clay and with dark gray (N3) dolostone. Penetration rate: 5.5 minutes per foot.
225 to 235	Gravel; GP as above. Penetration rate: 3.7 minutes per foot.
235 to 245	Gravel; GP as above, but predominantly dolostone. Penetration rate: 5.9 minutes per foot.
245 to 255	Gravel; GP as above, but almost entirely dolostone. Penetration rate: 2.7 minutes per foot.
255 to 265	Gravel; GP as above transitioning to dolostone bedrock. Penetration rate: 6.2 minutes per foot.

- 265 to 275 Dolostone; dark gray (N3) dolostone with calcite; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 5.5 minutes per foot.
- 275 to 285 Dolostone as above with fractures and calcite veins; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 9.75 minutes per foot. Driller noted fractures from 283 to 285 feet below land surface (bls). Large fractured quartzite in the cuttings from the shaker, but too big for the chip tray.
- 285 to 295 Dolostone as above with fractures and large calcite fragments. Penetration rate: 5.5 minutes per foot. Driller noted rough drilling from fractures from 291 to 293 feet bls.
- 295 to 305 Dolostone as above. Penetration rate: 6.6 minutes per foot.
- 305 to 315 Dolostone; dark gray (N3), medium gray (N5), and light olive gray (5Y 6/1) dolostone with chert and some calcite; slightly fractured with notable fracture planes; microcrystalline fabric; sphericity is angular to subangular; iron oxidation on fracture planes; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.5 minutes per foot. Driller noted a formation change between 311 and 314 feet bls.
- 315 to 325 Dolostone as above with iron oxidation more prevalent. Penetration rate: 5.2 minutes per foot.
- 325 to 335 Dolostone as above without iron oxidation. Penetration rate: 5.3 minutes per foot.
- 335 to 345 Dolostone as above with chert more prominent. Penetration rate: 5.6 minutes per foot.
- 345 to 355 Dolostone; medium light gray (N6) and medium dark gray (N4) fractured dolostone with chert and calcite; microcrystalline fabric; iron oxidation on some fracture planes; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 4.9 minutes per foot.
- 355 to 365 Dolostone as above. Penetration rate: 4.6 minutes per foot.
- 365 to 375 Dolostone as above. Penetration rate: 4.6 minutes per foot.

- 375 to 385 Dolostone as above. Penetration rate: 4.7 minutes per foot.
- 385 to 395 Dolostone as above with calcite fragments and calcite veinlets. Penetration rate: 4.7 minutes per foot.
- 395 to 405 Dolostone as above with moderate yellowish brown (10YR 5/4) clay; clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 5.2 minutes per foot.
- 405 to 415 Dolostone as above without clay. Penetration rate: 5.6 minutes per foot.
- 415 to 425 Dolostone as above with more iron oxidation. Penetration rate: 5.3 minutes per foot.
- 425 to 435 Dolostone as above with fractured calcite. Penetration rate: 6 minutes per foot.
- 435 to 445 Dolostone; medium light gray (N6) and medium dark gray (N4) fractured dolostone with chert and calcite; calcite veinlets also apparent; microcrystalline fabric; iron oxidation on some fracture planes; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.1 minutes per foot.
- 445 to 455 Dolostone as above. Penetration rate: 4.3 minutes per foot.
- 455 to 465 Dolostone as above with moderate yellowish brown (10YR 5/4) clay; clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 4.3 minutes per foot.
- 465 to 475 Dolostone as above without clay. Penetration rate: 5.6 minutes per foot.
- 475 to 485 Dolostone as above with moderate yellowish brown (10YR 5/4) clay; clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 5.7 minutes per foot.
- 485 to 495 Dolostone as above with less clay. Penetration rate: 4.9 minutes per foot.



- 495 to 505 Dolostone as above with medium light gray (N6) limestone; limestone is microcrystalline with low apparent primary porosity and permeability. Penetration rate: 4.2 minutes per foot.
- 505 to 515 Dolostone and limestone; medium light gray (N6) fractured limestone and medium dark gray (N4) fractured dolostone with chert and calcite; microcrystalline fabric; fracture planes evident; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 4.9 minutes per foot.
- 515 to 525 Dolostone and limestone as above with iron oxidation on some fracture planes. Penetration rate: 6 minutes per foot. Driller noted fractures from 523 feet bls. The size of the cuttings was very large (small cobble sized), and iron oxidation was present on the fractures.
- 525 to 535 Dolostone and limestone as above. Penetration rate: 4 minutes per foot. Fractures noted by the driller above continue to 530 feet bls, with rough drilling from fractures to 530 feet bls and from 534 to 535 feet bls.
- 535 to 545 Dolostone and limestone as above. Penetration rate: 7.3 minutes per foot.
- 545 to 555 Dolostone and limestone as above. Penetration rate: 7.2 minutes per foot.
- 555 to 565 Dolostone and limestone as above with less iron oxidation and more calcite. Penetration rate: 7.5 minutes per foot.
- 565 to 575 Dolostone and limestone as above with calcite veinlets. Penetration rate: 10 minutes per foot.
- 575 to 585 Dolostone and limestone as above. Penetration rate: 8.75 minutes per foot.
- 585 to 595 Dolostone and limestone as above. Penetration rate: 8.75 minutes per foot.

- 595 to 605 Limestone and clay; medium gray (N5) microcrystalline limestone with calcite and moderate yellowish brown (10YR 5/4) calcareous clay; limestone is slightly fractured with angular to subangular sphericity; clay is soft and sticky; limestone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.6 minutes per foot.
- 605 to 615 Dolostone; medium gray (N5) microcrystalline dolostone; slightly fractured; iron oxidation on fracture surfaces; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 7.4 minutes per foot.
- 615 to 625 Dolostone as above with calcite veinlets. Penetration rate: 6.5 minutes per foot.
- 625 to 635 Dolostone and clay; light olive gray (5Y 6/1) microcrystalline dolostone with moderate yellowish brown (10YR 5/4) clay; dolostone has calcite and calcite veinlets; sphericity is angular to subangular; clay is soft and sticky; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 9.8 minutes per foot.
- 635 to 645 Dolostone; medium dark gray (N4) fractured dolostone with calcite; slightly fractured; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 8.5 minutes per foot.
- 645 to 655 Dolostone as above with iron oxidation on fracture surfaces. Penetration rate: 6.7 minutes per foot.
- 655 to 665 Dolostone as above with chert. Penetration rate: 7.9 minutes per foot.
- 665 to 675 Dolostone as above without chert. Penetration rate: 8 minutes per foot.
- 675 to 685 Dolostone as above. Penetration rate: 6.8 minutes per foot.

- 685 to 695 Dolostone; dark gray (N3) dolostone with calcite and calcite veinlets and a small amount of moderate yellowish brown (10YR 5/4) clay; slightly fractured; microcrystalline fabric; dolostone is angular to subangular; clay is soft and sticky; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.2 minutes per foot.
- 695 to 705 Dolostone as above without clay. Penetration rate: 8.5 minutes per foot.
- 705 to 715 Dolostone as above. Penetration rate: 5 minutes per foot.
- 715 to 725 Dolostone as above. Penetration rate: 7.5 minutes per foot.
- 725 to 735 Dolostone as above. Penetration rate: 8 minutes per foot.
- 735 to 745 Clay and dolostone; moderate yellowish brown (10YR 5/4) clay with a small amount of medium gray (N5) microcrystalline dolostone; clay is soft and sticky; dolostone is angular to subangular; clay has high apparent primary porosity and low apparent primary permeability; dolostone has low apparent primary porosity and permeability. Penetration rate: 10 minutes per foot.
- 745 to 755 Dolostone; light olive gray (5Y 6/1) and medium gray (N5) microcrystalline dolostone with calcite; slightly fractured; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7 minutes per foot.
- 755 to 765 Dolostone as above. Penetration rate: 8 minutes per foot.
- 765 to 775 Dolostone as above. Penetration rate: 7.4 minutes per foot.
- 775 to 785 Dolostone as above. Penetration rate: 7.5 minutes per foot.
- 785 to 795 Dolostone; medium gray (N5) and light olive gray (5Y 6/1) microcrystalline dolostone; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 9.5 minutes per foot.

- 795 to 805 Dolostone as above; slightly fractured; calcite on fracture planes; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 9.4 minutes per foot.
- 805 to 815 Dolostone as above without calcite on fracture surfaces. Penetration rate: 9.2 minutes per foot.
- 815 to 825 Dolostone as above without iron oxidation on fracture surfaces. Penetration rate: 10 minutes per foot.
- 825 to 835 Dolostone as above. Penetration rate: 9.5 minutes per foot.
- 835 to 845 Dolostone and clay; medium light gray (N6) microcrystalline dolostone and dark yellowish orange (10YR 6/6) clay (fault gouge?); clay is soft and sticky; dolostone has angular to subangular sphericity with low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 13.4 minutes per foot.
- 845 to 855 Dolostone as above without clay. Penetration rate: 10.6 minutes per foot.
- 855 to 865 Dolostone as above with medium gray (N5) dolostone and a small amount of yellowish gray (5Y 8/1) quartzite. Penetration rate: 7.6 minutes per foot.
- 865 to 875 Quartzite; yellowish gray (5Y 8/1) microcrystalline quartzite with a small amount of calcite; fractured; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 11.1 minutes per foot.
- 875 to 885 Quartzite as above. Penetration rate: 9.5 minutes per foot.
- 885 to 895 Dolostone and limestone; medium gray (N5) microcrystalline dolostone and limestone; fractured; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 9.5 minutes per foot.
- 895 to 905 Dolostone and limestone as above; less limestone than above and with calcite on fracture planes. Penetration rate: 8.8 minutes per foot.



905 to 915	Dolostone and limestone as above without calcite on fracture planes and with iron oxidation on fracture. Penetration rate: 5.2 minutes per foot. Driller noted fractures from 907 to 911 feet bls based on increased penetration rate and the cutting size at the shaker.
915 to 925	Dolostone and limestone as above. Penetration rate: 7.8 minutes per foot.
925 to 935	Dolostone and limestone as above. Penetration rate: 5.7 minutes per foot. Driller noted somewhat fractured conditions in this interval.
935 to 945	Dolostone and limestone as above. Penetration rate: 7.1 minutes per foot.
945 to 955	Clay and dolostone; moderate yellowish brown (10YR 5/4) clay and light olive gray (5Y 6/1) microcrystalline dolostone; clay is soft and sticky and is 50% of the sample; dolostone has angular to subangular sphericity; clay has high apparent primary porosity and low apparent primary permeability; dolostone has low apparent primary porosity and permeability. Penetration rate: 4.9 minutes per foot.
955 to 965	Dolostone and clay; medium light gray (N6) moderate yellowish brown (10YR 5/4) clay; dolostone is slightly fractured with angular to subangular sphericity; clay is soft, sticky, and slightly calcareous; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.2 minutes per foot.
965 to 975	Dolostone and clay as above; clay is ~15% of the sample. Penetration rate: 6.2 minutes per foot.
975 to 985	Dolostone and clay as above; clay is ~50% of the sample. Penetration rate: 7.7 minutes per foot. Driller noted clay in this interval.
985 to 995	Dolostone and clay as above; clay is less than 10% of the sample.. Penetration rate: 5.6 minutes per foot. Driller noted clay in this interval

995 to 1,005	Dolostone and clay; light olive gray (5Y 6/1) microcrystalline dolostone and yellowish gray (5Y 8/1) clay; dolostone is slightly fractured and 80% of the sample; dolostone sphericity is with angular to subangular; clay is soft and slightly sticky; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5.7 minutes per foot. Driller noted thinning mud.
1,005 to 1,015	Dolostone and clay as above. Penetration rate: 5.8 minutes per foot. Driller noted thinning mud.
1,015 to 1,025	Dolostone and clay as above. Penetration rate: 5.5 minutes per foot.
1,025 to 1,035	Dolostone and clay as above. Penetration rate: 8.7 minutes per foot.
1,035 to 1,045	Dolostone and clay as above with 40% of the sample as clay. Penetration rate: 7.1 minutes per foot.
1,045 to 1,055	Dolostone and clay as above. Penetration rate: 8.5 minutes per foot.
1,055 to 1,065	Dolostone and clay as above. Penetration rate: 10.5 minutes per foot.
1,065 to 1,075	Dolostone as above with iron oxidation on fracture planes and less than 20% clay; Penetration rate: 10 minutes per foot.
1,075 to 1,085	Dolostone and clay as above. Penetration rate: 10 minutes per foot.
1,085 to 1,095	Dolostone, limestone, and clay; dark gray (N3) dolostone, light olive gray (5Y 6/1) limestone, and very light gray (N8) clay; dolostone and limestone are microcrystalline with calcite and are angular to subangular in sphericity; clay is calcareous, soft, and slightly sticky; dolostone and limestone have low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 8.8 minutes per foot.
1,095 to 1,105	Dolostone, limestone, and clay as above. Penetration rate: 8 minutes per foot.

1,105 to 1,115	Dolostone, limestone, and clay as above. Penetration rate: 8.5 minutes per foot.
1,115 to 1,125	Dolostone, limestone, and clay as above with 40% of the sample clay. Penetration rate: 9.2 minutes per foot.
1,125 to 1,135	Dolostone, limestone, and clay as above with less than 15% of the sample clay. Penetration rate: 9.2 minutes per foot.
1,135 to 1,145	Dolostone, limestone, and clay as above with fractures in the dolostone and limestone; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.5 minutes per foot.
1,145 to 1,155	Dolostone, limestone, and clay as above. Penetration rate: 7.5 minutes per foot.
1,155 to 1,165	Dolostone, limestone, and clay as above with 30% of the sample clay. Penetration rate: 6.8 minutes per foot.
1,165 to 1,175	Dolostone, limestone, and clay as above with 15% of the sample clay. Penetration rate: 8.2 minutes per foot.
1,175 to 1,185	Dolostone, limestone, and clay as above with less than 10% of the sample clay. Penetration rate: 9.7 minutes per foot.
1,185 to 1,195	Dolostone, limestone, and clay as above. Penetration rate: 9.1 minutes per foot.
1,195 to 1,205	Dolostone, limestone, and clay as above. Penetration rate: 9.5 minutes per foot.
1,205 to 1,215	Dolostone, limestone, and clay as above with 20% of the sample clay. Penetration rate: 9.5 minutes per foot.
1,215 to 1,225	Dolostone, limestone, and clay as above with 10% of the sample clay. Penetration rate: 7.25 minutes per foot.
1,225 to 1,235	Dolostone, limestone, and clay as above. Penetration rate: 7.25 minutes per foot.
1,235 to 1,245	Dolostone, limestone, and clay as above with 40% of the sample clay. Penetration rate: 8 minutes per foot.
1,245 to 1,255	Dolostone, limestone, and clay as above. Penetration rate: 8 minutes per foot.

1,255 to 1,265	Dolostone, limestone, and clay as above with 15% of the sample clay. Penetration rate: 7.2 minutes per foot.
1,265 to 1,275	Dolostone, limestone, and clay as above. Penetration rate: 6 minutes per foot.
1,275 to 1,285	Dolostone, limestone, and clay as above. Penetration rate: 7.5 minutes per foot.
1,285 to 1,295	Dolostone, limestone, and clay as above. Penetration rate: 9.5 minutes per foot.
1,295 to 1,305	Dolostone and limestone as above with very little clay. Penetration rate: 8.5 minutes per foot.
1,305 to 1,315	Dolostone and limestone as above without clay and with prominent iron staining. Penetration rate: 8.5 minutes per foot.
1,315 to 1,325	Dolostone and limestone as above without clay and iron staining; some vugs noted. Penetration rate: 9.75 minutes per foot.
1,325 to 1,335	Dolostone, limestone, and clay as above with 10% of the sample clay. Penetration rate: 9.75 minutes per foot.
1,335 to 1,345	Dolostone, limestone, and clay as above. Penetration rate: 9.75 minutes per foot.
1,345 to 1,355	Dolostone, limestone, and clay as above. Penetration rate: 8.75 minutes per foot.
1,355 to 1,365	Dolostone, limestone, and clay as above. Penetration rate: 8.75 minutes per foot.
1,365 to 1,375	Dolostone, limestone, and clay as above. Penetration rate: 8.5 minutes per foot.
1,375 to 1,385	Dolostone, limestone, and clay as above. Penetration rate: 8.5 minutes per foot.



1,385 to 1,395	Dolostone; dark gray (N3) to grayish black (N2) fractured dolostone with a small amount of very light gray (N8) clay; calcite filled fractures; microcrystalline fabric; dolostone is angular to subangular in sphericity; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.5 minutes per foot.
1,395 to 1,405	Dolostone with clay as above. Penetration rate: 6.5 minutes per foot.
1,405 to 1,415	Dolostone with clay as above. Penetration rate: 7.5 minutes per foot.
1,415 to 1,425	Clay with dolostone; grayish orange (10YR 7/4) clay mixed with dolostone fragments; possible fault mélange (gouge); clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 7.5 minutes per foot.
1,425 to 1,435	Quartzite; grayish orange pink (5YR 7/2) quartzite with iron staining and grayish inclusions; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 13.75 minutes per foot.
1,435 to 1,445	Quartzite as above. Penetration rate: 13.75 minutes per foot.
1,445 to 1,455	Dolostone and limestone medium gray (N5) fractured dolostone and limestone; microcrystalline fabric; iron staining on fractures; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 11 minutes per foot.
1,455 to 1,465	Dolostone and limestone as above. Penetration rate: 11 minutes per foot.
1,465 to 1,475	Dolostone and limestone as above. Penetration rate: 11 minutes per foot.
1,475 to 1,485	Dolostone and limestone as above. Penetration rate: 9.75 minutes per foot.
1,485 to 1,495	Dolostone and limestone as above with more iron staining. Penetration rate: 9.75 minutes per foot.

- 1,495 to 1,505 Dolostone and limestone as above without iron oxidation but with small vugs. Penetration rate: 7.5 minutes per foot.
- 1,505 to 1,515 Dolostone and clay; dark gray (N3) and black (N1) fractured dolostone mixed with dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,415 feet bls?); dolostone is hard; clay is soft and sticky; dolostone is angular to subangular in sphericity with low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 8.5 minutes per foot.
- 1,515 to 1,525 Dolostone mixed with clay as above; dark gray (N3) dolostone contains vuggy calcite inclusions; clay content decreasing as compared to above; secondary porosity is moderate from vugs. Penetration rate: 8.5 minutes per foot.
- 1,525 to 1,535 Dolostone and clay as above with very little clay. Penetration rate: 9 minutes per foot.
- 1,535 to 1,545 Dolostone; medium gray (N5) fractured dolostone trending towards dolomitic limestone; vuggy and recrystallized with iron oxidation; microcrystalline fabric; sphericity is angular; low apparent primary porosity and permeability; moderate apparent secondary (fracture and dissolution) porosity and permeability. Penetration rate: 8 minutes per foot.
- 1,545 to 1,555 Dolostone; dark gray (N3) fractured dolostone and dolomitic limestone; secondary calcite inclusions; microcrystalline fabric; sphericity is angular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 8 minutes per foot.
- 1,555 to 1,565 Dolomitic limestone; medium gray (N5) fractured dolomitic limestone with calcite and iron oxidation; microcrystalline fabric; sphericity is angular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 8.5 minutes per foot.
- 1,565 to 1,575 Dolomitic limestone as above. Penetration rate: 8.75 minutes per foot.

1,575 to 1,585	Dolostone; medium gray (N5) fractured dolostone with iron oxidation; microcrystalline fabric; sphericity is angular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7 minutes per foot.
1,585 to 1,595	Dolostone as above with calcite filled fractures. Penetration rate: 7 minutes per foot.
1,595 to 1,605	Dolostone as above with iron oxidation, vugs, and more calcite filled fractures. Penetration rate: 6.75 minutes per foot.
1,605 to 1,615	Dolostone as above. Penetration rate: 6.75 minutes per foot.
1,615 to 1,625	Dolostone as above. Penetration rate: 5.25 minutes per foot.
1,625 to 1,635	Dolostone; dark gray (N3) fractured dolostone with chert and a small amount of dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,415 feet bls?); small scale vugs; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5.25 minutes per foot.
1,635 to 1,645	Dolostone as above without clay. Penetration rate: 6 minutes per foot.
1,645 to 1,655	Dolostone as above with more iron oxidation. Penetration rate: 6 minutes per foot.
1,655 to 1,665	Dolostone as above with large calcite fragments and without vugs. Penetration rate: 7 minutes per foot.
1,665 to 1,675	Dolostone; dark gray (N3) slightly fractured dolostone with a small amount of dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,415 feet bls?); fracture planes contain iron oxidation; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7 minutes per foot.
1,675 to 1,685	Dolostone as above with more clay; clay is approximately 35% of the sample. Penetration rate: 8.25 minutes per foot.
1,685 to 1,695	Dolostone as above with less clay; clay is approximately 35% of the sample. Penetration rate: 8.25 minutes per foot.

1,695 to 1,705	Dolostone; medium gray (N5) and moderate yellowish brown (10YR 5/4) fractured dolostone with calcite filled fractures and iron oxidation; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.75 minutes per foot.
1,705 to 1,715	Dolostone as above with chert. Penetration rate: 6.75 minutes per foot.
1,715 to 1,725	Dolostone as above with more iron oxidation and without chert. Penetration rate: 13 minutes per foot.
1,725 to 1,735	Dolostone as above with more fractures. Penetration rate: 13 minutes per foot.
1,735 to 1,745	Dolostone as above with vugs and less fractured. Penetration rate: 12.25 minutes per foot.
1,745 to 1,755	Dolostone as above with more calcite on fracture planes. Penetration rate: 12.25 minutes per foot.
1,755 to 1,765	Dolostone as above with chert; calcite not as prevalent on fracture planes. Penetration rate: 7.5 minutes per foot.
1,765 to 1,775	Dolostone; moderate yellowish brown (10YR 5/4) fractured dolostone with a minor amount of medium gray (N5) fractured dolostone; calcite on fracture planes and iron oxidation; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.5 minutes per foot.
1,775 to 1,785	Dolostone as above. Penetration rate: 7.75 minutes per foot.
1,785 to 1,795	Dolostone; dark gray (N3) and moderate yellowish brown (10YR 5/4) fractured dolostone with calcite veins and veinlets; iron oxidation; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.75 minutes per foot.
1,795 to 1,805	Dolostone as above. Penetration rate: 7.75 minutes per foot.
1,805 to 1,815	Dolostone as above. Penetration rate: 7.75 minutes per foot.



1,815 to 1,825	Dolostone as above with calcite veins up to 2 millimeter (mm) thick. Penetration rate: 6 minutes per foot.
1,825 to 1,835	Dolostone as above. Penetration rate: 6 minutes per foot.
1,835 to 1,845	Dolostone as above. Penetration rate: 7.25 minutes per foot.
1,845 to 1,855	Dolostone as above. Penetration rate: 7.25 minutes per foot.
1,855 to 1,865	Dolostone as above with calcite on fracture planes. Penetration rate: 7.5 minutes per foot.
1,865 to 1,875	Dolostone; medium gray (N5) fractured dolostone with calcite and iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.5 minutes per foot.
1,875 to 1,885	Dolostone as above with calcite on fracture planes. Penetration rate: 7 minutes per foot.
1,885 to 1,895	Dolostone as above with more calcite. Penetration rate: 7 minutes per foot.
1,895 to 1,905	Dolostone as above. Penetration rate: 6.25 minutes per foot.
1,905 to 1,915	Dolostone as above with chert. Penetration rate: 6.25 minutes per foot.
1,915 to 1,925	Dolostone as above with calcite veins. Penetration rate: 9 minutes per foot.
1,925 to 1,935	Dolostone as above with more fractures and iron staining; vugs also noted. Penetration rate: 9 minutes per foot.
1,935 to 1,945	Dolostone as above. Penetration rate: 6.25 minutes per foot.
1,945 to 1,955	Dolostone as above. Penetration rate: 6.25 minutes per foot.
1,955 to 1,965	Dolostone; dark gray (N3) fractured dolostone with calcite; iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 8 minutes per foot.

- 1,965 to 1,975 Dolostone as above with calcite fragments. Penetration rate: 8 minutes per foot.
- 1,975 to 1,985 Dolostone as above without calcite fragments, but with calcite veinlets and vugs. Penetration rate: 7 minutes per foot.
- 1,985 to 1,995 Dolostone as above with more iron oxidation. Penetration rate: 7 minutes per foot.
- 1,995 to 2,005 Dolostone; medium dark gray (N4) fractured dolostone with iron oxidation, calcite, and chert; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 6.3 minutes per foot.
- 2,005 to 2,015 Dolostone as above. Penetration rate: 9.75 minutes per foot.

**KPW-1 borehole total depth (TD) of 2,015 feet bls**

SE ROA 51751

JA\_16882

### Kane Springs Monitor Well (KMW-1) Lithologic Log

0 to 10	Gravel; GP; poorly graded gravel (colluvium and alluvium); grade is comprised of dark reddish brown (10R 3/4) and medium gray (N5) limestone.
10 to 20	Gravel; GP; poorly graded gravel; light gray (N7) and brownish yellow (10 YR 6/8) limestone with grayish red (5R 4/2) dolostone; grade is comprised of coarse to fine gravel with approximately 10% of the sample coarse gravel; sphericity is subangular to rounded but predominantly subrounded.
20 to 30	No recovery.
30 to 40	Gravel; GP; poorly graded gravel; light gray (N7) and brownish yellow (10 YR 6/8) limestone with grayish red (5R 4/2) dolostone; grade is comprised of coarse to fine gravel with approximately 10% of the sample coarse gravel; sphericity is subangular to rounded but predominantly subrounded.
40 to 50	Gravel; GP as above.
50 to 60	Gravel; GP as above. Penetration rate: 0.8 minutes per foot.
60 to 70	Gravel; GP as above with only 5% of the sample coarse gravel. Penetration rate: 1.2 minutes per foot.
70 to 80	Gravel; GP as above. Penetration rate: 1.1 minutes per foot.
80 to 90	Gravel; GP as above. Penetration rate: 0.8 minutes per foot.
90 to 100	Gravel; GP as above. Penetration rate: 0.8 minutes per foot.
100 to 110	Gravel; GP as above with the grade comprised of coarse sand to fine gravel. Penetration rate: 0.8 minutes per foot.
110 to 120	Gravel; GP as above with the grade comprised of coarse sand.
120 to 130	Gravel; GP as above with quartzite. Penetration rate: 1.25 minutes per foot.
130 to 140	Gravel; GP as above without quartzite. Penetration rate: 1.25 minutes per foot.
140 to 150	Gravel; GP as above. Penetration rate: 1.43 minutes per foot.



150 to 160	Gravel; GP as above. Penetration rate: 1.43 minutes per foot.
160 to 170	Gravel; GP as above. Penetration rate: 1.25 minutes per foot.
170 to 180	Gravel; GP as above. Penetration rate: 1.25 minutes per foot.
180 to 190	Gravel; GP as above. Penetration rate: 1.6 minutes per foot.
190 to 200	Gravel; GP as above with more light gray (N7) limestone. Penetration rate: 1.6 minutes per foot.
200 to 210	Gravel; GP as above (colluvium) with dark gray (N7) limestone and limey clay (weathered limestone?). Penetration rate: 0.75 minutes per foot.
210 to 220	Gravel; GP as above with medium dark gray (N4) limestone. Penetration rate: 0.75 minutes per foot. Driller noted gray bedrock at 213 feet below land surface (bls).
220 to 230	Gravel; GP as above.
230 to 240	Dolostone; dark gray (N3) fractured dolostone with calcite and pyrite; iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 3.75 minutes per foot.
240 to 250	Dolostone as above with iron oxidation in calcite filled fractures. Penetration rate: 4.75 minutes per foot.
250 to 260	Dolostone as above without calcite filled fractures. Penetration rate: 4.75 minutes per foot. Driller reported a fracture from 251 to 253 feet bls.
260 to 270	Dolostone; medium dark gray (N4) to dark gray (N3) fractured dolostone with calcite and pyrite; iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5.75 minutes per foot. Driller reported a fluid loss of 2 vertical feet from the mud tank in this interval.
270 to 280	Dolostone as above with calcite more abundant and calcite filled fractures. Penetration rate: 5.25 minutes per foot.

280 to 290	Dolostone as above with vugs and solution features (karstic). Penetration rate: 6 minutes per foot.
290 to 300	Dolostone; moderate yellowish brown (10YR 5/4), medium gray (N5), and dark gray (N3) dolostone with chert and small amounts of calcite; iron oxidation noted; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 3.35 minutes per foot.
300 to 310	Dolostone as above. Penetration rate: 3.35 minutes per foot.
310 to 320	Dolostone as above with iron oxidation more prevalent. Penetration rate: 3.35 minutes per foot.
320 to 330	Dolostone; moderate yellowish brown (10YR 5/4) and medium gray (N5) fractured dolostone with chert and calcite; microcrystalline fabric; sphericity is angular to subangular; abundant iron oxidation on fracture planes; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.1 minutes per foot. Driller noted light brown rock in this interval.
330 to 340	Dolostone; medium gray (N5) fractured dolostone with chert and calcite; microcrystalline fabric; sphericity is angular to subangular; abundant iron oxidation on fracture planes; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.1 minutes per foot.
340 to 350	Dolostone as above with less iron oxidation. Penetration rate: 7.1 minutes per foot.
350 to 360	Dolostone as above with calcite fragments. Penetration rate: 2.2 minutes per foot.
360 to 370	Dolostone as above with more iron oxidation and no calcite fragments. Penetration rate: 2.65 minutes per foot.
370 to 380	Dolostone as above. Penetration rate: 2.65 minutes per foot.
380 to 390	Dolostone as above with light olive gray (5Y 6/1) dolostone. Penetration rate: 2.65 minutes per foot.
390 to 400	Dolostone as above. Penetration rate: 2.25 minutes per foot.
400 to 410	Dolostone as above with small calcite fragments. Penetration rate: 2.3 minutes per foot.

410 to 420	Dolostone as above. Penetration rate: 2.3 minutes per foot.
420 to 430	Dolostone as above. Penetration rate: 2.7 minutes per foot. Driller noted a small fracture at 423 feet bls.
430 to 440	Dolostone as above. Penetration rate: 2.7 minutes per foot.
440 to 450	Dolostone; medium dark gray (N4) fractured dolostone with chert and small amounts of dark yellowish orange (10YR 6/6) clay (fault gouge?); dolostone has a microcrystalline fabric and has iron oxidation; clay is soft and sticky; sphericity is angular to subangular; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 2 minutes per foot.
450 to 460	Dolostone and clay as above. Penetration rate: 2 minutes per foot.
460 to 470	Dolostone; medium dark gray (N4) fractured dolostone with chert and calcite; calcite in veinlets and on fracture planes; iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 2.05 minutes per foot.
470 to 480	Dolostone as above with small amounts of dark yellowish orange (10YR 6/6) clay (fault gouge?); calcite fragments up to 5 millimeters (mm) in diameter; clay is soft and sticky; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 2.05 minutes per foot.
480 to 490	Dolostone as above without clay or calcite fragments. Penetration rate: 2.05 minutes per foot.
490 to 500	Dolostone; medium gray (N5) fractured dolostone with chert and calcite; iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 2.05 minutes per foot.
500 to 510	Dolostone as above without calcite fragments and limestone. Penetration rate: 2.6 minutes per foot.
510 to 520	Dolostone and limestone as above. Penetration rate: 2.6 minutes per foot.

- 520 to 530 Dolostone and limestone as above with more iron oxidation. Penetration rate: 2.5 minutes per foot.
- 530 to 540 Dolostone; medium gray (N5) fractured dolostone with chert; iron oxidation on fracture planes; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 2.5 minutes per foot.
- 540 to 550 Dolostone with small calcite fragments; Penetration rate: 4 minutes per foot.
- 550 to 560 Dolostone as above with calcite veinlets up to 1 mm in diameter but without calcite fragments. Penetration rate: 4 minutes per foot.
- 560 to 570 Dolostone as above with calcite on fracture planes. Penetration rate: 3.25 minutes per foot.
- 570 to 580 Dolostone as above with prominent chert. Penetration rate: 3.25 minutes per foot.
- 580 to 590 Dolostone as above with a small amount of dark yellowish orange (10YR 6/6) clay (fault gouge?); sample is without calcite on fractures or in veinlets; no prominent chert; clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 3.25 minutes per foot.
- 590 to 600 Dolostone as above. Penetration rate: 3.25 minutes per foot.
- 600 to 610 Dolostone as above with calcite and without clay; calcite fragments up to 1 centimeter (cm) in diameter. Penetration rate: 2.75 minutes per foot.
- 610 to 620 Dolostone as above without large calcite fragments. Penetration rate: 2.75 minutes per foot.
- 620 to 630 Dolostone as above with calcite on fracture planes and vugs. Penetration rate: 2.75 minutes per foot.
- 630 to 640 Dolostone as above without vugs. Penetration rate: 2.5 minutes per foot.
- 640 to 650 Dolostone as above with dark yellowish orange (10YR 6/6) clay (fault gouge?); clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 2.75 minutes per foot.



650 to 660	Dolostone as above with light olive gray (5Y 6/1) dolostone. Penetration rate: 2.75 minutes per foot.
660 to 670	Dolostone as above with large calcite fragments up to 1 cm in diameter. Penetration rate: 3.5 minutes per foot.
670 to 680	Dolostone as above with calcite veinlets and calcite on fracture planes, but without large calcite fragments. Penetration rate: 3.5 minutes per foot.
680 to 690	Dolostone as above. Penetration rate: 3.2 minutes per foot.
690 to 700	Dolostone; medium gray (N5) and light olive gray (5Y 6/1) fractured dolostone with iron oxidation, calcite, and a small amount of chert; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 3.2 minutes per foot.
700 to 710	Dolostone as above with less light olive gray (5Y 6/1) dolostone. Penetration rate: 3.05 minutes per foot. Driller noted slightly fractured conditions.
710 to 720	Dolostone as above with calcite fragments. Penetration rate: 3.15 minutes per foot. Driller noted slightly fractured conditions.
720 to 730	Dolostone as above with more iron oxidation and without calcite fragments. Penetration rate: 3.15 minutes per foot.
730 to 740	Dolostone as above with chert. Penetration rate: 3.6 minutes per foot.
740 to 750	Dolostone as above. Penetration rate: 3.6 minutes per foot.
750 to 760	Dolostone as above with a small amount of light gray (N7) quartzite. Penetration rate: 4.2 minutes per foot.
760 to 770	Quartzite with dolostone; light gray (N7) fractured quartzite with a small amount of dark gray (N3) to dark gray (N4) fractured dolostone; dolostone contains calcite and chert; sphericity is angular to subangular; both lithologies have a microcrystalline fabric with low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 4.25 minutes per foot. Driller noted quartzite at 768 feet bls.

- 770 to 780 Dolostone with quartzite; medium gray (N5) and dark gray (N4) fractured dolostone with a small amount of light gray (N7) fractured quartzite; dolostone contains calcite and chert; sphericity is angular to subangular; both lithologies have a microcrystalline fabric with low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 4.25 minutes per foot.
- 780 to 790 Dolostone as above without quartzite. Penetration rate: 4.25 minutes per foot.
- 790 to 800 Dolostone as above with iron oxidation. Penetration rate: 4.3 minutes per foot.
- 800 to 810 Dolostone as above with a small amount of limestone. Penetration rate: 4.3 minutes per foot.
- 810 to 820 Dolostone; medium light gray (N6), dark gray (N3), and black (N1) fractured dolostone with calcite; calcite on fracture planes and in fragments; fabric is microcrystalline; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 4.5 minutes per foot.
- 820 to 830 Dolostone as above with a small amount of light olive gray (5Y 6/1) dolostone. Penetration rate: 4.5 minutes per foot.
- 830 to 840 Dolostone; medium light gray (N6) and light olive gray (5Y 6/1) fractured dolostone with calcite and iron oxidation; fabric is microcrystalline; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5 minutes per foot.
- 840 to 850 Dolostone as above. Penetration rate: 6.4 minutes per foot.
- 850 to 860 Dolostone as above with more calcite. Penetration rate: 5.2 minutes per foot.
- 860 to 870 Dolostone; dark gray (N3) fractured dolostone with calcite and chert; fabric is microcrystalline; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5.1 minutes per foot.

870 to 880	Dolostone as above with calcite veinlets. Penetration rate: 5.5 minutes per foot.
880 to 890	Dolostone as above without calcite veinlets. Penetration rate: 3.7 minutes per foot.
890 to 900	Dolostone as above. Penetration rate: 4.3 minutes per foot.
900 to 910	Dolostone as above with light olive gray (5Y 6/1) dolostone. Penetration rate: 4.5 minutes per foot.
910 to 920	Dolostone as above without light olive gray (5Y 6/1) dolostone. Penetration rate: 4.5 minutes per foot.
920 to 930	Dolostone as above. Penetration rate: 4.5 minutes per foot.
930 to 940	Limestone and dolostone; medium light gray (N6) and light olive gray (5Y 6/1) limestone and dolostone with calcite and a small amount of very light gray (N8) clay; some calcite in veinlets; limestone and dolostone have microcrystalline fabric with angular to subangular sphericity; clay is soft and sticky; dolostone and limestone have low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 3.9 minutes per foot.
940 to 950	Limestone and dolostone as above. Penetration rate: 3.9 minutes per foot.
950 to 960	Limestone and dolostone; medium light gray (N6) and light olive gray (5Y 6/1) limestone and dolostone with calcite and chert; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 7.1 minutes per foot.
960 to 970	Limestone and dolostone as above. Penetration rate: 5.7 minutes per foot.
970 to 980	Dolostone; medium light gray (N6) and light olive gray (5Y 6/1) fractured dolostone with calcite; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.5 minutes per foot.
980 to 990	Dolostone as above. Penetration rate: 5.5 minutes per foot.

990 to 1,000	Dolostone as above with vugs. Penetration rate: 5.9 minutes per foot.
1,000 to 1,010	Dolostone as above without vugs. Penetration rate: 5.9 minutes per foot. Significant fluid loss (approximately half the mud tank) at approximately 1,003 feet bls. Driller noted fractures at approximately 1,003 feet bls.
1,010 to 1,020	Dolostone as above. Penetration rate: 7.6 minutes per foot.
1,020 to 1,030	Dolostone as above. Penetration rate: 7.6 minutes per foot.
1,030 to 1,040	Dolostone; medium gray (N5) and dark gray (N3) fractured dolostone with calcite and chert; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 10 minutes per foot.
1,040 to 1,050	Dolostone as above with calcite veinlets; Penetration rate: 7.6 minutes per foot.
1,050 to 1,060	Dolostone as above without calcite veinlets; Penetration rate: 8.9 minutes per foot.
1,060 to 1,070	Dolostone as above with calcite veinlets; Penetration rate: 6 minutes per foot.
1,070 to 1,080	Dolostone as above with a small amount of very light gray (N8) clay; clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 5 minutes per foot.
1,080 to 1,090	Dolostone as above with vugs and without clay. Penetration rate: 4.6 minutes per foot.
1,090 to 1,100	Dolostone as above. Penetration rate: 4.8 minutes per foot.
1,100 to 1,110	Dolostone as above with calcite fragments (1 to 2 mm in diameter). Penetration rate: 6.4 minutes per foot. Driller noted a fracture at approximately 1,102 to 1,103 feet bls.
1,110 to 1,120	Dolostone as above. Penetration rate: 5.8 minutes per foot. Driller noted rough drilling (fractured) from approximately 1,113 to 1,116 feet bls.



- 1,120 to 1,130 Dolostone as above with a very small amount of very light gray (N8) clay; clay is soft and sticky; with high apparent primary porosity and low apparent primary permeability. Penetration rate: 6.2 minutes per foot.
- 1,130 to 1,140 Dolostone as above with a small amount of iron oxidation. Penetration rate: 11 minutes per foot.
- 1,140 to 1,150 Dolostone as above. Penetration rate: 11 minutes per foot.
- 1,150 to 1,160 Dolostone as above. Penetration rate: 7.9 minutes per foot.
- 1,160 to 1,170 Dolostone as above. Penetration rate: 6.5 minutes per foot.
- 1,170 to 1,180 Dolostone as above without clay. Penetration rate: 7.5 minutes per foot.
- 1,180 to 1,190 Dolostone as above. Penetration rate: 6.2 minutes per foot.
- 1,190 to 1,200 Dolostone as above. Penetration rate: 6 minutes per foot.
- 1,200 to 1,210 Dolostone; light gray (N7) and medium light gray (N6) dolostone; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 4.7 minutes per foot. Driller noted a fracture beginning at 1,209 feet bls.
- 1,210 to 1,220 Dolostone; medium dark gray (N4) and dark gray (N3) fractured dolostone with calcite; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5 minutes per foot. Driller noted the fracture beginning at 1,209 feet bls continued to 1,213 feet bls.
- 1,220 to 1,230 Dolostone as above with chert and a small amount of dark yellowish orange (10YR 6/6) clay (fault gouge?); clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 4.5 minutes per foot.
- 1,230 to 1,240 Dolostone as above with vugs, but without chert and clay. Penetration rate: 11 minutes per foot.
- 1,240 to 1,250 Dolostone as above without vugs. Penetration rate: 7 minutes per foot.

1,250 to 1,260	Dolostone as above with calcite fragments (approximately 1mm in diameter). Penetration rate: 6.9 minutes per foot.
1,260 to 1,270	Dolostone as above. Penetration rate: 5.9 minutes per foot.
1,270 to 1,280	Dolostone as above with iron oxidation and vugs. Penetration rate: 4.1 minutes per foot.
1,280 to 1,290	Dolostone as above with more iron oxidation. Penetration rate: 3.9 minutes per foot.
1,290 to 1,300	Dolostone as above with calcite on fractures; iron oxidation is not increasing any more. Penetration rate: 4.8 minutes per foot.
1,300 to 1,310	Dolostone as above. Penetration rate: 4.5 minutes per foot.
1,310 to 1,320	Dolostone as above. Penetration rate: 4.9 minutes per foot.
1,320 to 1,330	Dolostone as above. Penetration rate: 5.7 minutes per foot.
1,330 to 1,340	Dolostone as above with prominent iron oxidation. Penetration rate: 6.4 minutes per foot.
1,340 to 1,350	Clay and quartzite; dark yellowish orange (10YR 6/6) clay (fault gouge?) and moderate orange pink (5YR 8/4) quartzite; clay is soft and sticky; quartzite has a microcrystalline fabric with angular to subangular sphericity; quartzite has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 6.9 minutes per foot.
1,350 to 1,360	Quartzite; moderate orange pink (5YR 8/4) and grayish orange pink (5YR 7/2) quartzite; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability. Penetration rate: 10.1 minutes per foot.
1,360 to 1,370	Quartzite as above. Penetration rate: 18.4 minutes per foot.
1,370 to 1,380	Quartzite as above with grayish orange pink (5YR 7/2) as the prominent color. Penetration rate: 14.2 minutes per foot.
1,380 to 1,390	Quartzite as above a very small amount of medium light gray (N6) dolostone; dolostone has a microcrystalline fabric with angular to subangular sphericity, and low apparent primary porosity and permeability. Penetration rate: 14.2 minutes per foot.

1,390 to 1,400	Dolostone; medium light gray (N6) fractured dolostone with chert iron oxidation; microcrystalline fabric; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 14.3 minutes per foot.
1,400 to 1,410	Dolostone as above with more iron oxidation. Penetration rate: 8 minutes per foot.
1,410 to 1,420	Dolostone as above with increasing iron oxidation. Penetration rate: 8.4 minutes per foot.
1,420 to 1,430	Dolostone; medium dark gray (N4) fractured dolostone with calcite and iron oxidation; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.3 minutes per foot.
1,430 to 1,440	Dolostone as above with calcite veinlets. Penetration rate: 8 minutes per foot.
1,440 to 1,450	Dolostone as above without calcite veinlets. Penetration rate: 6.8 minutes per foot.
1,450 to 1,460	Dolostone as above. Penetration rate: 7.8 minutes per foot.
1,460 to 1,470	Dolostone as above with dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?); clay is soft and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 9.9 minutes per foot.
1,470 to 1,480	Dolostone; medium light gray (N6) and medium gray (N5) fractured dolostone with calcite and dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?); some calcite in veinlets; microcrystalline fabric; sphericity is angular to subangular; clay is soft and sticky; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 7.9 minutes per foot.
1,480 to 1,490	Dolostone as above. Penetration rate: 9 minutes per foot.
1,490 to 1,500	Dolostone as above with more calcite on fracture planes. Penetration rate: 9.2 minutes per foot. Driller noted a small fracture at 1,492 feet bls.

1,500 to 1,510	Dolostone as above. Penetration rate: 8.9 minutes per foot. Driller noted a small fracture at 1,510 feet bls.
1,510 to 1,520	Dolostone; medium gray (N5) to light olive gray (5Y 6/1) slightly fractured dolostone with calcite and chert; some calcite in veinlets; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 13.3 minutes per foot. Driller noted somewhat fractured conditions at 1,517 feet bls.
1,520 to 1,530	Dolostone as above with iron oxidation and calcite veinlets. Penetration rate: 11.8 minutes per foot.
1,530 to 1,540	Dolostone as above with moderate reddish brown (10YR 4/6) clayey silt; silt has moderate apparent primary porosity and low apparent primary permeability. Penetration rate: 12.5 minutes per foot.
1,540 to 1,550	Dolostone as above with more calcite veins without silt. Penetration rate: 10.5 minutes per foot.
1,550 to 1,560	Dolostone as above. Penetration rate: 8 minutes per foot.
1,560 to 1,570	Dolostone as above with dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?); clay is soft and sticky; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 9.6 minutes per foot. Driller noted a thin "broken" zone at approximately 1,564 to 1,568 feet bls.
1,570 to 1,580	Dolostone as above with moderate reddish brown (10YR 4/6) shale; shale has thin laminae and low apparent primary porosity and permeability. Penetration rate: 8.4 minutes per foot.
1,580 to 1,590	Dolostone as above with shale. Penetration rate: 10.3 minutes per foot.
1,590 to 1,600	Dolostone as above with limestone and without shale. Penetration rate: 10.3 minutes per foot.
1,600 to 1,610	Dolostone as above with limestone. Penetration rate: 7.5 minutes per foot.



- 1,610 to 1,620 Dolostone and clay; medium light gray (N6) to medium dark gray (N4) dolostone with chert and pale reddish brown (10R 5/4) clay; dolostone has a microcrystalline fabric; sphericity is angular to subangular; clay is limey, soft, and sticky; dolostone has low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability. Penetration rate: 8 minutes per foot. Driller noted clay at 1,615 and 1,619 feet bls.
- 1,620 to 1,630 Dolostone and clay; medium dark gray (N4) fractured dolostone with a small amount of dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?); sphericity of dolostone is angular to subangular; dolostone has low apparent primary porosity and permeability; clay is soft and sticky; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 9.5 minutes per foot.
- 1,630 to 1,640 Dolostone and clay as above with less clay. Penetration rate: 11.1 minutes per foot.
- 1,640 to 1,650 Dolostone and clay as above with less clay than the previous sample. Penetration rate: 11.8 minutes per foot.
- 1,650 to 1,660 Dolostone and clay; medium dark gray (N4) fractured dolostone with iron oxidation and pale reddish brown (10R 5/4) clay; dolostone contains chert; dolostone has a microcrystalline fabric with angular to subangular sphericity; dolostone exhibits low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 10 minutes per foot.
- 1,660 to 1,670 Dolostone and clay as above with dark yellowish orange (10YR 6/6) limey clay (contamination from approximately 1,340 feet bls?). Penetration rate: 10 minutes per foot.
- 1,670 to 1,680 Dolostone and clay as above. Penetration rate: 9.7 minutes per foot.
- 1,680 to 1,690 Dolostone and clay as above with the clay content decreasing. Penetration rate: 5.8 minutes per foot.
- 1,690 to 1,700 Dolostone as above with very little clay. Penetration rate: 4.9 minutes per foot.

- 1,700 to 1,710 Dolostone as above with minimal clay. Penetration rate: 6.2 minutes per foot.
- 1,710 to 1,720 Dolostone and clay; medium dark gray (N4) to dark gray (N3) fractured dolostone with chert and calcite along with minor amounts of dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?); iron oxidation on fracture planes of the dolostone; dolostone has a microcrystalline fabric with angular to subangular sphericity; dolostone exhibits low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 5 minutes per foot.
- 1,720 to 1,730 Dolostone and clay as above. Penetration rate: 6 minutes per foot.
- 1,730 to 1,740 Dolostone and clay as above with pale reddish brown (10R 5/4) clay; clay is firm and sticky with high apparent primary porosity and low apparent primary permeability. Penetration rate: 4.9 minutes per foot.
- 1,740 to 1,750 Dolostone and clay as above without pale reddish brown (10R 5/4) clay. Penetration rate: 6.9 minutes per foot.
- 1,750 to 1,760 Dolostone and clay as above with pale reddish brown (10R 5/4) clay. Penetration rate: 9.5 minutes per foot.
- 1,760 to 1,770 Dolostone and clay as above. Penetration rate: 8.7 minutes per foot.
- 1,770 to 1,780 Sandstone and dolostone; moderate brown (5YR 4/4) fractured calcareous sandstone and medium dark gray (N4) fractured dolostone with small amounts of dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?); dolostone has a microcrystalline fabric; sandstone has fine-grained fabric; sphericity is angular to subangular; clay is soft and sticky; dolostone and sandstone exhibit low apparent primary porosity and permeability; clay has high apparent primary porosity and low apparent primary permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 9.4 minutes per foot.

1,780 to 1,790	Dolostone; medium dark gray (N4) fractured dolostone with calcite and chert; microcrystalline fabric; sphericity is angular to subangular; low apparent primary porosity and permeability; low to moderate apparent secondary (fracture) porosity and permeability. Penetration rate: 9 minutes per foot.
1,790 to 1,800	Dolostone as above. Penetration rate: 10 minutes per foot.
1,800 to 1,810	Dolostone as above with solution features (karstic). Penetration rate: 8.1 minutes per foot.
1,810 to 1,820	Dolostone as above. Penetration rate: 6.8 minutes per foot.
1,820 to 1,830	Dolostone as above with calcite veinlets. Penetration rate: 6 minutes per foot.
1,830 to 1,840	Dolostone as above with iron oxidation. Penetration rate: 8.6 minutes per foot.
1,840 to 1,850	Dolostone as above without calcite veinlets. Penetration rate: 7.2 minutes per foot.
1,850 to 1,860	Dolostone as above with iron oxidation on fracture planes. Penetration rate: 6.6 minutes per foot.
1,860 to 1,870	Dolostone as above with dark yellowish orange (10YR 6/6) clay (contamination from approximately 1,340 feet bls?). Penetration rate: 6.8 minutes per foot.
1,870 to 1,880	Dolostone as above without dark yellowish orange (10YR 6/6) clay. Penetration rate: 5.9 minutes per foot.
1,880 to 1,890	Dolostone as above with moderate brown (5YR 4/4) fractured calcareous sandstone (contamination from approximately 1,770 feet bls?); sandstone is very fine grained with low apparent primary porosity and permeability. Penetration rate: 5.5 minutes per foot.
1,890 to 1,900	Dolostone as above without moderate brown (5YR 4/4) sandstone. Penetration rate: 7.2 minutes per foot.
1,900 to 1,910	Dolostone as above. Penetration rate: 5 minutes per foot.
1,910 to 1,920	Dolostone as above. Penetration rate: 5.9 minutes per foot.
1,920 to 1,930	Dolostone as above. Penetration rate: 5.3 minutes per foot.

1,930 to 1,940	Dolostone as above with iron oxidation and calcite veinlets. Penetration rate: 6 minutes per foot.
1,940 to 1,950	Dolostone as above without calcite veinlets. Penetration rate: 4.7 minutes per foot.
1,950 to 1,960	Dolostone as above. Penetration rate: 5 minutes per foot.
1,960 to 1,970	Dolostone as above. Penetration rate: 5.5 minutes per foot.
1,970 to 1,980	Dolostone as above with a very small amount of very light gray (N8) clay. Penetration rate: 5.4 minutes per foot
1,980 to 1,990	Dolostone as above without clay. Penetration rate: 4.1 minutes per foot.
1,990 to 2,000	Dolostone as above. Penetration rate: 6.3 minutes per foot.
2,000 to 2,010	Dolostone as above. Penetration rate: 5.5 minutes per foot.

**KMW-1 borehole total depth (TD) of 2,010 feet bls**



SE ROA 51769

JA\_16900

**APPENDIX C**  
**SAMPLING ANALYTICAL RESULTS FOR KPW-1**

## LABORATORY REPORT

**Prepared For:** URS  
 7720 N. 16th Street Suite 100  
 Phoenix, AZ 85020  
 Attention: Greg Bushner

**Project:** Vidler 23444322.40000

**Sampled:** 01/10/06  
**Received:** 01/11/06  
**Revised:** 02/07/06 11:17

NELAP #01109CA Nevada #AZ907

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.*

*This entire report was reviewed and approved for release.*

### CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PPA0221-01	CSNW-2	Water
PPA0221-02	CSNW-2	Water
PPA0221-03	KPW-1	Water
PPA0221-04	KPW-1	Water

**SAMPLE RECEIPT:** Samples were received intact, at 2°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** N1: The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).  
 N1a: The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

**SUBCONTRACTED:** No analyses were subcontracted to an outside laboratory.

**ADDITIONAL INFORMATION:** This revised report contains the TDS results.

Reviewed By:



Del Mar Analytical - Phoenix  
 Ken Baker  
 Project Manager



10 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000

Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

TOTAL RECOVERABLE METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: PPA0221-01 (CSNW-2 - Water)</b>								
Reporting Units: mg/l								
Aluminum	EPA 200.7	P6A1301	0.50	ND	1	1/13/2006	1/13/2006	
Arsenic	EPA 200.9	P6A1614	0.0030	ND	1	1/16/2006	1/18/2006	
Calcium	EPA 200.7	P6A1301	2.0	86	1	1/13/2006	1/13/2006	
Iron	EPA 200.7	P6A1301	0.20	3.3	1	1/13/2006	1/13/2006	
Magnesium	EPA 200.7	P6A1301	0.50	31	1	1/13/2006	1/13/2006	
Potassium	EPA 258.1	P6A1613	2.0	15	2	1/17/2006	1/19/2006	
Silica	EPA 200.7	P6A1301	2.5	27	1	1/13/2006	1/13/2006	
Sodium	EPA 273.1	P6A1613	50	60	10	1/17/2006	1/17/2006	

**Sample ID: PPA0221-03 (KPW-1 - Water)**

Reporting Units: mg/l

Aluminum	EPA 200.7	P6A1301	0.50	ND	1	1/13/2006	1/13/2006	
Arsenic	EPA 200.9	P6A1614	0.0060	0.046	2	1/16/2006	1/18/2006	
Calcium	EPA 200.7	P6A1301	2.0	48	1	1/13/2006	1/13/2006	
Iron	EPA 200.7	P6A1301	0.20	0.69	1	1/13/2006	1/13/2006	
Magnesium	EPA 200.7	P6A1301	0.50	14	1	1/13/2006	1/13/2006	
Potassium	EPA 258.1	P6A1613	2.0	18	2	1/17/2006	1/19/2006	
Silica	EPA 200.7	P6A1301	2.5	49	1	1/13/2006	1/13/2006	
Sodium	EPA 273.1	P6A1613	50	150	10	1/17/2006	1/17/2006	

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Project Manager

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SE ROA 51772

JA\_16903





Project ID: Vidler 23444322.40000  
Report Number: PPA0221  
Sampled: 01/10/06  
Received: 01/11/06  
10 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: PPA0221-02 (CSNW-2 - Water)</b>								
Reporting Units: mg/l								
Iron, Dissolved	EPA 200.7	P6A1701	0.20	ND	1	1/16/2006	1/17/2006	
Manganese, Dissolved	EPA 200.7	P6A1701	0.020	0.047	1	1/16/2006	1/17/2006	
<b>Sample ID: PPA0221-04 (KPW-1 - Water)</b>								
Reporting Units: mg/l								
Iron, Dissolved	EPA 200.7	P6A1701	0.20	ND	1	1/16/2006	1/17/2006	
Manganese, Dissolved	EPA 200.7	P6A1701	0.020	ND	1	1/16/2006	1/17/2006	

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SE ROA 51773

JA\_16904



10 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000

Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: PPA0221-01 (CSNW-2 - Water)</b>								
Reporting Units: mg/l								
Bicarbonate Alkalinity as CaCO3	SM2320B	P6A1112	5.0	190	1	1/11/2006	1/11/2006	
Chloride	EPA 300.0	P6A2032	5.0	57	10	1/20/2006	1/21/2006	
Fluoride	EPA 300.0	P6A2032	0.10	1.5	1	1/20/2006	1/21/2006	
Sulfate	EPA 300.0	P6A2032	5.0	210	10	1/20/2006	1/21/2006	
Total Dissolved Solids	SM2540C	P6B0217	20	620	1	2/2/2006	2/2/2006	HI
<b>Sample ID: PPA0221-03 (KPW-1 - Water)</b>								
Reporting Units: mg/l								
Bicarbonate Alkalinity as CaCO3	SM2320B	P6A1112	5.0	280	1	1/11/2006	1/11/2006	
Chloride	EPA 300.0	P6A2032	5.0	63	10	1/20/2006	1/21/2006	
Fluoride	EPA 300.0	P6A2032	0.10	6.1	1	1/20/2006	1/21/2006	
Sulfate	EPA 300.0	P6A2032	5.0	140	10	1/20/2006	1/21/2006	
Total Dissolved Solids	SM2540C	P6B0217	20	650	1	2/2/2006	2/2/2006	HI

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SE ROA 51774

JA\_16905



10 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000  
Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

**DISSOLVED METALS - FILTRATION**

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: PPA0221-02 (CSNW-2 - Water)</b>								
Reporting Units: None								
Filtration	Filtration	P6A1611	1.0	ND	1	1/12/2006	1/12/2006	
<b>Sample ID: PPA0221-04 (KPW-1 - Water)</b>								
Reporting Units: None								
Filtration	Filtration	P6A1611	1.0	ND	1	1/12/2006	1/12/2006	

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Project ID: Vidler 23444322.40000  
Report Number: PPA0221  
Sampled: 01/10/06  
Received: 01/11/06  
10 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

**SHORT HOLD TIME DETAIL REPORT**

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: CSNW-2 (PPA0221-02) - Water Filtration	1	01/10/2006 11:15	01/11/2006 08:30	01/12/2006 16:30	01/12/2006 16:30
Sample ID: KPW-1 (PPA0221-04) - Water Filtration	1	01/10/2006 12:30	01/11/2006 08:30	01/12/2006 16:35	01/12/2006 16:35

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SE ROA 51776





1600 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000

Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1301 Extracted: 01/13/06</b>										
<b>Blank Analyzed: 01/13/2006 (P6A1301-BLK1)</b>										
Aluminum	ND	0.50	mg/l							
Calcium	ND	2.0	mg/l							
Iron	ND	0.20	mg/l							
Magnesium	ND	0.50	mg/l							
Silica	ND	2.5	mg/l							
<b>Blank Analyzed: 01/13/2006 (P6A1301-BLK2)</b>										
Aluminum	ND	0.50	mg/l							
Calcium	ND	2.0	mg/l							
Iron	ND	0.20	mg/l							
Magnesium	ND	0.50	mg/l							
Silica	ND	2.5	mg/l							
<b>LCS Analyzed: 01/13/2006 (P6A1301-BS1)</b>										
Aluminum	0.990	0.50	mg/l	0.999		99	85-115			
Calcium	9.95	2.0	mg/l	9.99		100	85-115			
Iron	9.84	0.20	mg/l	9.99		98	85-115			
Magnesium	9.86	0.50	mg/l	9.99		99	85-115			
Silica	20.9	2.5	mg/l	21.4		98	85-115			
<b>LCS Dup Analyzed: 01/13/2006 (P6A1301-BSD1)</b>										
Aluminum	1.09	0.50	mg/l	0.999		109	85-115	10	20	
Calcium	10.6	2.0	mg/l	9.99		106	85-115	6	20	
Iron	10.6	0.20	mg/l	9.99		106	85-115	7	20	
Magnesium	10.4	0.50	mg/l	9.99		104	85-115	5	20	
Silica	22.3	2.5	mg/l	21.4		104	85-115	6	20	
<b>Matrix Spike Analyzed: 01/13/2006 (P6A1301-MS1)</b>										
					<b>Source: PPA0279-01</b>					
Aluminum	1.06	0.50	mg/l	0.999	ND	106	70-130			
Calcium	58.9	2.0	mg/l	9.99	46	129	70-130			
Iron	12.7	0.20	mg/l	9.99	1.9	108	70-130			
Magnesium	30.6	0.50	mg/l	9.99	19	116	70-130			
Silica	35.6	2.5	mg/l	21.4	34	7	70-130			N/a

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SE ROA 51777

JA\_16908



Project ID: Vidler 23444322.40000  
Report Number: PPA0221  
Sampled: 01/10/06  
Received: 01/11/06  
16 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1301 Extracted: 01/13/06</b>										
<b>Matrix Spike Dup Analyzed: 01/13/2006 (P6A1301-MSD1)</b>					<b>Source: PPA0279-01</b>					
Aluminum	1.10	0.50	mg/l	0.999	ND	110	70-130	4	20	
Calcium	59.7	2.0	mg/l	9.99	46	137	70-130	1	20	NI
Iron	12.9	0.20	mg/l	9.99	1.9	110	70-130	2	20	
Magnesium	31.4	0.50	mg/l	9.99	19	124	70-130	3	20	
Silica	36.8	2.5	mg/l	21.4	34	13	70-130	3	20	NIa

**Batch: P6A1613 Extracted: 01/17/06**

**Blank Analyzed: 01/17/2006-01/19/2006 (P6A1613-BLK1)**

Potassium	ND	1.0	mg/l
Sodium	ND	5.0	mg/l

**Blank Analyzed: 01/17/2006-01/19/2006 (P6A1613-BLK2)**

Potassium	ND	1.0	mg/l
Sodium	ND	5.0	mg/l

**Blank Analyzed: 01/17/2006-01/19/2006 (P6A1613-BLK3)**

Potassium	ND	1.0	mg/l
Sodium	ND	5.0	mg/l

**LCS Analyzed: 01/17/2006-01/19/2006 (P6A1613-BS1)**

Potassium	11.4	1.0	mg/l	10.0	114	85-115
Sodium	10.8	5.0	mg/l	10.0	108	85-115

**LCS Dup Analyzed: 01/17/2006-01/19/2006 (P6A1613-BSD1)**

Potassium	11.1	1.0	mg/l	10.0	111	85-115	3	15
Sodium	10.9	5.0	mg/l	10.0	109	85-115	1	15

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N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000  
Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

METHOD BLANK/QC DATA

TOTAL RECOVERABLE METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1613 Extracted: 01/17/06</b>										
<b>Matrix Spike Analyzed: 01/17/2006-01/19/2006 (P6A1613-MS1)</b>					<b>Source: PPA0367-01</b>					
Potassium	17.2	2.0	mg/l	10.0	6.8	104	85-115			
Sodium	87.0	50	mg/l	10.0	80	70	85-115			M2
<b>Matrix Spike Dup Analyzed: 01/17/2006-01/19/2006 (P6A1613-MSD1)</b>					<b>Source: PPA0367-01</b>					
Potassium	17.0	2.0	mg/l	10.0	6.8	102	85-115	1	15	
Sodium	91.0	50	mg/l	10.0	80	110	85-115	4	15	
<b>Batch: P6A1614 Extracted: 01/16/06</b>										
<b>Blank Analyzed: 01/18/2006 (P6A1614-BLK1)</b>										
Arsenic	ND	0.0030	mg/l							
<b>Blank Analyzed: 01/18/2006 (P6A1614-BLK2)</b>										
Arsenic	ND	0.0030	mg/l							
<b>Blank Analyzed: 01/18/2006 (P6A1614-BLK3)</b>										
Arsenic	ND	0.0030	mg/l							
<b>LCS Analyzed: 01/18/2006 (P6A1614-BS1)</b>										
Arsenic	0.0193	0.0030	mg/l	0.0200		97	85-115			
<b>LCS Dup Analyzed: 01/18/2006 (P6A1614-BSD1)</b>										
Arsenic	0.0189	0.0030	mg/l	0.0200		94	85-115	2	15	
<b>Matrix Spike Analyzed: 01/18/2006 (P6A1614-MS1)</b>					<b>Source: PPA0155-01</b>					
Arsenic	0.0261	0.0030	mg/l	0.0200	0.0071	95	70-130			

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SE ROA 51779

JA\_16910

N. 16th Street Suite 100 Phoenix, AZ 85020 Attention: Greg Bushner	Project ID: Vidler 23444322.40000	Sampled: 01/10/06
	Report Number: PPA0221	Received: 01/11/06

**METHOD BLANK/QC DATA**

**TOTAL RECOVERABLE METALS**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1614 Extracted: 01/16/06</b>										
<b>Matrix Spike Dup Analyzed: 01/18/2006 (P6A1614-MSD1)</b>					<b>Source: PPA0155-01</b>					
Arsenic	0.0263	0.0030	mg/l	0.0200	0.0071	96	70-130	1	15	

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SE ROA 51780

JA\_16911





Project ID: Vidler 23444322.40000  
Report Number: PPA0221  
Sampled: 01/10/06  
Received: 01/11/06  
N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1701 Extracted: 01/16/06</b>										
<b>Blank Analyzed: 01/17/2006 (P6A1701-BLK1)</b>										
Iron, Dissolved	ND	0.20	mg/l							
Manganese, Dissolved	ND	0.020	mg/l							
<b>Blank Analyzed: 01/17/2006 (P6A1701-BLK2)</b>										
Iron, Dissolved	ND	0.20	mg/l							
Manganese, Dissolved	ND	0.020	mg/l							
<b>Blank Analyzed: 01/17/2006 (P6A1701-BLK3)</b>										
Iron, Dissolved	ND	0.20	mg/l							
Manganese, Dissolved	ND	0.020	mg/l							
<b>Blank Analyzed: 01/17/2006 (P6A1701-BS1)</b>										
Iron, Dissolved	9.55	0.20	mg/l	9.99		96	85-115			
Manganese, Dissolved	0.914	0.020	mg/l	0.999		91	85-115			
<b>LCS Dup Analyzed: 01/17/2006 (P6A1701-BSD1)</b>										
Iron, Dissolved	9.69	0.20	mg/l	9.99		97	85-115	1	20	
Manganese, Dissolved	0.927	0.020	mg/l	0.999		93	85-115	1	20	
<b>Matrix Spike Analyzed: 01/17/2006 (P6A1701-MS1) Source: PPA0276-03</b>										
Iron, Dissolved	9.68	0.20	mg/l	9.99	ND	97	70-130			
Manganese, Dissolved	0.919	0.020	mg/l	0.999	ND	92	70-130			
<b>Matrix Spike Dup Analyzed: 01/17/2006 (P6A1701-MSD1) Source: PPA0276-03</b>										
Iron, Dissolved	9.65	0.20	mg/l	9.99	ND	97	70-130	0	20	
Manganese, Dissolved	0.917	0.020	mg/l	0.999	ND	92	70-130	0	20	

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10 N. 16th Street Suite 100 Phoenix, AZ 85020 Attention: Greg Bushner	Project ID: Vidler 23444322.40000 Report Number: PPA0221	Sampled: 01/10/06 Received: 01/11/06
-----------------------------------------------------------------------------	-------------------------------------------------------------	-----------------------------------------

**METHOD BLANK/QC DATA**

**INORGANICS**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1112 Extracted: 01/11/06</b>										
<b>Duplicate Analyzed: 01/11/2006 (P6A1112-DUP1)</b>										
Bicarbonate Alkalinity as CaCO3	124	5.0	mg/l		120			3	20	
<b>Duplicate Analyzed: 01/11/2006 (P6A1112-DUP2)</b>										
Bicarbonate Alkalinity as CaCO3	215	5.0	mg/l		220			2	20	
<b>Batch: P6A2032 Extracted: 01/20/06</b>										
<b>Blank Analyzed: 01/21/2006 (P6A2032-BLK1)</b>										
Sulfate	ND	0.50	mg/l							
Fluoride	ND	0.10	mg/l							
Chloride	ND	0.50	mg/l							
<b>LCS Analyzed: 01/21/2006 (P6A2032-BS1)</b>										
Chloride	5.23	0.50	mg/l	5.00		105	90-110			
Fluoride	2.66	0.10	mg/l	2.50		106	90-110			
Sulfate	5.34	0.50	mg/l	5.00		107	90-110			
<b>LCS Dup Analyzed: 01/21/2006 (P6A2032-BSD1)</b>										
Fluoride	2.65	0.10	mg/l	2.50		106	90-110	0	20	
Sulfate	5.28	0.50	mg/l	5.00		106	90-110	1	15	
Chloride	5.18	0.50	mg/l	5.00		104	90-110	1	15	
<b>Matrix Spike Analyzed: 01/21/2006 (P6A2032-MS1)</b>										
<b>Source: PPA0160-25RE2</b>										
Chloride	52.4	5.0	mg/l	50.0	1.9	101	80-120			
Fluoride	25.3	1.0	mg/l	25.0	ND	101	80-120			
Sulfate	52.4	5.0	mg/l	50.0	ND	105	80-120			

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SE ROA 51782


JA\_16913

N. 16th Street Suite 100 Phoenix, AZ 85020 Attention: Greg Bushner	Project ID: Vidler 23444322.40000  Report Number: PPA0221	Sampled: 01/10/06 Received: 01/11/06
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### METHOD BLANK/QC DATA

#### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A2032 Extracted: 01/20/06</b>										
<b>Matrix Spike Dup Analyzed: 01/21/2006 (P6A2032-MSD1)</b>					<b>Source: PPA0160-25RE2</b>					
Sulfate	61.4	5.0	mg/l	50.0	ND	123	80-120	16	15	MI
Chloride	78.6	5.0	mg/l	50.0	1.9	153	80-120	40	15	MI
Fluoride	25.3	1.0	mg/l	25.0	ND	101	80-120	0	20	
<b>Batch: P6B0217 Extracted: 02/02/06</b>										
<b>Blank Analyzed: 02/02/2006 (P6B0217-BLK1)</b>										
Total Dissolved Solids	ND	20	mg/l							
<b>LCS Analyzed: 02/02/2006 (P6B0217-BS1)</b>										
Total Dissolved Solids	390	20	mg/l	400		98	80-115			
<b>Low Dup Analyzed: 02/02/2006 (P6B0217-BSD1)</b>										
Total Dissolved Solids	366	20	mg/l	400		92	80-115	6	10	
<b>Duplicate Analyzed: 02/02/2006 (P6B0217-DUP1)</b>										
Total Dissolved Solids	368	20	mg/l		370			1	10	
<b>Duplicate Analyzed: 02/02/2006 (P6B0217-DUP2)</b>										
Total Dissolved Solids	246	20	mg/l		250			2	10	


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SE ROA 51783

JA\_16914

N. 16th Street Suite 100 Phoenix, AZ 85020 Attention: Greg Bushner	Project ID: Vidler 23444322.40000  Report Number: PPA0221	Sampled: 01/10/06 Received: 01/11/06
--------------------------------------------------------------------------	-----------------------------------------------------------------	-----------------------------------------

**METHOD BLANK/QC DATA**

**DISSOLVED METALS - FILTRATION**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: P6A1611 Extracted: 01/12/06</b>										
<b>Blank Analyzed: 01/12/2006 (P6A1611-BLK1)</b>										
Filtration	ND	1.0	None							

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SE ROA 51784

JA\_16915





10 N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000

Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

**DATA QUALIFIERS AND DEFINITIONS**

- H1** Sample analysis performed past holding time.
- M1** Matrix spike recovery was high, the method control sample recovery was acceptable.
- M2** Matrix spike recovery was low, the method control sample recovery was acceptable.
- N1** See case narrative.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

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SE ROA 51785

JA\_16916



N. 16th Street Suite 100  
Phoenix, AZ 85020  
Attention: Greg Bushner

Project ID: Vidler 23444322.40000  
Report Number: PPA0221

Sampled: 01/10/06  
Received: 01/11/06

Certification Summary

Del Mar Analytical - Phoenix

Method	Matrix	Nelac	Nevada
EPA 200.7	Water		X
EPA 200.9	Water		X
EPA 258.1	Water		X
EPA 273.1	Water		X
EPA 300.0	Water		X
Filtration	Water	N/A	N/A
SM2320B	Water		X
SM2540C	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at [www.dmalabs.com](http://www.dmalabs.com).

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SE ROA 51786

JA\_16917



CHAIN OF CUSTODY FORM

Client Name/Address: URS 7720 N 16th st, suite 100 Phx, Az 85020			Project/PO Number: Vidler 23444922.40000				Analysis Required						
Project Manager: Greg Bushner			Phone Number: 602-371-1100										
Sampler: Jacob Miller			Fax Number: 602-371-1615										

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives						Special Instructions
CSNW-2 a	w	poly	3	1/10/06	1115	Nitric Acid	Al, Ca, Mg, Na, K, As, silica					PPAD221-1
b	w	poly	3	1/10/06	1115	/	Bicarbonate, SO <sub>4</sub> , Cl, F					-1
c	w	poly	3	1/10/06	1115	/	Diss Mn, Fe					-2
KPW-1 a	w	poly	3	1/10/06	1230	Nitric Acid	Al, Ca, Mg, Na, K, As, silica					-3
b	w	poly	3	1/10/06	1230	/	Bicarbonate, SO <sub>4</sub> , Cl, F					-3
c	w	poly	3	1/10/06	1230	/	Diss Mn, Fe					-4

Relinquished By: <i>[Signature]</i>	Date/Time: 1/10/06 1350	Received by: <i>S. Alham</i>	Date/Time: 1/10/06 13:50	Turnaround Time: (Check) same day _____ 72 hours 24 hours _____ 5 days 48 hours _____ normal
Relinquished By: <i>S. Alham</i>	Date/Time: 1/10/05 17:00 via CA 91	Received by: <i>[Signature]</i>	Date/Time: _____	
Relinquished By: _____	Date/Time: _____	Received in Lab by: <i>[Signature]</i>	Date/Time: 1/11/06 0800	

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

CATON

2.4°C

SE ROA 51787





**APPENDIX D**  
**AQUIFER TEST DATA**

Step-Discharge Test: December 2005

## Aquifer Test Configuration

PUMPED WELL		TEST NAME: Kane Springs																
<p>Name: KPW-1 ADWR No.: Casing Depth: 2,012 ft Diameter: 18 5/8 -inch Screened Interval: 1,020 - 1,840 (OD) Filter Pack Interval: 302 to 1,882 - 2,002 ft Borehole Diameter: 26 -inch Coordinates: Ground Level Elevation:</p>	<p><b>Pump and Discharge</b> Pump Type: Baker Hughes WNE1600 Max. Rate: 1,800 gpm Intake Depth: 1,854.95 ft Discharge Diameter: 12 -inch Flow Measurement Equipment: Krohne IFL 090 Discharge Location:</p>	<p>Date: Dec 2005 Job No.: 23444322 Client: Vidler Water Project: Kane Springs Pump Contractor: Lang</p>																
<p><b>Water Level Measurement</b> Measurement Point Description: top of coupling on sounder tube outside of casing Measurement Point Height ags: Static Water Level bmp: 991.26 bgs: Transducer Range psi: 300 ft H<sub>2</sub>O: 693 Make: In-Situ Model: LT700 SN: 102315 Data Logger: same as transducer Make: Model: SN: Sounder: Waterline Make: special order Model: 1500 SN: -</p>	<p style="text-align: center;">Plan view ← Q</p> <p style="text-align: center;">* discharge buried NTS</p>	<p style="text-align: center;">Profile</p>																
<b>OBSERVATION WELLS</b>																		
<p><b>Observation Well 1 Information</b> Name: KMW-1 ADWR No.: Casing Depth: 1420 ft Casing Diameter: 5 1/2 -inch OD Screened Interval: 1100 - 1120, 1320 - 1340, 1500 - 1520, 1740 - 1760, 1920 - 1940 Filter Pack Interval: 955 to 2,013 ft Borehole Diameter: 12 1/2 -inch Coordinates: Ground Level Elevation: Distance from Pumped Well: 143.33 ft</p>	<p><b>Water Level Measurement</b> Measurement Point Description: TOCN (top of casing north) Measurement Point Height ags: Static Water Level bmp: 991.80 bgs: Transducer Range psi: 100 ft H<sub>2</sub>O: 231 Make: In-Situ Model: LT700 SN: 102318 Data Logger: same as transducer Make: Model: SN: Sounder: Waterline Make: special order Model: 1500 SN: - Date / Time Logging Began:</p>	<p style="text-align: center;">Location Map</p> <p style="text-align: center;">See pumped well plan view map</p> <p style="text-align: center;">↑ N</p>																
<p><b>Observation Well 1 Information</b> Name: ADWR No.: Casing Depth: Casing Diameter: Screened Interval: Filter Pack Interval: Borehole Diameter: Coordinates: Ground Level Elevation: Distance from Pumped Well:</p>	<p><b>Water Level Measurement</b> Measurement Point Description: Measurement Point Height ags: Static Water Level bmp: bgs: Transducer Range psi: ft H<sub>2</sub>O: hole plug Make: Model: SN: Data Logger: SC4 Make: Model: SN: SC4 Sounder: SC3 Make: Model: SN: SC3 Date / Time Logging Began:</p>	<p style="text-align: center;">Profiles</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Obs. Well 1</th> <th style="width: 50%;">Obs. Well 2</th> </tr> </thead> <tbody> <tr> <td>SC1</td> <td>SC1</td> </tr> <tr> <td>SC2</td> <td>1100 - 1120</td> </tr> <tr> <td>SC3</td> <td>1320 - 1340</td> </tr> <tr> <td>SC4</td> <td>1500 - 1520</td> </tr> <tr> <td>SC5</td> <td>1740 - 1760</td> </tr> <tr> <td>SC6</td> <td>1920 - 1940</td> </tr> <tr> <td>SC7</td> <td>1420</td> </tr> </tbody> </table> <p style="text-align: center;">↑ N</p>	Obs. Well 1	Obs. Well 2	SC1	SC1	SC2	1100 - 1120	SC3	1320 - 1340	SC4	1500 - 1520	SC5	1740 - 1760	SC6	1920 - 1940	SC7	1420
Obs. Well 1	Obs. Well 2																	
SC1	SC1																	
SC2	1100 - 1120																	
SC3	1320 - 1340																	
SC4	1500 - 1520																	
SC5	1740 - 1760																	
SC6	1920 - 1940																	
SC7	1420																	

**URS**

SE ROA 51791

JA\_16922

Water Quality Parameters During Aquifer Testing

Pg. 1 of 5  
 Location: Kane Springs  
 Job Number: 23444322  
 Geologist: HK, SH

Date: 12/8/05  
 Well Name/Test Type: KR60-1 S1C9  
 Static Water Level: 991.43  
 Start Time: 2330

Time	Discharge (gpm)	Totalizer (gallons)	Water Level (feet bgs)	Drawdown (feet)	Temp. (°F)	pH	EC (uS/cm)	TDS (ppm)	Comments
019	200.4	0	991.43 <sup>static</sup>	0	-	-	-	-	Static WL w/ sounder
0230	0	0	991.43 <sup>static</sup>	0	-	-	-	-	Start pump
0345	895	11131	1049.71 <sup>static</sup>	58.28	130.57	8.39	658	428	Specific Cp = 15.35
0400	888	-	1048.04 <sup>static</sup>	56.61	130.07	8.31	655	426	turb = 18
0400.15	890	38820	1049.95 <sup>static</sup>	53.50	130.52	8.21	653	424	turb = 9
0630	886	-	1050.02 <sup>static</sup>	58.59	-	-	-	-	DD = 418.57
0645	890	-	1050.27 <sup>static</sup>	58.81	130.55	8.12	652	424	turb = 7, SCp = 15.13
0700	890	-	1050.68 <sup>static</sup>	57.25	131.85	-	-	-	turb = 6
0730	1199	-	1072.95 <sup>static</sup>	81.52	129.68	8.14	650	422	turb = 6
0745	1204	-	1077.54 <sup>static</sup>	86.11	128.37	8.04	649	422	turb = 17
0700	1203	-	1078	86.57	128.18	8.09	647	422	turb = 13 SCp = 13.9
0715	1202	-	1078.20 <sup>static</sup>	86.77	127.41	8.09	647	422	turb = 10
0730	1205	-	1078.6 <sup>static</sup>	87.17	127.12	8.02	647	422	turb = 15
0745	1204	-	1078.57 <sup>static</sup>	87.14	128.61	8.08	649	422	turb = 7
0300	1202	-	1079.02 <sup>static</sup>	87.59	129.57	8.06	649	422	turb = 7 SCp = 13.72
0315	1199	-	1078.33 <sup>static</sup>	86.9	129.19	8.06	648	421	turb = 7
0330	1204	-	1079.3 <sup>static</sup>	87.87	128.98	7.99	648	421	turb = 7
0345	1201	-	1079.44 <sup>static</sup>	88.01	124.42	8.05	648	421	turb = 6
0400	1201	-	1079.44 <sup>static</sup>	88.01	129.49	8.07	648	421	turb = 8 SCp = 13.65
0415	1206	-	1078.78 <sup>static</sup>	87.55	121.58	8.08	648	421	turb = 7
0430	1204	-	1079.68 <sup>static</sup>	88.25	128.39	8.03	647	421	turb = 8
0445	1202	-	1079.52 <sup>static</sup>	88.09	124.58	8.08	648	421	turb = 6
0500	1202	-	1079.81 <sup>static</sup>	88.38	127.22	8.07	648	421	turb = 5 SCp = 13.60
0515	1200	-	1080.00 <sup>static</sup>	88.57	128.12	8.05	647	421	turb = 4 <sup>9</sup> better was met
0530	1493	-	1098.3 <sup>static</sup>	106.87	121.64	8.08	648	421	turb = 10

elapsed time

W: Horns Water quality during development  
 SCp: specific capacity; turb: turbidity; sndg: sounder; LT: Level Trawl  
 (937m/ft) (NTU)



Water Quality Parameters During Aquifer Testing

Location: Kane Spnys  
 Job Number: 23444322  
 Geologist: SH

Date: 12/9/05  
 Well Name/Test Type: KPW-1 skp  
 Static Water Level: 991.45  
 Start Time: 2:30 12/8/05

Time	Discharge (gpm)	Totalizer (gallons)	Water Level (feet bgs)	Drawdown (feet)	Temp. (C)	pH	EC (uS/cm)	TDS (ppm)	Comments
375	1497	-	1110.18 LT	118.75	129.89	8.03	648	421	turb = 10 SCP = 12.61
390	1507	-	1112.0 skp	120.57	129.41	8.01	647	421	turb = 8
405	1505	-	1113.42 LT	121.99	129.67	8.05	647	421	turb = 6
420	1503	-	1113.34 skp	121.91	129.71	8.06	647	421	turb = 6 SCP = 12.33
435	1501	-	1113.77 LT	122.34	129.55	8.01	647	420	turb = 5
450	1500	-	1114.05 skp	122.62	129.51	8.08	647	421	turb = 5 SCP = 12.23
465	1413	-	1114.58 LT	123.15	129.42	8.07	647	421	turb = 5
480	1499	-	1114.5 skp	123.07	129.28	8.06	647	421	turb = 5
495	1500	-	1114.24 LT	122.81	129.20	8.05	647	420	turb = 5
510	1503	-	1114.96 skp	123.53	129.71	8.07	647	421	turb = 5 SCP = 12.17
525	1501	-	1114.78 LT	123.35	129.07	8.04	646	420	turb = 4
540	1504	-	1115.35 skp	123.92	129.62	8.09	647	420	turb = 4
555	1505	-	1115.47 LT	124.04	130.02	8.10	647	421	turb = 4 SCP = 12.15
570	1502	-	1115.69 skp	124.26	130.04	8.09	647	421	turb = 4
585	1501	-	1115.54 LT	124.11	129.72	8.07	647	420	turb = 3
600	1800	-	1137.2 skp	145.77	130.53	8.04	647	421	turb = 5 SCP = 12.35
615	1801	-	1152.02 LT	166.59	129.56	8.08	647	420	turb = 18
630	1800	-	1146.25 skp	154.87	129.80	8.08	647	420	turb = 10
645	1799	-	1156.01 LT	164.58	129.71	8.08	647	420	turb = 10 SCP = 10.95
660	1799	-	1156.95 skp	165.52	129.76	8.09	647	420	turb = 8
675	1803	-	1158.02 LT	166.59	129.91	8.09	647	420	turb = 8 SCP = 10.82
690	1800	-	1158.06 skp	166.63	130.09	8.10	647	421	turb = 7
705	1802	-	1158.76 LT	167.33	130.06	8.10	647	420	turb = 7 SCP = 10.77
720	1800	-	1147.35 skp	155.92	130.47	8.11	647	420	turb = 8
735	1801	-	1159.40 LT	168.27	130.12	8.09	646	420	turb = 7 SCP = 10.70

W:\Norms\Water quality during development



Water Quality Parameters During Aquifer Testing

Pg. 4 of 5  
 Location: Kane Spring  
 Job Number: 2344322  
 Geologist: SH

Date: 12/10/05  
 Well Name/Test Type: KPW-1 Stop  
 Static Water Level: 991.45 (12/8/05)  
 Start Time: 0700

Time	Discharge (gpm)	Totalizer (gallons)	Water Level (feet bgs)	Drawdown (feet)	Temp. (C)	pH	EC (uS/cm)	TDS (ppm)	Comments
0700	-	-	991.43	-	-	-	-	-	
0715	1800	-	1143.99 <sup>sur</sup>	152.56	129.92	8.40	651	423	Begin pumping at 1800 gpm turb=63
0730	1801	-	1156.49 <sup>LT</sup>	165.06	129.51	8.18	648	471	turb=16 SCP=10.91
0745	1778	-	1149.45 <sup>sur</sup>	158.02	130.03	8.15	648	421	turb=12
0800	1795	-	1160.75 <sup>LT</sup>	169.32	129.72	8.11	647	421	turb=10 SCP=10.62
0815	1805	-	1152.79 <sup>sur</sup>	161.36	129.88	8.12	647	421	turb=11
0830	1806	-	1163.49 <sup>LT</sup>	172.06	129.91	8.10	647	420	turb=10 SCP=10.5
0845	1806	-	1158.9 <sup>sur</sup>	167.47	130.39	8.12	647	421	turb=10
0900	1805	-	1164.99 <sup>LT</sup>	173.56	130.00	8.10	647	420	turb=10 SCP=10.4
0915	1801	-	1164.2 <sup>sur</sup>	172.77	130.11	8.12	647	420	turb=10
0930	1805	-	1165.35 <sup>LT</sup>	173.92	130.02	8.11	647	420	turb=11 SCP=10.38
0945	1807	-	1163.38 <sup>sur</sup>	171.95	129.81	8.10	646	420	turb=10
1000	1805	-	1166.20 <sup>LT</sup>	174.77	130.53	8.14	647	420	turb=9
1015	1804	-	1166.8 <sup>sur</sup>	175.37	130.27	8.12	647	420	turb=9
1030	1803	-	1167.21 <sup>LT</sup>	175.78	129.91	8.12	646	420	turb=9 SCP=10.26
1045	1802	-	1167.27 <sup>LT</sup>	175.84	130.27	8.13	647	420	turb=9
1100	1804	-	1167.67 <sup>LT</sup>	176.24	130.27	8.13	647	420	turb=9
1115	1805	-	1167.81 <sup>LT</sup>	176.38	130.39	8.14	647	420	turb=8 slider reads 118.02
1130	1806	-	1167.99 <sup>LT</sup>	176.56	130.39	8.14	647	420	turb=8
1145	1807	-	1167.91 <sup>LT</sup>	176.48	130.23	8.12	646	420	turb=8
1200	1805	-	1167.78 <sup>LT</sup>	176.25	130.33	8.15	646	420	turb=9
1230	1840	-	1168.24 <sup>LT</sup>	176.86	130.23	8.11	646	420	turb=10; SCP=10.4
1242	1835	1886185	-	-	-	-	-	-	
1257	-	-	1169.65	-	130.68	8.14	646	420	turb=8
1300	-	-	-	-	-	-	-	-	pumping rate increased

W:forms/Water quality during development

373 1313 pump shut off because VFD overheated & stopped functioning  
 to 2,000 gpm







1/4

Sounder make, model, S/N: Waterline 1500

Project: Kane Springs

Job No.: 23414322  
Client: Vidler Water

Well Name	Measurement Point (TUCN)		Measured DTW (ft bmp)	Date/Time	DTW (ft bgs)	Comments
	Description	Height (ft ags)				
KMW-1	Static WL w/ URS sounder*		992.04	12/8 1921		DD=0
	Static WL w/ Lang sounder*		998.66	12/8 1945		DD=0
	900 gpm DTW w/ sndr		1003.76	12/8 2348		DD=10.1
	900 gpm DTW w/ LT		1002.58	12/9 0005		DD=10.54
	900 gpm DTW w/ sndr		1005.62	12/9 0025		DD=10.59
	900 gpm DTW w/ LT		1002.98	0037		DD=10.94
	900 gpm DTW w/ sndr		1009.86	0057		DD=11.2
	900 gpm DTW w/ LT		1003.18	0107		DD=11.14
	1200 gpm DTW w/ sndr		1013.91	0138		DD=15.25
	1200 gpm DTW w/ LT		1007.15	0153		DD=15.11
	1200 gpm DTW w/ sndr		1014.2	0205		DD=15.54
	1200 gpm DTW w/ LT		1007.59	0222		DD=15.55
	1200 gpm DTW w/ sndr		1014.43	0234		DD=15.77
	1200 gpm DTW w/ LT		1007.72	0251		DD=15.68
	1200 gpm DTW w/ sndr		1014.66	0305		DD=16
	1200 gpm DTW w/ LT		1007.56	0319		DD=15.82
	1200 gpm DTW w/ sndr		1014.72	0335		DD=16.06
	1200 gpm DTW w/ LT		1007.94	0351		DD=15.9
	1200 gpm DTW w/ sndr		1014.78	0404		DD=16.12
	1200 gpm DTW w/ LT		1003.02	0420		DD=15.98
	1200 gpm DTW w/ sndr		1014.36	0433		DD=16.2
	1200 gpm DTW w/ LT		1003.05	0449		DD=16.01
	1200 gpm DTW w/ sndr		1014.91	0504		DD=16.25
	1200 gpm DTW w/ LT		1003.03	0521		DD=16.04
	1500 gpm DTW w/ sndr		1016.96	0534		DD=18.3
	1500 gpm DTW w/ LT		1011.97	0550		DD=19.93
	1500 gpm DTW w/ sndr		1019.22	0603		DD=20.56
	1500 gpm DTW w/ LT		1012.54	0619		DD=20.5
	1500 gpm DTW w/ sndr		1019.49	0633		DD=20.83
	1500 gpm DTW w/ LT		1012.63	0651		DD=20.64
1500 gpm DTW sndr		1019.62	0703		DD=20.96	

Sndr: sounder ; LT: Level Troll

\* URS sounder is the correct feet below land surface but Lang sounder will be dedicated to the well for measuring drawdown during the test

SE ROA 51797







Water Quality Parameters During Aquifer Testing

Location: Kane Springs, NV  
 Job Number: 23411322  
 Geologist: MK, SH

Date: 12/11/05  
 Well Name/Test Type: KPW-1 constant-rate (1,400 gpm)  
 Static Water Level: 991.30  
 Start Time: 1600

Time	Discharge (gpm)	Totalizer (gallons)	Water Level (feet bgs)	Drawdown (feet)	Temp. (°F)	pH	EC (uS/cm)	TDS (ppm)	Comments
12/11/05 1111	∅	∅	991.30	∅	-	-	-	-	Static Water Level
1600	∅	∅	-	∅	-	-	-	-	Pump On
1615	1799	22842	1144.29	152.95	130.25	8.22	646	420	SC <sub>p</sub> = 11.76 ; turb = 21
1645	1803	76777	1151.85	160.55	130.08	8.15	645	420	SC <sub>p</sub> = 11.23 ; turb = 11
1715	1796	130700	1153.95	162.69	130.29	8.16	646	420	SC <sub>p</sub> = 11.04
1745	1801	184541	1156.10	164.80	130.92	8.12	646	420	SC <sub>p</sub> = 10.92 ; turb = 10
1815	1802	238607	1156.58	165.28	130.64	8.08	646	420	SC <sub>p</sub> = 10.90 ; turb = 11
1845	1795	292521	1157.11	165.81	130.69	8.10	646	420	SC <sub>p</sub> = 10.83 ; turb = 9
1915	1797	346608	1156.98	165.68	130.68	8.09	645	420	SC <sub>p</sub> = 10.85 ; turb = 9
2015	1801	400540	1159.19	167.89	130.93	8.01	645	420	SC <sub>p</sub> = 10.73 ; turb = 10
2045	1803	508420	1159.32	168.02	131.00	8.02	646	420	SC <sub>p</sub> = 10.73 ; turb = 9
2115	1803	526170	1160.61	169.31	131.22	8.08	646	420	SC <sub>p</sub> = 10.65 ; turb = 8
2145	1806	616600	1160.59	169.19	130.68	8.00	645	419	SC <sub>p</sub> = 10.67 ; turb = 7
2215	1805	670673	1160.72	169.77	131.00	8.13	645	419	SC <sub>p</sub> = 10.65 ; turb = 7
2245	1799	729727	1161.63	170.33	131.03	8.09	645	419	SC <sub>p</sub> = 10.56 ; turb = 7
2315	1806	779000	1161.32	170.02	131.02	8.04	645	419	SC <sub>p</sub> = 10.62 ; turb = 6
2345	1806	831054	1161.72	170.47	130.97	8.10	645	419	SC <sub>p</sub> = 10.54 ; turb = 6
0030	1803	916862	1161.75	170.45	130.81	8.09	645	419	turb = 6
0100	1798	973055	1161.81	170.51	130.62	8.08	645	419	turb = 12
0130	1799	1025276	1161.62	170.32	130.95	8.14	645	419	turb = 6
0200	1803	1079778	1162.11	170.81	131.01	8.14	645	419	turb = 6
0230	1801	1134830	1162.27	170.97	130.96	8.12	645	419	turb = 6
0315	1802	1213867	1162.53	171.23	130.70	8.13	645	419	turb = 6
0345	1804	1270973	1162.71	171.41	130.72	8.11	644	419	turb = 8
0415	1803	1323370	1163.05	171.75	130.51	8.14	644	419	turb = 6

W: Norms Water quality during development

SWL: Static Water Level  $70^{ft}$  LT: Level Trol  
 SC<sub>p</sub>: Specific Capacity of 98<sup>gpm</sup>/ft of drawdown SDR: sounder  
 turb: Turbidity (NTU)



Water Quality Parameters During Aquifer Testing

Date: 12/12/05  
 Well Name/Test Type: KRW-1 constant rate (1800 gpm)  
 Static Water Level: 991.30  
 Start Time: 1600 12/11/05

Time	Discharge (gpm)	Totalizer (gallons)	Water Level (feet bgs)	Drawdown (feet)	Temp. (C)	pH	EC (uS/cm)	TDS (ppm)	Comments
0500	1805	162724	1163.63	172.33	130.24	8.13	644	419	turb = 5 SCp = 10.46
0530	1805	1457630	1163.76	172.46	130.86	8.15	644	419	turb = 5
0615	1805	1543683	1163.74	172.44	130.44	8.08	644	419	turb = 5 SCp = 10.43
0645	1801	1593098	1163.86	172.56	130.63	8.15	644	419	turb = 6
0730	1801	1673438	1163.98	172.68	130.35	8.17	644	419	turb = 6 SCp = 10.43
0800	1802	1726176	1163.67	172.37	130.71	8.11	644	419	turb = 5
0830	1900	1779816	1163.97	172.67	130.96	8.16	644	419	turb = 5 SCp = 10.42
0900	1799	1833678	1164.07	172.77	130.80	8.13	644	419	turb = 5
1230	1758	2210021	1165.85	173.55	131.00	8.19	644	419	turb = 5 SCp = 10.36
1240	1757	2318000	1165.58	174.18	131.31	8.17	644	418	turb = 5 SCp = 10.32
1330	1800	2425787	1165.75	174.45	130.93	8.15	643	418	turb = 5
1410	1801	2533575	1165.77	174.57	130.69	8.15	643	418	turb = 5
1430	1802	—	1165.48	174.47	130.52	8.08	643	418	turb = 5
1530	1800	2741640	1165.86	174.85	130.71	8.19	643	418	turb = 6
1630	1798	2857611	1165.98	174.97	130.86	8.20	644	418	turb = 5
December 13, 2005	—	—	—	—	—	—	—	—	—
0930	1800	4477850	1167.25	176.78	130.88	8.18	644	418	SCp = 10.19, turb = 5
1030	1803	4585866	1167.16	176.76	130.69	8.05	643	418	turb = 4
1130	1800	4693418	1167.72	176.52	130.61	8.13	643	418	turb = 5
1230	1802	4800209	1168.23	176.93	130.75	8.16	643	418	turb = 5
1330	1799	4905910	1168.52	177.12	130.84	8.13	643	418	turb = 4, SCp = 10.16
1430	1802	5018203	1168.10	176.80	130.91	8.10	643	418	turb = 5
1530	1801	5126240	1168.78	177.48	130.88	8.08	642	417	turb = 5, SCp = 10.15
1630	1804	5234302	1167.87	176.57	130.72	7.98	644	418	turb = 6
1730	1803	5351240	1168.54	177.14	130.84	8.19	644	418	turb = 5

W:\forms\Water quality during development

\* call WL wr. the LT

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Water Quality Parameters During Aquifer Testing

Date: 12/13/05  
 Well Name/Test Type: KRW-1 Constant-rate (1,800 gpm)  
 Static Water Level: 991.30  
 Start Time: 1600 12/11/05

Location: Krane Springs, NY  
 Job Number: 23414522  
 Geologist: HIK

Time	Discharge (gpm)	Totalizer (gallons)	Water Level (feet bgs)	Drawdown (feet)	Temp. (°F)	pH	EC (uS/cm)	TDS (ppm)	Comments
12/13/05	1802	5450438	1168.07	176.77	130.73	8.16	644	418	SCp = 10.19 ; Zurb = 5
12/14/05	-	-	-	-	-	-	-	-	Zurb = 6
0930	1801	-	1169.72	178.42	130.10	8.26	642	417	SCp = 10.09 ; Zurb = 6
1030	1804	7177254	1170.66	179.36	130.20	8.26	642	418	Zurb = 4 ; SCp = 10.06
1130	1803	7287044	1170.06	178.76	130.63	8.26	643	418	Zurb = 5 ; SCp = 10.09
1230	1803	7395154	1169.54	178.04	130.50	8.26	643	418	Zurb = 4
1330	1804	7503334	1169.54	178.29	130.66	8.28	642	418	Zurb = 4
1430	1800	7611488	1169.62	178.32	130.94	8.30	643	418	Zurb = 3
1530	1803	7719581	1170.07	178.77	130.97	8.23	643	418	Zurb = 3
1630	1808	7827749	1170.01	178.71	130.74	8.28	643	418	Zurb = 4
1730	1804	7935773	1170.23	178.53	130.70	8.27	643	418	Zurb = 4
1830	1801	8043801	1170.05	178.75	130.41	8.28	642	417	Zurb = 4
12/15/05	-	-	-	-	-	-	-	-	-
0930	1795	-	1169.95	178.65	130.25	8.26	642	417	Zurb = 4 ; SCp = 10.05
1030	1800	9650345	1169.87	178.57	130.23	8.22	641	417	Zurb = 4 ; SCp = 10.08
1305	1800	9929281	1169.77	178.47	130.85	8.24	641	417	Zurb = 4
1410	1805	10,046,866	1169.73	178.43	131.32	8.14	643	418	Zurb = 5
1510	1800	10,115,466	1170.21	178.71	131.12	8.48	643	418	Zurb = 4
1610	1800	10,242,866	1169.57	178.27	130.74	8.48	643	418	Zurb = 4
1710	1801	10,370,866	1170.08	178.78	131.05	8.48	643	418	Zurb = 4
1810	1795	10,448,866	1170.02	178.72	131.01	8.50	643	418	Zurb = 3
PUMP OFF AT	-	-	~1925	DUE TO A GENERATOR PROBLEM	-	-	-	-	-

W: Norms Water quality during development

\* E for exponent. This is how the readout appears on the Krane IFC090 water levels w/ LT unless noted





Sounder make, model, S/N: Waterline 1500  
 Project: Same Springs  
 Job No.: 23441322  
 Client: Vidler Water Co

Well Name	Measurement Point		Date/Time	DTW (ft bgs)	Comments
	Description	Height (ft ags)			
KMW-1	Static Water Level		12/11/05 1314		DD = 0
	Pump On	(0)	1600		1800 5pm
	1800 gpm LT DTW	(20)	1620		DD = 21.55
	1800 gpm LT DTW	(50)	1650		DD = 23.78
	1800 gpm LT DTW	(82)	1722		DD = 24.42
	1800 gpm LT DTW	(110)	1750		DD = 24.73
	1800 gpm LT DTW	(142)	1822		DD = 25.04
	1800 gpm LT DTW	(150)	1830		DD = 25.14
	1800 gpm LT DTW	(173)	1853		DD = 25.22
	KPW CR LT DTW	(201)	1921		DD = 25.32
	KPW CR LT DTW	(262)	2022		DD = 25.51
	KPW CR LT DTW	(293)	2053		DD = 25.68
	KPW CR LT DTW	(322)	2122		DD = 25.80
	KPW CR subc DTW	(357)	2157		DD = 26.26
	KPW CR LT DTW	(381)	2221		DD = 25.92
	KPW CR LT DTW	(411)	2251		DD = 25.97
	KPW CR LT DTW	(443)	2323		DD = 26.06
	KPW CR LT DTW	(476)	2350		DD = 26.09
	KPW CR subc DTW	(515)	0035		DD = 26.57
	KPW CR LT DTW	(550)	0110		DD = 26.76
	KPW CR LT DTW	(575)	0135		DD = 26.19
	KPW CR LT DTW	(605)	0205		DD = 26.24
	KPW CR subc DTW	(635)	0235		DD = 26.74
	KPW CR LT DTW	(680)	0320		DD = 26.34
	KPW CR LT DTW	(712)	0352		DD = 26.39
	KPW CR subc DTW	(739)	0419		DD = 26.86
	KPW CR LT DTW	(784)	0501		DD = 26.45
	KPW CR LT DTW	(815)	0535		DD = 26.48
	KPW CR LT DTW	(862)	0622		DD = 26.55
	KPW CR subc DTW	(890)	0650		DD = 27.02
	KPW CR LT DTW	(935)	0735		DD = 26.61

\* CR: Constant-rate



SWL = 991.89

Sounder make, model, S/N: Waterline 1500

Project: Kane Springs

Job No.: 23444322

Client: Uicker Water Co

Well Name	Measurement Point		Height (ft ags)	Measured DTW (ft bmp)	Date/Time	DTW (ft bgs)	Comments
	Description						
KPW-1	KPW CR LT DTW (1964)			1018.54	0904		DD = 26.65
	KPW CR LT DTW (993)			1018.57	0933		DD = 26.63
	KPW CR LT DTW (1073)			1019.58	0903		DD = 26.69
	KPW CR LT DTW (1295)			1018.61	1335		DD = 26.72
	KPW CR LT DTW (1360)			1018.63	1510		DD = 26.74
	KPW CR LT DTW (1415)			1018.66	1535		DD = 26.77
	KPW CR LT DTW (1475)			1018.67	1635		DD = 26.78
	KPW CR LT DTW (1535)			1018.71	1735		DD = 26.82
	KPW CR sndr DTW (1536)			1019.20	1736		DD = 27.31
	KPW CR LT DTW (1575)			1018.77	1835		DD = 26.88
	13 December 2005						
	KPW CR LT DTW (2498)			1019.20	0938		DD = 27.21
	KPW CR sndr DTW (2501)			1019.61	0941		DD = 27.72
	KPW CR LT DTW (2554)			1019.20	1034		DD = 27.21
	KPW CR LT DTW (2615)			1019.18	28 <sup>th</sup> 1135		DD = 27.24
	KPW CR LT DTW (2675)			1019.17	1235		DD = 27.28
	KPW CR sndr DTW (2678)			1019.58	1238		DD = 27.65
	KPW CR LT DTW (2739)			1019.13	1339	DD = 27.24	DD = 27.26
	KPW CR LT DTW (2793)			1019.17	1433		DD = 27.28
	KPW CR LT DTW (2854)			1019.15	1534		DD = 27.30
	KPW CR sndr DTW (2857)			1019.65	1537		DD = 27.36
	KPW CR LT DTW (2915)			1019.23	1635		DD = 27.24
	KPW CR LT DTW (2975)			1019.24	1734		DD = 27.35
	KPW CR LT DTW (3015)			1019.27	1813		DD = 27.38
	KPW CR KPW sndr DTW (3015)			1019.71	1815		DD = 28.84
	KPW CR LT DTW (3034)			1019.52	1834		DD = 27.43
	14 December 2005			1019.66			
	KPW CR LT DTW (3494)			1019.69	1034		DD = 27.80
	KPW CR sndr DTW (3497)			1020.15	1037		DD = 28.26
	KPW CR LT DTW (4053)			1019.65	1133		DD = 27.36
	KPW CR LT DTW (4100)			1019.62	1240		DD = 27.73

SWL = 191.89

Project: Kane Springs  
 Job No.: 23244322  
 Client: Voller Water

Sounder make, model, S/N: Waterline 1500

Well Name	Measurement Point		Measured DTW (ft bmp)	Date/Time	DTW (ft bgs)	Comments
	Description	Height (ft ags)				
KMW-1	KPW CR Sndr DTW (4123)		1020.05	12/14/05 1343		DD = 28.16
	KPW CR LT DTW (4177)		1019.55	1237		DD = 27.66
	KPW CR LT DTW (4233)		1019.56	1433		DD = 27.67
	KPW CR LT DTW (4295)		1019.55	1535		DD = 27.66
	KPW CR Sndr DTW (4347)		1020.05	1537		DD = 28.16
	KPW CR LT DTW (4353)		1019.55	1633		DD = 27.66
	KPW CR LT DTW (4414)		1019.56	1734		DD = 27.67
LT →	KPW CR Sndr DTW (4447)		1019.69	1803		DD = 27.80
	KPW CR LT DTW (4447)		1020.05	1807		DD = 28.16
	KPW CR LT DTW (4474)		1019.60	1854		DD = 27.71
	December 15, 2005					
	KPW CR LT DTW (5375)		1019.54	0935		DD = 27.65
	KPW CR LT DTW (5434)		1019.57	1034		DD = 27.68
	KPW CR LT <del>DTW</del> Sndr DTW (5437)		1019.98	1037		DD = 28.09
	KPW CR LT DTW (5593)		1019.51	1313		DD = 27.62
	KPW CR LT DTW (5658)		1019.50	1513		DD = 27.61
	KPW CR LT DTW (5713)		1019.38	1513		DD = 27.54
	KPW CR LT DTW (5778)		1019.38	1618		DD = 27.54
	KPW CR LT DTW (5835)		1019.50	1715		DD = 27.61
	KPW CR Sndr DTW (5869)		1019.88	1749		DD = 28.09
	KPW CR LT DTW (5874)		1019.51	1752		DD = 27.62
	KPW CR LT DTW (5874)		1019.75	1813		DD = 27.66
	PUMP OFF AT 1745 PVE TO A GENERAL PROBLEM					

27.94





SE ROA 51808

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KPW-1 December 2005 Step-Discharge Test (pumped well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)
12/8/2005 23:29:35.833	0.000	991.169	0.000
12/8/2005 23:29:50.833	0.250	995.294	4.125
12/8/2005 23:30:06.433	0.510	1,009.273	18.104
12/8/2005 23:30:23.233	0.790	1,033.073	41.904
12/8/2005 23:30:41.233	1.090	1,051.940	60.771
12/8/2005 23:30:59.833	1.400	1,065.190	74.021
12/8/2005 23:31:20.233	1.740	1,073.465	82.296
12/8/2005 23:31:41.233	2.090	1,079.158	87.989
12/8/2005 23:32:03.433	2.460	1,079.840	88.671
12/8/2005 23:32:27.433	2.860	1,075.531	84.362
12/8/2005 23:32:52.633	3.280	1,069.429	78.260
12/8/2005 23:33:19.033	3.720	1,063.509	72.340
12/8/2005 23:33:47.233	4.190	1,058.792	67.623
12/8/2005 23:34:17.233	4.690	1,056.118	64.949
12/8/2005 23:34:49.033	5.220	1,053.393	62.224
12/8/2005 23:35:22.633	5.780	1,050.177	59.008
12/8/2005 23:35:58.633	6.380	1,047.655	56.486
12/8/2005 23:36:34.633	6.980	1,048.249	57.080
12/8/2005 23:37:16.633	7.680	1,049.501	58.332
12/8/2005 23:37:58.633	8.380	1,047.913	56.744
12/8/2005 23:38:40.633	9.080	1,047.838	56.669
12/8/2005 23:39:28.633	9.880	1,048.849	57.680
12/8/2005 23:40:22.633	10.780	1,050.060	58.891
12/8/2005 23:41:10.633	11.580	1,050.113	58.944
12/8/2005 23:42:10.633	12.580	1,048.852	57.683
12/8/2005 23:43:10.633	13.580	1,049.987	58.818
12/8/2005 23:44:10.633	14.580	1,048.934	57.765
12/8/2005 23:45:16.633	15.680	1,048.408	57.239
12/8/2005 23:46:28.633	16.880	1,050.469	59.300
12/8/2005 23:47:46.633	18.180	1,047.389	56.220
12/8/2005 23:49:04.633	19.480	1,050.563	59.394
12/8/2005 23:50:28.633	20.880	1,049.205	58.036
12/8/2005 23:51:58.633	22.380	1,050.313	59.144
12/8/2005 23:53:34.633	23.980	1,050.401	59.232
12/8/2005 23:55:10.633	25.580	1,050.111	58.942
12/8/2005 23:56:58.633	27.380	1,048.845	57.676
12/8/2005 23:58:52.633	29.280	1,050.609	59.440
12/9/2005 0:00:52.633	31.280	1,049.345	58.176
12/9/2005 0:02:58.633	33.380	1,048.465	57.296
12/9/2005 0:05:10.633	35.580	1,049.243	58.074
12/9/2005 0:07:34.633	37.980	1,050.677	59.508
12/9/2005 0:10:04.633	40.480	1,049.967	58.798
12/9/2005 0:12:40.633	43.080	1,051.531	60.362
12/9/2005 0:15:28.633	45.880	1,049.204	58.035
12/9/2005 0:18:28.633	48.880	1,049.661	58.492
12/9/2005 0:21:34.633	51.980	1,049.327	58.158
12/9/2005 0:24:58.633	55.380	1,051.336	60.167
12/9/2005 0:28:28.633	58.880	1,050.329	59.160
12/9/2005 0:32:10.633	62.580	1,049.646	58.477
12/9/2005 0:36:10.633	66.580	1,049.865	58.696

KPW-1 December 2005 Step-Discharge Test (pumped well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)
12/9/2005 0:40:22.633	70.780	1,049.549	58.380
12/9/2005 0:44:46.633	75.180	1,050.655	59.486
12/9/2005 0:49:28.633	79.880	1,050.529	59.360
12/9/2005 0:54:28.633	84.880	1,048.995	57.826
12/9/2005 0:59:46.633	90.180	1,051.569	60.400
12/9/2005 1:05:22.633	95.780	1,048.345	57.176
12/9/2005 1:11:22.633	101.780	1,051.228	60.059
12/9/2005 1:17:22.633	107.780	1,050.172	59.003
12/9/2005 1:24:22.633	114.780	1,049.645	58.476
12/9/2005 1:31:22.633	121.780	1,066.554	75.385
12/9/2005 1:38:22.633	128.780	1,075.252	84.083
12/9/2005 1:46:22.633	136.780	1,076.381	85.212
12/9/2005 1:55:22.633	145.780	1,078.158	86.989
12/9/2005 2:03:22.633	153.780	1,078.534	87.365
12/9/2005 2:13:22.633	163.780	1,078.924	87.755
12/9/2005 2:23:22.633	173.780	1,078.181	87.012
12/9/2005 2:33:22.633	183.780	1,078.963	87.794
12/9/2005 2:43:22.633	193.780	1,078.859	87.690
12/9/2005 2:53:22.633	203.780	1,078.608	87.439
12/9/2005 3:03:22.633	213.780	1,077.599	86.430
12/9/2005 3:13:22.633	223.780	1,079.262	88.093
12/9/2005 3:23:22.633	233.780	1,079.693	88.524
12/9/2005 3:33:22.633	243.780	1,078.753	87.584
12/9/2005 3:43:22.633	253.780	1,078.480	87.311
12/9/2005 3:53:22.633	263.780	1,079.671	88.502
12/9/2005 4:03:22.633	273.780	1,077.673	86.504
12/9/2005 4:13:22.633	283.780	1,079.077	87.908
12/9/2005 4:23:22.633	293.780	1,079.152	87.983
12/9/2005 4:33:22.633	303.780	1,079.605	88.436
12/9/2005 4:43:22.633	313.780	1,078.587	87.418
12/9/2005 4:53:22.633	323.780	1,079.972	88.803
12/9/2005 5:03:22.633	333.780	1,080.060	88.891
12/9/2005 5:13:22.633	343.780	1,079.331	88.162
12/9/2005 5:23:22.633	353.780	1,079.378	88.209
12/9/2005 5:33:22.633	363.780	1,104.906	113.737
12/9/2005 5:43:22.633	373.780	1,110.088	118.919
12/9/2005 5:53:22.633	383.780	1,111.162	119.993
12/9/2005 6:03:22.633	393.780	1,111.472	120.303
12/9/2005 6:13:22.633	403.780	1,113.661	122.492
12/9/2005 6:23:22.633	413.780	1,114.145	122.976
12/9/2005 6:33:22.633	423.780	1,113.826	122.657
12/9/2005 6:43:22.633	433.780	1,113.112	121.943
12/9/2005 6:53:22.633	443.780	1,113.354	122.185
12/9/2005 7:03:22.633	453.780	1,112.399	121.230
12/9/2005 7:13:22.633	463.780	1,114.367	123.198
12/9/2005 7:23:22.633	473.780	1,112.574	121.405
12/9/2005 7:33:22.633	483.780	1,114.419	123.250
12/9/2005 7:43:22.633	493.780	1,114.541	123.372
12/9/2005 7:53:22.633	503.780	1,115.375	124.206
12/9/2005 8:03:22.633	513.780	1,114.573	123.404

KPW-1 December 2005 Step-Discharge Test (pumped well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)
12/9/2005 8:13:22.633	523.780	1,115.394	124.225
12/9/2005 8:23:22.633	533.780	1,113.849	122.680
12/9/2005 8:33:22.633	543.780	1,113.488	122.319
12/9/2005 8:43:22.633	553.780	1,115.213	124.044
12/9/2005 8:53:22.633	563.780	1,115.435	124.266
12/9/2005 9:03:22.633	573.780	1,115.202	124.033
12/9/2005 9:13:22.633	583.780	1,114.652	123.483
12/9/2005 9:23:22.633	593.780	1,115.343	124.174
12/9/2005 9:33:22.633	603.780	1,146.884	155.715
12/9/2005 9:43:22.633	613.780	1,152.169	161.000
12/9/2005 9:53:22.633	623.780	1,154.017	162.848
12/9/2005 10:03:22.633	633.780	1,155.368	164.199
12/9/2005 10:13:22.633	643.780	1,155.857	164.688
12/9/2005 10:23:22.633	653.780	1,156.107	164.938
12/9/2005 10:33:22.633	663.780	1,157.068	165.899
12/9/2005 10:43:22.633	673.780	1,157.699	166.530
12/9/2005 10:53:22.633	683.780	1,157.859	166.690
12/9/2005 11:03:22.633	693.780	1,158.315	167.146
12/9/2005 11:13:22.633	703.780	1,158.498	167.329
12/9/2005 11:23:22.633	713.780	1,159.474	168.305
12/9/2005 11:33:22.633	723.780	1,159.482	168.313
12/9/2005 11:43:22.633	733.780	1,158.897	167.728
12/9/2005 11:53:22.633	743.780	1,159.727	168.558
12/9/2005 12:03:22.633	753.780	1,160.132	168.963
12/9/2005 12:13:22.633	763.780	1,160.089	168.920
12/9/2005 12:23:22.633	773.780	1,160.978	169.809
12/9/2005 12:33:22.633	783.780	1,160.672	169.503
12/9/2005 12:43:22.633	793.780	1,161.121	169.952
12/9/2005 12:53:22.633	803.780	1,161.115	169.946
12/9/2005 13:03:22.633	813.780	1,160.679	169.510
12/9/2005 13:13:22.633	823.780	1,161.902	170.733
12/9/2005 13:23:22.633	833.780	1,161.281	170.112
12/9/2005 13:33:22.633	843.780	1,161.101	169.932
12/9/2005 13:43:22.633	853.780	1,162.126	170.957
12/9/2005 13:53:22.633	863.780	1,162.047	170.878
12/9/2005 14:03:22.633	873.780	1,162.674	171.505
12/9/2005 14:13:22.633	883.780	1,161.844	170.675
12/9/2005 14:23:22.633	893.780	1,162.675	171.506
12/9/2005 14:33:22.633	903.780	992.524	1.355
12/9/2005 14:43:22.633	913.780	992.274	1.105
12/9/2005 14:53:22.633	923.780	991.564	0.395
12/9/2005 15:03:22.633	933.780	991.313	0.144
12/9/2005 15:13:22.633	943.780	991.208	0.039
12/9/2005 15:23:22.633	953.780	991.062	-0.107
12/9/2005 15:33:22.633	963.780	990.986	-0.183
12/9/2005 15:43:22.633	973.780	991.051	-0.118

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KPW-1 December 2005 Step-Discharge Test (observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)
12/8/2005 23:29:32.793	0.000	991.963	0.000
12/8/2005 23:29:59.193	0.440	991.959	-0.004
12/8/2005 23:30:27.393	0.910	992.299	0.336
12/8/2005 23:30:57.393	1.410	993.813	1.850
12/8/2005 23:31:29.193	1.940	996.021	4.058
12/8/2005 23:32:02.793	2.500	998.023	6.060
12/8/2005 23:32:38.793	3.100	999.566	7.603
12/8/2005 23:33:14.793	3.700	1,000.530	8.567
12/8/2005 23:33:56.793	4.400	1,000.899	8.936
12/8/2005 23:34:38.793	5.100	1,000.979	9.016
12/8/2005 23:35:20.793	5.800	1,000.838	8.875
12/8/2005 23:36:08.793	6.600	1,000.822	8.859
12/8/2005 23:37:02.793	7.500	1,000.892	8.929
12/8/2005 23:37:50.793	8.300	1,000.910	8.947
12/8/2005 23:38:50.793	9.300	1,001.037	9.074
12/8/2005 23:39:50.793	10.300	1,001.147	9.184
12/8/2005 23:40:50.793	11.300	1,001.321	9.358
12/8/2005 23:41:56.793	12.400	1,001.402	9.439
12/8/2005 23:43:08.793	13.600	1,001.569	9.606
12/8/2005 23:44:26.793	14.900	1,001.676	9.713
12/8/2005 23:45:44.793	16.200	1,001.821	9.858
12/8/2005 23:47:08.793	17.600	1,001.870	9.907
12/8/2005 23:48:38.793	19.100	1,001.995	10.032
12/8/2005 23:50:14.793	20.700	1,002.051	10.088
12/8/2005 23:51:50.793	22.300	1,002.165	10.202
12/8/2005 23:53:38.793	24.100	1,002.235	10.272
12/8/2005 23:55:32.793	26.000	1,002.251	10.288
12/8/2005 23:57:32.793	28.000	1,002.350	10.387
12/8/2005 23:59:38.793	30.100	1,002.423	10.460
12/9/2005 0:01:50.793	32.300	1,002.452	10.489
12/9/2005 0:04:14.793	34.700	1,002.545	10.582
12/9/2005 0:06:44.793	37.200	1,002.588	10.625
12/9/2005 0:09:20.793	39.800	1,002.638	10.675
12/9/2005 0:12:08.793	42.600	1,002.691	10.728
12/9/2005 0:15:08.793	45.600	1,002.740	10.777
12/9/2005 0:18:14.793	48.700	1,002.731	10.768
12/9/2005 0:21:38.793	52.100	1,002.805	10.842
12/9/2005 0:25:08.793	55.600	1,002.809	10.846
12/9/2005 0:28:50.793	59.300	1,002.834	10.871
12/9/2005 0:32:50.793	63.300	1,002.913	10.950
12/9/2005 0:37:02.793	67.500	1,002.938	10.975
12/9/2005 0:41:26.793	71.900	1,002.993	11.030
12/9/2005 0:46:08.793	76.600	1,003.012	11.049
12/9/2005 0:51:08.793	81.600	1,003.020	11.057
12/9/2005 0:56:26.793	86.900	1,003.080	11.117
12/9/2005 1:02:02.793	92.500	1,003.122	11.159
12/9/2005 1:08:02.793	98.500	1,003.161	11.198
12/9/2005 1:14:02.793	104.500	1,003.140	11.177
12/9/2005 1:21:02.793	111.500	1,003.177	11.214
12/9/2005 1:28:02.793	118.500	1,003.243	11.280

KPW-1 December 2005 Step-Discharge Test (observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)
12/9/2005 1:35:02.793	125.500	1,005.416	13.453
12/9/2005 1:43:02.793	133.500	1,006.642	14.679
12/9/2005 1:52:02.793	142.500	1,007.058	15.095
12/9/2005 2:00:02.793	150.500	1,007.249	15.286
12/9/2005 2:10:02.793	160.500	1,007.411	15.448
12/9/2005 2:20:02.793	170.500	1,007.468	15.505
12/9/2005 2:30:02.793	180.500	1,007.544	15.581
12/9/2005 2:40:02.793	190.500	1,007.618	15.655
12/9/2005 2:50:02.793	200.500	1,007.646	15.683
12/9/2005 3:00:02.793	210.500	1,007.706	15.743
12/9/2005 3:10:02.793	220.500	1,007.783	15.820
12/9/2005 3:20:02.793	230.500	1,007.782	15.819
12/9/2005 3:30:02.793	240.500	1,007.807	15.844
12/9/2005 3:40:02.793	250.500	1,007.827	15.864
12/9/2005 3:50:02.793	260.500	1,007.862	15.899
12/9/2005 4:00:02.793	270.500	1,007.887	15.924
12/9/2005 4:10:02.793	280.500	1,007.899	15.936
12/9/2005 4:20:02.793	290.500	1,007.945	15.982
12/9/2005 4:30:02.793	300.500	1,007.949	15.986
12/9/2005 4:40:02.793	310.500	1,007.966	16.003
12/9/2005 4:50:02.793	320.500	1,007.909	15.946
12/9/2005 5:00:02.793	330.500	1,008.007	16.044
12/9/2005 5:10:02.793	340.500	1,008.018	16.055
12/9/2005 5:20:02.793	350.500	1,008.041	16.078
12/9/2005 5:30:02.793	360.500	1,008.058	16.095
12/9/2005 5:40:02.793	370.500	1,011.271	19.308
12/9/2005 5:50:02.793	380.500	1,011.921	19.958
12/9/2005 6:00:02.793	390.500	1,012.202	20.239
12/9/2005 6:10:02.793	400.500	1,012.372	20.409
12/9/2005 6:20:02.793	410.500	1,012.465	20.502
12/9/2005 6:30:02.793	420.500	1,012.537	20.574
12/9/2005 6:40:02.793	430.500	1,012.565	20.602
12/9/2005 6:50:02.793	440.500	1,012.615	20.652
12/9/2005 7:00:02.793	450.500	1,012.637	20.674
12/9/2005 7:10:02.793	460.500	1,012.659	20.696
12/9/2005 7:20:02.793	470.500	1,012.666	20.703
12/9/2005 7:30:02.793	480.500	1,012.721	20.758
12/9/2005 7:40:02.793	490.500	1,012.727	20.764
12/9/2005 7:50:02.793	500.500	1,012.746	20.783
12/9/2005 8:00:02.793	510.500	1,012.772	20.809
12/9/2005 8:10:02.793	520.500	1,012.781	20.818
12/9/2005 8:20:02.793	530.500	1,012.792	20.829
12/9/2005 8:30:02.793	540.500	1,012.836	20.873
12/9/2005 8:40:02.793	550.500	1,012.842	20.879
12/9/2005 8:50:02.793	560.500	1,012.851	20.888
12/9/2005 9:00:02.793	570.500	1,012.911	20.948
12/9/2005 9:10:02.793	580.500	1,012.900	20.937
12/9/2005 9:20:02.793	590.500	1,012.842	20.879
12/9/2005 9:30:02.793	600.500	1,012.816	20.853
12/9/2005 9:40:02.793	610.500	1,016.188	24.225

KPW-1 December 2005 Step-Discharge Test (observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)
12/9/2005 9:50:02.807	620.500	1,016.897	24.934
12/9/2005 10:00:02.793	630.500	1,017.223	25.260
12/9/2005 10:10:02.793	640.500	1,017.415	25.452
12/9/2005 10:20:02.793	650.500	1,017.544	25.581
12/9/2005 10:30:02.793	660.500	1,017.659	25.696
12/9/2005 10:40:02.793	670.500	1,017.721	25.758
12/9/2005 10:50:02.793	680.500	1,017.783	25.820
12/9/2005 11:00:02.793	690.500	1,017.802	25.839
12/9/2005 11:10:02.793	700.500	1,017.793	25.830
12/9/2005 11:20:02.793	710.500	1,017.820	25.857
12/9/2005 11:30:02.793	720.500	1,017.858	25.895
12/9/2005 11:40:02.793	730.500	1,017.868	25.905
12/9/2005 11:50:02.793	740.500	1,017.843	25.880
12/9/2005 12:00:02.793	750.500	1,017.884	25.921
12/9/2005 12:10:02.793	760.500	1,017.858	25.895
12/9/2005 12:20:02.793	770.500	1,017.875	25.912
12/9/2005 12:30:02.793	780.500	1,017.926	25.963
12/9/2005 12:40:02.793	790.500	1,017.892	25.929
12/9/2005 12:50:02.793	800.500	1,017.904	25.941
12/9/2005 13:00:02.793	810.500	1,017.946	25.983
12/9/2005 13:10:02.793	820.500	1,017.929	25.966
12/9/2005 13:20:02.793	830.500	1,017.945	25.982
12/9/2005 13:30:02.793	840.500	1,017.945	25.982
12/9/2005 13:40:02.793	850.500	1,017.973	26.010
12/9/2005 13:50:02.793	860.500	1,017.975	26.012
12/9/2005 14:00:02.793	870.500	1,017.996	26.033
12/9/2005 14:10:02.793	880.500	1,018.003	26.040
12/9/2005 14:20:02.793	890.500	1,018.013	26.050
12/9/2005 14:30:02.793	900.500	996.060	4.097
12/9/2005 14:40:02.793	910.500	995.266	3.303
12/9/2005 14:50:02.793	920.500	994.375	2.412
12/9/2005 15:00:02.793	930.500	993.923	1.960
12/9/2005 15:10:02.793	940.500	993.628	1.665
12/9/2005 15:20:02.793	950.500	993.450	1.487
12/9/2005 15:30:02.793	960.500	993.323	1.360
12/9/2005 15:40:02.793	970.500	993.211	1.248

SE ROA 51816

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**Aquifer Test: January 2006**

# Aquifer Test Configuration

<b>PUMPED WELL</b>		<b>TEST NAME:</b> Kane Springs				
Name: KPW-1 ADWR No.: Casing Depth: 2,012 ft Diameter: 18 5/8 in (OD) Screened Interval: 1,020 - 1,840 Filter Pack Interval: 302 to 2,017 ft Borehole Diameter: 26-inch Coordinates: Ground Level Elevation:	<b>Pump and Discharge</b> Pump Type: Baker Hughes WNE 1600 Max. Rate: 1,800 gpm Intake Depth: 1,854.95 ft Discharge Diameter: 12-inch Flow Measurement Equipment: Krubne IFC 090 Discharge Location:	Date: 1/5/06 Job No.: 23444322 Client: Vidler Water Project: Kane Springs Pump Contractor: Lang				
<b>Water Level Measurement</b> Measurement Point Description: top of coupling on sounder tube outside of casing Measurement Point Height ags: Static Water Level bmp: 991.75 bgs: Transducer Range psi: 300 ft H <sub>2</sub> O: 693 Make: In-Situ Model: LT700 SN: 102315 Data Logger: Same as transducer Make: Model: SN: Sounder: Waterline Make: Special Model: 1500 SN: - Order	<b>Plan view</b> 	<b>Profile</b> 				
<b>OBSERVATION WELLS</b>						
<b>Observation Well 1 Information</b> Name: KMW-1 ADWR No.: Casing Depth: 1920 ft Casing Diameter: 5 1/2-inch OD Screened Interval: 1100-1120, 1320-1340, 1500-1520, 1740-1760, 1880-1900 ft Filter Pack Interval: 955 to 2,013 ft bls Borehole Diameter: 12 1/4-inch Coordinates: Ground Level Elevation: Distance from Pumped Well: 143.33 ft	<b>Water Level Measurement</b> Measurement Point Description: TUCN (top of casing north) Measurement Point Height ags: Static Water Level bmp: 992.06 bgs: Transducer Range psi: 100 ft H <sub>2</sub> O: 231 Make: In-Situ Model: LT700 SN: 102318 Data Logger: Same as transducer Make: Model: SN: Sounder: Waterline Make: Special Model: 1500 SN: - Order Date / Time Logging Began: 10:30 1/5/06	<b>Location Map</b> See pumped well plan, view map ↑ N				
<b>Observation Well 1 Information</b> Name: ADWR No.: Casing Depth: Casing Diameter: Screened Interval: Filter Pack Interval: Borehole Diameter: Coordinates: Ground Level Elevation: Distance from Pumped Well:	<b>Water Level Measurement</b> Measurement Point Description: Measurement Point Height ags: Static Water Level bmp: bgs: Transducer Range psi: ft H <sub>2</sub> O: Make: Model: SN: Data Logger: Make: Model: SN: Sounder: Make: Model: SN: Date / Time Logging Began:	<b>Profiles</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Obs. Well 1</th> <th style="width: 50%;">Obs. Well 2</th> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table>	Obs. Well 1	Obs. Well 2		
Obs. Well 1	Obs. Well 2					

SC1: 1100 - 1120  
 SC2: 1320 - 1340  
 SC3: 1500 - 1520  
 SC4: 1740 - 1760  
 SC5: 1880 - 1900

**URS**

Kane Springs  
Aquifer Test - Pumping Well

Level Troll : LT  
URS sounder → US

URS

Well Name: KPW-1  
Ground Surface Elevation: \_\_\_\_\_

SWL: 991.49 feet bmp <sup>Lang sounder (LS)</sup> 1/4"  
Measuring Point: top of casing flange (TCEF)  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
Page: 1 of 11

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis - note Instrument)	Drawdown (s)	pH	Conductivity ( $\mu S/cm$ or $\mu S/cm$ )	TDS (mg/L)	Temperature ( $^{\circ}C$ / $^{\circ}F$ )	Turbidity (NTUs)
1/5/06	0935	0	13.086EG	∅	991.58 <sup>LS</sup>	∅	-	-	-	-	-
* From yesterday			US =	LS + 0.26	so the LT DTW =	991.49 + 0.26	=	991.75			
1/5/06	1030	0	13.086EG	PUMP ON	-	-	-	-	-	-	
"	1033	3	-	First water at discharge;						clear then brown	
"	1040	10	-	1805	1137.5 <sup>LS</sup>	145.81	7.07	1087	706	129.91	31.8
"	1045	15	-	-	1143.63 <sup>LS</sup>	151.88	7.02	1082	704	129.83	-
"	1100	30	-	1804	1149.88 <sup>LT</sup>	158.13	7.00	1080	702	129.71	21.2
"	1115	45	13.164EG	1809	1157.58 <sup>LT</sup>	159.83	6.98	1077	700	129.23	7.63
"	1120	50	-	1805	1150.55 <sup>LS</sup>	157.06	-	-	-	-	-
"	1130	60	13.190EG	1806	1157.42 <sup>LS</sup>	159.93	6.97	1079	701	130.58	5.42
"	1130	60	-	-	1152.07 <sup>LT</sup>	160.32	-	-	-	-	-
"	1200	90	-	1807	1155.13 <sup>LT</sup>	163.38	6.95	1079	701	131.08	4.09
"	1200	90	-	1807	1152.92 <sup>LS</sup>	161.93	-	-	-	-	-
"	1204	94	13.250EG	1801	-	-	-	-	-	-	-
"	1300	150	-	1803	1155.99 <sup>LT</sup>	164.24	-	-	-	135.02 <sup>LT</sup>	-
"	1300	150	-	1803	1154.02 <sup>LS</sup>	162.53	6.94	1081	703	130.82	3.75
"	1305	155	13.361EG	1801	-	-	-	-	-	-	-

Kane Springs  
Aquifer Test - Pumping Well

LS: Lang sounder  
LT: Level Troll  
US: URS sounder (SWL 991.75 ft bmp)

URS

Well Name: 15PW-1  
Ground Surface Elevation: \_\_\_\_\_

SWL: 991.49 feet bmp  
Measuring Point: TOCF  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
Page: 12 of 11

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet b/s - note instrument)	Drawdown (s)	pH	Conductivity (µS/cm or (µS/cm))	TDS (mg/L)	Temperature (°C/°F)	Turbidity (NTUs)	
1/5/06	1400	210	13,461 EG	1804	1157.46 <sup>LT</sup>	165.71	-	-	-	135.01 <sup>LT</sup>	-	
"	1400	210	-	1804	1155.95 <sup>LS</sup>	164.46	7.05	1081	703	130.84	-	
"	1500	270	13,569 EG	1804	1157.03 <sup>LS</sup>	166.54	7.05	1081	702	130.78	5.26	
"	1500	270	-	1804	1158.11 <sup>LT</sup>	166.32	-	-	-	135.01 <sup>LT</sup>	-	
"	1500	270	Specific Capacity (LT) =		10.84	gpm/ft	-	-	-	-	-	
"	1530	Discharge water very clear with no odor									-	-
"	1600	330	13,681 EG	1801	1157.49 <sup>LS</sup>	166.00	7.04	1081	702	130.95	6.57	
"	1600	330	13,681 EG	1801	1158.93 <sup>LT</sup>	167.18	-	-	-	135.03 <sup>LT</sup>	-	
"	1600	Specific Capacity (from Level Troll data) =		10.77	gpm/ft	-	-	-	-	-	-	
"	1700 1618 HK	390	13,785 EG	1800	1157.91 <sup>LS</sup>	166.41	7.03	1078	701	130.41	4.32	
"	1700 1618 HK	390	13,785 EG	1800	1159.72 <sup>LT</sup>	167.97	-	-	-	135.03 <sup>LT</sup>	-	
"	1700	Specific Capacity (from LT data) =		10.72	gpm/ft	-	-	-	-	-	-	
"	1900	510	14,016 EG	1797	1158.86 <sup>LS</sup>	167.37	7.02	1075	699	130.38	8.13	
1/6/06	1710	1840	16,394 EG	1804	1162.28 <sup>LT</sup>	175.53	-	-	135.05 <sup>LS</sup>	135.05 <sup>LT</sup>	-	
"	1710	1840	16,394 EG	1804	1162.78 <sup>LS</sup>	176.99	7.02	1084	705	130.14	9.05	
"	1730	Specific Capacity based on Level Troll data =		10.84	gpm/ft	-	-	-	-	-	-	

\* When the flow cell was checked prior to the reading, it was not full and the valves showing were lower than last night. The cell was filled, but it is not known how long the cell had been like this.

SE ROA 51820



LS: Lang Sounder  
 LT: Level Troll  
 VS: URS Sounder

LT SWL: 991.75-ft bwp

Kane Springs  
 Aquifer Test - Pumping Well

Well Name: KPW-1  
 Ground Surface Elevation: \_\_\_\_\_

SWL: 991.75 feet bwp  
 Measuring Point: T02F  
 Measuring Point Elevation: \_\_\_\_\_

Drilling Contractor: Lang Exploratory Drilling  
 Page: 3 of 11

Client: Vidler Water Company  
 Project Number: 23444322.40000

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis - note instrument)	Drawdown (s)	pH	Conductivity (µmhos/cm @ 25°C)	TDS (mg/L)	Temperature (°C/F)	Turbidity (NTUs)
1/7/06	1000	2850	18,222.6	1805	LT 1167.20 LS	175.15	-	-	-	135.07 <sup>LT</sup>	-
"	1000	2850	18,223.6	1805	1161.18 LS	169.99	7.03	1074	698	129.73	10.6
"	1000	Specific Capacity	18,175.6	1817	from LT	LT data	-	is 10.29 gpm/ft	-	135.08 <sup>LT</sup>	-
"	1400	3090	18,585.6	1817	1164.28 LS	177.53	-	-	-	130.27	1.74
"	1400	3090	18,585.6	1817	1162.90 LS	171.11	7.04	1086	706	130.27	1.74
"	1400	Specific Capacity	18,175.6	1809	from LT	LT data	is 10.21	-	-	135.07 <sup>LT</sup>	-
"	1500	3150	18,766.6	1809	1168.30 LT	176.55	-	-	-	130.10	2.44
"	1500	3150	18,766.6	1809	1162.25 LS	170.71	7.04	1084	705	135.07 <sup>LT</sup>	-
"	1500	Specific Capacity	18,175.6	1809	from LT	LT data	is 10.25	-	-	135.07 <sup>LT</sup>	-
"	1600	3210	18,875.6	1808	1169.14 LT	177.44	-	-	-	135.07 <sup>LT</sup>	-
"	1600	3210	18,875.6	1808	1163.53 LS	172.04	7.02	1087	707	130.67	1.98
"	1600	Specific Capacity	18,175.6	1808	from LT	LT data	is 10.19	-	-	135.07 <sup>LT</sup>	-
"	1700	3270	18,984.6	1815	1169.05 LT	177.30	-	-	-	135.07 <sup>LT</sup>	-
"	1700	3270	18,984.6	1815	1165.80 LS	172.33	7.03	1087	707	130.65	1.89
"	1800	3330	19,042.6	1807	1168.06 LT	176.51	-	-	-	135.06 <sup>LT</sup>	-
"	1800	3330	19,042.6	1807	1163.51 LS	172.02	7.03	1087	706	130.38	6.43

Specific Capacity @ 1800 from LT data = 10.25 gpm/ft

LS: Lang souder  
 LT: Loret Trull  
 US: URS Souder  
 SWL: 991.49 feet bmp  
 Measuring Point: ~~FT~~ TOCF  
 Measuring Point Elevation:

Kane Springs  
 Aquifer Test - Pumping Well

15PW-1

Well Name:  
 Ground Surface Elevation:

Client: Vidler Water Company  
 Project Number: 23444322-40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis-note Instrument)	Drawdown (s)	pH	Conductivity (µmhos/cm)	TDS (mg/L)	Temperature (°C/F)	Turbidity (NTUs)
1/8/06	0900	4230	-	1805	1161.87 <sup>LS</sup>	170.38	-	-	-	-	-
"	1000	4290	20.824E6	1804	1161.83 <sup>LT</sup>	178.08	7.02	1086	706	130.50	4.12
"	1000	4290	20.824E6	1804	1161.23 <sup>LS</sup>	169.74	-	-	-	135.13 <sup>LT</sup>	-
"	1000	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	on	LT data =>	LT data =>	10.13 <sup>LT</sup>	9.7 <sup>ft</sup>
"	1100	4350	20.933E6	1803	1169.68 <sup>LT</sup>	177.93	-	-	-	135.07	-
"	1100	4350	20.933E6	1803	1161.00 <sup>LS</sup>	169.57	7.03	1087	706	130.20	1.69
"	1100	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	on	LT data =>	LT data =>	10.13 <sup>LT</sup>	9.7 <sup>ft</sup>
"	1200	4410	21.042E6	1805	1169.75 <sup>LT</sup>	177.91	-	-	-	135.08	-
"	1200	4410	21.042E6	1805	1163.24 <sup>LS</sup>	171.85	7.04	1086	706	130.39	1.17
"	1300	4470	21.150E6	1807	1169.14 <sup>LT</sup>	177.39	-	-	-	135.09 <sup>LT</sup>	-
"	1300	4470	21.150E6	1807	1163.62 <sup>LS</sup>	172.17	7.03	1086	706	130.16	1.87
"	1400	4530	21.259E6	1803	1169.41 <sup>LT</sup>	177.66	-	-	-	135.08 <sup>LT</sup>	-
"	1400	4530	21.259E6	1803	1163.54 <sup>LS</sup>	172.05	7.03	1086	706	130.15	1.11
"	1500	4590	21.366E6	1803	1168.75 <sup>LT</sup>	176.98	-	-	-	135.08 <sup>LT</sup>	-
"	1500	4590	21.366E6	1803	1163.73 <sup>LS</sup>	172.24	7.03	1087	706	130.13	1.09
"	"	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	on	LT data =>	LT data =>	10.19	9.7 <sup>ft</sup>

LS: Lang Souder  
 LT: Level Troll  
 US: URS Souder

Kane Springs  
 Aquifer Test - Pumping Well

SWL for US/LT: 991.75 ft  
 LS  
 991.79 feet bmp  
 TOCF

Well Name: KRW-1  
 Ground Surface Elevation:

Measuring Point:  
 Measuring Point Elevation:

Client: Vidler Water Company  
 Project Number: 2344322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis - note instrument)	Drawdown (ft)	pH	Conductivity (µm <sup>2</sup> /cm or µm <sup>2</sup> /cm)	TDS (mg/L)	Temperature (°C/F)	Turbidity (NTUs)
1/8/06	1800	4770	21,691EL	1804	1168.89 <sup>LT</sup>	177.14	-	-	-	135.09 <sup>LT</sup>	-
"	1800	4770	21,691EL	1804	1162.54 <sup>LS</sup>	170.95	7.03	1086	706	129.54	1.09
"	1800	Specific	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
1/9/06	1000	5730	23,524EL	1804	1170.66 <sup>LT</sup>	178.97	-	-	-	135.08 <sup>LT</sup>	-
"	1000	5730	23,524EL	1804	1161.60 <sup>LS</sup>	169.51	7.03	1086	706	129.54	3.80
"	1000	Specific	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
"	1100	5740	23,532EL	1805	1170.15 <sup>LS</sup>	178.40	-	-	-	135.10 <sup>LT</sup>	-
"	1100	5740	23,532EL	1805	1154.67 <sup>LS</sup>	162.18	7.03	1086	706	130.22	3.36
"	1200	5850	23,640EL	1804	1163.93 <sup>LS</sup>	178.14	-	-	-	135.16 <sup>LT</sup>	-
"	1200	5850	23,640EL	1804	1163.93 <sup>LS</sup>	172.44	7.03	1085	705	129.68	2.44
"	1300	5940	23,749EL	1806	1170.13 <sup>LS</sup>	178.28	-	-	-	135.09 <sup>LT</sup>	-
"	1300	5940	23,749EL	1806	1163.78 <sup>LS</sup>	172.29	7.03	1086	706	130.19 <sup>E</sup>	2.03
Based on totalizer starting at			23,086	1806	Eq. thk	average flow at			1300 is	1804.235	pm ±
"	1400	115980	23,857EL	1807	1169.46 <sup>LT</sup>	177.74	-	-	-	135.10 <sup>LT</sup>	-
"	1400	115980	23,857EL	1807	1163.55 <sup>LS</sup>	171.90	7.03	1087	706	130.12	4.26
"	1400	115980	Specific	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity



URS

Kane Springs  
Aquifer Test - Pumping Well

LS: Lang Sounder  
LT: Level Trawl  
US: URS Sounder

USLT SWL: 591.75 ft bml

Well Name: LRW

Ground Surface Elevation: \_\_\_\_\_

SWL: 991.49 feet bmp

Measuring Point: TOCF

Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bsl - note instrument)	Drawdown (s)	pH	Conductivity (µmhos/cm or µmS/cm)	TDS (mg/L)	Temperature (°C/°F)	Turbidity (NTUs)
<del>1/8/06</del>	1500	<del>6050</del>	23,966EG	1803	1169.96 <sup>LT</sup>	178.21	-	-	-	135.09 <sup>LT</sup>	-
"	1500	<del>6050</del>	23,966EG	1803	1163.05 <sup>LS</sup>	171.58	7.03	1086	706	129.84	2.35
"	1500	Spec	ific	Cap	acity	from	LT	data	-	10.12	97 <sup>m</sup> /ft
"	1600	<del>6050</del>	24,074EG	1805	1163.81 <sup>LT</sup>	178.06	-	-	-	135.09 <sup>LT</sup>	-
"	1600	<del>6050</del>	24,074EG	1805	1163.74 <sup>LS</sup>	172.25	7.03	1086	706	130.55	2.74
"	1700	<del>6050</del>	24,182EG	1803	1170.16 <sup>LT</sup>	178.11	-	-	-	135.11	-
"	1700	6150	24,182EG	1803	1163.56 <sup>LS</sup>	172.47	7.03	1086	706	124.74	18.7
"	1800	6210	24,290EG	1805	1170.61 <sup>LT</sup>	178.86	-	-	-	135.10	-
"	1800	6210	24,290EG	1805	1163.50 <sup>LS</sup>	171.91	7.03	1087	706	130.13	41.12
"	1800	6210	Specific	Capacity	from	LT	data	is	-	10.09	97 <sup>m</sup> /ft
1/10/06	1000	7170	-	1806	1160.00 <sup>LS</sup>	168.51	-	-	-	-	-
"	1035	7205	-	1805	1170.62 <sup>LT</sup>	178.87	7.04	1086	706	130.22/135.11	2.36
"	1120	7250	26,167EG	1806	-	-	7.04	1086	706	130.07	1.42
"	1200	7290	26,240EG	1805	1170.76 <sup>LS</sup>	179.01	-	-	-	135.24 <sup>LT</sup>	-
"	1200	7290	26,240EG	1805	1163.21 <sup>LS</sup>	171.72	7.06	1086	706	130.05	1.20
"	1200	7290	Specific	Capacity	from	LT	data	is	-	10.08	97 <sup>m</sup> /ft

\* YSI stopped at 1122 to sample the well, restarted at ~1200



US: Lang sounder  
 LT: Lereel Troll  
 VS: URS sounder

LS: Lang sounder  
 LT: Lereel Troll  
 VS: URS sounder

Kane Springs  
 Aquifer Test - Pumping Well

Well Name: KPW-1  
 Ground Surface Elevation: \_\_\_\_\_

SWL: 991.49 feet bmp  
 Measuring Point: TOCF  
 Measuring Point Elevation: \_\_\_\_\_

Drilling Contractor: Lang Exploratory Drilling  
 Page: 11 of 11

Client: Vidler Water Company  
 Project Number: 23444322.40000

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis - note instrument)	Drawdown (ft)	pH	Conductivity (µmhos/cm)	TDS (mg/L)	Temperature (°C/F)	Turbidity (NTUs)
1/10/06	1300	7350	26,348EL	1804	1170.70 <sup>LT</sup>	178.95	-	-	-	135.12 <sup>LT</sup>	-
"	1300	7350	26,348EL	1804	1163.14 <sup>LS</sup>	171.65	7.03	1086	706	130.18	1.26
"	1300	7350	26,348EL	Spec	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
"	1630	7560	26,788EL	1805	1170.06 <sup>LT</sup>	178.31	-	-	-	135.12 <sup>LT</sup>	-
"	1630	7560	26,788EL	1805	1163.51 <sup>LS</sup>	172.02	7.03	1086	706	130.63	1.44
"	1630	7560	26,788EL	1805	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity	Specific Capacity
"	1700	7590	26,788EL	1803	1164.71 <sup>LT</sup>	177.96	-	-	-	135.11 <sup>LT</sup>	-
"	1700	7590	26,788EL	1803	1163.55 <sup>LS</sup>	171.86	7.03	1087	706	130.75	1.15
"	1700	7590	Spec	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
"	1800	7650	26,890EL	1804	1170.45 <sup>LT</sup>	178.70	-	-	-	135.10 <sup>LT</sup>	-
"	1800	7650	26,890EL	1804	1164.04 <sup>LS</sup>	172.59	7.03	1087	706	130.64	1.35
"	1800	7650	Spec	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
1/11/06	1400	8850	29,056EL	1805	1170.91 <sup>LT</sup>	179.16	-	-	-	135.10 <sup>LT</sup>	-
"	1400	8850	29,056EL	1805	1163.55 <sup>LS</sup>	171.85	7.03	1086	706	130.69	1.40
"	1400	8860	29,056EL	1805	Spec	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
"	1500	8910	29,161EL	1808	1170.60 <sup>LT</sup>	178.85	-	-	-	135.12 <sup>LT</sup>	-

LS: Lang sounder  
 LT: Level Trull  
 URS: URS sounder

USLT SW2451.75  
 ft  
 bms

Kane Springs  
 Aquifer Test - Pumping Well

Well Name: KPW-1

Ground Surface Elevation: \_\_\_\_\_

SWL: 951.44 feet bms  
 Measuring Point: TOCS  
 Measuring Point Elevation: \_\_\_\_\_

Drilling Contractor: Lang Exploratory Drilling

Client: Vidler Water Company  
 Project Number: 2344322.40000

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f1

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bls - note instrument)	Drawdown (ft)	pH	Conductivity (µmhos/cm @ 25°C)	TDS (mg/L)	Temperature (°F)	Turbidity (NTUs)
1/11/06	1500	8970 <sup>8910</sup>	29,164E6	1808	1163.51 <sup>LS</sup>	172.46	7.13	1087	707	130.32	1.77
"	1500	8970 <sup>8910</sup>	29,164E6	1808	Specific Capacity from LT	Specific Capacity from LT	-	-	-	data 10.97m/A	-
"	1600	8970	29,273E6	1800	1176.74 <sup>LS</sup>	178.99	-	-	-	135.11 <sup>LT</sup>	-
"	1600	8970	29,273E6	1800	1163.12 <sup>LS</sup>	171.63	7.13	1086	706	130.68	2.16
"	1600	8970	29,273E6	Specific Capacity	Specific Capacity	Specific Capacity	-	-	-	data 10.06 9P/A	-
1/12/06	1100	10110	31,186E6	1809	1164.26 <sup>LT</sup>	172.51	-	-	-	135.09 <sup>LT</sup>	-
"	1100	10110	31,186E6	1807	1163.34 <sup>LS</sup>	171.65	7.14	1087	707	130.39	1.49
"	1128	10128	-	-	1164.30 <sup>LT</sup>	172.55	-	-	-	135.12 <sup>LT</sup>	-
"	1130	10140	31,234E6	Ø	1095.64 <sup>LT</sup>	103.89	-	-	-	135.10 <sup>LT</sup>	-
"	1131	10141	"	Ø	998.51 <sup>LT</sup>	6.76	-	-	-	135.10 <sup>LT</sup>	-
"	1132	10142	"	Ø	966.44 <sup>LT</sup>	-25.21	-	-	-	-	-
"	1133	10144	"	Ø	968.10 <sup>LT</sup>	-23.65	-	-	-	134.93 <sup>LT</sup>	-
"	1134	10144	"	Ø	976.93 <sup>LT</sup>	-14.82	-	-	-	134.91 <sup>LT</sup>	-
"	1135	10145	"	Ø	987.15 <sup>LT</sup>	-4.60	-	-	-	134.96 <sup>LT</sup>	-
"	1136	10146	"	Ø	993.63	1.88	-	-	-	135.05 <sup>LT</sup>	-
"	1137	10147	"	Ø	995.50	3.75	-	-	-	135.05 <sup>LT</sup>	-

Kane Springs  
Aquifer Test - Pumping Well

LS : Lang Sounder  
LT : Level Trull  
US : US Sounder

URS

Well Name: KPW-1  
Ground Surface Elevation: \_\_\_\_\_

SWL: 991.49 feet bmp<sup>LS</sup>  
Measuring Point: TUCF  
Measuring Point Elevation: \_\_\_\_\_

US<sup>1</sup>/LT SWL 991.75 ft bmp

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis - note instrument)	Drawdown (s)	pH	Conductivity (mS/cm or μS/cm)	TDS (mg/L)	Temperature (°C/°F)	Turbidity (NTUs)
1/12/06	1138	1048	31239.6	∅	995.95 <sup>LT</sup>	4.18	-	-	-	135.09 <sup>LT</sup>	-
"	1139	1049	"	∅	995.79 <sup>LT</sup>	4.04	-	-	-	135.13 <sup>LT</sup>	-
"	1140	1050	"	∅	995.60 <sup>LT</sup>	3.85	-	-	-	-	-
"	1141	1051	"	∅	995.33 <sup>LT</sup>	3.58	-	-	-	-	-
"	1142	1052	"	∅	995.10 <sup>LT</sup>	3.35	-	-	-	135.18 <sup>LT</sup>	-
"	1143	1053	"	∅	994.41 <sup>LT</sup>	2.66	-	-	-	135.19 <sup>LT</sup>	-
"	1144	1054	"	∅	994.23 <sup>LT</sup>	2.98	-	-	-	135.20 <sup>LT</sup>	-
"	1145	1055	"	∅	994.48 <sup>LT</sup>	2.73	-	-	-	135.21 <sup>LT</sup>	-
"	1146	1056	"	∅	994.33 <sup>LT</sup>	2.58	-	-	-	135.22 <sup>LT</sup>	-
"	1147	1057	"	∅	994.24 <sup>LT</sup>	2.49	-	-	-	135.23 <sup>LT</sup>	-
"	1148	1058	"	∅	994.23 <sup>LT</sup>	2.48	-	-	-	135.23 <sup>LT</sup>	-
"	1149	1059	"	∅	993.26 <sup>LT</sup>	1.57	-	-	-	135.23 <sup>LT</sup>	-
"	1150	1060	"	∅	993.84 <sup>LT</sup>	2.19	-	-	-	135.23 <sup>LT</sup>	-
"	1151	1061	"	∅	993.75 <sup>LT</sup>	2.00	-	-	-	135.23 <sup>LT</sup>	-
"	1152	1062	"	∅	993.87 <sup>LT</sup>	2.12	-	-	-	135.23 <sup>LT</sup>	-
"	1153	1063	"	∅	993.61 <sup>LT</sup>	1.86	-	-	-	135.23 <sup>LT</sup>	-



Kane Springs  
Aquifer Test - Pumping Well

LS: Lang sounder  
Level Troll: LT

URS

Well Name: KPW-1  
Ground Surface Elevation: \_\_\_\_\_

US: US sounder US LT SWL 991.75 ft  
991.99 991.99 feet bmp LS

SWL: \_\_\_\_\_  
Measuring Point: TUCF  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bis - note Instrument)	Drawdown (s)	pH	Conductivity (µS/cm or µS/cm)	TDS (mg/L)	Temperature (°C/F)	Turbidity (NTUs)
1/12/06	1154	31 <sup>11</sup> 10164	31.239E6	Ø	993.53 <sup>LT</sup>	1.78	-	-	-	135.23 <sup>LT</sup>	-
"	1155	10165	"	Ø	993.49 <sup>LT</sup>	1.74	-	-	-	135.23 <sup>LT</sup>	-
"	1156	10166	"	Ø	993.41 <sup>LT</sup>	1.66	-	-	-	135.24 <sup>LT</sup>	-
"	1157	10167	"	Ø	993.41 <sup>LT</sup>	1.66	-	-	-	135.26 <sup>LT</sup>	-
"	1158	10168	"	Ø	993.35 <sup>LT</sup>	1.80	-	-	-	135.24 <sup>LT</sup>	-
"	1159	10169	"	Ø	993.28 <sup>LT</sup>	1.53 <sup>LT</sup>	-	-	-	135.25 <sup>LT</sup>	-
"	1200	10170	"	Ø	993.23 <sup>LT</sup>	1.48 <sup>LT</sup>	-	-	-	135.30 <sup>LT</sup>	-
"	1205	10175	"	"	993.20 <sup>LT</sup>	1.45 <sup>LT</sup>	-	-	-	135.26 <sup>LT</sup>	-
"	1210	10180	"	"	992.97 <sup>LT</sup>	1.22	-	-	-	135.26 <sup>LT</sup>	-
"	1215	10185	"	"	992.88 <sup>LT</sup>	1.13	-	-	-	135.26 <sup>LT</sup>	-
"	1220	10190	"	"	992.81 <sup>LT</sup>	1.06	-	-	-	135.26 <sup>LT</sup>	-
"	1225	10195	"	"	992.78 <sup>LT</sup>	1.03 <sup>LT</sup>	-	-	-	135.26 <sup>LT</sup>	-
"	1230	10200	"	"	992.72 <sup>LT</sup>	0.97	-	-	-	135.25 <sup>LT</sup>	-
"	1235	10205	"	"	992.68 <sup>LT</sup>	0.93	-	-	-	135.25 <sup>LT</sup>	-
"	1240	10210	"	"	992.62 <sup>LT</sup>	0.87	-	-	-	135.25 <sup>LT</sup>	-
"	1250	10220	"	"	992.60 <sup>LT</sup>	0.85	-	-	-	135.25 <sup>LT</sup>	-



Kane Springs  
Aquifer Test - Pumping Well

LS: Lang sounder  
LT: Level Troll

US: URS sounder 991.75 ft bmp US, L

Well Name: KPW-1  
Ground Surface Elevation: \_\_\_\_\_

SWL: 991.44 feet bmp LS  
Measuring Point: \_\_\_\_\_  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer (gallons)	Flow (gpm)	DTW (feet bls - note instrument)	Drawdown (s)	pH	Conductivity (mS/cm or uS/cm)	TDS (mg/L)	Temperature (°C/°F)	Turbidity (NTUs)	
1/12/06	1300	10230	31,239.66	0	992.58 <sup>LT</sup>	0.73	-	-	-	135.25 <sup>LT</sup>	-	
1/12/06	1313	10243	"	"	992.41 <sup>LT</sup>	0.66	-	-	-	135.22 <sup>LT</sup>	-	
"	1325	10255	"	"	992.45 <sup>LT</sup>	0.65	-	-	-	135.26 <sup>LT</sup>	-	
"	1345	10275	"	"	992.39 <sup>LT</sup>	0.54	-	-	-	-	-	
"	1415	10305	"	"	992.32 <sup>LT</sup>	0.57	-	-	-	135.46 <sup>LT</sup>	-	
"	1445	10335	"	"	992.16 <sup>LT</sup>	0.41	-	-	-	135.57 <sup>LT</sup>	-	
"	1450	10340	"	"	992.15 <sup>LT</sup>	0.40	-	-	-	135.54 <sup>LT</sup>	-	
1/13/06	0945	11475	"	"	991.48 <sup>LT</sup>	-0.27	-	-	-	134.63 <sup>LT</sup>	-	
"	1020	11510	"	"	991.46 <sup>LT</sup>	-0.29	-	-	-	134.66 <sup>LT</sup>	-	
"	1021	LT log stopped; Test completed										

Kane Springs  
Aquifer Test - Observation Well

Well Name: KMW-1  
 Test Type: KPW Constant-rate  
 Ground Surface Elevation: \_\_\_\_\_

Level Troll: LT  
 URS sounder: US  
 Lang Sounder: LS

Distance & Direction to Pumping Well: 1433ft Ax 1433ft NW  
 SWL: 992.06 feet bmp LS  
 Measuring Point: TO2N  
 Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
 Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
 Page: 1 of 9

fb

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (s)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µmhos/cm @ 25°C)	TDS (mg/L)	Temperature (°C/°F)	Turbidity (NTUs)
1/5/06	0933	Ø	13.086EG	992.06 <sup>US</sup>	Ø	Ø	—	—	—	—	—	—
X <sup>HC</sup>	1030	Ø	13.086EG	PUMP ON								
"	1045	15	—	1011.45 <sup>LT</sup>	14.39	—	~11.85	7.02 <sup>US</sup>	1082 <sup>HC</sup>	—	134.11	—
"	1100	30	—	1013.87 <sup>LT</sup>	21.81	1804	11.41	—	—	—	133.88	—
"	1115	45	13.164EG	1014.78 <sup>LT</sup>	22.72	1809	11.32	—	—	—	133.88	—
"	1123	53	—	1015.44 <sup>US</sup>	23.38	—	—	—	—	—	—	—
"	1130	60	13.190EG	1015.50 <sup>LT</sup>	23.24	1806	11.26	—	—	—	133.97	—
"	1214	104	—	1016.02 <sup>LT</sup>	23.96	—	—	—	—	—	—	—
"	1215	105	—	1016.41 <sup>US</sup>	24.35	1804	—	—	—	—	133.99	—
"	1230	120	—	1016.10 <sup>LT</sup>	24.04	X <sup>HC</sup>	—	—	—	—	134.00	—
"	1300	150	—	1016.34 <sup>LT</sup>	24.28	1803	—	—	—	—	134.00	—
"	1332	182	—	1016.98 <sup>US</sup>	24.92	—	—	—	—	—	X <sup>HC</sup>	—
"	1332	182	—	1016.55 <sup>LT</sup>	24.49	—	—	—	—	—	134.11	—
"	1400	210	13.461EG	1016.65 <sup>LT</sup>	24.59	1804	10.89	—	—	—	134.06	—
"	1443	253	—	1016.87 <sup>LT</sup>	24.81	—	—	—	—	—	134.02	—
"	1443	253	—	1017.30 <sup>US</sup>	25.24	—	—	—	—	—	134.02	—
"	1508	278	—	1016.96 <sup>LT</sup>	24.90	1804	—	—	—	—	134.12	—
"	1508	278	—	1017.38 <sup>US</sup>	25.32	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

Kane Springs  
Aquifer Test - Observation Well

Well Name: KMW-1  
 Test Type: KPW Constant-rate  
 Ground Surface Elevation: \_\_\_\_\_

Level Troll: LT  
 URS sounder: US

Distance & Direction to Pumping Well: 1433 ft 143.3 ft NW  
 SWL: 992.06 feet bmp US  
 Measuring Point: TUCN  
 Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
 Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (s)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µm/cm or (µS/cm))	TDS (mg/L)	Temperature (°C/°F)	Turbidity (NTUs)
1/5/06	1600	330	13,681E6	-	-	1801	10.77	-	-	-	-	-
1/5/06	1618	348	-	1017.59 <sup>US</sup>	25.53	-	-	-	-	-	-	-
"	1618	348	-	1017.15 <sup>LT</sup>	25.09	-	-	-	-	-	134.19	<del>134.19</del> 14x
"	1700	390	13,785E6	-	-	1800	10.72	-	-	-	-	-
"	1707	397	-	1017.71 <sup>US</sup>	25.65	-	-	-	-	-	-	-
"	1707	397	-	1017.29 <sup>LT</sup>	25.23	-	-	-	-	-	134.22	<del>134.22</del> 41
"	1908	518	-	1017.99 <sup>US</sup>	25.92	-	-	-	-	-	-	-
1/6/06	1710	1810	16,399E6	-	-	1804	10.28	-	-	-	-	-
"	1728	1828	-	1019.27 <sup>US</sup>	27.21	-	-	-	-	-	-	-
"	1728	1828	-	1018.85 <sup>LT</sup>	26.77	-	-	-	-	-	134.30	-
1/7/06	1000	2850	18,223E6	-	-	1805	10.29	-	-	-	-	-
"	1011	2861	-	1019.62 <sup>US</sup>	27.56	-	-	-	-	-	-	-
"	1011	2861	-	1019.16 <sup>LT</sup>	27.10	-	-	-	-	-	134.32	-
<del>" 1400</del>	1400	3090	18,658E6	-	-	1813	10.21	-	-	-	-	-
<del>" 1407</del>	1407	3097	-	1019.63 <sup>US</sup>	27.57	-	-	-	-	-	-	-
<del>" 1407</del>	1407	3097	-	1019.18 <sup>LT</sup>	27.12	-	-	-	-	-	134.28	-
1/7/06	1500	3150	18,766E6	-	-	1809	10.25	-	-	-	<del>134.29</del>	-
"	1512	3162	-	1019.64 <sup>US</sup>	27.62	-	-	-	-	-	-	-
"	1512	3162	-	1019.22 <sup>LT</sup>	27.16	-	-	-	-	-	134.29	-



Kane Springs  
Aquifer Test - Observation Well

Level Troll: LT  
URS sounder: US

Well Name: KMW-1  
Test Type: KPW Constant-rate  
Ground Surface Elevation: \_\_\_\_\_

Distance & Direction to Pumping Well: 143.3 ft NW  
SWL: 992.06 feet bmp US  
Measuring Point: TOCN  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (ft)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µm/cm or µS/cm)	TDS (mg/L)	LT Temperature (°C/F)	Turbidity (NTUs)
1/7/06	1600	3210	18.875E6	1019.23 <sup>LT</sup>	-	1808	10.19	-	-	-	-	-
"	1608	3218	-	1019.72 <sup>US</sup>	27.66	-	-	-	-	-	-	-
"	1608	3218	-	1019.23 <sup>LT</sup>	27.17	-	-	-	-	-	134.28 <sup>US</sup>	-
"	1707	3278	-	1019.76 <sup>US</sup>	27.70	-	-	-	-	-	-	-
"	1707	3279	-	1019.24 <sup>LT</sup>	27.18	-	-	-	-	-	134.30	-
"	1800	3330	19.092E6	-	-	1807	10.25	-	-	-	-	-
"	1810	3340	-	1019.80 <sup>US</sup>	27.74	-	-	-	-	-	-	-
"	1810	3340	-	1019.28 <sup>LT</sup>	27.22	-	-	-	-	-	134.30	-
1/8/06	1000	41290	20.824E6	1020.01 <sup>US</sup>	-	-	10.13	-	-	-	-	-
"	1008	41298	-	1019.51 <sup>LT</sup>	27.45	-	-	-	-	-	134.20	-
"	1008	41298	-	1020.01 <sup>US</sup>	27.95	-	-	-	-	-	-	-
"	1100	4350	20.933E6	-	-	1803	10.13	-	-	-	-	-
"	1105	4355	-	1019.51 <sup>LT</sup>	27.45	-	-	-	-	-	134.26	-
"	1105	4355	-	1019.96 <sup>US</sup>	27.90	-	-	-	-	-	-	-
"	1200	4410	21.042E6	-	-	1805	10.14	-	-	-	-	-
"	1205	4415	-	1019.47 <sup>LT</sup>	27.41	-	-	-	-	-	134.20	-
"	1205	4415	-	1019.98 <sup>US</sup>	27.92	-	-	-	-	-	-	-
"	1300	4470	21.150E6	-	-	1807	10.19	-	-	-	-	-
"	1307	4477	-	1019.45 <sup>LT</sup>	27.39	-	-	-	-	-	134.25 <sup>LT</sup>	-
"	1307	4477	-	1019.96 <sup>US</sup>	27.90	-	-	-	-	-	-	-



Kane Springs  
Aquifer Test - Observation Well

LT: Level Troll  
US: ~~US~~ <sup>US</sup> URS sounder

Well Name: KMW-1  
Test Type: ISPLW constant rate  
Ground Surface Elevation: \_\_\_\_\_

Distance & Direction to Pumping Well: 143.3 ft NW  
SWL: 992.06 feet bmp US  
Measuring Point: TUCN  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (s)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µm or mS/cm)	TDS (mg/L)	Temperature (°C) <sup>LF</sup>	Turbidity (NTUs)
1/8/06	1400	4530	21,259 EG	-	-	1803	10.15	-	-	-	-	-
"	1405	4535	-	1019.96 <sup>US</sup>	27.90	-	-	-	-	-	-	-
"	1405	4535	-	1019.43 <sup>LT</sup>	27.37	-	-	-	-	-	134.24	-
"	1500	4590	21,366 EG	-	-	1803	10.19	-	-	-	-	-
"	1507	4597	-	1019.94 <sup>US</sup>	27.93	-	-	-	-	-	-	-
"	1507	4597	-	1019.51 <sup>LT</sup>	27.39	-	-	-	-	-	134.51	-
"	1800	4770	21,691 EG	-	-	1804	10.18	-	-	-	-	-
"	1805	4775	-	1020.06	28.00	-	-	-	-	-	134.05	-
"	1805	4775	-	1019.56	27.50	-	-	-	-	-	-	-
1/9/06	1000	5730	23,424 EG	-	-	1804	10.08	-	-	-	-	-
"	1010	5740	-	1020.28 <sup>US</sup>	28.22	-	-	-	-	-	-	-
"	1010	5740	-	1019.77 <sup>LT</sup>	27.71	-	-	-	-	-	134.27	-
"	1100	5790	23,532 EG	-	-	1805	10.11	-	-	-	-	-
"	1107	5797	-	1019.76 <sup>LT</sup>	27.70	-	-	-	-	-	134.24 <sup>US</sup>	-
"	1107	5797	-	1020.24 <sup>US</sup>	28.17	-	-	-	-	-	-	-
-	+ <sup>US</sup>	-	-	1019.76 <sup>LT</sup>	-	-	-	-	-	-	-	-
"	1200	5850	23,640 EG	-	-	1807	10.12	-	-	-	-	-
"	1207	5857	-	1020.17 <sup>US</sup>	28.11	-	-	-	-	-	-	-
"	1207	5857	-	1019.70 <sup>LT</sup>	27.64	-	-	-	-	-	134.24	-

Kane Springs  
Aquifer Test - Observation Well

LT: Level Trawl  
US: US sounder

Well Name: KM16-1  
Test Type: KPW Constant-rate  
Ground Surface Elevation: \_\_\_\_\_

Distance & Direction to Pumping Well: 143.53 ft NW  
SWL: 992.06 feet bmp <sup>US</sup>  
Measuring Point: TOCN  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (s)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) In Pumped Well	pH	Conductivity (µm or µS/cm)	TDS (mg/L)	LT Temperature (°C/F)	Turbidity (NTUs)
<del>1/9/06</del> 1/8/06	1300	<del>5920</del> <sup>5910</sup>	23,749 EG	-	178.4 <sup>US</sup>	1806	10.12	-	-	-	-	-
"	1310	<del>5950</del> <sup>5920</sup>	-	1020.16 <sup>US</sup>	28.10	-	-	-	-	-	-	-
"	1310	<del>5950</del> <sup>5920</sup>	-	1019.68 <sup>LT</sup>	27.62	-	-	-	-	-	134.22	-
"	1400	<del>5970</del> <sup>5970</sup>	23,857 EG	-	-	1807	10.17	-	-	-	-	-
"	1406	<del>5976</del> <sup>5976</sup>	-	1020.12 <sup>US</sup>	28.06	-	-	-	-	-	-	-
"	1406	<del>5976</del> <sup>5976</sup>	-	1019.63 <sup>LT</sup>	27.57	-	-	-	-	-	134.22	-
"	1500	<del>6050</del> <sup>6050</sup>	23,966 EG	-	-	1803	10.12	-	-	-	-	-
"	1505	<del>6055</del> <sup>6055</sup>	-	1020.10 <sup>US</sup>	28.04	-	-	-	-	-	-	-
"	1505	<del>6055</del> <sup>6055</sup>	-	1019.60 <sup>LT</sup>	27.54	-	-	-	-	-	134.23	-
"	1600	<del>6110</del> <sup>6110</sup>	24,074 EG	-	-	1804	10.13	-	-	-	-	-
"	1610	6100	-	1020.11 <sup>US</sup>	28.05	-	-	-	-	-	-	-
"	1610	6100	-	1019.54 <sup>LT</sup>	27.53	-	-	-	-	-	134.22	-
"	1700	6150	24,183 EG	-	-	1803	10.11	-	-	-	-	-
"	1704	6154	-	1020.13 <sup>US</sup>	28.07	-	-	-	-	-	-	-
"	1704	6154	-	1019.64 <sup>LT</sup>	27.58	-	-	-	-	-	134.21	-
"	1800	6210	24,290 EG	-	-	1805	10.09	-	-	-	-	-
"	1808	6218	-	1020.14 <sup>US</sup>	28.08	-	-	-	-	-	-	-
"	1808	6218	-	1019.64 <sup>LT</sup>	27.56	-	-	-	-	-	134.23	-
1/10/06	1010	7180	-	1020.17 <sup>US</sup>	28.11	-	-	-	-	-	-	-

LT: Level Trawl  
 VS: URS sounder

Kane Springs  
 Aquifer Test - Observation Well

Distance & Direction to Pumping Well: 143.33 ft NW  
 SWL: 992.06 feet bmp  
 Measuring Point: TUGN

Well Name: KMW-1  
 Test Type: ~~VS~~ HK constant - rate  
 Ground Surface Elevation: ~~1200~~

Client: Vidler Water Company  
 Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer-Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (ft)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µmhos/cm)	TDS (mg/L)	Temperature (°C/F)	Turbidity (NTUs)
1/10/06	1041	7211	-	1019.66 <sup>LT</sup>	27.60	-	-	-	-	-	134.30	-
"	<del>1205</del>	<del>7295</del>	-	<del>1019.57<sup>LT</sup></del>	-	-	-	-	-	-	<del>134.30</del>	-
"	<del>1200</del>	<del>7295</del>	-	<del>1020.10<sup>US</sup></del>	-	-	-	-	-	-	-	-
"	1200	7290	26.240E6	-	-	1805	10.08	-	-	-	-	-
"	1205	7295	-	1019.57 <sup>LT</sup>	27.53	-	-	-	-	-	134.30	-
"	1205	7298	-	1020.10 <sup>US</sup>	28.04	-	-	-	-	-	-	-
1/10/06	1300	7350	26.240E6	-	-	1804	10.08	-	-	-	-	-
"	1307	7357	-	1019.56 <sup>LT</sup>	27.50	-	-	-	-	-	134.30	-
"	1307	7357	-	1020.04 <sup>US</sup>	27.98	-	-	-	-	-	-	-
"	1600	7560	26.782E6	-	-	1805	10.18	-	-	-	-	-
"	1637	7567	-	1019.53 <sup>LT</sup>	27.42	-	-	-	-	-	134.24	-
"	1637	7567	-	1020.04 <sup>US</sup>	27.98	-	-	-	-	-	-	-
"	1700	7590	26.782E6	-	-	1803	10.13	-	-	-	-	-
"	1705	7595	-	1019.53 <sup>LT</sup>	27.42	-	-	-	-	-	134.29	-
"	1705	7595	-	1020.04 <sup>US</sup>	27.98	-	-	-	-	-	-	-
"	1800	7650	26.782E6	-	-	1804	10.10	-	-	-	-	-
"	1807	7657	-	1019.57 <sup>LT</sup>	27.51	-	-	-	-	-	134.24	-
"	1807	7657	-	1020.08 <sup>US</sup>	28.02	-	-	-	-	-	-	-
1/11/06	1400	8880	26.052E6	-	-	1805	10.07	-	-	-	-	-

HK NI

HK



Kane Springs  
Aquifer Test - Observation Well

LT: Level Troll  
US: URS sounder

Well Name: SMW-1  
Test Type: CPW constant rate  
Ground Surface Elevation: \_\_\_\_\_

Distance & Direction to Pumping Well: 143.33 ft NW  
SWL: 992.06 feet bmp US  
Measuring Point: TOCN  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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ft

Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (ft)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µm or µS/cm)	TDS (‰)	LT Temperature (°C/°F)	Turbidity (NTUs)
1/11/06	1405	8855	-	1019.50 <sup>LT</sup>	27.44	-	-	-	-	-	134.55 <sup>LT</sup>	-
"	1405	8855	-	1020.04 <sup>US</sup>	27.98	-	-	-	-	-	-	-
"	<del>1500</del> 1500	8910	29,164 <sup>EL</sup>	-	-	1808	10.11	-	-	-	-	-
"	1505	8915	-	1019.50 <sup>LT</sup>	27.44	-	-	-	-	-	134.30	-
"	1505	8915	-	1020.03 <sup>US</sup>	27.97	-	-	-	-	-	-	-
"	1600	8970	29,273 <sup>EL</sup>	-	-	1800	10.06	-	-	-	-	-
"	1605	8975	-	1020.03 <sup>US</sup>	27.97	-	-	-	-	-	-	-
"	1605	8975	-	1019.59 <sup>LT</sup>	27.43	-	-	-	-	-	134.26	-
1/12/06	1107	10117	-	1020.09 <sup>US</sup>	28.03	-	-	-	-	-	-	-
"	1107	10117	-	1019.58 <sup>LT</sup>	27.52	-	-	-	-	-	134.27	-
"	1125	10125	-	1019.61 <sup>LT</sup>	27.55	-	-	-	-	-	134.26	-
"	1129	Restart level troll for new log cycle to collect recovery data										-
"	1130	Pump off										-
"	1131	10140	31,239 <sup>EL</sup>	1015.09 <sup>LT</sup>	29.03	0	-	-	-	-	134.27	-
"	1132	10142	"	1006.27 <sup>LT</sup>	14.21	"	"	-	-	-	134.28	-
"	1133	10143	"	1002.60 <sup>LT</sup>	10.54	"	"	-	-	-	134.33	-
"	1134	10144	"	1000.31 <sup>LT</sup>	"	"	"	-	-	-	134.34	-
"	1135	10145	"	999.44 <sup>LT</sup>	"	"	"	-	-	-	134.40	-
"	1136	10146	"	999.39 <sup>LT</sup>	"	"	"	-	-	-	134.45	-



Kane Springs  
Aquifer Test - Observation Well

LT: Level Troll  
US: URS Souder

Well Name: KMW-1  
Test Type: KPW Constant Rate Test  
Ground Surface Elevation: \_\_\_\_\_

Distance & Direction to Pumping Well: 143.33 ft NW  
SWL: 992.06 feet bmp US  
Measuring Point: TOLN  
Measuring Point Elevation: \_\_\_\_\_

Client: Vidler Water Company  
Project Number: 23444322.40000

Drilling Contractor: Lang Exploratory Drilling  
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Date	Time of Day (24-hour clock)	Elapsed time (minutes)	Totalizer - Pumped Well (gallons)	DTW (feet bmp - note instrument)	Drawdown (s)	Flow of Pumped Well (gpm)	Specific Capacity (gpm/ft) in Pumped Well	pH	Conductivity (µS/cm or mS/cm)	TDS (mg/L)	LT Temperature (°C/F)	Turbidity (NTUs)
01/12/06	11:37	10143	31,231 E6	999.41 <sup>LT</sup>	7.35	∅	-	-	-	-	134.49	-
"	11:38	10148	"	999.26 <sup>LT</sup>	7.20	"	"	-	-	-	134.52	-
"	11:39	10149	"	999.08 <sup>LT</sup>	7.02	"	"	-	-	-	134.57	-
"	11:40	10150	"	998.83 <sup>LT</sup>	6.77	"	"	-	-	-	134.64	-
"	11:41	10151	"	998.70 <sup>US</sup>	6.70	"	"	-	-	-	-	-
"	11:45	10155	"	997.79 <sup>LT</sup>	5.73	"	"	-	-	-	134.91	-
"	11:50	10160	"	997.07 <sup>LT</sup>	5.01	"	"	-	-	-	134.99	-
"	11:55	10165	"	996.66 <sup>LT</sup>	4.60	"	"	-	-	-	135.03	-
"	12:00	10170	"	996.34 <sup>LT</sup>	4.28	"	"	-	-	-	135.06	-
"	12:01	10171	"	996.50 <sup>US</sup>	4.44	"	"	-	-	-	-	-
"	12:15	10185	"	995.80 <sup>LT</sup>	3.74	"	"	-	-	-	135.10	-
"	12:30	10200	"	995.92 <sup>LT</sup>	3.30	"	"	-	-	-	135.13	-
"	12:31	10201	"	995.59 <sup>US</sup>	3.53	"	"	-	-	-	-	-
"	12:45	10215	"	995.19 <sup>LT</sup>	3.13	"	"	-	-	-	135.14	-
"	12:46	10216	"	995.34 <sup>US</sup>	3.28	"	"	-	-	-	-	-
"	12:46:30	10230	"	994.99 <sup>LT</sup>	2.93	"	"	-	-	-	135.14	-
"	13:01	10231	"	995.16 <sup>US</sup>	3.12	"	"	-	-	-	-	-
"	13:30	10260	"	994.91 <sup>US</sup>	2.85	"	"	-	-	-	-	-
"	13:30	10260	"	994.77 <sup>LT</sup>	2.71	"	"	-	-	-	135.15	-



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KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/5/2006 10:30:03.559	0.00	991.645	0.000			
1/5/2006 10:30:03.809	0.00	992.392	0.747			
1/5/2006 10:30:04.059	0.01	992.275	0.630			
1/5/2006 10:30:04.309	0.01	992.031	0.386			
1/5/2006 10:30:04.559	0.02	993.287	1.642			
1/5/2006 10:30:04.809	0.02	992.544	0.899			
1/5/2006 10:30:05.059	0.03	992.975	1.330			
1/5/2006 10:30:05.309	0.03	993.614	1.969			
1/5/2006 10:30:05.559	0.03	993.325	1.680			
1/5/2006 10:30:05.809	0.04	993.784	2.139			
1/5/2006 10:30:06.059	0.04	993.879	2.234			
1/5/2006 10:30:06.419	0.05	994.216	2.571			
1/5/2006 10:30:06.779	0.05	994.328	2.683			
1/5/2006 10:30:07.199	0.06	994.485	2.840			
1/5/2006 10:30:07.619	0.07	994.541	2.896			
1/5/2006 10:30:08.039	0.07	994.394	2.749			
1/5/2006 10:30:08.519	0.08	994.226	2.581			
1/5/2006 10:30:09.059	0.09	994.301	2.656			
1/5/2006 10:30:09.539	0.10	994.332	2.687			
1/5/2006 10:30:10.139	0.11	994.523	2.878			
1/5/2006 10:30:10.739	0.12	995.140	3.495			
1/5/2006 10:30:11.339	0.13	994.524	2.879			
1/5/2006 10:30:11.999	0.14	995.831	4.186			
1/5/2006 10:30:12.719	0.15	996.366	4.721			
1/5/2006 10:30:13.499	0.17	996.712	5.067			
1/5/2006 10:30:14.279	0.18	997.062	5.417			
1/5/2006 10:30:15.119	0.19	997.429	5.784			
1/5/2006 10:30:16.019	0.21	998.395	6.750			
1/5/2006 10:30:16.979	0.22	998.767	7.122			
1/5/2006 10:30:17.939	0.24	1,000.090	8.445			
1/5/2006 10:30:19.019	0.26	1,000.838	9.193			
1/5/2006 10:30:20.159	0.28	1,001.686	10.041			
1/5/2006 10:30:21.359	0.30	1,003.071	11.426			
1/5/2006 10:30:22.619	0.32	1,003.554	11.909			
1/5/2006 10:30:23.939	0.34	1,005.195	13.550			
1/5/2006 10:30:25.379	0.36	1,006.876	15.231			
1/5/2006 10:30:26.879	0.39	1,008.591	16.946			
1/5/2006 10:30:28.439	0.41	1,010.289	18.644			
1/5/2006 10:30:30.119	0.44	1,012.029	20.384			
1/5/2006 10:30:31.919	0.47	1,014.261	22.616			
1/5/2006 10:30:33.779	0.50	1,016.476	24.831			
1/5/2006 10:30:35.819	0.54	1,019.501	27.856			
1/5/2006 10:30:37.919	0.57	1,022.487	30.842			
1/5/2006 10:30:40.139	0.61	1,025.508	33.863			
1/5/2006 10:30:42.539	0.65	1,028.030	36.385			
1/5/2006 10:30:45.059	0.69	1,033.538	41.893			
1/5/2006 10:30:47.699	0.74	1,038.483	46.838			
1/5/2006 10:30:50.519	0.78	1,042.765	51.120			
1/5/2006 10:30:53.519	0.83	1,049.664	58.019			
1/5/2006 10:30:56.699	0.89	1,053.256	61.611			
1/5/2006 10:31:00.059	0.94	1,058.442	66.797			
1/5/2006 10:31:03.659	1.00	1,062.644	70.999			
1/5/2006 10:31:07.259	1.06	1,066.912	75.267			
1/5/2006 10:31:11.459	1.13	1,071.167	79.522			
1/5/2006 10:31:15.659	1.20	1,075.522	83.877			
1/5/2006 10:31:19.859	1.27	1,079.003	87.358			
1/5/2006 10:31:24.659	1.35	1,082.556	90.911			
1/5/2006 10:31:30.059	1.44	1,086.834	95.189			
1/5/2006 10:31:34.859	1.52	1,089.962	98.317			
1/5/2006 10:31:40.859	1.62	1,093.076	101.431			
1/5/2006 10:31:46.859	1.72	1,096.082	104.437			
1/5/2006 10:31:52.859	1.82	1,098.261	106.616			
1/5/2006 10:31:59.459	1.93	1,101.081	109.436			
1/5/2006 10:32:06.659	2.05	1,103.272	111.627			
1/5/2006 10:32:14.459	2.18	1,104.733	113.088			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	1/t'
1/5/2006 10:32:22.259	2.31	1,105.958	114.313			
1/5/2006 10:32:30.659	2.45	1,107.276	115.631			
1/5/2006 10:32:39.659	2.60	1,107.104	115.459			
1/5/2006 10:32:49.259	2.76	1,109.028	117.383			
1/5/2006 10:32:58.859	2.92	1,109.071	117.426			
1/5/2006 10:33:09.659	3.10	1,111.239	119.594			
1/5/2006 10:33:21.059	3.29	1,112.658	121.013			
1/5/2006 10:33:33.059	3.49	1,114.865	123.220			
1/5/2006 10:33:45.659	3.70	1,116.896	125.251			
1/5/2006 10:33:58.859	3.92	1,117.812	126.167			
1/5/2006 10:34:13.259	4.16	1,120.655	129.010			
1/5/2006 10:34:28.259	4.41	1,122.020	130.375			
1/5/2006 10:34:43.859	4.67	1,123.033	131.388			
1/5/2006 10:35:00.659	4.95	1,124.556	132.911			
1/5/2006 10:35:18.659	5.25	1,125.746	134.101			
1/5/2006 10:35:37.259	5.56	1,127.715	136.070			
1/5/2006 10:35:57.659	5.90	1,129.612	137.967			
1/5/2006 10:36:18.659	6.25	1,129.902	138.257			
1/5/2006 10:36:40.859	6.62	1,131.138	139.493			
1/5/2006 10:37:04.859	7.02	1,133.181	141.536			
1/5/2006 10:37:30.059	7.44	1,133.754	142.109			
1/5/2006 10:37:56.459	7.88	1,134.946	143.301			
1/5/2006 10:38:24.659	8.35	1,135.924	144.279			
1/5/2006 10:38:54.659	8.85	1,136.227	144.582			
1/5/2006 10:39:26.459	9.38	1,136.992	145.347			
1/5/2006 10:40:00.059	9.94	1,138.351	146.706			
1/5/2006 10:40:36.059	10.54	1,139.005	147.360			
1/5/2006 10:41:12.059	11.14	1,140.198	148.553			
1/5/2006 10:41:54.059	11.84	1,141.343	149.698			
1/5/2006 10:42:36.059	12.54	1,141.667	150.022			
1/5/2006 10:43:18.059	13.24	1,142.481	150.836			
1/5/2006 10:44:06.059	14.04	1,142.805	151.160			
1/5/2006 10:45:00.059	14.94	1,143.625	151.980			
1/5/2006 10:45:48.059	15.74	1,144.687	153.042			
1/5/2006 10:46:48.059	16.74	1,145.181	153.536			
1/5/2006 10:47:48.059	17.74	1,145.642	153.997			
1/5/2006 10:48:48.059	18.74	1,146.640	154.995			
1/5/2006 10:49:54.059	19.84	1,147.014	155.369			
1/5/2006 10:51:06.059	21.04	1,146.907	155.262			
1/5/2006 10:52:24.059	22.34	1,147.913	156.268			
1/5/2006 10:53:42.059	23.64	1,148.349	156.704			
1/5/2006 10:55:06.059	25.04	1,148.969	157.324			
1/5/2006 10:56:36.059	26.54	1,149.212	157.567			
1/5/2006 10:58:12.058	28.14	1,149.492	157.847			
1/5/2006 10:59:48.058	29.74	1,149.620	157.975			
1/5/2006 11:01:36.059	31.54	1,149.788	158.143			
1/5/2006 11:03:30.059	33.44	1,150.582	158.937			
1/5/2006 11:05:30.059	35.44	1,150.207	158.562			
1/5/2006 11:07:36.059	37.54	1,150.675	159.030			
1/5/2006 11:09:48.059	39.74	1,150.498	158.853			
1/5/2006 11:12:12.059	42.14	1,152.178	160.533			
1/5/2006 11:14:42.059	44.64	1,151.539	159.894			
1/5/2006 11:17:18.059	47.24	1,152.598	160.953			
1/5/2006 11:20:06.059	50.04	1,152.192	160.547			
1/5/2006 11:23:06.059	53.04	1,152.414	160.769			
1/5/2006 11:26:12.059	56.14	1,152.532	160.887			
1/5/2006 11:29:36.059	59.54	1,151.918	160.273			
1/5/2006 11:33:06.059	63.04	1,152.933	161.288			
1/5/2006 11:36:48.059	66.74	1,153.289	161.644			
1/5/2006 11:40:48.059	70.74	1,153.548	161.903			
1/5/2006 11:45:00.059	74.94	1,153.654	162.009			
1/5/2006 11:49:24.059	79.34	1,153.476	161.831			
1/5/2006 11:54:06.059	84.04	1,153.489	161.844			
1/5/2006 11:59:06.059	89.04	1,153.937	162.292			
1/5/2006 12:04:24.059	94.34	1,154.264	162.619			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-OTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	ft'
1/5/2006 12:10:00.059	99.94	1,154.502	162.857			
1/5/2006 12:16:00.059	105.94	1,154.348	162.703			
1/5/2006 12:22:00.059	111.94	1,154.889	163.244			
1/5/2006 12:29:00.059	118.94	1,154.898	163.253			
1/5/2006 12:36:00.059	125.94	1,155.237	163.592			
1/5/2006 12:43:00.059	132.94	1,155.557	163.912			
1/5/2006 12:51:00.059	140.94	1,156.537	164.892			
1/5/2006 13:00:00.058	149.94	1,155.814	164.169			
1/5/2006 13:08:00.059	157.94	1,156.396	164.751			
1/5/2006 13:18:00.059	167.94	1,156.530	164.885			
1/5/2006 13:28:00.059	177.94	1,156.863	165.218			
1/5/2006 13:38:00.059	187.94	1,156.832	165.187			
1/5/2006 13:48:00.059	197.94	1,156.714	165.069			
1/5/2006 13:58:00.059	207.94	1,157.283	165.638			
1/5/2006 14:08:00.059	217.94	1,157.180	165.535			
1/5/2006 14:18:00.059	227.94	1,157.352	165.707			
1/5/2006 14:28:00.059	237.94	1,157.766	166.121			
1/5/2006 14:38:00.059	247.94	1,158.156	166.511			
1/5/2006 14:48:00.059	257.94	1,157.699	166.054			
1/5/2006 14:58:00.059	267.94	1,157.986	166.341			
1/5/2006 15:08:00.059	277.94	1,158.443	166.798			
1/5/2006 15:18:00.059	287.94	1,158.031	166.386			
1/5/2006 15:28:00.059	297.94	1,157.894	166.249			
1/5/2006 15:38:00.059	307.94	1,157.974	166.329			
1/5/2006 15:48:00.059	317.94	1,158.178	166.533			
1/5/2006 15:58:00.059	327.94	1,158.513	166.868			
1/5/2006 16:08:00.058	337.94	1,158.716	167.071			
1/5/2006 16:18:00.059	347.94	1,159.228	167.583			
1/5/2006 16:28:00.059	357.94	1,158.616	166.971			
1/5/2006 16:38:00.059	367.94	1,158.652	167.007			
1/5/2006 16:48:00.059	377.94	1,158.616	166.971			
1/5/2006 16:58:00.058	387.94	1,159.240	167.595			
1/5/2006 17:08:00.059	397.94	1,158.885	167.240			
1/5/2006 17:18:00.059	407.94	1,158.414	166.769			
1/5/2006 17:28:00.059	417.94	1,159.179	167.534			
1/5/2006 17:38:00.059	427.94	1,159.734	168.089			
1/5/2006 17:48:00.059	437.94	1,159.958	168.313			
1/5/2006 17:58:00.059	447.94	1,159.760	168.115			
1/5/2006 18:08:00.059	457.94	1,159.522	167.877			
1/5/2006 18:18:00.059	467.94	1,159.857	168.212			
1/5/2006 18:28:00.059	477.94	1,160.250	168.605			
1/5/2006 18:38:00.059	487.94	1,160.824	169.179			
1/5/2006 18:48:00.059	497.94	1,159.999	168.354			
1/5/2006 18:58:00.059	507.94	1,159.783	168.138			
1/5/2006 19:08:00.059	517.94	1,159.925	168.280			
1/5/2006 19:18:00.059	527.94	1,159.181	167.536			
1/5/2006 19:28:00.059	537.94	1,159.731	168.086			
1/5/2006 19:38:00.059	547.94	1,159.388	167.743			
1/5/2006 19:48:00.059	557.94	1,159.772	168.127			
1/5/2006 19:58:00.059	567.94	1,159.914	168.269			
1/5/2006 20:08:00.059	577.94	1,160.076	168.431			
1/5/2006 20:18:00.059	587.94	1,159.777	168.132			
1/5/2006 20:28:00.059	597.94	1,160.567	168.922			
1/5/2006 20:38:00.059	607.94	1,160.488	168.843			
1/5/2006 20:48:00.059	617.94	1,160.596	168.951			
1/5/2006 20:58:00.059	627.94	1,160.231	168.586			
1/5/2006 21:08:00.059	637.94	1,160.101	168.456			
1/5/2006 21:18:00.059	647.94	1,161.040	169.395			
1/5/2006 21:28:00.059	657.94	1,160.919	169.274			
1/5/2006 21:38:00.059	667.94	1,161.125	169.480			
1/5/2006 21:48:00.059	677.94	1,161.400	169.755			
1/5/2006 21:58:00.059	687.94	1,161.200	169.555			
1/5/2006 22:08:00.059	697.94	1,161.089	169.444			
1/5/2006 22:18:00.059	707.94	1,162.047	170.402			
1/5/2006 22:28:00.059	717.94	1,161.059	169.414			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/5/2006 22:38:00.059	727.94	1,161.406	169.761			
1/5/2006 22:48:00.059	737.94	1,161.163	169.518			
1/5/2006 22:58:00.059	747.94	1,161.732	170.087			
1/5/2006 23:08:00.059	757.94	1,161.537	169.892			
1/5/2006 23:18:00.059	767.94	1,160.593	168.948			
1/5/2006 23:28:00.059	777.94	1,161.241	169.596			
1/5/2006 23:38:00.059	787.94	1,161.616	169.971			
1/5/2006 23:48:00.059	797.94	1,161.555	169.910			
1/5/2006 23:58:00.059	807.94	1,161.860	170.215			
1/6/2006 0:08:00.059	817.94	1,161.652	170.007			
1/6/2006 0:18:00.059	827.94	1,161.210	169.565			
1/6/2006 0:28:00.059	837.94	1,160.909	169.264			
1/6/2006 0:38:00.059	847.94	1,161.437	169.792			
1/6/2006 0:48:00.059	857.94	1,161.724	170.079			
1/6/2006 0:58:00.059	867.94	1,162.258	170.613			
1/6/2006 1:08:00.059	877.94	1,162.144	170.499			
1/6/2006 1:18:00.059	887.94	1,162.403	170.758			
1/6/2006 1:28:00.059	897.94	1,161.314	169.669			
1/6/2006 1:38:00.059	907.94	1,160.772	169.127			
1/6/2006 1:48:00.059	917.94	1,161.023	169.378			
1/6/2006 1:58:00.059	927.94	1,162.111	170.466			
1/6/2006 2:08:00.059	937.94	1,162.280	170.635			
1/6/2006 2:18:00.059	947.94	1,161.101	169.456			
1/6/2006 2:28:00.059	957.94	1,162.391	170.746			
1/6/2006 2:38:00.059	967.94	1,162.628	170.983			
1/6/2006 2:48:00.059	977.94	1,162.166	170.521			
1/6/2006 2:58:00.059	987.94	1,162.741	171.096			
1/6/2006 3:08:00.059	997.94	1,162.346	170.701			
1/6/2006 3:18:00.059	1,007.94	1,162.681	171.036			
1/6/2006 3:28:00.059	1,017.94	1,162.769	171.124			
1/6/2006 3:38:00.059	1,027.94	1,162.488	170.843			
1/6/2006 3:48:00.059	1,037.94	1,163.362	171.717			
1/6/2006 3:58:00.059	1,047.94	1,162.614	170.969			
1/6/2006 4:08:00.059	1,057.94	1,161.059	169.414			
1/6/2006 4:18:00.059	1,067.94	1,161.728	170.083			
1/6/2006 4:28:00.059	1,077.94	1,163.505	171.860			
1/6/2006 4:38:00.059	1,087.94	1,162.218	170.573			
1/6/2006 4:48:00.059	1,097.94	1,162.738	171.093			
1/6/2006 4:58:00.059	1,107.94	1,163.490	171.845			
1/6/2006 5:08:00.059	1,117.94	1,163.313	171.668			
1/6/2006 5:18:00.059	1,127.94	1,162.808	171.163			
1/6/2006 5:28:00.059	1,137.94	1,161.920	170.275			
1/6/2006 5:38:00.059	1,147.94	1,162.892	171.247			
1/6/2006 5:48:00.059	1,157.94	1,162.939	171.294			
1/6/2006 5:58:00.059	1,167.94	1,163.892	172.247			
1/6/2006 6:08:00.059	1,177.94	1,162.096	170.451			
1/6/2006 6:18:00.059	1,187.94	1,162.288	170.643			
1/6/2006 6:28:00.059	1,197.94	1,162.885	171.240			
1/6/2006 6:38:00.059	1,207.94	1,163.243	171.598			
1/6/2006 6:48:00.059	1,217.94	1,163.285	171.640			
1/6/2006 6:58:00.059	1,227.94	1,162.743	171.098			
1/6/2006 7:08:00.059	1,237.94	1,163.213	171.568			
1/6/2006 7:18:00.059	1,247.94	1,162.664	171.019			
1/6/2006 7:28:00.059	1,257.94	1,163.373	171.728			
1/6/2006 7:38:00.059	1,267.94	1,163.914	172.269			
1/6/2006 7:48:00.059	1,277.94	1,163.919	172.274			
1/6/2006 7:58:00.059	1,287.94	1,163.538	171.893			
1/6/2006 8:08:00.059	1,297.94	1,163.880	172.235			
1/6/2006 8:18:00.059	1,307.94	1,163.305	171.660			
1/6/2006 8:28:00.059	1,317.94	1,163.252	171.607			
1/6/2006 8:38:00.059	1,327.94	1,163.927	172.282			
1/6/2006 8:48:00.059	1,337.94	1,164.314	172.669			
1/6/2006 8:58:00.059	1,347.94	1,162.844	171.199			
1/6/2006 9:08:00.059	1,357.94	1,163.844	172.199			
1/6/2006 9:18:00.059	1,367.94	1,163.619	171.974			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/6/2006 9:28:00.059	1,377.94	1,164.067	172.422			
1/6/2006 9:38:00.059	1,387.94	1,163.988	172.343			
1/6/2006 9:48:00.059	1,397.94	1,163.283	171.638			
1/6/2006 9:58:00.059	1,407.94	1,163.555	171.910			
1/6/2006 10:08:00.059	1,417.94	1,164.543	172.898			
1/6/2006 10:18:00.059	1,427.94	1,163.482	171.837			
1/6/2006 10:28:00.059	1,437.94	1,162.934	171.289			
1/6/2006 10:38:00.059	1,447.94	1,164.086	172.441			
1/6/2006 10:48:00.059	1,457.94	1,163.875	172.230			
1/6/2006 10:58:00.059	1,467.94	1,164.938	173.293			
1/6/2006 11:08:00.059	1,477.94	1,163.364	171.719			
1/6/2006 11:18:00.059	1,487.94	1,164.198	172.553			
1/6/2006 11:28:00.059	1,497.94	1,163.815	172.170			
1/6/2006 11:38:00.059	1,507.94	1,164.569	172.924			
1/6/2006 11:48:00.059	1,517.94	1,164.657	173.012			
1/6/2006 11:58:00.059	1,527.94	1,165.236	173.591			
1/6/2006 12:08:00.059	1,537.94	1,164.603	172.958			
1/6/2006 12:18:00.059	1,547.94	1,164.501	172.856			
1/6/2006 12:28:00.059	1,557.94	1,164.724	173.079			
1/6/2006 12:38:00.059	1,567.94	1,164.802	173.157			
1/6/2006 12:48:00.059	1,577.94	1,164.849	173.204			
1/6/2006 12:58:00.059	1,587.94	1,164.410	172.765			
1/6/2006 13:08:00.059	1,597.94	1,164.421	172.776			
1/6/2006 13:18:00.059	1,607.94	1,164.762	173.117			
1/6/2006 13:28:00.059	1,617.94	1,164.391	172.746			
1/6/2006 13:38:00.059	1,627.94	1,164.943	173.298			
1/6/2006 13:48:00.059	1,637.94	1,164.306	172.661			
1/6/2006 13:58:00.059	1,647.94	1,164.759	173.114			
1/6/2006 14:08:00.059	1,657.94	1,166.446	174.801			
1/6/2006 14:18:00.059	1,667.94	1,166.711	175.066			
1/6/2006 14:28:00.059	1,677.94	1,166.422	174.777			
1/6/2006 14:38:00.059	1,687.94	1,166.490	174.845			
1/6/2006 14:48:00.059	1,697.94	1,165.830	174.185			
1/6/2006 14:58:00.059	1,707.94	1,166.299	174.654			
1/6/2006 15:08:00.059	1,717.94	1,166.485	174.840			
1/6/2006 15:18:00.059	1,727.94	1,166.978	175.333			
1/6/2006 15:28:00.059	1,737.94	1,166.597	174.952			
1/6/2006 15:38:00.059	1,747.94	1,166.252	174.607			
1/6/2006 15:48:00.059	1,757.94	1,167.193	175.548			
1/6/2006 15:58:00.059	1,767.94	1,166.847	175.202			
1/6/2006 16:08:00.059	1,777.94	1,166.926	175.281			
1/6/2006 16:18:00.059	1,787.94	1,166.032	174.387			
1/6/2006 16:28:00.059	1,797.94	1,166.005	174.360			
1/6/2006 16:38:00.059	1,807.94	1,166.395	174.750			
1/6/2006 16:48:00.059	1,817.94	1,166.441	174.796			
1/6/2006 16:58:00.059	1,827.94	1,165.975	174.330			
1/6/2006 17:08:00.059	1,837.94	1,167.754	176.109			
1/6/2006 17:18:00.059	1,847.94	1,167.075	175.430			
1/6/2006 17:28:00.059	1,857.94	1,167.374	175.729			
1/6/2006 17:38:00.059	1,867.94	1,167.136	175.491			
1/6/2006 17:48:00.059	1,877.94	1,167.792	176.147			
1/6/2006 17:58:00.059	1,887.94	1,167.550	175.905			
1/6/2006 18:08:00.059	1,897.94	1,166.891	175.246			
1/6/2006 18:18:00.059	1,907.94	1,166.628	174.983			
1/6/2006 18:28:00.059	1,917.94	1,166.995	175.350			
1/6/2006 18:38:00.059	1,927.94	1,167.743	176.098			
1/6/2006 18:48:00.059	1,937.94	1,166.959	175.314			
1/6/2006 18:58:00.059	1,947.94	1,166.971	175.326			
1/6/2006 19:08:00.059	1,957.94	1,167.163	175.518			
1/6/2006 19:18:00.059	1,967.94	1,166.872	175.227			
1/6/2006 19:28:00.059	1,977.94	1,167.423	175.778			
1/6/2006 19:38:00.059	1,987.94	1,167.471	175.826			
1/6/2006 19:48:00.059	1,997.94	1,167.968	176.323			
1/6/2006 19:58:00.059	2,007.94	1,166.311	174.666			
1/6/2006 20:08:00.059	2,017.94	1,166.787	175.142			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	l/t'
1/6/2006 20:18:00.059	2,027.94	1,167.555	175.910			
1/6/2006 20:28:00.059	2,037.94	1,167.111	175.466			
1/6/2006 20:38:00.059	2,047.94	1,166.200	174.555			
1/6/2006 20:48:00.059	2,057.94	1,167.012	175.367			
1/6/2006 20:58:00.059	2,067.94	1,167.953	176.308			
1/6/2006 21:08:00.059	2,077.94	1,167.352	175.707			
1/6/2006 21:18:00.059	2,087.94	1,167.080	175.435			
1/6/2006 21:28:00.059	2,097.94	1,167.426	175.781			
1/6/2006 21:38:00.059	2,107.94	1,167.819	176.174			
1/6/2006 21:48:00.059	2,117.94	1,167.737	176.092			
1/6/2006 21:58:00.059	2,127.94	1,167.852	176.207			
1/6/2006 22:08:00.059	2,137.94	1,167.533	175.888			
1/6/2006 22:18:00.059	2,147.94	1,167.231	175.586			
1/6/2006 22:28:00.059	2,157.94	1,167.261	175.616			
1/6/2006 22:38:00.059	2,167.94	1,167.795	176.150			
1/6/2006 22:48:00.059	2,177.94	1,167.490	175.845			
1/6/2006 22:58:00.059	2,187.94	1,168.233	176.588			
1/6/2006 23:08:00.059	2,197.94	1,168.039	176.394			
1/6/2006 23:18:00.059	2,207.94	1,167.249	175.604			
1/6/2006 23:28:00.059	2,217.94	1,168.647	177.002			
1/6/2006 23:38:00.059	2,227.94	1,168.311	176.666			
1/6/2006 23:48:00.059	2,237.94	1,168.064	176.419			
1/6/2006 23:58:00.059	2,247.94	1,167.880	176.235			
1/7/2006 0:08:00.059	2,257.94	1,166.974	175.329			
1/7/2006 0:18:00.059	2,267.94	1,168.491	176.846			
1/7/2006 0:28:00.059	2,277.94	1,167.191	175.546			
1/7/2006 0:38:00.059	2,287.94	1,167.511	175.866			
1/7/2006 0:48:00.059	2,297.94	1,168.035	176.390			
1/7/2006 0:58:00.059	2,307.94	1,167.761	176.116			
1/7/2006 1:08:00.059	2,317.94	1,168.294	176.649			
1/7/2006 1:18:00.059	2,327.94	1,166.587	174.942			
1/7/2006 1:28:00.059	2,337.94	1,167.533	175.888			
1/7/2006 1:38:00.059	2,347.94	1,167.365	175.720			
1/7/2006 1:48:00.059	2,357.94	1,167.835	176.190			
1/7/2006 1:58:00.059	2,367.94	1,168.241	176.596			
1/7/2006 2:08:00.059	2,377.94	1,168.203	176.558			
1/7/2006 2:18:00.059	2,387.94	1,167.484	175.839			
1/7/2006 2:28:00.059	2,397.94	1,167.489	175.844			
1/7/2006 2:38:00.059	2,407.94	1,166.911	175.266			
1/7/2006 2:48:00.059	2,417.94	1,168.813	177.168			
1/7/2006 2:58:00.059	2,427.94	1,167.589	175.944			
1/7/2006 3:08:00.059	2,437.94	1,167.577	175.932			
1/7/2006 3:18:00.059	2,447.94	1,168.266	176.621			
1/7/2006 3:28:00.059	2,457.94	1,167.967	176.322			
1/7/2006 3:38:00.059	2,467.94	1,167.416	175.771			
1/7/2006 3:48:00.059	2,477.94	1,168.360	176.715			
1/7/2006 3:58:00.059	2,487.94	1,167.748	176.103			
1/7/2006 4:08:00.059	2,497.94	1,167.972	176.327			
1/7/2006 4:18:00.059	2,507.94	1,168.105	176.460			
1/7/2006 4:28:00.059	2,517.94	1,168.077	176.432			
1/7/2006 4:38:00.059	2,527.94	1,168.481	176.836			
1/7/2006 4:48:00.059	2,537.94	1,167.954	176.309			
1/7/2006 4:58:00.059	2,547.94	1,167.864	176.219			
1/7/2006 5:08:00.059	2,557.94	1,168.179	176.534			
1/7/2006 5:18:00.059	2,567.94	1,168.129	176.484			
1/7/2006 5:28:00.059	2,577.94	1,168.338	176.693			
1/7/2006 5:38:00.059	2,587.94	1,168.645	177.000			
1/7/2006 5:48:00.059	2,597.94	1,168.843	177.198			
1/7/2006 5:58:00.059	2,607.94	1,168.222	176.577			
1/7/2006 6:08:00.059	2,617.94	1,167.715	176.070			
1/7/2006 6:18:00.059	2,627.94	1,168.162	176.517			
1/7/2006 6:28:00.059	2,637.94	1,168.016	176.371			
1/7/2006 6:38:00.059	2,647.94	1,168.544	176.899			
1/7/2006 6:48:00.059	2,657.94	1,167.849	176.204			
1/7/2006 6:58:00.059	2,667.94	1,168.752	177.107			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/7/2006 7:08:00.059	2,677.94	1,168.854	177.209			
1/7/2006 7:18:00.059	2,687.94	1,168.045	176.400			
1/7/2006 7:28:00.059	2,697.94	1,168.365	176.720			
1/7/2006 7:38:00.059	2,707.94	1,168.341	176.696			
1/7/2006 7:48:00.059	2,717.94	1,168.854	177.209			
1/7/2006 7:58:00.059	2,727.94	1,168.061	176.416			
1/7/2006 8:08:00.059	2,737.94	1,168.348	176.703			
1/7/2006 8:18:00.059	2,747.94	1,167.992	176.347			
1/7/2006 8:28:00.059	2,757.94	1,168.749	177.104			
1/7/2006 8:38:00.059	2,767.94	1,168.549	176.904			
1/7/2006 8:48:00.059	2,777.94	1,167.914	176.269			
1/7/2006 8:58:00.059	2,787.94	1,168.165	176.520			
1/7/2006 9:08:00.059	2,797.94	1,168.927	177.282			
1/7/2006 9:18:00.059	2,807.94	1,168.225	176.580			
1/7/2006 9:28:00.059	2,817.94	1,167.960	176.315			
1/7/2006 9:38:00.059	2,827.94	1,167.477	175.832			
1/7/2006 9:48:00.059	2,837.94	1,168.483	176.838			
1/7/2006 9:58:00.059	2,847.94	1,169.452	177.807			
1/7/2006 10:08:00.059	2,857.94	1,168.821	177.176			
1/7/2006 10:18:00.059	2,867.94	1,168.056	176.411			
1/7/2006 10:28:00.059	2,877.94	1,168.381	176.736			
1/7/2006 10:38:00.059	2,887.94	1,169.373	177.728			
1/7/2006 10:48:00.059	2,897.94	1,168.503	176.858			
1/7/2006 10:58:00.059	2,907.94	1,168.724	177.079			
1/7/2006 11:08:00.059	2,917.94	1,168.591	176.946			
1/7/2006 11:18:00.059	2,927.94	1,169.513	177.868			
1/7/2006 11:28:00.059	2,937.94	1,168.879	177.234			
1/7/2006 11:38:00.059	2,947.94	1,168.379	176.734			
1/7/2006 11:48:00.059	2,957.94	1,169.207	177.562			
1/7/2006 11:58:00.059	2,967.94	1,168.618	176.973			
1/7/2006 12:08:00.059	2,977.94	1,168.299	176.654			
1/7/2006 12:18:00.059	2,987.94	1,168.519	176.874			
1/7/2006 12:28:00.059	2,997.94	1,168.680	177.035			
1/7/2006 12:38:00.059	3,007.94	1,168.500	176.855			
1/7/2006 12:48:00.059	3,017.94	1,167.791	176.146			
1/7/2006 12:58:00.059	3,027.94	1,168.716	177.071			
1/7/2006 13:08:00.059	3,037.94	1,168.905	177.260			
1/7/2006 13:18:00.059	3,047.94	1,168.979	177.334			
1/7/2006 13:28:00.059	3,057.94	1,168.706	177.061			
1/7/2006 13:38:00.059	3,067.94	1,168.272	176.627			
1/7/2006 13:48:00.059	3,077.94	1,169.310	177.665			
1/7/2006 13:58:00.059	3,087.94	1,168.338	176.693			
1/7/2006 14:08:00.059	3,097.94	1,168.868	177.223			
1/7/2006 14:18:00.059	3,107.94	1,169.222	177.577			
1/7/2006 14:28:00.059	3,117.94	1,168.091	176.446			
1/7/2006 14:38:00.059	3,127.94	1,167.777	176.132			
1/7/2006 14:48:00.059	3,137.94	1,168.031	176.386			
1/7/2006 14:58:00.059	3,147.94	1,168.230	176.585			
1/7/2006 15:08:00.058	3,157.94	1,168.711	177.066			
1/7/2006 15:18:00.058	3,167.94	1,168.171	176.526			
1/7/2006 15:28:00.059	3,177.94	1,168.849	177.204			
1/7/2006 15:38:00.059	3,187.94	1,168.442	176.797			
1/7/2006 15:48:00.059	3,197.94	1,168.736	177.091			
1/7/2006 15:58:00.059	3,207.94	1,168.162	176.517			
1/7/2006 16:08:00.059	3,217.94	1,168.324	176.679			
1/7/2006 16:18:00.059	3,227.94	1,169.041	177.396			
1/7/2006 16:28:00.059	3,237.94	1,169.130	177.485			
1/7/2006 16:38:00.059	3,247.94	1,168.993	177.348			
1/7/2006 16:48:00.059	3,257.94	1,169.353	177.708			
1/7/2006 16:58:00.059	3,267.94	1,169.247	177.602			
1/7/2006 17:08:00.059	3,277.94	1,169.243	177.598			
1/7/2006 17:18:00.059	3,287.94	1,169.419	177.774			
1/7/2006 17:28:00.059	3,297.94	1,170.314	178.669			
1/7/2006 17:38:00.059	3,307.94	1,170.175	178.530			
1/7/2006 17:48:00.059	3,317.94	1,169.175	177.530			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/7/2006 17:58:00 059	3,327.94	1,169.152	177.507			
1/7/2006 18:08:00 058	3,337.94	1,169.164	177.519			
1/7/2006 18:18:00 059	3,347.94	1,169.351	177.706			
1/7/2006 18:28:00 059	3,357.94	1,169.397	177.752			
1/7/2006 18:38:00 059	3,367.94	1,168.528	176.883			
1/7/2006 18:48:00 059	3,377.94	1,168.305	176.600			
1/7/2006 18:58:00 059	3,387.94	1,168.412	176.767			
1/7/2006 19:08:00 059	3,397.94	1,167.838	176.193			
1/7/2006 19:18:00 059	3,407.94	1,168.722	177.077			
1/7/2006 19:28:00 059	3,417.94	1,168.505	176.860			
1/7/2006 19:38:00 059	3,427.94	1,167.951	176.306			
1/7/2006 19:48:00 059	3,437.94	1,168.840	177.195			
1/7/2006 19:58:00 059	3,447.94	1,167.709	176.064			
1/7/2006 20:08:00 059	3,457.94	1,168.739	177.094			
1/7/2006 20:18:00 059	3,467.94	1,169.118	177.473			
1/7/2006 20:28:00 059	3,477.94	1,168.024	176.379			
1/7/2006 20:38:00 059	3,487.94	1,167.990	176.345			
1/7/2006 20:48:00 059	3,497.94	1,169.181	177.536			
1/7/2006 20:58:00 059	3,507.94	1,169.452	177.807			
1/7/2006 21:08:00 059	3,517.94	1,168.961	177.316			
1/7/2006 21:18:00 059	3,527.94	1,168.788	177.143			
1/7/2006 21:28:00 059	3,537.94	1,168.612	176.967			
1/7/2006 21:38:00 059	3,547.94	1,168.005	176.360			
1/7/2006 21:48:00 059	3,557.94	1,168.417	176.772			
1/7/2006 21:58:00 059	3,567.94	1,169.521	177.876			
1/7/2006 22:08:00 059	3,577.94	1,168.637	176.992			
1/7/2006 22:18:00 059	3,587.94	1,168.787	177.142			
1/7/2006 22:28:00 059	3,597.94	1,168.187	176.542			
1/7/2006 22:38:00 059	3,607.94	1,168.647	177.002			
1/7/2006 22:48:00 059	3,617.94	1,168.456	176.811			
1/7/2006 22:58:00 059	3,627.94	1,169.262	177.617			
1/7/2006 23:08:00 059	3,637.94	1,169.114	177.469			
1/7/2006 23:18:00 059	3,647.94	1,168.766	177.121			
1/7/2006 23:28:00 059	3,657.94	1,169.026	177.381			
1/7/2006 23:38:00 059	3,667.94	1,168.255	176.610			
1/7/2006 23:48:00 059	3,677.94	1,169.546	177.901			
1/7/2006 23:58:00 059	3,687.94	1,169.652	178.007			
1/8/2006 0:08:00 059	3,697.94	1,168.676	177.031			
1/8/2006 0:18:00 059	3,707.94	1,168.138	176.493			
1/8/2006 0:28:00 059	3,717.94	1,168.634	176.989			
1/8/2006 0:38:00 059	3,727.94	1,170.078	178.433			
1/8/2006 0:48:00 059	3,737.94	1,168.938	177.293			
1/8/2006 0:58:00 059	3,747.94	1,168.805	177.160			
1/8/2006 1:08:00 059	3,757.94	1,168.667	177.022			
1/8/2006 1:18:00 059	3,767.94	1,168.865	177.220			
1/8/2006 1:28:00 059	3,777.94	1,168.793	177.148			
1/8/2006 1:38:00 059	3,787.94	1,168.684	177.039			
1/8/2006 1:48:00 059	3,797.94	1,168.494	176.849			
1/8/2006 1:58:00 059	3,807.94	1,168.764	177.119			
1/8/2006 2:08:00 059	3,817.94	1,169.367	177.722			
1/8/2006 2:18:00 059	3,827.94	1,169.011	177.366			
1/8/2006 2:28:00 059	3,837.94	1,168.673	177.028			
1/8/2006 2:38:00 059	3,847.94	1,168.351	176.706			
1/8/2006 2:48:00 059	3,857.94	1,168.780	177.135			
1/8/2006 2:58:00 059	3,867.94	1,169.614	177.969			
1/8/2006 3:08:00 059	3,877.94	1,168.952	177.307			
1/8/2006 3:18:00 059	3,887.94	1,169.853	178.208			
1/8/2006 3:28:00 059	3,897.94	1,169.059	177.414			
1/8/2006 3:38:00 059	3,907.94	1,168.432	176.787			
1/8/2006 3:48:00 059	3,917.94	1,168.821	177.176			
1/8/2006 3:58:00 059	3,927.94	1,168.835	177.190			
1/8/2006 4:08:00 059	3,937.94	1,169.065	177.420			
1/8/2006 4:18:00 059	3,947.94	1,168.791	177.146			
1/8/2006 4:28:00 059	3,957.94	1,168.975	177.330			
1/8/2006 4:38:00 059	3,967.94	1,169.090	177.445			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/8/2006 4:48:00.059	3,977.94	1,168.103	176.458			
1/8/2006 4:58:00.059	3,987.94	1,168.780	177.135			
1/8/2006 5:08:00.059	3,997.94	1,168.077	176.432			
1/8/2006 5:18:00.059	4,007.94	1,168.640	176.995			
1/8/2006 5:28:00.059	4,017.94	1,168.890	177.245			
1/8/2006 5:38:00.059	4,027.94	1,169.276	177.631			
1/8/2006 5:48:00.059	4,037.94	1,169.192	177.547			
1/8/2006 5:58:00.059	4,047.94	1,168.897	177.252			
1/8/2006 6:08:00.059	4,057.94	1,169.280	177.635			
1/8/2006 6:18:00.059	4,067.94	1,169.834	178.189			
1/8/2006 6:28:00.059	4,077.94	1,170.029	178.384			
1/8/2006 6:38:00.059	4,087.94	1,169.416	177.771			
1/8/2006 6:48:00.059	4,097.94	1,168.831	177.186			
1/8/2006 6:58:00.059	4,107.94	1,168.919	177.274			
1/8/2006 7:08:00.059	4,117.94	1,169.559	177.914			
1/8/2006 7:18:00.059	4,127.94	1,169.427	177.782			
1/8/2006 7:28:00.059	4,137.94	1,169.694	178.049			
1/8/2006 7:38:00.059	4,147.94	1,168.502	176.857			
1/8/2006 7:48:00.059	4,157.94	1,169.889	178.244			
1/8/2006 7:58:00.059	4,167.94	1,169.611	177.966			
1/8/2006 8:08:00.059	4,177.94	1,169.829	178.184			
1/8/2006 8:18:00.059	4,187.94	1,169.282	177.637			
1/8/2006 8:28:00.059	4,197.94	1,169.433	177.788			
1/8/2006 8:38:00.059	4,207.94	1,169.449	177.804			
1/8/2006 8:48:00.059	4,217.94	1,169.662	178.017			
1/8/2006 8:58:00.059	4,227.94	1,169.668	178.023			
1/8/2006 9:08:00.059	4,237.94	1,169.691	178.046			
1/8/2006 9:18:00.059	4,247.94	1,169.912	178.267			
1/8/2006 9:28:00.059	4,257.94	1,168.576	176.931			
1/8/2006 9:38:00.059	4,267.94	1,169.203	177.558			
1/8/2006 9:48:00.059	4,277.94	1,169.089	177.444			
1/8/2006 9:58:00.059	4,287.94	1,168.815	177.170			
1/8/2006 10:08:00.059	4,297.94	1,169.189	177.544			
1/8/2006 10:18:00.059	4,307.94	1,168.656	177.011			
1/8/2006 10:28:00.059	4,317.94	1,169.364	177.719			
1/8/2006 10:38:00.059	4,327.94	1,170.349	178.704			
1/8/2006 10:48:00.059	4,337.94	1,169.493	177.848			
1/8/2006 10:58:00.059	4,347.94	1,169.370	177.725			
1/8/2006 11:08:00.059	4,357.94	1,169.742	178.097			
1/8/2006 11:18:00.059	4,367.94	1,169.845	178.200			
1/8/2006 11:28:00.059	4,377.94	1,169.951	178.306			
1/8/2006 11:38:00.059	4,387.94	1,168.754	177.109			
1/8/2006 11:48:00.059	4,397.94	1,169.076	177.431			
1/8/2006 11:58:00.059	4,407.94	1,169.096	177.451			
1/8/2006 12:08:00.059	4,417.94	1,168.845	177.200			
1/8/2006 12:18:00.059	4,427.94	1,168.696	177.051			
1/8/2006 12:28:00.059	4,437.94	1,170.050	178.405			
1/8/2006 12:38:00.059	4,447.94	1,169.023	177.378			
1/8/2006 12:48:00.059	4,457.94	1,170.124	178.479			
1/8/2006 12:58:00.059	4,467.94	1,169.452	177.807			
1/8/2006 13:08:00.059	4,477.94	1,169.599	177.954			
1/8/2006 13:18:00.059	4,487.94	1,168.225	176.580			
1/8/2006 13:28:00.059	4,497.94	1,169.952	178.307			
1/8/2006 13:38:00.059	4,507.94	1,169.159	177.514			
1/8/2006 13:48:00.059	4,517.94	1,170.111	178.466			
1/8/2006 13:58:00.058	4,527.94	1,168.252	176.607			
1/8/2006 14:08:00.059	4,537.94	1,169.929	178.284			
1/8/2006 14:18:00.059	4,547.94	1,168.327	176.682			
1/8/2006 14:28:00.059	4,557.94	1,169.874	178.229			
1/8/2006 14:38:00.059	4,567.94	1,169.155	177.510			
1/8/2006 14:48:00.059	4,577.94	1,168.497	176.852			
1/8/2006 14:58:00.059	4,587.94	1,169.742	178.097			
1/8/2006 15:08:00.059	4,597.94	1,168.898	177.253			
1/8/2006 15:18:00.059	4,607.94	1,169.861	178.216			
1/8/2006 15:28:00.059	4,617.94	1,169.155	177.510			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	ft'
1/8/2006 15:38:00.059	4,627.94	1,168.640	176.995			
1/8/2006 15:48:00.059	4,637.94	1,169.836	178.191			
1/8/2006 15:58:00.059	4,647.94	1,169.257	177.612			
1/8/2006 16:08:00.059	4,657.94	1,169.505	177.860			
1/8/2006 16:18:00.059	4,667.94	1,168.851	177.206			
1/8/2006 16:28:00.059	4,677.94	1,168.776	177.131			
1/8/2006 16:38:00.059	4,687.94	1,169.641	177.996			
1/8/2006 16:48:00.059	4,697.94	1,169.156	177.511			
1/8/2006 16:58:00.059	4,707.94	1,169.140	177.495			
1/8/2006 17:08:00.059	4,717.94	1,169.815	178.170			
1/8/2006 17:18:00.059	4,727.94	1,169.581	177.936			
1/8/2006 17:28:00.059	4,737.94	1,169.542	177.897			
1/8/2006 17:38:00.059	4,747.94	1,169.249	177.604			
1/8/2006 17:48:00.059	4,757.94	1,169.589	177.944			
1/8/2006 17:58:00.058	4,767.94	1,170.309	178.664			
1/8/2006 18:08:00.059	4,777.94	1,170.240	178.595			
1/8/2006 18:18:00.059	4,787.94	1,169.874	178.229			
1/8/2006 18:28:00.059	4,797.94	1,169.594	177.949			
1/8/2006 18:38:00.059	4,807.94	1,169.245	177.600			
1/8/2006 18:48:00.059	4,817.94	1,169.480	177.835			
1/8/2006 18:58:00.059	4,827.94	1,169.441	177.796			
1/8/2006 19:08:00.059	4,837.94	1,169.107	177.462			
1/8/2006 19:18:00.059	4,847.94	1,169.913	178.268			
1/8/2006 19:28:00.059	4,857.94	1,169.614	177.969			
1/8/2006 19:38:00.059	4,867.94	1,168.801	177.156			
1/8/2006 19:48:00.059	4,877.94	1,169.783	178.138			
1/8/2006 19:58:00.059	4,887.94	1,170.659	179.014			
1/8/2006 20:08:00.059	4,897.94	1,170.119	178.474			
1/8/2006 20:18:00.059	4,907.94	1,169.998	178.353			
1/8/2006 20:28:00.059	4,917.94	1,170.161	178.516			
1/8/2006 20:38:00.059	4,927.94	1,169.259	177.614			
1/8/2006 20:48:00.059	4,937.94	1,170.317	178.672			
1/8/2006 20:58:00.059	4,947.94	1,170.229	178.584			
1/8/2006 21:08:00.059	4,957.94	1,170.108	178.463			
1/8/2006 21:18:00.059	4,967.94	1,169.353	177.708			
1/8/2006 21:28:00.059	4,977.94	1,170.257	178.612			
1/8/2006 21:38:00.059	4,987.94	1,170.059	178.414			
1/8/2006 21:48:00.059	4,997.94	1,169.620	177.975			
1/8/2006 21:58:00.059	5,007.94	1,169.877	178.232			
1/8/2006 22:08:00.059	5,017.94	1,170.769	179.124			
1/8/2006 22:18:00.059	5,027.94	1,169.970	178.325			
1/8/2006 22:28:00.059	5,037.94	1,169.592	177.947			
1/8/2006 22:38:00.059	5,047.94	1,170.271	178.626			
1/8/2006 22:48:00.059	5,057.94	1,170.558	178.913			
1/8/2006 22:58:00.059	5,067.94	1,169.798	178.153			
1/8/2006 23:08:00.059	5,077.94	1,169.496	177.851			
1/8/2006 23:18:00.059	5,087.94	1,169.839	178.194			
1/8/2006 23:28:00.059	5,097.94	1,170.772	179.127			
1/8/2006 23:38:00.059	5,107.94	1,169.992	178.347			
1/8/2006 23:48:00.059	5,117.94	1,170.240	178.595			
1/8/2006 23:58:00.059	5,127.94	1,169.723	178.078			
1/9/2006 0:08:00.059	5,137.94	1,170.900	179.255			
1/9/2006 0:18:00.059	5,147.94	1,169.743	178.098			
1/9/2006 0:28:00.059	5,157.94	1,170.061	178.416			
1/9/2006 0:38:00.059	5,167.94	1,170.688	179.043			
1/9/2006 0:48:00.059	5,177.94	1,170.265	178.620			
1/9/2006 0:58:00.059	5,187.94	1,170.031	178.386			
1/9/2006 1:08:00.059	5,197.94	1,169.728	178.083			
1/9/2006 1:18:00.059	5,207.94	1,169.745	178.100			
1/9/2006 1:28:00.059	5,217.94	1,169.732	178.087			
1/9/2006 1:38:00.059	5,227.94	1,170.163	178.518			
1/9/2006 1:48:00.059	5,237.94	1,171.707	180.062			
1/9/2006 1:58:00.059	5,247.94	1,170.004	178.359			
1/9/2006 2:08:00.059	5,257.94	1,171.106	179.461			
1/9/2006 2:18:00.059	5,267.94	1,169.669	178.024			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	1/1'
1/9/2006 2:28:00.059	5,277.94	1,170.097	178.452			
1/9/2006 2:38:00.059	5,287.94	1,170.418	178.773			
1/9/2006 2:48:00.059	5,297.94	1,170.298	178.653			
1/9/2006 2:58:00.059	5,307.94	1,169.549	177.904			
1/9/2006 3:08:00.059	5,317.94	1,169.457	177.812			
1/9/2006 3:18:00.059	5,327.94	1,170.427	178.782			
1/9/2006 3:28:00.059	5,337.94	1,169.620	177.975			
1/9/2006 3:38:00.059	5,347.94	1,169.800	178.155			
1/9/2006 3:48:00.059	5,357.94	1,169.416	177.771			
1/9/2006 3:58:00.059	5,367.94	1,170.191	178.546			
1/9/2006 4:08:00.059	5,377.94	1,170.088	178.443			
1/9/2006 4:18:00.059	5,387.94	1,170.163	178.518			
1/9/2006 4:28:00.059	5,397.94	1,170.778	179.133			
1/9/2006 4:38:00.059	5,407.94	1,170.478	178.833			
1/9/2006 4:48:00.059	5,417.94	1,170.584	178.939			
1/9/2006 4:58:00.059	5,427.94	1,170.898	179.253			
1/9/2006 5:08:00.059	5,437.94	1,171.131	179.486			
1/9/2006 5:18:00.059	5,447.94	1,170.478	178.833			
1/9/2006 5:28:00.059	5,457.94	1,170.188	178.543			
1/9/2006 5:38:00.059	5,467.94	1,170.481	178.836			
1/9/2006 5:48:00.059	5,477.94	1,170.111	178.466			
1/9/2006 5:58:00.059	5,487.94	1,170.610	178.965			
1/9/2006 6:08:00.059	5,497.94	1,170.056	178.411			
1/9/2006 6:18:00.059	5,507.94	1,169.501	177.856			
1/9/2006 6:28:00.059	5,517.94	1,170.453	178.808			
1/9/2006 6:38:00.059	5,527.94	1,170.462	178.817			
1/9/2006 6:48:00.059	5,537.94	1,171.319	179.674			
1/9/2006 6:58:00.059	5,547.94	1,169.641	177.996			
1/9/2006 7:08:00.059	5,557.94	1,170.338	178.693			
1/9/2006 7:18:00.059	5,567.94	1,170.365	178.720			
1/9/2006 7:28:00.059	5,577.94	1,170.165	178.520			
1/9/2006 7:38:00.059	5,587.94	1,169.282	177.637			
1/9/2006 7:48:00.059	5,597.94	1,170.633	178.988			
1/9/2006 7:58:00.059	5,607.94	1,169.516	177.871			
1/9/2006 8:08:00.059	5,617.94	1,170.128	178.483			
1/9/2006 8:18:00.059	5,627.94	1,170.160	178.515			
1/9/2006 8:28:00.059	5,637.94	1,170.626	178.981			
1/9/2006 8:38:00.059	5,647.94	1,170.426	178.781			
1/9/2006 8:48:00.059	5,657.94	1,170.108	178.463			
1/9/2006 8:58:00.059	5,667.94	1,170.578	178.933			
1/9/2006 9:08:00.059	5,677.94	1,170.663	179.018			
1/9/2006 9:18:00.059	5,687.94	1,170.074	178.429			
1/9/2006 9:28:00.059	5,697.94	1,169.364	177.719			
1/9/2006 9:38:00.059	5,707.94	1,170.525	178.880			
1/9/2006 9:48:00.059	5,717.94	1,170.025	178.380			
1/9/2006 9:58:00.058	5,727.94	1,170.128	178.483			
1/9/2006 10:08:00.059	5,737.94	1,170.789	179.144			
1/9/2006 10:18:00.059	5,747.94	1,169.836	178.191			
1/9/2006 10:28:00.059	5,757.94	1,169.924	178.279			
1/9/2006 10:38:00.059	5,767.94	1,170.017	178.372			
1/9/2006 10:48:00.059	5,777.94	1,170.353	178.708			
1/9/2006 10:58:00.163	5,787.94	1,170.207	178.562			
1/9/2006 11:08:00.059	5,797.94	1,170.849	179.204			
1/9/2006 11:18:00.059	5,807.94	1,170.276	178.631			
1/9/2006 11:28:00.059	5,817.94	1,170.519	178.874			
1/9/2006 11:38:00.059	5,827.94	1,170.865	179.220			
1/9/2006 11:48:00.059	5,837.94	1,170.857	179.212			
1/9/2006 11:58:00.059	5,847.94	1,169.867	178.222			
1/9/2006 12:08:00.059	5,857.94	1,169.572	177.927			
1/9/2006 12:18:00.059	5,867.94	1,170.676	179.031			
1/9/2006 12:28:00.059	5,877.94	1,169.344	177.699			
1/9/2006 12:38:00.059	5,887.94	1,170.449	178.804			
1/9/2006 12:48:00.059	5,897.94	1,169.794	178.149			
1/9/2006 12:58:00.059	5,907.94	1,170.947	179.302			
1/9/2006 13:08:00.059	5,917.94	1,170.157	178.512			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/9/2006 13:18:00.059	5,927.94	1,171.384	179.739			
1/9/2006 13:28:00.059	5,937.94	1,170.655	179.010			
1/9/2006 13:38:00.059	5,947.94	1,170.725	179.080			
1/9/2006 13:48:00.059	5,957.94	1,169.767	178.122			
1/9/2006 13:58:00.058	5,967.94	1,169.787	178.142			
1/9/2006 14:08:00.059	5,977.94	1,170.367	178.722			
1/9/2006 14:18:00.059	5,987.94	1,169.858	178.213			
1/9/2006 14:28:00.059	5,997.94	1,170.168	178.523			
1/9/2006 14:38:00.059	6,007.94	1,170.600	178.955			
1/9/2006 14:48:00.059	6,017.94	1,169.850	178.205			
1/9/2006 14:58:00.058	6,027.94	1,170.283	178.638			
1/9/2006 15:08:00.059	6,037.94	1,170.706	179.061			
1/9/2006 15:18:00.059	6,047.94	1,169.661	178.016			
1/9/2006 15:28:00.059	6,057.94	1,170.303	178.658			
1/9/2006 15:38:00.059	6,067.94	1,169.650	178.005			
1/9/2006 15:48:00.059	6,077.94	1,170.283	178.638			
1/9/2006 15:58:00.058	6,087.94	1,169.974	178.329			
1/9/2006 16:08:00.059	6,097.94	1,169.968	178.323			
1/9/2006 16:18:00.059	6,107.94	1,170.311	178.666			
1/9/2006 16:28:00.059	6,117.94	1,170.191	178.546			
1/9/2006 16:38:00.059	6,127.94	1,170.860	179.215			
1/9/2006 16:48:00.059	6,137.94	1,170.696	179.051			
1/9/2006 16:58:00.059	6,147.94	1,170.157	178.512			
1/9/2006 17:08:00.059	6,157.94	1,170.401	178.756			
1/9/2006 17:18:00.059	6,167.94	1,170.495	178.850			
1/9/2006 17:28:00.059	6,177.94	1,169.826	178.181			
1/9/2006 17:38:00.059	6,187.94	1,170.372	178.727			
1/9/2006 17:48:00.059	6,197.94	1,169.938	178.293			
1/9/2006 17:58:00.058	6,207.94	1,169.350	177.705			
1/9/2006 18:08:00.059	6,217.94	1,170.305	178.660			
1/9/2006 18:18:00.059	6,227.94	1,171.017	179.372			
1/9/2006 18:28:00.059	6,237.94	1,170.003	178.358			
1/9/2006 18:38:00.059	6,247.94	1,170.479	178.834			
1/9/2006 18:48:00.059	6,257.94	1,170.704	179.059			
1/9/2006 18:58:00.059	6,267.94	1,170.124	178.479			
1/9/2006 19:08:00.059	6,277.94	1,169.823	178.178			
1/9/2006 19:18:00.059	6,287.94	1,170.780	179.135			
1/9/2006 19:28:00.059	6,297.94	1,170.868	179.223			
1/9/2006 19:38:00.059	6,307.94	1,169.748	178.103			
1/9/2006 19:48:00.059	6,317.94	1,170.159	178.514			
1/9/2006 19:58:00.059	6,327.94	1,170.345	178.700			
1/9/2006 20:08:00.059	6,337.94	1,170.441	178.796			
1/9/2006 20:18:00.059	6,347.94	1,170.564	178.919			
1/9/2006 20:28:00.059	6,357.94	1,170.852	179.207			
1/9/2006 20:38:00.059	6,367.94	1,169.724	178.079			
1/9/2006 20:48:00.059	6,377.94	1,170.251	178.606			
1/9/2006 20:58:00.059	6,387.94	1,171.354	179.709			
1/9/2006 21:08:00.059	6,397.94	1,170.600	178.955			
1/9/2006 21:18:00.059	6,407.94	1,170.569	178.924			
1/9/2006 21:28:00.059	6,417.94	1,170.368	178.723			
1/9/2006 21:38:00.059	6,427.94	1,170.821	179.176			
1/9/2006 21:48:00.059	6,437.94	1,170.693	179.048			
1/9/2006 21:58:00.059	6,447.94	1,170.498	178.853			
1/9/2006 22:08:00.059	6,457.94	1,171.547	179.902			
1/9/2006 22:18:00.059	6,467.94	1,170.575	178.930			
1/9/2006 22:28:00.059	6,477.94	1,169.548	177.903			
1/9/2006 22:38:00.059	6,487.94	1,169.658	178.013			
1/9/2006 22:48:00.059	6,497.94	1,171.406	179.761			
1/9/2006 22:58:00.059	6,507.94	1,170.733	179.088			
1/9/2006 23:08:00.059	6,517.94	1,170.402	178.757			
1/9/2006 23:18:00.059	6,527.94	1,171.376	179.731			
1/9/2006 23:28:00.059	6,537.94	1,170.314	178.669			
1/9/2006 23:38:00.059	6,547.94	1,170.865	179.220			
1/9/2006 23:48:00.059	6,557.94	1,170.461	178.816			
1/9/2006 23:58:00.059	6,567.94	1,170.825	179.180			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/10/2006 0:08:00.059	6,577.94	1,170.869	179.224			
1/10/2006 0:18:00.059	6,587.94	1,170.335	178.690			
1/10/2006 0:28:00.059	6,597.94	1,171.459	179.814			
1/10/2006 0:38:00.059	6,607.94	1,170.369	178.724			
1/10/2006 0:48:00.059	6,617.94	1,170.435	178.790			
1/10/2006 0:58:00.059	6,627.94	1,170.866	179.221			
1/10/2006 1:08:00.059	6,637.94	1,169.775	178.130			
1/10/2006 1:18:00.059	6,647.94	1,170.824	179.179			
1/10/2006 1:28:00.059	6,657.94	1,170.306	178.661			
1/10/2006 1:38:00.059	6,667.94	1,170.402	178.757			
1/10/2006 1:48:00.059	6,677.94	1,170.291	178.646			
1/10/2006 1:58:00.059	6,687.94	1,170.242	178.597			
1/10/2006 2:08:00.059	6,697.94	1,171.368	179.723			
1/10/2006 2:18:00.059	6,707.94	1,170.122	178.477			
1/10/2006 2:28:00.059	6,717.94	1,171.236	179.591			
1/10/2006 2:38:00.059	6,727.94	1,170.443	178.798			
1/10/2006 2:48:00.059	6,737.94	1,170.278	178.633			
1/10/2006 2:58:00.059	6,747.94	1,170.843	179.198			
1/10/2006 3:08:00.059	6,757.94	1,171.154	179.509			
1/10/2006 3:18:00.059	6,767.94	1,171.046	179.401			
1/10/2006 3:28:00.059	6,777.94	1,171.307	179.662			
1/10/2006 3:38:00.059	6,787.94	1,170.159	178.514			
1/10/2006 3:48:00.059	6,797.94	1,170.830	179.185			
1/10/2006 3:58:00.059	6,807.94	1,170.561	178.916			
1/10/2006 4:08:00.059	6,817.94	1,169.543	177.898			
1/10/2006 4:18:00.059	6,827.94	1,170.616	178.971			
1/10/2006 4:28:00.059	6,837.94	1,171.755	180.110			
1/10/2006 4:38:00.059	6,847.94	1,170.453	178.808			
1/10/2006 4:48:00.059	6,857.94	1,170.356	178.711			
1/10/2006 4:58:00.059	6,867.94	1,170.487	178.842			
1/10/2006 5:08:00.059	6,877.94	1,170.681	179.036			
1/10/2006 5:18:00.059	6,887.94	1,170.506	178.861			
1/10/2006 5:28:00.059	6,897.94	1,170.245	178.600			
1/10/2006 5:38:00.059	6,907.94	1,169.729	178.084			
1/10/2006 5:48:00.059	6,917.94	1,170.397	178.752			
1/10/2006 5:58:00.059	6,927.94	1,170.538	178.893			
1/10/2006 6:08:00.059	6,937.94	1,170.542	178.897			
1/10/2006 6:18:00.059	6,947.94	1,170.729	179.084			
1/10/2006 6:28:00.059	6,957.94	1,170.358	178.713			
1/10/2006 6:38:00.059	6,967.94	1,170.413	178.768			
1/10/2006 6:48:00.059	6,977.94	1,170.457	178.812			
1/10/2006 6:58:00.059	6,987.94	1,170.556	178.911			
1/10/2006 7:08:00.059	6,997.94	1,170.265	178.620			
1/10/2006 7:18:00.059	7,007.94	1,171.499	179.854			
1/10/2006 7:28:00.059	7,017.94	1,170.737	179.092			
1/10/2006 7:38:00.059	7,027.94	1,170.364	178.719			
1/10/2006 7:48:00.059	7,037.94	1,170.489	178.844			
1/10/2006 7:58:00.059	7,047.94	1,171.631	179.986			
1/10/2006 8:08:00.059	7,057.94	1,170.734	179.089			
1/10/2006 8:18:00.059	7,067.94	1,170.193	178.548			
1/10/2006 8:28:00.059	7,077.94	1,170.548	178.903			
1/10/2006 8:38:00.059	7,087.94	1,170.242	178.597			
1/10/2006 8:48:00.059	7,097.94	1,171.305	179.660			
1/10/2006 8:58:00.059	7,107.94	1,170.751	179.106			
1/10/2006 9:08:00.059	7,117.94	1,170.458	178.813			
1/10/2006 9:18:00.059	7,127.94	1,170.534	178.889			
1/10/2006 9:28:00.059	7,137.94	1,170.215	178.570			
1/10/2006 9:38:00.059	7,147.94	1,169.221	177.576			
1/10/2006 9:48:00.059	7,157.94	1,171.193	179.548			
1/10/2006 9:58:00.059	7,167.94	1,171.257	179.612			
1/10/2006 10:08:00.059	7,177.94	1,171.071	179.426			
1/10/2006 10:18:00.059	7,187.94	1,171.801	180.156			
1/10/2006 10:28:00.059	7,197.94	1,170.572	178.927			
1/10/2006 10:38:00.058	7,207.94	1,170.594	178.949			
1/10/2006 10:48:00.059	7,217.94	1,171.140	179.495			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/10/2006 10:58:00.059	7,227.94	1,170.984	179.339			
1/10/2006 11:08:00.059	7,237.94	1,170.292	178.647			
1/10/2006 11:18:00.059	7,247.94	1,169.196	177.551			
1/10/2006 11:28:00.059	7,257.94	1,169.616	177.971			
1/10/2006 11:38:00.059	7,267.94	1,170.302	178.657			
1/10/2006 11:48:00.059	7,277.94	1,170.495	178.850			
1/10/2006 11:58:00.059	7,287.94	1,170.275	178.630			
1/10/2006 12:08:00.059	7,297.94	1,170.451	178.806			
1/10/2006 12:18:00.059	7,307.94	1,170.047	178.402			
1/10/2006 12:28:00.059	7,317.94	1,171.122	179.477			
1/10/2006 12:38:00.059	7,327.94	1,170.912	179.267			
1/10/2006 12:48:00.059	7,337.94	1,170.086	178.441			
1/10/2006 12:58:00.058	7,347.94	1,170.214	178.569			
1/10/2006 13:08:00.059	7,357.94	1,170.305	178.660			
1/10/2006 13:18:00.059	7,367.94	1,170.402	178.757			
1/10/2006 13:28:00.059	7,377.94	1,171.400	179.755			
1/10/2006 13:38:00.059	7,387.94	1,170.049	178.404			
1/10/2006 13:48:00.059	7,397.94	1,170.434	178.789			
1/10/2006 13:58:00.059	7,407.94	1,169.737	178.092			
1/10/2006 14:08:00.059	7,417.94	1,170.700	179.055			
1/10/2006 14:18:00.059	7,427.94	1,170.078	178.433			
1/10/2006 14:28:00.059	7,437.94	1,170.514	178.869			
1/10/2006 14:38:00.059	7,447.94	1,170.001	178.356			
1/10/2006 14:48:00.059	7,457.94	1,170.663	179.018			
1/10/2006 14:58:00.059	7,467.94	1,171.216	179.571			
1/10/2006 15:08:00.059	7,477.94	1,169.995	178.350			
1/10/2006 15:18:00.059	7,487.94	1,170.568	178.923			
1/10/2006 15:28:00.059	7,497.94	1,171.255	179.610			
1/10/2006 15:38:00.059	7,507.94	1,169.732	178.087			
1/10/2006 15:48:00.059	7,517.94	1,169.924	178.279			
1/10/2006 15:58:00.059	7,527.94	1,170.819	179.174			
1/10/2006 16:08:00.059	7,537.94	1,170.695	179.050			
1/10/2006 16:18:00.059	7,547.94	1,170.463	178.818			
1/10/2006 16:28:00.058	7,557.94	1,169.378	177.733			
1/10/2006 16:38:00.059	7,567.94	1,170.783	179.138			
1/10/2006 16:48:00.059	7,577.94	1,170.489	178.844			
1/10/2006 16:58:00.060	7,587.94	1,171.024	179.379			
1/10/2006 17:08:00.059	7,597.94	1,170.641	178.996			
1/10/2006 17:18:00.059	7,607.94	1,170.539	178.894			
1/10/2006 17:28:00.059	7,617.94	1,170.223	178.578			
1/10/2006 17:38:00.059	7,627.94	1,171.197	179.552			
1/10/2006 17:48:00.059	7,637.94	1,170.638	178.993			
1/10/2006 17:58:00.058	7,647.94	1,170.750	179.105			
1/10/2006 18:08:00.059	7,657.94	1,171.117	179.472			
1/10/2006 18:18:00.059	7,667.94	1,170.204	178.559			
1/10/2006 18:28:00.059	7,677.94	1,171.198	179.553			
1/10/2006 18:38:00.059	7,687.94	1,170.440	178.795			
1/10/2006 18:48:00.059	7,697.94	1,170.816	179.171			
1/10/2006 18:58:00.059	7,707.94	1,171.488	179.843			
1/10/2006 19:08:00.059	7,717.94	1,171.334	179.689			
1/10/2006 19:18:00.059	7,727.94	1,170.153	178.508			
1/10/2006 19:28:00.059	7,737.94	1,170.372	178.727			
1/10/2006 19:38:00.059	7,747.94	1,171.598	179.953			
1/10/2006 19:48:00.059	7,757.94	1,170.871	179.226			
1/10/2006 19:58:00.059	7,767.94	1,170.635	178.990			
1/10/2006 20:08:00.059	7,777.94	1,170.569	178.924			
1/10/2006 20:18:00.059	7,787.94	1,170.836	179.191			
1/10/2006 20:28:00.059	7,797.94	1,170.967	179.322			
1/10/2006 20:38:00.059	7,807.94	1,171.590	179.945			
1/10/2006 20:48:00.059	7,817.94	1,170.286	178.641			
1/10/2006 20:58:00.059	7,827.94	1,170.388	178.743			
1/10/2006 21:08:00.059	7,837.94	1,171.101	179.456			
1/10/2006 21:18:00.059	7,847.94	1,171.290	179.645			
1/10/2006 21:28:00.059	7,857.94	1,170.866	179.221			
1/10/2006 21:38:00.059	7,867.94	1,170.991	179.346			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	1/1'
1/10/2006 21:48:00.059	7,877.94	1,170.498	178.853			
1/10/2006 21:58:00.059	7,887.94	1,170.964	179.319			
1/10/2006 22:08:00.059	7,897.94	1,171.211	179.566			
1/10/2006 22:18:00.059	7,907.94	1,171.209	179.564			
1/10/2006 22:28:00.059	7,917.94	1,171.017	179.372			
1/10/2006 22:38:00.059	7,927.94	1,171.017	179.372			
1/10/2006 22:48:00.059	7,937.94	1,170.694	179.049			
1/10/2006 22:58:00.059	7,947.94	1,171.676	180.031			
1/10/2006 23:08:00.059	7,957.94	1,171.623	179.978			
1/10/2006 23:18:00.059	7,967.94	1,170.490	178.845			
1/10/2006 23:28:00.059	7,977.94	1,171.629	179.984			
1/10/2006 23:38:00.059	7,987.94	1,170.144	178.499			
1/10/2006 23:48:00.059	7,997.94	1,170.217	178.572			
1/10/2006 23:58:00.059	8,007.94	1,170.539	178.894			
1/11/2006 0:08:00.059	8,017.94	1,169.966	178.321			
1/11/2006 0:18:00.059	8,027.94	1,170.568	178.923			
1/11/2006 0:28:00.059	8,037.94	1,170.140	178.495			
1/11/2006 0:38:00.059	8,047.94	1,171.379	179.734			
1/11/2006 0:48:00.059	8,057.94	1,170.943	179.298			
1/11/2006 0:58:00.059	8,067.94	1,170.637	178.992			
1/11/2006 1:08:00.059	8,077.94	1,171.006	179.361			
1/11/2006 1:18:00.059	8,087.94	1,171.011	179.366			
1/11/2006 1:28:00.059	8,097.94	1,170.783	179.138			
1/11/2006 1:38:00.059	8,107.94	1,170.066	178.421			
1/11/2006 1:48:00.059	8,117.94	1,171.140	179.495			
1/11/2006 1:58:00.059	8,127.94	1,170.334	178.689			
1/11/2006 2:08:00.059	8,137.94	1,170.624	178.979			
1/11/2006 2:18:00.059	8,147.94	1,171.448	179.803			
1/11/2006 2:28:00.059	8,157.94	1,171.281	179.636			
1/11/2006 2:38:00.059	8,167.94	1,171.261	179.616			
1/11/2006 2:48:00.059	8,177.94	1,171.403	179.758			
1/11/2006 2:58:00.059	8,187.94	1,172.023	180.378			
1/11/2006 3:08:00.059	8,197.94	1,170.641	178.996			
1/11/2006 3:18:00.059	8,207.94	1,171.285	179.640			
1/11/2006 3:28:00.059	8,217.94	1,170.633	178.988			
1/11/2006 3:38:00.059	8,227.94	1,171.031	179.386			
1/11/2006 3:48:00.059	8,237.94	1,171.030	179.385			
1/11/2006 3:58:00.059	8,247.94	1,170.481	178.836			
1/11/2006 4:08:00.059	8,257.94	1,170.939	179.294			
1/11/2006 4:18:00.059	8,267.94	1,171.486	179.841			
1/11/2006 4:28:00.059	8,277.94	1,170.786	179.141			
1/11/2006 4:38:00.059	8,287.94	1,171.938	180.293			
1/11/2006 4:48:00.059	8,297.94	1,170.700	179.055			
1/11/2006 4:58:00.059	8,307.94	1,171.421	179.776			
1/11/2006 5:08:00.059	8,317.94	1,171.082	179.437			
1/11/2006 5:18:00.059	8,327.94	1,171.281	179.636			
1/11/2006 5:28:00.059	8,337.94	1,171.077	179.432			
1/11/2006 5:38:00.059	8,347.94	1,170.597	178.952			
1/11/2006 5:48:00.059	8,357.94	1,170.815	179.170			
1/11/2006 5:58:00.059	8,367.94	1,171.285	179.640			
1/11/2006 6:08:00.059	8,377.94	1,170.574	178.929			
1/11/2006 6:18:00.059	8,387.94	1,171.535	179.890			
1/11/2006 6:28:00.059	8,397.94	1,170.334	178.689			
1/11/2006 6:38:00.059	8,407.94	1,170.781	179.136			
1/11/2006 6:48:00.059	8,417.94	1,170.803	179.158			
1/11/2006 6:58:00.059	8,427.94	1,170.954	179.309			
1/11/2006 7:08:00.059	8,437.94	1,170.411	178.766			
1/11/2006 7:18:00.059	8,447.94	1,170.369	178.724			
1/11/2006 7:28:00.059	8,457.94	1,170.558	178.913			
1/11/2006 7:38:00.059	8,467.94	1,171.024	179.379			
1/11/2006 7:48:00.059	8,477.94	1,169.644	177.999			
1/11/2006 7:58:00.059	8,487.94	1,170.854	179.209			
1/11/2006 8:08:00.059	8,497.94	1,170.415	178.770			
1/11/2006 8:18:00.059	8,507.94	1,171.146	179.501			
1/11/2006 8:28:00.059	8,517.94	1,170.855	179.210			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/11/2006 8:38:00.059	8,527.94	1,171.244	179.599			
1/11/2006 8:48:00.059	8,537.94	1,171.083	179.438			
1/11/2006 8:58:00.059	8,547.94	1,170.910	179.265			
1/11/2006 9:08:00.059	8,557.94	1,171.250	179.605			
1/11/2006 9:18:00.059	8,567.94	1,170.858	179.213			
1/11/2006 9:28:00.059	8,577.94	1,170.657	179.012			
1/11/2006 9:38:00.059	8,587.94	1,170.824	179.179			
1/11/2006 9:48:00.059	8,597.94	1,170.728	179.083			
1/11/2006 9:58:00.059	8,607.94	1,170.747	179.102			
1/11/2006 10:08:00.059	8,617.94	1,170.989	179.344			
1/11/2006 10:18:00.059	8,627.94	1,172.214	180.569			
1/11/2006 10:28:00.059	8,637.94	1,171.174	179.529			
1/11/2006 10:38:00.059	8,647.94	1,171.174	179.529			
1/11/2006 10:48:00.059	8,657.94	1,171.746	180.101			
1/11/2006 10:58:00.059	8,667.94	1,171.947	180.302			
1/11/2006 11:08:00.059	8,677.94	1,171.307	179.662			
1/11/2006 11:18:00.059	8,687.94	1,170.284	178.639			
1/11/2006 11:28:00.059	8,697.94	1,170.237	178.592			
1/11/2006 11:38:00.059	8,707.94	1,170.583	178.938			
1/11/2006 11:48:00.059	8,717.94	1,171.461	179.816			
1/11/2006 11:58:00.059	8,727.94	1,170.526	178.881			
1/11/2006 12:08:00.059	8,737.94	1,170.231	178.586			
1/11/2006 12:18:00.059	8,747.94	1,170.824	179.179			
1/11/2006 12:28:00.059	8,757.94	1,169.601	177.956			
1/11/2006 12:38:00.059	8,767.94	1,171.667	180.022			
1/11/2006 12:48:00.059	8,777.94	1,171.849	180.204			
1/11/2006 12:58:00.059	8,787.94	1,171.118	179.473			
1/11/2006 13:08:00.059	8,797.94	1,170.525	178.880			
1/11/2006 13:18:00.059	8,807.94	1,170.309	178.664			
1/11/2006 13:28:00.059	8,817.94	1,171.573	179.928			
1/11/2006 13:38:00.059	8,827.94	1,171.423	179.778			
1/11/2006 13:48:00.059	8,837.94	1,170.876	179.231			
1/11/2006 13:58:00.058	8,847.94	1,171.411	179.766			
1/11/2006 14:08:00.059	8,857.94	1,170.548	178.903			
1/11/2006 14:18:00.059	8,867.94	1,171.263	179.618			
1/11/2006 14:28:00.059	8,877.94	1,171.076	179.431			
1/11/2006 14:38:00.059	8,887.94	1,170.907	179.262			
1/11/2006 14:48:00.059	8,897.94	1,171.085	179.440			
1/11/2006 14:58:00.058	8,907.94	1,171.473	179.828			
1/11/2006 15:08:00.059	8,917.94	1,170.624	178.979			
1/11/2006 15:18:00.059	8,927.94	1,171.872	180.227			
1/11/2006 15:28:00.059	8,937.94	1,170.692	179.047			
1/11/2006 15:38:00.059	8,947.94	1,170.533	178.888			
1/11/2006 15:48:00.059	8,957.94	1,170.645	179.000			
1/11/2006 15:58:00.059	8,967.94	1,170.665	179.020			
1/11/2006 16:08:00.059	8,977.94	1,169.995	178.350			
1/11/2006 16:18:00.059	8,987.94	1,171.187	179.542			
1/11/2006 16:28:00.059	8,997.94	1,171.129	179.484			
1/11/2006 16:38:00.059	9,007.94	1,170.336	178.691			
1/11/2006 16:48:00.059	9,017.94	1,171.662	180.017			
1/11/2006 16:58:00.059	9,027.94	1,170.611	178.966			
1/11/2006 17:08:00.059	9,037.94	1,170.753	179.108			
1/11/2006 17:18:00.059	9,047.94	1,171.253	179.608			
1/11/2006 17:28:00.059	9,057.94	1,169.933	178.288			
1/11/2006 17:38:00.059	9,067.94	1,171.090	179.445			
1/11/2006 17:48:00.059	9,077.94	1,169.202	177.557			
1/11/2006 17:58:00.059	9,087.94	1,170.428	178.783			
1/11/2006 18:08:00.059	9,097.94	1,170.377	178.732			
1/11/2006 18:18:00.059	9,107.94	1,170.824	179.179			
1/11/2006 18:28:00.059	9,117.94	1,170.691	179.046			
1/11/2006 18:38:00.059	9,127.94	1,171.143	179.498			
1/11/2006 18:48:00.059	9,137.94	1,170.714	179.069			
1/11/2006 18:58:00.059	9,147.94	1,170.764	179.119			
1/11/2006 19:08:00.059	9,157.94	1,171.167	179.522			
1/11/2006 19:18:00.059	9,167.94	1,171.608	179.963			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/11/2006 19:28:00.059	9,177.94	1,169.345	177.700			
1/11/2006 19:38:00.059	9,187.94	1,171.052	179.407			
1/11/2006 19:48:00.059	9,197.94	1,171.330	179.685			
1/11/2006 19:58:00.059	9,207.94	1,170.309	178.664			
1/11/2006 20:08:00.059	9,217.94	1,171.559	179.914			
1/11/2006 20:18:00.059	9,227.94	1,170.643	178.998			
1/11/2006 20:28:00.059	9,237.94	1,170.841	179.196			
1/11/2006 20:38:00.059	9,247.94	1,170.509	178.864			
1/11/2006 20:48:00.059	9,257.94	1,171.637	179.992			
1/11/2006 20:58:00.059	9,267.94	1,171.601	179.956			
1/11/2006 21:08:00.059	9,277.94	1,170.497	178.852			
1/11/2006 21:18:00.059	9,287.94	1,148.007	156.362			
1/11/2006 21:28:00.059	9,297.94	995.226	3.581			
1/11/2006 21:38:00.059	9,307.94	993.681	2.036			
1/11/2006 21:48:00.059	9,317.94	992.961	1.316			
1/11/2006 21:58:00.059	9,327.94	992.718	1.073			
1/11/2006 22:08:00.059	9,337.94	965.691	-25.954			
1/11/2006 22:18:00.059	9,347.94	992.374	0.729			
1/11/2006 22:28:00.059	9,357.94	992.392	0.747			
1/11/2006 22:38:00.059	9,367.94	1,102.469	110.824			
1/11/2006 22:48:00.059	9,377.94	1,148.813	157.168			
1/11/2006 22:58:00.059	9,387.94	1,153.111	161.466			
1/11/2006 23:08:00.059	9,397.94	1,155.916	164.271			
1/11/2006 23:18:00.059	9,407.94	1,156.860	165.215			
1/11/2006 23:28:00.059	9,417.94	1,158.087	166.442			
1/11/2006 23:38:00.059	9,427.94	1,158.229	166.584			
1/11/2006 23:48:00.059	9,437.94	1,158.555	166.910			
1/11/2006 23:58:00.059	9,447.94	1,157.463	165.818			
1/11/2006 23:58:00.264	9,447.95	1,159.010	167.365			
1/11/2006 23:58:00.468	9,447.95	1,160.106	168.461			
1/12/2006 0:08:00.059	9,457.94	1,159.360	167.715			
1/12/2006 0:18:00.059	9,467.94	1,159.542	167.897			
1/12/2006 0:28:00.059	9,477.94	1,159.848	168.203			
1/12/2006 0:38:00.059	9,487.94	1,160.221	168.576			
1/12/2006 0:48:00.059	9,497.94	1,159.865	168.220			
1/12/2006 0:58:00.059	9,507.94	1,160.404	168.759			
1/12/2006 1:08:00.059	9,517.94	1,159.896	168.251			
1/12/2006 1:18:00.059	9,527.94	1,160.441	168.796			
1/12/2006 1:28:00.059	9,537.94	1,160.611	168.966			
1/12/2006 1:38:00.059	9,547.94	1,160.178	168.533			
1/12/2006 1:48:00.059	9,557.94	1,160.688	169.043			
1/12/2006 1:58:00.059	9,567.94	1,161.045	169.400			
1/12/2006 2:08:00.059	9,577.94	1,161.203	169.558			
1/12/2006 2:18:00.059	9,587.94	1,161.775	170.130			
1/12/2006 2:28:00.059	9,597.94	1,160.843	169.198			
1/12/2006 2:38:00.059	9,607.94	1,161.205	169.560			
1/12/2006 2:48:00.059	9,617.94	1,161.125	169.480			
1/12/2006 2:58:00.059	9,627.94	1,161.026	169.381			
1/12/2006 3:08:00.059	9,637.94	1,161.454	169.809			
1/12/2006 3:18:00.059	9,647.94	1,161.449	169.804			
1/12/2006 3:28:00.059	9,657.94	1,162.310	170.665			
1/12/2006 3:38:00.059	9,667.94	1,161.756	170.111			
1/12/2006 3:48:00.059	9,677.94	1,161.834	170.189			
1/12/2006 3:58:00.059	9,687.94	1,161.240	169.595			
1/12/2006 4:08:00.059	9,697.94	1,160.840	169.195			
1/12/2006 4:18:00.059	9,707.94	1,162.016	170.371			
1/12/2006 4:18:00.264	9,707.95	1,161.721	170.076			
1/12/2006 4:28:00.059	9,717.94	1,162.237	170.592			
1/12/2006 4:28:00.264	9,717.95	1,162.375	170.730			
1/12/2006 4:38:00.059	9,727.94	1,162.250	170.605			
1/12/2006 4:48:00.059	9,737.94	1,161.733	170.088			
1/12/2006 4:58:00.059	9,747.94	1,162.689	171.044			
1/12/2006 5:08:00.059	9,757.94	1,162.288	170.643			
1/12/2006 5:18:00.059	9,767.94	1,162.734	171.089			
1/12/2006 5:28:00.059	9,777.94	1,163.043	171.398			



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/12/2006 5:38:00.059	9,787.94	1,163.045	171.400			
1/12/2006 5:48:00.059	9,797.94	1,162.544	170.899			
1/12/2006 5:58:00.059	9,807.94	1,162.857	171.212			
1/12/2006 5:58:00.264	9,807.95	1,161.843	170.198			
1/12/2006 5:58:00.470	9,807.95	1,163.048	171.403			
1/12/2006 6:08:00.059	9,817.94	1,163.383	171.738			
1/12/2006 6:18:00.059	9,827.94	1,163.529	171.884			
1/12/2006 6:28:00.059	9,837.94	1,162.941	171.296			
1/12/2006 6:38:00.059	9,847.94	1,161.562	169.917			
1/12/2006 6:48:00.059	9,857.94	1,163.136	171.491			
1/12/2006 6:48:00.264	9,857.95	1,163.093	171.448			
1/12/2006 6:58:00.059	9,867.94	1,162.865	171.220			
1/12/2006 7:08:00.059	9,877.94	1,163.996	172.351			
1/12/2006 7:18:00.059	9,887.94	1,163.362	171.717			
1/12/2006 7:28:00.059	9,897.94	1,162.544	170.899			
1/12/2006 7:38:00.059	9,907.94	1,163.433	171.788			
1/12/2006 7:48:00.059	9,917.94	1,162.492	170.847			
1/12/2006 7:58:00.059	9,927.94	1,163.729	172.084			
1/12/2006 8:08:00.059	9,937.94	1,162.751	171.106			
1/12/2006 8:08:00.264	9,937.95	1,162.999	171.354			
1/12/2006 8:18:00.059	9,947.94	1,162.478	170.833			
1/12/2006 8:28:00.059	9,957.94	1,162.889	171.244			
1/12/2006 8:38:00.059	9,967.94	1,162.840	171.195			
1/12/2006 8:48:00.059	9,977.94	1,163.553	171.908			
1/12/2006 8:58:00.059	9,987.94	1,163.439	171.794			
1/12/2006 8:58:00.264	9,987.95	1,163.143	171.498			
1/12/2006 9:08:00.059	9,997.94	1,163.490	171.845			
1/12/2006 9:18:00.059	10,007.94	1,162.958	171.313			
1/12/2006 9:28:00.059	10,017.94	1,163.378	171.733			
1/12/2006 9:38:00.059	10,027.94	1,163.334	171.689			
1/12/2006 9:48:00.059	10,037.94	1,163.984	172.339			
1/12/2006 9:48:00.264	10,037.95	1,163.735	172.090			
1/12/2006 9:58:00.059	10,047.94	1,164.081	172.435			
1/12/2006 9:58:00.264	10,047.95	1,163.847	172.202			
1/12/2006 10:08:00.059	10,057.94	1,163.236	171.591			
1/12/2006 10:18:00.059	10,067.94	1,164.265	172.620			
1/12/2006 10:28:00.059	10,077.94	1,163.309	171.664			
1/12/2006 10:38:00.059	10,087.94	1,163.269	171.624			
1/12/2006 10:38:00.264	10,087.95	1,163.311	171.666			
1/12/2006 10:48:00.059	10,097.94	1,162.310	170.665			
1/12/2006 10:58:00.059	10,107.94	1,163.735	172.090			
1/12/2006 11:08:00.059	10,117.94	1,164.497	172.852			
1/12/2006 11:18:00.059	10,127.94	1,164.388	172.743			
1/12/2006 11:18:00.264	10,127.95	1,163.568	171.923			
1/12/2006 11:28:00.468	10,127.95	1,162.895	171.250			
1/12/2006 11:28:00.058	10,137.94	1,163.908	172.263			
1/12/2006 11:28:51.958	10,138.81	1,163.272	171.627			
1/12/2006 11:28:52.208	10,138.81	1,162.645	171.000			
1/12/2006 11:28:52.458	10,138.81	1,164.470	172.825			
1/12/2006 11:28:52.708	10,138.82	1,163.254	171.609			
1/12/2006 11:28:52.958	10,138.82	1,162.634	170.989			
1/12/2006 11:28:53.208	10,138.83	1,162.509	170.864			
1/12/2006 11:28:53.462	10,138.83	1,163.827	172.182			
1/12/2006 11:28:53.708	10,138.84	1,164.294	172.649			
1/12/2006 11:28:53.958	10,138.84	1,163.486	171.841			
1/12/2006 11:28:54.209	10,138.84	1,163.089	171.444			
1/12/2006 11:28:54.458	10,138.85	1,163.094	171.449			
1/12/2006 11:28:54.708	10,138.85	1,163.694	172.049			
1/12/2006 11:28:54.958	10,138.86	1,163.432	171.787			
1/12/2006 11:28:55.208	10,138.86	1,163.341	171.696			
1/12/2006 11:28:55.458	10,138.86	1,163.130	171.485			
1/12/2006 11:28:55.708	10,138.87	1,164.241	172.596			
1/12/2006 11:28:55.958	10,138.87	1,163.567	171.922			
1/12/2006 11:28:56.208	10,138.88	1,162.441	170.796			
1/12/2006 11:28:56.458	10,138.88	1,162.791	171.146			

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	1/1'
1/12/2006 11:28:56.708	10,138.89	1,164.696	173.051			
1/12/2006 11:28:56.958	10,138.89	1,162.883	171.238			
1/12/2006 11:28:57.208	10,138.89	1,163.470	171.825			
1/12/2006 11:28:57.458	10,138.90	1,163.516	171.871			
1/12/2006 11:28:57.708	10,138.90	1,164.113	172.468			
1/12/2006 11:28:57.958	10,138.91	1,163.784	172.139			
1/12/2006 11:28:58.318	10,138.91	1,163.228	171.583			
1/12/2006 11:28:58.679	10,138.92	1,163.140	171.495			
1/12/2006 11:28:59.098	10,138.93	1,163.036	171.391			
1/12/2006 11:28:59.518	10,138.93	1,163.113	171.468			
1/12/2006 11:28:59.938	10,138.94	1,164.071	172.426			
1/12/2006 11:29:00.418	10,138.95	1,163.573	171.928			
1/12/2006 11:29:00.958	10,138.96	1,163.558	171.913			
1/12/2006 11:29:01.438	10,138.96	1,163.827	172.182			
1/12/2006 11:29:02.038	10,138.97	1,163.261	171.616			
1/12/2006 11:29:02.638	10,138.98	1,163.623	171.978			
1/12/2006 11:29:03.238	10,138.99	1,163.578	171.933			
1/12/2006 11:29:03.898	10,139.01	1,164.197	172.552			
1/12/2006 11:29:04.618	10,139.02	1,163.529	171.884			
1/12/2006 11:29:05.398	10,139.03	1,162.999	171.354			
1/12/2006 11:29:06.178	10,139.04	1,163.317	171.672			
1/12/2006 11:29:07.018	10,139.06	1,163.665	172.020			
1/12/2006 11:29:07.918	10,139.07	1,164.401	172.756			
1/12/2006 11:29:08.878	10,139.09	1,163.602	171.957			
1/12/2006 11:29:09.838	10,139.10	1,162.519	170.874			
1/12/2006 11:29:10.918	10,139.12	1,163.999	172.354			
1/12/2006 11:29:12.058	10,139.14	1,163.337	171.692			
1/12/2006 11:29:13.258	10,139.16	1,163.569	171.924			
1/12/2006 11:29:14.518	10,139.18	1,162.864	171.219			
1/12/2006 11:29:15.838	10,139.20	1,164.382	172.737			
1/12/2006 11:29:17.278	10,139.23	1,163.697	172.052			
1/12/2006 11:29:18.778	10,139.25	1,163.245	171.600			
1/12/2006 11:29:20.338	10,139.28	1,164.020	172.375			
1/12/2006 11:29:22.018	10,139.31	1,163.582	171.937			
1/12/2006 11:29:23.818	10,139.34	1,163.113	171.468			
1/12/2006 11:29:25.678	10,139.37	1,163.587	171.942			
1/12/2006 11:29:27.718	10,139.40	1,164.030	172.385			
1/12/2006 11:29:29.818	10,139.44	1,163.507	171.862			
1/12/2006 11:29:32.038	10,139.47	1,164.023	172.378			
1/12/2006 11:29:34.438	10,139.51	1,163.960	172.315			
1/12/2006 11:29:36.958	10,139.56	1,163.350	171.705			
1/12/2006 11:29:39.598	10,139.60	1,163.021	171.376			
1/12/2006 11:29:42.418	10,139.65	1,163.892	172.247	0.00	172.247	#DIV/0!
1/12/2006 11:29:45.418	10,139.70	1,163.376	171.731	0.05	171.731	774,589.56
1/12/2006 11:29:48.598	10,139.75	1,164.643	172.998	0.10	172.998	376,014.36
1/12/2006 11:29:51.958	10,139.81	1,159.925	168.280	0.16	168.280	243,581.63
1/12/2006 11:29:55.558	10,139.87	1,137.486	145.841	0.22	145.841	176,846.94
1/12/2006 11:29:59.158	10,139.93	1,111.274	119.629	0.28	119.629	138,815.34
1/12/2006 11:30:03.358	10,140.00	1,107.957	116.312	0.35	116.312	110,972.72
1/12/2006 11:30:07.558	10,140.07	1,091.992	100.347	0.42	100.347	92,433.12
1/12/2006 11:30:11.758	10,140.14	1,077.618	85.973	0.49	85.973	79,201.39
1/12/2006 11:30:16.558	10,140.22	1,062.816	71.171	0.57	71.171	68,065.87
1/12/2006 11:30:21.958	10,140.31	1,049.194	57.549	0.66	57.549	58,770.07
1/12/2006 11:30:26.758	10,140.39	1,038.108	46.463	0.74	46.463	52,407.96
1/12/2006 11:30:32.758	10,140.49	1,026.434	34.789	0.84	34.789	46,161.48
1/12/2006 11:30:38.758	10,140.59	1,016.876	25.231	0.94	25.231	41,245.45
1/12/2006 11:30:44.758	10,140.69	1,007.515	15.870	1.04	15.870	37,275.73
1/12/2006 11:30:51.358	10,140.80	998.621	6.976	1.15	6.976	33,707.12
1/12/2006 11:30:58.558	10,140.92	990.857	-0.788	1.27	-0.788	30,519.68
1/12/2006 11:31:06.370	10,141.05	984.014	-7.631	1.40	-7.631	27,679.73
1/12/2006 11:31:14.158	10,141.18	978.701	-12.944	1.53	-12.944	25,329.94
1/12/2006 11:31:22.558	10,141.32	974.272	-17.373	1.67	-17.373	23,205.20
1/12/2006 11:31:31.558	10,141.47	970.778	-20.867	1.82	-20.867	21,291.63
1/12/2006 11:31:41.158	10,141.63	968.228	-23.417	1.98	-23.417	19,570.23
1/12/2006 11:31:50.758	10,141.79	966.229	-25.416	2.14	-25.416	18,106.35

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/12/2006 11:32:01.558	10,141.97	965.324	-26.321	2.32	-26.321	16,700.94
1/12/2006 11:32:12.958	10,142.16	964.834	-26.811	2.51	-26.811	15,436.22
1/12/2006 11:32:24.958	10,142.36	965.113	-26.532	2.71	-26.532	14,296.60
1/12/2006 11:32:37.558	10,142.57	966.208	-25.437	2.92	-25.437	13,268.06
1/12/2006 11:32:50.758	10,142.79	967.608	-24.037	3.14	-24.037	12,338.16
1/12/2006 11:33:05.158	10,143.03	969.505	-22.140	3.38	-22.140	11,461.82
1/12/2006 11:33:20.158	10,143.28	971.867	-19.778	3.63	-19.778	10,672.22
1/12/2006 11:33:35.758	10,143.54	974.150	-17.495	3.89	-17.495	9,958.73
1/12/2006 11:33:52.558	10,143.82	976.950	-14.695	4.17	-14.695	9,289.87
1/12/2006 11:34:10.558	10,144.12	979.849	-11.796	4.47	-11.796	8,666.25
1/12/2006 11:34:29.158	10,144.43	983.263	-8.382	4.78	-8.382	8,104.10
1/12/2006 11:34:49.558	10,144.77	986.561	-5.084	5.12	-5.084	7,565.83
1/12/2006 11:35:10.558	10,145.12	989.607	-2.038	5.47	-2.038	7,081.64
1/12/2006 11:35:32.758	10,145.49	992.192	0.547	5.84	0.547	6,632.90
1/12/2006 11:35:56.758	10,145.89	993.583	1.938	6.24	1.938	6,207.64
1/12/2006 11:36:21.958	10,146.31	994.651	3.008	6.66	3.008	5,816.11
1/12/2006 11:36:48.358	10,146.75	995.191	3.546	7.10	3.546	5,455.63
1/12/2006 11:37:16.558	10,147.22	995.373	3.728	7.57	3.728	5,116.86
1/12/2006 11:37:46.558	10,147.72	995.526	3.881	8.07	3.881	4,799.79
1/12/2006 11:38:18.358	10,148.25	995.301	3.656	8.60	3.656	4,503.95
1/12/2006 11:38:51.958	10,148.81	995.690	4.045	9.16	4.045	4,228.57
1/12/2006 11:39:27.958	10,149.41	995.423	3.778	9.76	3.778	3,968.59
1/12/2006 11:40:03.958	10,150.01	995.290	3.645	10.36	3.645	3,738.73
1/12/2006 11:40:45.958	10,150.71	995.259	3.614	11.06	3.614	3,502.08
1/12/2006 11:41:27.958	10,151.41	994.942	3.297	11.76	3.297	3,293.60
1/12/2006 11:42:09.958	10,152.11	994.845	3.200	12.46	3.200	3,108.56
1/12/2006 11:42:57.958	10,152.91	994.682	3.037	13.26	3.037	2,921.00
1/12/2006 11:43:51.958	10,153.81	994.394	2.749	14.16	2.749	2,735.33
1/12/2006 11:44:39.958	10,154.61	994.373	2.728	14.96	2.728	2,589.04
1/12/2006 11:45:39.958	10,155.61	994.204	2.559	15.96	2.559	2,426.81
1/12/2006 11:46:39.958	10,156.61	994.013	2.368	16.96	2.368	2,283.71
1/12/2006 11:47:39.958	10,157.61	993.843	2.198	17.96	2.198	2,156.55
1/12/2006 11:48:45.958	10,158.71	993.744	2.099	19.06	2.099	2,032.08
1/12/2006 11:49:57.958	10,159.91	993.640	1.995	20.26	1.995	1,911.72
1/12/2006 11:51:15.958	10,161.21	993.495	1.850	21.56	1.850	1,796.44
1/12/2006 11:52:33.958	10,162.51	993.406	1.761	22.86	1.761	1,694.28
1/12/2006 11:53:57.958	10,163.91	993.163	1.518	24.26	1.518	1,596.50
1/12/2006 11:55:27.958	10,165.41	993.204	1.559	25.76	1.559	1,503.53
1/12/2006 11:57:04.018	10,167.01	993.045	1.400	27.36	1.400	1,415.55
1/12/2006 11:58:39.958	10,168.61	993.079	1.434	28.96	1.434	1,337.39
1/12/2006 12:00:07.504	10,170.07	993.007	1.362	30.42	1.362	1,273.24
1/12/2006 12:00:07.754	10,170.07	992.893	1.248	30.42	1.248	1,273.06
1/12/2006 12:00:08.005	10,170.07	992.928	1.283	30.43	1.283	1,272.89
1/12/2006 12:00:08.255	10,170.08	992.908	1.263	30.43	1.263	1,272.71
1/12/2006 12:00:08.510	10,170.08	992.917	1.272	30.43	1.272	1,272.54
1/12/2006 12:00:08.755	10,170.09	992.822	1.177	30.44	1.177	1,272.37
1/12/2006 12:00:09.010	10,170.09	993.038	1.393	30.44	1.393	1,272.19
1/12/2006 12:00:09.255	10,170.09	993.079	1.434	30.45	1.434	1,272.02
1/12/2006 12:00:09.505	10,170.10	992.728	1.083	30.45	1.083	1,271.84
1/12/2006 12:00:09.755	10,170.10	993.019	1.374	30.46	1.374	1,271.67
1/12/2006 12:00:10.005	10,170.11	992.921	1.276	30.46	1.276	1,271.50
1/12/2006 12:00:10.267	10,170.11	993.079	1.434	30.46	1.434	1,271.31
1/12/2006 12:00:10.505	10,170.12	992.918	1.273	30.47	1.273	1,271.15
1/12/2006 12:00:10.755	10,170.12	993.053	1.408	30.47	1.408	1,270.97
1/12/2006 12:00:11.005	10,170.12	992.950	1.305	30.48	1.305	1,270.80
1/12/2006 12:00:11.255	10,170.13	992.969	1.324	30.48	1.324	1,270.63
1/12/2006 12:00:11.505	10,170.13	992.987	1.342	30.48	1.342	1,270.45
1/12/2006 12:00:11.755	10,170.14	993.092	1.447	30.49	1.447	1,270.28
1/12/2006 12:00:12.005	10,170.14	993.013	1.368	30.49	1.368	1,270.11
1/12/2006 12:00:12.255	10,170.14	992.970	1.325	30.50	1.325	1,269.93
1/12/2006 12:00:12.505	10,170.15	992.981	1.336	30.50	1.336	1,269.76
1/12/2006 12:00:12.755	10,170.15	993.038	1.393	30.51	1.393	1,269.59
1/12/2006 12:00:13.005	10,170.16	993.013	1.368	30.51	1.368	1,269.41
1/12/2006 12:00:13.255	10,170.16	993.011	1.366	30.51	1.366	1,269.24
1/12/2006 12:00:13.505	10,170.17	993.019	1.374	30.52	1.374	1,269.07



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/12/2006 12:00:13.865	10,170.17	993.011	1.366	30.52	1.366	1.268.82
1/12/2006 12:00:14.225	10,170.18	993.128	1.483	30.53	1.483	1.268.57
1/12/2006 12:00:14.645	10,170.18	993.000	1.355	30.54	1.355	1.268.28
1/12/2006 12:00:15.065	10,170.19	992.984	1.339	30.54	1.339	1.267.99
1/12/2006 12:00:15.485	10,170.20	993.135	1.490	30.55	1.490	1.267.70
1/12/2006 12:00:15.965	10,170.21	992.970	1.325	30.56	1.325	1.267.39
1/12/2006 12:00:16.505	10,170.22	992.935	1.290	30.57	1.290	1.266.99
1/12/2006 12:00:16.985	10,170.22	993.074	1.429	30.58	1.429	1.266.66
1/12/2006 12:00:17.585	10,170.23	993.086	1.441	30.59	1.441	1.266.24
1/12/2006 12:00:18.185	10,170.24	992.996	1.351	30.60	1.351	1.265.83
1/12/2006 12:00:18.785	10,170.25	993.055	1.410	30.61	1.410	1.265.42
1/12/2006 12:00:19.445	10,170.26	993.032	1.387	30.62	1.387	1.264.96
1/12/2006 12:00:20.165	10,170.28	992.931	1.286	30.63	1.286	1.264.47
1/12/2006 12:00:20.945	10,170.29	992.899	1.254	30.64	1.254	1.263.93
1/12/2006 12:00:21.725	10,170.30	993.015	1.370	30.66	1.370	1.263.39
1/12/2006 12:00:22.565	10,170.32	993.002	1.357	30.67	1.357	1.262.82
1/12/2006 12:00:23.465	10,170.33	993.041	1.396	30.68	1.396	1.262.20
1/12/2006 12:00:24.425	10,170.35	993.032	1.387	30.70	1.387	1.261.54
1/12/2006 12:00:25.385	10,170.36	993.029	1.384	30.72	1.384	1.260.89
1/12/2006 12:00:26.465	10,170.38	992.985	1.340	30.73	1.340	1.260.15
1/12/2006 12:00:27.605	10,170.40	993.051	1.406	30.75	1.406	1.259.37
1/12/2006 12:00:28.805	10,170.42	992.973	1.328	30.77	1.328	1.258.55
1/12/2006 12:00:30.065	10,170.44	993.004	1.359	30.79	1.359	1.257.69
1/12/2006 12:00:31.385	10,170.46	992.976	1.331	30.82	1.331	1.256.79
1/12/2006 12:00:32.825	10,170.49	993.004	1.359	30.84	1.359	1.255.82
1/12/2006 12:00:34.325	10,170.51	992.969	1.324	30.87	1.324	1.254.80
1/12/2006 12:00:35.885	10,170.54	992.964	1.319	30.89	1.319	1.253.74
1/12/2006 12:00:37.565	10,170.57	992.945	1.300	30.92	1.300	1.252.61
1/12/2006 12:00:39.364	10,170.60	992.923	1.278	30.95	1.278	1.251.39
1/12/2006 12:00:41.225	10,170.63	993.111	1.466	30.98	1.466	1.250.14
1/12/2006 12:00:43.265	10,170.66	992.962	1.317	31.01	1.317	1.248.77
1/12/2006 12:00:45.364	10,170.70	992.874	1.229	31.05	1.229	1.247.36
1/12/2006 12:00:47.585	10,170.73	992.944	1.299	31.09	1.299	1.245.88
1/12/2006 12:00:49.985	10,170.77	992.942	1.297	31.13	1.297	1.244.28
1/12/2006 12:00:52.504	10,170.82	993.031	1.386	31.17	1.386	1.242.60
1/12/2006 12:00:55.145	10,170.86	992.865	1.220	31.21	1.220	1.240.85
1/12/2006 12:00:57.965	10,170.91	993.026	1.381	31.26	1.381	1.238.98
1/12/2006 12:01:00.965	10,170.96	992.988	1.343	31.31	1.343	1.237.00
1/12/2006 12:01:04.145	10,171.01	993.009	1.364	31.36	1.364	1.234.91
1/12/2006 12:01:07.504	10,171.07	992.986	1.341	31.42	1.341	1.232.71
1/12/2006 12:01:11.104	10,171.13	992.976	1.331	31.48	1.331	1.230.36
1/12/2006 12:01:14.704	10,171.19	993.009	1.364	31.54	1.364	1.228.02
1/12/2006 12:01:18.905	10,171.26	992.852	1.207	31.61	1.207	1.225.30
1/12/2006 12:01:23.104	10,171.33	992.829	1.184	31.68	1.184	1.222.60
1/12/2006 12:01:27.304	10,171.40	992.968	1.323	31.75	1.323	1.219.90
1/12/2006 12:01:32.104	10,171.48	992.818	1.173	31.83	1.173	1.216.83
1/12/2006 12:01:37.504	10,171.57	992.990	1.345	31.92	1.345	1.213.40
1/12/2006 12:01:42.304	10,171.65	992.996	1.351	32.00	1.351	1.210.37
1/12/2006 12:01:48.304	10,171.75	992.794	1.149	32.10	1.149	1.206.60
1/12/2006 12:01:54.304	10,171.85	992.681	1.036	32.20	1.036	1.202.85
1/12/2006 12:02:00.304	10,171.95	992.754	1.109	32.30	1.109	1.199.13
1/12/2006 12:02:06.904	10,172.06	992.966	1.321	32.41	1.321	1.195.06
1/12/2006 12:02:14.104	10,172.18	992.928	1.283	32.53	1.283	1.190.65
1/12/2006 12:02:21.904	10,172.31	992.947	1.302	32.66	1.302	1.185.91
1/12/2006 12:02:29.704	10,172.44	992.947	1.302	32.79	1.302	1.181.21
1/12/2006 12:02:38.104	10,172.58	992.987	1.342	32.93	1.342	1.176.18
1/12/2006 12:02:47.104	10,172.73	992.912	1.267	33.08	1.267	1.170.85
1/12/2006 12:02:56.704	10,172.89	992.930	1.285	33.24	1.285	1.165.21
1/12/2006 12:03:06.304	10,173.05	992.907	1.262	33.40	1.262	1.159.63
1/12/2006 12:03:17.104	10,173.23	992.942	1.297	33.58	1.297	1.153.42
1/12/2006 12:03:28.504	10,173.42	992.901	1.256	33.77	1.256	1.146.93
1/12/2006 12:03:40.504	10,173.62	992.909	1.264	33.97	1.264	1.140.17
1/12/2006 12:03:53.104	10,173.83	992.918	1.273	34.18	1.273	1.133.17
1/12/2006 12:04:06.304	10,174.05	992.880	1.235	34.40	1.235	1.125.92
1/12/2006 12:04:20.704	10,174.29	992.856	1.211	34.64	1.211	1.118.12



KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/ft'
1/12/2006 12:04:35.704	10,174.54	992.881	1.236	34.89	1.236	1,110.11
1/12/2006 12:04:51.304	10,174.80	992.895	1.250	35.15	1.250	1,101.89
1/12/2006 12:05:08.104	10,175.08	992.839	1.194	35.43	1.194	1,093.19
1/12/2006 12:05:26.104	10,175.38	992.878	1.233	35.73	1.233	1,084.01
1/12/2006 12:05:44.704	10,175.69	992.869	1.224	36.04	1.224	1,074.68
1/12/2006 12:06:05.104	10,176.03	992.822	1.177	36.38	1.177	1,064.64
1/12/2006 12:06:26.104	10,176.38	992.796	1.151	36.73	1.151	1,054.49
1/12/2006 12:06:48.304	10,176.75	992.828	1.183	37.10	1.183	1,043.98
1/12/2006 12:07:12.304	10,177.15	992.836	1.191	37.50	1.191	1,032.84
1/12/2006 12:07:37.504	10,177.57	992.834	1.189	37.92	1.189	1,021.40
1/12/2006 12:08:03.904	10,178.01	992.826	1.181	38.36	1.181	1,009.68
1/12/2006 12:08:32.104	10,178.48	992.760	1.115	38.83	1.115	997.46
1/12/2006 12:09:02.104	10,178.98	992.825	1.180	39.33	1.180	984.78
1/12/2006 12:09:33.904	10,179.51	992.733	1.088	39.86	1.088	971.68
1/12/2006 12:10:07.504	10,180.07	992.629	0.984	40.42	0.984	958.22
1/12/2006 12:10:43.504	10,180.67	992.746	1.101	41.02	1.101	944.21
1/12/2006 12:11:19.504	10,181.27	992.738	1.093	41.62	1.093	930.59
1/12/2006 12:12:01.504	10,181.97	992.722	1.077	42.32	1.077	915.20
1/12/2006 12:12:43.504	10,182.67	992.759	1.114	43.02	1.114	900.31
1/12/2006 12:13:25.504	10,183.37	992.637	0.992	43.72	0.992	885.89
1/12/2006 12:14:13.504	10,184.17	992.681	1.036	44.52	1.036	869.97
1/12/2006 12:15:07.504	10,185.07	992.657	1.012	45.42	1.012	852.73
1/12/2006 12:15:55.504	10,185.87	992.678	1.033	46.22	1.033	837.97
1/12/2006 12:16:55.504	10,186.87	992.584	0.939	47.22	0.939	820.23
1/12/2006 12:17:55.504	10,187.87	992.672	1.027	48.22	1.027	803.22
1/12/2006 12:18:55.504	10,188.87	992.616	0.971	49.22	0.971	786.90
1/12/2006 12:20:01.504	10,189.97	992.558	0.913	50.32	0.913	769.69
1/12/2006 12:21:13.504	10,191.17	992.578	0.933	51.52	0.933	751.77
1/12/2006 12:22:31.504	10,192.47	992.618	0.973	52.82	0.973	733.26
1/12/2006 12:23:49.504	10,193.77	992.554	0.909	54.12	0.909	715.65
1/12/2006 12:25:13.504	10,195.17	992.527	0.882	55.52	0.882	697.60
1/12/2006 12:26:43.504	10,196.67	992.510	0.865	57.02	0.865	679.25
1/12/2006 12:28:19.504	10,198.27	992.532	0.887	58.62	0.887	660.71
1/12/2006 12:29:55.504	10,199.87	992.483	0.838	60.22	0.838	643.15
1/12/2006 12:31:43.504	10,201.67	992.483	0.838	62.02	0.838	624.49
1/12/2006 12:33:37.504	10,203.57	992.477	0.832	63.92	0.832	605.92
1/12/2006 12:35:37.504	10,205.57	992.464	0.819	65.92	0.819	587.54
1/12/2006 12:37:43.504	10,207.67	992.450	0.805	68.02	0.805	569.40
1/12/2006 12:39:55.504	10,209.87	992.392	0.747	70.22	0.747	551.56
1/12/2006 12:42:19.504	10,212.27	992.376	0.731	72.62	0.731	533.33
1/12/2006 12:44:49.504	10,214.77	992.395	0.750	75.12	0.750	515.58
1/12/2006 12:47:25.504	10,217.37	992.414	0.769	77.72	0.769	498.33
1/12/2006 12:50:13.504	10,220.17	992.372	0.727	80.52	0.727	481.00
1/12/2006 12:53:13.504	10,223.17	992.288	0.643	83.52	0.643	463.73
1/12/2006 12:56:19.504	10,226.27	992.302	0.657	86.62	0.657	447.13
1/12/2006 12:59:43.504	10,229.67	992.269	0.624	90.02	0.624	430.24
1/12/2006 13:03:13.504	10,233.17	992.261	0.616	93.52	0.616	414.14
1/12/2006 13:06:55.504	10,236.87	992.236	0.591	97.22	0.591	398.38
1/12/2006 13:10:55.504	10,240.87	992.233	0.588	101.22	0.588	382.63
1/12/2006 13:15:07.504	10,245.07	992.224	0.579	105.42	0.579	367.39
1/12/2006 13:19:31.504	10,249.47	992.236	0.591	109.82	0.591	352.67
1/12/2006 13:24:13.504	10,254.17	992.165	0.520	114.52	0.520	338.20
1/12/2006 13:29:13.504	10,259.17	992.176	0.531	119.52	0.531	324.05
1/12/2006 13:34:31.504	10,264.47	992.158	0.513	124.82	0.513	310.29
1/12/2006 13:40:07.504	10,270.07	992.142	0.497	130.42	0.497	296.96
1/12/2006 13:46:07.504	10,276.07	992.031	0.386	136.42	0.386	283.90
1/12/2006 13:52:07.504	10,282.07	992.060	0.415	142.42	0.415	271.94
1/12/2006 13:59:07.504	10,289.07	992.087	0.442	149.42	0.442	259.20
1/12/2006 14:06:07.504	10,296.07	992.033	0.388	156.42	0.388	247.60
1/12/2006 14:13:07.504	10,303.07	992.142	0.497	163.42	0.497	237.00
1/12/2006 14:21:07.504	10,311.07	992.106	0.461	171.42	0.461	225.94
1/12/2006 14:30:07.504	10,320.07	991.911	0.266	180.42	0.266	214.67
1/12/2006 14:38:07.504	10,328.07	991.930	0.285	188.42	0.285	205.55
1/12/2006 14:48:07.504	10,338.07	991.924	0.279	198.42	0.279	195.19
1/12/2006 14:58:07.504	10,348.07	991.960	0.315	208.42	0.315	185.83

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/12/2006 15:08:07.504	10,358.07	991.869	0.224	218.42	0.224	177.32
1/12/2006 15:18:07.504	10,368.07	991.861	0.216	228.42	0.216	169.56
1/12/2006 15:28:07.504	10,378.07	991.823	0.178	238.42	0.178	162.44
1/12/2006 15:38:07.504	10,388.07	991.811	0.166	248.42	0.166	155.91
1/12/2006 15:48:07.504	10,398.07	991.779	0.134	258.42	0.134	149.87
1/12/2006 15:58:07.504	10,408.07	991.917	0.272	268.42	0.272	144.29
1/12/2006 16:08:07.504	10,418.07	991.833	0.188	278.42	0.188	139.11
1/12/2006 16:18:07.504	10,428.07	991.811	0.166	288.42	0.166	134.28
1/12/2006 16:28:07.504	10,438.07	991.769	0.124	298.42	0.124	129.78
1/12/2006 16:38:07.504	10,448.07	991.751	0.106	308.42	0.106	125.58
1/12/2006 16:48:07.504	10,458.07	991.741	0.096	318.42	0.096	121.63
1/12/2006 16:58:07.504	10,468.07	991.677	0.032	328.42	0.032	117.93
1/12/2006 17:08:07.504	10,478.07	991.674	0.029	338.42	0.029	114.44
1/12/2006 17:18:07.504	10,488.07	991.695	0.050	348.42	0.050	111.16
1/12/2006 17:28:07.504	10,498.07	991.771	0.126	358.42	0.126	108.06
1/12/2006 17:38:07.504	10,508.07	991.721	0.076	368.42	0.076	105.12
1/12/2006 17:48:07.504	10,518.07	991.713	0.068	378.42	0.068	102.35
1/12/2006 17:58:07.504	10,528.07	991.677	0.032	388.42	0.032	99.71
1/12/2006 18:08:07.504	10,538.07	991.663	0.018	398.42	0.018	97.21
1/12/2006 18:18:07.504	10,548.07	991.737	0.092	408.42	0.092	94.83
1/12/2006 18:28:07.504	10,558.07	991.585	-0.060	418.42	-0.060	92.56
1/12/2006 18:38:07.504	10,568.07	991.756	0.111	428.42	0.111	90.40
1/12/2006 18:48:07.504	10,578.07	991.704	0.059	438.42	0.059	88.34
1/12/2006 18:58:07.504	10,588.07	991.648	0.003	448.42	0.003	86.37
1/12/2006 19:08:07.504	10,598.07	991.687	0.042	458.42	0.042	84.49
1/12/2006 19:18:07.504	10,608.07	991.781	0.136	468.42	0.136	82.68
1/12/2006 19:28:07.504	10,618.07	991.737	0.092	478.42	0.092	80.95
1/12/2006 19:38:07.504	10,628.07	991.644	-0.001	488.42	-0.001	79.30
1/12/2006 19:48:07.504	10,638.07	991.711	0.066	498.42	0.066	77.71
1/12/2006 19:58:07.504	10,648.07	991.567	-0.078	508.42	-0.078	76.18
1/12/2006 20:08:07.504	10,658.07	991.677	0.032	518.42	0.032	74.71
1/12/2006 20:18:07.504	10,668.07	991.708	0.063	528.42	0.063	73.29
1/12/2006 20:28:07.504	10,678.07	991.661	0.016	538.42	0.016	71.93
1/12/2006 20:38:07.504	10,688.07	991.633	-0.012	548.42	-0.012	70.62
1/12/2006 20:48:07.504	10,698.07	991.634	-0.011	558.42	-0.011	69.36
1/12/2006 20:58:07.504	10,708.07	991.576	-0.069	568.42	-0.069	68.14
1/12/2006 21:08:07.504	10,718.07	991.564	-0.081	578.42	-0.081	66.96
1/12/2006 21:18:07.504	10,728.07	991.570	-0.075	588.42	-0.075	65.82
1/12/2006 21:28:07.504	10,738.07	991.707	0.062	598.42	0.062	64.72
1/12/2006 21:38:07.504	10,748.07	991.643	-0.002	608.42	-0.002	63.66
1/12/2006 21:48:07.504	10,758.07	991.638	-0.007	618.42	-0.007	62.63
1/12/2006 21:58:07.504	10,768.07	991.638	-0.007	628.42	-0.007	61.63
1/12/2006 22:08:07.504	10,778.07	991.594	-0.051	638.42	-0.051	60.67
1/12/2006 22:18:07.504	10,788.07	991.596	-0.049	648.42	-0.049	59.73
1/12/2006 22:28:07.504	10,798.07	991.588	-0.057	658.42	-0.057	58.82
1/12/2006 22:38:07.504	10,808.07	991.586	-0.059	668.42	-0.059	57.94
1/12/2006 22:48:07.504	10,818.07	991.517	-0.128	678.42	-0.128	57.09
1/12/2006 22:58:07.504	10,828.07	991.475	-0.170	688.42	-0.170	56.26
1/12/2006 23:08:07.504	10,838.07	991.531	-0.114	698.42	-0.114	55.45
1/12/2006 23:18:07.504	10,848.07	991.523	-0.122	708.42	-0.122	54.67
1/12/2006 23:28:07.504	10,858.07	991.528	-0.117	718.42	-0.117	53.91
1/12/2006 23:38:07.504	10,868.07	991.476	-0.169	728.42	-0.169	53.17
1/12/2006 23:48:07.504	10,878.07	991.465	-0.180	738.42	-0.180	52.45
1/12/2006 23:58:07.504	10,888.07	991.486	-0.159	748.42	-0.159	51.75
1/13/2006 0:08:07.504	10,898.07	991.427	-0.218	758.42	-0.218	51.07
1/13/2006 0:18:07.504	10,908.07	991.440	-0.205	768.42	-0.205	50.40
1/13/2006 0:28:07.504	10,918.07	991.565	-0.080	778.42	-0.080	49.75
1/13/2006 0:38:07.504	10,928.07	991.521	-0.124	788.42	-0.124	49.12
1/13/2006 0:48:07.504	10,938.07	991.504	-0.141	798.42	-0.141	48.51
1/13/2006 0:58:07.504	10,948.07	991.485	-0.160	808.42	-0.160	47.91
1/13/2006 1:08:07.504	10,958.07	991.336	-0.309	818.42	-0.309	47.32
1/13/2006 1:18:07.504	10,968.07	991.479	-0.166	828.42	-0.166	46.75
1/13/2006 1:28:07.504	10,978.07	991.361	-0.284	838.42	-0.284	46.19
1/13/2006 1:38:07.504	10,988.07	991.430	-0.215	848.42	-0.215	45.65
1/13/2006 1:48:07.504	10,998.07	991.457	-0.188	858.42	-0.188	45.12

KPW 2006 CR (pumping well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/13/2006 1:58:07.504	11,008.07	991.472	-0.173	868.42	-0.173	44.60
1/13/2006 2:08:07.504	11,018.07	991.450	-0.195	878.42	-0.195	44.09
1/13/2006 2:18:07.504	11,028.07	991.433	-0.212	888.42	-0.212	43.59
1/13/2006 2:28:07.504	11,038.07	991.421	-0.224	898.42	-0.224	43.11
1/13/2006 2:38:07.504	11,048.07	991.383	-0.262	908.42	-0.262	42.63
1/13/2006 2:48:07.504	11,058.07	991.402	-0.243	918.42	-0.243	42.17
1/13/2006 2:58:07.504	11,068.07	991.395	-0.250	928.42	-0.250	41.72
1/13/2006 3:08:07.504	11,078.07	991.212	-0.433	938.42	-0.433	41.27
1/13/2006 3:18:07.504	11,088.07	991.331	-0.314	948.42	-0.314	40.84
1/13/2006 3:28:07.504	11,098.07	991.383	-0.262	958.42	-0.262	40.41
1/13/2006 3:38:07.504	11,108.07	991.320	-0.325	968.42	-0.325	39.99
1/13/2006 3:48:07.504	11,118.07	991.308	-0.337	978.42	-0.337	39.58
1/13/2006 3:58:07.504	11,128.07	991.293	-0.352	988.42	0.352	39.18
1/13/2006 4:08:07.504	11,138.07	991.294	-0.351	998.42	-0.351	38.79
1/13/2006 4:18:07.504	11,148.07	991.298	-0.347	1,008.42	-0.347	38.41
1/13/2006 4:28:07.504	11,158.07	991.244	-0.401	1,018.42	0.401	38.03
1/13/2006 4:38:07.504	11,168.07	991.287	-0.358	1,028.42	-0.358	37.66
1/13/2006 4:48:07.504	11,178.07	991.263	-0.382	1,038.42	-0.382	37.30
1/13/2006 4:58:07.504	11,188.07	991.285	-0.360	1,048.42	-0.360	36.94
1/13/2006 5:08:07.504	11,198.07	991.260	-0.385	1,058.42	-0.385	36.59
1/13/2006 5:18:07.504	11,208.07	991.276	-0.369	1,068.42	-0.369	36.25
1/13/2006 5:28:07.504	11,218.07	991.249	-0.396	1,078.42	-0.396	35.91
1/13/2006 5:38:07.504	11,228.07	991.233	-0.412	1,088.42	-0.412	35.58
1/13/2006 5:48:07.504	11,238.07	991.244	-0.401	1,098.42	-0.401	35.26
1/13/2006 5:58:07.504	11,248.07	991.345	-0.300	1,108.42	-0.300	34.94
1/13/2006 6:08:07.504	11,258.07	991.240	-0.405	1,118.42	-0.405	34.63
1/13/2006 6:18:07.504	11,268.07	991.261	-0.384	1,128.42	-0.384	34.32
1/13/2006 6:28:07.504	11,278.07	991.271	-0.374	1,138.42	-0.374	34.02
1/13/2006 6:38:07.504	11,288.07	991.290	-0.355	1,148.42	-0.355	33.72
1/13/2006 6:48:07.504	11,298.07	991.263	-0.382	1,158.42	-0.382	33.43
1/13/2006 6:58:07.504	11,308.07	991.294	-0.351	1,168.42	-0.351	33.15
1/13/2006 7:08:07.504	11,318.07	991.400	-0.245	1,178.42	-0.245	32.87
1/13/2006 7:18:07.504	11,328.07	991.270	-0.375	1,188.42	-0.375	32.59
1/13/2006 7:28:07.504	11,338.07	991.276	-0.369	1,198.42	-0.369	32.32
1/13/2006 7:38:07.504	11,348.07	991.281	-0.364	1,208.42	-0.364	32.05
1/13/2006 7:48:07.504	11,358.07	991.263	-0.382	1,218.42	-0.382	31.79
1/13/2006 7:58:07.504	11,368.07	991.260	-0.385	1,228.42	-0.385	31.53
1/13/2006 8:08:07.504	11,378.07	991.219	-0.426	1,238.42	-0.426	31.27
1/13/2006 8:18:07.504	11,388.07	991.263	-0.382	1,248.42	-0.382	31.02
1/13/2006 8:28:07.504	11,398.07	991.242	-0.403	1,258.42	-0.403	30.78
1/13/2006 8:38:07.504	11,408.07	991.114	-0.531	1,268.42	-0.531	30.53
1/13/2006 8:48:07.504	11,418.07	991.284	-0.361	1,278.42	-0.361	30.30
1/13/2006 8:58:07.504	11,428.07	991.200	-0.445	1,288.42	-0.445	30.06
1/13/2006 9:08:07.504	11,438.07	991.240	-0.405	1,298.42	-0.405	29.83
1/13/2006 9:18:07.504	11,448.07	991.071	-0.574	1,308.42	-0.574	29.60
1/13/2006 9:28:07.504	11,458.07	991.192	-0.453	1,318.42	-0.453	29.38
1/13/2006 9:38:07.504	11,468.07	991.252	-0.393	1,328.42	-0.393	29.16
1/13/2006 9:48:07.504	11,478.07	991.214	-0.431	1,338.42	-0.431	28.94
1/13/2006 9:58:07.504	11,488.07	991.252	-0.393	1,348.42	-0.393	28.72
1/13/2006 10:08:07.504	11,498.07	991.100	-0.545	1,358.42	-0.545	28.51
1/13/2006 10:18:07.504	11,508.07	991.221	-0.424	1,368.42	-0.424	28.30



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KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	U'
1/5/2006 10:30:03.560	0.000	991.948	0.000			
1/5/2006 10:30:03.810	0.004	991.964	0.016			
1/5/2006 10:30:04.060	0.008	991.961	0.013			
1/5/2006 10:30:04.310	0.013	991.968	0.020			
1/5/2006 10:30:04.560	0.017	991.969	0.021			
1/5/2006 10:30:04.810	0.021	991.958	0.010			
1/5/2006 10:30:05.060	0.025	991.983	0.035			
1/5/2006 10:30:05.310	0.029	991.928	-0.020			
1/5/2006 10:30:05.560	0.033	991.936	-0.012			
1/5/2006 10:30:05.810	0.037	991.936	-0.012			
1/5/2006 10:30:06.060	0.042	991.937	-0.011			
1/5/2006 10:30:06.420	0.048	991.928	-0.020			
1/5/2006 10:30:06.780	0.054	991.980	0.032			
1/5/2006 10:30:07.200	0.061	991.987	0.039			
1/5/2006 10:30:07.620	0.068	991.971	0.023			
1/5/2006 10:30:08.040	0.075	991.974	0.026			
1/5/2006 10:30:08.520	0.083	991.972	0.024			
1/5/2006 10:30:09.060	0.092	991.976	0.028			
1/5/2006 10:30:09.540	0.100	991.983	0.035			
1/5/2006 10:30:10.140	0.110	991.975	0.027			
1/5/2006 10:30:10.740	0.120	991.970	0.022			
1/5/2006 10:30:11.340	0.130	991.979	0.031			
1/5/2006 10:30:12.000	0.141	991.972	0.024			
1/5/2006 10:30:12.720	0.153	991.979	0.031			
1/5/2006 10:30:13.500	0.166	992.037	0.089			
1/5/2006 10:30:14.280	0.179	991.989	0.041			
1/5/2006 10:30:15.120	0.193	992.047	0.099			
1/5/2006 10:30:16.020	0.208	992.063	0.115			
1/5/2006 10:30:16.980	0.224	992.027	0.079			
1/5/2006 10:30:17.940	0.240	992.082	0.134			
1/5/2006 10:30:19.020	0.258	992.093	0.145			
1/5/2006 10:30:20.160	0.277	992.119	0.171			
1/5/2006 10:30:21.360	0.297	992.147	0.199			
1/5/2006 10:30:22.620	0.318	992.168	0.220			
1/5/2006 10:30:23.940	0.340	992.210	0.262			
1/5/2006 10:30:25.380	0.364	992.243	0.295			
1/5/2006 10:30:26.880	0.389	992.292	0.344			
1/5/2006 10:30:28.440	0.415	992.335	0.387			
1/5/2006 10:30:30.120	0.443	992.404	0.456			
1/5/2006 10:30:31.920	0.473	992.521	0.573			
1/5/2006 10:30:33.780	0.504	992.549	0.601			
1/5/2006 10:30:35.820	0.538	992.635	0.687			
1/5/2006 10:30:37.920	0.573	992.738	0.790			
1/5/2006 10:30:40.140	0.610	992.847	0.899			
1/5/2006 10:30:42.540	0.650	993.031	1.083			
1/5/2006 10:30:45.060	0.692	993.178	1.230			
1/5/2006 10:30:47.700	0.736	993.296	1.348			
1/5/2006 10:30:50.520	0.783	993.475	1.527			
1/5/2006 10:30:53.520	0.833	993.723	1.775			
1/5/2006 10:30:56.700	0.886	993.915	1.967			
1/5/2006 10:31:00.060	0.942	994.207	2.259			
1/5/2006 10:31:03.660	1.002	994.483	2.535			
1/5/2006 10:31:07.260	1.062	994.757	2.809			
1/5/2006 10:31:11.460	1.132	995.051	3.103			
1/5/2006 10:31:15.660	1.202	995.361	3.433			
1/5/2006 10:31:19.860	1.272	995.761	3.813			
1/5/2006 10:31:24.660	1.352	996.128	4.180			
1/5/2006 10:31:30.060	1.442	996.548	4.600			
1/5/2006 10:31:34.860	1.522	996.919	4.971			
1/5/2006 10:31:40.860	1.622	997.356	5.408			
1/5/2006 10:31:46.860	1.722	997.751	5.803			
1/5/2006 10:31:52.860	1.822	998.192	6.244			
1/5/2006 10:31:59.459	1.932	998.620	6.672			
1/5/2006 10:32:06.660	2.052	999.074	7.126			
1/5/2006 10:32:14.459	2.182	999.517	7.569			
1/5/2006 10:32:22.260	2.312	999.941	7.993			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	U/I'
1/5/2006 10:32:30.660	2.452	1,000.376	8.428			
1/5/2006 10:32:39.660	2.602	1,000.804	8.856			
1/5/2006 10:32:49.260	2.762	1,001.207	9.259			
1/5/2006 10:32:58.860	2.922	1,001.581	9.633			
1/5/2006 10:33:09.659	3.102	1,001.961	10.013			
1/5/2006 10:33:21.060	3.292	1,002.352	10.404			
1/5/2006 10:33:33.060	3.492	1,002.763	10.815			
1/5/2006 10:33:45.659	3.702	1,003.167	11.219			
1/5/2006 10:33:58.860	3.922	1,003.555	11.607			
1/5/2006 10:34:13.260	4.162	1,003.965	12.017			
1/5/2006 10:34:28.260	4.412	1,004.360	12.412			
1/5/2006 10:34:43.859	4.672	1,004.808	12.860			
1/5/2006 10:35:00.659	4.952	1,005.180	13.232			
1/5/2006 10:35:18.659	5.252	1,005.576	13.628			
1/5/2006 10:35:37.260	5.562	1,005.987	14.039			
1/5/2006 10:35:57.659	5.902	1,006.373	14.425			
1/5/2006 10:36:18.659	6.252	1,006.726	14.778			
1/5/2006 10:36:40.859	6.622	1,007.100	15.152			
1/5/2006 10:37:04.859	7.022	1,007.465	15.517			
1/5/2006 10:37:30.060	7.442	1,007.809	15.861			
1/5/2006 10:37:56.459	7.882	1,008.156	16.208			
1/5/2006 10:38:24.659	8.352	1,008.483	16.535			
1/5/2006 10:38:54.659	8.852	1,008.869	16.921			
1/5/2006 10:39:26.459	9.382	1,009.148	17.200			
1/5/2006 10:40:00.059	9.942	1,009.489	17.541			
1/5/2006 10:40:36.059	10.542	1,009.808	17.860			
1/5/2006 10:41:12.059	11.142	1,010.089	18.141			
1/5/2006 10:41:54.059	11.842	1,010.429	18.481			
1/5/2006 10:42:36.059	12.542	1,010.689	18.741			
1/5/2006 10:43:18.059	13.242	1,010.926	18.978			
1/5/2006 10:44:06.059	14.042	1,011.189	19.241			
1/5/2006 10:45:00.059	14.942	1,011.447	19.499			
1/5/2006 10:45:48.059	15.742	1,011.661	19.713			
1/5/2006 10:46:48.059	16.742	1,011.937	19.989			
1/5/2006 10:47:48.059	17.742	1,012.171	20.223			
1/5/2006 10:48:48.059	18.742	1,012.370	20.422			
1/5/2006 10:49:54.059	19.842	1,012.575	20.627			
1/5/2006 10:51:06.059	21.042	1,012.777	20.829			
1/5/2006 10:52:24.059	22.342	1,012.976	21.028			
1/5/2006 10:53:42.059	23.642	1,013.154	21.206			
1/5/2006 10:55:06.059	25.042	1,013.333	21.385			
1/5/2006 10:56:36.059	26.542	1,013.548	21.600			
1/5/2006 10:58:12.059	28.142	1,013.712	21.764			
1/5/2006 10:59:48.059	29.742	1,013.868	21.920			
1/5/2006 11:01:36.059	31.542	1,014.021	22.073			
1/5/2006 11:03:30.059	33.442	1,014.156	22.208			
1/5/2006 11:05:30.059	35.442	1,014.269	22.321			
1/5/2006 11:07:36.059	37.542	1,014.428	22.480			
1/5/2006 11:09:48.059	39.742	1,014.519	22.571			
1/5/2006 11:12:12.059	42.142	1,014.651	22.703			
1/5/2006 11:14:42.059	44.642	1,014.757	22.809			
1/5/2006 11:17:18.059	47.242	1,014.864	22.916			
1/5/2006 11:20:06.059	50.042	1,014.998	23.050			
1/5/2006 11:23:06.059	53.042	1,015.071	23.123			
1/5/2006 11:26:12.059	56.142	1,015.168	23.220			
1/5/2006 11:29:36.059	59.542	1,015.251	23.303			
1/5/2006 11:33:06.059	63.042	1,015.316	23.368			
1/5/2006 11:36:48.059	66.742	1,015.419	23.471			
1/5/2006 11:40:48.059	70.742	1,015.503	23.555			
1/5/2006 11:45:00.059	74.942	1,015.580	23.632			
1/5/2006 11:49:24.059	79.342	1,015.651	23.703			
1/5/2006 11:54:06.059	84.042	1,015.731	23.783			
1/5/2006 11:59:06.059	89.042	1,015.787	23.839			
1/5/2006 12:04:24.059	94.342	1,015.844	23.896			
1/5/2006 12:10:00.059	99.942	1,015.914	23.966			
1/5/2006 12:16:00.059	105.942	1,015.984	24.036			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	UI'
1/5/2006 12:22:00.059	111.942	1,016.048	24.100			
1/5/2006 12:29:00.059	118.942	1,016.097	24.149			
1/5/2006 12:36:00.059	125.942	1,016.167	24.219			
1/5/2006 12:43:00.059	132.942	1,016.218	24.270			
1/5/2006 12:51:00.059	140.942	1,016.242	24.294			
1/5/2006 13:00:00.059	149.942	1,016.340	24.392			
1/5/2006 13:08:00.059	157.942	1,016.387	24.439			
1/5/2006 13:18:00.059	167.942	1,016.434	24.486			
1/5/2006 13:28:00.059	177.942	1,016.493	24.545			
1/5/2006 13:38:00.059	187.942	1,016.503	24.555			
1/5/2006 13:48:00.059	197.942	1,016.596	24.648			
1/5/2006 13:58:00.059	207.942	1,016.606	24.658			
1/5/2006 14:08:00.059	217.942	1,016.705	24.757			
1/5/2006 14:18:00.059	227.942	1,016.740	24.792			
1/5/2006 14:28:00.059	237.942	1,016.781	24.833			
1/5/2006 14:38:00.059	247.942	1,016.772	24.824			
1/5/2006 14:48:00.059	257.942	1,016.822	24.874			
1/5/2006 14:58:00.059	267.942	1,016.859	24.911			
1/5/2006 15:08:00.059	277.942	1,016.894	24.946			
1/5/2006 15:18:00.059	287.942	1,016.925	24.977			
1/5/2006 15:28:00.059	297.942	1,016.970	25.022			
1/5/2006 15:38:00.059	307.942	1,016.991	25.043			
1/5/2006 15:48:00.059	317.942	1,017.046	25.098			
1/5/2006 15:58:00.059	327.942	1,017.054	25.106			
1/5/2006 16:08:00.059	337.942	1,017.086	25.138			
1/5/2006 16:18:00.059	347.942	1,017.105	25.157			
1/5/2006 16:28:00.059	357.942	1,017.143	25.195			
1/5/2006 16:38:00.059	367.942	1,017.169	25.221			
1/5/2006 16:48:00.059	377.942	1,017.197	25.249			
1/5/2006 16:58:00.059	387.942	1,017.186	25.238			
1/5/2006 17:08:00.059	397.942	1,017.244	25.296			
1/5/2006 17:18:00.059	407.942	1,017.253	25.305			
1/5/2006 17:28:00.059	417.942	1,017.307	25.359			
1/5/2006 17:38:00.059	427.942	1,017.317	25.369			
1/5/2006 17:48:00.059	437.942	1,017.312	25.364			
1/5/2006 17:58:00.059	447.942	1,017.334	25.386			
1/5/2006 18:08:00.059	457.942	1,017.385	25.437			
1/5/2006 18:18:00.059	467.942	1,017.401	25.453			
1/5/2006 18:28:00.059	477.942	1,017.440	25.492			
1/5/2006 18:38:00.059	487.942	1,017.474	25.526			
1/5/2006 18:48:00.059	497.942	1,017.438	25.490			
1/5/2006 18:58:00.059	507.942	1,017.446	25.498			
1/5/2006 19:08:00.059	517.942	1,017.502	25.554			
1/5/2006 19:18:00.059	527.942	1,017.464	25.516			
1/5/2006 19:28:00.059	537.942	1,017.486	25.538			
1/5/2006 19:38:00.059	547.942	1,017.513	25.565			
1/5/2006 19:48:00.059	557.942	1,017.528	25.580			
1/5/2006 19:58:00.059	567.942	1,017.552	25.604			
1/5/2006 20:08:00.059	577.942	1,017.594	25.646			
1/5/2006 20:18:00.059	587.942	1,017.613	25.665			
1/5/2006 20:28:00.059	597.942	1,017.599	25.651			
1/5/2006 20:38:00.059	607.942	1,017.601	25.653			
1/5/2006 20:48:00.059	617.942	1,017.639	25.691			
1/5/2006 20:58:00.059	627.942	1,017.682	25.734			
1/5/2006 21:08:00.059	637.942	1,017.652	25.704			
1/5/2006 21:18:00.059	647.942	1,017.669	25.721			
1/5/2006 21:28:00.059	657.942	1,017.685	25.737			
1/5/2006 21:38:00.059	667.942	1,017.709	25.761			
1/5/2006 21:48:00.059	677.942	1,017.758	25.810			
1/5/2006 21:58:00.059	687.942	1,017.786	25.838			
1/5/2006 22:08:00.059	697.942	1,017.778	25.830			
1/5/2006 22:18:00.059	707.942	1,017.790	25.842			
1/5/2006 22:28:00.059	717.942	1,017.811	25.863			
1/5/2006 22:38:00.059	727.942	1,017.821	25.873			
1/5/2006 22:48:00.059	737.942	1,017.835	25.887			
1/5/2006 22:58:00.059	747.942	1,017.872	25.924			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/5/2006 23:08:00.059	757.942	1,017.860	25.912			
1/5/2006 23:18:00.059	767.942	1,017.863	25.915			
1/5/2006 23:28:00.059	777.942	1,017.930	25.982			
1/5/2006 23:38:00.059	787.942	1,017.888	25.940			
1/5/2006 23:48:00.059	797.942	1,017.927	25.979			
1/5/2006 23:58:00.059	807.942	1,017.904	25.956			
1/6/2006 0:08:00.059	817.942	1,017.959	26.011			
1/6/2006 0:18:00.059	827.942	1,017.926	25.978			
1/6/2006 0:28:00.059	837.942	1,017.943	25.995			
1/6/2006 0:38:00.059	847.942	1,017.943	25.995			
1/6/2006 0:48:00.059	857.942	1,017.972	26.024			
1/6/2006 0:58:00.059	867.942	1,017.976	26.028			
1/6/2006 1:08:00.059	877.942	1,017.961	26.013			
1/6/2006 1:18:00.059	887.942	1,017.976	26.028			
1/6/2006 1:28:00.059	897.942	1,017.992	26.044			
1/6/2006 1:38:00.059	907.942	1,017.994	26.046			
1/6/2006 1:48:00.059	917.942	1,017.996	26.048			
1/6/2006 1:58:00.059	927.942	1,018.015	26.067			
1/6/2006 2:08:00.059	937.942	1,018.019	26.071			
1/6/2006 2:18:00.059	947.942	1,018.063	26.115			
1/6/2006 2:28:00.059	957.942	1,018.075	26.127			
1/6/2006 2:38:00.059	967.942	1,018.047	26.099			
1/6/2006 2:48:00.059	977.942	1,018.084	26.136			
1/6/2006 2:58:00.059	987.942	1,018.075	26.127			
1/6/2006 3:08:00.059	997.942	1,018.076	26.128			
1/6/2006 3:18:00.059	1,007.942	1,018.077	26.129			
1/6/2006 3:28:00.059	1,017.942	1,018.081	26.133			
1/6/2006 3:38:00.059	1,027.942	1,018.102	26.154			
1/6/2006 3:48:00.059	1,037.942	1,018.108	26.160			
1/6/2006 3:58:00.059	1,047.942	1,018.096	26.148			
1/6/2006 4:08:00.059	1,057.942	1,018.142	26.194			
1/6/2006 4:18:00.059	1,067.942	1,018.130	26.182			
1/6/2006 4:28:00.059	1,077.942	1,018.129	26.181			
1/6/2006 4:38:00.059	1,087.942	1,018.158	26.210			
1/6/2006 4:48:00.059	1,097.942	1,018.140	26.192			
1/6/2006 4:58:00.059	1,107.942	1,018.171	26.223			
1/6/2006 5:08:00.059	1,117.942	1,018.165	26.217			
1/6/2006 5:18:00.059	1,127.942	1,018.207	26.259			
1/6/2006 5:28:00.059	1,137.942	1,018.167	26.219			
1/6/2006 5:38:00.059	1,147.942	1,018.196	26.248			
1/6/2006 5:48:00.059	1,157.942	1,018.194	26.246			
1/6/2006 5:58:00.059	1,167.942	1,018.218	26.270			
1/6/2006 6:08:00.059	1,177.942	1,018.213	26.265			
1/6/2006 6:18:00.059	1,187.942	1,018.226	26.278			
1/6/2006 6:28:00.059	1,197.942	1,018.271	26.323			
1/6/2006 6:38:00.059	1,207.942	1,018.226	26.278			
1/6/2006 6:48:00.059	1,217.942	1,018.247	26.299			
1/6/2006 6:58:00.059	1,227.942	1,018.258	26.310			
1/6/2006 7:08:00.059	1,237.942	1,018.261	26.313			
1/6/2006 7:18:00.059	1,247.942	1,018.284	26.336			
1/6/2006 7:28:00.059	1,257.942	1,018.294	26.346			
1/6/2006 7:38:00.059	1,267.942	1,018.290	26.342			
1/6/2006 7:48:00.059	1,277.942	1,018.262	26.314			
1/6/2006 7:58:00.059	1,287.942	1,018.310	26.362			
1/6/2006 8:08:00.059	1,297.942	1,018.332	26.384			
1/6/2006 8:18:00.059	1,307.942	1,018.332	26.384			
1/6/2006 8:28:00.059	1,317.942	1,018.288	26.340			
1/6/2006 8:38:00.059	1,327.942	1,018.340	26.392			
1/6/2006 8:48:00.059	1,337.942	1,018.345	26.397			
1/6/2006 8:58:00.059	1,347.942	1,018.358	26.410			
1/6/2006 9:08:00.059	1,357.942	1,018.360	26.412			
1/6/2006 9:18:00.059	1,367.942	1,018.355	26.407			
1/6/2006 9:28:00.059	1,377.942	1,018.354	26.406			
1/6/2006 9:38:00.059	1,387.942	1,018.361	26.413			
1/6/2006 9:48:00.059	1,397.942	1,018.386	26.438			
1/6/2006 9:58:00.059	1,407.942	1,018.352	26.404			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	U'
1/6/2006 10:08:00.059	1,417.942	1,018.372	26.424			
1/6/2006 10:18:00.059	1,427.942	1,018.366	26.418			
1/6/2006 10:28:00.059	1,437.942	1,018.408	26.460			
1/6/2006 10:38:00.059	1,447.942	1,018.377	26.429			
1/6/2006 10:48:00.059	1,457.942	1,018.369	26.421			
1/6/2006 10:58:00.059	1,467.942	1,018.377	26.429			
1/6/2006 11:08:00.059	1,477.942	1,018.365	26.417			
1/6/2006 11:18:00.059	1,487.942	1,018.358	26.410			
1/6/2006 11:28:00.059	1,497.942	1,018.367	26.419			
1/6/2006 11:38:00.059	1,507.942	1,018.423	26.475			
1/6/2006 11:48:00.059	1,517.942	1,018.448	26.500			
1/6/2006 11:58:00.059	1,527.942	1,018.428	26.480			
1/6/2006 12:08:00.059	1,537.942	1,018.464	26.516			
1/6/2006 12:18:00.059	1,547.942	1,018.478	26.530			
1/6/2006 12:28:00.059	1,557.942	1,018.466	26.518			
1/6/2006 12:38:00.059	1,567.942	1,018.463	26.515			
1/6/2006 12:48:00.059	1,577.942	1,018.469	26.521			
1/6/2006 12:58:00.059	1,587.942	1,018.460	26.512			
1/6/2006 13:08:00.059	1,597.942	1,018.466	26.518			
1/6/2006 13:18:00.059	1,607.942	1,018.459	26.511			
1/6/2006 13:28:00.059	1,617.942	1,018.448	26.500			
1/6/2006 13:38:00.059	1,627.942	1,018.460	26.512			
1/6/2006 13:48:00.059	1,637.942	1,018.479	26.531			
1/6/2006 13:58:00.059	1,647.942	1,018.487	26.539			
1/6/2006 14:08:00.059	1,657.942	1,018.600	26.652			
1/6/2006 14:18:00.059	1,667.942	1,018.641	26.693			
1/6/2006 14:28:00.059	1,677.942	1,018.647	26.699			
1/6/2006 14:38:00.059	1,687.942	1,018.658	26.710			
1/6/2006 14:48:00.059	1,697.942	1,018.668	26.720			
1/6/2006 14:58:00.059	1,707.942	1,018.675	26.727			
1/6/2006 15:08:00.059	1,717.942	1,018.680	26.732			
1/6/2006 15:18:00.059	1,727.942	1,018.675	26.727			
1/6/2006 15:28:00.059	1,737.942	1,018.693	26.745			
1/6/2006 15:38:00.059	1,747.942	1,018.690	26.742			
1/6/2006 15:48:00.059	1,757.942	1,018.699	26.751			
1/6/2006 15:58:00.059	1,767.942	1,018.713	26.765			
1/6/2006 16:08:00.059	1,777.942	1,018.712	26.764			
1/6/2006 16:18:00.059	1,787.942	1,018.712	26.764			
1/6/2006 16:28:00.059	1,797.942	1,018.716	26.768			
1/6/2006 16:38:00.059	1,807.942	1,018.720	26.772			
1/6/2006 16:48:00.059	1,817.942	1,018.718	26.770			
1/6/2006 16:58:00.059	1,827.942	1,018.777	26.829			
1/6/2006 17:08:00.059	1,837.942	1,018.737	26.789			
1/6/2006 17:18:00.059	1,847.942	1,018.759	26.811			
1/6/2006 17:28:00.059	1,857.942	1,018.753	26.805			
1/6/2006 17:38:00.059	1,867.942	1,018.760	26.812			
1/6/2006 17:48:00.059	1,877.942	1,018.789	26.841			
1/6/2006 17:58:00.059	1,887.942	1,018.744	26.796			
1/6/2006 18:08:00.059	1,897.942	1,018.784	26.836			
1/6/2006 18:18:00.059	1,907.942	1,018.810	26.862			
1/6/2006 18:28:00.059	1,917.942	1,018.795	26.847			
1/6/2006 18:38:00.059	1,927.942	1,018.806	26.858			
1/6/2006 18:48:00.059	1,937.942	1,018.804	26.856			
1/6/2006 18:58:00.059	1,947.942	1,018.814	26.866			
1/6/2006 19:08:00.059	1,957.942	1,018.836	26.888			
1/6/2006 19:18:00.059	1,967.942	1,018.811	26.863			
1/6/2006 19:28:00.059	1,977.942	1,018.824	26.876			
1/6/2006 19:38:00.059	1,987.942	1,018.820	26.872			
1/6/2006 19:48:00.059	1,997.942	1,018.823	26.875			
1/6/2006 19:58:00.059	2,007.942	1,018.830	26.882			
1/6/2006 20:08:00.059	2,017.942	1,018.854	26.906			
1/6/2006 20:18:00.059	2,027.942	1,018.822	26.874			
1/6/2006 20:28:00.059	2,037.942	1,018.832	26.884			
1/6/2006 20:38:00.059	2,047.942	1,018.830	26.882			
1/6/2006 20:48:00.059	2,057.942	1,018.872	26.924			
1/6/2006 20:58:00.059	2,067.942	1,018.842	26.894			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/6/2006 21:08:00.059	2,077.942	1,018.828	26.880			
1/6/2006 21:18:00.059	2,087.942	1,018.874	26.926			
1/6/2006 21:28:00.059	2,097.942	1,018.833	26.885			
1/6/2006 21:38:00.059	2,107.942	1,018.852	26.904			
1/6/2006 21:48:00.059	2,117.942	1,018.853	26.905			
1/6/2006 21:58:00.059	2,127.942	1,018.839	26.891			
1/6/2006 22:08:00.059	2,137.942	1,018.872	26.924			
1/6/2006 22:18:00.059	2,147.942	1,018.892	26.944			
1/6/2006 22:28:00.059	2,157.942	1,018.877	26.929			
1/6/2006 22:38:00.059	2,167.942	1,018.892	26.944			
1/6/2006 22:48:00.059	2,177.942	1,018.920	26.972			
1/6/2006 22:58:00.059	2,187.942	1,018.880	26.932			
1/6/2006 23:08:00.059	2,197.942	1,018.873	26.925			
1/6/2006 23:18:00.059	2,207.942	1,018.906	26.958			
1/6/2006 23:28:00.059	2,217.942	1,018.891	26.943			
1/6/2006 23:38:00.059	2,227.942	1,018.902	26.954			
1/6/2006 23:48:00.059	2,237.942	1,018.898	26.950			
1/6/2006 23:58:00.059	2,247.942	1,018.888	26.940			
1/7/2006 0:08:00.059	2,257.942	1,018.894	26.946			
1/7/2006 0:18:00.059	2,267.942	1,018.914	26.966			
1/7/2006 0:28:00.059	2,277.942	1,018.920	26.972			
1/7/2006 0:38:00.059	2,287.942	1,018.904	26.956			
1/7/2006 0:48:00.059	2,297.942	1,018.917	26.969			
1/7/2006 0:58:00.059	2,307.942	1,018.920	26.972			
1/7/2006 1:08:00.059	2,317.942	1,018.941	26.993			
1/7/2006 1:18:00.059	2,327.942	1,018.933	26.985			
1/7/2006 1:28:00.059	2,337.942	1,018.927	26.979			
1/7/2006 1:38:00.059	2,347.942	1,018.937	26.989			
1/7/2006 1:48:00.059	2,357.942	1,018.933	26.985			
1/7/2006 1:58:00.059	2,367.942	1,018.948	27.000			
1/7/2006 2:08:00.059	2,377.942	1,018.940	26.992			
1/7/2006 2:18:00.059	2,387.942	1,018.952	27.004			
1/7/2006 2:28:00.059	2,397.942	1,018.952	27.004			
1/7/2006 2:38:00.059	2,407.942	1,018.949	27.001			
1/7/2006 2:48:00.059	2,417.942	1,018.956	27.008			
1/7/2006 2:58:00.059	2,427.942	1,018.969	27.021			
1/7/2006 3:08:00.059	2,437.942	1,018.959	27.011			
1/7/2006 3:18:00.059	2,447.942	1,018.944	26.996			
1/7/2006 3:28:00.059	2,457.942	1,018.952	27.004			
1/7/2006 3:38:00.059	2,467.942	1,018.948	27.000			
1/7/2006 3:48:00.059	2,477.942	1,018.944	26.996			
1/7/2006 3:58:00.059	2,487.942	1,018.941	26.993			
1/7/2006 4:08:00.059	2,497.942	1,018.951	27.003			
1/7/2006 4:18:00.059	2,507.942	1,018.963	27.015			
1/7/2006 4:28:00.059	2,517.942	1,018.959	27.011			
1/7/2006 4:38:00.059	2,527.942	1,018.956	27.008			
1/7/2006 4:48:00.059	2,537.942	1,018.958	27.010			
1/7/2006 4:58:00.059	2,547.942	1,018.961	27.013			
1/7/2006 5:08:00.059	2,557.942	1,018.966	27.018			
1/7/2006 5:18:00.059	2,567.942	1,018.955	27.007			
1/7/2006 5:28:00.059	2,577.942	1,018.946	26.998			
1/7/2006 5:38:00.059	2,587.942	1,018.966	27.018			
1/7/2006 5:48:00.059	2,597.942	1,018.959	27.011			
1/7/2006 5:58:00.059	2,607.942	1,018.977	27.029			
1/7/2006 6:08:00.059	2,617.942	1,018.980	27.032			
1/7/2006 6:18:00.059	2,627.942	1,018.977	27.029			
1/7/2006 6:28:00.059	2,637.942	1,018.982	27.034			
1/7/2006 6:38:00.059	2,647.942	1,018.986	27.038			
1/7/2006 6:48:00.059	2,657.942	1,018.972	27.024			
1/7/2006 6:58:00.059	2,667.942	1,018.988	27.040			
1/7/2006 7:08:00.059	2,677.942	1,018.994	27.046			
1/7/2006 7:18:00.059	2,687.942	1,019.029	27.081			
1/7/2006 7:28:00.059	2,697.942	1,019.018	27.070			
1/7/2006 7:38:00.059	2,707.942	1,019.016	27.068			
1/7/2006 7:48:00.059	2,717.942	1,019.018	27.070			
1/7/2006 7:58:00.059	2,727.942	1,019.023	27.075			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	ft'
1/7/2006 8:08:00.059	2,737.942	1,019.035	27.087			
1/7/2006 8:18:00.059	2,747.942	1,019.029	27.081			
1/7/2006 8:28:00.059	2,757.942	1,019.045	27.097			
1/7/2006 8:38:00.059	2,767.942	1,019.050	27.102			
1/7/2006 8:48:00.059	2,777.942	1,019.068	27.120			
1/7/2006 8:58:00.059	2,787.942	1,019.063	27.115			
1/7/2006 9:08:00.059	2,797.942	1,019.059	27.111			
1/7/2006 9:18:00.059	2,807.942	1,019.062	27.114			
1/7/2006 9:28:00.059	2,817.942	1,019.078	27.130			
1/7/2006 9:38:00.059	2,827.942	1,019.060	27.112			
1/7/2006 9:48:00.059	2,837.942	1,019.116	27.168			
1/7/2006 9:58:00.059	2,847.942	1,019.073	27.125			
1/7/2006 10:08:00.059	2,857.942	1,019.075	27.127			
1/7/2006 10:18:00.059	2,867.942	1,019.084	27.136			
1/7/2006 10:28:00.059	2,877.942	1,019.086	27.138			
1/7/2006 10:38:00.059	2,887.942	1,019.094	27.146			
1/7/2006 10:48:00.059	2,897.942	1,019.099	27.151			
1/7/2006 10:58:00.059	2,907.942	1,019.098	27.150			
1/7/2006 11:08:00.059	2,917.942	1,019.097	27.149			
1/7/2006 11:18:00.059	2,927.942	1,019.090	27.142			
1/7/2006 11:28:00.059	2,937.942	1,019.098	27.150			
1/7/2006 11:38:00.059	2,947.942	1,019.088	27.140			
1/7/2006 11:48:00.059	2,957.942	1,019.099	27.151			
1/7/2006 11:58:00.059	2,967.942	1,019.130	27.182			
1/7/2006 12:08:00.059	2,977.942	1,019.107	27.159			
1/7/2006 12:18:00.059	2,987.942	1,019.097	27.149			
1/7/2006 12:28:00.059	2,997.942	1,019.104	27.156			
1/7/2006 12:38:00.059	3,007.942	1,019.107	27.159			
1/7/2006 12:48:00.059	3,017.942	1,019.092	27.144			
1/7/2006 12:58:00.059	3,027.942	1,019.101	27.153			
1/7/2006 13:08:00.059	3,037.942	1,019.098	27.150			
1/7/2006 13:18:00.059	3,047.942	1,019.103	27.155			
1/7/2006 13:28:00.059	3,057.942	1,019.096	27.148			
1/7/2006 13:38:00.059	3,067.942	1,019.095	27.147			
1/7/2006 13:48:00.059	3,077.942	1,019.103	27.155			
1/7/2006 13:58:00.059	3,087.942	1,019.111	27.163			
1/7/2006 14:08:00.059	3,097.942	1,019.116	27.168			
1/7/2006 14:18:00.059	3,107.942	1,019.107	27.159			
1/7/2006 14:28:00.059	3,117.942	1,019.115	27.167			
1/7/2006 14:38:00.059	3,127.942	1,019.138	27.190			
1/7/2006 14:48:00.059	3,137.942	1,019.126	27.178			
1/7/2006 14:58:00.059	3,147.942	1,019.119	27.171			
1/7/2006 15:08:00.059	3,157.942	1,019.112	27.164			
1/7/2006 15:18:00.059	3,167.942	1,019.135	27.187			
1/7/2006 15:28:00.059	3,177.942	1,019.120	27.172			
1/7/2006 15:38:00.059	3,187.942	1,019.137	27.189			
1/7/2006 15:48:00.059	3,197.942	1,019.135	27.187			
1/7/2006 15:58:00.059	3,207.942	1,019.148	27.200			
1/7/2006 16:08:00.059	3,217.942	1,019.155	27.207			
1/7/2006 16:18:00.059	3,227.942	1,019.157	27.209			
1/7/2006 16:28:00.059	3,237.942	1,019.171	27.223			
1/7/2006 16:38:00.059	3,247.942	1,019.166	27.218			
1/7/2006 16:48:00.059	3,257.942	1,019.192	27.244			
1/7/2006 16:58:00.059	3,267.942	1,019.144	27.196			
1/7/2006 17:08:00.059	3,277.942	1,019.163	27.215			
1/7/2006 17:18:00.059	3,287.942	1,019.205	27.257			
1/7/2006 17:28:00.059	3,297.942	1,019.236	27.288			
1/7/2006 17:38:00.059	3,307.942	1,019.204	27.256			
1/7/2006 17:48:00.059	3,317.942	1,019.232	27.284			
1/7/2006 17:58:00.059	3,327.942	1,019.182	27.234			
1/7/2006 18:08:00.059	3,337.942	1,019.203	27.255			
1/7/2006 18:18:00.059	3,347.942	1,019.277	27.329			
1/7/2006 18:28:00.059	3,357.942	1,019.274	27.326			
1/7/2006 18:38:00.059	3,367.942	1,019.171	27.223			
1/7/2006 18:48:00.059	3,377.942	1,019.136	27.188			
1/7/2006 18:58:00.059	3,387.942	1,019.169	27.221			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/7/2006 19:08:00.059	3,397.942	1,019.154	27.206			
1/7/2006 19:18:00.059	3,407.942	1,019.165	27.217			
1/7/2006 19:28:00.059	3,417.942	1,019.166	27.218			
1/7/2006 19:38:00.059	3,427.942	1,019.163	27.215			
1/7/2006 19:48:00.059	3,437.942	1,019.174	27.226			
1/7/2006 19:58:00.059	3,447.942	1,019.209	27.261			
1/7/2006 20:08:00.059	3,457.942	1,019.183	27.235			
1/7/2006 20:18:00.059	3,467.942	1,019.179	27.231			
1/7/2006 20:28:00.059	3,477.942	1,019.184	27.236			
1/7/2006 20:38:00.059	3,487.942	1,019.182	27.234			
1/7/2006 20:48:00.059	3,497.942	1,019.187	27.239			
1/7/2006 20:58:00.059	3,507.942	1,019.174	27.226			
1/7/2006 21:08:00.059	3,517.942	1,019.190	27.242			
1/7/2006 21:18:00.059	3,527.942	1,019.188	27.240			
1/7/2006 21:28:00.059	3,537.942	1,019.229	27.281			
1/7/2006 21:38:00.059	3,547.942	1,019.189	27.241			
1/7/2006 21:48:00.059	3,557.942	1,019.203	27.255			
1/7/2006 21:58:00.059	3,567.942	1,019.240	27.292			
1/7/2006 22:08:00.059	3,577.942	1,019.253	27.305			
1/7/2006 22:18:00.059	3,587.942	1,019.215	27.267			
1/7/2006 22:28:00.059	3,597.942	1,019.236	27.288			
1/7/2006 22:38:00.059	3,607.942	1,019.230	27.282			
1/7/2006 22:48:00.059	3,617.942	1,019.210	27.262			
1/7/2006 22:58:00.059	3,627.942	1,019.195	27.247			
1/7/2006 23:08:00.059	3,637.942	1,019.250	27.302			
1/7/2006 23:18:00.059	3,647.942	1,019.216	27.268			
1/7/2006 23:28:00.059	3,657.942	1,019.253	27.305			
1/7/2006 23:38:00.059	3,667.942	1,019.211	27.263			
1/7/2006 23:48:00.059	3,677.942	1,019.198	27.250			
1/7/2006 23:58:00.059	3,687.942	1,019.243	27.295			
1/8/2006 0:08:00.059	3,697.942	1,019.225	27.277			
1/8/2006 0:18:00.059	3,707.942	1,019.223	27.275			
1/8/2006 0:28:00.059	3,717.942	1,019.223	27.275			
1/8/2006 0:38:00.059	3,727.942	1,019.224	27.276			
1/8/2006 0:48:00.059	3,737.942	1,019.214	27.266			
1/8/2006 0:58:00.059	3,747.942	1,019.242	27.294			
1/8/2006 1:08:00.059	3,757.942	1,019.255	27.307			
1/8/2006 1:18:00.059	3,767.942	1,019.275	27.327			
1/8/2006 1:28:00.059	3,777.942	1,019.275	27.327			
1/8/2006 1:38:00.059	3,787.942	1,019.262	27.314			
1/8/2006 1:48:00.059	3,797.942	1,019.278	27.330			
1/8/2006 1:58:00.059	3,807.942	1,019.300	27.352			
1/8/2006 2:08:00.059	3,817.942	1,019.254	27.306			
1/8/2006 2:18:00.059	3,827.942	1,019.227	27.279			
1/8/2006 2:28:00.059	3,837.942	1,019.228	27.280			
1/8/2006 2:38:00.059	3,847.942	1,019.270	27.322			
1/8/2006 2:48:00.059	3,857.942	1,019.266	27.318			
1/8/2006 2:58:00.059	3,867.942	1,019.272	27.324			
1/8/2006 3:08:00.059	3,877.942	1,019.266	27.318			
1/8/2006 3:18:00.059	3,887.942	1,019.275	27.327			
1/8/2006 3:28:00.059	3,897.942	1,019.298	27.350			
1/8/2006 3:38:00.059	3,907.942	1,019.307	27.359			
1/8/2006 3:48:00.059	3,917.942	1,019.290	27.342			
1/8/2006 3:58:00.059	3,927.942	1,019.278	27.330			
1/8/2006 4:08:00.059	3,937.942	1,019.332	27.384			
1/8/2006 4:18:00.059	3,947.942	1,019.284	27.336			
1/8/2006 4:28:00.059	3,957.942	1,019.284	27.336			
1/8/2006 4:38:00.059	3,967.942	1,019.334	27.386			
1/8/2006 4:48:00.059	3,977.942	1,019.292	27.344			
1/8/2006 4:58:00.059	3,987.942	1,019.291	27.343			
1/8/2006 5:08:00.059	3,997.942	1,019.304	27.356			
1/8/2006 5:18:00.059	4,007.942	1,019.317	27.369			
1/8/2006 5:28:00.059	4,017.942	1,019.357	27.409			
1/8/2006 5:38:00.059	4,027.942	1,019.328	27.380			
1/8/2006 5:48:00.059	4,037.942	1,019.332	27.384			
1/8/2006 5:58:00.059	4,047.942	1,019.328	27.380			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	U'
1/8/2006 6:08:00.059	4,057.942	1,019.345	27.397			
1/8/2006 6:18:00.059	4,067.942	1,019.376	27.428			
1/8/2006 6:28:00.059	4,077.942	1,019.355	27.407			
1/8/2006 6:38:00.059	4,087.942	1,019.358	27.410			
1/8/2006 6:48:00.059	4,097.942	1,019.370	27.422			
1/8/2006 6:58:00.059	4,107.942	1,019.374	27.426			
1/8/2006 7:08:00.059	4,117.942	1,019.375	27.427			
1/8/2006 7:18:00.059	4,127.942	1,019.425	27.477			
1/8/2006 7:28:00.059	4,137.942	1,019.391	27.443			
1/8/2006 7:38:00.059	4,147.942	1,019.447	27.499			
1/8/2006 7:48:00.059	4,157.942	1,019.438	27.490			
1/8/2006 7:58:00.059	4,167.942	1,019.415	27.467			
1/8/2006 8:08:00.059	4,177.942	1,019.466	27.518			
1/8/2006 8:18:00.059	4,187.942	1,019.417	27.469			
1/8/2006 8:28:00.059	4,197.942	1,019.418	27.470			
1/8/2006 8:38:00.059	4,207.942	1,019.422	27.474			
1/8/2006 8:48:00.059	4,217.942	1,019.440	27.492			
1/8/2006 8:58:00.059	4,227.942	1,019.471	27.523			
1/8/2006 9:08:00.059	4,237.942	1,019.472	27.524			
1/8/2006 9:18:00.059	4,247.942	1,019.457	27.509			
1/8/2006 9:28:00.059	4,257.942	1,019.458	27.510			
1/8/2006 9:38:00.059	4,267.942	1,019.477	27.529			
1/8/2006 9:48:00.059	4,277.942	1,019.448	27.500			
1/8/2006 9:58:00.059	4,287.942	1,019.466	27.518			
1/8/2006 10:08:00.059	4,297.942	1,019.363	27.415			
1/8/2006 10:18:00.059	4,307.942	1,019.463	27.515			
1/8/2006 10:28:00.059	4,317.942	1,019.427	27.479			
1/8/2006 10:38:00.059	4,327.942	1,019.469	27.521			
1/8/2006 10:48:00.059	4,337.942	1,019.467	27.519			
1/8/2006 10:58:00.059	4,347.942	1,019.440	27.492			
1/8/2006 11:08:00.059	4,357.942	1,019.436	27.488			
1/8/2006 11:18:00.059	4,367.942	1,019.431	27.483			
1/8/2006 11:28:00.059	4,377.942	1,019.409	27.461			
1/8/2006 11:38:00.059	4,387.942	1,019.394	27.446			
1/8/2006 11:48:00.059	4,397.942	1,019.386	27.438			
1/8/2006 11:58:00.059	4,407.942	1,019.388	27.440			
1/8/2006 12:08:00.059	4,417.942	1,019.369	27.421			
1/8/2006 12:18:00.059	4,427.942	1,019.378	27.430			
1/8/2006 12:28:00.059	4,437.942	1,019.380	27.432			
1/8/2006 12:38:00.059	4,447.942	1,019.379	27.431			
1/8/2006 12:48:00.059	4,457.942	1,019.399	27.451			
1/8/2006 12:58:00.059	4,467.942	1,019.396	27.448			
1/8/2006 13:08:00.059	4,477.942	1,019.387	27.439			
1/8/2006 13:18:00.059	4,487.942	1,019.364	27.416			
1/8/2006 13:28:00.059	4,497.942	1,019.351	27.403			
1/8/2006 13:38:00.059	4,507.942	1,019.358	27.410			
1/8/2006 13:48:00.059	4,517.942	1,019.362	27.414			
1/8/2006 13:58:00.059	4,527.942	1,019.403	27.455			
1/8/2006 14:08:00.059	4,537.942	1,019.377	27.429			
1/8/2006 14:18:00.059	4,547.942	1,019.379	27.431			
1/8/2006 14:28:00.059	4,557.942	1,019.373	27.425			
1/8/2006 14:38:00.059	4,567.942	1,019.383	27.435			
1/8/2006 14:48:00.059	4,577.942	1,019.376	27.428			
1/8/2006 14:58:00.059	4,587.942	1,019.369	27.421			
1/8/2006 15:08:00.059	4,597.942	1,019.386	27.438			
1/8/2006 15:18:00.059	4,607.942	1,019.391	27.443			
1/8/2006 15:28:00.059	4,617.942	1,019.394	27.446			
1/8/2006 15:38:00.059	4,627.942	1,019.392	27.444			
1/8/2006 15:48:00.059	4,637.942	1,019.402	27.454			
1/8/2006 15:58:00.059	4,647.942	1,019.406	27.458			
1/8/2006 16:08:00.059	4,657.942	1,019.402	27.454			
1/8/2006 16:18:00.059	4,667.942	1,019.425	27.477			
1/8/2006 16:28:00.059	4,677.942	1,019.420	27.472			
1/8/2006 16:38:00.059	4,687.942	1,019.420	27.472			
1/8/2006 16:48:00.059	4,697.942	1,019.439	27.491			
1/8/2006 16:58:00.059	4,707.942	1,019.433	27.485			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/8/2006 17:08:00.059	4,717.942	1,019.454	27.506			
1/8/2006 17:18:00.059	4,727.942	1,019.458	27.510			
1/8/2006 17:28:00.059	4,737.942	1,019.462	27.514			
1/8/2006 17:38:00.059	4,747.942	1,019.477	27.529			
1/8/2006 17:48:00.059	4,757.942	1,019.478	27.530			
1/8/2006 17:58:00.059	4,767.942	1,019.497	27.549			
1/8/2006 18:08:00.059	4,777.942	1,019.501	27.553			
1/8/2006 18:18:00.059	4,787.942	1,019.501	27.553			
1/8/2006 18:28:00.059	4,797.942	1,019.504	27.556			
1/8/2006 18:38:00.059	4,807.942	1,019.531	27.583			
1/8/2006 18:48:00.059	4,817.942	1,019.524	27.576			
1/8/2006 18:58:00.059	4,827.942	1,019.531	27.583			
1/8/2006 19:08:00.059	4,837.942	1,019.530	27.582			
1/8/2006 19:18:00.059	4,847.942	1,019.519	27.571			
1/8/2006 19:28:00.059	4,857.942	1,019.518	27.570			
1/8/2006 19:38:00.059	4,867.942	1,019.537	27.589			
1/8/2006 19:48:00.059	4,877.942	1,019.541	27.593			
1/8/2006 19:58:00.059	4,887.942	1,019.550	27.602			
1/8/2006 20:08:00.059	4,897.942	1,019.546	27.598			
1/8/2006 20:18:00.059	4,907.942	1,019.545	27.597			
1/8/2006 20:28:00.059	4,917.942	1,019.556	27.608			
1/8/2006 20:38:00.059	4,927.942	1,019.552	27.604			
1/8/2006 20:48:00.059	4,937.942	1,019.560	27.612			
1/8/2006 20:58:00.059	4,947.942	1,019.558	27.610			
1/8/2006 21:08:00.059	4,957.942	1,019.575	27.627			
1/8/2006 21:18:00.059	4,967.942	1,019.570	27.622			
1/8/2006 21:28:00.059	4,977.942	1,019.576	27.628			
1/8/2006 21:38:00.059	4,987.942	1,019.585	27.637			
1/8/2006 21:48:00.059	4,997.942	1,019.587	27.639			
1/8/2006 21:58:00.059	5,007.942	1,019.586	27.638			
1/8/2006 22:08:00.059	5,017.942	1,019.596	27.648			
1/8/2006 22:18:00.059	5,027.942	1,019.598	27.650			
1/8/2006 22:28:00.059	5,037.942	1,019.610	27.662			
1/8/2006 22:38:00.059	5,047.942	1,019.613	27.665			
1/8/2006 22:48:00.059	5,057.942	1,019.607	27.659			
1/8/2006 22:58:00.059	5,067.942	1,019.597	27.649			
1/8/2006 23:08:00.059	5,077.942	1,019.601	27.653			
1/8/2006 23:18:00.059	5,087.942	1,019.611	27.663			
1/8/2006 23:28:00.059	5,097.942	1,019.614	27.666			
1/8/2006 23:38:00.059	5,107.942	1,019.612	27.664			
1/8/2006 23:48:00.059	5,117.942	1,019.620	27.672			
1/8/2006 23:58:00.059	5,127.942	1,019.617	27.669			
1/9/2006 0:08:00.059	5,137.942	1,019.625	27.677			
1/9/2006 0:18:00.059	5,147.942	1,019.622	27.674			
1/9/2006 0:28:00.059	5,157.942	1,019.636	27.688			
1/9/2006 0:38:00.059	5,167.942	1,019.644	27.696			
1/9/2006 0:48:00.059	5,177.942	1,019.651	27.703			
1/9/2006 0:58:00.059	5,187.942	1,019.640	27.692			
1/9/2006 1:08:00.059	5,197.942	1,019.655	27.707			
1/9/2006 1:18:00.059	5,207.942	1,019.650	27.702			
1/9/2006 1:28:00.059	5,217.942	1,019.660	27.712			
1/9/2006 1:38:00.059	5,227.942	1,019.658	27.710			
1/9/2006 1:48:00.059	5,237.942	1,019.657	27.709			
1/9/2006 1:58:00.059	5,247.942	1,019.664	27.716			
1/9/2006 2:08:00.059	5,257.942	1,019.665	27.717			
1/9/2006 2:18:00.059	5,267.942	1,019.679	27.731			
1/9/2006 2:28:00.059	5,277.942	1,019.671	27.723			
1/9/2006 2:38:00.059	5,287.942	1,019.682	27.734			
1/9/2006 2:48:00.059	5,297.942	1,019.681	27.733			
1/9/2006 2:58:00.059	5,307.942	1,019.683	27.735			
1/9/2006 3:08:00.059	5,317.942	1,019.675	27.727			
1/9/2006 3:18:00.059	5,327.942	1,019.674	27.726			
1/9/2006 3:28:00.059	5,337.942	1,019.661	27.713			
1/9/2006 3:38:00.059	5,347.942	1,019.665	27.717			
1/9/2006 3:48:00.059	5,357.942	1,019.667	27.719			
1/9/2006 3:58:00.059	5,367.942	1,019.668	27.720			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	ft'
1/9/2006 4:08:00.059	5,377.942	1,019.674	27.726			
1/9/2006 4:18:00.059	5,387.942	1,019.680	27.732			
1/9/2006 4:28:00.059	5,397.942	1,019.678	27.730			
1/9/2006 4:38:00.059	5,407.942	1,019.670	27.722			
1/9/2006 4:48:00.059	5,417.942	1,019.675	27.727			
1/9/2006 4:58:00.059	5,427.942	1,019.674	27.726			
1/9/2006 5:08:00.059	5,437.942	1,019.678	27.730			
1/9/2006 5:18:00.059	5,447.942	1,019.666	27.718			
1/9/2006 5:28:00.059	5,457.942	1,019.674	27.726			
1/9/2006 5:38:00.059	5,467.942	1,019.668	27.720			
1/9/2006 5:48:00.059	5,477.942	1,019.687	27.739			
1/9/2006 5:58:00.059	5,487.942	1,019.680	27.732			
1/9/2006 6:08:00.059	5,497.942	1,019.675	27.727			
1/9/2006 6:18:00.059	5,507.942	1,019.691	27.743			
1/9/2006 6:28:00.059	5,517.942	1,019.688	27.740			
1/9/2006 6:38:00.059	5,527.942	1,019.688	27.740			
1/9/2006 6:48:00.059	5,537.942	1,019.681	27.733			
1/9/2006 6:58:00.059	5,547.942	1,019.702	27.754			
1/9/2006 7:08:00.059	5,557.942	1,019.719	27.771			
1/9/2006 7:18:00.059	5,567.942	1,019.690	27.742			
1/9/2006 7:28:00.059	5,577.942	1,019.728	27.780			
1/9/2006 7:38:00.059	5,587.942	1,019.703	27.755			
1/9/2006 7:48:00.059	5,597.942	1,019.709	27.761			
1/9/2006 7:58:00.059	5,607.942	1,019.720	27.772			
1/9/2006 8:08:00.059	5,617.942	1,019.709	27.761			
1/9/2006 8:18:00.059	5,627.942	1,019.731	27.783			
1/9/2006 8:28:00.059	5,637.942	1,019.721	27.773			
1/9/2006 8:38:00.059	5,647.942	1,019.705	27.757			
1/9/2006 8:48:00.059	5,657.942	1,019.725	27.777			
1/9/2006 8:58:00.059	5,667.942	1,019.726	27.778			
1/9/2006 9:08:00.059	5,677.942	1,019.712	27.764			
1/9/2006 9:18:00.059	5,687.942	1,019.727	27.779			
1/9/2006 9:28:00.059	5,697.942	1,019.723	27.775			
1/9/2006 9:38:00.059	5,707.942	1,019.731	27.783			
1/9/2006 9:48:00.059	5,717.942	1,019.718	27.770			
1/9/2006 9:58:00.059	5,727.942	1,019.718	27.770			
1/9/2006 10:08:00.059	5,737.942	1,019.712	27.764			
1/9/2006 10:18:00.059	5,747.942	1,019.715	27.767			
1/9/2006 10:28:00.059	5,757.942	1,019.685	27.737			
1/9/2006 10:38:00.059	5,767.942	1,019.679	27.731			
1/9/2006 10:48:00.059	5,777.942	1,019.701	27.753			
1/9/2006 10:58:00.059	5,787.942	1,019.684	27.736			
1/9/2006 11:08:00.059	5,797.942	1,019.604	27.656			
1/9/2006 11:18:00.059	5,807.942	1,019.692	27.744			
1/9/2006 11:28:00.059	5,817.942	1,019.664	27.716			
1/9/2006 11:38:00.059	5,827.942	1,019.628	27.680			
1/9/2006 11:48:00.059	5,837.942	1,019.646	27.698			
1/9/2006 11:58:00.059	5,847.942	1,019.647	27.699			
1/9/2006 12:08:00.059	5,857.942	1,019.552	27.604			
1/9/2006 12:18:00.059	5,867.942	1,019.585	27.637			
1/9/2006 12:28:00.059	5,877.942	1,019.631	27.683			
1/9/2006 12:38:00.059	5,887.942	1,019.617	27.669			
1/9/2006 12:48:00.059	5,897.942	1,019.608	27.660			
1/9/2006 12:58:00.059	5,907.942	1,019.583	27.635			
1/9/2006 13:08:00.059	5,917.942	1,019.535	27.587			
1/9/2006 13:18:00.059	5,927.942	1,019.589	27.641			
1/9/2006 13:28:00.059	5,937.942	1,019.555	27.607			
1/9/2006 13:38:00.059	5,947.942	1,019.534	27.586			
1/9/2006 13:48:00.059	5,957.942	1,019.581	27.633			
1/9/2006 13:58:00.059	5,967.942	1,019.581	27.633			
1/9/2006 14:08:00.059	5,977.942	1,019.570	27.622			
1/9/2006 14:18:00.059	5,987.942	1,019.580	27.632			
1/9/2006 14:28:00.059	5,997.942	1,019.541	27.593			
1/9/2006 14:38:00.059	6,007.942	1,019.577	27.629			
1/9/2006 14:48:00.059	6,017.942	1,019.567	27.619			
1/9/2006 14:58:00.059	6,027.942	1,019.534	27.586			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/9/2006 15:06:30.187	6,036.444	1,019.566	27.618			
1/9/2006 15:06:30.437	6,036.448	1,019.551	27.603			
1/9/2006 15:06:30.688	6,036.452	1,019.550	27.602			
1/9/2006 15:06:30.938	6,036.456	1,019.525	27.577			
1/9/2006 15:06:31.189	6,036.460	1,019.561	27.613			
1/9/2006 15:06:31.438	6,036.465	1,019.536	27.588			
1/9/2006 15:06:31.688	6,036.469	1,019.573	27.625			
1/9/2006 15:06:31.938	6,036.473	1,019.543	27.595			
1/9/2006 15:06:32.188	6,036.477	1,019.571	27.623			
1/9/2006 15:06:32.438	6,036.481	1,019.544	27.596			
1/9/2006 15:06:32.688	6,036.485	1,019.559	27.611			
1/9/2006 15:06:32.938	6,036.490	1,019.555	27.607			
1/9/2006 15:06:33.188	6,036.494	1,019.564	27.616			
1/9/2006 15:06:33.438	6,036.498	1,019.561	27.613			
1/9/2006 15:06:33.688	6,036.502	1,019.574	27.626			
1/9/2006 15:06:33.938	6,036.506	1,019.530	27.582			
1/9/2006 15:06:34.188	6,036.510	1,019.573	27.625			
1/9/2006 15:06:34.438	6,036.515	1,019.563	27.615			
1/9/2006 15:06:34.688	6,036.519	1,019.570	27.622			
1/9/2006 15:06:34.938	6,036.523	1,019.574	27.626			
1/9/2006 15:06:35.188	6,036.527	1,019.572	27.624			
1/9/2006 15:06:35.438	6,036.531	1,019.567	27.619			
1/9/2006 15:06:35.688	6,036.535	1,019.575	27.627			
1/9/2006 15:06:35.938	6,036.540	1,019.580	27.632			
1/9/2006 15:06:36.188	6,036.544	1,019.587	27.639			
1/9/2006 15:06:36.548	6,036.550	1,019.583	27.635			
1/9/2006 15:06:36.908	6,036.556	1,019.571	27.623			
1/9/2006 15:06:37.328	6,036.563	1,019.568	27.620			
1/9/2006 15:06:37.748	6,036.570	1,019.576	27.628			
1/9/2006 15:06:38.167	6,036.577	1,019.578	27.630			
1/9/2006 15:06:38.648	6,036.585	1,019.564	27.616			
1/9/2006 15:06:39.187	6,036.594	1,019.558	27.610			
1/9/2006 15:06:39.667	6,036.602	1,019.566	27.618			
1/9/2006 15:06:40.268	6,036.612	1,019.553	27.605			
1/9/2006 15:06:40.868	6,036.622	1,019.555	27.607			
1/9/2006 15:06:41.468	6,036.632	1,019.547	27.599			
1/9/2006 15:06:42.127	6,036.643	1,019.555	27.607			
1/9/2006 15:06:42.847	6,036.655	1,019.560	27.612			
1/9/2006 15:06:43.627	6,036.668	1,019.537	27.589			
1/9/2006 15:06:44.407	6,036.681	1,019.582	27.634			
1/9/2006 15:06:45.248	6,036.695	1,019.570	27.622			
1/9/2006 15:06:46.147	6,036.710	1,019.584	27.636			
1/9/2006 15:06:47.139	6,036.726	1,019.511	27.563			
1/9/2006 15:06:48.068	6,036.742	1,019.510	27.562			
1/9/2006 15:06:49.147	6,036.760	1,019.487	27.539			
1/9/2006 15:06:50.288	6,036.779	1,019.436	27.488			
1/9/2006 15:06:51.488	6,036.799	1,019.490	27.542			
1/9/2006 15:06:52.748	6,036.820	1,019.454	27.506			
1/9/2006 15:06:54.078	6,036.842	1,019.485	27.537			
1/9/2006 15:06:55.628	6,036.868	1,019.478	27.530			
1/9/2006 15:06:57.008	6,036.891	1,019.613	27.665			
1/9/2006 15:06:58.568	6,036.917	1,019.454	27.506			
1/9/2006 15:07:00.285	6,036.945	1,019.461	27.513			
1/9/2006 15:07:02.048	6,036.975	1,019.516	27.568			
1/9/2006 15:07:03.907	6,037.006	1,019.549	27.601			
1/9/2006 15:07:05.947	6,037.040	1,019.557	27.609			
1/9/2006 15:07:08.047	6,037.075	1,019.478	27.530			
1/9/2006 15:07:10.267	6,037.112	1,019.539	27.591			
1/9/2006 15:07:12.667	6,037.152	1,019.542	27.594			
1/9/2006 15:07:15.187	6,037.194	1,019.537	27.589			
1/9/2006 15:07:17.827	6,037.238	1,019.549	27.601			
1/9/2006 15:07:20.647	6,037.285	1,019.545	27.597			
1/9/2006 15:07:23.647	6,037.335	1,019.528	27.580			
1/9/2006 15:07:26.827	6,037.388	1,019.553	27.605			
1/9/2006 15:07:30.187	6,037.444	1,019.536	27.588			
1/9/2006 15:07:33.787	6,037.504	1,019.533	27.585			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/9/2006 15:07:37.387	6,037.564	1,019.535	27.587			
1/9/2006 15:07:41.587	6,037.634	1,019.581	27.633			
1/9/2006 15:07:45.787	6,037.704	1,019.549	27.601			
1/9/2006 15:07:49.987	6,037.774	1,019.587	27.639			
1/9/2006 15:07:54.787	6,037.854	1,019.544	27.596			
1/9/2006 15:08:00.187	6,037.944	1,019.567	27.619			
1/9/2006 15:08:04.987	6,038.024	1,019.572	27.624			
1/9/2006 15:08:10.988	6,038.124	1,019.538	27.590			
1/9/2006 15:08:16.988	6,038.224	1,019.536	27.588			
1/9/2006 15:08:22.988	6,038.324	1,019.542	27.594			
1/9/2006 15:08:29.587	6,038.434	1,019.582	27.634			
1/9/2006 15:08:36.788	6,038.554	1,019.541	27.593			
1/9/2006 15:08:44.587	6,038.684	1,019.565	27.617			
1/9/2006 15:08:52.387	6,038.814	1,019.534	27.586			
1/9/2006 15:09:00.788	6,038.954	1,019.530	27.582			
1/9/2006 15:09:09.788	6,039.104	1,019.524	27.576			
1/9/2006 15:09:19.387	6,039.264	1,019.535	27.587			
1/9/2006 15:09:28.988	6,039.424	1,019.543	27.595			
1/9/2006 15:09:39.787	6,039.604	1,019.541	27.593			
1/9/2006 15:09:51.187	6,039.794	1,019.531	27.583			
1/9/2006 15:10:03.187	6,039.994	1,019.532	27.584			
1/9/2006 15:10:15.787	6,040.204	1,019.542	27.594			
1/9/2006 15:10:28.988	6,040.424	1,019.581	27.633			
1/9/2006 15:10:43.387	6,040.664	1,019.563	27.615			
1/9/2006 15:10:58.387	6,040.914	1,019.580	27.632			
1/9/2006 15:11:13.987	6,041.174	1,019.529	27.581			
1/9/2006 15:11:30.787	6,041.454	1,019.533	27.585			
1/9/2006 15:11:48.787	6,041.754	1,019.569	27.621			
1/9/2006 15:12:07.387	6,042.064	1,019.575	27.627			
1/9/2006 15:12:27.787	6,042.404	1,019.568	27.620			
1/9/2006 15:12:48.787	6,042.754	1,019.574	27.626			
1/9/2006 15:13:10.987	6,043.124	1,019.534	27.586			
1/9/2006 15:13:34.987	6,043.524	1,019.574	27.626			
1/9/2006 15:14:00.187	6,043.944	1,019.574	27.626			
1/9/2006 15:14:26.587	6,044.384	1,019.581	27.633			
1/9/2006 15:14:54.787	6,044.854	1,019.534	27.586			
1/9/2006 15:15:24.787	6,045.354	1,019.559	27.611			
1/9/2006 15:15:56.587	6,045.884	1,019.537	27.589			
1/9/2006 15:16:30.187	6,046.444	1,019.532	27.584			
1/9/2006 15:17:06.187	6,047.044	1,019.535	27.587			
1/9/2006 15:17:42.187	6,047.644	1,019.563	27.615			
1/9/2006 15:18:24.187	6,048.344	1,019.570	27.622			
1/9/2006 15:19:06.187	6,049.044	1,019.571	27.623			
1/9/2006 15:19:48.187	6,049.744	1,019.590	27.642			
1/9/2006 15:20:36.187	6,050.544	1,019.575	27.627			
1/9/2006 15:21:30.187	6,051.444	1,019.531	27.583			
1/9/2006 15:22:18.187	6,052.244	1,019.525	27.577			
1/9/2006 15:23:18.187	6,053.244	1,019.562	27.614			
1/9/2006 15:24:18.187	6,054.244	1,019.537	27.589			
1/9/2006 15:25:18.187	6,055.244	1,019.531	27.583			
1/9/2006 15:26:24.187	6,056.344	1,019.522	27.574			
1/9/2006 15:27:36.187	6,057.544	1,019.533	27.585			
1/9/2006 15:28:54.187	6,058.844	1,019.525	27.577			
1/9/2006 15:30:12.187	6,060.144	1,019.529	27.581			
1/9/2006 15:31:36.187	6,061.544	1,019.573	27.625			
1/9/2006 15:33:06.187	6,063.044	1,019.566	27.618			
1/9/2006 15:34:42.187	6,064.644	1,019.567	27.619			
1/9/2006 15:36:18.187	6,066.244	1,019.565	27.617			
1/9/2006 15:38:06.187	6,068.044	1,019.538	27.590			
1/9/2006 15:40:00.187	6,069.944	1,019.534	27.586			
1/9/2006 15:42:00.187	6,071.944	1,019.558	27.610			
1/9/2006 15:44:06.187	6,074.044	1,019.530	27.582			
1/9/2006 15:46:18.187	6,076.244	1,019.571	27.623			
1/9/2006 15:48:42.187	6,078.644	1,019.524	27.576			
1/9/2006 15:51:12.187	6,081.144	1,019.566	27.618			
1/9/2006 15:53:48.187	6,083.744	1,019.576	27.628			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/9/2006 15:56:36.187	6,086.544	1,019.534	27.586			
1/9/2006 15:59:36.187	6,089.544	1,019.573	27.625			
1/9/2006 16:02:42.187	6,092.644	1,019.579	27.631			
1/9/2006 16:06:06.187	6,096.044	1,019.572	27.624			
1/9/2006 16:09:36.187	6,099.544	1,019.570	27.622			
1/9/2006 16:13:18.187	6,103.244	1,019.543	27.595			
1/9/2006 16:17:18.187	6,107.244	1,019.574	27.626			
1/9/2006 16:21:30.187	6,111.444	1,019.572	27.624			
1/9/2006 16:25:54.187	6,115.844	1,019.572	27.624			
1/9/2006 16:30:36.187	6,120.544	1,019.536	27.588			
1/9/2006 16:35:36.187	6,125.544	1,019.569	27.621			
1/9/2006 16:40:54.187	6,130.844	1,019.576	27.628			
1/9/2006 16:46:30.187	6,136.444	1,019.579	27.631			
1/9/2006 16:52:30.187	6,142.444	1,019.541	27.593			
1/9/2006 16:58:30.187	6,148.444	1,019.570	27.622			
1/9/2006 17:05:30.187	6,155.444	1,019.580	27.632			
1/9/2006 17:12:30.187	6,162.444	1,019.592	27.644			
1/9/2006 17:19:30.187	6,169.444	1,019.597	27.649			
1/9/2006 17:27:30.187	6,177.444	1,019.592	27.644			
1/9/2006 17:36:30.187	6,186.444	1,019.553	27.605			
1/9/2006 17:44:30.187	6,194.444	1,019.593	27.645			
1/9/2006 17:54:30.187	6,204.444	1,019.542	27.594			
1/9/2006 18:04:30.187	6,214.444	1,019.589	27.641			
1/9/2006 18:14:30.187	6,224.444	1,019.599	27.651			
1/9/2006 18:24:30.187	6,234.444	1,019.602	27.654			
1/9/2006 18:34:30.187	6,244.444	1,019.600	27.652			
1/9/2006 18:44:30.187	6,254.444	1,019.560	27.612			
1/9/2006 18:54:30.187	6,264.444	1,019.620	27.672			
1/9/2006 19:04:30.187	6,274.444	1,019.575	27.627			
1/9/2006 19:14:30.187	6,284.444	1,019.605	27.657			
1/9/2006 19:24:30.187	6,294.444	1,019.607	27.659			
1/9/2006 19:34:30.187	6,304.444	1,019.620	27.672			
1/9/2006 19:44:30.187	6,314.444	1,019.632	27.684			
1/9/2006 19:54:30.187	6,324.444	1,019.636	27.688			
1/9/2006 20:04:30.187	6,334.444	1,019.609	27.661			
1/9/2006 20:14:30.187	6,344.444	1,019.646	27.698			
1/9/2006 20:24:30.187	6,354.444	1,019.623	27.675			
1/9/2006 20:34:30.187	6,364.444	1,019.632	27.684			
1/9/2006 20:44:30.187	6,374.444	1,019.646	27.698			
1/9/2006 20:54:30.187	6,384.444	1,019.598	27.650			
1/9/2006 21:04:30.187	6,394.444	1,019.641	27.693			
1/9/2006 21:14:30.187	6,404.444	1,019.628	27.680			
1/9/2006 21:24:30.187	6,414.444	1,019.634	27.686			
1/9/2006 21:34:30.187	6,424.444	1,019.642	27.694			
1/9/2006 21:44:30.187	6,434.444	1,019.646	27.698			
1/9/2006 21:54:30.187	6,444.444	1,019.641	27.693			
1/9/2006 22:04:30.187	6,454.444	1,019.651	27.703			
1/9/2006 22:14:30.187	6,464.444	1,019.589	27.641			
1/9/2006 22:24:30.187	6,474.444	1,019.625	27.677			
1/9/2006 22:34:30.187	6,484.444	1,019.652	27.704			
1/9/2006 22:44:30.187	6,494.444	1,019.609	27.661			
1/9/2006 22:54:30.187	6,504.444	1,019.611	27.663			
1/9/2006 23:04:30.187	6,514.444	1,019.591	27.643			
1/9/2006 23:14:30.187	6,524.444	1,019.622	27.674			
1/9/2006 23:24:30.187	6,534.444	1,019.641	27.693			
1/9/2006 23:34:30.187	6,544.444	1,019.636	27.688			
1/9/2006 23:44:30.187	6,554.444	1,019.549	27.601			
1/9/2006 23:54:30.187	6,564.444	1,019.624	27.676			
1/10/2006 0:04:30.187	6,574.444	1,019.553	27.605			
1/10/2006 0:14:30.187	6,584.444	1,019.586	27.638			
1/10/2006 0:24:30.187	6,594.444	1,019.583	27.635			
1/10/2006 0:34:30.187	6,604.444	1,019.569	27.621			
1/10/2006 0:44:30.187	6,614.444	1,019.572	27.624			
1/10/2006 0:54:30.187	6,624.444	1,019.575	27.627			
1/10/2006 1:04:30.187	6,634.444	1,019.586	27.638			
1/10/2006 1:14:30.187	6,644.444	1,019.546	27.598			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/10/2006 1:24:30.187	6,654.444	1,019.583	27.635			
1/10/2006 1:34:30.187	6,664.444	1,019.587	27.639			
1/10/2006 1:44:30.187	6,674.444	1,019.582	27.634			
1/10/2006 1:54:30.187	6,684.444	1,019.583	27.635			
1/10/2006 2:04:30.187	6,694.444	1,019.577	27.629			
1/10/2006 2:14:30.187	6,704.444	1,019.593	27.645			
1/10/2006 2:24:30.187	6,714.444	1,019.580	27.632			
1/10/2006 2:34:30.187	6,724.444	1,019.569	27.621			
1/10/2006 2:44:30.187	6,734.444	1,019.570	27.622			
1/10/2006 2:54:30.187	6,744.444	1,019.565	27.617			
1/10/2006 3:04:30.187	6,754.444	1,019.581	27.633			
1/10/2006 3:14:30.187	6,764.444	1,019.567	27.619			
1/10/2006 3:24:30.187	6,774.444	1,019.563	27.615			
1/10/2006 3:34:30.187	6,784.444	1,019.555	27.607			
1/10/2006 3:44:30.187	6,794.444	1,019.557	27.609			
1/10/2006 3:54:30.187	6,804.444	1,019.557	27.609			
1/10/2006 4:04:30.187	6,814.444	1,019.547	27.599			
1/10/2006 4:14:30.187	6,824.444	1,019.551	27.603			
1/10/2006 4:24:30.187	6,834.444	1,019.557	27.609			
1/10/2006 4:34:30.187	6,844.444	1,019.568	27.620			
1/10/2006 4:44:30.187	6,854.444	1,019.549	27.601			
1/10/2006 4:54:30.187	6,864.444	1,019.553	27.605			
1/10/2006 5:04:30.187	6,874.444	1,019.561	27.613			
1/10/2006 5:14:30.187	6,884.444	1,019.558	27.610			
1/10/2006 5:24:30.187	6,894.444	1,019.574	27.626			
1/10/2006 5:34:30.187	6,904.444	1,019.565	27.617			
1/10/2006 5:44:30.187	6,914.444	1,019.565	27.617			
1/10/2006 5:54:30.187	6,924.444	1,019.575	27.627			
1/10/2006 6:04:30.187	6,934.444	1,019.580	27.632			
1/10/2006 6:14:30.187	6,944.444	1,019.578	27.630			
1/10/2006 6:24:30.187	6,954.444	1,019.573	27.625			
1/10/2006 6:34:30.187	6,964.444	1,019.578	27.630			
1/10/2006 6:44:30.187	6,974.444	1,019.588	27.640			
1/10/2006 6:54:30.187	6,984.444	1,019.584	27.636			
1/10/2006 7:04:30.187	6,994.444	1,019.586	27.638			
1/10/2006 7:14:30.187	7,004.444	1,019.595	27.647			
1/10/2006 7:24:30.187	7,014.444	1,019.589	27.641			
1/10/2006 7:34:30.187	7,024.444	1,019.618	27.670			
1/10/2006 7:44:30.187	7,034.444	1,019.597	27.649			
1/10/2006 7:54:30.187	7,044.444	1,019.617	27.669			
1/10/2006 8:04:30.187	7,054.444	1,019.617	27.669			
1/10/2006 8:14:30.187	7,064.444	1,019.607	27.659			
1/10/2006 8:24:30.187	7,074.444	1,019.607	27.659			
1/10/2006 8:34:30.187	7,084.444	1,019.614	27.666			
1/10/2006 8:44:30.187	7,094.444	1,019.618	27.670			
1/10/2006 8:54:30.187	7,104.444	1,019.608	27.660			
1/10/2006 9:04:30.187	7,114.444	1,019.616	27.668			
1/10/2006 9:14:30.187	7,124.444	1,019.603	27.655			
1/10/2006 9:24:30.187	7,134.444	1,019.606	27.658			
1/10/2006 9:34:30.187	7,144.444	1,019.605	27.657			
1/10/2006 9:44:30.187	7,154.444	1,019.611	27.663			
1/10/2006 9:54:30.187	7,164.444	1,019.598	27.650			
1/10/2006 10:04:30.187	7,174.444	1,019.608	27.660			
1/10/2006 10:14:30.187	7,184.444	1,019.607	27.659			
1/10/2006 10:24:30.187	7,194.444	1,019.586	27.638			
1/10/2006 10:34:30.187	7,204.444	1,019.595	27.647			
1/10/2006 10:44:30.187	7,214.444	1,019.583	27.635			
1/10/2006 10:54:30.187	7,224.444	1,019.573	27.625			
1/10/2006 11:04:30.187	7,234.444	1,019.571	27.623			
1/10/2006 11:14:30.187	7,244.444	1,019.557	27.609			
1/10/2006 11:24:30.187	7,254.444	1,019.555	27.607			
1/10/2006 11:34:30.187	7,264.444	1,019.548	27.600			
1/10/2006 11:44:30.187	7,274.444	1,019.583	27.635			
1/10/2006 11:54:30.187	7,284.444	1,019.530	27.582			
1/10/2006 12:04:30.187	7,294.444	1,019.522	27.574			
1/10/2006 12:14:30.187	7,304.444	1,019.515	27.567			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	1/1'
1/10/2006 12:24:30.187	7,314.444	1,019.502	27.554			
1/10/2006 12:34:30.187	7,324.444	1,019.505	27.557			
1/10/2006 12:44:30.187	7,334.444	1,019.504	27.556			
1/10/2006 12:54:30.187	7,344.444	1,019.489	27.541			
1/10/2006 13:04:30.187	7,354.444	1,019.523	27.575			
1/10/2006 13:14:30.187	7,364.444	1,019.479	27.531			
1/10/2006 13:24:30.187	7,374.444	1,019.475	27.527			
1/10/2006 13:34:30.187	7,384.444	1,019.475	27.527			
1/10/2006 13:44:30.187	7,394.444	1,019.474	27.526			
1/10/2006 13:54:30.187	7,404.444	1,019.464	27.516			
1/10/2006 14:04:30.187	7,414.444	1,019.478	27.530			
1/10/2006 14:14:30.187	7,424.444	1,019.463	27.515			
1/10/2006 14:24:30.187	7,434.444	1,019.484	27.536			
1/10/2006 14:34:30.187	7,444.444	1,019.466	27.518			
1/10/2006 14:44:30.187	7,454.444	1,019.458	27.510			
1/10/2006 14:54:30.187	7,464.444	1,019.481	27.533			
1/10/2006 15:04:30.187	7,474.444	1,019.461	27.513			
1/10/2006 15:14:30.187	7,484.444	1,019.481	27.533			
1/10/2006 15:24:30.187	7,494.444	1,019.473	27.525			
1/10/2006 15:34:30.187	7,504.444	1,019.462	27.514			
1/10/2006 15:44:30.187	7,514.444	1,019.466	27.518			
1/10/2006 15:54:30.187	7,524.444	1,019.459	27.511			
1/10/2006 16:04:30.187	7,534.444	1,019.470	27.522			
1/10/2006 16:14:30.187	7,544.444	1,019.454	27.506			
1/10/2006 16:24:30.187	7,554.444	1,019.470	27.522			
1/10/2006 16:34:30.187	7,564.444	1,019.478	27.530			
1/10/2006 16:44:30.187	7,574.444	1,019.465	27.517			
1/10/2006 16:54:30.187	7,584.444	1,019.470	27.522			
1/10/2006 17:04:30.187	7,594.444	1,019.474	27.526			
1/10/2006 17:14:30.187	7,604.444	1,019.486	27.538			
1/10/2006 17:24:30.187	7,614.444	1,019.476	27.528			
1/10/2006 17:34:30.187	7,624.444	1,019.480	27.532			
1/10/2006 17:44:30.187	7,634.444	1,019.487	27.539			
1/10/2006 17:54:30.187	7,644.444	1,019.492	27.544			
1/10/2006 18:04:30.187	7,654.444	1,019.487	27.539			
1/10/2006 18:14:30.187	7,664.444	1,019.496	27.548			
1/10/2006 18:24:30.187	7,674.444	1,019.501	27.553			
1/10/2006 18:34:30.187	7,684.444	1,019.510	27.562			
1/10/2006 18:44:30.187	7,694.444	1,019.498	27.550			
1/10/2006 18:54:30.187	7,704.444	1,019.513	27.565			
1/10/2006 19:04:30.187	7,714.444	1,019.515	27.567			
1/10/2006 19:14:30.187	7,724.444	1,019.507	27.559			
1/10/2006 19:24:30.187	7,734.444	1,019.534	27.586			
1/10/2006 19:34:30.187	7,744.444	1,019.524	27.576			
1/10/2006 19:44:30.187	7,754.444	1,019.529	27.581			
1/10/2006 19:54:30.187	7,764.444	1,019.529	27.581			
1/10/2006 20:04:30.187	7,774.444	1,019.538	27.590			
1/10/2006 20:14:30.187	7,784.444	1,019.538	27.590			
1/10/2006 20:24:30.187	7,794.444	1,019.555	27.607			
1/10/2006 20:34:30.187	7,804.444	1,019.557	27.609			
1/10/2006 20:44:30.187	7,814.444	1,019.546	27.598			
1/10/2006 20:54:30.187	7,824.444	1,019.572	27.624			
1/10/2006 21:04:30.187	7,834.444	1,019.556	27.608			
1/10/2006 21:14:30.187	7,844.444	1,019.551	27.603			
1/10/2006 21:24:30.187	7,854.444	1,019.560	27.612			
1/10/2006 21:34:30.187	7,864.444	1,019.557	27.609			
1/10/2006 21:44:30.187	7,874.444	1,019.553	27.605			
1/10/2006 21:54:30.187	7,884.444	1,019.563	27.615			
1/10/2006 22:04:30.187	7,894.444	1,019.549	27.601			
1/10/2006 22:14:30.187	7,904.444	1,019.543	27.595			
1/10/2006 22:24:30.187	7,914.444	1,019.560	27.612			
1/10/2006 22:34:30.187	7,924.444	1,019.550	27.602			
1/10/2006 22:44:30.187	7,934.444	1,019.544	27.596			
1/10/2006 22:54:30.187	7,944.444	1,019.558	27.610			
1/10/2006 23:04:30.187	7,954.444	1,019.544	27.596			
1/10/2006 23:14:30.187	7,964.444	1,019.549	27.601			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	l/t'
1/10/2006 23:24:30.187	7,974.444	1,019.549	27.601			
1/10/2006 23:34:30.187	7,984.444	1,019.546	27.598			
1/10/2006 23:44:30.187	7,994.444	1,019.557	27.609			
1/10/2006 23:54:30.187	8,004.444	1,019.542	27.594			
1/11/2006 0:04:30.187	8,014.444	1,019.534	27.586			
1/11/2006 0:14:30.187	8,024.444	1,019.542	27.594			
1/11/2006 0:24:30.187	8,034.444	1,019.528	27.580			
1/11/2006 0:34:30.187	8,044.444	1,019.538	27.590			
1/11/2006 0:44:30.187	8,054.444	1,019.545	27.597			
1/11/2006 0:54:30.187	8,064.444	1,019.535	27.587			
1/11/2006 1:04:30.187	8,074.444	1,019.534	27.586			
1/11/2006 1:14:30.187	8,084.444	1,019.531	27.583			
1/11/2006 1:24:30.187	8,094.444	1,019.525	27.577			
1/11/2006 1:34:30.187	8,104.444	1,019.529	27.581			
1/11/2006 1:44:30.187	8,114.444	1,019.536	27.588			
1/11/2006 1:54:30.187	8,124.444	1,019.519	27.571			
1/11/2006 2:04:30.187	8,134.444	1,019.537	27.589			
1/11/2006 2:14:30.187	8,144.444	1,019.522	27.574			
1/11/2006 2:24:30.187	8,154.444	1,019.539	27.591			
1/11/2006 2:34:30.187	8,164.444	1,019.534	27.586			
1/11/2006 2:44:30.187	8,174.444	1,019.534	27.586			
1/11/2006 2:54:30.187	8,184.444	1,019.529	27.581			
1/11/2006 3:04:30.187	8,194.444	1,019.526	27.578			
1/11/2006 3:14:30.187	8,204.444	1,019.566	27.618			
1/11/2006 3:24:30.187	8,214.444	1,019.519	27.571			
1/11/2006 3:34:30.187	8,224.444	1,019.536	27.588			
1/11/2006 3:44:30.187	8,234.444	1,019.524	27.576			
1/11/2006 3:54:30.187	8,244.444	1,019.528	27.580			
1/11/2006 4:04:30.187	8,254.444	1,019.540	27.592			
1/11/2006 4:14:30.187	8,264.444	1,019.528	27.580			
1/11/2006 4:24:30.187	8,274.444	1,019.518	27.570			
1/11/2006 4:34:30.187	8,284.444	1,019.540	27.592			
1/11/2006 4:44:30.187	8,294.444	1,019.522	27.574			
1/11/2006 4:54:30.187	8,304.444	1,019.525	27.577			
1/11/2006 5:04:30.187	8,314.444	1,019.534	27.586			
1/11/2006 5:14:30.187	8,324.444	1,019.535	27.587			
1/11/2006 5:24:30.187	8,334.444	1,019.529	27.581			
1/11/2006 5:34:30.187	8,344.444	1,019.532	27.584			
1/11/2006 5:44:30.187	8,354.444	1,019.538	27.590			
1/11/2006 5:54:30.187	8,364.444	1,019.541	27.593			
1/11/2006 6:04:30.187	8,374.444	1,019.539	27.591			
1/11/2006 6:14:30.187	8,384.444	1,019.559	27.611			
1/11/2006 6:24:30.187	8,394.444	1,019.534	27.586			
1/11/2006 6:34:30.187	8,404.444	1,019.534	27.586			
1/11/2006 6:44:30.187	8,414.444	1,019.581	27.633			
1/11/2006 6:54:30.187	8,424.444	1,019.537	27.589			
1/11/2006 7:04:30.187	8,434.444	1,019.540	27.592			
1/11/2006 7:14:30.187	8,444.444	1,019.542	27.594			
1/11/2006 7:24:30.187	8,454.444	1,019.541	27.593			
1/11/2006 7:34:30.187	8,464.444	1,019.530	27.582			
1/11/2006 7:44:30.187	8,474.444	1,019.543	27.595			
1/11/2006 7:54:30.187	8,484.444	1,019.556	27.608			
1/11/2006 8:04:30.187	8,494.444	1,019.541	27.593			
1/11/2006 8:14:30.187	8,504.444	1,019.546	27.598			
1/11/2006 8:24:30.187	8,514.444	1,019.563	27.615			
1/11/2006 8:34:30.187	8,524.444	1,019.568	27.620			
1/11/2006 8:44:30.187	8,534.444	1,019.565	27.617			
1/11/2006 8:54:30.187	8,544.444	1,019.583	27.635			
1/11/2006 9:04:30.187	8,554.444	1,019.565	27.617			
1/11/2006 9:14:30.187	8,564.444	1,019.571	27.623			
1/11/2006 9:24:30.187	8,574.444	1,019.572	27.624			
1/11/2006 9:34:30.187	8,584.444	1,019.568	27.620			
1/11/2006 9:44:30.187	8,594.444	1,019.562	27.614			
1/11/2006 9:54:30.187	8,604.444	1,019.577	27.629			
1/11/2006 10:04:30.187	8,614.444	1,019.571	27.623			
1/11/2006 10:14:30.187	8,624.444	1,019.564	27.616			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/11/2006 10:24:30.187	8,634.444	1,019.567	27.619			
1/11/2006 10:34:30.187	8,644.444	1,019.553	27.605			
1/11/2006 10:44:30.187	8,654.444	1,019.543	27.595			
1/11/2006 10:54:30.187	8,664.444	1,019.549	27.601			
1/11/2006 11:04:30.187	8,674.444	1,019.566	27.618			
1/11/2006 11:14:30.187	8,684.444	1,019.528	27.580			
1/11/2006 11:24:30.187	8,694.444	1,019.525	27.577			
1/11/2006 11:34:30.187	8,704.444	1,019.517	27.569			
1/11/2006 11:44:30.187	8,714.444	1,019.511	27.563			
1/11/2006 11:54:30.187	8,724.444	1,019.511	27.563			
1/11/2006 12:04:30.187	8,734.444	1,019.498	27.550			
1/11/2006 12:14:30.187	8,744.444	1,019.506	27.558			
1/11/2006 12:24:30.187	8,754.444	1,019.500	27.552			
1/11/2006 12:34:30.187	8,764.444	1,019.484	27.536			
1/11/2006 12:44:30.187	8,774.444	1,019.489	27.541			
1/11/2006 12:54:30.187	8,784.444	1,019.483	27.535			
1/11/2006 13:04:30.187	8,794.444	1,019.465	27.517			
1/11/2006 13:14:30.187	8,804.444	1,019.465	27.517			
1/11/2006 13:24:30.187	8,814.444	1,019.461	27.513			
1/11/2006 13:34:30.187	8,824.444	1,019.464	27.516			
1/11/2006 13:44:30.187	8,834.444	1,019.447	27.499			
1/11/2006 13:54:30.187	8,844.444	1,019.453	27.505			
1/11/2006 14:04:30.187	8,854.444	1,019.433	27.485			
1/11/2006 14:14:30.187	8,864.444	1,019.407	27.459			
1/11/2006 14:24:30.187	8,874.444	1,019.425	27.477			
1/11/2006 14:34:30.187	8,884.444	1,019.420	27.472			
1/11/2006 14:44:30.187	8,894.444	1,019.414	27.466			
1/11/2006 14:54:30.187	8,904.444	1,019.430	27.482			
1/11/2006 15:04:30.187	8,914.444	1,019.427	27.479			
1/11/2006 15:14:30.187	8,924.444	1,019.432	27.484			
1/11/2006 15:24:30.187	8,934.444	1,019.437	27.489			
1/11/2006 15:34:30.187	8,944.444	1,019.432	27.484			
1/11/2006 15:44:30.187	8,954.444	1,019.425	27.477			
1/11/2006 15:54:30.187	8,964.444	1,019.477	27.529			
1/11/2006 16:04:30.187	8,974.444	1,019.427	27.479			
1/11/2006 16:14:30.187	8,984.444	1,019.428	27.480			
1/11/2006 16:24:30.187	8,994.444	1,019.433	27.485			
1/11/2006 16:34:30.187	9,004.444	1,019.477	27.529			
1/11/2006 16:44:30.187	9,014.444	1,019.442	27.494			
1/11/2006 16:54:30.187	9,024.444	1,019.434	27.486			
1/11/2006 17:04:30.187	9,034.444	1,019.461	27.513			
1/11/2006 17:14:30.187	9,044.444	1,019.456	27.508			
1/11/2006 17:24:30.187	9,054.444	1,019.451	27.503			
1/11/2006 17:34:30.187	9,064.444	1,019.493	27.545			
1/11/2006 17:44:30.187	9,074.444	1,019.462	27.514			
1/11/2006 17:54:30.187	9,084.444	1,019.479	27.531			
1/11/2006 18:04:30.187	9,094.444	1,019.511	27.563			
1/11/2006 18:14:30.187	9,104.444	1,019.474	27.526			
1/11/2006 18:24:30.187	9,114.444	1,019.510	27.562			
1/11/2006 18:34:30.187	9,124.444	1,019.418	27.470			
1/11/2006 18:44:30.187	9,134.444	1,019.519	27.571			
1/11/2006 18:54:30.187	9,144.444	1,019.480	27.532			
1/11/2006 19:04:30.187	9,154.444	1,019.488	27.540			
1/11/2006 19:14:30.187	9,164.444	1,019.521	27.573			
1/11/2006 19:24:30.187	9,174.444	1,019.509	27.561			
1/11/2006 19:34:30.187	9,184.444	1,019.481	27.533			
1/11/2006 19:44:30.187	9,194.444	1,019.466	27.518			
1/11/2006 19:54:30.187	9,204.444	1,019.501	27.553			
1/11/2006 20:04:30.187	9,214.444	1,019.498	27.550			
1/11/2006 20:14:30.187	9,224.444	1,019.502	27.554			
1/11/2006 20:24:30.187	9,234.444	1,019.506	27.558			
1/11/2006 20:34:30.187	9,244.444	1,019.519	27.571			
1/11/2006 20:44:30.187	9,254.444	1,019.493	27.545			
1/11/2006 20:54:30.187	9,264.444	1,019.507	27.559			
1/11/2006 21:04:30.187	9,274.444	1,019.535	27.587			
1/11/2006 21:14:30.187	9,284.444	1,018.304	26.356			

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/11/2006 21:24:30.187	9,294.444	998.812	6.864			
1/11/2006 21:34:30.187	9,304.444	997.391	5.443			
1/11/2006 21:44:30.187	9,314.444	996.392	4.444			
1/11/2006 21:54:30.187	9,324.444	995.887	3.939			
1/11/2006 22:04:30.187	9,334.444	1,007.908	15.960			
1/11/2006 22:14:30.187	9,344.444	995.194	3.246			
1/11/2006 22:24:30.187	9,354.444	995.173	3.225			
1/11/2006 22:34:30.187	9,364.444	995.035	3.087			
1/11/2006 22:44:30.187	9,374.444	1,012.633	20.685			
1/11/2006 22:54:30.187	9,384.444	1,016.030	24.082			
1/11/2006 23:04:30.187	9,394.444	1,017.196	25.248			
1/11/2006 23:14:30.187	9,404.444	1,017.771	25.823			
1/11/2006 23:24:30.187	9,414.444	1,018.053	26.105			
1/11/2006 23:34:30.187	9,424.444	1,018.348	26.400			
1/11/2006 23:44:30.187	9,434.444	1,018.418	26.470			
1/11/2006 23:54:30.187	9,444.444	1,018.590	26.642			
1/12/2006 0:04:30.187	9,454.444	1,018.671	26.723			
1/12/2006 0:14:30.187	9,464.444	1,018.710	26.762			
1/12/2006 0:24:30.187	9,474.444	1,018.801	26.853			
1/12/2006 0:34:30.187	9,484.444	1,018.837	26.889			
1/12/2006 0:44:30.187	9,494.444	1,018.922	26.974			
1/12/2006 0:54:30.187	9,504.444	1,018.918	26.970			
1/12/2006 1:04:30.187	9,514.444	1,018.943	26.995			
1/12/2006 1:14:30.187	9,524.444	1,018.971	27.023			
1/12/2006 1:24:30.187	9,534.444	1,019.001	27.053			
1/12/2006 1:34:30.187	9,544.444	1,019.031	27.083			
1/12/2006 1:44:30.187	9,554.444	1,019.054	27.106			
1/12/2006 1:54:30.187	9,564.444	1,019.056	27.108			
1/12/2006 2:04:30.187	9,574.444	1,019.076	27.128			
1/12/2006 2:14:30.187	9,584.444	1,019.086	27.138			
1/12/2006 2:24:30.187	9,594.444	1,019.051	27.103			
1/12/2006 2:34:30.187	9,604.444	1,019.133	27.185			
1/12/2006 2:44:30.187	9,614.444	1,019.124	27.176			
1/12/2006 2:54:30.187	9,624.444	1,019.156	27.208			
1/12/2006 3:04:30.187	9,634.444	1,019.163	27.215			
1/12/2006 3:14:30.187	9,644.444	1,019.197	27.249			
1/12/2006 3:24:30.187	9,654.444	1,019.177	27.229			
1/12/2006 3:34:30.187	9,664.444	1,019.176	27.228			
1/12/2006 3:44:30.187	9,674.444	1,019.228	27.280			
1/12/2006 3:54:30.187	9,684.444	1,019.193	27.245			
1/12/2006 4:04:30.187	9,694.444	1,019.204	27.256			
1/12/2006 4:14:30.187	9,704.444	1,019.192	27.244			
1/12/2006 4:24:30.187	9,714.444	1,019.206	27.258			
1/12/2006 4:34:30.187	9,724.444	1,019.213	27.265			
1/12/2006 4:44:30.187	9,734.444	1,019.227	27.279			
1/12/2006 4:54:30.187	9,744.444	1,019.253	27.305			
1/12/2006 5:04:30.187	9,754.444	1,019.248	27.300			
1/12/2006 5:14:30.187	9,764.444	1,019.261	27.313			
1/12/2006 5:24:30.187	9,774.444	1,019.276	27.328			
1/12/2006 5:34:30.187	9,784.444	1,019.272	27.324			
1/12/2006 5:44:30.187	9,794.444	1,019.299	27.351			
1/12/2006 5:54:30.187	9,804.444	1,019.289	27.341			
1/12/2006 6:04:30.187	9,814.444	1,019.313	27.365			
1/12/2006 6:14:30.187	9,824.444	1,019.393	27.445			
1/12/2006 6:24:30.187	9,834.444	1,019.301	27.353			
1/12/2006 6:34:30.187	9,844.444	1,019.338	27.390			
1/12/2006 6:44:30.187	9,854.444	1,019.341	27.393			
1/12/2006 6:54:30.187	9,864.444	1,019.372	27.424			
1/12/2006 7:04:30.187	9,874.444	1,019.384	27.436			
1/12/2006 7:14:30.187	9,884.444	1,019.389	27.441			
1/12/2006 7:24:30.187	9,894.444	1,019.406	27.458			
1/12/2006 7:34:30.187	9,904.444	1,019.416	27.468			
1/12/2006 7:44:30.187	9,914.444	1,019.429	27.481			
1/12/2006 7:54:30.187	9,924.444	1,019.431	27.483			
1/12/2006 8:04:30.187	9,934.444	1,019.451	27.503			
1/12/2006 8:14:30.187	9,944.444	1,019.456	27.508			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	1/1'
1/12/2006 8:24:30.187	9,954.444	1,019.457	27.509			
1/12/2006 8:34:30.187	9,964.444	1,019.461	27.513			
1/12/2006 8:44:30.187	9,974.444	1,019.483	27.535			
1/12/2006 8:54:30.187	9,984.444	1,019.484	27.536			
1/12/2006 9:04:30.187	9,994.444	1,019.484	27.536			
1/12/2006 9:14:30.187	10,004.444	1,019.510	27.562			
1/12/2006 9:24:30.187	10,014.444	1,019.510	27.562			
1/12/2006 9:34:30.187	10,024.444	1,019.506	27.558			
1/12/2006 9:44:30.187	10,034.444	1,019.551	27.603			
1/12/2006 9:54:30.187	10,044.444	1,019.553	27.605			
1/12/2006 10:04:30.187	10,054.444	1,019.556	27.608			
1/12/2006 10:14:30.187	10,064.444	1,019.557	27.609			
1/12/2006 10:24:30.187	10,074.444	1,019.560	27.612			
1/12/2006 10:34:30.187	10,084.444	1,019.508	27.560			
1/12/2006 10:44:30.187	10,094.444	1,019.501	27.553			
1/12/2006 10:54:30.187	10,104.444	1,019.552	27.604			
1/12/2006 11:04:30.187	10,114.444	1,019.494	27.546			
1/12/2006 11:14:30.187	10,124.444	1,019.532	27.584			
1/12/2006 11:24:30.187	10,134.444	1,019.536	27.588			
1/12/2006 11:28:53.419	10,138.831	1,019.487	27.539			
1/12/2006 11:28:53.669	10,138.835	1,019.502	27.554			
1/12/2006 11:28:53.920	10,138.839	1,019.459	27.511			
1/12/2006 11:28:54.170	10,138.844	1,019.518	27.570			
1/12/2006 11:28:54.420	10,138.848	1,019.520	27.572			
1/12/2006 11:28:54.670	10,138.852	1,019.421	27.473			
1/12/2006 11:28:54.924	10,138.856	1,019.491	27.543			
1/12/2006 11:28:55.170	10,138.860	1,019.527	27.579			
1/12/2006 11:28:55.420	10,138.864	1,019.546	27.598			
1/12/2006 11:28:55.670	10,138.869	1,019.508	27.560			
1/12/2006 11:28:55.920	10,138.873	1,019.502	27.554			
1/12/2006 11:28:56.170	10,138.877	1,019.546	27.598			
1/12/2006 11:28:56.420	10,138.881	1,019.514	27.566			
1/12/2006 11:28:56.670	10,138.885	1,019.472	27.524			
1/12/2006 11:28:56.920	10,138.889	1,019.513	27.565			
1/12/2006 11:28:57.170	10,138.894	1,019.522	27.574			
1/12/2006 11:28:57.420	10,138.898	1,019.530	27.582			
1/12/2006 11:28:57.670	10,138.902	1,019.474	27.526			
1/12/2006 11:28:57.920	10,138.906	1,019.377	27.429			
1/12/2006 11:28:58.170	10,138.910	1,019.497	27.549			
1/12/2006 11:28:58.420	10,138.914	1,019.485	27.537			
1/12/2006 11:28:58.670	10,138.918	1,019.501	27.553			
1/12/2006 11:28:58.920	10,138.923	1,019.537	27.589			
1/12/2006 11:28:59.170	10,138.927	1,019.531	27.583			
1/12/2006 11:28:59.420	10,138.931	1,019.496	27.548			
1/12/2006 11:28:59.780	10,138.937	1,019.463	27.515			
1/12/2006 11:29:00.140	10,138.943	1,019.483	27.535			
1/12/2006 11:29:00.560	10,138.950	1,019.533	27.585			
1/12/2006 11:29:00.980	10,138.957	1,019.484	27.536			
1/12/2006 11:29:01.400	10,138.964	1,019.520	27.572			
1/12/2006 11:29:01.880	10,138.972	1,019.523	27.575			
1/12/2006 11:29:02.420	10,138.981	1,019.519	27.571			
1/12/2006 11:29:02.900	10,138.989	1,019.521	27.573			
1/12/2006 11:29:03.500	10,138.999	1,019.437	27.489			
1/12/2006 11:29:04.100	10,139.009	1,019.501	27.553			
1/12/2006 11:29:04.700	10,139.019	1,019.495	27.547			
1/12/2006 11:29:05.360	10,139.030	1,019.466	27.518			
1/12/2006 11:29:06.258	10,139.045	1,019.528	27.580			
1/12/2006 11:29:06.860	10,139.055	1,019.497	27.549			
1/12/2006 11:29:07.640	10,139.068	1,019.499	27.551			
1/12/2006 11:29:08.480	10,139.082	1,019.502	27.554			
1/12/2006 11:29:09.380	10,139.097	1,019.514	27.566			
1/12/2006 11:29:10.340	10,139.113	1,019.501	27.553			
1/12/2006 11:29:11.300	10,139.129	1,019.531	27.583			
1/12/2006 11:29:12.380	10,139.147	1,019.520	27.572			
1/12/2006 11:29:13.520	10,139.166	1,019.512	27.564			
1/12/2006 11:29:14.720	10,139.186	1,019.511	27.563			



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	U'
1/12/2006 11:29:15.980	10,139.207	1,019.501	27.553			
1/12/2006 11:29:17.300	10,139.229	1,019.523	27.575			
1/12/2006 11:29:18.740	10,139.253	1,019.509	27.561			
1/12/2006 11:29:20.240	10,139.278	1,019.506	27.558			
1/12/2006 11:29:21.800	10,139.304	1,019.510	27.562			
1/12/2006 11:29:23.480	10,139.332	1,019.508	27.560			
1/12/2006 11:29:25.280	10,139.362	1,019.507	27.559			
1/12/2006 11:29:27.140	10,139.393	1,019.504	27.556			
1/12/2006 11:29:29.180	10,139.427	1,019.507	27.559			
1/12/2006 11:29:31.280	10,139.462	1,019.499	27.551			
1/12/2006 11:29:33.500	10,139.499	1,019.506	27.558			
1/12/2006 11:29:35.900	10,139.539	1,019.496	27.548			
1/12/2006 11:29:38.419	10,139.581	1,019.510	27.562			
1/12/2006 11:29:41.060	10,139.625	1,019.491	27.543			
1/12/2006 11:29:43.880	10,139.672	1,019.465	27.517	0.00	27.517	#DIV/0!
1/12/2006 11:29:46.880	10,139.722	1,019.485	27.537	0.05	27.537	774,589.56
1/12/2006 11:29:50.060	10,139.775	1,019.463	27.515	0.10	27.515	376,014.36
1/12/2006 11:29:53.419	10,139.831	1,019.489	27.541	0.16	27.541	243,607.17
1/12/2006 11:29:57.020	10,139.891	1,019.481	27.533	0.22	27.533	176,846.94
1/12/2006 11:30:00.619	10,139.951	1,019.429	27.481	0.28	27.481	138,823.63
1/12/2006 11:30:04.820	10,140.021	1,019.330	27.382	0.35	27.382	110,972.72
1/12/2006 11:30:09.020	10,140.091	1,019.250	27.302	0.42	27.302	92,433.12
1/12/2006 11:30:13.219	10,140.161	1,019.079	27.131	0.49	27.131	79,204.09
1/12/2006 11:30:18.020	10,140.241	1,018.757	26.809	0.57	26.809	68,065.87
1/12/2006 11:30:23.419	10,140.331	1,018.373	26.425	0.66	26.425	58,771.56
1/12/2006 11:30:28.219	10,140.411	1,017.934	25.986	0.74	25.986	52,409.14
1/12/2006 11:30:34.219	10,140.511	1,017.358	25.410	0.84	25.410	46,162.39
1/12/2006 11:30:40.224	10,140.611	1,016.614	24.666	0.94	24.666	41,242.52
1/12/2006 11:30:46.232	10,140.711	1,015.824	23.876	1.04	23.876	37,268.55
1/12/2006 11:30:52.819	10,140.821	1,014.913	22.965	1.15	22.965	33,707.61
1/12/2006 11:31:00.020	10,140.941	1,013.809	21.861	1.27	21.861	30,519.68
1/12/2006 11:31:07.819	10,141.071	1,012.570	20.622	1.40	20.622	27,684.02
1/12/2006 11:31:15.619	10,141.201	1,011.323	19.375	1.53	19.375	25,330.22
1/12/2006 11:31:24.020	10,141.341	1,010.197	18.249	1.67	18.249	23,205.20
1/12/2006 11:31:33.020	10,141.491	1,008.924	16.976	1.82	16.976	21,291.63
1/12/2006 11:31:42.619	10,141.651	1,007.828	15.880	1.98	15.880	19,570.39
1/12/2006 11:31:52.219	10,141.811	1,006.655	14.707	2.14	14.707	18,106.49
1/12/2006 11:32:03.019	10,141.991	1,005.712	13.764	2.32	13.764	16,701.06
1/12/2006 11:32:14.419	10,142.181	1,004.805	12.857	2.51	12.857	15,436.32
1/12/2006 11:32:26.419	10,142.381	1,003.936	11.988	2.71	11.988	14,296.68
1/12/2006 11:32:39.019	10,142.591	1,003.157	11.209	2.92	11.209	13,268.14
1/12/2006 11:32:52.278	10,142.812	1,002.455	10.507	3.14	10.507	12,334.36
1/12/2006 11:33:06.619	10,143.051	1,001.842	9.894	3.38	9.894	11,461.87
1/12/2006 11:33:21.619	10,143.301	1,001.314	9.366	3.63	9.366	10,672.27
1/12/2006 11:33:37.219	10,143.561	1,000.810	8.862	3.89	8.862	9,958.77
1/12/2006 11:33:54.019	10,143.841	1,000.210	8.262	4.17	8.262	9,289.91
1/12/2006 11:34:12.019	10,144.141	999.797	7.849	4.47	7.849	8,666.28
1/12/2006 11:34:30.619	10,144.451	999.550	7.602	4.78	7.602	8,104.13
1/12/2006 11:34:51.019	10,144.791	999.383	7.435	5.12	7.435	7,565.85
1/12/2006 11:35:12.019	10,145.141	999.340	7.392	5.47	7.392	7,081.66
1/12/2006 11:35:34.219	10,145.511	999.331	7.383	5.84	7.383	6,632.92
1/12/2006 11:35:58.219	10,145.911	999.332	7.384	6.24	7.384	6,207.66
1/12/2006 11:36:23.419	10,146.331	999.348	7.400	6.66	7.400	5,816.13
1/12/2006 11:36:49.819	10,146.771	999.351	7.403	7.10	7.403	5,455.64
1/12/2006 11:37:18.019	10,147.241	999.302	7.354	7.57	7.354	5,116.87
1/12/2006 11:37:48.019	10,147.741	999.216	7.268	8.07	7.268	4,799.80
1/12/2006 11:38:19.819	10,148.271	999.106	7.158	8.60	7.158	4,503.96
1/12/2006 11:38:53.419	10,148.831	998.964	7.016	9.16	7.016	4,228.58
1/12/2006 11:39:29.419	10,149.431	998.841	6.893	9.76	6.893	3,968.60
1/12/2006 11:40:05.419	10,150.031	998.706	6.758	10.36	6.758	3,738.73
1/12/2006 11:40:47.419	10,150.731	998.531	6.583	11.06	6.583	3,502.08
1/12/2006 11:41:29.419	10,151.431	998.373	6.425	11.76	6.425	3,293.61
1/12/2006 11:42:11.419	10,152.131	998.153	6.205	12.46	6.205	3,108.56
1/12/2006 11:42:59.419	10,152.931	998.047	6.099	13.26	6.099	2,921.00
1/12/2006 11:43:53.419	10,153.831	997.848	5.900	14.16	5.900	2,735.33
1/12/2006 11:44:41.419	10,154.631	997.742	5.794	14.96	5.794	2,589.05

KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	U'
1/12/2006 11:45:41.419	10,155.631	997.581	5.633	15.96	5.633	2,426.81
1/12/2006 11:46:41.419	10,156.631	997.472	5.524	16.96	5.524	2,283.72
1/12/2006 11:47:41.419	10,157.631	997.275	5.327	17.96	5.327	2,156.55
1/12/2006 11:48:47.419	10,158.731	997.127	5.179	19.06	5.179	2,032.09
1/12/2006 11:49:59.419	10,159.931	997.025	5.077	20.26	5.077	1,911.72
1/12/2006 11:51:17.419	10,161.231	996.834	4.886	21.56	4.886	1,796.44
1/12/2006 11:52:35.419	10,162.531	996.716	4.768	22.86	4.768	1,694.28
1/12/2006 11:53:59.419	10,163.931	996.666	4.718	24.26	4.718	1,596.50
1/12/2006 11:55:29.419	10,165.431	996.489	4.541	25.76	4.541	1,503.53
1/12/2006 11:57:05.419	10,167.031	996.425	4.477	27.36	4.477	1,415.60
1/12/2006 11:58:41.419	10,168.631	996.359	4.411	28.96	4.411	1,337.39
1/12/2006 12:00:29.419	10,170.431	996.278	4.330	30.76	4.330	1,259.13
1/12/2006 12:02:23.419	10,172.331	996.197	4.249	32.66	4.249	1,185.88
1/12/2006 12:04:23.419	10,174.331	996.048	4.100	34.66	4.100	1,117.44
1/12/2006 12:06:29.419	10,176.431	995.946	3.998	36.76	3.998	1,053.61
1/12/2006 12:08:41.419	10,178.631	995.916	3.968	38.96	3.968	994.11
1/12/2006 12:11:05.419	10,181.031	995.807	3.859	41.36	3.859	936.42
1/12/2006 12:13:35.419	10,183.531	995.736	3.788	43.86	3.788	883.05
1/12/2006 12:16:11.419	10,186.131	995.686	3.738	46.46	3.738	833.63
1/12/2006 12:18:59.419	10,188.931	995.627	3.679	49.26	3.679	786.24
1/12/2006 12:21:59.419	10,191.931	995.514	3.566	52.26	3.566	741.11
1/12/2006 12:25:05.419	10,195.031	995.438	3.490	55.36	3.490	699.61
1/12/2006 12:28:29.419	10,198.431	995.418	3.470	58.76	3.470	659.13
1/12/2006 12:31:59.419	10,201.931	995.266	3.318	62.26	3.318	622.07
1/12/2006 12:35:41.419	10,205.631	995.289	3.341	65.96	3.341	587.18
1/12/2006 12:39:41.419	10,209.631	995.230	3.282	69.96	3.282	553.60
1/12/2006 12:43:53.419	10,213.831	995.180	3.232	74.16	3.232	522.25
1/12/2006 12:48:17.419	10,218.231	995.116	3.168	78.56	3.168	493.00
1/12/2006 12:52:59.419	10,222.931	995.061	3.113	83.26	3.113	465.17
1/12/2006 12:57:59.419	10,227.931	994.952	3.004	88.26	3.004	438.82
1/12/2006 13:03:17.419	10,233.231	994.908	2.960	93.56	2.960	413.96
1/12/2006 13:08:53.419	10,238.831	994.841	2.893	99.16	2.893	390.58
1/12/2006 13:14:53.419	10,244.831	994.775	2.827	105.16	2.827	368.30
1/12/2006 13:20:53.419	10,250.831	994.790	2.842	111.16	2.842	348.42
1/12/2006 13:27:53.419	10,257.831	994.708	2.760	118.16	2.760	327.78
1/12/2006 13:34:53.419	10,264.831	994.677	2.729	125.16	2.729	309.44
1/12/2006 13:41:53.419	10,271.831	994.576	2.628	132.16	2.628	293.05
1/12/2006 13:49:53.419	10,279.831	994.523	2.575	140.16	2.575	276.33
1/12/2006 13:58:53.419	10,288.831	994.474	2.526	149.16	2.526	259.65
1/12/2006 14:06:53.419	10,296.831	994.431	2.483	157.16	2.483	246.44
1/12/2006 14:16:53.419	10,306.831	994.417	2.469	167.16	2.469	231.69
1/12/2006 14:26:53.419	10,316.831	994.363	2.415	177.16	2.415	218.61
1/12/2006 14:36:53.419	10,326.831	994.318	2.370	187.16	2.370	206.93
1/12/2006 14:46:53.419	10,336.831	994.219	2.271	197.16	2.271	196.44
1/12/2006 14:56:53.419	10,346.831	994.233	2.285	207.16	2.285	186.96
1/12/2006 15:06:53.419	10,356.831	994.206	2.258	217.16	2.258	178.35
1/12/2006 15:16:53.419	10,366.831	994.164	2.216	227.16	2.216	170.50
1/12/2006 15:26:53.419	10,376.831	994.105	2.157	237.16	2.157	163.31
1/12/2006 15:36:53.419	10,386.831	994.070	2.122	247.16	2.122	156.70
1/12/2006 15:46:53.419	10,396.831	994.034	2.086	257.16	2.086	150.61
1/12/2006 15:56:53.419	10,406.831	994.010	2.062	267.16	2.062	144.97
1/12/2006 16:06:53.419	10,416.831	993.940	1.992	277.16	1.992	139.74
1/12/2006 16:16:53.419	10,426.831	993.950	2.002	287.16	2.002	134.87
1/12/2006 16:26:53.419	10,436.831	993.952	2.004	297.16	2.004	130.33
1/12/2006 16:36:53.419	10,446.831	993.874	1.926	307.16	1.926	126.09
1/12/2006 16:46:53.419	10,456.831	993.861	1.913	317.16	1.913	122.11
1/12/2006 16:56:53.419	10,466.831	993.838	1.890	327.16	1.890	118.38
1/12/2006 17:06:53.419	10,476.831	993.855	1.907	337.16	1.907	114.87
1/12/2006 17:16:53.419	10,486.831	993.799	1.851	347.16	1.851	111.56
1/12/2006 17:26:53.419	10,496.831	993.775	1.827	357.16	1.827	108.44
1/12/2006 17:36:53.419	10,506.831	993.803	1.855	367.16	1.855	105.48
1/12/2006 17:46:53.419	10,516.831	993.726	1.778	377.16	1.778	102.69
1/12/2006 17:56:53.419	10,526.831	993.741	1.793	387.16	1.793	100.04
1/12/2006 18:06:53.419	10,536.831	993.699	1.751	397.16	1.751	97.52
1/12/2006 18:16:53.419	10,546.831	993.675	1.727	407.16	1.727	95.12
1/12/2006 18:26:53.419	10,556.831	993.721	1.773	417.16	1.773	92.84



KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/12/2006 18:36:53.419	10,566.831	993.651	1.703	427.16	1.703	90.67
1/12/2006 18:46:53.419	10,576.831	993.643	1.695	437.16	1.695	88.59
1/12/2006 18:56:53.419	10,586.831	993.619	1.671	447.16	1.671	86.61
1/12/2006 19:06:53.419	10,596.831	993.657	1.709	457.16	1.709	84.72
1/12/2006 19:16:53.419	10,606.831	993.598	1.650	467.16	1.650	82.90
1/12/2006 19:26:53.419	10,616.831	993.579	1.631	477.16	1.631	81.17
1/12/2006 19:36:53.419	10,626.831	993.573	1.625	487.16	1.625	79.50
1/12/2006 19:46:53.419	10,636.831	993.556	1.608	497.16	1.608	77.90
1/12/2006 19:56:53.419	10,646.831	993.539	1.591	507.16	1.591	76.37
1/12/2006 20:06:53.419	10,656.831	993.519	1.571	517.16	1.571	74.89
1/12/2006 20:16:53.419	10,666.831	993.517	1.569	527.16	1.569	73.47
1/12/2006 20:26:53.419	10,676.831	993.494	1.546	537.16	1.546	72.10
1/12/2006 20:36:53.419	10,686.831	993.487	1.539	547.16	1.539	70.78
1/12/2006 20:46:53.419	10,696.831	993.473	1.525	557.16	1.525	69.51
1/12/2006 20:56:53.419	10,706.831	993.473	1.525	567.16	1.525	68.29
1/12/2006 21:06:53.419	10,716.831	993.451	1.503	577.16	1.503	67.10
1/12/2006 21:16:53.419	10,726.831	993.452	1.504	587.16	1.504	65.96
1/12/2006 21:26:53.419	10,736.831	993.402	1.454	597.16	1.454	64.86
1/12/2006 21:36:53.419	10,746.831	993.451	1.503	607.16	1.503	63.79
1/12/2006 21:46:53.419	10,756.831	993.421	1.473	617.16	1.473	62.76
1/12/2006 21:56:53.419	10,766.831	993.457	1.509	627.16	1.509	61.75
1/12/2006 22:06:53.419	10,776.831	993.397	1.449	637.16	1.449	60.79
1/12/2006 22:16:53.419	10,786.831	993.376	1.428	647.16	1.428	59.85
1/12/2006 22:26:53.419	10,796.831	993.380	1.432	657.16	1.432	58.94
1/12/2006 22:36:53.419	10,806.831	993.369	1.421	667.16	1.421	58.05
1/12/2006 22:46:53.419	10,816.831	993.307	1.359	677.16	1.359	57.19
1/12/2006 22:56:53.419	10,826.831	993.345	1.397	687.16	1.397	56.36
1/12/2006 23:06:53.419	10,836.831	993.323	1.375	697.16	1.375	55.55
1/12/2006 23:16:53.419	10,846.831	993.324	1.376	707.16	1.376	54.77
1/12/2006 23:26:53.419	10,856.831	993.268	1.320	717.16	1.320	54.00
1/12/2006 23:36:53.419	10,866.831	993.306	1.358	727.16	1.358	53.26
1/12/2006 23:46:53.419	10,876.831	993.285	1.337	737.16	1.337	52.54
1/12/2006 23:56:53.419	10,886.831	993.273	1.325	747.16	1.325	51.84
1/13/2006 0:06:53.419	10,896.831	993.252	1.304	757.16	1.304	51.15
1/13/2006 0:16:53.419	10,906.831	993.204	1.256	767.16	1.256	50.48
1/13/2006 0:26:53.419	10,916.831	993.189	1.241	777.16	1.241	49.84
1/13/2006 0:36:53.419	10,926.831	993.223	1.275	787.16	1.275	49.20
1/13/2006 0:46:53.419	10,936.831	993.205	1.257	797.16	1.257	48.59
1/13/2006 0:56:53.419	10,946.831	993.211	1.263	807.16	1.263	47.98
1/13/2006 1:06:53.419	10,956.831	993.163	1.215	817.16	1.215	47.40
1/13/2006 1:16:53.419	10,966.831	993.181	1.233	827.16	1.233	46.82
1/13/2006 1:26:53.419	10,976.831	993.182	1.234	837.16	1.234	46.26
1/13/2006 1:36:53.419	10,986.831	993.175	1.227	847.16	1.227	45.72
1/13/2006 1:46:53.419	10,996.831	993.122	1.174	857.16	1.174	45.18
1/13/2006 1:56:53.419	11,006.831	993.113	1.165	867.16	1.165	44.66
1/13/2006 2:06:53.419	11,016.831	993.099	1.151	877.16	1.151	44.15
1/13/2006 2:16:53.419	11,026.831	993.088	1.140	887.16	1.140	43.66
1/13/2006 2:26:53.419	11,036.831	993.080	1.132	897.16	1.132	43.17
1/13/2006 2:36:53.419	11,046.831	993.108	1.160	907.16	1.160	42.69
1/13/2006 2:46:53.419	11,056.831	993.057	1.109	917.16	1.109	42.23
1/13/2006 2:56:53.419	11,066.831	993.043	1.095	927.16	1.095	41.77
1/13/2006 3:06:53.419	11,076.831	993.045	1.097	937.16	1.097	41.33
1/13/2006 3:16:53.419	11,086.831	993.030	1.082	947.16	1.082	40.89
1/13/2006 3:26:53.419	11,096.831	993.015	1.067	957.16	1.067	40.46
1/13/2006 3:36:53.419	11,106.831	993.009	1.061	967.16	1.061	40.05
1/13/2006 3:46:53.419	11,116.831	993.001	1.053	977.16	1.053	39.64
1/13/2006 3:56:53.419	11,126.831	992.992	1.044	987.16	1.044	39.23
1/13/2006 4:06:53.419	11,136.831	992.985	1.037	997.16	1.037	38.84
1/13/2006 4:16:53.419	11,146.831	992.983	1.035	1,007.16	1.035	38.45
1/13/2006 4:26:53.419	11,156.831	992.967	1.019	1,017.16	1.019	38.08
1/13/2006 4:36:53.419	11,166.831	992.964	1.016	1,027.16	1.016	37.71
1/13/2006 4:46:53.419	11,176.831	992.959	1.011	1,037.16	1.011	37.34
1/13/2006 4:56:53.419	11,186.831	992.946	0.998	1,047.16	0.998	36.99
1/13/2006 5:06:53.419	11,196.831	992.931	0.983	1,057.16	0.983	36.64
1/13/2006 5:16:53.419	11,206.831	992.936	0.988	1,067.16	0.988	36.29
1/13/2006 5:26:53.419	11,216.831	992.919	0.971	1,077.16	0.971	35.96

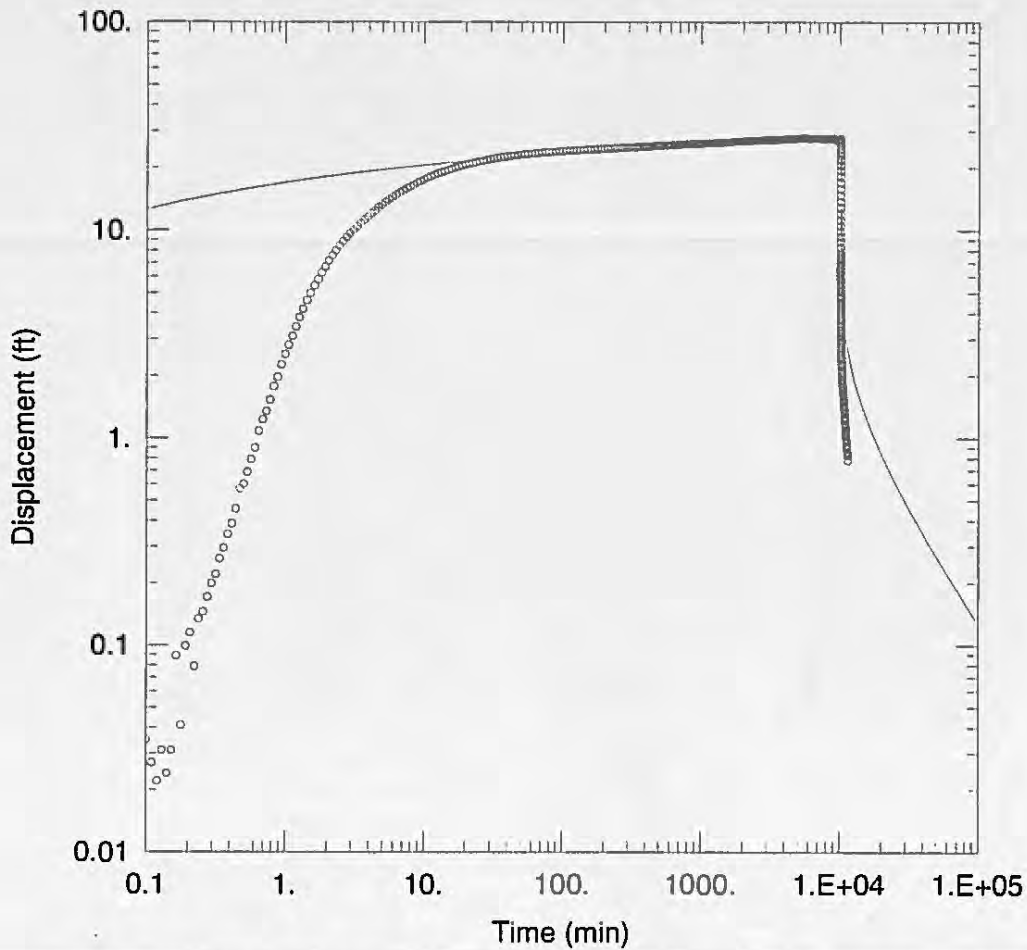
KPW 2006 CR (Observation well)

Real Time	Elapsed Time	Level-DTW (ft)	Drawdown: s (ft)	Residual Time	Residual Drawdown: s' (ft)	t/t'
1/13/2006 5:36:53.419	11,226.831	992.933	0.985	1,087.16	0.985	35.63
1/13/2006 5:46:53.419	11,236.831	992.925	0.977	1,097.16	0.977	35.30
1/13/2006 5:56:53.419	11,246.831	992.909	0.961	1,107.16	0.961	34.98
1/13/2006 6:06:53.419	11,256.831	992.914	0.966	1,117.16	0.966	34.67
1/13/2006 6:16:53.419	11,266.831	992.928	0.980	1,127.16	0.980	34.36
1/13/2006 6:26:53.419	11,276.831	992.862	0.914	1,137.16	0.914	34.06
1/13/2006 6:36:53.419	11,286.831	992.914	0.966	1,147.16	0.966	33.76
1/13/2006 6:46:53.419	11,296.831	992.916	0.968	1,157.16	0.968	33.47
1/13/2006 6:56:53.419	11,306.831	992.868	0.920	1,167.16	0.920	33.18
1/13/2006 7:06:53.419	11,316.831	992.908	0.960	1,177.16	0.960	32.90
1/13/2006 7:16:53.419	11,326.831	992.915	0.967	1,187.16	0.967	32.62
1/13/2006 7:26:53.419	11,336.831	992.900	0.952	1,197.16	0.952	32.35
1/13/2006 7:36:53.419	11,346.831	992.843	0.895	1,207.16	0.895	32.08
1/13/2006 7:46:53.419	11,356.831	992.841	0.893	1,217.16	0.893	31.82
1/13/2006 7:56:53.419	11,366.831	992.862	0.914	1,227.16	0.914	31.56
1/13/2006 8:06:53.419	11,376.831	992.883	0.935	1,237.16	0.935	31.31
1/13/2006 8:16:53.419	11,386.831	992.837	0.889	1,247.16	0.889	31.05
1/13/2006 8:26:53.419	11,396.831	992.784	0.836	1,257.16	0.836	30.81
1/13/2006 8:36:53.419	11,406.831	992.852	0.904	1,267.16	0.904	30.56
1/13/2006 8:46:53.419	11,416.831	992.815	0.867	1,277.16	0.867	30.33
1/13/2006 8:56:53.419	11,426.831	992.805	0.857	1,287.16	0.857	30.09
1/13/2006 9:06:53.419	11,436.831	992.807	0.859	1,297.16	0.859	29.86
1/13/2006 9:16:53.419	11,446.831	992.793	0.845	1,307.16	0.845	29.63
1/13/2006 9:26:53.419	11,456.831	992.789	0.841	1,317.16	0.841	29.40
1/13/2006 9:36:53.419	11,466.831	992.773	0.825	1,327.16	0.825	29.18
1/13/2006 9:46:53.419	11,476.831	992.793	0.845	1,337.16	0.845	28.96
1/13/2006 9:56:53.419	11,486.831	992.772	0.824	1,347.16	0.824	28.75
1/13/2006 10:06:53.419	11,496.831	992.770	0.822	1,357.16	0.822	28.54
1/13/2006 10:16:53.419	11,506.831	992.780	0.832	1,367.16	0.832	28.33
1/13/2006 10:26:53.419	11,516.831	992.731	0.783	1,377.16	0.783	28.12





**APPENDIX E**  
**AQUIFER TEST DATA RESULTS**



**KANE SPRINGS PRODUCTION WELL CONSTANT-RATE AQUIFER TEST**

Data Set: C:\...Kane Springs 2006 CR rec 2 KMW-1 solution 1b.aqt

Date: 03/05/06

Time: 13:51:07

**WELL DATA**

**Pumping Wells**

Well Name	X (ft)	Y (ft)
KPW-1	0	0

**Observation Wells**

Well Name	X (ft)	Y (ft)
o KMW-1	0	143.82

**SOLUTION**

Aquifer Model: Leaky

Solution Method: Hantush

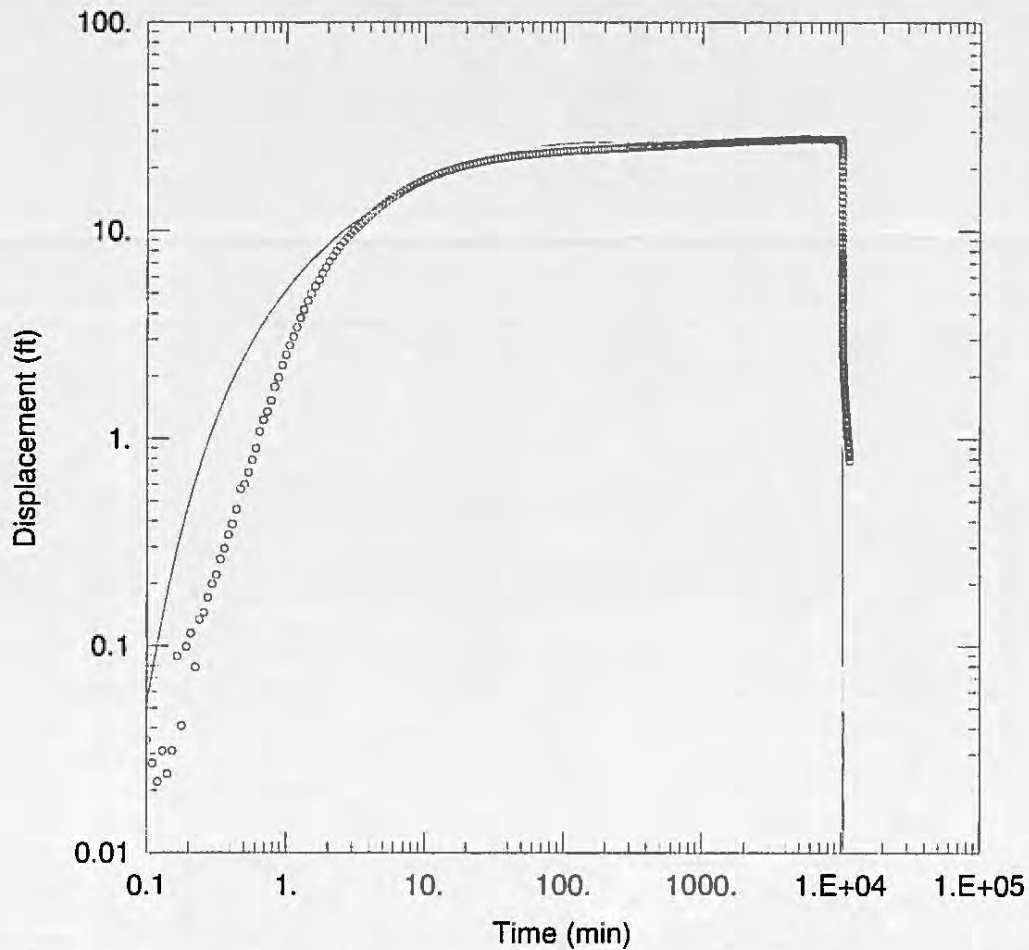
T = 1.164E+04 ft<sup>2</sup>/day

S = 3.293E-07

β = 0.006491

Kz/Kr = 1.

b = 1025. ft



**KANE SPRINGS PRODUCTION WELL CONSTANT-RATE AQUIFER TEST**

Data Set: P:\...\Kane Springs 2006 CR rec 2 KMW-1 solution 1a.aqt  
 Date: 03/05/06 Time: 13:43:46

**WELL DATA**

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
KPW-1	0	0	KMW-1	0	143.82

**SOLUTION**

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 4303.4 ft<sup>2</sup>/day

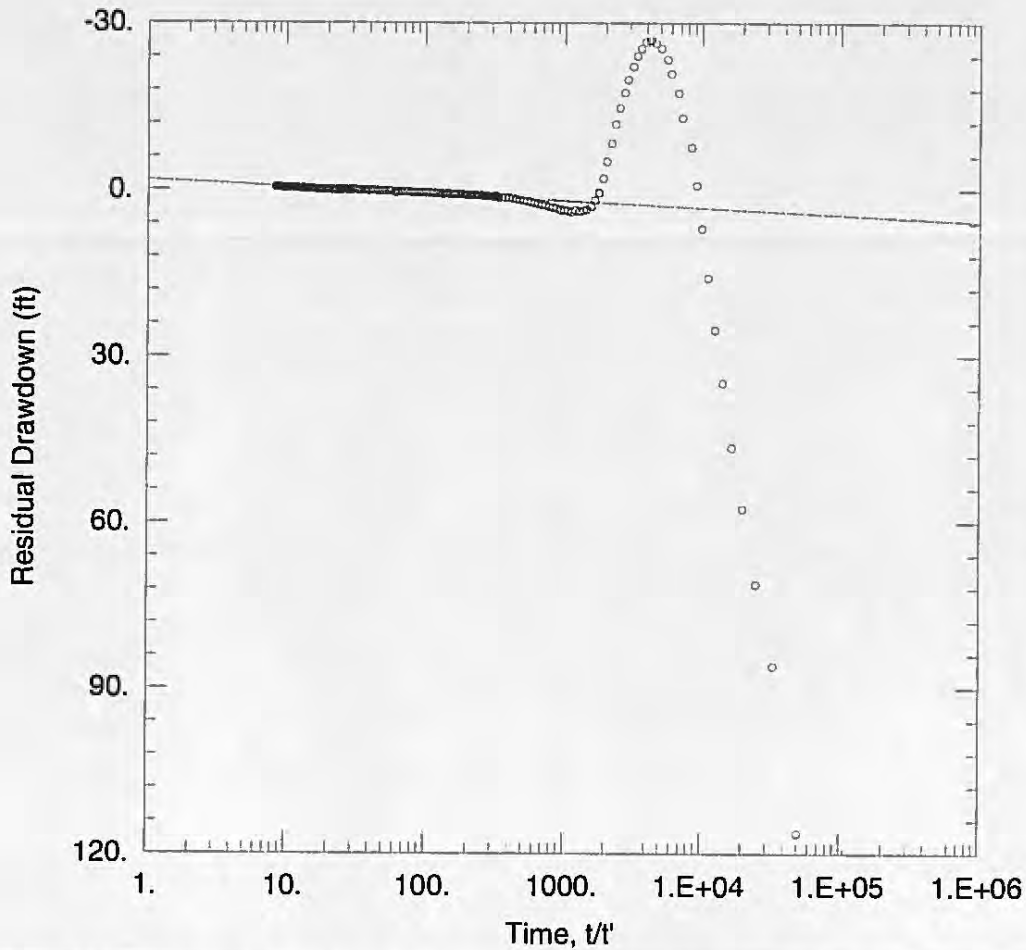
S = 0.0001958

r/B = 0.1433

Kz/Kr = 1.

b = 1025. ft





**KANE SPRINGS PRODUCTION WELL CONSTANT-RATE AQUIFER TEST**

Data Set: P:\...\Kane Springs 2006 CR KPW-1 template II solution 4b.aqt  
 Date: 03/05/06 Time: 14:12:32

**AQUIFER DATA**

Saturated Thickness: 1025. ft Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA**

**Pumping Wells**

Well Name	X (ft)	Y (ft)
KPW-1	0	0

**Observation Wells**

Well Name	X (ft)	Y (ft)
○ KPW-1	0	1.083

**SOLUTION**

Aquifer Model: Confined Solution Method: Theis (Recovery)  
 T = 5.098E+04 ft<sup>2</sup>/day S/S' = 24.98