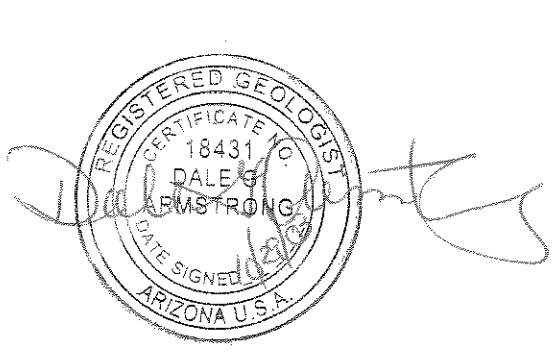
WELL SITING/BASIN STUDY REPORT
KINGMAN, ARIZONA

Prepared For

The City Of Kingman



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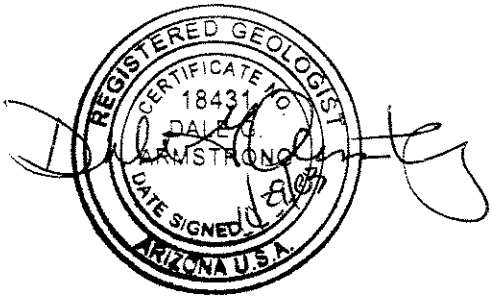

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EXECUTIVE SUMMARY

Clear Creek Associates assembled existing geologic, hydrologic, and geophysical data from the study area and surrounding region. The data review concentrated on the local hydrogeology, available aquifer water quality, and the types and distribution of existing wells. Based on our review of the available information, Clear Creek developed a ranking of candidate areas for water production. Areas were ranked by quarter section (one quarter square mile) based on a combination of land ownership, proximity to easements, proximity to neighborhoods, proximity to existing wells, groundwater quality, proximity to future booster stations, existing well-field drawdown, and basin thickness and geologic suitability.

Through the use of the prioritization matrix, Clear Creek Associates developed 31 candidate sites based on the rankings and available information, Figure ES-1. These sites can be grouped into three general areas. These areas with the greatest potential area:

1. In Township 22 north, Range 16 west, the southwest quarters of Sections 17 and 8.
2. In Township 22 north, Range 16 west, a cluster of 18 quarter sections including the City-owned land at the waste water treatment facility, the southeast quarter of Section 3, all of Section 10, the north half of Section 15, the east half of Section 9, and the northeast quarter of Section 16.
3. In Township 22 north, Range 16 west, the southeast quarter of Section 27, all of Section 35, all of section 34 excluding the northwest quarter, the southeast quarter of Section 33, the southeast quarter of Section 35, and in Township 21 north, Range 16 west the northern half of Section 4.

At each of these locations, one would expect a reasonably good chance of adequate water production and acceptable water quality. However, in some portions of the study area including the eastern half, only limited data were available. Therefore, prior to any well installation, Clear Creek recommends that exploratory borings be installed. As part of the exploratory boring, Clear Creek recommends that the following specific analyses be conducted.

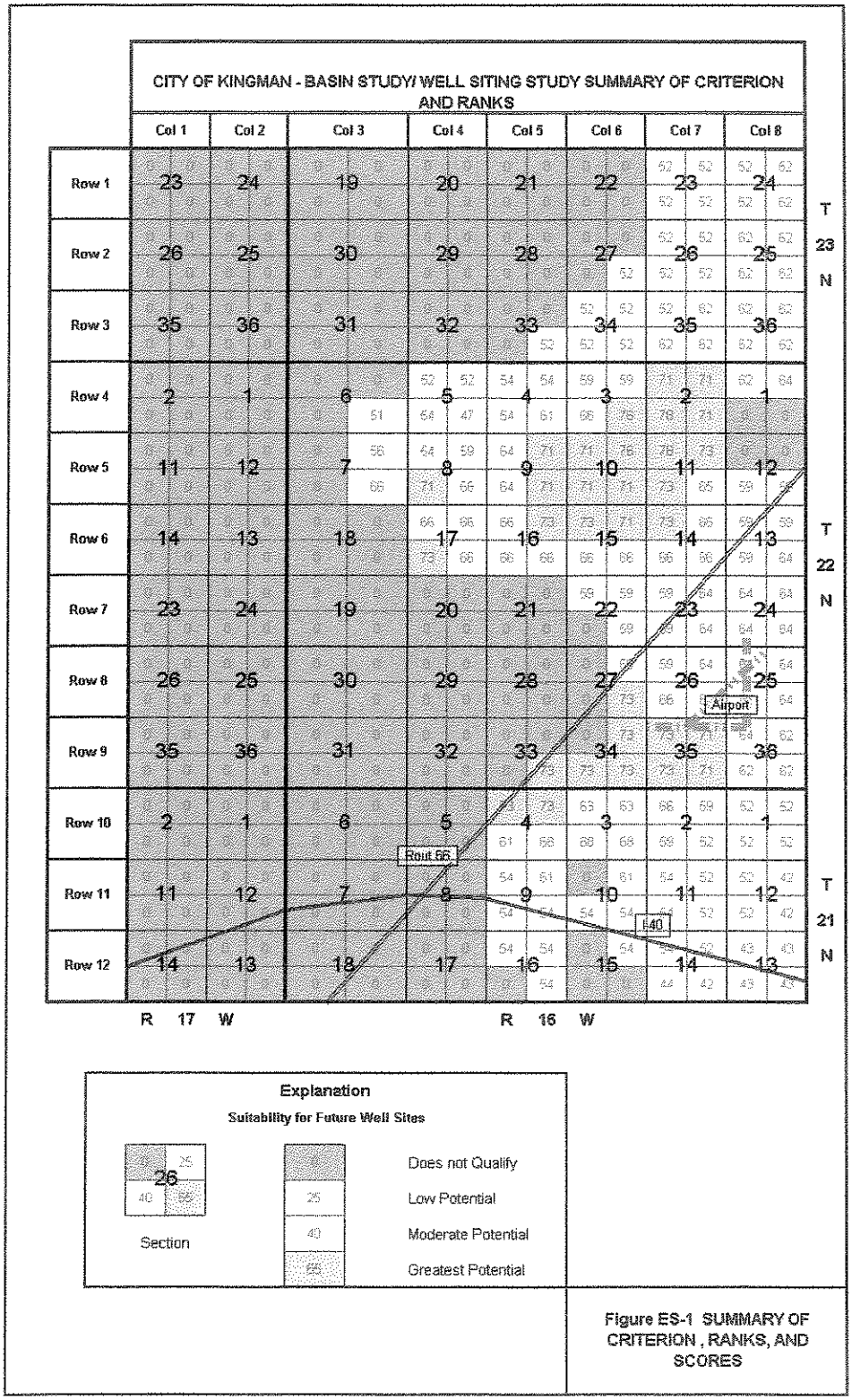

Figure ES-1 SUMMARY OF CRITERION , RANKS, AND SCORES

Perform lithologic and geophysical logging to confirm the location(s) of water bearing zones within the aquifer.

1. At select intervals, perform packer testing and collect depth-specific zonal groundwater quality samples for laboratory analysis.
2. Evaluate the hydrogeologic and water quality data to assess the appropriateness of installing a new production well at a specific location.

Because hydrogeologic conditions in the Hualapai Basin vary significantly over relatively short distances, Clear Creek recommends that the above outlined analysis be conducted at each candidate well site prior to well installation. This will reduce the City of Kingman's risk of completing a well with unacceptable water quality and/or poor production characteristics.

A limited study of the chromium content of the basin-fill sediments and volcanics was conducted. The results indicate that the volcanics contain significantly more chromium than do the basin-fill sediments. However, no direct correlation between the chromium content in the aquifer media versus the chromium content in the groundwater was demonstrated.

1.0 INTRODUCTION

This Hydrogeologic Well Siting/Basin Study has been prepared for the City of Kingman to evaluate both short-term and long-term water resource options in the Southern Hualapai Basin adjacent to Kingman, Arizona. All work was conducted in accordance with our revised proposal to the City of Kingman dated February 12, 2003 and subsequent meetings with City of Kingman personnel.

1.1 PROJECT SCOPE

Clear Creek assembled existing geologic and hydrologic data from the site and nearby areas. For the purpose of this investigation, the extent of the study area was approximately 96 square miles and included the northern half of the City of Kingman from Southern Avenue to Long Mountain on the north and from Stockton Hill Road on the west to approximately one mile east of the Kingman Airport, Figure 1. The data review concentrated on the local hydrogeology, available aquifer water quality (particularly hexavalent chromium), new and existing geophysics, and the types and distribution of existing wells. To aid in our hydrogeologic evaluation, a number of figures were generated to depict the local conditions.

Based on our review of the available information, Clear Creek Associates developed a ranking of candidate areas for water production. Areas were ranked by quarter section (one quarter square mile) based on a combination of factors including: status of land ownership, proximity to existing pipelines and easements, proximity to neighborhoods, impact on adjacent wells, water quality, proximity to future booster stations, current drawdown in the existing well field, and surficial and subsurface geology.

1.2 REPORT ORGANIZATION

The remainder of the report has been organized as outlined below. Figures, tables, and references are included at the end of the main body of the report followed by appendices.

- Section 2.0 Hydrogeology – discusses the regional and local geology and hydrology including stratigraphic and structural controls, lithology, wells, aquifer characteristics, and existing water quality.
- Section 3.0 Well Site Prioritization – reviews the methods and criteria used to rank individual areas within the study area.
- Section 4.0 Well Siting – discusses the highest priority quarter sections as determined by the prioritization matrix.
- Section 5.0 Conclusions and Recommendations – presents a summary Clear Creek's conclusions and recommendations related to area suitable for siting new wells.
- Sections 6.0 References – includes a listing of referenced citations.

2.0 HYDROGEOLOGY

2.1 HYDROGEOLOGIC SETTING

The study area is located in the southern Hualapai basin, which lies within the Basin and Range Physiographic Province of northwestern Arizona. The Basin and Range Province is characterized by isolated mountain ranges separated by alluvial valleys. The mountain blocks are composed of a complex suite of igneous, metamorphic, sedimentary, and volcanic rocks ranging in age from Precambrian to Tertiary. The basins in the Basin and Range Province are tectonically induced troughs that have been filled to great depths with sedimentary material eroded from the surrounding mountain blocks. Metamorphic, granitic, and crystalline extrusive rocks comprise the mountains that border the basin and underlie the basin-fill deposits. The sediments comprising the subsurface strata were eroded from the surrounding highlands and deposited into the basin by streams (fluvial deposition), gravity (colluvial deposition), or lakes (lacustrine deposition). The basin-fill sediments are characterized by wide variability in their lateral and vertical distribution. The basin-fill sediments found in the southern Hualapai Basin range in thickness from a few tens of feet along the basin margins to a depth estimated to be greater than 6,000 feet near the center of the basin. At this location the basin forms a large structural depression and is the down-faulted core of the Hualapai Basin (hydroGEOPHYSICS, 2003, Appendix C.)

The basin-fill deposits are discontinuous and lenticular in character due to variations in the source rocks and depositional processes over time. Although the strata underlying the study area are discontinuous, they have been divided into several recognizable stratigraphic units by past investigators. The work of Gillespie and Bentley (1971) identified the basin fill units as Older Alluvium, Intermediate Alluvium, and Younger Alluvium. They defined the older alluvium as Tertiary-aged, moderately consolidated and polylithic conglomerates, sands, silts, clays, evaporite deposits, and volcanic rocks. They also state that the older alluvium deposit is the principal aquifer in the Hualapai Basin. Overlying the older alluvium is the intermediate alluvium. They define the intermediate alluvium as late Tertiary in age, weakly consolidated

polylithic conglomerates, gravels, and sands. Gillespie and Bentley (1971) described the younger alluvium as unconsolidated surficial deposits present as pediments, stream deposits (arroyo channel deposits), and playa deposits.

2.2 WELL INVENTORY

A well inventory for the study area was conducted by reviewing ADWR's well database and is included as Table 1. Information relating to the wells within the study area is presented in Table 1, and the locations of the wells are indicted on Figure 2. During the compilation of this well inventory, it became evident that the study area contains numerous small domestic water wells. This is potentially problematic in some areas, because even though the study area is not within an ADWR Active Management Area (AMA), water-level decline impacts of new production wells on existing wells are not desirable for a municipality. Our analysis was designed to take the proximity to existing wells into account.

2.3 LOCAL HYDROGEOLOGY

Clear Creek Associates prepared four hydrogeologic cross-sections and a fence diagram using lithologic descriptions from driller's logs, (Appendix A), consultant reports, and re-logging by Clear Creek Associates (Appendix B). The cross-section locations are presented on Figure 1. Cross-section A-A' is oriented from southwest to northeast, cross-section B-B' is oriented west to east, cross-section C-C' is oriented northwest to southeast, and cross section D-D' is oriented southwest to northeast. Cross-sections A-A', B-B', C-C' and D-D' are presented on Figures 3 through 6, respectively. The fence diagram incorporates all four of the cross-sections into an isometric or three-dimensional view of the southern Hualapai Basin. The fence diagram and the cross-sections depict the elevation of the water table based on data collected by the City of Kingman and Clear Creek Associates.

Cross-section A-A' (Figure 3) indicates the generalized stratigraphy of the southern portion of the Hualapai basin. The southwestern portion of the cross section depicts the shallow nature of the volcanic bedrock. As the cross section begins to enter the basin, just beyond well 55-

526516 the depth to volcanic bedrock deepens to more than 600 feet below land surface (bls). Bedrock was encountered at 670 feet bls in test well TH-4, located at the Castle Rock Booster Station. The lithologies overlying the volcanic bedrock at this location are seen as basin-fill sediments that probably belong to the *older alluvium* described by Gillespie and Bentley (1971). These sediments are predominantly above the water table and are composed of interbedded sands, silts, silty sands, and silty clays. The depth to bedrock increases to below 1200 feet in test hole TH-1 located at well City 7. The basin fill sediments at this location consist of similar unconsolidated to poorly consolidated and interbedded sands, sandy gravels, and silty sands. Farther to the northeast along this cross section the basin-fill sediments are predominantly poorly consolidated and silty sands. The groundwater table surface is indicated on the cross section by a dashed blue line. In the vicinity of shallow bedrock on the southern end of the cross section, the water level is affected by the location of faults. Note that depth to water southwest of the fault between well 55-526516 and TH-4 is approximately 100 feet. However, depth to water in TH-4 is below 630 feet. Water levels from TH-4 through the northeast end of the cross section remain fairly consistent, near the 2,800-foot elevation.

Cross-section B-B' (Figure 4) is similar in many ways to cross section A-A'. In the western portion of the cross section the depth to granite gneiss bedrock is less than 100 feet. A significant basin-bounding fault is located between wells 55-575340 and 55-501694 that drops the depth to bedrock to below 500 feet and also impacts the depth to the water table. The water table elevations decline along this fault and the next fault to the east. At that point the water table elevation remains fairly consistent through monitor well MW-2. At least three additional basin bounding faults are indicated on the cross section before the location of well LMV-2. Depth to basement in the vicinity of well LMV-2 is unknown.

Cross-section C-C' (Figure 5) crosses sections A-A', B-B', and D-D' and trends from northwest to southeast. This cross section begins at cross section B-B' and is constructed to show the hydrogeologic complexities along the southwestern edge of the Hualapai basin. It also crosses through test hole TH-2 and the location of the abandoned well City 8. The most dramatic hydrogeologic difference depicted in this cross section is the occurrence of a thick and

consolidated volcanic conglomerate. Well City 8 encountered this lithology above the static water level and remained in this unit through the bottom of the boring. Primary porosity in this unit is low. Water production from this unit is expected to be restricted to areas of well developed fracturing or faulting. Well City 5 is constructed in a similar unit. However, the significant yield from this well suggests that the volcanic conglomerate exhibits sufficient secondary porosity for production of such quantities of water.

Cross-section D-D' (Figure 6) was constructed to facilitate the construction of the fence diagram. This section trends parallel to cross-section A-A' and joins cross-section A-A' at wells 55-526516 and 55-529815. This section depicts how dramatically the Hualapai basin deepens towards the northeast. It also indicates that the consolidated volcanic conglomerate encountered in well City 8 is not a significant component of the stratigraphy northeast of well City 8.

The fence diagram (Figure 7) is an isometric presentation of all of the cross sections depicted at the same time. This diagram illustrates the deepening of the basin in a northeasterly direction. It also helps to identify the basin-bounding faults responsible for the development of the basin.

The available geologic data indicates that an extensive and relatively thick sequence of volcanic flows, volcanic conglomerates, and volcanic gravels are present beneath much of the southwestern portion of the study area. The significant thickness and relatively shallow depth of these units effectively precludes this portion of the basin from future high-yield supply well consideration.

2.3.1 Groundwater decline

Water level data collected from 24 existing wells during the period from October of 2002 through April of 2003 by the City of Kingman and by Clear Creek Associates is depicted in Table 2. Water level hydrographs (Figures 8-12) were produced for selected wells to illustrate the recent drawdown throughout the central well field. The hydrographs are all referenced to

the U.S.G.S. water level datum of 1967. The range of water level decline is from –1.2 feet per year (ft/yr) to –2.2 ft/yr with an average rate of decline of –1.55 feet per year.

2.4 GEOPHYSICS

At the request of the City of Kingman, hydroGEOPHYSICS, Inc. of Tucson, Arizona conducted a gravity survey of the southern portion of the Hualapai Basin. Their study area roughly coincided with the Clear Creek Associates study area. A brief review of the results of the gravity survey is presented here. At the request of the City, the full hydroGEOPHYSICS report is included with this report as Appendix C.

Gravity surveys are capable of differentiating rocks of varying densities, thus separating unconsolidated basin-fill gravels and volcanic rocks from bedrock. The hydroGEOPHYSICS gravity survey model runs identified the deepest portion of the basin to be located approximately two miles north of the City of Kingman airport, the "airport sub-basin." The shallower portions of the basin, particularly in the western half of the study area, surrounding the airport sub-basin, form shelf-like features that progressively deepen towards the basin center. These shelf-like features, or plateaus, are believed to be a result of extensional basin and range normal faulting. An example of a shallow plateau can be found on cross-section C-C' in the vicinity of City Well No. 8. The trend of this plateau is easterly and suggests shallow basement a distance of approximately two miles east of City Well No. 8. Depth to bedrock in the plateau regions of the basin is estimated to range from 500 feet to as much as 3,000 feet below land surface (bls). The central portion of the airport sub-basin deepens to as much as 6,000 feet bls. Bedrock is inferred below this depth.

2.5 CHROMIUM AND SOURCE ROCKS

Naturally occurring hexavalent chromium has been documented within several Arizona basins including the Hualapai basin Robertson, (1991). Clear Creek Associates, in conjunction with the City of Kingman, reviewed the hexavalent chromium data for selected wells within the

study area. The purpose of this review was to select wells that currently produce water with low total chromium and wells that produce water with elevated chromium levels and submit samples of the drill-cuttings from these wells to an analytical laboratory for determination of total chromium. The cuttings samples were prepared at the analytical laboratory by pulverizing the samples in ceramic mills and then taking the samples into solution by total digestion with hydrofluoric, nitric, and sulfuric acids. Total chromium values were then determined by ACTLABS-SKYLINE of Tucson Arizona by inductively coupled plasma – emission spectroscopy (ICP). It has been found through City of Kingman and Clear Creek Associates investigations, that hexavalent chromium in groundwater samples represents greater than 90% of the total chromium values. Assay certificates can be found in Appendix D.

As a result of this review, five wells were selected; Test Hole No. 1 (55-502501), Test Hole No. 2 (55-571222), the observation well at City Well No. 6 (55-529815), Long Mountain Well No.2 (55-504272), and Test Hole No. 4 (55-529815). Table 3 depicts the samples chosen, chromium content of the water, chromium content of the cuttings, and the general lithologic description of the cuttings. Figures 13-17 illustrate the direct comparison of total chromium in the cuttings versus hexavalent chromium in the test well zonal samples or production well discharge samples.

Review of these data indicates that the volcanic rocks encountered in test hole TH-4 contain the highest total chromium values. As can be seen in Table 3 these values range from 264 parts per million (ppm) up to 452 ppm. Samples from the other wells were all within the basin-fill sediments. Total Chromium values from these samples ranged from 41 ppm up to 136 ppm, or approximately an order of magnitude lower. The hexavalent chromium values from the depth-specific water samples collected during the drilling of these wells ranges from nil up to 0.18 milligrams per liter (mg/L also ppm). Visual inspection of the water values verses the values form the cuttings samples does not suggest a direct correlation. It is compelling however, to assign the source for the chromium in the groundwater to the andesitic/basaltic volcanic rocks simply because these lithologies contain the highest concentration of total chromium. The

mechanism controlling the leaching of the chromium form the host lithology is unknown at this time. Likewise, the process for the conversion of trivalent chromium to hexavalent chromium is also unknown.

2.6 WATER QUALITY

Clear Creek Associates reviewed inorganic groundwater quality from existing and newly acquired water quality samples from selected wells within the study area. Our water-quality evaluation focused on the more common inorganic parameters that may affect the siting of water production wells. These analytes consisted of: nitrate, fluoride, arsenic, total chromium, calcium, magnesium, potassium, alkalinity, sulfate, chloride and total dissolved solids (TDS). The reported concentrations of these constituents are presented in Table 4 and certificates are in Appendix E.

The State and Federal drinking water standards that define the Maximum Contaminant Level (MCL) are enforceable by regulatory agencies. Nitrate has an MCL of 10.0 mg/L, and fluoride has an MCL of 4.0 mg/L. Arsenic currently has an MCL of 0.05 mg/L, or 50 micrograms per liter (µg/L), but that standard has been revised to a more stringent MCL of 0.01 mg/L (10 µg/L), which will become effective in January of 2006. Chromium has an MCL of 0.1 mg/L, nitrite has an MCL of 1.0 mg/L. TDS has a Secondary Drinking Water Standard of 500 mg/L, that is a non-enforceable guideline. Sulfate and chloride also have Secondary Drink Water Standards of 250 mg/L.

The reported chromium concentration in all wells was below the current MCL. The Stucky Well (55-606422) was not sampled during this project however a sample collected in 1998 had a reported chromium value of 0.099 mg/L.

The reported TDS concentration in the Bank Street Well of 740 mg/L, exceed the Secondary Maximum Contaminant Level for TDS. The reported TDS concentrations from all wells ranged from 210 to 740 mg/L. The Bank Street Well is probably screened in a portion of the

regional aquifer media where elevated TDS concentrations may result from naturally occurring mineral leachate. No other analytes exceeded either primary or secondary standards.

3.0 PRIORITIZATION MATRIX

An analysis of the study area was performed to identify and prioritize candidate sites for the installation of new public supply wells to meet the City's current and future water demands. Clear Creek Associates developed this prioritization matrix as a tool for the City of Kingman to use to help select future well sites.

3.1 PRIORITIZATION METHODOLOGY

The prioritization of well sites within the study area was conducted on the basis of eight prioritization criteria, presented here, and summarized in Table 5. Based on the relative importance of each criterion and the value of a well site to the City of Kingman, each criterion was assigned a multiplier. The multiplier provides a weighted value to each criterion, and assigns the appropriate degree of importance to it, which can then be considered in the overall ranking of the well sites. For example, the *proximity to pipelines/easements* is less important than the *groundwater quality* at that location. This is because the additional cost for installing a pipeline extension is expected to be less than the additional cost for water treatment or blending. The eight criteria used in the analysis, along with their multipliers, are presented below:

Criterion for Prioritization	Multiplier	Maximum Points Achievable
Land Ownership	1	3
Proximity to Pipelines/Easements	2	4
Proximity to Neighborhoods	1	2
Proximity to Existing Wells	3	6
Groundwater Quality	5	10
Proximity to Future Booster Stations	7	21
Current Drawdown	5	10
Geology	10	30

The criteria with larger multipliers, such as geology, are more heavily weighted in this analysis. The magnitude of each multiplier is proportional to the actual impact that the criterion would have on potential well sites. While the Maximum Points Achievable values are only indirectly correlative to the multiplier values (due to the impact of the site-by-site rankings discussed below), they provide an indication of the relative importance assigned to each criterion.

The geology criterion had the highest relative importance because the cost of well installation would not be substantiated at locations with inadequate potential groundwater production. The proximity to future booster stations criterion was ranked second in importance since the water yielded by a well is relatively meaningless unless that same water can be delivered to the distribution system. Groundwater quality and current drawdown were ranked equally and are third in importance because poor quality water is unacceptable for potable use without expensive treatment or blending. Additionally, any new well constructed within the area of accelerated drawdown would only exacerbate the rate of drawdown. The impact of a potential new well to existing wells was the fourth-ranked criterion. Due to the relatively low number of existing private wells within the study area, the well impact criterion is not a major concern. The proximity to pipelines/easements was assigned the next lowest relative value. Land ownership was assigned the lowest relative value. While the land status is an important consideration, it has a relatively low impact on the utility and value of a completed public supply well, in comparison to the other criteria. Similarly, the proximity of a potential well site to an existing pipeline is an important consideration, but this criterion is less critical than the overlying importance of the other higher-valued criteria.

After a multiplier was assigned to each ranking criterion, the City of Kingman study area was evaluated and ranked on a quarter-section-by-quarter-section basis. The ranked value of each quarter-section (160-acre) parcel was then multiplied by the multiplier value of that particular criterion, to result in a *weighted prioritization value*, as follows:

(rank) x (multiplier) = weighted prioritization value

The sum of all the weighted prioritization values (from all eight criteria) for each quarter-section parcel was then used to make a valid comparison between that quarter-section parcel and all other parcels within the study area, and to assign a ranking to the various potential well sites.

The assigned rank and calculated prioritization value for each quarter-section parcel within the study area is presented in Table 6. The sum of the calculated prioritization values for each parcel of land resulted in a ranking of "greatest suitability," "moderate suitability," "low suitability," or "does not qualify." The well site rankings are presented graphically on Figure 18. Four of the criteria contain a potential zero (0) value due to the conditions that would preclude installation of a production well. These criteria include: proximity to neighborhoods, water quality, drawdown, and basin-fill thickness and geology. When one of these criteria produces a quarter section with a zero value then that quarter section maintains a zero value regardless of the other criteria scoring.

The quarter-section well site parcels presented in Table 6 are organized in progressive order, from west-to-east and north-to-south with a column and row designation. The columns and rows that are referenced in Table 6 are also shown on Figure 18 for cross-reference. The cross-reference between Table 6 and Figure 18 allows for easy correlation between the numerical ranking of each parcel (Table 6) and the graphical prioritization of each parcel (Figure 18). For example, Section 3 in Township 22 North, Range 16 West is located in column 6 and row 4 (Figure 18). This section can be found in Table 6 by looking up the corresponding column and row numbers. The section is then broken down into quarter-sections, and each quarter is assigned a letter in counter-clockwise order, where:

a = the northeast quarter-section,

b = the northwest quarter-section,

c = the southwest quarter-section, and

d = the southeast quarter-section.

3.2 RATIONALE FOR RANKING OF EACH CRITERION

Each of the prioritization criteria was ranked for each quarter-section parcel on the basis of the following rationale. The higher the resulting ranking-number the more favorable the condition.

3.2.1 Land Ownership Ranking

Plate 1 depicts the ranking of each quarter section for the *land ownership* criteria. Whether or not a potential well site is on state-owned, private-owned, federal-owned, or city-owned land affects the ease of acquiring access to the land. Therefore, the basis for the land ownership ranking was:

Land Ownership	Rank
State	1
Private	2
Federal	2
City	3

3.2.2 Proximity to Pipelines/Easements

Plate 2 depicts the ranking of each quarter section for the *proximity to pipelines/easements* criteria. The proximity to an existing or planned pipeline or existing easement will impact the ultimate cost of the water. A well further than 1 mile from an easement would require a significant expenditure for new easement acquisition. Therefore, the basis for the proximity to pipelines and easements ranking was:

Proximity to Pipeline/Easements	Rank
More than 1-mile	1
Less than or equal to 1-mile	2

3.2.3 Proximity to Neighborhoods Ranking

Plate 3 depicts the ranking of each quarter section for the *proximity to neighborhoods* criteria. Operational noise at wellheads is a consideration the City takes seriously. Future well sites that are less than ½ mile from existing neighborhoods are ranked with a "0," which ultimately precludes the site from consideration. All sites greater ½ mile from homes were ranked equally. Therefore the ranking was based on:

Proximity to Neighborhoods	Rank
Less than ½	0
Greater than or equal to ½	1

3.2.4 Proximity to Existing Wells Ranking

Plate 4 depicts the ranking of each quarter section for the *proximity to existing wells* criteria. The potential future impact on any existing wells in the study area was considered to be greatest if more than one well existed within the quarter section being scored. Numerous existing wells are located within the study area. Therefore, the basis for the impacts on existing wells ranking was:

Number of Existing Non-City Wells in Same quarter-Section	Rank
More than 1 existing well within quarter-section	1
Less than or equal to 1 existing well within quarter-section	2

3.2.5 Water Quality Ranking

Plate 5 depicts the ranking of each quarter section for the *water quality* criteria. Groundwater of poor quality may require blending or treatment prior to its use, at substantial additional cost. Plate 5 contains Stiff diagrams depicting the results of the water quality sampling completed by Clear Creek Associates. Review of these groundwater quality data indicated that chromium was the only constituent of potential concern within the study area. Therefore, the basis for the groundwater quality ranking was:

Water Quality	Rank

Total Chromium greater than or equal to 0.10 mg/L	0
No data within ½ mile	1
Total Chromium greater than 0.05 mg/L and less than 0.10 mg/L	1
Total Chromium less than 0.05 mg/L	2

3.2.6 Proximity to Future Booster Stations Ranking

Plate 6 depicts the ranking of each quarter section for the *proximity to future booster stations* criteria. Currently the City of Kingman has little excess capacity to handle additional groundwater production. Therefore a key component of this study was the proposed location of future booster stations. Therefore, the basis for the future booster station ranking was:

Proximity to Future Booster Station	Rank
Greater than 1½ miles	1
Between 1 and 1½ miles	2
Less than 1 mile	3

3.2.7 Water Table Drawdown Ranking

Plate 7 depicts the ranking of each quarter section for the *drawdown* criteria. The City of Kingman's central well field currently exhibits water table drawdown ranging from 20 to 60 feet below the U.S.G.S. 1967 water table elevation datum. Installation of additional production wells within the area of greatest drawdown has the potential of negatively impacting existing wells. Additional drawdown in the central well field could result in increased pumping costs, inadequate submergence, cascading water, and overall reduction in well-field yield. Therefore, the basis for the drawdown ranking was:

Existing Drawdown	Rank
Greater than or equal to 50 feet	0
Between 30 and 50 feet	1
Less than or equal to 30 feet	2

3.2.8 Basin-fill Thickness and Geology Ranking

Plate 8 depicts the ranking of each quarter section for the *basin-fill thickness and geology* criteria. The geological setting for the southern portion of the Hualapai basin is complex and directly impacts water well yields. Some of the wells currently owned and operated by the City of Kingman are constructed in highly fractured bedrock, i.e. advanced development of secondary porosity. Although the yields on these wells are satisfactory, targeting bedrock with well-developed secondary porosity is not considered to be prudent. The criteria for this ranking were therefore based on the range of thickness of basin-fill sediments overlying bedrock. A thickness of less than 300 feet was considered to be the lowest priority due to the general depth to the water table being in excess of 500 feet. All of the basin-fill sediments described in the driller and consultant logs are generally coarse-grained enough to be considered good aquifer media. With a few exceptions, consolidation and cementation are generally low and clay content does not seem to be sufficiently high so as to reduce yields. Therefore, the basis for the geology ranking was:

Geology	Rank
Greater than 50% Crystalline Rock and less than 300 feet of basin-fill	0
Basin-fill sediments less than 500 feet thick	1
Basin-fill sediments between 500 and 1,000 feet thick	2
Basin-fill sediments greater than 1,000 feet thick	3

4.0 WELL SITING

The sums of the calculated prioritization values for each quarter-section parcel of land within the study area are shown in Table 6. The land parcels that were evaluated have been prioritized into four general categories, to facilitate graphical delineation of the well site prioritization zones. The basis for the well site prioritization ranking was:

Sum of Calculated Value	Rank
More than 70	Greatest Suitability For Groundwater Production
46 to 70	Moderate Suitability For Groundwater Production
20 to 45	Poor Suitability For Groundwater Production
Less than 20	Does Not Qualify

Based on available information, Clear Creek Associates developed 27 candidate quarter sections Figure 18 and Plate 9. Scores for these quarter sections are relatively similar and range from 71 to 78. The three areas identified with the greatest potential are:

4. In Township 22 north, Range 16 west, the southwest quarter of Sections 17 and 8.
5. In Township 22 north, Range 16 west, a cluster of 18 quarter sections including the City-owned land at the waste water treatment facility, the southeast quarter of Section 3, all of Section 10, the north half of Section 15, the east half of Section 9, and the northeast quarter of Section 16.
6. In Township 22 north, Range 16 west, the southeast quarter of Section 27, all of Section 34 excluding the northwest quarter, the southeast quarter of Section 33, the southeast quarter of Section 35, and in Township 21 north, Range 16 west the northwest quarter of Section 4.

The third area is located south and west of the Kingman Municipal Airport. This area is perhaps best suited for future exploratory borings due to its relative proximity to the existing City infrastructure, the current population mass, and future growth.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this investigation, Clear Creek Associates offers the following conclusions and recommendations with respect to long-term water resource planning and short-term water resources needs for the City of Kingman.

Based on available information, Clear Creek Associates developed 27 candidate quarter sections that may be suitable for future groundwater production. Further refinement of the ranking of these sites is recommended before site selection. Site selection can be facilitated by on-site inspections to assess the logistical implications of installing a production well at each site. However, at each of these locations one would expect a reasonably good chance of significant water production and acceptable water quality. It must be noted that in some portions of the study area including the eastern half, only limited data were available. Therefore, prior to any well installation, Clear Creek Associates recommends that an exploratory boring be installed. As part of the exploratory boring, Clear Creek Associates recommends that the following specific analyses be conducted.

3. Perform lithologic and geophysical logging to confirm the location(s) of water bearing zones within the aquifer.
4. At select intervals, perform packer testing and collect depth-specific zonal groundwater quality samples for laboratory analysis.
5. Evaluate the hydrogeologic and water quality data to assess the appropriateness of installing a new production well at a specific location.

Because hydrogeologic conditions can vary significantly over relatively short distances, Clear Creek Associates recommends that the above outlined analysis be conducted at each candidate well site prior to well installation. This will reduce the City of Kingman's risk of completing a well with unacceptable water quality and/or poor production characteristics. As the City's needs change and as conditions within the study area change, the prioritization ranking and multipliers may need adjusting. The electronic version of the Matrix spreadsheet (Excel) as well as all drawing files is included with this report on compact disk as Appendix F.

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FIGURES

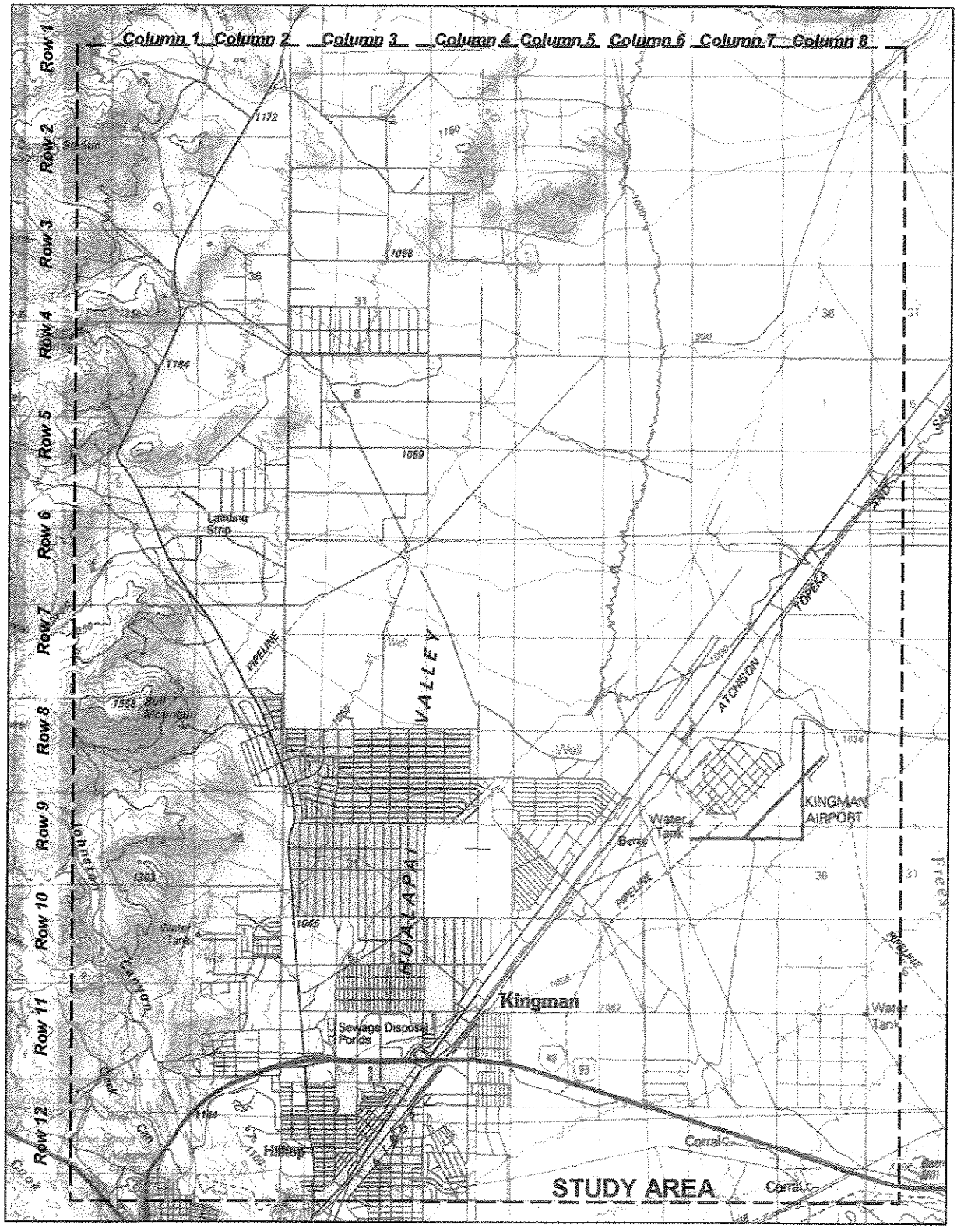
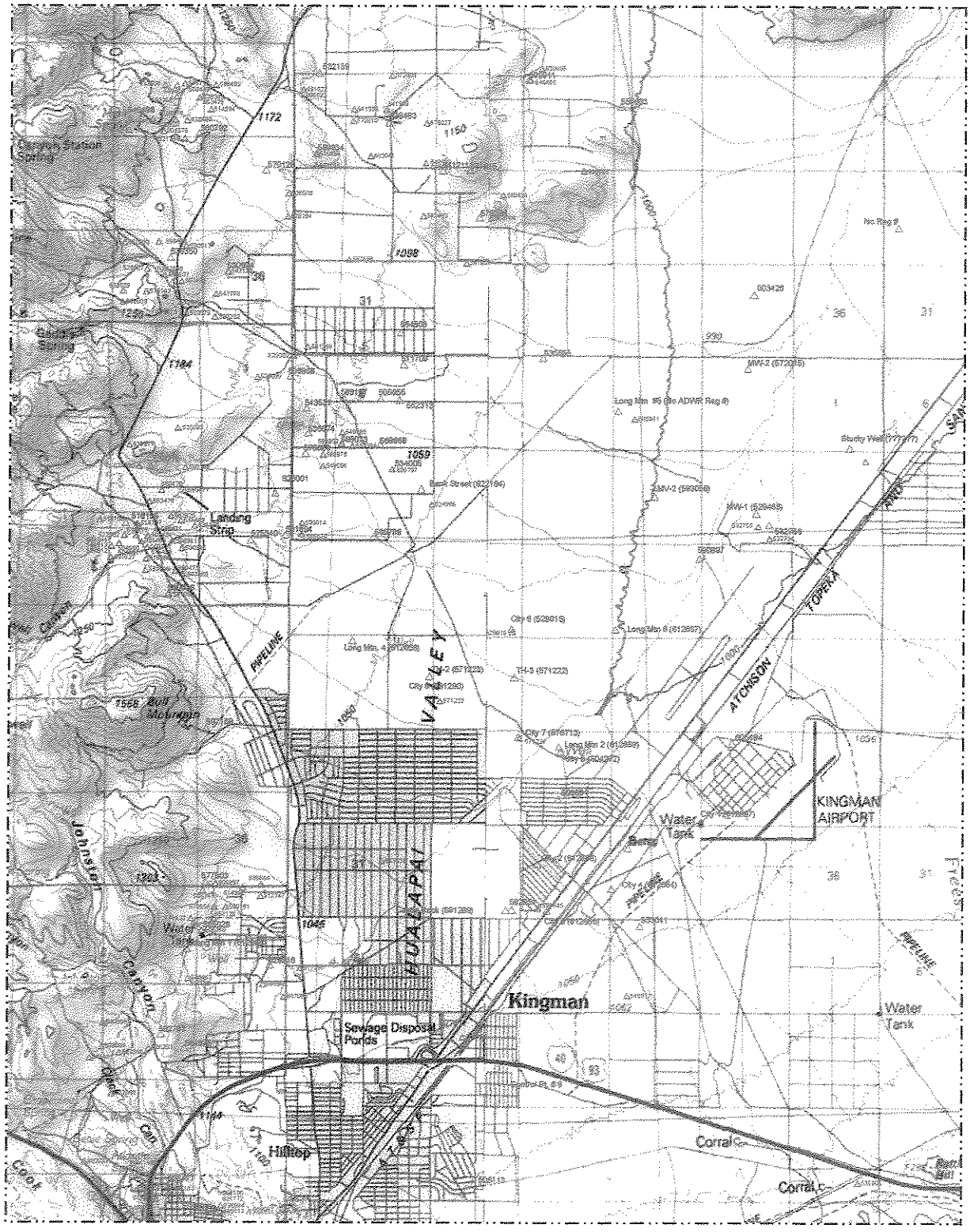


Figure 1
Location Map Well Siting/Basin Study
City of Kingman,
Kingman, Arizona
August 27, 2003

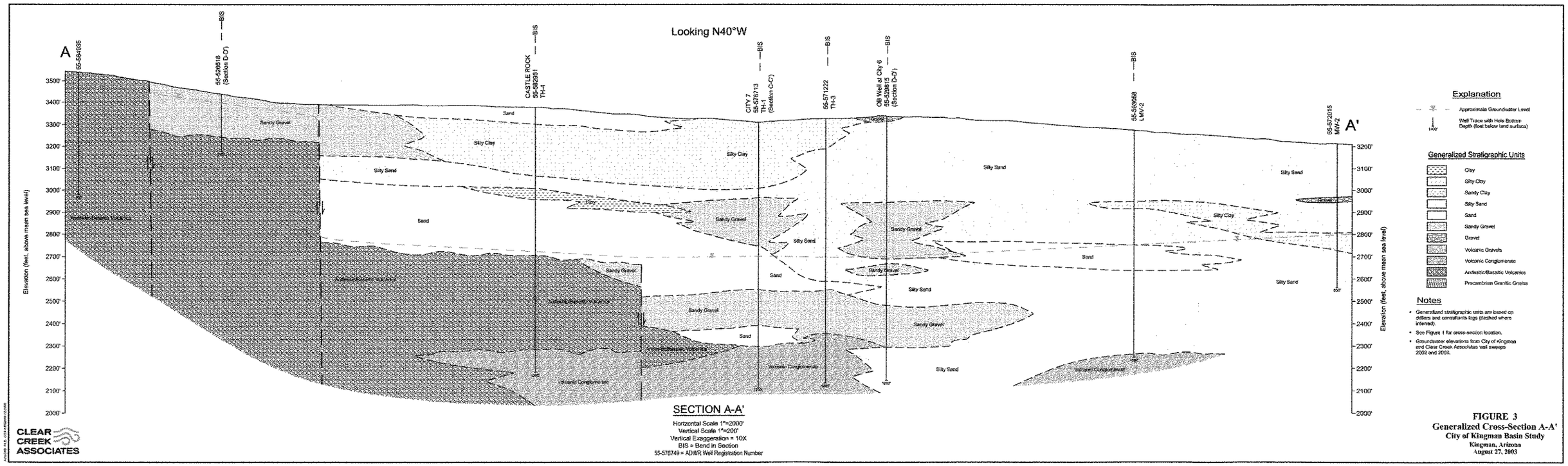
CLEAR CREEK ASSOCIATES



△ 552865 - Well Location and ADWR 55 Registration Number.

CLEAR CREEK ASSOCIATES

Figure 2
Well Location Map
City of Kingman,
Kingman, Arizona
August 27, 2003

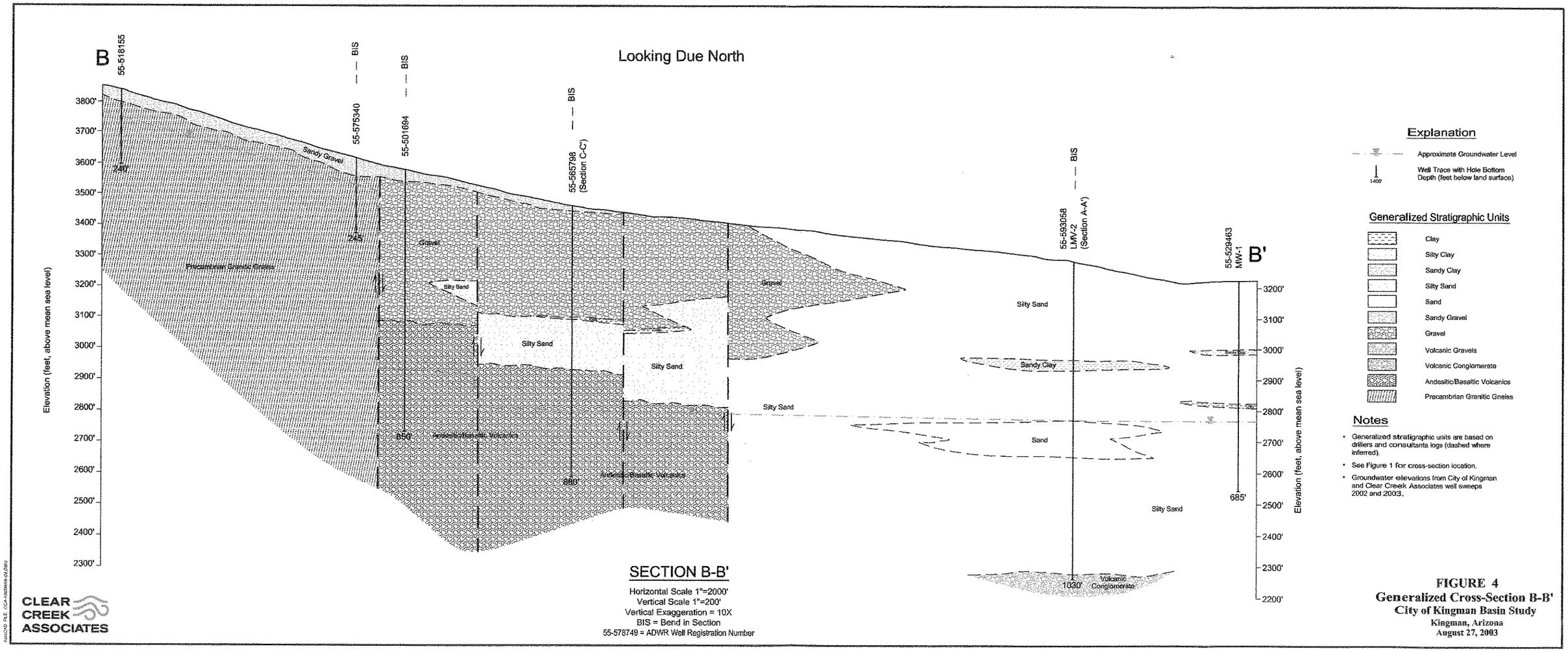


SECTION A-A'

Horizontal Scale 1"=2000'
Vertical Scale 1"=200'
Vertical Exaggeration = 10X
BIS = Bend in Section
55-576749 = ADWR Well Registration Number

CLEAR CREEK ASSOCIATES

FIGURE 3
Generalized Cross-Section A-A'
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003



SECTION B-B'

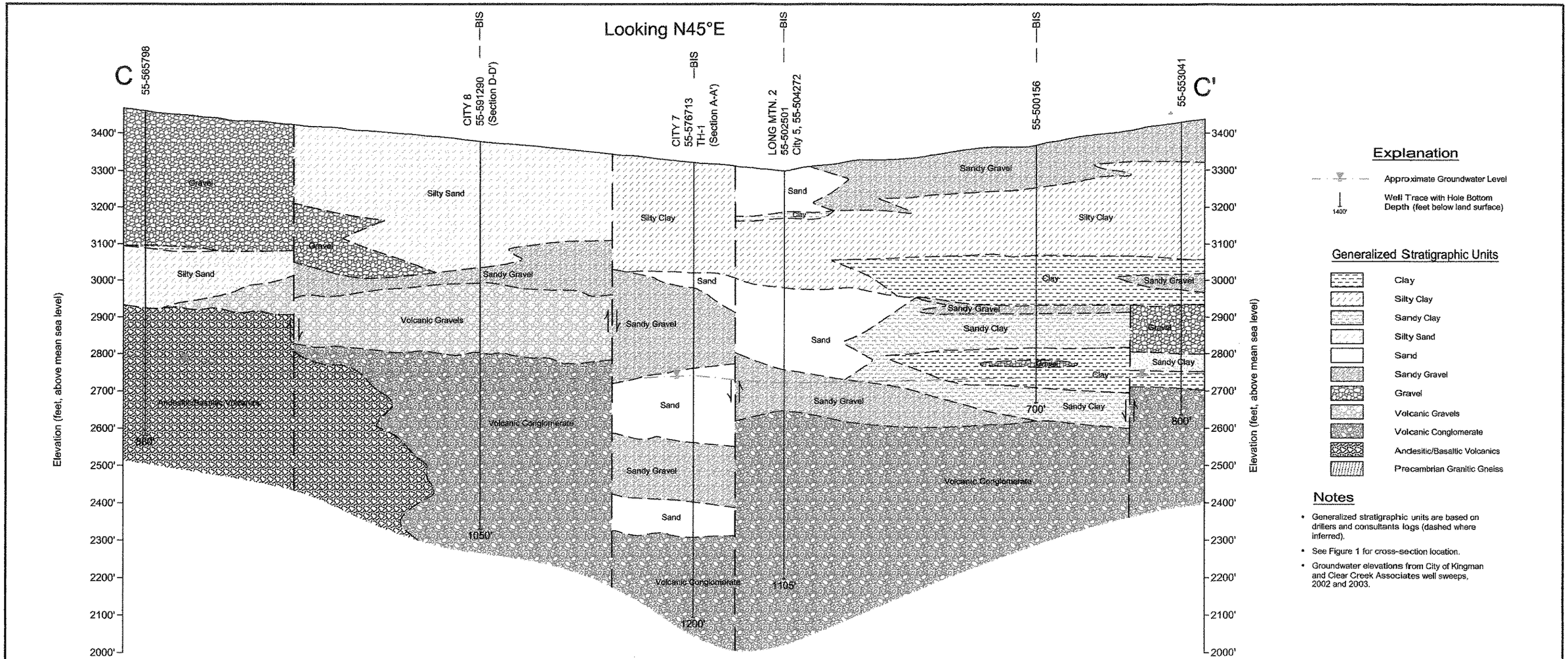
Horizontal Scale 1"=2000'
Vertical Scale 1"=200'
Vertical Exaggeration = 10X
BIS = Bend in Section
55-578749 = ADWR Well Registration Number

Notes

- Generalized stratigraphic units are based on drillers and consultants logs (dashed where inferred).
- See Figure 1 for cross-section location.
- Groundwater elevations from City of Kingman and Clear Creek Associates well sweeps 2002 and 2003.

CLEAR CREEK ASSOCIATES

FIGURE 4
Generalized Cross-Section B-B'
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003



Explanation

- Approximate Groundwater Level
- 1400' — Well Trace with Hole Bottom Depth (feet below land surface)

Generalized Stratigraphic Units

- Clay
- Silty Clay
- Sandy Clay
- Silty Sand
- Sand
- Sandy Gravel
- Gravel
- Volcanic Gravels
- Volcanic Conglomerate
- Andesitic/Basaltic Volcanics
- Precambrian Granitic Gneiss

Notes

- Generalized stratigraphic units are based on drillers and consultants logs (dashed where inferred).
- See Figure 1 for cross-section location.
- Groundwater elevations from City of Kingman and Clear Creek Associates well sweeps, 2002 and 2003.

SECTION C-C'

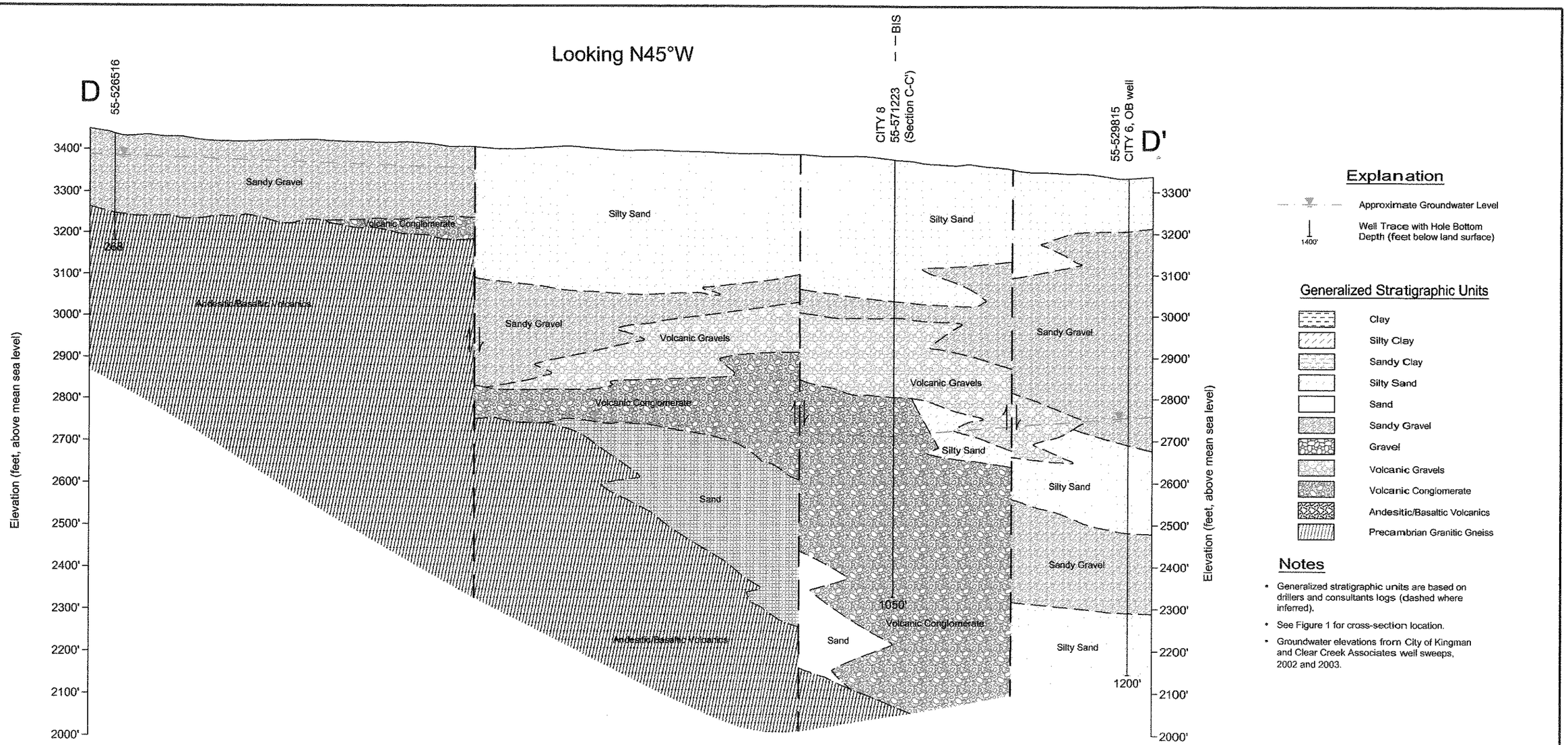
Horizontal Scale 1"=2000'
Vertical Scale 1"=200'
Vertical Exaggeration = 10X
BIS = Bend in Section
55-553041 = ADWR Well Registration Number

CLEAR CREEK ASSOCIATES

AutoCAD File: CCA-KINGMAN-XS.DWG

FIGURE 5
Generalized Cross-Section C-C'
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

Looking N45°W



Explanation

Approximate Groundwater Level

Well Trace with Hole Bottom Depth (feet below land surface)

1400'

Generalized Stratigraphic Units

- Clay
- Silty Clay
- Sandy Clay
- Silty Sand
- Sand
- Sandy Gravel
- Gravel
- Volcanic Gravels
- Volcanic Conglomerate
- Andesitic/Basaltic Volcanics
- Precambrian Granitic Gneiss

Notes

- Generalized stratigraphic units are based on drillers and consultants logs (dashed where inferred).
- See Figure 1 for cross-section location.
- Groundwater elevations from City of Kingman and Clear Creek Associates well sweeps, 2002 and 2003.

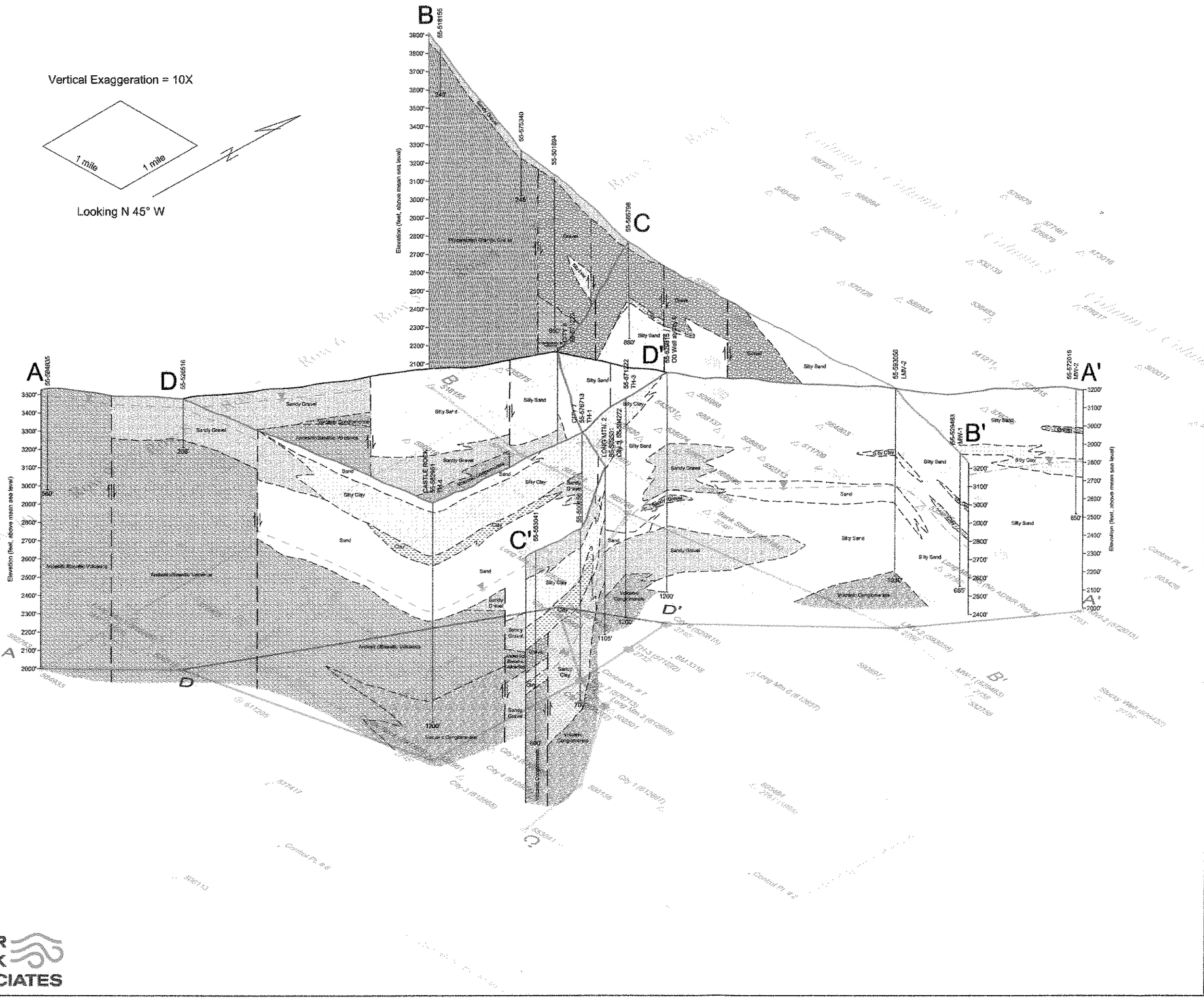
SECTION D-D'

Horizontal Scale 1"=2000'
Vertical Scale 1"=200'
Vertical Exaggeration = 10X
BIS = Bend in Section
55-571223 = ADWR Well Registration Number

CLEAR CREEK ASSOCIATES

AutoCAD FILE: CCA-KINGMAN-06.DWG

FIGURE 6
Generalized Cross-Section D-D'
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003



Explanation

- Approximate Groundwater Level
- Well Trace with Hole Bottom Depth (feet below land surface) — 1400'

Generalized Stratigraphic Units

- Clay
- Silty Clay
- Sandy Clay
- Silty Sand
- Sand
- Sandy Gravel
- Gravel
- Volcanic Gravels
- Volcanic Conglomerate
- Andesitic/Basaltic Volcanics
- Precambrian Granitic Gneiss

Notes

- Generalized stratigraphic units are based on drillers and consultants logs (dashed where inferred).
- See Figure 1 for cross-section location.
- Groundwater elevations from City of Kingman and Clear Creek Associates well sweeps 2002 and 2003.

CLEAR CREEK ASSOCIATES

FIGURE 7
Generalized Fence Diagram
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

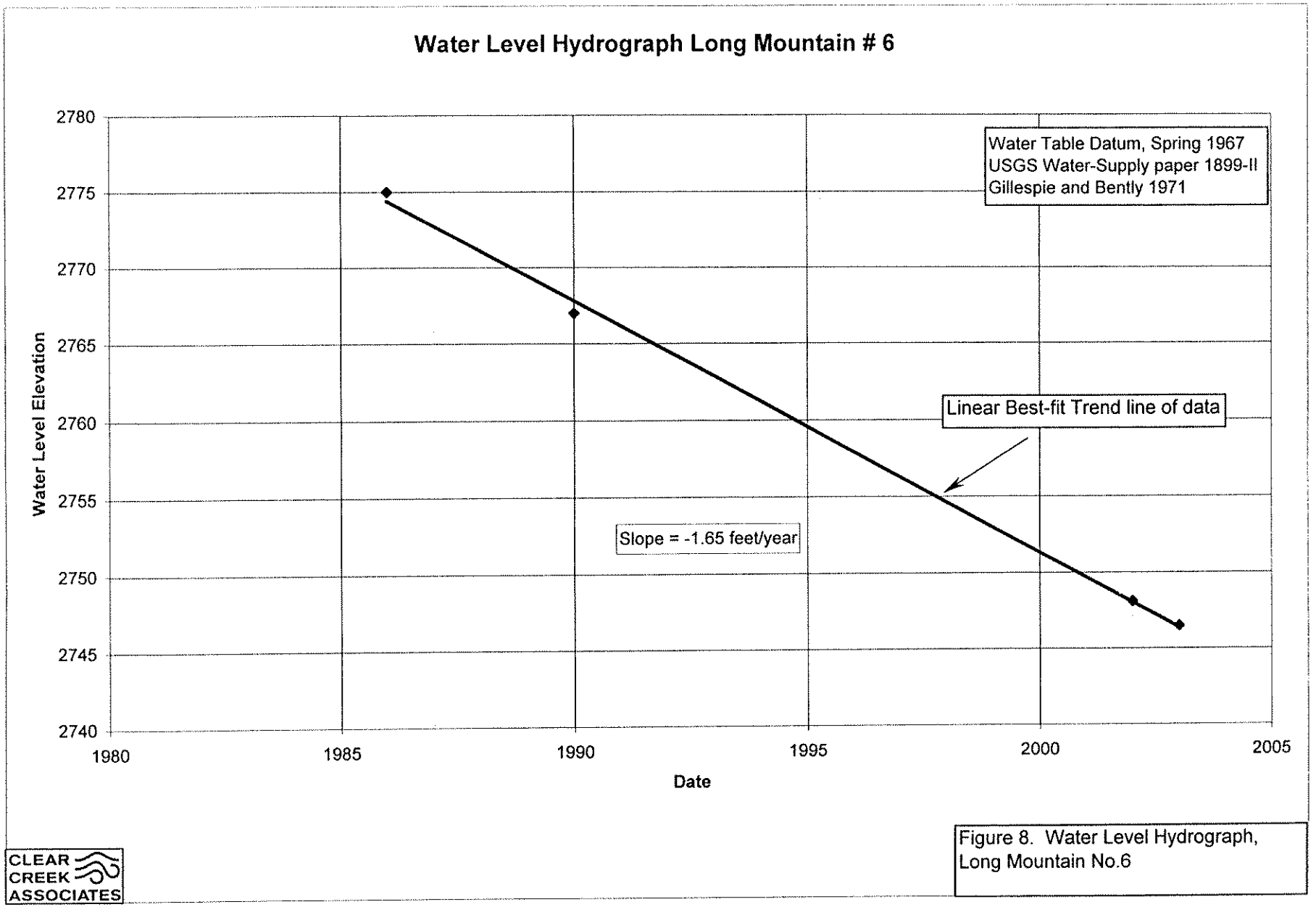
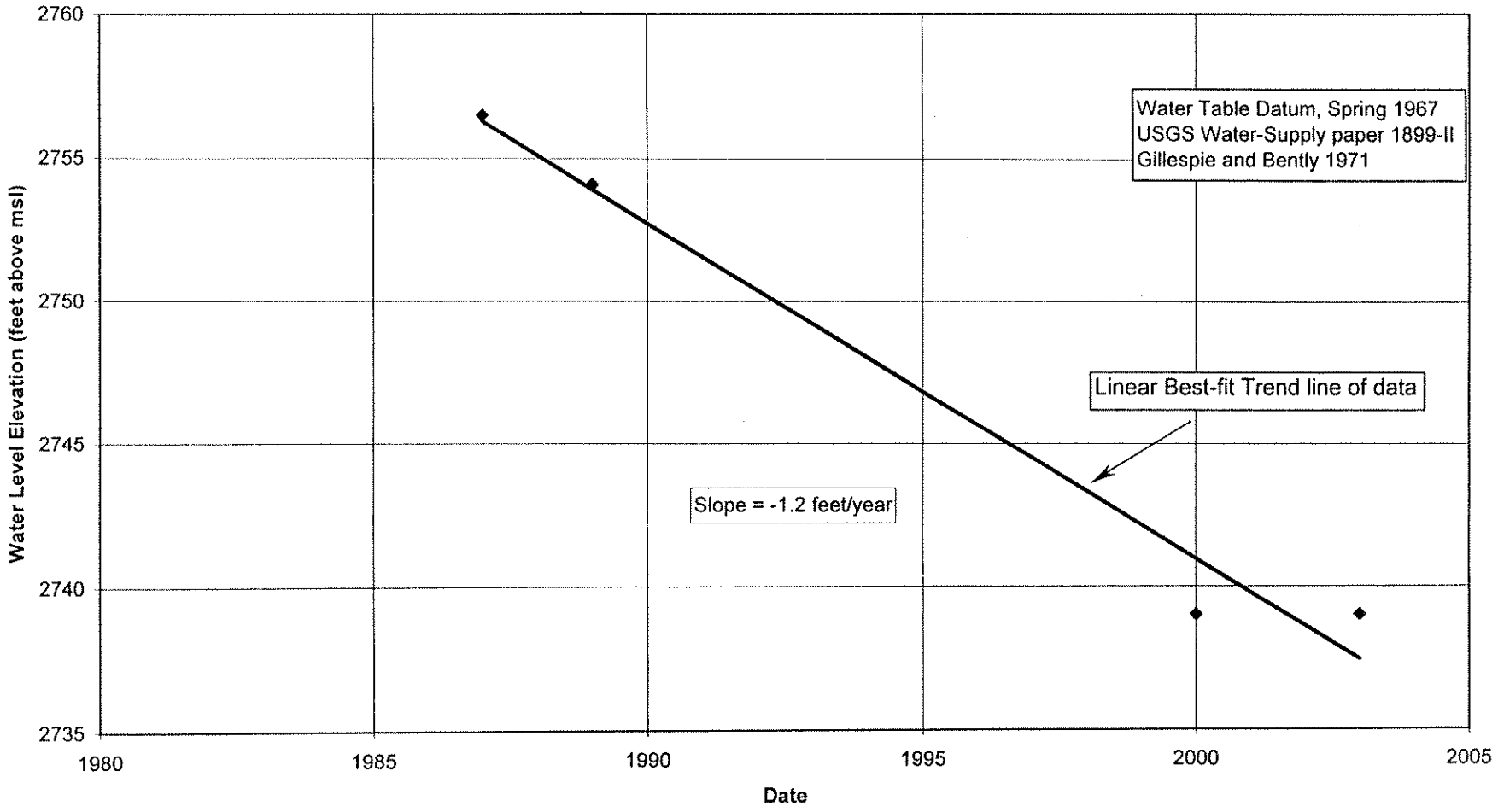


Figure 8. Water Level Hydrograph, Long Mountain No.6

CLEAR CREEK ASSOCIATES

Water Level Hydrograph Long Mountain Well No. 4 (55-612658)



CLEAR CREEK ASSOCIATES

Figure 9. Water Level Hydrograph, Long Mountain No. 4

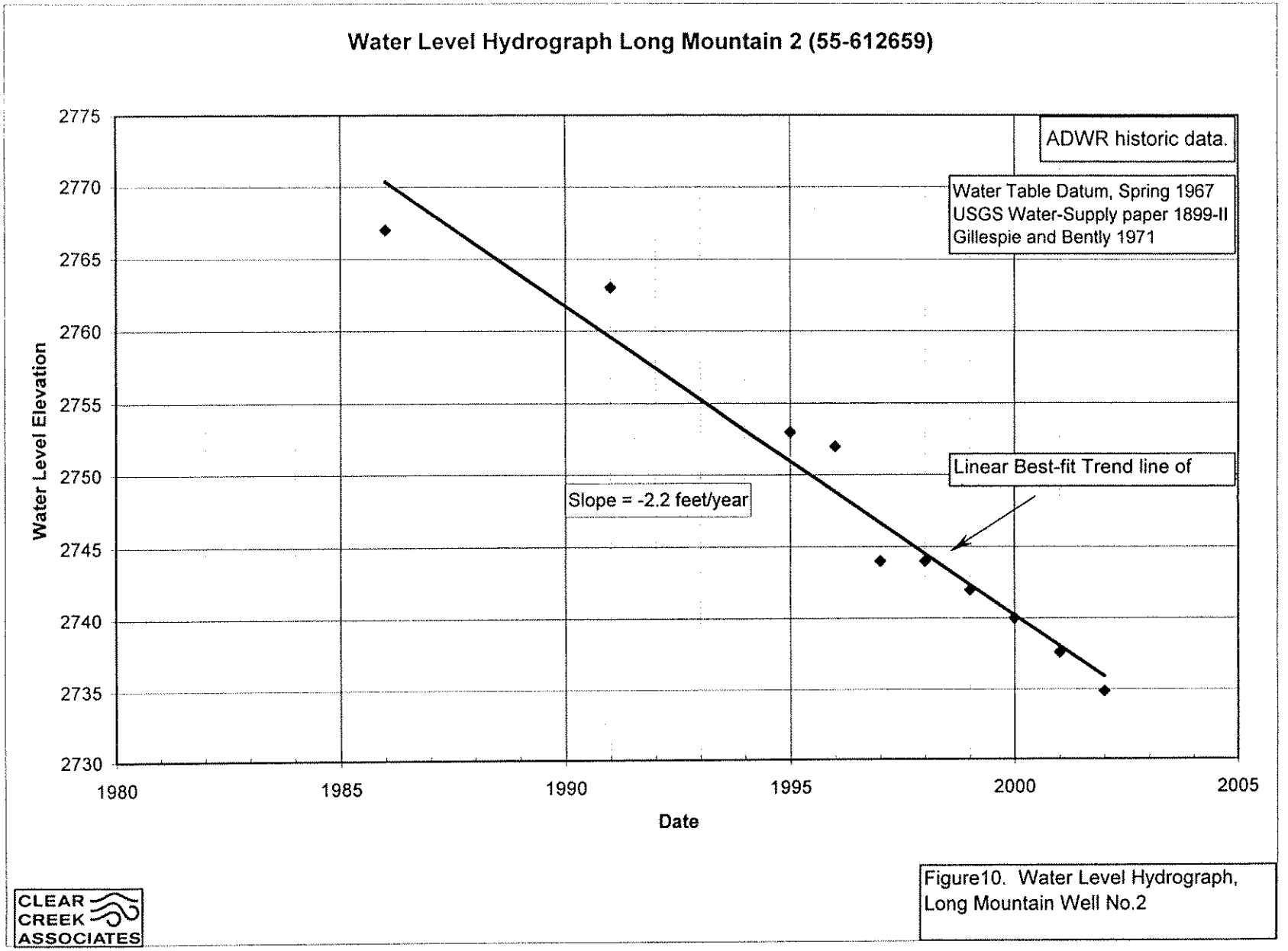
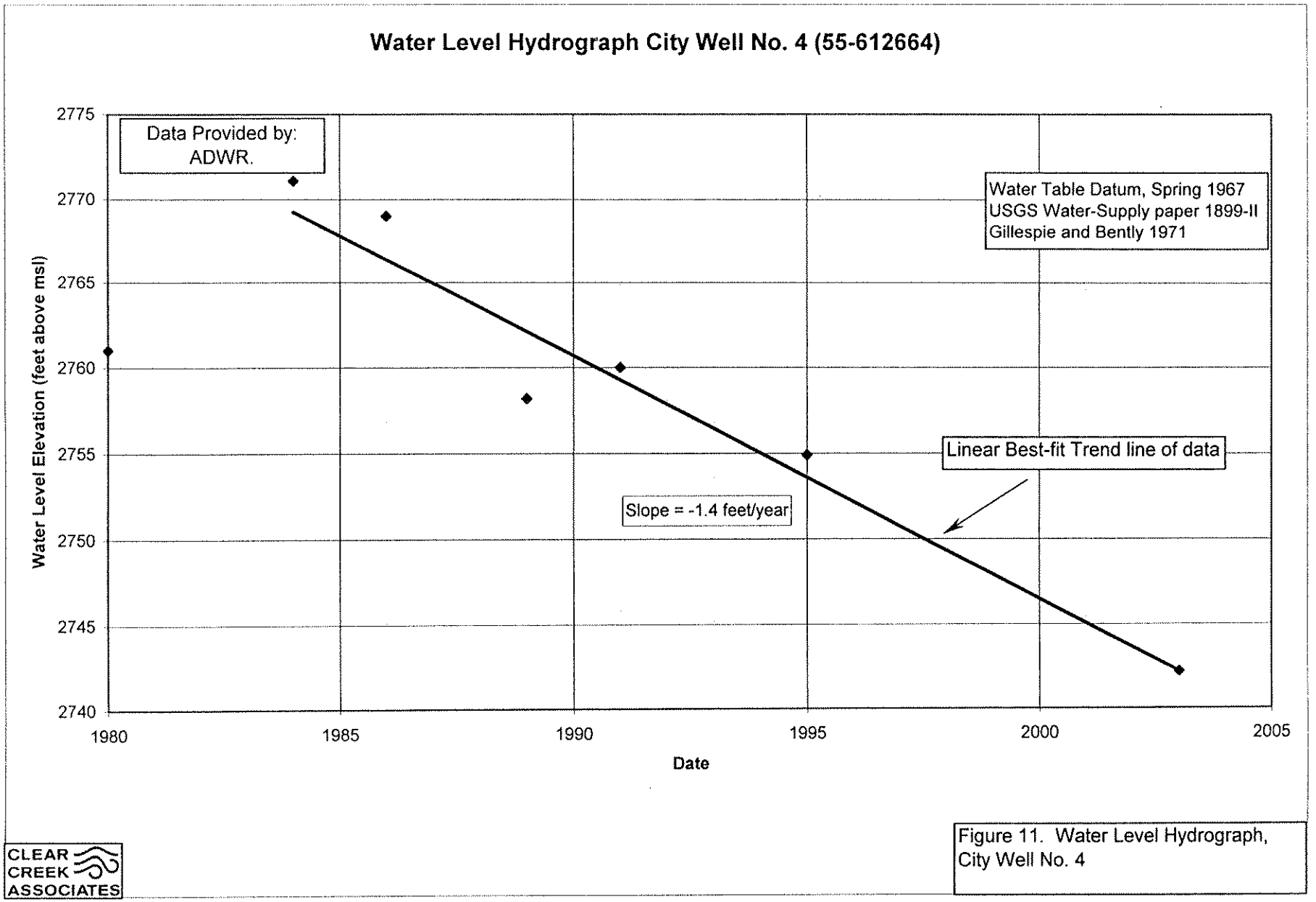


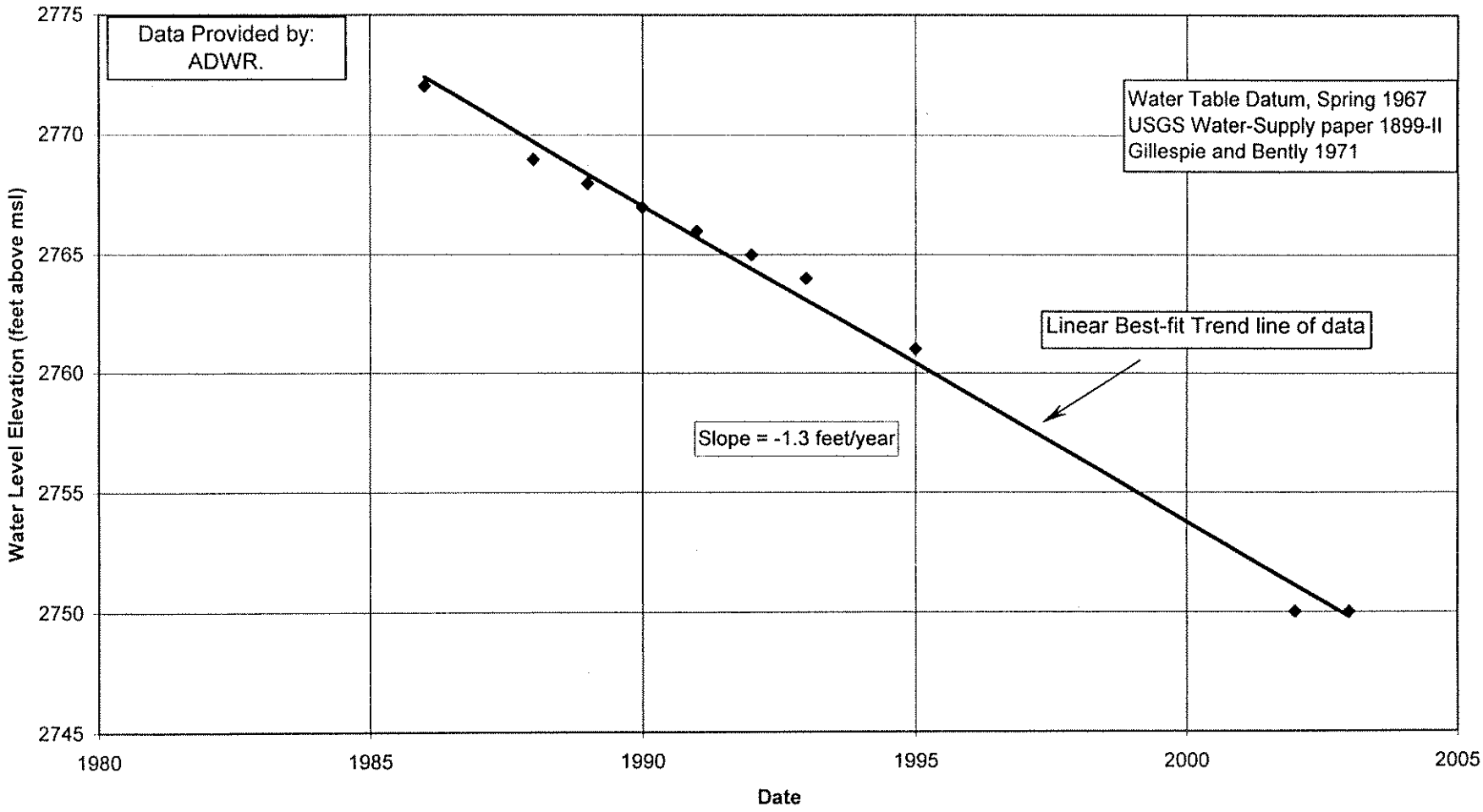
Figure10. Water Level Hydrograph, Long Mountain Well No.2



CLEAR CREEK ASSOCIATES

Figure 11. Water Level Hydrograph, City Well No. 4

Water Level Hydrograph City Well No. 1 (55-612667)



CLEAR CREEK ASSOCIATES

Figure 12. Water Level Hydrograph, City Well No. 1

Geological Notes

Basin fill- Gravels, sands, and silts. Sub-angular clasts composed of quartz and feldspar.

Silty clays few sand grains.

Silty sands with minor clay content.

Sandy silty gravels with volcanic and granitic clasts (50/50 clast ratio).

Same as above with clast ratio now 60% volcanics.

Same as above with clast ratio now 70% volcanics.

Sandy fine-grained gravels predominantly volcanics.

Coarse-grained sands with minor silt, predominantly volcanics.

Coarse-grained sands with minor silt, clasts are 60-65% basalt.

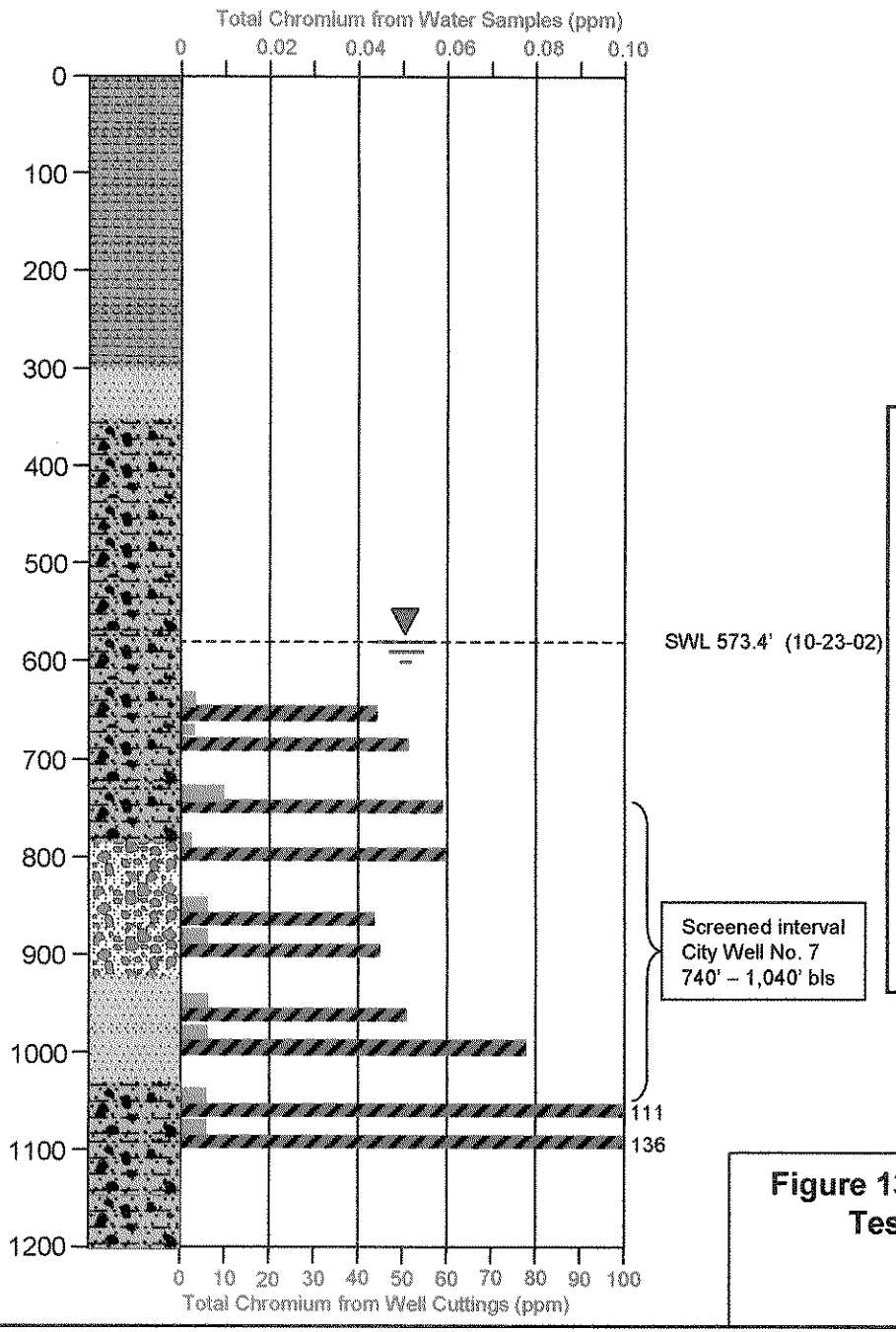


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Figure 13. Chromium Concentrations Test Hole No. 1 (55-502501) At City Well No. 7 Kingman, Arizona

Geological Notes

Basin fill Gravels, sands, and silts. Sub-angular to sub-rounded clasts composed of granitics and volcanics.

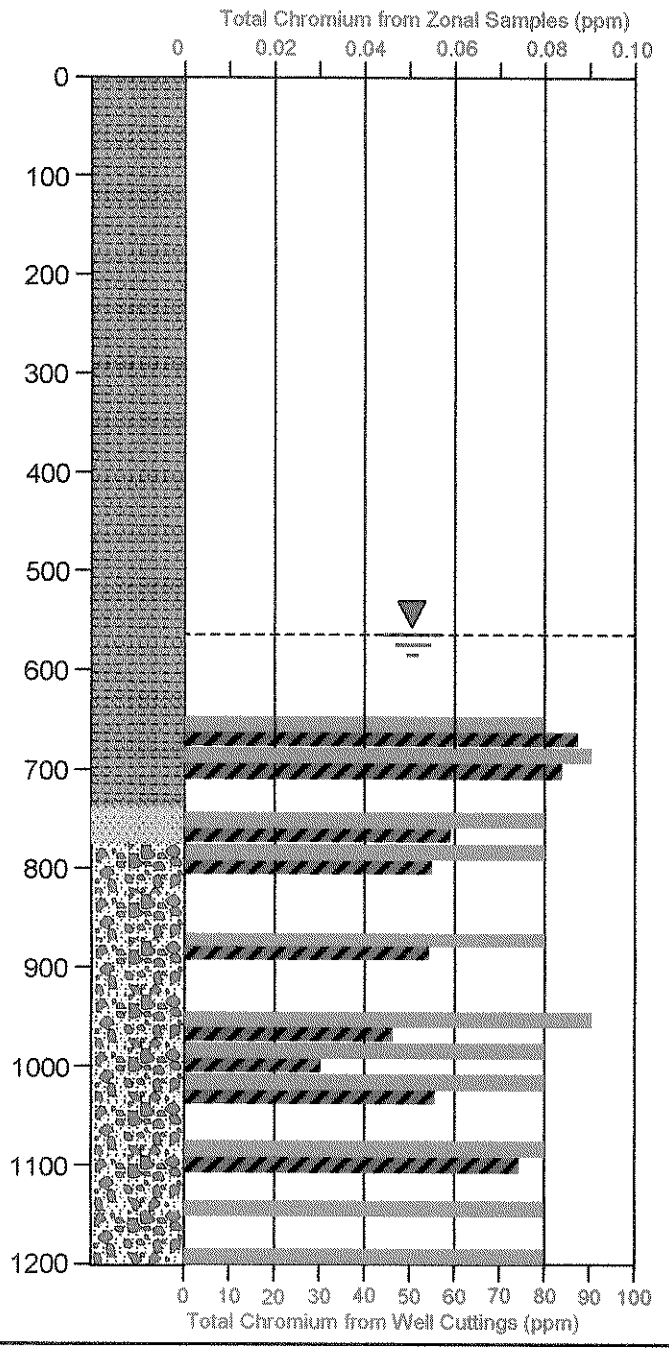
Silty coarse-grained sands. Sub-angular to sub-rounded granitic clasts (70/30 ratio of granite to andesitic clasts).

Silty coarse-grained sands. Ratio of granitic clasts changes from 70/30 to 60/40.

Sandy clayey silts. Sands are 50% granitic and andesitic.

Coarse-grained sands to sandy gravels. Clasts are granitic, andesitic, dacite and basaltic. Sub-rounded to sub-angular clasts.

As above but clast ratio changes from 40/60 to 20/80 granitic to andesitic and basaltic.



Explanation

Total Chromium from City of Kingman Zonal Samples, Top Scale.

Total Chromium from Well Cuttings Bottom Scale (CCA 6/2003).

Silt, Sand, and Clay

Sand

Sandy Gravels

CLEAR CREEK ASSOCIATES

Figure 14. Chromium Concentrations
Test Hole No. 3 (55-571222)
No Production Well
Kingman, Arizona

Geological Notes

Basin fill- Gravels, sands, and silts. Sub-angular clasts composed of granitics and volcanics.

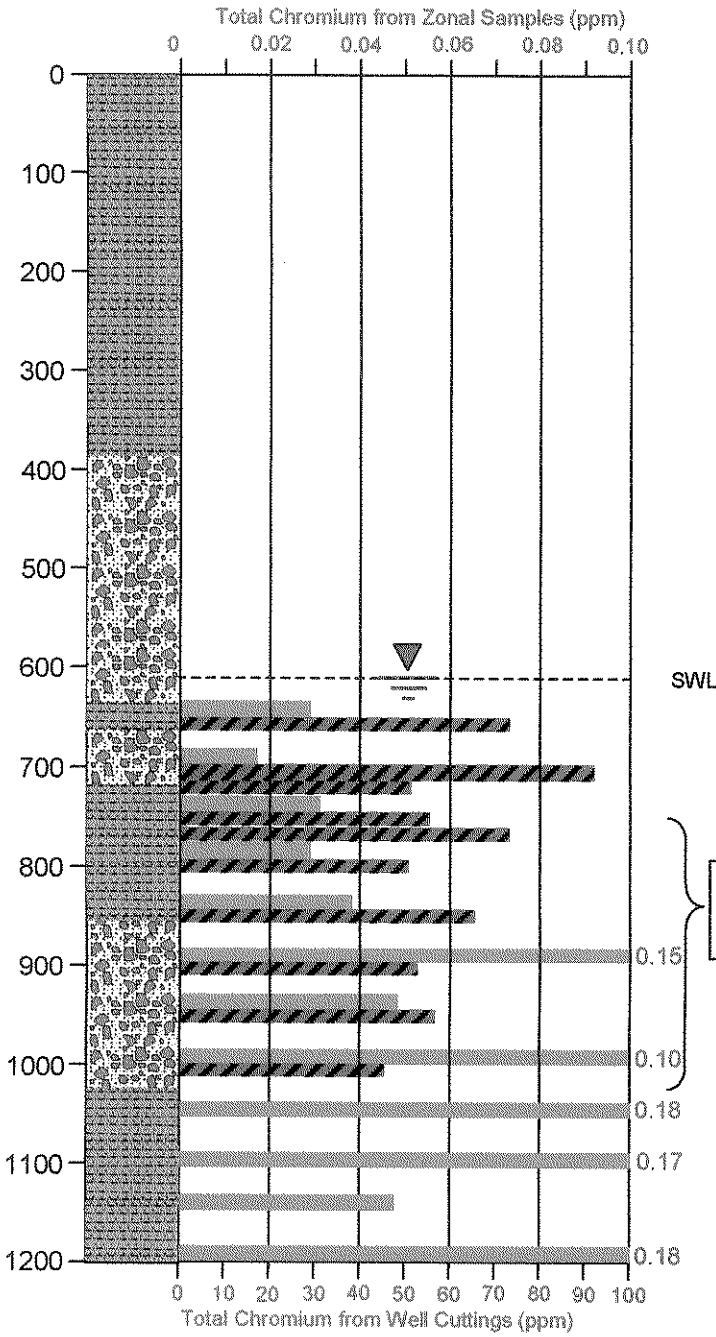
Silty coarse-grained sands and gravels. Sub-angular clasts ranging from granites to granitic gneisses with occasional volcanics. Poorly consolidated.

Coarse-grained silty sands and fine grained silty gravels. Granitics, gneisses, and andesitic volcanics.

Same as above with more abundant volcanics.

Same as above with coarser grained gravels.

As above gravels are fine-grained, quartz and feldspar dominant with andesitic and latitic volcanics more common.



Explanation

Total Chromium from Zonal Samples Top Scale, Cella Barr Associates (10/14/1991).

Total Chromium from Well Cuttings Bottom Scale (CCA 6/2003).

Silt, Sand, and Clay

Sand

Sandy Gravel

Screened interval
City Well No. 6
740' – 1,020' bls

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Figure 15. Chromium Concentrations Observation Well at City Well No. 6 (55-529815) Kingman, Arizona

Geological Notes

(From washed cuttings)

Basin fill- Gravels, sands, and silts. Poorly sorted sub-rounded clasts composed of granites and volcanics.

As above with .5% to 2% clasts from mafic sources.

As above with 10% clasts from mafic sources.

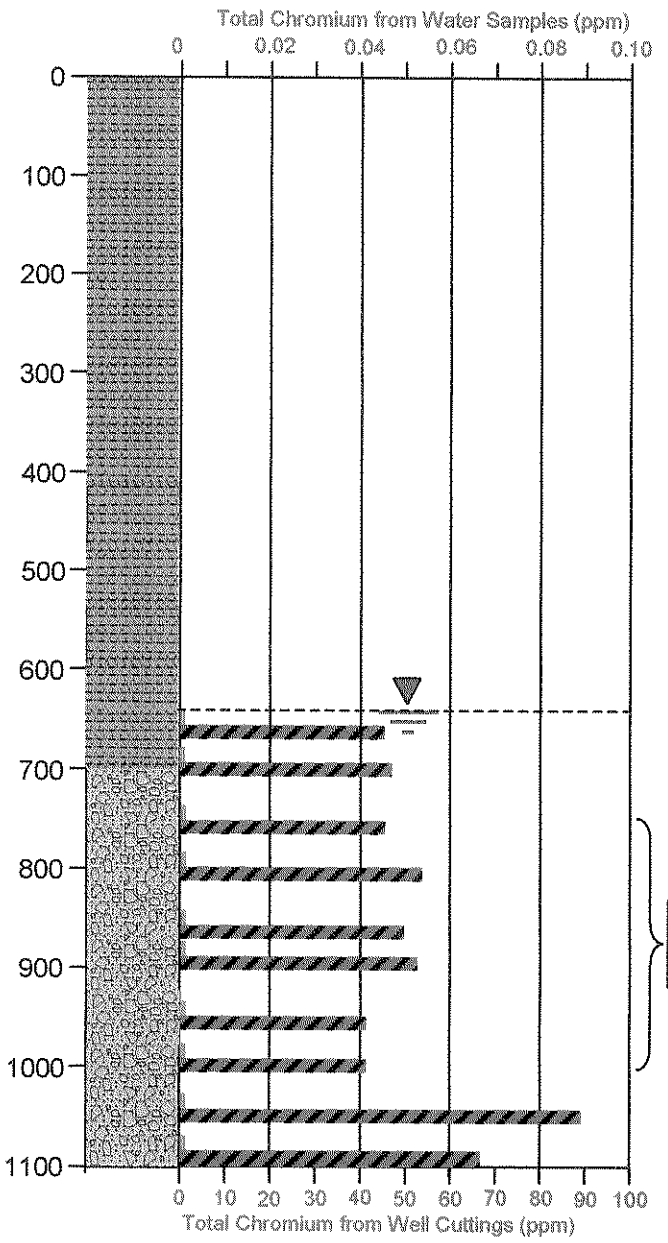
As above with 1% clasts from mafic sources.

As above with 10% to 15% clasts from mafic sources.

Basin fill with 65% volcanics, 10% mafics, and 25% granites.

As above with 15% mafics.

As above but mafics diminish to <10%.



Explanation

Total Chromium from City of Kingman Samples, Top Scale.

Total Chromium from Well Cuttings Bottom Scale (CCA 6/2003).

Silt, Sand, and Clay

Sandy Gravels

CLEAR CREEK ASSOCIATES

Figure 16. Chromium Concentrations Long Mountain No. 2 At City Well No. 5 (55-504272) Kingman, Arizona

Geological Notes

Basin fill- Gravels, sands, and silts. Sub-angular clasts composed of granitics and volcanics.

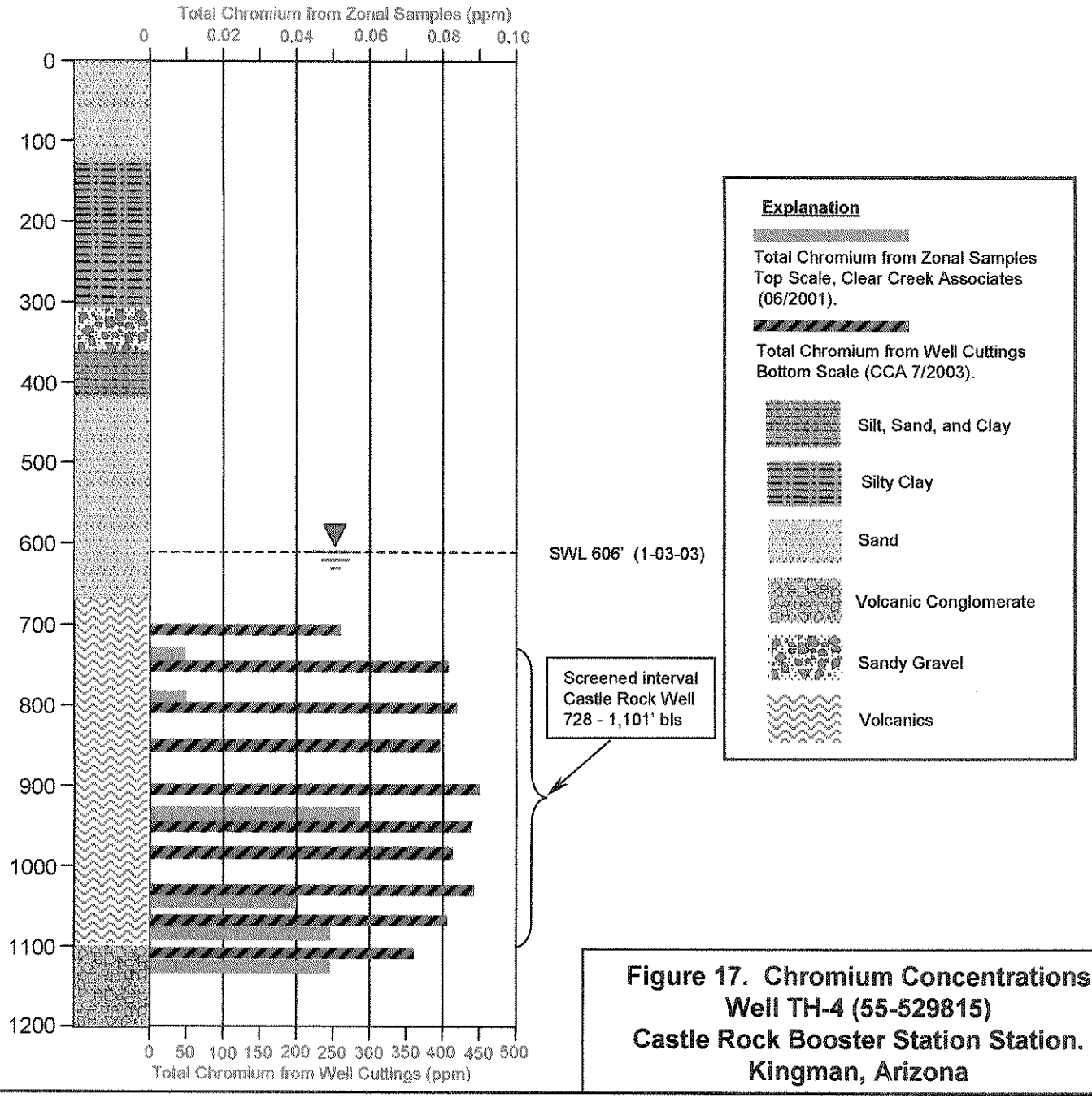
Silty coarse-grained sands and gravels. Sub-angular clasts ranging from granites to granitic gneisses with occasional volcanics. Poorly consolidated.

Coarse-grained silty sands and fine grained silty gravels. Granitics, gneisses, and andesitic volcanics.

Same as above with more abundant volcanics.

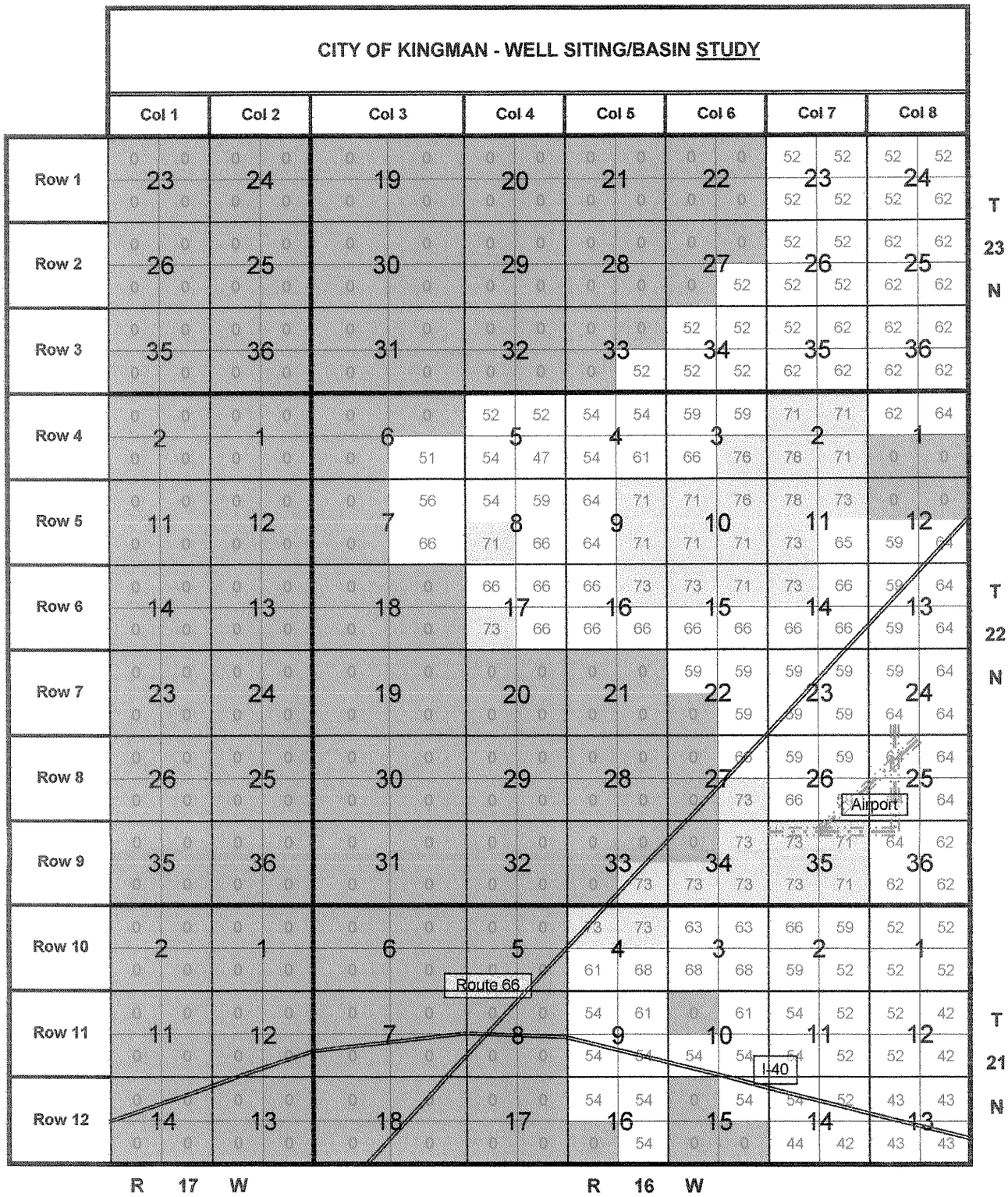
Same as above with coarser grained gravels.

As above gravels are fine-grained, quartz and feldspar dominant with andesitic and latitic volcanics more common.



CLEAR CREEK ASSOCIATES

Figure 17. Chromium Concentrations Well TH-4 (55-529815) Castle Rock Booster Station Station. Kingman, Arizona



Explanation:
Suitability for Future Well Sites

Section (26 / 25 / 40 / 75)

0	<20	Does not Qualify
20	20 to 45	Low Suitability
46	46 to 70	Moderate Suitability
75	>70	Greatest Suitability

CLEAR CREEK ASSOCIATES

Figure 18. SUMMARY OF CRITERION, RANKS, AND SCORES

TABLES

Table 1. City of Kingman Basin Study
Well Inventory

ID	T		R		S	160	40	10	UTMX	UTMY	TYPE	USE	DEPTH	SWL	CASING	DEPTH	WIDTH	LOG?	LAST NAME	ADDRESS	CITY	ST	ZIP
606420	23	N	16	W	15	NW	SE	NW	230208.4	3919041.1	NON-EXEMPT	STOCK	840	600	STEEL - PERFORATED OR SLOTTED CASING	840	10		NEAL, GRACE,H	4040 LONG MTN RANCH	KINGMAN	AZ	86401
606897	21	N	17	W	1	NW	NE	NW	222324.9	3904092.6	EXEMPT	DOMESTIC	300	135	STEEL - PERFORATED OR SLOTTED CASING	295	6		BISHOP	4125 N HARVARD	KINGMAN	AZ	86401
606702	22	N	17	W	12	NE	NE	NW	223392.3	3912102.4	EXEMPT	DOMESTIC	400	350	STEEL - PERFORATED OR SLOTTED CASING	400	7		BERG	6433 CHERUM	KINGMAN	AZ	86401
606693	23	N	17	W	24	NE	SE	SE	223782.3	3917931.8	EXEMPT	STOCK	200	50	STEEL - PERFORATED OR SLOTTED CASING	0	8		BLM-PHOENIX DISTRICT,	2015 W DEER VALLEY	PHOENIX	AZ	85027
605941	22	N	16	W	3	SW	NW	NW	229803.6	3912208.1	NON-EXEMPT	NONE	0	2120	STEEL - PERFORATED OR SLOTTED CASING	0	20		HAFLEY FAMILY LTD,	PO BOX 4970 HB	KINGMAN	AZ	86412
605576	23	N	17	W	23	SW	SE	SE	221344.8	3917203.5	EXEMPT	DOMESTIC	50	0		0	2		BRADLEY, H STAN,	4251 N PINAL	KINGMAN	AZ	86401
650507	23	N	17	W	35				221369.8	3914698.6	NON-EXEMPT	IRRIGATION	180	80	PLASTIC OR PVC	180	5		WILBURN,W B	2095 SNAVALY	KINGMAN	AZ	86401
650186	21	N	17	W	24				222446.3	3898476.6	EXEMPT	DOMESTIC	175	100	STEEL - PERFORATED OR SLOTTED CASING	175	8		KAUSE,A J	PO BOX 535	KINGMAN	AZ	86402
646465	23	N	16	W	17	SE	SE	SW	227765.1	3918105.9	EXEMPT	IRRIGATION	325	120	PLASTIC OR PVC	160	5		BROWN,I M	PO BOX 4106	KINGMAN	AZ	86401
646222	21	N	17	W	23				220795.9	3898516.9	EXEMPT	DOMESTIC	160	0	STEEL - PERFORATED OR SLOTTED CASING	0	8		CAMPBELL,R P	609 GRANDVIEW	KINGMAN	AZ	86401
645813	21	N	17	W	24				222446.3	3898476.6	EXEMPT	DOMESTIC	390	0		0	0		GRAVES,H R	537 SPRING	KINGMAN	AZ	86401
644785	21	N	17	W	23	NE	SE	NW	221325.4	3898795.4	EXEMPT	DOMESTIC	250	140		0	8		ARTHUR,W	PO BOX 3217	KINGMAN	AZ	86401
644784	21	N	17	W	24	SW	SE	SW	222121.1	3897775.4	EXEMPT	DOMESTIC	145	120		0	8		ARTHUR,W	PO BOX 3217	KINGMAN	AZ	86401
643039	22	N	16	W	31	NE	SW	SE	225234.9	3904482.9	EXEMPT	DOMESTIC	800	664	STEEL - PERFORATED OR SLOTTED CASING	770	8		PROSSER,E	4160 LOMITA DR	KINGMAN	AZ	86401
642958	23	N	17	W	35	NW	SE	SE	221270.9	3914801	EXEMPT	DOMESTIC	295	75	PLASTIC OR PVC	295	4		APPLE, GUY & S.,	8711 N TATUN BLVD	PARADISE VALLEY	AZ	85253
642012	21	N	17	W	24	SW	SW	NE	221924.7	3897977.1	EXEMPT	DOMESTIC	200	170		0	8		VICKERS	PO BOX 104	KINGMAN	AZ	86402
641980	21	N	17	W	23	NE	NW	NW	220913.3	3899213.9	EXEMPT	DOMESTIC	240	105	STEEL - PERFORATED OR SLOTTED CASING	240	12		LONG,P V	PO BOX 1229	KINGMAN	AZ	86402
641401	21	N	17	W	11	SW	SW	SW	220146.8	3901053	EXEMPT	DOMESTIC	100	50	PLASTIC OR PVC	100	4		WINTERS,C M	PO BOX 188	KINGMAN	AZ	86402
637111	21	N	17	W	23	NE	SE	SW	221321.2	3898594.1	EXEMPT	DOMESTIC	300	0	STEEL - PERFORATED OR SLOTTED CASING	0	8		JOY,M G	PO BOX 68	KINGMAN	AZ	86402
637103	21	N	17	W	23	NE	SE	NW	221325.4	3898795.4	EXEMPT	DOMESTIC	250	231	OTHER - BLACK STEEL - IRON - SEAMLESS	231	2		GROVER,D W	710 LEAD ST	KINGMAN	AZ	86401
636984	21	N	17	W	24				222446.3	3898476.6	EXEMPT	DOMESTIC	265	90	STEEL - PERFORATED OR SLOTTED CASING	265	8		HOPEMAN,R M	4325 E SHANGRI-LA RD	PHOENIX	AZ	85028
631641	23	N	17	W	13	NE	SE	NW	223633.3	3919745.3	EXEMPT	DOMESTIC	380	120	STEEL - PERFORATED OR SLOTTED CASING	360	5		ALBANESE,V	3671 N MOORE ST	KINGMAN	AZ	86401
631627	22	N	17	W	14	SW	NW	NW	220467.8	3909770.6	EXEMPT	DOMESTIC	255	0	STEEL - PERFORATED OR SLOTTED CASING	0	10		BROOKS,B F	4736 N 12TH ST	PHOENIX	AZ	85014
631622	23	N	17	W	24	NE	SE	SE	223782.3	3917931.8	EXEMPT	STOCK	160	0	STEEL - PERFORATED OR SLOTTED CASING	0	8			2154 QUAIL RUN RD	KINGMAN	AZ	86401
631417	21	N	17	W	24	NW	SW	SW	221735.7	3898582.2	EXEMPT	DOMESTIC	300	160	STEEL - PERFORATED OR SLOTTED CASING	300	6		BRAZIE,T R	3937 W OCOTILLO RD	PHOENIX	AZ	85019
630560	21	N	17	W	23				220795.9	3898516.9	EXEMPT	DOMESTIC	175	132	OTHER - BLACK STEEL - IRON - SEAMLESS	0	10		STIEGLER	HC 31 BOX 521	KINGMAN	AZ	86401
629642	21	N	17	W	23	NW	SW	SE	220268.8	3898635.3	NON-EXEMPT	DOMESTIC	200	100	STEEL - PERFORATED OR SLOTTED CASING	200	10		HIGH DESERT INC,	1080 RIATA VLY DR	KINGMAN	AZ	86401
627231	21	N	17	W	24	SW	SE	NE	222328.5	3897979	NON-EXEMPT	MUNICIPAL	178	0		165	12		ATCHISON-TOPEKA,	5200 E SHEILA ST	LOS AGNELES	CA	90040
627230	21	N	17	W	24	SW	SE	NW	222126.6	3897978.1	NON-EXEMPT	MUNICIPAL	232	0		165	12		ATCHISON-TOPEKA,	5200 E SHEILA	LOS ANGELES	CA	90040
626203	21	N	17	W	11	SE	SW	NE	221176.1	3901220.6	NON-EXEMPT	DOMESTIC	160	0		120	0		IDSINGA,P	CLACKS CANYON RD	KINGMAN	AZ	86401
625708	21	N	17	W	23	SE	SE	NE	221516.8	3897981.4	NON-EXEMPT	MUNICIPAL	500	113	STEEL - PERFORATED OR SLOTTED CASING	500	10			PO BOX 3099	KINGMAN	AZ	86401
625003	22	N	17	W	11	NE	NW	NE	221578.1	3912184.3	EXEMPT	DOMESTIC	120	48	STEEL - PERFORATED OR SLOTTED CASING	111	8		NEAL, CLAUDE,	2409 RICCA DR	KINGMAN	AZ	86401

Table 1. City of Kingman Basin Study
Well Inventory

ID	T		R		S	160	40	10	UTMX	UTMY	TYPE	USE	DEPTH	SWL	CASING	DEPTH	WIDTH	LOG?	LAST NAME	ADDRESS	CITY	ST	ZIP
625002	22	N	17	W	1	NE	SE	NE	223630.3	3913304.7	EXEMPT	DOMESTIC	480	250	STEEL - PERFORATED OR SLOTTED CASING	375	8		NEAL, CLAUDE,	2409 RICCA DR	KINGMAN	AZ	86401
625001	22	N	17	W	12	SE	SE	NE	223554.9	3910885.3	EXEMPT	DOMESTIC	990	405	STEEL - PERFORATED OR SLOTTED CASING	50	8		NEAL, CLAUDE,	2409 RICCA DR	KINGMAN	AZ	86401
625000	22	N	17	W	1	SE	NW	NW	223000.3	3912926.3	EXEMPT	DOMESTIC	287	0		0	0		NEAL, CLAUDE,	2409 RICCA DR	KINGMAN	AZ	86401
624996	22	N	16	W	7	SE	NE	NE	226073.9	3910705.5	NON-EXEMPT	DOMESTIC	1000	670	STEEL - PERFORATED OR SLOTTED CASING	1000	16		NEAL, CLAUDE,	2409 RICCA DR	KINGMAN	AZ	86401
590894	23	N	17	W	36	NW	SW	SE	222477.2	3914758.9	EXEMPT	DOMESTIC	650	164	STEEL - PERFORATED OR SLOTTED CASING	35	7	X	KILE	PO BOX 4600	HUALAPAI	AZ	86412
543766	23	N	17	W	36	SW	NW	SW	222262.9	3914368.6	EXEMPT	DOMESTIC	340	240	STEEL - PERFORATED OR SLOTTED CASING	340	7	X	FRENCH, JENNIFER,M	229 E DELORIS AVE	KINGMAN	AZ	86401
543130	23	N	17	W	36	NW	SW	SE	222477.2	3914758.9	EXEMPT	DOMESTIC	288	164	STEEL - PERFORATED OR SLOTTED CASING	36	6	X	KILE, CHESTER,	PO BOX 4300	HUALAPAI	AZ	86412
500292	23	N	17	W	36	SW	SW	SW	222249.8	3913971.1	EXEMPT	DOMESTIC	400	320	PLASTIC OR PVC	400	4	X	SCHIPPERS,S	3020 JAGERSON AV % P	KINGMAN	AZ	86401
590917	23	N	17	W	35	NE	NE	NE	222093.9	3915371.1	EXEMPT	DOMESTIC	700	345	PLASTIC OR PVC	700	5	X	MOODY	HC 32 BOX 2542	KINGMAN	AZ	86401
586009	23	N	17	W	35	SW	SW	NW	220651	3914228.8	EXEMPT	DOMESTIC	220	0	PLASTIC OR PVC	220	5	X	ARMSTRONG	PO BOX 6355	KINGMAN	AZ	86402
581534	23	N	17	W	35	SE	SE	SW	221847.5	3913986.5	EXEMPT	DOMESTIC	229	133	PLASTIC OR PVC	229	5	X	ROUNDY	7060 STOCKTON HILL	KINGMAN	AZ	86401
576142	23	N	17	W	35	SW	NE	SW	221058.3	3914412.3	EXEMPT	DOMESTIC	205	105	PLASTIC OR PVC	205	4	X	ROSSITER	PO BOX 8	KINGMAN	AZ	86402
567494	23	N	17	W	35	SE	NW	NE	221666.1	3914590.1	EXEMPT	DOMESTIC	458	145	PLASTIC OR PVC	458	5	X	LANE	1951 HOPE	KINGMAN	AZ	86401
561980	23	N	17	W	35	NW	NW	NW	220686.1	3915412.4	EXEMPT	DOMESTIC	500	180	STEEL - PERFORATED OR SLOTTED CASING	500	7	X	ROSSITER	PO BOX 8	KINGMAN	AZ	86402
559899	23	N	17	W	35	NW	NE	NW	221088.2	3915400.6	EXEMPT	DOMESTIC	380	180	STEEL - PERFORATED OR SLOTTED CASING	380	7	X	ACTON, MATT,	2475 HEARNE	KINGMAN	AZ	86401
556615	23	N	17	W	35	SE	SW	SE	221647.3	3913994	EXEMPT	DOMESTIC	160	0	PLASTIC OR PVC	160	6	X	CONNOR, JOHN,	PO BOX 6086	KINGMAN	AZ	86402
538350	23	N	17	W	35	NE	SW	NW	221477.8	3914992.6	EXEMPT	DOMESTIC	285	200	STEEL - PERFORATED OR SLOTTED CASING	285	7	X	PLUMLEY, DELBERT,	3562 DIAGONAL WAY	KINGMAN	AZ	86401
533559	23	N	17	W	35	SW	NW	SW	220656.9	3914426	EXEMPT	DOMESTIC	300	80	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	BEHNE, RONALD,	1208 E BROADMOR	TEMPE	AZ	85282
530979	23	N	17	W	35	SE	SE	SW	221847.5	3913986.5	EXEMPT	DOMESTIC	300	80	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	MILLERMAN, HARVEY,J	4751 N ROOSEVELT	KINGMAN	AZ	86401
528527	23	N	17	W	35	NW	SE	SW	221070.2	3914807.4	EXEMPT	DOMESTIC	320	90	STEEL - PERFORATED OR SLOTTED CASING	20	7	X	MOTE, DOYLE,J	4011 N PINAL ST	KINGMAN	AZ	86401
526901	23	N	17	W	35	SE	SE	NW	221853.9	3914186.7	EXEMPT	DOMESTIC	305	70	STEEL - PERFORATED OR SLOTTED CASING	305	7	X	MOTE, ERNIE,	3671 ORIOLE LANE	KINGMAN	AZ	86401
507575	23	N	17	W	35	SE	SE	SE	222048	3913979.3	EXEMPT	DOMESTIC	175	60	STEEL - PERFORATED OR SLOTTED CASING	175	7	X	PARKER,E M	BOX 4000 E	HUALAPAI	AZ	86412
503426	23	N	16	W	35	NW	NE	SW	231684.5	3914360.2	EXEMPT	DOMESTIC	115	30	PLASTIC OR PVC	115	6	X	MORGAN,M	3385 N BANK	KINGMAN	AZ	86401
084996	23	N	17	W	35	NW	SW	NW	220674.4	3915017.4	EXEMPT	DOMESTIC	205	75	PLASTIC OR PVC	205	4		CHAPPELL, THOMAS,K	1388 N OXFORD AVE	PASADINA	CA	91104
612664	22	N	16	W	34	SW	NW	SW	229358.2	3903955	NON-EXEMPT	MUNICIPAL	1000	590	STEEL - PERFORATED OR SLOTTED CASING	1000	16		KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
500156	22	N	16	W	34	NW	SW	NE	229576.7	3904550.9	NON-EXEMPT	INDUSTRIAL	700	575	STEEL - PERFORATED OR SLOTTED CASING	700	9	X	DESERT CONST INC,	3290 N BANK	KINGMAN	AZ	86401
612666	22	N	16	W	33	NW	SW	SE	227962.7	3904401.9	NON-EXEMPT	MUNICIPAL	1040	60	STEEL - PERFORATED OR SLOTTED CASING	1040	16		KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
612665	22	N	16	W	33	SW	SE	SW	228141	3903592	NON-EXEMPT	MUNICIPAL	1008	612	STEEL - PERFORATED OR SLOTTED CASING	1008	16		KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
535555	23	N	16	W	33	SW	SW	SW	228024.1	3913264.4	EXEMPT	DOMESTIC	611	0	STEEL - PERFORATED OR SLOTTED CASING	611	8	X	LONGORIA, JON,G	PO BOX 95093	LAS VEGAS	NV	89193
530645	22	N	16	W	33	SW	SW	SE	227940	3903598.3	EXEMPT	DOMESTIC	795	670	STEEL - PERFORATED OR SLOTTED CASING	795	8	X	BROWN DRILLING,	4559 N CASTLE ROCK	KINGMAN	AZ	86401
582951	22	N	16	W	32	SE	SE	SE	227536.5	3903611.4	MONITOR	MONITORING	1200	640	PLASTIC OR PVC	640	4	X		310 N FOURTH STREET	KINGMAN	AZ	86401
564803	23	N	16	W	31	SE	NW	SE	225523.1	3913741.4	EXEMPT	DOMESTIC	930	0	STEEL - PERFORATED OR SLOTTED CASING	20	7	X	WILLIAMS	HC 32 BOX 2500	KINGMAN	AZ	86401

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Well Inventory

ID	T		R		S	160	40	10	UTMX	UTMY	TYPE	USE	DEPTH	SWL	CASING	DEPTH	WIDTH	LOG?	LAST NAME	ADDRESS	CITY	ST	ZIP
585606	23	N	17	W	23	NE	NW	SW	221580.8	3918403.5	EXEMPT	DOMESTIC	450	0		0	0	X	KRAMER	1030 DUNE LANE	LAKE HAVASU	AZ	86404
580152	21	N	17	W	23				220795.9	3898516.9	GEOTECHNICAL	OTHER - MINERAL EXPLORE	115	0		0	0	X	TRAMAGLINO	210 W ANDY DEVIN BLVD	KINGMAN	AZ	86401
576719	23	N	17	W	23	NE	SW	SE	221769.8	3917995.8	EXEMPT	DOMESTIC	573	86	PLASTIC OR PVC	573	5	X	WARRING	P O BOX 3781	KINGMAN	AZ	86402
575590	23	N	17	W	23	NW	NW	NW	220783.3	3918628.4	EXEMPT	DOMESTIC	303	161	PLASTIC OR PVC	303	5	X	LEIDENBERGER	PO BOX 4282	KINGMAN	AZ	86402
573695	23	N	17	W	23	NW	SE	NW	221173.3	3918214.3	EXEMPT	DOMESTIC	372	143	PLASTIC OR PVC	372	5	X	PUENTES	2830 LEROY AVE	KINGMAN	AZ	86401
569480	23	N	17	W	23	NE	SW	SW	221569	3918001.7	EXEMPT	DOMESTIC	214	83	PLASTIC OR PVC	214	5	X	LECLAIR	PO BOX 218 FINNEY RD	BURKE	NY	12917
568499	23	N	17	W	23	NE	SW	SE	221769.8	3917995.8	EXEMPT	DOMESTIC	406	86	PLASTIC OR PVC	406	5	X	HALL	3015 NORTH MEADOW LANE	AVONDALE	AZ	85323
568443	23	N	17	W	23	NW	NE	SW	221179.2	3918415.2	EXEMPT	DOMESTIC	271	45	PLASTIC OR PVC	271	5	X	REINOSO	949 W CANYON DR	KINGMAN	AZ	86401
566442	23	N	17	W	23	SW	SE	NW	221149.9	3917410.8	EXEMPT	DOMESTIC	828	40	PLASTIC OR PVC	828	5	X	HAYDEN	PO BOX 6193	KINGMAN	AZ	86402
564001	23	N	17	W	23	NE	SE	NW	221976.5	3918190.9	EXEMPT	DOMESTIC	385	166	PLASTIC OR PVC	254	8	X	WILLIAMS	8540 COLORADO	KINGMAN	AZ	86401
562425	23	N	17	W	23	SE	NE	NW	221964.8	3917768.9	EXEMPT	DOMESTIC	246	30	PLASTIC OR PVC	246	5	X	WARRING, FRED,	PO BOX 3781	KINGMAN	AZ	86402
560792	23	N	17	W	23	SE	SE	SW	221946.8	3917185.4	EXEMPT	DOMESTIC	445	140	STEEL - PERFORATED OR SLOTTED CASING	20	7	X	BURROWS	8302 MAE LANE	KINGMAN	AZ	86401
558495	23	N	17	W	23	NE	SE	SE	222171.8	3917984	EXEMPT	DOMESTIC	300	131	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	LEHEW, DIRK,A	1507 MAIN ST	KINGMAN	AZ	86401
549632	23	N	17	W	23	NW	NE	NW	221185	3918618.6	EXEMPT	DOMESTIC	250	60	STEEL - PERFORATED OR SLOTTED CASING	250	7	X	REINOSO, ROSS,	PO BOX 1831	LK HAVASU CITY	AZ	86405
549406	23	N	17	W	23	SW	SW	NW	220748	3917422.8	EXEMPT	DOMESTIC	205	105	STEEL - PERFORATED OR SLOTTED CASING	205	7	X	WITHAM, JAMES,H	P O BOX 3084	KINGMAN	AZ	86401
547404	23	N	17	W	23	NE	SW	NW	221574.9	3918202.6	EXEMPT	DOMESTIC	245	100	STEEL - PERFORATED OR SLOTTED CASING	165	8	X	MCDERMOTT, MICHAEL,	4065 N STARDUST	KINGMAN	AZ	86401
538514	23	N	17	W	23	SW	SE	NW	221149.9	3917410.8	EXEMPT	DOMESTIC	245	25	STEEL - PERFORATED OR SLOTTED CASING	245	7	X	HAYDEN, GORDON,	317 E CENTRAL ST	MACKINAW CITY	MI	49701
538349	23	N	17	W	23	SE	NE	NW	221964.8	3917768.9	EXEMPT	DOMESTIC	225	100	STEEL - PERFORATED OR SLOTTED CASING	225	7	X	SLIFE, DONALD,	PO BOX 4726	HUALAPAI	AZ	86412
526620	23	N	17	W	23	SE	SW	NW	221551.3	3917398.9	EXEMPT	DOMESTIC	144	80	STEEL - PERFORATED OR SLOTTED CASING	20	5	X	WARRING, FRED & LORI,	PO BOX 3781	KINGMAN	AZ	86402
526496	23	N	17	W	23	SE	SW	NE	221752	3917392.9	EXEMPT	DOMESTIC	119	59	STEEL - PERFORATED OR SLOTTED CASING	119	5	X	WARRING, FRED,	PO BOX 3781	KINGMAN	AZ	86402
526125	23	N	17	W	23	SW	SW	SW	220742.1	3917221.8	EXEMPT	DOMESTIC	180	50	STEEL - PERFORATED OR SLOTTED CASING	180	5	X	BRADLEY, H STAN,	4251 N PINAL	KINGMAN	AZ	86401
521745	23	N	17	W	23	SE	SW	SE	221746.1	3917191.4	EXEMPT	DOMESTIC	300	36	STEEL - PERFORATED OR SLOTTED CASING	300	8	X	WARRING, FRED,E	4145 N VAN NUYS	KINGMAN	AZ	86401
514994	23	N	17	W	23	SE	NE	SE	222159.7	3917581.9	EXEMPT	DOMESTIC	500	50	STEEL - PERFORATED OR SLOTTED CASING	500	7	X	TINNEY, GENE,	PO BOX 6151	KINGMAN	AZ	86402
511806	23	N	17	W	23	NW	SE	SE	221368.3	3918007.6	EXEMPT	DOMESTIC	105	44	STEEL - PERFORATED OR SLOTTED CASING	105	7	X	YARUSH	746 RED WING CANYON RD	KINGMAN	AZ	86401
506477	21	N	17	W	23	NE	SE	NE	221534.5	3896787.5	EXEMPT	DOMESTIC	205	170	STEEL - PERFORATED OR SLOTTED CASING	205	4	X	GOLDENSTEIN	PO BOX 10188	GOLDEN VALLEY	AZ	86413
550633	23	N	16	W	21	NE	NE	SW	229358.6	3917656.7	EXEMPT	DOMESTIC	700	580	STEEL - PERFORATED OR SLOTTED CASING	700	7	X	GEE, GAYLA,R	PO BOX 4041	KINGMAN	AZ	86402
500053	23	N	16	W	21	SW	SE	SE	228720.9	3916465.8	EXEMPT	DOMESTIC	360	250	PLASTIC OR PVC	360	5	X	GUSTAFSON,D	PO BOX 3206	KINGMAN	AZ	86401
571915	23	N	16	W	20	SW	SW	SE	226712.3	3916518.5	EXEMPT	DOMESTIC	909	462	PLASTIC OR PVC	909	5	X	HAACK	2702 MULLEN DRIVE	KINGMAN	AZ	86401
571223	22	N	16	W	20	SW	NW	SW	226235.3	3907273.7	MONITOR	TEST	1200	550	PLASTIC OR PVC	700	4	X		310 N FOURTH STREET	KINGMAN	AZ	86401
571222	22	N	16	W	20	SE	NE	NE	227647.8	3907437.1	MONITOR	TEST	1200	580	PLASTIC OR PVC	700	4	X		310 N FOURTH STREET	KINGMAN	AZ	86401
612658	22	N	16	W	19	NW	NE	NE	224701.8	3908333.9	NON-EXEMPT	MUNICIPAL	1002	652	STEEL - PERFORATED OR SLOTTED CASING	1002	16		KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
603041	23	N	16	W	19	SW	SE	NE	224973.2	3916779.8	EXEMPT	IRRIGATION	325	225	PLASTIC OR PVC	325	4		GRANT,J R	PO BOX 4365	KINGMAN	AZ	86401

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Well Inventory

ID	T		R		S	160	40	10	UTMX	UTMY	TYPE	USE	DEPTH	SWL	CASING	DEPTH	WIDTH	LOG?	LAST NAME	ADDRESS	CITY	ST	ZIP
589934	23	N	16	W	19	SW	SW	NW	224013.1	3916813.9	EXEMPT	DOMESTIC	705	315	PLASTIC OR PVC	705	5	X	BALDWIN	PO BOX 4147	KINGMAN	AZ	86402
578027	23	N	16	W	19	NE	SE	SW	225957.6	3917351.4	EXEMPT	DOMESTIC	745	0		0	0	X	TEETER	531 I AVENUE	CORONADO	CA	92118
572010	23	N	16	W	19	NW	SE	SW	224672.4	3917394.1	EXEMPT	DOMESTIC	1000	378	STEEL - PERFORATED OR SLOTTED CASING	20	7	X	TEETER	531 I AVE	CORONADO	CA	92118
551158	23	N	16	W	19	SW	SW	SW	224007.3	3916813.4	EXEMPT	DOMESTIC	300	240	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	CARLEY, JUDITH,A	4400 N IRVING	KINGMAN	AZ	86401
550303	23	N	16	W	19	SE	SE	SE	226246.7	3916530.8	EXEMPT	DOMESTIC	1006	394	PLASTIC OR PVC	1006	5	X		C/O LOUIS FORTINI	KINGMAN	AZ	86401
542790	23	N	16	W	19	SE	SE	SE	226246.7	3916530.8	EXEMPT	DOMESTIC	860	200	PLASTIC OR PVC	860	5	X	CHARCAS WELL&WATER,	4145 N BANK ST #8	KINGMAN	AZ	86401
541999	23	N	16	W	19	NE	SW	SW	225315.1	3917372.7	EXEMPT	DOMESTIC	820	400	PLASTIC OR PVC	820	5	X	FRANCOIS	10741 ESCOBAR DR	SAN DIEGO	CA	92124
541936	23	N	16	W	19	NW	SE	NW	224678.9	3917595.1	EXEMPT	DOMESTIC	780	245	PLASTIC OR PVC	780	5	X	LIVINGSTON, GREGORY,	20403 ELFIN FRSTRD	ELFIN FOREST	CA	92029
541211	23	N	16	W	19	SE	SE	SE	226246.7	3916530.8	EXEMPT	DOMESTIC	680	350	PLASTIC OR PVC	880	5	X	CUARZO WELL & WATER,	PO BOX 4332	KINGMAN	AZ	86402
538483	23	N	16	W	19	NE	SW	SW	225315.1	3917372.7	EXEMPT	DOMESTIC	545	340	STEEL - PERFORATED OR SLOTTED CASING	545	7	X	ALLES, LINDA MARIE,	4980 MARTIN ST	MIRA LOMA	CA	91752
536655	23	N	16	W	19	SW	SW	NW	224013.1	3916813.9	EXEMPT	DOMESTIC	425	230	STEEL - PERFORATED OR SLOTTED CASING	425	7	X	BALDWIN	PO BOX 4147	KINGMAN	AZ	86402
588888	23	N	16	W	18	SE	NE	NW	226005.3	3918760	EXEMPT	DOMESTIC	430	380	PLASTIC OR PVC	430	5	X	VALDEZ	PO BOX 6783	KINGMAN	AZ	86402
588513	23	N	16	W	18	NW	NW	NW	224096.1	3919623	EXEMPT	DOMESTIC	630	170	PLASTIC OR PVC	630	5	X	WILLIAMS	1914 MAIN ST	KINGMAN	AZ	86401
587414	23	N	16	W	18	NW	SW	SW	224077.5	3919020.7	EXEMPT	DOMESTIC	305	220	PLASTIC OR PVC	250	5	X	CHILDERS	8746 STOCKTON HILL RD	KINGMAN	AZ	86401
586575	23	N	16	W	18	SW	NW	NW	224071.4	3918820.2	EXEMPT	DOMESTIC	355	210	PLASTIC OR PVC	355	5	X	JARACZEWSKI	2170 NORTHERN AVE #B PMB #174	KINGMAN	AZ	86401
583325	23	N	16	W	18	NW	SE	SE	225044.3	3918990.4	EXEMPT	DOMESTIC	455	225	PLASTIC OR PVC	455	5	X	TEETER	531 I AVENUE	CORONADO	CA	92118
582976	23	N	16	W	18	NW	NW	NE	224417.2	3919612.7	EXEMPT	DOMESTIC	355	305	PLASTIC OR PVC	355	5	X	COFFEY	4205 N SKYLARK RD	KINGMAN	AZ	86401
582758	23	N	16	W	18	SW	NW	NE	224395.6	3918810.2	EXEMPT	DOMESTIC	305	200	STEEL - PERFORATED OR SLOTTED CASING	305	5	X	WOODWARD	935 JOHN NORMAN	KINGMAN	AZ	86401
581774	23	N	16	W	18	NW	SE	SE	225044.3	3918990.4	EXEMPT	DOMESTIC	405	225	PLASTIC OR PVC	405	5	X	MALKIEWICZ	2425 CROZIER AVE	KINGMAN	AZ	86401
579893	23	N	16	W	18	NW	NW	SE	224411.6	3919411.6	EXEMPT	DOMESTIC	300	225	STEEL - PERFORATED OR SLOTTED CASING	300	5	X	RICHIE	PO BOX 4021	KINGMAN	AZ	86402
579512	23	N	16	W	18	NW	NW	NW	224096.1	3919623	EXEMPT	DOMESTIC	220	175	PLASTIC OR PVC	220	5	X	LAIRSON	3820 N ROOSEVELT	KINGMAN	AZ	86401
579217	23	N	16	W	18	SE	NE	SW	226001.2	3918559.8	EXEMPT	DOMESTIC	585	340	PLASTIC OR PVC	580	5	X	LIVINGSTON	20403 ELFIN FOREST RD	ESCONDIDO	CA	92029
578868	23	N	16	W	18	SE	NW	SE	225678.9	3918569.8	EXEMPT	DOMESTIC	550	465	PLASTIC OR PVC	550	5	X	LIVINGSTON	20403 ELFIN FOREST RD	ESCONDIDO	CA	92029
578654	23	N	16	W	18	NW	SW	SE	224401	3919010.6	EXEMPT	DOMESTIC	465	225	STEEL - PERFORATED OR SLOTTED CASING	412	6	X	TEETER	531 I AVE	CORONADO	CA	92118
578537	23	N	16	W	18	SE	NW	NE	225683.3	3918770.1	EXEMPT	DOMESTIC	505	445	PLASTIC OR PVC	505	5	X	LIVINGSTON	20403 ELFIN FOREST RD	ESCONDIDO	CA	92029
578341	23	N	16	W	18	NW	SW	SW	224077.5	3919020.7	EXEMPT	DOMESTIC	345	290	PLASTIC OR PVC	345	5	X	CHILDERS	HC 32 BOX 2532	KINGMAN	AZ	86401
577461	23	N	16	W	18	NW	NW	NW	224096.1	3919623	EXEMPT	DOMESTIC	245	195	PLASTIC OR PVC	245	5	X	MILLER	3584 PRINCE ST	ESCONDIDO	CA	92025
577326	23	N	16	W	18	NW	SW	SE	224401	3919010.6	EXEMPT	DOMESTIC	505	320	PLASTIC OR PVC	500	5	X	TEETER	531 I AVENUE	CORONADO	CA	92118
574648	23	N	16	W	18	NW	SW	NE	224406.4	3919211.1	EXEMPT	DOMESTIC	300	150	STEEL - PERFORATED OR SLOTTED CASING	300	8	X	MOUSLEY	2255 CHINOOK DR	KINGMAN	AZ	86401
574647	23	N	16	W	18	NW	SE	NW	224727.6	3919201	EXEMPT	DOMESTIC	255	170	STEEL - PERFORATED OR SLOTTED CASING	255	8	X	VILLAR	4235 BENTON	KINGMAN	AZ	86401
574646	23	N	16	W	18	NW	SW	SE	224401	3919010.6	EXEMPT	DOMESTIC	220	165	STEEL - PERFORATED OR SLOTTED CASING	220	6	X	TURZA	1580 E RT 66	FLAGSTAFF	AZ	86001
574143	23	N	16	W	18	NW	NE	SE	225054.1	3919391.3	EXEMPT	DOMESTIC	880	95	PLASTIC OR PVC	770	5	X	DOLPH	575 E REMINGTON DR APT 22E	SUNNYVALE	CA	94087

ID	T		R		S	160	40	10	UTMX	UTMY	TYPE	USE	DEPTH	SWL	CASING	DEPTH	WIDTH	LOG?	LAST NAME	ADDRESS	CITY	ST	ZIP
522902	22	N	17	W	14	NW	SW	NE	220701	3910161.2	EXEMPT	DOMESTIC	175	100	STEEL - PERFORATED OR SLOTTED CASING	175	7	X	JACKSON, JOSEPH,	PINION PINE ESTATE	KINGMAN	AZ	86401
518888	22	N	17	W	14	SW	NE	NE	221083.9	3909751.4	EXEMPT	DOMESTIC	175	100	STEEL - PERFORATED OR SLOTTED CASING	175	7	X	MULLEY, TONY,	2601 GEORGIA	KINGMAN	AZ	86401
518157	22	N	17	W	14	NW	NE	SE	221117.5	3910349	NON-EXEMPT	DOMESTIC	180	107	STEEL - PERFORATED OR SLOTTED CASING	180	6	X	NEAL, RICHARD,L	2923 CHARLES ST	KINGMAN	AZ	86401
518156	22	N	17	W	14	NW	NW	NW	220525.4	3910564.8	NON-EXEMPT	DOMESTIC	189	87	STEEL - PERFORATED OR SLOTTED CASING	187	6	X	NEAL, RICHARD,L	2923 CHARLES ST	KINGMAN	AZ	86401
518155	22	N	17	W	14	NW	NW	SE	220713.8	3910359.8	NON-EXEMPT	DOMESTIC	240	87	STEEL - PERFORATED OR SLOTTED CASING	240	6	X	NEAL, RICHARD,L	2923 CHARLES ST	KINGMAN	AZ	86401
509436	22	N	17	W	14	NW	SE	NE	221106.3	3910149.6	EXEMPT	DOMESTIC	300	132	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	RASMUSSEN,R P	3798 CANTLE	KINGMAN	AZ	86401
506961	22	N	17	W	14	NE	SW		221405.5	3910041.1	EXEMPT	DOMESTIC	120	60	STEEL - PERFORATED OR SLOTTED CASING	120	4	X	SHUFFLER,J	3705 MARTINGALE	KINGMAN	AZ	86401
504681	22	N	17	W	14	NW	SW	SW	220482.2	3909968.7	EXEMPT	DOMESTIC	145	75	STEEL - PERFORATED OR SLOTTED CASING	145	7	X	BARRETT,L	PINION PINE RT	KINGMAN	AZ	86401
504680	22	N	17	W	14	NW	SW	SE	220688.1	3909962.7	EXEMPT	DOMESTIC	115	60	STEEL - PERFORATED OR SLOTTED CASING	115	7	X	BARRETT,L	PINION PINE RT	KINGMAN	AZ	86401
085466	22	N	17	W	14	NW	SE		220999.2	3910052.9	EXEMPT	DOMESTIC	175	100	PLASTIC OR PVC	175	4		RICCARDI,R	PO BOX 3222	KINGMAN	AZ	86401
586910	23	N	17	W	13	NE	SE	SE	223830	3919538.9	EXEMPT	DOMESTIC	130	75	PLASTIC OR PVC	130	5	X	MOWRY	HC 32 BOX 3000	KINGMAN	AZ	86401
585550	23	N	17	W	13	SE	SE	NW	223609.5	3918943.9	EXEMPT	DOMESTIC	580	250	PLASTIC OR PVC	580	5	X	EADS	PO BOX 4232	KINGMAN	AZ	86402
576879	23	N	17	W	13	NE	SW	NW	223231.8	3919757.3	EXEMPT	DOMESTIC	245	200	STEEL - PERFORATED OR SLOTTED CASING	245	4	X	SHIPLEY	415 EL RANCHO	KINGMAN	AZ	86401
575340	22	N	17	W	13	NE	SW	NW	222922	3910095.8	EXEMPT	DOMESTIC	245	100	PLASTIC OR PVC	245	4	X	VAN PELT	3730 N KENNETH RD	KINGMAN	AZ	86401
568419	23	N	17	W	13	SE	NE	SE	223817.3	3919138.2	EXEMPT	DOMESTIC	360	191	PLASTIC OR PVC	360	6	X	BOGGIO	HC 32 BOX 3101	KINGMAN	AZ	86401
535905	21	N	18	W	13	SE			233530.9	3898900.2	EXPLORATION	NONE	600	28	PLASTIC OR PVC	600	6	X	TRANSWESTERN PIPELNE,	PO BOX 1717	ROSWELL	NM	88202
608953	21	N	17	W	12	NE	NE		223163.4	3902332.6	NON-EXEMPT	IRRIGATION	350	200	STEEL - PERFORATED OR SLOTTED CASING	350	10		COFER,C C	950 RIATA VALLEY RD	KINGMAN	AZ	86401
584935	21	N	17	W	12	SW	SW	NW	221794.6	3901197.1	EXEMPT	DOMESTIC	560	561	PLASTIC OR PVC	560	5	X	COOK	3205 N 2ND ST	KINGMAN	AZ	86401
511006	21	N	17	W	12	NW	NW	NW	221855.9	3902431.7	EXEMPT	DOMESTIC	230	150	STEEL - PERFORATED OR SLOTTED CASING	230	7	X	WATKINS, TIM,	2415 RICCA DR	KINGMAN	AZ	86401
508462	21	N	17	W	12	NW	NW	NW	221855.9	3902431.7	EXEMPT	DOMESTIC	235	180	STEEL - PERFORATED OR SLOTTED CASING	235	7	X	MC KINNIE,B	2319 E ANDY DEVINE	KINGMAN	AZ	86401
624995	22	N	17	W	11	SW	NE	NW	220949.2	3911367.8	NON-EXEMPT	DOMESTIC	250	28	STEEL - PERFORATED OR SLOTTED CASING	210	8		NEAL, CLAUDE,	2409 RICCA DR	KINGMAN	AZ	86401
623346	21	N	17	W	11	SW	SE		220660.9	3901140.2	EXEMPT	DOMESTIC	135	30		0	0		HOPKINS, NATHAN & S.,	3205 CLACKS CYN RD	KINGMAN	AZ	86401
602521	22	N	17	W	11	SW	NE	NW	220949.2	3911367.8	EXEMPT	DOMESTIC	130	75	STEEL - PERFORATED OR SLOTTED CASING	130	8		VISSEPO-ARRIVI, M &,B	PO BOX 4251	KINGMAN	AZ	86402
586324	22	N	17	W	11	NW	SE	SE	221156.2	3911585.6	EXEMPT	DOMESTIC	300	90	PLASTIC OR PVC	300	5	X	MERDZINSKI	1722 HOPE AVENUE	KINGMAN	AZ	86401
582763	21	N	17	W	11	SE	NE	SW	221390.7	3901418.4	EXEMPT	DOMESTIC	305	215	PLASTIC OR PVC	305	5	X	NICOLETTI	3568 N PEARL	KINGMAN	AZ	86401
563479	22	N	17	W	11	SW	SE	SE	221135.6	3910751.6	EXEMPT	DOMESTIC	0	139	STEEL - PERFORATED OR SLOTTED CASING	400	7		ROBERTSON	1250 GRAND AVE #166	ARROYO GRANDE	CA	93420
560471	22	N	17	W	11	SE	SE	NW	221744.7	3910939.7	EXEMPT	DOMESTIC	300	115	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	SAYLES, ROGER,	PO BOX 3551	KINGMAN	AZ	86402
560470	22	N	17	W	11	SE	SW	NW	221342.2	3910950.2	EXEMPT	DOMESTIC	300	150	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	STOUGH	2611 S. APACHE RD	GOLDEN VALLEY	AZ	86413
540886	21	N	17	W	11	SW	NW	NE	220377	3901661.2	EXEMPT	DOMESTIC	165	60	STEEL - PERFORATED OR SLOTTED CASING	165	7	X	CHUPP	3157 FT BEALE DR	KINGMAN	AZ	86401
535275	22	N	17	W	11	SW	NE	NE	221151.1	3911362.3	EXEMPT	DOMESTIC	315	100	PLASTIC OR PVC	315	5	X	BURGE, EVERETT,	556 CHRISTY PLAZA	KINGMAN	AZ	86401
533971	22	N	17	W	11	NW	NW	SE	220760.5	3911984.3	EXEMPT	DOMESTIC	300	0	STEEL - PERFORATED OR SLOTTED CASING	300	7	X	BURGE, EVERETT,	4125 N STOCKTON HILL	KINGMAN	AZ	86401
532756	22	N	16	W	11	SE	NW	SW	231984.4	3910321.5	MONITOR OR PIEZOMETER	MONITORING	30	0	PLASTIC OR PVC	30	2	X	KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401

Table 1. City of Kingman Basin Study
Well Inventory

ID	T		R		S	160	40	10	UTMX	UTMY	TYPE	USE	DEPTH	SWL	CASING	DEPTH	WIDTH	LOG?	LAST NAME	ADDRESS	CITY	ST	ZIP
532755	22	N	16	W	11	SW	NE	SE	231763.3	3910327.6	MONITOR OR PIEZOMETER	MONITORING	30	0	PLASTIC OR PVC	30	2	X	KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
532754	22	N	16	W	11	SE	SW	NW	231958.7	3910120.5	MONITOR OR PIEZOMETER	MONITORING	30	0	PLASTIC OR PVC	30	2	X	KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
529463	22	N	16	W	11	SW	NE	SE	231763.3	3910327.6	MONITOR OR PIEZOMETER	MONITORING	685	423	STEEL - PERFORATED OR SLOTTED CASING	650	16	X	KINGMAN, CITY OF,	310 N 4TH ST	KINGMAN	AZ	86401
508604	21	N	17	W	11	SW	SW	NE	220359.5	3901250.4	EXEMPT	DOMESTIC	150	50	STEEL - PERFORATED OR SLOTTED CASING	150	7	X	BOATMAN, TIM,A	3157 FT. BEALE RD	KINGMAN	AZ	86401
500189	22	N	17	W	11	SE	NE	NW	221756.9	3911345.8	EXEMPT	DOMESTIC	260	200	PLASTIC OR PVC	260	4	X	FAWSON,E	PO BOX 3436	KINGMAN	AZ	86401
581966	21	N	16	W	8	NW	SE	NE	226858.9	3901416.6	GEOTECHNICAL	TEST	145	0		0	0	X		PO BOX 678	BRIGHAM CITY	UT	84302
577417	21	N	16	W	8	NW	SE	NE	226858.9	3901416.6	GEOTECHNICAL	NONE	170	0		0	0	X		22010 N 21ST AVE	PHOENIX	AZ	85027
502658	21	N	16	W	8	NW	SW	NE	220535.7	3900431.6	EXEMPT	MONITORING	157	0	STEEL - PERFORATED OR SLOTTED CASING	21	8	X	HUSKY OIL CO,	6060 S WILLOW DR	ENGLEWOOD	CO	80111
622184	22	N	16	W	7	NE	SE	SE	226079.8	3910907.2	NON-EXEMPT	DOMESTIC	880	0		0	12		NEAL, GRACE,	4040 LONG MOUNTAIN	KINGMAN	AZ	86401
590014	22	N	16	W	7	SW	SW	NW	223800.3	3910379.3	EXEMPT	DOMESTIC	800	607	PLASTIC OR PVC	800	5	X	MEDLIN	3638 CANARY LN	KINGMAN	AZ	86401
586797	22	N	16	W	7	NE	NW	SE	225445.9	3911331.3	EXEMPT	DOMESTIC	880	820	PLASTIC OR PVC	880	5	X	WORKS	328 GREENFIELD	LAS VEGAS	NV	89107
576820	22	N	16	W	7	NW	NW	NW	223839.8	3911584.7	EXEMPT	DOMESTIC	940	890	STEEL - PERFORATED OR SLOTTED CASING	20	6	X	ESTES	P O BOX 6007	KINGMAN	AZ	86402
565798	22	N	16	W	7	SE	SW	SW	225087	3910133.5	EXEMPT	DOMESTIC	880	800	PLASTIC OR PVC	880	7	X	MEDLIN	2639 E CALLE ALLENDE	KINGMAN	AZ	86401
560978	22	N	16	W	7	NW	NW	NE	224162.2	3911574.4	EXEMPT	DOMESTIC	827	700	PLASTIC OR PVC	827	8	X	BASCLE, EULA,S	PO BOX 8143	HUALAPAI	AZ	86412
556570	22	N	16	W	7	SW	SW	SW	223793.3	3910178.4	EXEMPT	DOMESTIC	622	504	PLASTIC OR PVC	578	8	X	HUGGINS, HARLON,	2609 SIMMS AVE	KINGMAN	AZ	86401
549586	22	N	16	W	7	NW	NW	SE	224155.9	3911372.7	EXEMPT	DOMESTIC	620	480	STEEL - PERFORATED OR SLOTTED CASING	0	7	X	KLEIN	PO BOX 6861	KINGMAN	AZ	86402
534005	22	N	16	W	7	NE	NW	SE	225445.9	3911331.3	EXEMPT	DOMESTIC	870	780	STEEL - PERFORATED OR SLOTTED CASING	870	7	X	MINTER, JASON,	10261 KAISER PL	SAN DIEGO	CA	92126
501894	22	N	16	W	7	SW	SW	SW	223793.3	3910178.4	EXEMPT	DOMESTIC	650	690	PLASTIC OR PVC	650	4	X	PATULA, PAUL,J	1711 STOCKTON HILL R	KINGMAN	AZ	86401
617205	21	N	16	W	6	SW	NW	NW	223541.4	3902720.3	EXEMPT	IRRIGATION	480	310		0	8		LINGENFELTER	1080 RIATA VALLEY DR	KINGMAN	AZ	86401
588137	22	N	16	W	6	NW	SE	SW	224516.9	3912565.9	EXEMPT	DOMESTIC	1160	850	STEEL - PERFORATED OR SLOTTED CASING	1160	5	X	YARBROUGH	PO BOX 6134	KINGMAN	AZ	86402
588073	22	N	16	W	6	SW	SE	SW	224494.3	3911765.3	EXEMPT	DOMESTIC	525	450	PLASTIC OR PVC	525	5	X	FREE	2177 E CALLE CASTANO	KINGMAN	AZ	86401
587082	21	N	16	W	6	SW	SW	SW	223526.7	3902116.1	EXEMPT	DOMESTIC	600	390	PLASTIC OR PVC	680	5	X	LINGENFELTER	1080 RIATA VALLEY DR	KINGMAN	AZ	86401
568668	22	N	16	W	6	SE	SW	SW	225138.8	3911744.8	EXEMPT	DOMESTIC	895	760	PLASTIC OR PVC	895	5	X	HAMILTON	3648 BIBO RD	GOLDEN VALLEY	AZ	86413
559902	22	N	16	W	6	SW	SE	SW	224494.3	3911765.3	EXEMPT	DOMESTIC	600	480	STEEL - PERFORATED OR SLOTTED CASING	600	7	X	MCCONAHA, ROSE MARIE,	HC 32 BOX 629	KINGMAN	AZ	86401
553394	22	N	16	W	6	SW	SE	SE	224816.5	3911755.1	EXEMPT	DOMESTIC	970	0		0	0	X	CHAPMAN, MICHAEL,	PO BOX 6061	KINGMAN	AZ	86402
552313	22	N	16	W	6	NE	SW	SE	225484.6	3912536.1	EXEMPT	DOMESTIC	950	880	STEEL - PERFORATED OR SLOTTED CASING	950	7	X	NOLI, EDWARD,G	PO BOX 4172	KINGMAN	AZ	86401
543531	22	N	16	W	6	SW	NW	NW	223867.5	3912385.7	EXEMPT	DOMESTIC	620	475	STEEL - PERFORATED OR SLOTTED CASING	620	6	X	DREWRY,,W B	PO BOX 3857	KINGMAN	AZ	86402
540693	22	N	16	W	6	SW	SE	NW	224500.4	3911965.6	EXEMPT	DOMESTIC	525	0	STEEL - PERFORATED OR SLOTTED CASING	20	7	X	PENROD, BRENT,	HC 32 BOX 621	KINGMAN	AZ	86401
535074	22	N	16	W	6	SW	SW	NE	224178.2	3911975.7	EXEMPT	DOMESTIC	545	435	PLASTIC OR PVC	545	6	X	GLICK, JAY,N	PO BOX 6937	KINGMAN	AZ	86401
511709	22	N	16	W	6	NE	NE	NW	225823.9	3913127.3	EXEMPT	DOMESTIC	415	0		20	10	X	BOEHME,D	BOX 8276	KINGMAN	AZ	86412
508968	22	N	16	W	6	NW	NW	SW	223887.4	3912885.5	EXEMPT	DOMESTIC	1040	620	STEEL - PERFORATED OR SLOTTED CASING	940	5	X	GOOD,A J	748 KNOLLWOOD	SAN DIMAS	CA	91773
508855	22	N	16	W	6	NE	SW	SW	225162.7	3912546	EXEMPT	DOMESTIC	940	840	STEEL - PERFORATED OR SLOTTED CASING	940	8	X	CONNELL,S	PO BOX 3034	KINGMAN	AZ	86402

Table 3. Chromium Values in Water and Cuttings.

Well	Sample Interval	Chromium Content in Water mg/L	Chromium content in Cuttings mg/L	Lithology
TH-1	640-660	nil	44	Sandy silty gravels. Mixed volcanics and granitics.
	680-700	nil	52	Coarse-grained sands and silts. Clasts are 60% volcanics 40% granitics.
	740-760	0.01	59	As above
	780-800	nil	60	Sandy gravels. Clasts are 70% volcanics, 30% granitics.
	840-860	nil	45	As above
	880-900	0.01	47	As above
	940-960	nil	51	Coarse-grained sands and silts. Clasts are +70% volcanics <30% granitics.
	980-1000	nil	77	As above
	1040-1060	nil	111	Coarse-grained sands. Clasts are 65% basaltic volcanics
	1080-1100	0.01	136	As above
TH-3	660-680	NA	87	Silty coarse-grained sands. Clasts are 55% granitics, 45% volcanics.
	680-700	nil	85	Sandy silts. Clast content unchanged.
	760-780	0.03 to 0.04	59	Coarse-grained sand to sandy gravel. Clast content Predominantly Volcanics.
	780-800	0.04	54	As above but increased consolidation due to calcite cementation.
	840-860	0.04	57	As above
	880-890	0.03 to 0.04	55	As above
	940-960	0.03 to 0.04	48	As above
	980-1000	0.03 to 0.04	31	As above however calst content changes to 80% volcanics, 20% granitics.
	1020-1040	0.04 to 0.05	57	As above
	1080-1100	0.05 to 0.06	73	As above
City 6 OB Well	640-650	0.031	73	Sandy silty gravels. Clasts are predominantly granitics with only minor volcanics.
	690-700	0.018	92	Coarse-grained sands nad silty sands. Clasts are predominantly granitic.
	700-710	0.018	52	As above
	740-750	0.032	57	As above
	750-760	0.032	74	As above
	790-800	0.031	51	Fine-grained gravels and silty sands. Clasts are 70% granitics and 30% volcanics.
	840-850	0.039	66	Coarse-grained sands and sandy gravels. Clasts are 50% granitic and 50% volcanics.
	890-900	0.15	52	As above
	940-950	0.044	57	As above
	990-1000	0.1	46	As above
	1000-1050	0.18	NA	As above
	1050-1100	0.17	NA	As above
	1100-1050	0.046	NA	As above
	1050-1200	0.18	NA	As above
Long Mtn. No. 2	640-650	0.04[3]	46	Sandy gravels. Clast composition 60% volcanics, 30% granitics 10% mafics.
	690-700	0.04[3]	48	As above, however clasts are now40% granitics, 40% volcanics, 20% mafics.
	740-750	0.04[3]	45	As above however clasts are now 65% volcanics, 25% granitics, 10% mafics.
	790-800	0.04[3]	55	As above
	840-850	0.04[3]	51	As above
	890-900	0.04[3]	54	As above
	940-950	0.04[3]	41	As above, however mafic content now at 15%.
	990-1000	0.04[3]	41	As above, however mafic content now at 10%.
	1040-1050	0.04[3]	88	As above
	1090-1100	0.04[3]	67	As above
TH-4	700-710	N.S[2]	264	Basaltic/Andesitic volcancis, clay altered.
	740-750	< 0.01	406	As above, however no clay alteration.
	800-810	0.014	429	As above
	840-850	0.06[1]	398	As above
	900-910	0.07[1]	452	As above, however increased clay alteration.
	940-950	0.049	451	Volcanics, basaltic flow, very weak clay alteration.
	980-990	0.05	416	Oxidized volcanics, minor inbedded arkosic sediments.
	1040-1050	0.039	450	As above
	1080-1090	0.052	412	Andesitic volcanic flow.
	1120-1130	0.054	358	Mixed volcancis and interbedded arkosic sediments.

Notes:
[1] Field sample results
[2] Not sampled due to turbidity.
[3] Current P.O.E. Values at City well No. 5

TABLE 4

City of Kingman Water Quality Samples

Parameter*	City 1	City 2	City 7	LM No. 4	Bank Street	Orr Well 51 Ranch Road	Santa Fe	EPA MCL mg/l
Arsenic, dissolved	0.0040	0.0046	0.0040	0.0040	0.0040	0.0040	0.0040	0.05[1]
Calcium, dissolved	22	18	36	46	100	50	61	
Chromium, dissolved	0.078	0.056	0.0190	0.03	0.010	0.01	0.01	0.1
Magnesium, dissolved	16	17	23	30	56	35	25	
Potassium, dissolved	2.6	5.1	4.0	5	5.9	2.2	4.8	
Sodium, dissolved	24	32	19	37	55	13	24	
Chloride	16	21	28	77	170	24	52	250
Fluoride	1.9	1.4	0.5	1	2.0	1	0.5	4
Nitrate	2.1	2.7	3.1	3	2.9	2.0	5.3	10
Nitrite	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Sulfate	16	18	19	76	240	21	34	250
Alkalinity, Bicarbonate**	130	130	170	130	120	230	210	
Alkalinity, Carbonate**	0.0	0	0	0	0	0	0	
Alkalinity, Hydroxide**	<2.0	10	<10	<10	<10	<10	<10	
Total Alkalinity**	180	130	170	130	120	230	210	
TDS	210	230	300	430	740	360	420	
Silica	32.00	42.00	62.00	56.00	44.00	61.00	56.00	
Date of Sample Collection:		7/17/2002	7/19/2002	7/19/2002	7/19/2002	7/19/2002	7/19/2002	

NOTES:

*reported in mg/l

**as $CaCO_3$

[1] Current EPA Arsenic MCL (0.010 mg/l), Compliance with 0.05 mg/l by January 1, 2006

†Analyses by Transwest Analytical

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Table 6. Weighted Prioritization Values

Weighted Prioritization Values		Column 1 Rank and Values																					
Cadastral		B(23-17)23a		B(23-17)23b		B(23-17)23c		B(23-17)23d		B(23-17)26a		B(23-17)26b		B(23-17)26c		B(23-17)26d		B(23-17)35a		B(23-17)35b		B(23-17)35c		B(23-17)35d	
Column		1		1		1		1		1		1		1		1		1		1		1		1	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	1	3	1	3	1	3	1	3	2	6	2	6	2	6	2	6	1	3	1	3	1	3	1	3
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		32	35	21	30	30	35	23	31	32	38	34	40	32	38	24	32	22	29	23	30	20	27	20	27
Cadastral		B(22-17)2a		B(22-17)2b		B(22-17)2c		B(22-17)2d		B(22-17)11a		B(22-17)11b		B(22-17)11c		B(22-17)11d		B(22-17)14a		B(22-17)14b		B(22-17)14c		B(22-17)14d	
Column		1		1		1		1		1		1		1		1		1		1		1		1	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	2	2	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	2	2	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	1	3	1	3	2	6	1	3	1	3	1	3	2	6	1	3
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		32	38	34	40	32	38	24	32	22	29	23	30	20	27	20	27	22	29	23	30	22	29	22	29
Cadastral		B(22-17)23a		B(22-17)23b		B(22-17)23c		B(22-17)23d		B(22-17)26a		B(22-17)26b		B(22-17)26c		B(22-17)26d		B(22-17)35a		B(22-17)35b		B(22-17)35c		B(22-17)35d	
Column		1		1		1		1		1		1		1		1		1		1		1		1	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	1	2	1	2	2	4	2	4	1	2	1	2	2	4	2	4	1	2	1	2	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	2	10	1	5	1	5	2	10	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		34	40	32	38	32	38	24	32	32	38	31	37	32	38	24	32	24	32	22	29	22	29	22	29
Cadastral		B(21-17)2a		B(21-17)2b		B(21-17)2c		B(21-17)2d		B(21-17)11a		B(21-17)11b		B(21-17)11c		B(21-17)11d		B(21-17)14a		B(21-17)14b		B(21-17)14c		B(21-17)14d	
Column		1		1		1		1		1		1		1		1		1		1		1		1	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	1	3	1	3	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		34	40	34	40	34	40	32	38	34	40	34	40	30	36	30	36	32	38	32	38	32	38	32	38

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Table 6 (Continued). Weighted Prioritization Values

Weighted Prioritization Values		Column 2 Rank and Values																					
Cadastral		B(23-17)24a		B(23-17)24b		B(23-17)24c		B(23-17)24d		B(23-17)25a		B(23-17)25b		B(23-17)25c		B(23-17)25d		B(23-17)36a		B(23-17)36b		B(23-17)36c		B(23-17)36d	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	1	3	1	3	2	6	2	6	2	6	2	6	2	6	2	6	1	3	1	3	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43
Cadastral		B(22-17)1a		B(22-17)1b		B(22-17)1c		B(22-17)1d		B(22-17)12a		B(22-17)12b		B(22-17)12c		B(22-17)12d		B(22-17)13a		B(22-17)13b		B(22-17)13c		B(23-17)13d	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	2	14	1	7	2	14	2	14
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43	32	43
Cadastral		B(22-17)24a		B(22-17)24b		B(22-17)24c		B(22-17)24d		B(22-17)25a		B(22-17)25b		B(22-17)25c		B(22-17)25d		B(22-17)36a		B(22-17)36b		B(22-17)36c		B(22-17)36d	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	1	1	1	1	0	0
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	2	10	2	10	2	10	2	10	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	3	21	2	14	2	14	3	21	2	14	1	7	1	7	2	14	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		43	57	43	57	43	57	43	57	43	57	43	57	43	57	43	57	43	57	43	57	43	57	43	57
Cadastral		B(21-17)1a		B(21-17)1b		B(21-17)1c		B(21-17)1d		B(21-17)12a		B(21-17)12b		B(21-17)12c		B(21-17)12d		B(21-17)13a		B(21-17)13b		B(21-17)13c		B(21-17)13d	
Column		2		2		2		2		2		2		2		2		2		2		2		2	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Proximity to Existing Wells	3	1	3	1	3	1	3	1	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		34	47	34	47	34	47	34	47	34	47	34	47	34	47	34	47	34	47	34	47	34	47	34	47

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Table 6 (Continued). Weighted Prioritization Values

Weighted Prioritization Values		Column 3 Rank and Values																					
Cadastral		B(23-16)19a		B(23-16)19b		B(23-16)19c		B(23-16)19d		B(23-16)30a		B(23-16)30b		B(23-16)30c		B(23-16)30d		B(23-16)31a		B(23-16)31b		B(23-16)31c		B(23-16)31d	
Column		3		3		3		3		3		3		3		3		3		3		3		3	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	1	3	1	3	1	3	1	3	2	6	1	3	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0
Cadastral		B(22-16)6a		B(23-16)6b		B(23-16)6c		B(23-16)6d		B(23-16)7a		B(23-16)7b		B(23-16)7c		B(23-16)7d		B(23-16)18a		B(23-16)18b		B(23-16)18c		B(23-17)18d	
Column		3		3		3		3		3		3		3		3		3		3		3		3	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	2	10	1	5	1	5	2	10	1	5	1	5	2	10	2	10
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	2	14	2	14	3	21	3	21	3	21	3	21
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	1	5
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	2	20	2	20	0	0	0	0	2	20	0	0	0	0	0	0	0	0
	TOTAL	32	0	32	0	32	0	64	41	64	55	32	0	32	0	64	80	48	0	64	0	64	0	64	0
Cadastral		B(22-16)19a		B(22-16)19b		B(22-16)19c		B(22-16)19d		B(22-16)30a		B(22-16)30b		B(22-16)30c		B(22-16)30d		B(22-16)31a		B(22-16)31b		B(22-16)31c		B(22-16)31d	
Column		3		3		3		3		3		3		3		3		3		3		3		3	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	2	10	2	10	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	3	21	3	21	3	21	3	21	3	21	3	21	2	14	2	14	1	7	1	7	1	7	1	7
Existing Drawdown	5	0	0	1	5	1	5	0	0	1	5	2	10	2	10	1	5	1	5	2	10	2	10	1	5
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	2	20	0	0	0	0	2	20	2	20	0	0	0	0	2	20
	TOTAL	32	0	32	0	32	0	32	0	64	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0
Cadastral		B(21-16)6a		B(21-16)6b		B(21-16)6c		B(21-16)6d		B(21-16)7a		B(21-16)7b		B(21-16)7c		B(21-16)7d		B(21-16)18a		B(21-16)18b		B(21-16)18c		B(21-16)18d	
Column		3		3		3		3		3		3		3		3		3		3		3		3	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proximity to Existing Wells	3	2	6	2	6	1	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0	32	0

CLEAR CREEK ASSOCIATES

Weighted Prioritization Values		Column 4 Rank and Values																					
Cadastral		B(23-16)20a		B(23-16)20b		B(23-16)20c		B(23-16)20d		B(23-16)29a		B(23-16)29b		B(23-16)29c		B(23-16)29d		B(23-16)32a		B(23-16)32b		B(23-16)32c		B(23-16)32d	
Column		4		4		4		4		4		4		4		4		4		4		4		4	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	1	3	2	6	1	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	TOTAL	32	#0%	32	#0%	29	#0%	32	#0%	29	#0%	32	#0%	32	#0%	32	#0%	32	#0%	32	#0%	32	#0%	32	#0%
Cadastral		B(22-16)5a		B(22-16)5b		B(22-16)5c		B(22-16)5d		B(22-16)8a		B(22-16)8b		B(22-16)8c		B(22-16)8d		B(22-16)17a		B(22-16)17b		B(22-16)17c		B(22-16)17d	
Column		4		4		4		4		4		4		4		4		4		4		4		4	
Row		4		4		4		4		5		5		5		5		8		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	2	4	1	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	2	10	2	10	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	2	14	2	14	2	14	2	14	3	21	2	14
Existing Drawdown	5	2	10	2	10	2	10	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	3	30	2	20	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	52	52	52	52	54	54	47	47	59	59	54	54	71	71	66	66	66	66	66	66	73	73	66	66
Cadastral		B(22-16)20a		B(22-16)20b		B(22-16)20c		B(22-16)20d		B(22-16)29a		B(22-16)29b		B(22-16)29c		B(22-16)29d		B(22-16)32a		B(22-16)32b		B(22-16)32c		B(22-16)32d	
Column		4		4		4		4		4		4		4		4		4		4		4		4	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	2	10	2	10	1	5	1	5	1	5	2	10	1	5	1	5	2	10
Proximity to Future Booster Sta.	7	2	14	3	21	3	21	2	14	1	7	2	14	1	7	1	7	2	14	1	7	1	7	2	14
Existing Drawdown	5	0	*0*	0	*0*	0	*0*	0	*0*	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Basin-fill Thickness and Geology	10	3	30	2	20	2	20	3	30	3	30	2	20	2	20	3	30	2	20	2	20	2	20	2	20
	TOTAL	61	#0%	58	#0%	57	#0%	65	#0%	63	#0%	55	#0%	48	#0%	58	#0%	60	#0%	48	#0%	48	#0%	60	#0%
Cadastral		B(21-16)5a		B(21-16)5b		B(21-16)5c		B(21-16)5d		B(21-16)8a		B(21-16)8b		B(21-16)8c		B(21-16)8d		B(21-16)17a		B(21-16)17b		B(21-16)17c		B(21-16)17d	
Column		4		4		4		4		4		4		4		4		4		4		4		4	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	1	3	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	2	14	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	1	5	1	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	2	20	2	20	0	*0*	2	20	0	*0*	0	*0*	0	*0*	0	*0*
	TOTAL	55	#0%	48	#0%	53	#0%	53	#0%	53	#0%	50	#0%	33	#0%	53	#0%	33	#0%	33	#0%	33	#0%	33	#0%

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Weighted Prioritization Values		Column 5 Rank and Values																					
Cadastral		B(23-16)21a		B(23-16)21b		B(23-16)21c		B(23-16)21d		B(23-16)28a		B(23-16)28b		B(23-16)28c		B(23-16)28d		B(23-16)33a		B(23-16)33b		B(23-16)33c		B(23-16)33d	
Column		5		5		5		5		5		5		5		5		5		5		5		5	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	2	20
	TOTAL	32	40	32	40	32	40	32	40	32	40	32	40	32	40	32	40	32	40	32	40	32	40	52	52
Cadastral		B(22-16)4a		B(22-16)4b		B(22-16)4c		B(22-16)4d		B(22-16)9a		B(22-16)9b		B(22-16)9c		B(22-16)9d		B(22-16)16a		B(22-16)16b		B(22-16)16c		B(22-16)16d	
Column		5		5		5		5		5		5		5		5		5		5		5		5	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	2	14	2	14	2	14	3	21	3	21	2	14	2	14	3	21	3	21	2	14	2	14	2	14
Existing Drawdown	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	54	54	54	54	54	54	61	61	71	71	64	64	64	64	71	71	73	73	66	66	66	66	66	66
Cadastral		B(22-16)21a		B(22-16)21b		B(22-16)21c		B(22-16)21d		B(22-16)28a		B(22-16)28b		B(22-16)28c		B(22-16)28d		B(22-16)33a		B(22-16)33b		B(22-16)33c		B(22-16)33d	
Column		5		5		5		5		5		5		5		5		5		5		5		5	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	1	3	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	2	10	1	5	1	5	2	10	1	5	1	5	1	5	2	10	2	10	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	2	14	2	14	2	14	3	21	3	21	3	21	3	21	3	21
Existing Drawdown	5	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	5	1	5
Basin-fill Thickness and Geology	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	54	40	54	40	58	40	53	40	60	40	62	40	60	40	67	40	67	40	72	40	77	40	73	73
Cadastral		B(21-16)4a		B(21-16)4b		B(21-16)4c		B(21-16)4d		B(21-16)9a		B(21-16)9b		B(21-16)9c		B(21-16)9d		B(21-16)16a		B(21-16)16b		B(21-16)16c		B(21-16)16d	
Column		5		5		5		5		5		5		5		5		5		5		5		5	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	3	21	3	21	2	14	3	21	2	14	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	1	5	1	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	3	30	3	30	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	0	*0*	2	20
	TOTAL	73	73	73	73	61	61	68	68	61	61	54	54	54	54	54	54	54	54	54	54	34	40	54	54

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Weighted Prioritization Values		Column 6 Rank and Values																					
Cadastral		B(23-16)22a		B(23-16)22b		B(23-16)22c		B(23-16)22d		B(23-16)27a		B(23-16)27b		B(23-16)27c		B(23-16)27d		B(23-16)34a		B(23-16)34b		B(23-16)34c		B(23-16)3d	
Column		6		6		6		6		6		6		6		6		6		6		6		6	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	20	2	20	2	20	2	20	2	20
	TOTAL	32	40	32	40	32	40	32	40	32	40	32	40	32	40	52	52	52	52	52	52	52	52	52	52
Cadastral		B(22-16)3a		B(22-16)3b		B(22-16)23c		B(22-16)3d		B(22-16)10a		B(22-16)10b		B(22-16)10c		B(22-16)10d		B(22-16)15a		B(22-16)15b		B(22-16)15c		B(22-16)15d	
Column		6		6		6		6		6		6		6		6		6		6		6		6	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	2	14	2	14	3	21	3	21	3	21	3	21	3	21	3	21	3	21	3	21	2	14	2	14
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	59	59	59	59	66	66	76	70	76	76	71	71	71	71	71	71	71	71	73	73	66	66	66	66
Cadastral		B(22-16)22a		B(22-16)22b		B(22-16)22c		B(22-16)22d		B(22-16)27a		B(22-16)27b		B(22-16)27c		B(22-16)27d		B(22-16)34a		B(22-16)34b		B(22-16)34c		B(22-16)34d	
Column		6		6		6		6		6		6		6		6		6		6		6		6	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	2	14	2	14	3	21	3	21	3	21	3	21	3	21	3	21
Existing Drawdown	5	1	5	1	5	0	0	1	5	1	5	0	0	0	0	1	5	1	5	0	0	1	5	1	5
Basin-fill Thickness and Geology	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	59	59	59	59	54	54	59	59	66	66	61	60	67	67	73	73	73	73	68	68	73	73	73	73
Cadastral		B(21-16)3a		B(21-16)3b		B(21-16)3c		B(21-16)3d		B(21-16)10a		B(21-16)10b		B(21-16)10c		B(21-16)10d		B(21-16)15a		B(21-16)15b		B(21-16)15c		B(21-16)15d	
Column		6		6		6		6		6		6		6		6		6		6		6		6	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	3	21	3	21	3	21	3	21	2	14	2	14	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	1	5	1	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	1	10	1	10
	TOTAL	63	63	63	63	68	68	68	68	61	61	60	60	54	54	54	54	54	54	53	53	43	43	43	43

CLEAR CREEK ASSOCIATES

Table 6 (Continued). Weighted Prioritization Values

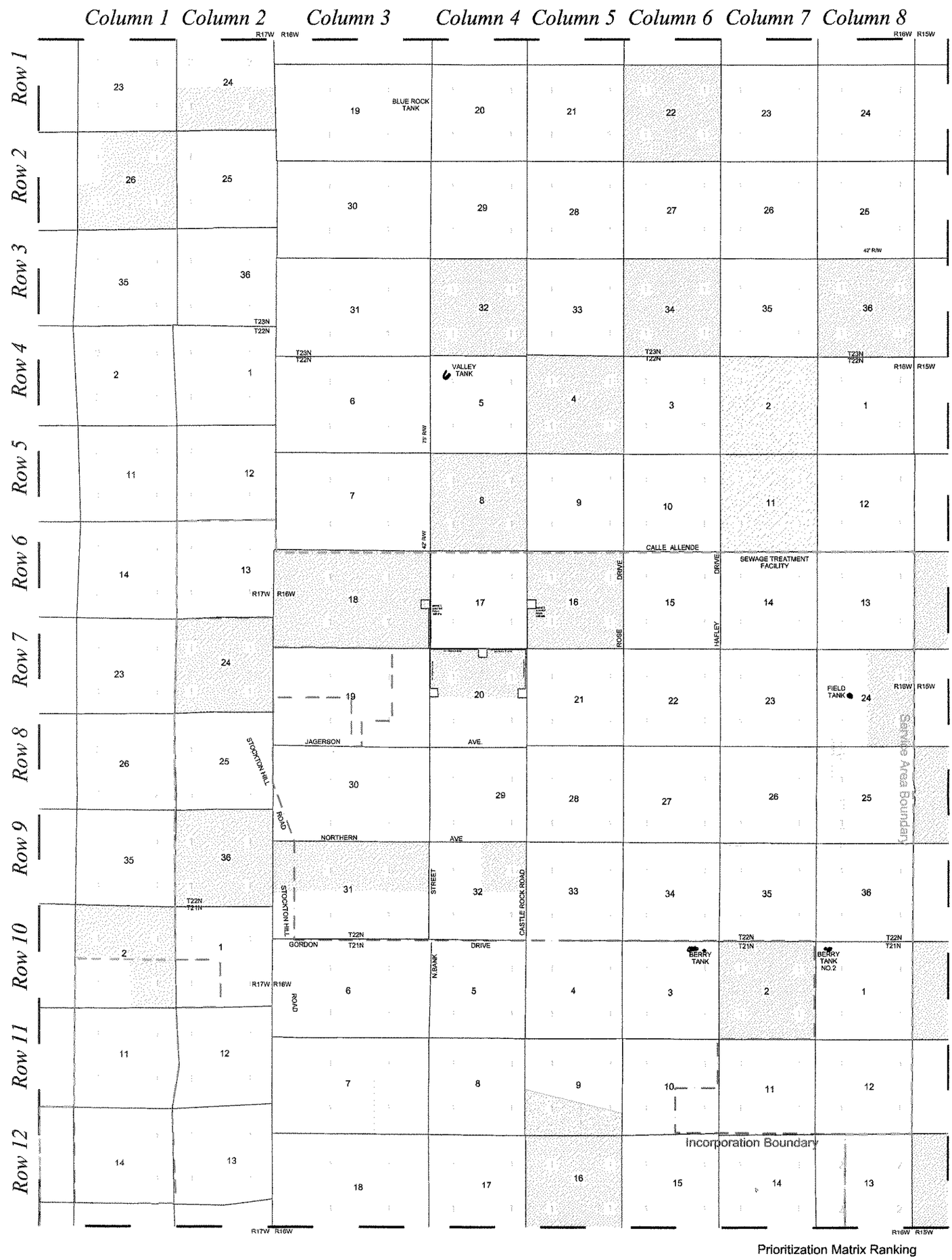
Weighted Prioritization Values		Column 7 Rank and Values																					
Cadastral		B(23-16)23a		B(23-16)23b		B(23-16)23c		B(23-16)23d		B(23-16)26a		B(23-16)26b		B(23-16)26c		B(23-16)26d		B(23-16)35a		B(23-16)35b		B(23-16)35c		B(23-16)35d	
Column		7		7		7		7		7		7		7		7		7		7		7		7	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	3	30	2	20	3	30	3	30
	TOTAL	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	62	62	52	52	62	62	62	62
Cadastral		B(22-16)2a		B(22-16)2b		B(22-16)2c		B(22-16)2d		B(22-16)11a		B(22-16)11b		B(22-16)11c		B(22-16)11d		B(22-16)14a		B(22-16)14b		B(22-16)14c		B(22-16)14d	
Column		7		7		7		7		7		7		7		7		7		7		7		7	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	2	4	1	2	1	2	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	1	3	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	2	14	2	14	3	21	2	14	2	14	3	21	3	21	2	14	2	14	3	21	2	14	2	14
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	1	5	1	5	1	5	1	5	1	5	1	5
Basin-fill Thickness and Geology	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	71	71	71	71	78	78	71	71	73	73	78	78	73	73	65	65	66	66	73	73	66	66	66	66
Cadastral		B(22-16)23a		B(22-16)23b		B(22-16)23c		B(22-16)23d		B(22-16)26a		B(22-16)26b		B(22-16)26c		B(22-16)26d		B(22-16)35a		B(22-16)35b		B(22-16)35c		B(22-16)35d	
Column		7		7		7		7		7		7		7		7		7		7		7		7	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	2	14	1	7	2	14	3	21	3	21	2	14
Existing Drawdown	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	2	10	1	5	1	5	2	10
Basin-fill Thickness and Geology	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
	TOTAL	59	59	59	59	59	59	59	59	59	59	59	59	59	66	59	59	71	71	73	73	73	73	71	71
Cadastral		B(22-16)2a		B(22-16)2b		B(22-16)2c		B(22-16)2d		B(22-16)11a		B(22-16)11b		B(22-16)11c		B(22-16)11d		B(22-16)14a		B(22-16)14b		B(22-16)14c		B(22-16)14d	
Column		7		7		7		7		7		7		7		7		7		7		7		7	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	2	4	2	4	1	2	2	4	1	2	2	4	2	4	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	2	14	3	21	2	14	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	2	20	1	10	1	10
	TOTAL	59	59	66	66	59	59	52	52	52	52	54	54	54	54	52	52	52	52	54	54	44	44	42	42

CLEAR CREEK ASSOCIATES

Weighted Prioritization Values		Column 8 Rank and Values																					
Cadastral		B(23-16)24a		B(23-16)24b		B(23-16)24c		B(23-16)24d		B(23-16)25a		B(23-16)25b		B(23-16)25c		B(23-16)25d		B(23-16)36a		B(23-16)36b		B(23-16)36c		B(23-16)36d	
Column		8		8		8		8		8		8		8		8		8		8		8		8	
Row		1		1		1		1		2		2		2		2		3		3		3		3	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
TOTAL		52	52	52	52	52	52	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Cadastral		B(22-16)1a		B(22-16)1b		B(22-16)1c		B(22-16)1d		B(22-16)12a		B(22-16)12b		B(22-16)12c		B(22-16)12d		B(22-16)13a		B(22-16)13b		B(22-16)13c		B(22-16)13d	
Column		8		8		8		8		8		8		8		8		8		8		8		8	
Row		4		4		4		4		5		5		5		5		6		6		6		6	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	1	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	0	0	0	0	0	0	0	0	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	1	5	2	10	2	10	1	5	1	5	2	10
Basin-fill Thickness and Geology	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
TOTAL		64	64	62	62	59	54	59	54	59	54	59	54	59	59	64	64	64	64	59	59	59	59	64	64
Cadastral		B(22-16)24a		B(22-16)24b		B(22-16)24c		B(22-16)24d		B(22-16)25a		B(22-16)25b		B(22-16)25c		B(22-16)25d		B(22-16)36a		B(22-16)36b		B(22-16)36c		B(22-16)36d	
Column		8		8		8		8		8		8		8		8		8		8		8		8	
Row		7		7		7		7		8		8		8		8		9		9		9		9	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Pipelines/Easements	2	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	1	2	2	4	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	1	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30	3	30
TOTAL		64	64	59	59	64	64	64	64	64	64	64	64	64	64	64	64	62	62	64	64	62	62	62	62
Cadastral		B(21-16)1a		B(21-16)1b		B(21-16)1c		B(21-16)1d		B(21-16)12a		B(21-16)12b		B(21-16)12c		B(21-16)121d		B(21-16)13a		B(21-16)13b		B(21-16)13c		B(21-16)13d	
Column		8		8		8		8		8		8		8		8		8		8		8		8	
Row		10		10		10		10		11		11		11		11		12		12		12		12	
Quarter Section		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast		Northeast		Northwest		Southwest		Southeast	
Criteria	Multiplier	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Land Ownership	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Proximity to Pipelines/Easements	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Proximity to Neighborhoods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Proximity to Existing Wells	3	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
Water Quality	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5
Proximity to Future Booster Sta.	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7
Existing Drawdown	5	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10	2	10
Basin-fill Thickness and Geology	10	2	20	2	20	2	20	2	20	1	10	2	20	2	20	1	10	1	10	1	10	1	10	1	10
TOTAL		52	52	52	52	52	52	52	52	42	42	52	52	52	52	42	42	43	43	43	43	43	43	43	43

CLEAR CREEK ASSOCIATES

PLATES



Prioritization Matrix Ranking

Private Land

City of Kingman Land

State Land

Fedral Land

Section Number

Quarter Section Matrix Rank

32

SCALE

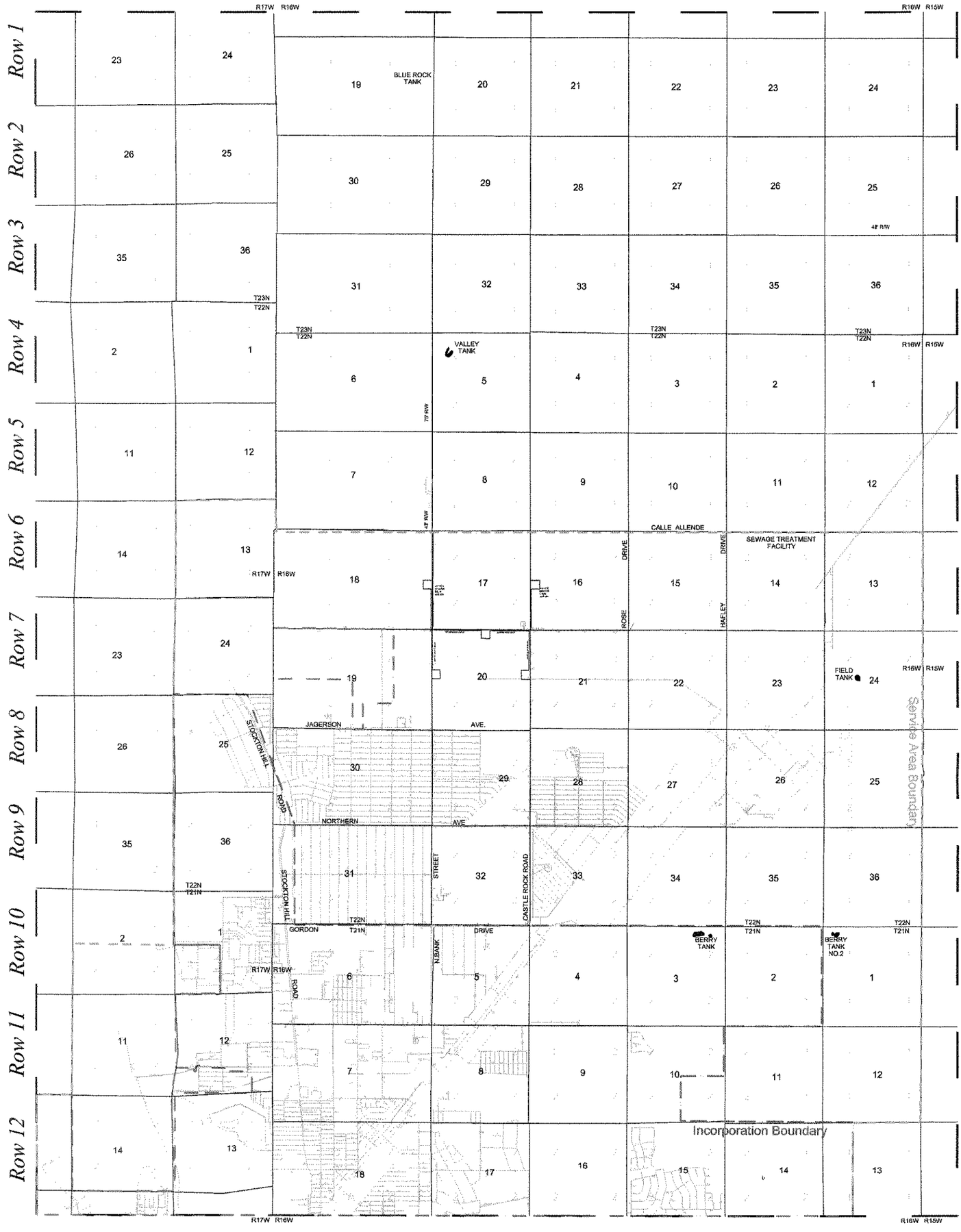
2000' 0 2000' 4,000'

SCALE IN FEET

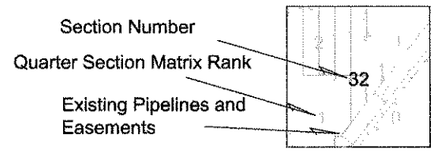
City of Kingman Basin Study/Well siting Study Summary of Criterion and Ranks.		
Criterion	Multiplier	Rank
Land Ownership	1	
City of Kingman Land		3
State Land		2
Federal Land		2
Private Land		1

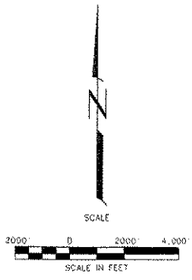
CLEAR CREEK ASSOCIATES

PLATE 1
Land Status Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003



Prioritization Matrix Ranking





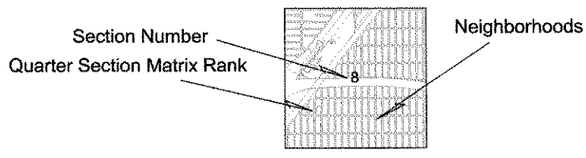
City of Kingman Basin Study/Well siting Study
Summary of Criterion and Ranks.

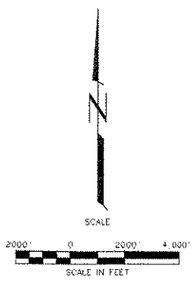
Criterion	Multiplier	Rank
Proximity to Pipelines/Easements	2	
> 1 mile		1
[1 mile		2

CLEAR CREEK ASSOCIATES

PLATE 2
Proximity to Easements Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

Prioritization Matrix Ranking



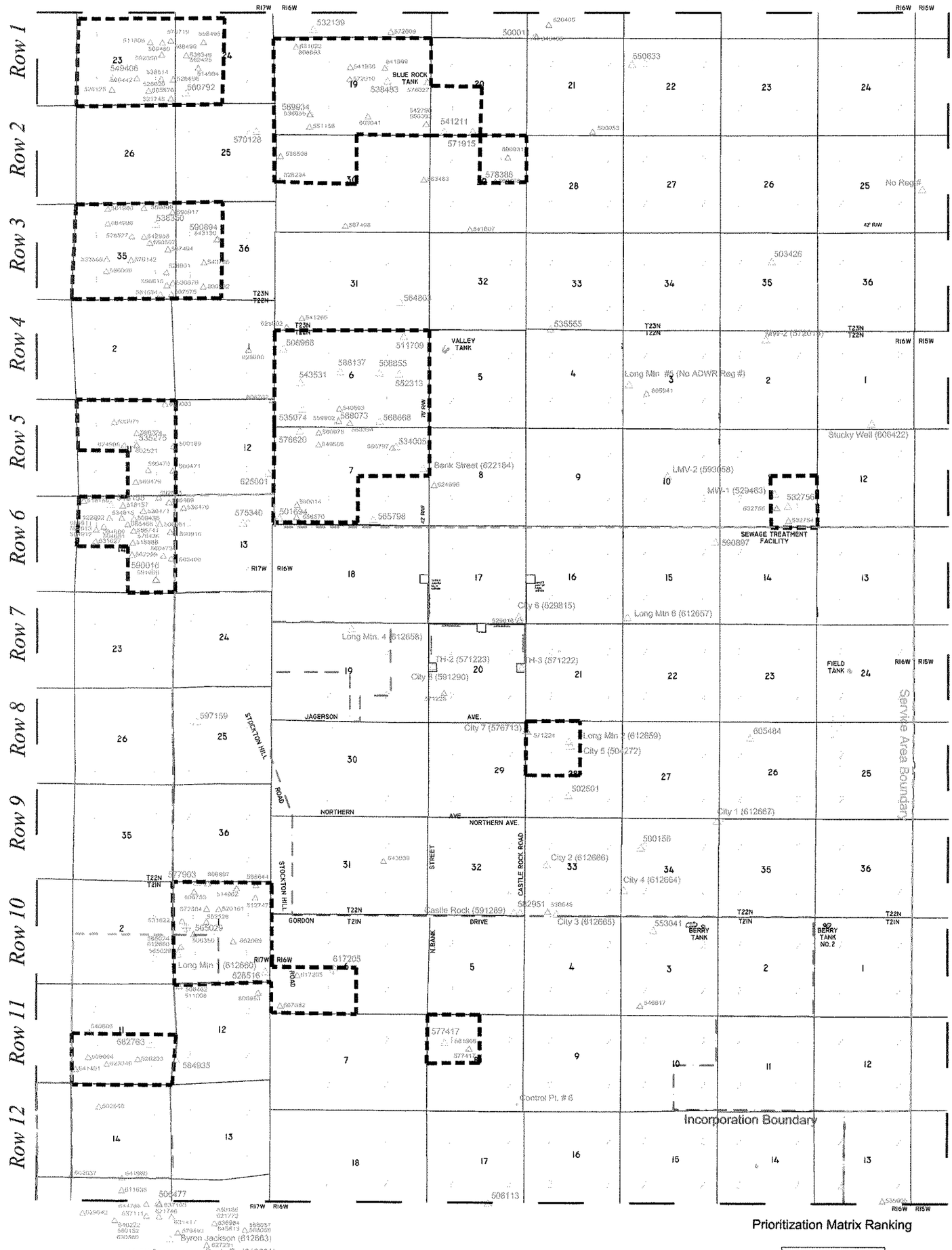


City of Kingman Basin Study/Well siting Study
Summary of Criterion and Ranks.

Criterion	Multiplier	Rank
Proximity to Neighborhoods	1	
< ½ mile		1
≥ ½ mile		2

CLEAR CREEK ASSOCIATES

PLATE 3
Proximity to Neighborhoods Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

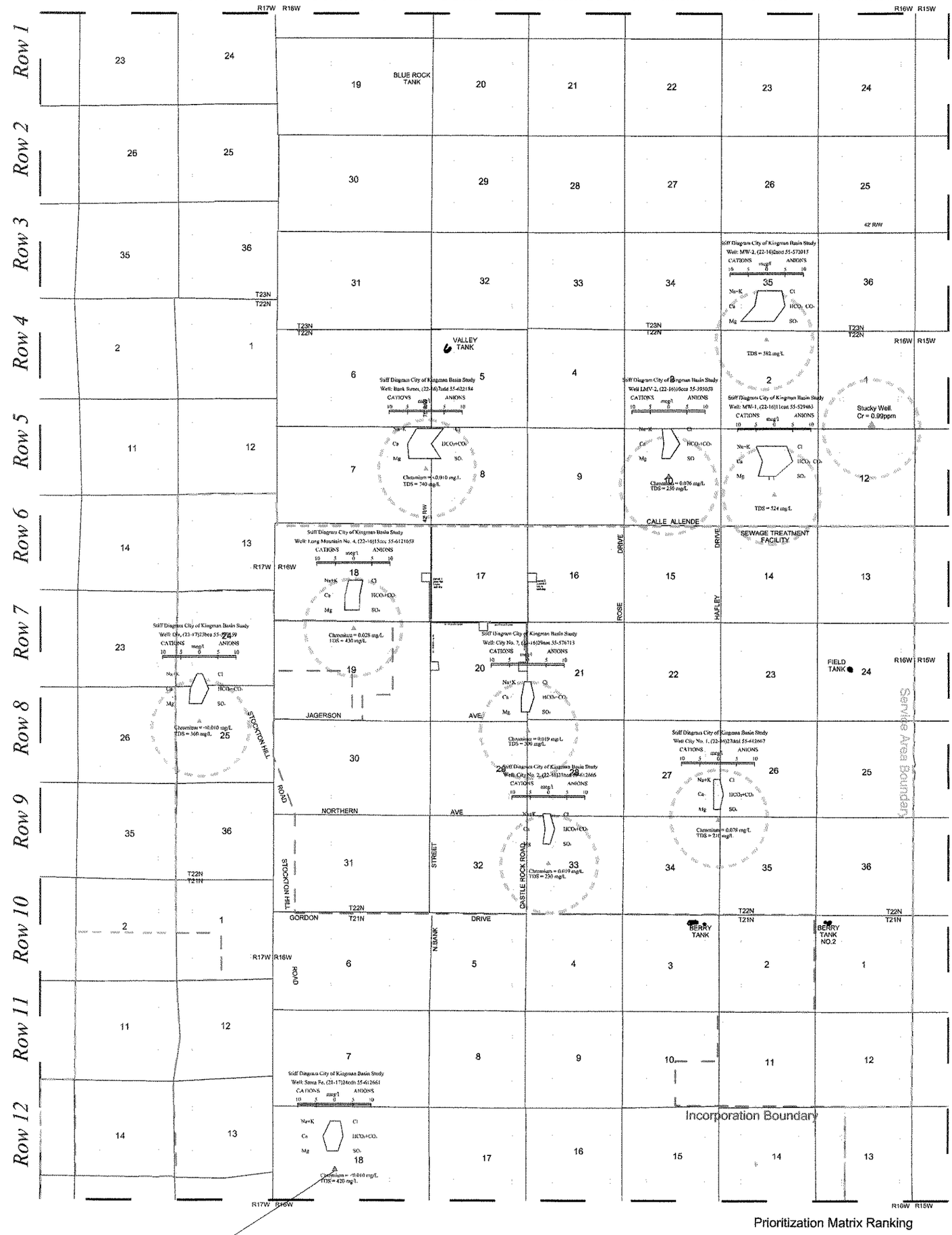


City of Kingman Basin Study/Well siting Study
Summary of Criterion and Ranks.

Criterion	Multiplier	Rank
Proximity to Existing Wells	3	
> 1 within quarter section		1
≤ 1 within quarter section		2

CLEAR CREEK ASSOCIATES

PLATE 4
Proximity to Wells Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

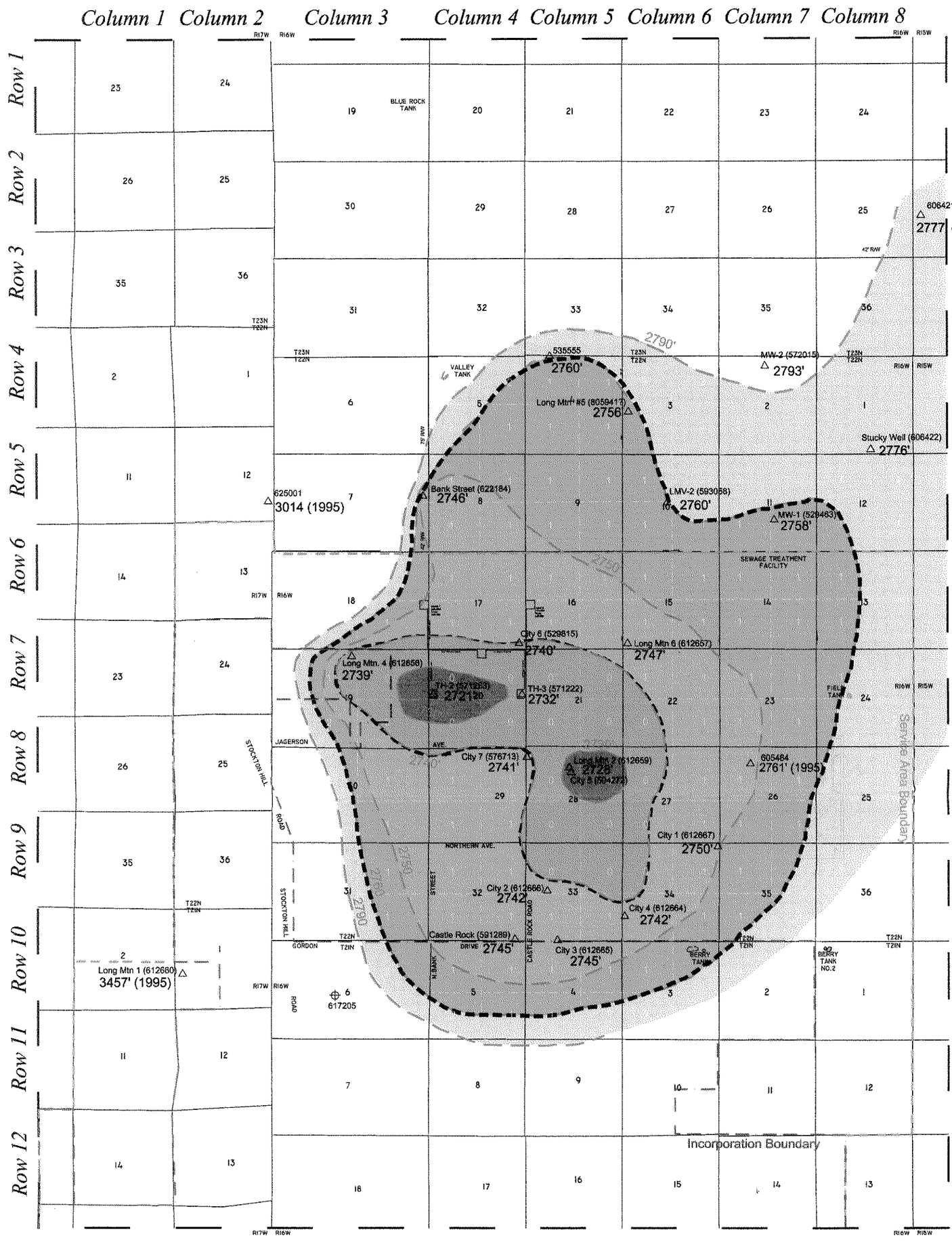


City of Kingman Basin Study/Well siting Study
Summary of Criterion and Ranks.

Criterion	Multiplier	Rank
Water Quality	5	
Cr ≥ 0.10 ppm		0
No Data within ½ mile		1
Cr > 0.05 and < 0.10 ppm		1
Cr < 0.05 ppm		2

CLEAR CREEK ASSOCIATES

PLATE 5
Water Quality Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003



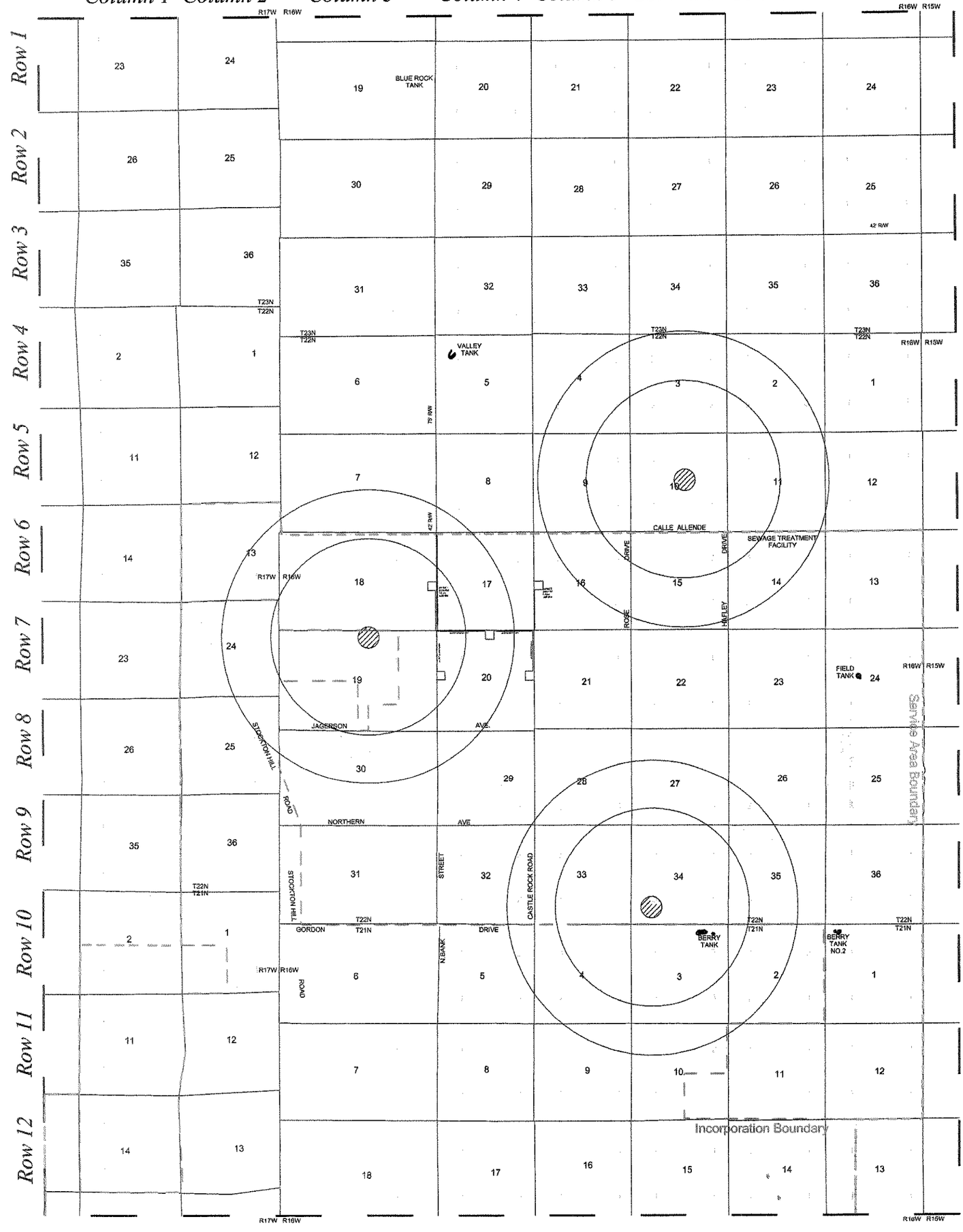
[1] *Note: Water Table Datum Spring 1967*
USGS Water-Supply Paper 1899-H
Gillespie and Bently, 1971

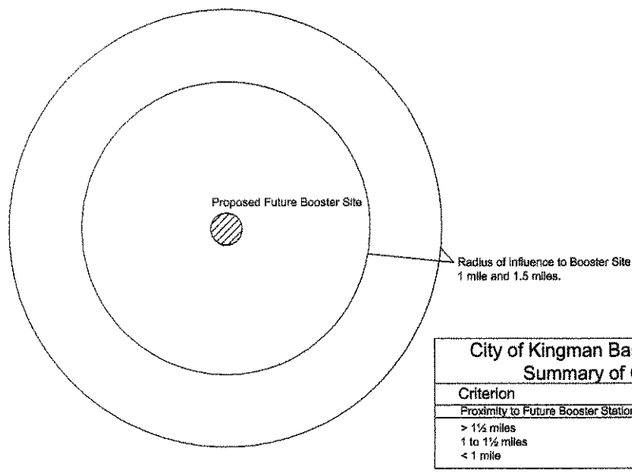
City of Kingman Basin Study/Well siting Study
Summary of Criterion and Ranks.

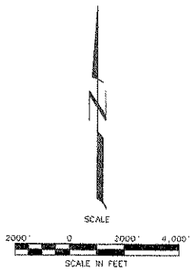
Criterion	Multiplier	Rank
Existing Drawdown	5	
≥ 50 feet		0
30 to 50 feet		1
< 30 feet		2

CLEAR CREEK ASSOCIATES

PLATE 7
Water Table Drawdown Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003







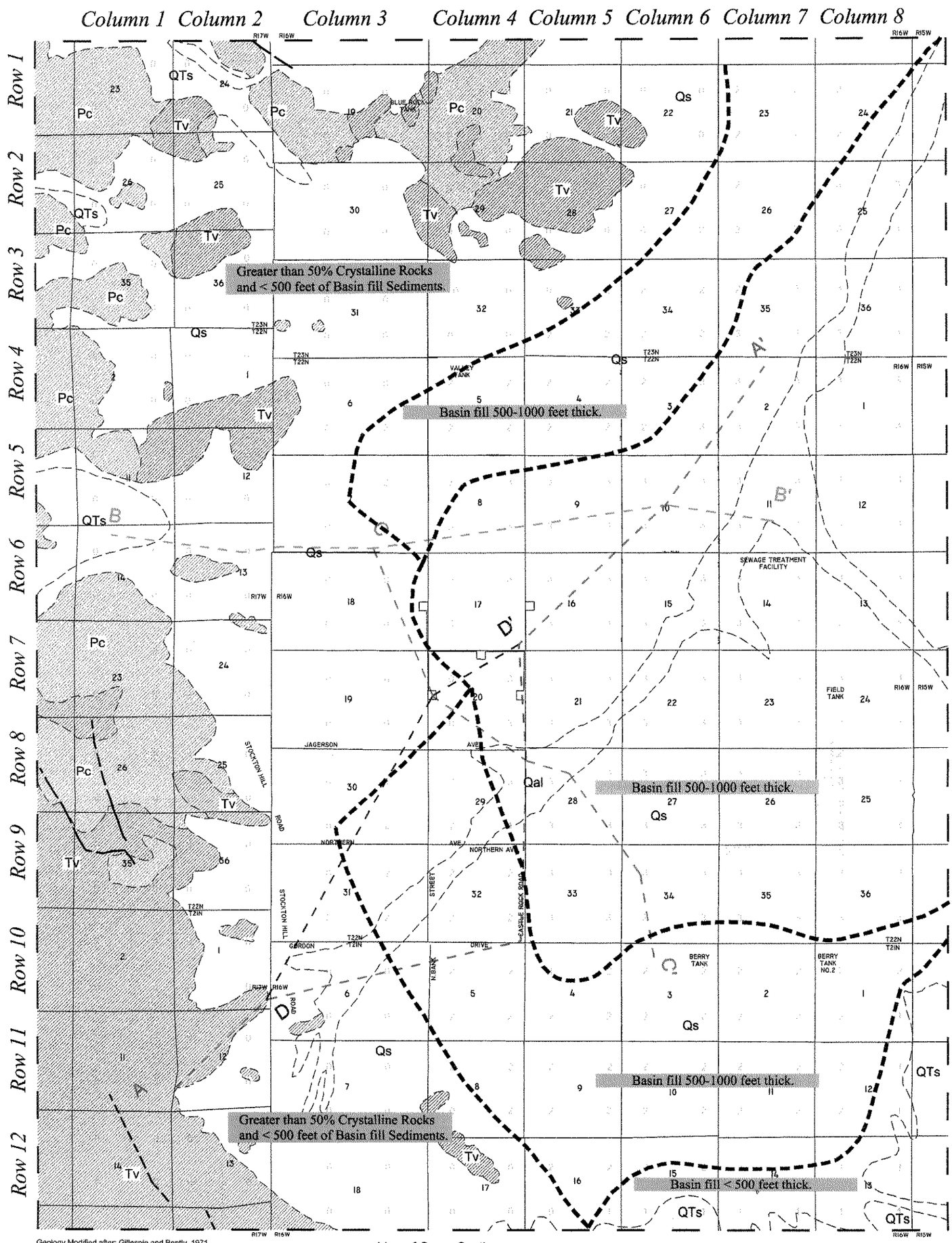
Prioritization Matrix Ranking

Section Number
Quarter Section Matrix Rank
32

City of Kingman Basin Study/Well siting Study Summary of Criterion and Ranks.		
Criterion	Multiplier	Rank
Proximity to Future Booster Stations	7	
> 1½ miles		1
1 to 1½ miles		2
< 1 mile		3

CLEAR CREEK ASSOCIATES

PLATE 6
Future Booster Station Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003



Geology Modified after: Gillespie and Bently, 1971
Santa Fe Pacific Railroad Co., 1981.

Line of Cross-Section

A A'

Qal Quaternary Alluvium
Qs Quaternary Tertiary Pediment Deposits
QTs Quaternary Tertiary Older Alluvium
Tv Tertiary Volcanics Undifferentiated
Pc Precambrian Undifferentiated
Fault
500' Basin-fill Boundaries and Thickness Determinations.

Prioritization Matrix Ranking

Section Number
Quarter Section Matrix Rank
29

N

SCALE

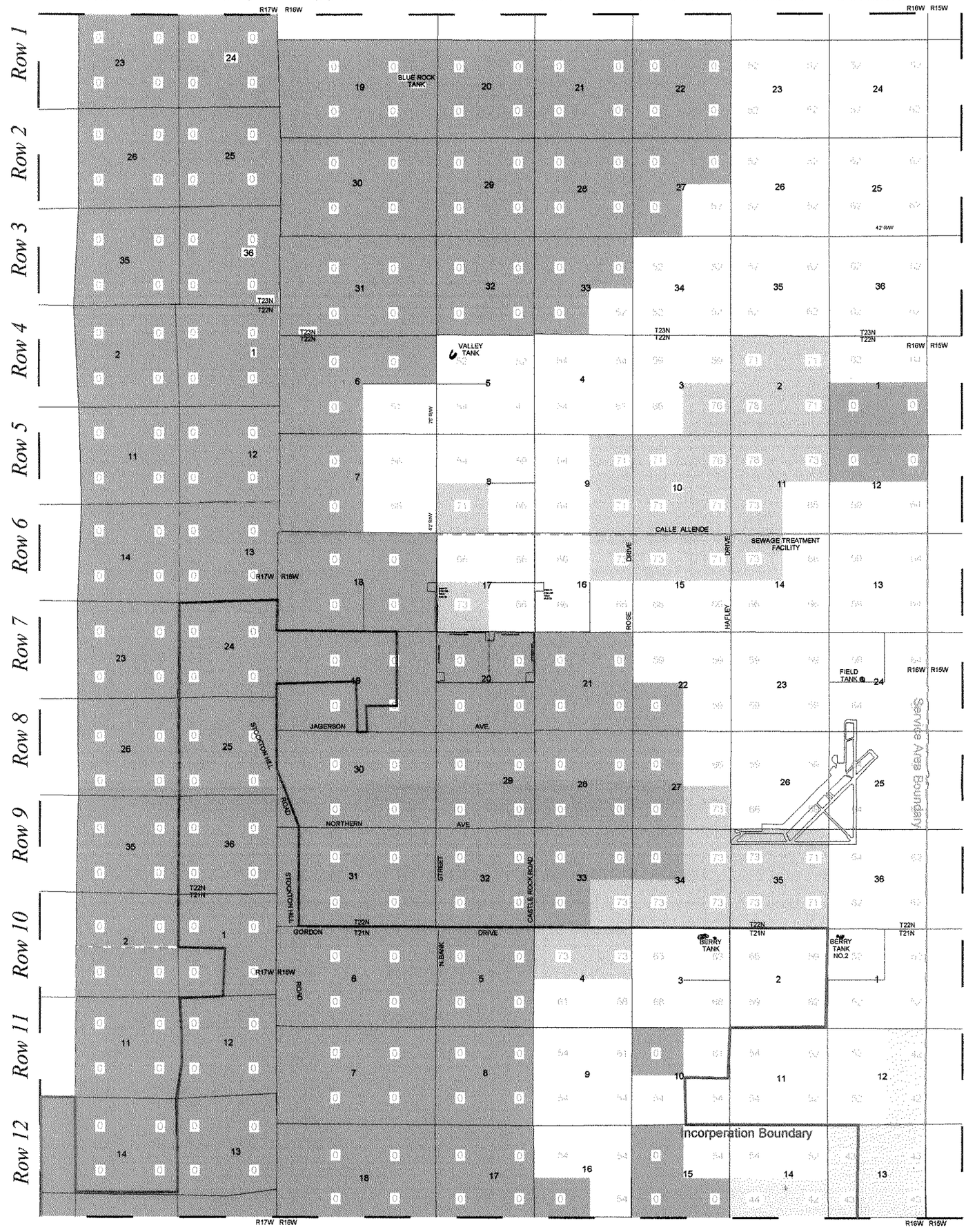
2000' 0 2000' 4000'
SCALE IN FEET

City of Kingman Basin Study/Well siting Study
Summary of Criterion and Ranks.

Criterion	Multiplier	Rank
Basin Thickness and Geology	10	
≥ 50% Crystalline Rocks and < 300 feet of Basin-fill Sediments feet		0
Basin-fill Sediments < 500 feet Thick		1
Basin-fill Sediments 500 to 1,000 feet Thick		2
Basin-fill Sediments > 1,000 feet Thick		3

CLEAR CREEK ASSOCIATES

PLATE 8
Geology Ranking Map
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

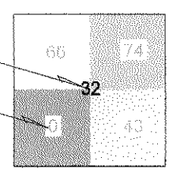


Expanantion:
Suitability for Future Well Sites

0	<20 Does Not Qualify
20	20 to 45 Low Suitability
46	46 to 70 Moderate Suitability
75	>70 Greatest Suitability

Prioritization Matrix

Section Number
Quarter Section Matrix Final Score



SCALE
2000' 0 2000' 4,000'
SCALE IN FEET

CLEAR CREEK ASSOCIATES

PLATE 9
Summary of Criterion, Ranks, and Scores
City of Kingman Basin Study
Kingman, Arizona
August 27, 2003

APPENDIX A

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION
500 North Third Street
Phoenix, Arizona 85004-3903

VARIANCE GRANTED

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-571223

AUTHORIZED DRILLER: THF DRILLING, INC. LICENSE NO: 611

NOTICE OF INTENTION TO DRILL MONITOR WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

CONSULTANT:

WELL OWNER: CITY OF KINGMAN 310 N FOURTH STREET KINGMAN, AZ 86401

The well(s) is/are to be located in the:

SW 1/4 of the NW 1/4 of the SW 1/4 Section 20 Township 22 NORTH Range 16 WEST

No. of Wells in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 6TH DAY OF OCTOBER, 1999.

CHIEF, GROUNDWATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL
WITHIN 30 DAYS OF COMPLETION OF DRILLING

17. If construction plans have been coordinated with Arizona Department of Environmental Quality, who is the agency contact? NOT YET

PRODUCTION WELLS WILL BE APPROVED BY ADEQ

If construction plans have been coordinated with Arizona Department of Water Resources, who is the agency contact?_____

18. WELL CONSTRUCTION PLAN:

a) Drilling method (mud rotary, hollow-stem auger, etc.) REVERSE CIRCULATION ROTARY

b) Borehole diameters: 12 inches from 0 feet to 20 feet.
5* inches from 20 feet to 1200 feet.

*TO BE REAMED FOR CASING

c) Casing materials (PVC, steel, hollow-stem auger, etc.)
material SCH 80 PVC diameter 4 inches from 0 feet to 1200 feet.
material_____ diameter_____ inches from_____ feet to_____ feet.

d) Method of sealing at reductions N/A

e) Annular seal materials (cement, grout, etc.,); method of placement (tremied, circulated):
material GROUT / cement method_____ from 0 feet to 20 feet.
material_____ method_____ from_____ feet to_____ feet.

f) Filter packs (state material):
material N/A from_____ feet to_____ feet.
material_____ from_____ feet to_____ feet.

g) Perforations or screen specifications:
Type 4-3" SAW CUTS/LF from 600 EST feet to 1200 feet
Type_____ from_____ feet to_____ feet

h) Method of well development (bail, air lift, surge) N/A

i) Will surface or conductor casing extend above grade?: Yes XXX No_____

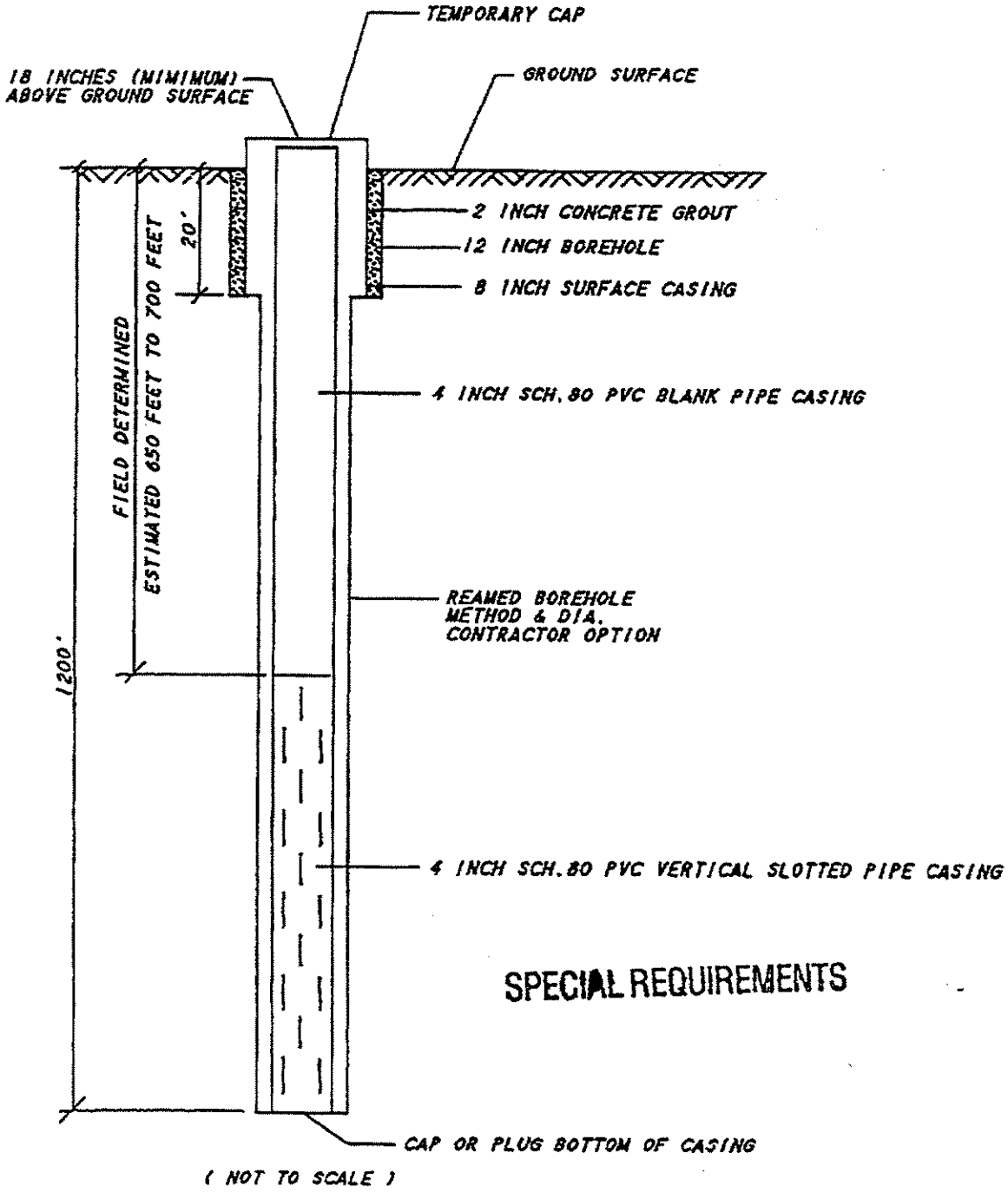
19. Include detailed construction diagram showing expected water depth in feet below land surface, and details of vault, if specified.

GENERAL INSTRUCTIONS

1. Please submit two original notices, with original signatures, and a check or money order (no cash) in the amount of $10.00, to P.O. Box 458, Phoenix, Arizona 85001-0458 or hand deliver to 500 North 3rd Street, Phoenix, Arizona .

CONDITIONS

1. If an individual other than the land owner or lessee, signs this notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific Notice on their behalf, shall accompany the Notice of Intention to Drill a Monitor/Piezometer Well form.
2. Construction and abandonment standards for all wells shall be in accordance with A.A.C. R12-15-811 and R12-15-816.
3. Drilling of the well shall be completed within one year after the date of Notice.
4. A Well Driller Report is required within thirty days of completion of drilling. A Completion Report, is required to be filed with the Department within thirty days after installation of pump equipment for monitor wells.
5. Pump equipment may not be installed on a well drilled for piezometer purposes. If a monitor well is pumped, pumping is limited to the maximum amount required for monitor purposes, but in no case may exceed 35 gallons per minute and an annual volume of 10 acre feet total.
6. A.A.C. Rule R12-15-811.H.2, requires that: "A monitor well shall be identified as such on the vault cover or at the top of the steel casing. Identification information will include well registration number."
7. Special construction standards required pursuant to A.A.C. Rule R12-15-821:_____



SPECIAL REQUIREMENTS

TYPICAL COMPLETED OBSERVATION WELL

VARIANCE GRANTED

THF DRILLING, INC.

2420 South 16th Avenue
Phoenix, Arizona 85007
Phone: (602) 254-6586
Fax: (602) 254-6648

October 6, 1998

Arizona Department of Water Resources
Hydrology Division
Attn: Jim Johnson
500 North 3rd Street
Phoenix, Arizona 85004

Subject: Request for Variance

Dear Jim:

On behalf of NJ Devlin Consulting Engineers, THF Drilling, Inc. requests a variance in the construction of one (1) 4-inch groundwater monitor/piezometer well to a depth of 1200', for the City of Kingman located at Township 22 North, Range 16 West, of the SW ¼, NW ¼, SW ¼ of Section 20 in Kingman, Arizona.

The groundwater monitor/piezometer well will be constructed with Sch. 80 PVC casing in the upper 20' of the well, in lieu of the required 20' of steel casing.

Thank you for your attention to this request for variance. The timing on receiving the Drill Card on this project is extremely important, if you have any questions please call us at (602) 254-6586.

Sincerely,
THF Drilling, Inc.

D. John Truax
General Manager

ARIZONA DEPARTMENT OF WATER RESOURCES
Hydrology Division
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2448
Fax (602) 417-2425

JANE DEE HULL
Governor

RITA P. PEARSON
Director

October 19, 1998

THF Drilling, Inc.
2420 South 16th Avenue
Phoenix, AZ 85007

Attn: D. John Truax

Re: Variance for Construction of Three Monitor Wells
Registration Numbers 55-571222 through 55-571224

Dear Mr. Truax:

The Arizona Department of Water Resources received your request dated October 6, 1998 for a variance for construction of three monitor wells to be located in Mohave County. The purpose of these wells will be to monitor ground water levels .

The Arizona Department of Water Resources approves this request for the following variance:

- Thermoplastic casings (risers) with a watertight cap may be used in lieu of steel casings (R12-15-811.B.1).

The following *special requirements* are conditions for this variance (R12-15-821.):

- The PVC inner casings (risers) shall comply with ASTM Standard Guide D5092, Section 6.5.
- The wells shall be constructed per the "Variance Granted".Notice of Intention to Drill.
- The wells shall be abandoned (decommissioned) per A.A.C. R12-15-816.

If you have any questions, please contact James L. Johnson of my staff at (602) 417-2400 ext.# 7268.

Sincerely,

Greg Wallace
Chief Hydrologist

GW/JLJ/na
502444

Kingman, City of

VARIANCE CHECKLIST
HYDROLOGY

DATE RECEIVED: 10/07/98 POTENTIAL REG. NO. 55-_____
DATE TO HYDRO: 10/15/98
DATE TO GWMSS: 10-19-98 55- 571222 THRU 55- 571224

FRONT OF N.O.I. COMPLETE/CORRECT: (YES) NO

REQUEST FOR VARIANCE RECEIVED: (YES) NO

DIAGRAM/SITE PLAN RECEIVED: YES (NO)

TYPE AND NUMBER OF WELLS:

- 3 MONITOR
- ____ PIEZOMETER
- ____ GEOTECHNICAL
- ____ MINERAL EXPLORATION
- ____ WATER PRODUCTION
- ____ CATHODIC PROTECTION
- ____ GROUNDING
- ____ HEAT PUMP
- ____ OTHER _____ (DESCRIBE TYPE OF WELL)

VARIANCE: (PLEASE CHECK APPROPRIATE BLOCKS)

- ✓ REQUIRED
- ____ NOT REQUIRED
- ✓ GRANTED
- ____ NOT GRANTED
- ____ LETTER ISSUED

ATTENTION NOTICE OF INTENT TEAM:

- ____ HARD COPY OF LETTER TO FOLLOW
- ____ CALL FOR PICKUP

COMMENTS:
10-16-98 Called N.T. DeGraw Consulting, left message.

lisa

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

RECEIVED APR 21 1982 DEPT. OF WATER RESOURCES

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

02

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☐
NON-EXEMPT WELL — $10.00	☒

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 606422
FILE NO. B(22-16)1dcc
FILED 4-21-82 (DATE) AT 9- (TIME)
INA ND
AMA

1. Name of Registrant:
J. Leonard & Grace Helen Neal
4040 Long Mountain Ranch Road (Address) Kingman (City) Arizona (State) 86401 (Zip)

2. File and/or Control Number under previous groundwater law:
None (File Number) 35- (Control Number)

3. a. The well is located within the SW ¼ SW ¼ SE ¼, Section 1, of Township 22N N/S, Range 16W E/W, G & SRB & M, in the County of Mohave.
b. If in a subdivision: Name of subdivision N/A, Lot No. N/A, Address N/A.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
None at present - Proposed irrigation & stockwater use.

5. If for irrigation use, number of acres irrigated from well 120 acres (proposed)

6. Owner of land on which well is located. If same as Item 1, check this box ☒
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 1000 ? feet
b. Diameter of casing 20" inches
c. Depth of casing 1000 ? feet
d. Type of casing Steel .
e. Maximum pump capacity 600 gpm. gallons per minute.
f. Depth to water 450' feet below land surface.
g. Date well completed ? (Month) ? (Day) 1976 (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☒.
___ ¼ ___ ¼ SW ¼, Section 1 Township 22N Range 16W (OR)
___ ¼ ___ ¼ SW ¼, Section 25 Township 23N Range 16W
Attach additional sheet if necessary.

9. DATE April 20, 1982 SIGNATURE OF REGISTRANT J. Leonard Neal

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

OK

CHANGE OF WELL INFORMATION

Well Reg. No. 606422

File (location) No. B22016001 DCC

I/We request the following well information be changed:

NAMED CHANGED TO: HAFLEY FAMILY LIMITED PARTNERSHIP

ADDRESS CHANGED TO: P.O. BOX 4970 HB

KINGMAN, AZ 86412

Date: AUGUST 14, , 19 90

Leonard E. Hafley
Signature of current Well Owner
LEONARD E. HAFLEY, PRESIDENT FOR HAFLEY PARTNERSHIP

(DO NOT CUT THIS FORM IN HALF)

STATEMENT OF CHANGE OF WELL OWNERSHIP

I, LEONARD E. HAFLEY, PRESIDENT, state that I am ~~(no longer)~~ the (new)
(please print)
owner of the well described below:

ENTERED AUG 23 1990

Township 22N Range 16W Section 1 ; ___ ¼ ___ ¼ ___ ¼

Well Registration No. 606422 File (location) No. B22016001 DCC

J L NEAL & GRACE HELEN NEAL
Previous Owner

4040 LONG MTN. RANCH RD.
Address

KINGMAN, AZ 86401
City State Zip

DATED: AUGUST 14, 1990

HAFLEY FAMILY LIMITED PARTNERSHIP
PRINT New Owner's Name

Leonard E. Hafley
Signature of New Owner
LEONARD E. HAFLEY, PRESIDENT

P.O. BOX 4970 HB
Address

KINGMAN, AZ 86412
City State Zip

NOTE: A.R.S. §45-593.C. requires that the Department be notified of change of well ownership and that the well owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty (30) days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER, PRIOR TO DRILLING THE WELL, IN ADDITION TO AMENDING INFORMATION PREVIOUSLY FILED.

* * * * *

DWR-55-51-7/88

J. LEONARD NZAL
4040 Long Mountain Ranch Road
Kingman, AZ 86401

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	606420
	THRU
55	606423

ACCOUNT NO. FUND SOURCE	AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
					Filing fee for Registration of Existing		
					Well	10.00	40.00
					File No: B(22-17) 34 dca		
					B (23-16) 15 bdb		
					B (23-15) 30 cbb		
					B (22-16) -d cc		
					B (24-16) 11 ddd		

WRITER PAYMENT
GUESTS 4
CHK NO 225
48 10.00
55-I 40.00
TAX 0.00
TOTL 40.00
GEN.CHEK 40.00

Check 225
5/6/82
Ms

TOTAL $ # 7633 R 9:00
40.00

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

RECEIVED JUN 4 1982 DEPT. OF WATER RESOURCES

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

02

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☐
NON-EXEMPT WELL — $10.00	☒

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 612665
FILE NO. B(22-16)33 cdc
FILED 6-4-82 (DATE) AT 3 pm (TIME)
INA ✓
AMA ✓

City 3

1. Name of Registrant:
CITY OF KINGMAN City Well #3
310 North Fourth Street, Kingman, AZ 86401
(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:
(B-22-16) 33-3 cdc (File Number)
35- (Control Number)

3. a. The well is located within the SW ¼ SE ¼ SW ¼, Section 33, of Township 22N N/S, Range 16W E/W, G & SRB & M, in the County of MOHAVE.

b. If in a subdivision: Name of subdivision N/A, Lot No. _____, Address _____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Municipal

5. If for irrigation use, number of acres irrigated from well _____.

6. Owner of land on which well is located. If same as Item 1, check this box ☐XX
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 1008' feet
b. Diameter of casing 16" inches
c. Depth of casing 1008' feet
d. Type of casing Steel.
e. Maximum pump capacity 1200 gpm gallons per minute.
f. Depth to water 612' feet below land surface.
g. Date well completed August (Month) (Day) 1971 (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☐.
_____¼ _____¼ _____¼, Section _____ Township _____ Range _____
_____¼ _____¼ _____¼, Section _____ Township _____ Range _____
KINGMAN MUNICIPAL WATER SYSTEM SERVICE AREA
Attach additional sheet if necessary.

9. DATE 6/2/82 SIGNATURE OF REGISTRANT Louis G. Sorensen

CITY OF KINGMAN
310 N FOURTH ST
KINGMAN AZ 86401

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	612653
THRU	
55	612667

(15)

ACCOUNT NO. FUND SOURCE	AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
					Filing fee for Registration of	10.00	150.00
					Existing Wells		
						WRITER PAYMENT	
					55-612653 B(21-17)15bcc 55-612661 B(21-17)24cdb	QUESTS	15
					55-612654 B(21-17)3 cda 55-612662 B(21-17)24cdd	CHK NO	3267
					55-612655 B(22-17)34dcd 55-612663 B(21-17)24cbc	15R	10.00
					55-612656 B(22-17)34bda 55-612664 B(22-16)34 cbc	55-I	150.00
					55-612657 B(22-16)15ccc 55-612665 B(22-16)33cdc	TAX	0.00
					55-612658 B(22-16)19baa 55-612666 B(22-16)33bcd	TOTL	150.00
					55-612659 B(22-16)28bad 55-612667 B(22-16)27ddd	GEN.CHEK	150.00
					55-612660 B(21-17)1 cbc		

Check No. 3267

TOTAL $ # 3267 A 12:37 150.00

7/13/82 jc

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

APR 1982 DEPARTMENT OF WATER RESOURCES

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE – FILE IN DUPLICATE

02

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☐
NON-EXEMPT WELL – $10.00	☒

FOR OFFICE USE ONLY
REGISTRATION NO. 55-605484
FILE NO. B(22-16)26
FILED 4/1/82 (DATE) AT 3:07 (TIME)
INA —
AMA —

General Cable Airport

1. Name of Registrant:
General Cable Company
4900 Industrial Boulevard (Address) Kingman (City) Arizona (State) 86401 (Zip)

2. File and/or Control Number under previous groundwater law:
(B-22-15) -26-1 (File Number) 35- (Control Number)

3. a. The well is located within the ____¼ ____¼ ____¼, Section 26 & 27, of Township 22 N/S, Range 16 E/W, G & SRB & M, in the County of Mohave. Parcel #310-19-003-0

b. If in a subdivision: Name of subdivision ____, Lot No. ____, Address ____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Industrial.

5. If for irrigation use, number of acres irrigated from well ____.

6. Owner of land on which well is located. If same as Item 1, check this box ☒
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 1235 feet
b. Diameter of casing See attached schedule inches
c. Depth of casing 1235 feet
d. Type of casing Steel - see attached schedule.
e. Maximum pump capacity 800 gallons per minute.
f. Depth to water 546 feet below land surface.
g. Date well completed 02 (Month) 12 (Day) 67 (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☒.
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
Attach additional sheet if necessary.

9. DATE 3/24/82 SIGNATURE OF REGISTRANT Thomas E DeBarge
Thomas E. DeBarge,
Process Engineer I

INSTRUCTIONS FOR COMPLETING REGISTRATION FORM

General Instructions

1. A person who owns an "Existing Well" shall register the well, pursuant to A.R.S. 45-593, by filing this form in duplicate with the Department of Water Resources not later than midnight June 14, 1982. The form must be completed and signed. Failure to do so will constitute a violation of A.R.S. 45-593, and may subject the well owner to injunction and/or civil penalties, pursuant to A.R.S. Title 45, Article 12.

2. An "Existing Well" means, (1) a well which was drilled on or before June 12, 1980 and which is not abandoned or sealed, or (2) a well which was not completed on or before June 12, 1980, but for which a Notice of Intention to Drill was on file with the Arizona Water Commission on or before June 12, 1980.

3. No registration fee is required for Exempt Wells. A $10.00 registration fee must accompany registration forms for all Non-Exempt Wells.

4. An "Exempt Well" means a well having a pump with a maximum capacity of not more than 35 gallons per minute which is used to withdraw groundwater. An Exempt Well may include the non-commercial irrigation of not more than 1 acre of land.

5. A "Non-Exempt Well" means a well that is not an "Exempt Well".

INSTRUCTIONS FOR REGISTRATION QUESTIONS

1. The Registrant must be the owner of the well and may be an individual, public or private corporation, company, partnership, firm, association, society, estate, trust, any other private organization or enterprise, the United States, any state, territory or country or a governmental entity, political subdivision or municipal corporation organized under or subject to the constitution and laws of this State.

2. If you own an existing irrigation well drilled at any time, or any other type of well drilled on or after June 20, 1968, you should have an assigned control and/or file number. Write these numbers in item 2. If you do not know the number, please explain the reason on the form or on an attached sheet.

   a. Fill in the Section, Township and Range in all cases if it is available.
   b. If the well is in a subdivision and you have this information, give the subdivision name, Lot Number, and Address.

Show all purposes for which the water is used.

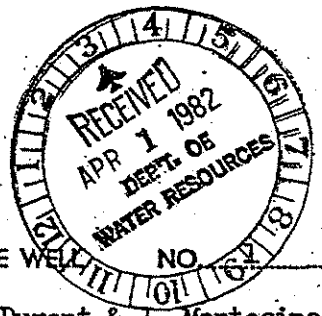
If the well is used for irrigation, give the number of acres irrigated in 1980 from the well.

If the owner of the land is an individual, give the last name, first name, middle initial. If the owner of the land is a corporation, partnership, firm, etc., fill in the appropriate title.

Complete the section on Well Data with the most accurate information available to you. If the data is not available, write N/A in the blanks.

Give the legal description of the place of use of the water. If place of use is in a subdivision and legal description is not available, give the subdivision name, Lot Number and/or address on the blank line.

The person in whose name a well is registered shall notify the Department of any change in ownership and shall keep all information on the registration record current and accurate. A form entitled "Change of Well Information/Ownership" is available for this purpose. A blank form will be furnished with the returned duplicate copy of the registration form.



SETTING CHART

General Cable Corporation WESTERN GRAVEL ENVELOPE WELL NO. 6

AT Kingman, Arizona

W. I. Durant & J. Montesino
WELL DRILLERS

100 FT. 26" x .344 CONDUCTOR PIPE 32" Bore)

495 FT. 12-3/4" x .312 CASING)

2 Ft. (738-736') 12-3/4" to 14" TAPER 26" Bore)

738 F.T. 14" O.D. x .312 CASING)

1247 FT. 15" TESTBORE

1235 FT. COMPLETED WELL

64.15 TONS 3/8 GRAVEL

DATE Dec. 1, 1966

SETTING

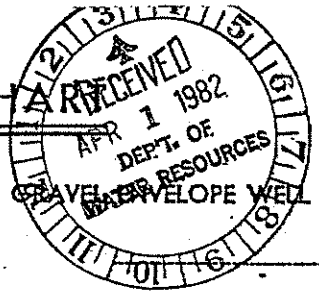
1235'
2 Cement Plug
1233
30 Bottom 15' Blank, Top 15' Perforated
1203
30 Perforated
1173
30 Perforated
1143
30 Perforated
1113
30 Blank
1083
30 Perforated
1053
30 Perforated
1023
30 Perforated
993
30 Perforated
963
30 Perforated
933
30 Blank
903
30 Bottom 10' Perforated, Top 20' Blank
873
30 Perforated
843
30 Perforated
813
30 Perforated
783
30 Perforated
753
30 Bottom 15' Perf., 2' Blank Taper
723 (12" to 14", Top 13' Blank

SETTING CONT'D.

723'
30 Blank
693
30 Blank
663
30 Blank
633
30 Blank
603
30 Blank
573
30 Blank
543
30 Blank
513
30 Blank
483
30 Blank
453
30 Blank
423
30 Blank
393
30 Blank
363
30 Blank
333
30 Blank
303
30 Blank
273
30 Blank
243
30 Blank
213
30 Blank
183

Continued

SETTING CHART



General Cable Corporation WESTERN GRAVEL ENVELOPE WELL NO. 1 - Page 2.

AT Kingman, Arizona

WELL DRILLER

FT. CONDUCTOR PIPE

FT. CASING

TAPER

F.T CASING

FT. TESTBORE

1235 FT. COMPLETED WELL

TONS GRAVEL

DATE Dec. 1, 1966

SETTING

183'
30 Blank
153
30 Blank
123
30 Blank
93
30 Blank
63
30 Blank
33
30 Blank
3 Ft. to Set

SETTING CONT'D.

General Cable Company
4900 Industrial Boulevard
Kingman, Arizona 86401

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	605484
	THRU

ACCOUNT NO. FUND SOURCE	AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
					Filing Fee for Registration of	10.00	10.00
					Existing Wells		
					File No.: B(22-16 26		
					Check #: 1005		

WAITER PAYMENT
GUESTS 1
CHK NO 1005
55-I 10.00
TAX 0.00
TOTL 10.00
GEN.CHEK 10.00

7225 A 14:25

April 28, 1982

TOTAL $ 10.00

sjg

ARIZONA DEPARTMENT OF WATER RESOURCES
Records Management Section
500 N. 3rd Street * Phoenix, Arizona 85004
(602) 417-2405 * (800) 352-8488
www.water.az.gov

Well Driller Report and Well Log

Review instructions prior to completing form
This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.
PLEASE PRINT CLEARLY **

FILE NUMBER: B(22-17) 25 BCA
WELL REGISTRATION NUMBER: 55-597159
PERMIT NUMBER (IF ISSUED):

CTION 1. REGISTRY INFORMATION

ll Owner
NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL: VIN PENNINGTON
LING ADDRESS: 5 GOLDEN GATE
/ STATE / ZIP: GMAN, AZ 86401
NTACT PERSON NAME AND TITLE:
PHONE NUMBER: -530-1153
FAX:

Location of Well
WELL LOCATION ADDRESS (IF KNOWN):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
22 N	17 W	26	NW 1/4	SW 1/4	NE 1/4

LATITUDE: 35 ° 16 . 6 "N
LONGITUDE: 114 ° 13 . 12 "W
LAND SURFACE ELEVATION AT WELL: 3630 3538 Feet Above Sea Level
METHOD OF LATITUDE / LONGITUDE (CHECK ONE): ☒ USGS Quad Map ☐ Conventional Survey ☐ GPS : ☐ Hand-Held ☐ Survey-Grade
COUNTY ASSESSOR'S PARCEL ID NUMBER: BOOK 330 MAP 20 PARCEL 013B
COUNTY WHERE WELL IS LOCATED: Mohave

UTM 768053 E
3906585N

CTION 2. DRILLING AUTHORIZATION

lling Firm
ME: WN DRILLING
LICENSE NUMBER:
EPHONE NUMBER: 757-1920
FAX:

CTION 3. WELL CONSTRUCTION DETAILS

WELL CONSTRUCTION STARTED: 4-3-2003
DATE WELL CONSTRUCTION COMPLETED: 4-28-2003
IF FLOWING WELL, METHOD OF FLOW REGULATION: ☐ Valve ☐ Other

Method
CHECK ONE
- Air Rotary
- Bored or Augered
- Cable Tool
- Dual Rotary
- Mud Rotary
- Reverse Circulation
- Driven
- Jetted
- Air Percussion / Odex Tubing
- Other (please specify)

Method of Well Development
CHECK ONE
- ☒ Airlift
- ☐ Bail
- ☐ Surge Back
- ☐ Surge Pump
- ☐ Other (please specify)

Method of Sealing at Reduction Points
CHECK ONE
- ☐ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Water Level Information
STATIC WATER LEVEL: 127 Feet Below Land Surface
DATE MEASURED: 4-28-2003

Well Driller Report

WELL REGISTRATION NUMBER
55-597159

CONSTRUCTION DESIGN (AS BUILT) (attach additional page if needed)

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE (X) STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (X) BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	20	12 1/4	0	20	8 5/8	X				X						
20	1023	7 7/8	+1	600	6 5/8	X				X						
			600	640	6 5/8	X										
1023	1225	6"	+2	1195	4 1/2"	X							X			1/4 x 6
										X						

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (X) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	FILTER PACK SIZE
	20			X								

BORING 1225

Feet Below Land Surface

DEPTH OF COMPLETED WELL 1195

Feet Below Land Surface

8-10/01 (Rev.)

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55-597159

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	TO (feet)	DESCRIPTION Describe material, grain size, color, etc.	Check (X) every interval where water was encountered
0	10	Overburden	
0	110	Basalt	
10	160	Green clay Alt Granite	X
0	175	Granite	
75	180	Quartz	
0	320	Green Clay Alt Granite	
20	340	Granite	
40	470	Green clay Alt Granite	
5	515	Tan clay	
15	610	Green clay Alt Granite	
0	915	Yellowish clay Alt Granite	X
15	985	Tan clay Alt Granite	
5	1185	Granite	
85	1210	Red Oxidized Granite W/ Red clay mix	X
10	1225	Granite	

DEPARTMENT OF WATER RESOURCES
99-EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

RECEIVED JUN 4 1982 DEPT. OF WATER RESOURCES

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

02

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☐
NON-EXEMPT WELL — $10.00	☒

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 612657
FILE NO. B(22-16)15 ccc
FILED 6-4-82 (DATE) AT 3 pm (TIME)
INA ✓
AMA ✓

Long Mtn 6
No geol.

1. Name of Registrant:
CITY OF KINGMAN Long Mountain Well #6

310 North Fourth Street, Kingman, AZ 86401
(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:
(B-22-16) 15-6 ccc (File Number) 35- (Control Number)

3. a. The well is located within the SW ¼ SW ¼ SW ¼, Section 15 ✓, of Township 22N N/S, Range 16W E/W, G & SRB & M, in the County of MOHAVE.

b. If in a subdivision: Name of subdivision N/A, Lot No. _____, Address _____.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
Municipal

5. If for irrigation use, number of acres irrigated from well _____.

6. Owner of land on which well is located. If same as Item 1, check this box ☒

(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 1000' feet
b. Diameter of casing 16" inches
c. Depth of casing 1000' feet
d. Type of casing Steel
e. Maximum pump capacity 1650 gpm gallons per minute.
f. Depth to water 500' feet below land surface.
g. Date well completed Oct. (Month) 10 (Day) 1974 (Year)

8. The place(s) of use of water. If same as Item 3, check this box ☐.
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
KINGMAN MUNICIPAL WATER SYSTEM SERVICE AREA
Attach additional sheet if necessary.

9. DATE 6/2/82 SIGNATURE OF REGISTRANT Louis G. Somma

CITY OF KINGMAN
310 N FOURTH ST
KINGMAN AZ 86401

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	612653
	THRU
55	612667

(15)

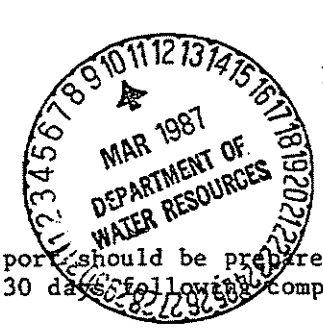
ACCOUNT NO. FUND SOURCE	AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
					Filing fee for Registration of	10.00	150.00
					Existing Wells		
					55-612653 B(21-17)15bcc 55-612661 B(21-17)24cdb 55-612654 B(21-17)3 cda 55-612662 B(21-17)24cdd		
					55-612655 B(22-17)34dcd 55-612663 B(21-17)24cbc 55-612656 B(22-17)34bda 55-612664 B(22-16)34 cbc		
					55-612657 B(22-16)15ccc 55-612665 B(22-16)33cdc 55-612658 B(22-16)19baa 55-612666 B(22-16)33bcd		
					55-612659 B(22-16)28bad 55-612667 B(22-16)27ddd 55-612660 B(21-17)1 cbc		

WRITER	PAYMENT
GUESTS	15
CHK NO	3267
152	10.00
55-I	150.00
TAX	0.00
TOTL	150.00
GEN.CHEK	150.00

Check No. 3267

TOTAL $ 150.00

7/13/82 jc



STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner **David Perkins**
P.O. Box 365 Clarkdale, AZ 86324
Name
Mailing Address

2. Driller EDWARDSON DRILLING
P. O. Box 401
Chino Valley, AZ 86323
Name
Mailing Address

3. Location of well: **T16N R1 W Section 19 SE NW SW**

4. Permit No. _____
(if issued)

DESCRIPTION OF WELL

5. Total depth of hole **400'** ft.

6. Type of casing **steel**

7. Diameter and length of casing **7** in. from **0** to **20'**, **5** in from **0** to **390'**.

8. Method of sealing at reduction points **cemented**

9. Perforated from **340** to **400**, from _____ to _____, from _____ to _____.

10. Size of cuts **3/16"** Number of cuts per foot **4**

11. If screen was installed: Length _____ ft. Diam _____ in. Type _____

12. Method of construction **drilled**
drilled, dug, driven, bored, jetted, etc.

13. Date started **Feb 9,1987**
Month Day Year

14. Date completed **Feb 11,1987**
Month Day Year

15. Depth to water **276'** ft. (If flowing well, so state.)

16. Describe point from which depth measurements were made, and give sea-level elevation if available **ground level**

17. If flowing well, state method of flow regulation: _____

18. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-515980
Received _____ By _____
Entered ENTERED MAR 16 1987 By _____
File No. B(16-1)19 cbd

DWR-55-6-Rev. 8/85

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	4	topsoil/small boulders
4	12	sand
12	20	clay
20	35	clay/layers of sand
35	335	clay
335	345	black malapai
345	400	brown malapai

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller EDWARDSON DRILLING
Name
P. O. Box 401
Chino Valley, AZ 86323
Address

City State Zip

Date MAR. 9 1987

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001- 0458
FOR INFORMATION: CALL MONICA ORTIZ AT (602)417-2470

RECEIVED
OCT 30 2000
RECORDS MGT

REQUEST FORM TO CHANGE WELL INFORMATION
OWNERSHIP * DRILLER

Please complete the appropriate section of this request form and return to P.O. Box 458, Phoenix, Arizona 85001-045. In accordance with A.R.S. § 45-113, please submit the applicable fee. NOTE: A.R.S. §45-593 (C) requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

1. **CHANGE OF WELL INFORMATION: (NO FEE REQUIRED)**

NOTE: If the location of the proposed well changes after drilling authority has been issued, **attach a $10.00 reissue fee for each** of the drilling authorities to be changed.

WELL REGISTRATION NO. 55-_____ **FILE NO:**_____

I/We request the following well information be changed: _____

_____

Date_____ Signature of Current Well Owner_____

***Note: This information is on your copy of the Notice of Intent to Drill.**

2. **STATEMENT OF CHANGE OF WELL OWNERSHIP: ($10.00 FEE REQUIRED)**

NOTE: If this change consists of more than one well and the names are common: attach a $10.00 fee. Otherwise, each well requires a separate fee of $10.00.

I,_____, state that I am the Previous/New Owner of the well described below:

_____¼ _____¼ _____¼ of Section_____ Township_____ N/S Range_____ E/W
10 Acre 40 Acre 160 Acre

Assessor's tax parcel number of the parcel on which the well is located: Book_____ Map_____ Parcel_____.

Well Registration No. 55-515980 File No. B(16-1)19CBI (if known)

Howard Sample
PRINT Previous Owner's Name

Dave Setian
PRINT New Owner's Name

12571 Loretta Dr.
Mailing Address

1134 E. Timberidge
Mailing Address

Orange, CA 92869
City State Zip

Prescott Az 86303
City State Zip

Telephone Number

520-443-9749
Telephone Number

Signature of Previous/New Well Owner_____ Date 10-18-00

DWR 55-71a (Rev 1/99)

ENTERED NOV 30 2000

ARIZONA DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGEMENT SUPPORT SECTION
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001-0458
FOR INFORMATION: CALL MONICA ORTIZ AT (602)417-2470

3. **REQUEST TO CHANGE WELL DRILLER** **$10.00 FEE REQUIRED FOR EACH WELL**

This request must be received by this Department and the Drill Authorization issued to the new drilling firm prior to the start of drilling or the completion of the well listed below.

Well Registration No. 55- _____ **File No.** _____

_____ _____

Original Well Driller **New Well Driller**

_____ _____

Mailing Address **Mailing Address**

_____ _____

City State Zip **City State Zip**

_____ _____

Telephone Number **Telephone Number**

_____ _____

ADWR License Number **ADWR License Number ROC License Category**

_____ _____

Typed or Printed Name of Well Owner **Signature of Well Owner Date**

The fee charged for a change of well ownership and/or reissue of a drill card is authorized by R12-15-151, effective June 30, 1994.

GROUNDWATER MANAGEMENT SUPPORT SECTION
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001- 0458
FOR INFORMATION: CALL MONICA ORTIZ AT (602)417-2470

RECEIVED
OCT 30 2000
RECORDS MGT

REQUEST FORM TO CHANGE WELL INFORMATION
OWNERSHIP * DRILLER

Please complete the appropriate section of this request form and return to P.O. Box 458, Phoenix, Arizona 85001-045. In accordance with A.R.S. § 45-113, please submit the applicable fee. NOTE: A.R.S. §45-593 (C) requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty

15238 4439-12

CAPITAL TITLE AGENCY
ESCROW ACCOUNT
138 N. Montezuma
Prescott, Arizona 86301
(520) 778-9194

BANK ONE, ARIZONA
Title Servicing
P769
91-2/1221

CHECK NO. 557664

DATE	ESCROW NO.	AMOUNT
10/26/00	55000459 - 055 RES	$10.00

PAY TEN DOLLARS and no/100

TO THE ORDER OF AZ DEPT OF WATER RESOURCES
P.O. BOX 458
PHOENIX, AZ 85001-0458

ESCROW ACCOUNT
Void after 90 Days

AUTHORIZED SIGNATURE

[redacted]

2. **STATEMENT OF CHANGE OF WELL OWNERSHIP: ($10.00 FEE REQUIRED)**

NOTE: If this change consists of more than one well and the names are common: attach a $10.00 fee. Otherwise, each well requires a separate fee of $10.00.

I, _____, state that I am the **Previous/New Owner** of the well described below:

_____¼ _____¼ _____¼ of Section _____ Township _____ N/S Range _____ E/W
10 Acre 40 Acre 160 Acre

Assessor's tax parcel number of the parcel on which the well is located: Book _____ Map _____ Parcel _____.

Well Registration No. 55-515980 File No. B(16-1)19CBI (if known)

Howard Sample	Dave Setian
PRINT Previous Owner's Name	**PRINT** New Owner's Name
12571 Loretta Dr.	1134 E. Timberidge
Mailing Address	Mailing Address
Orange, CA 92869	Prescott Az 86303
City State Zip	City State Zip
	520-443-9749
Telephone Number	Telephone Number

Signature of Previous/New Well Owner _____ Date 10-18-00

DWR 55-71a (Rev 1/99)

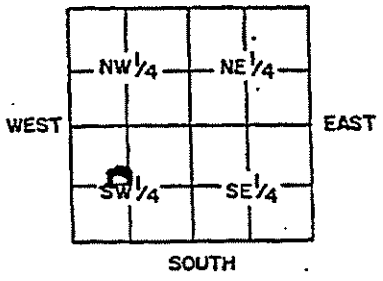
EXEMPT WELL
(Domestic)

FILING FEE $10.00

DEPARTMENT OF WATER RESOURCES (DWR)
NOTICE OF INTENTION TO DRILL OR DEEPEN
AN EXEMPT WELL FOR DOMESTIC PURPOSES
IN AN ACTIVE MANAGEMENT AREA

EXEMPT WELL
(Domestic)

Section §45-596, Arizona Revised Statutes, provides: In an Active Management Area, a person may not drill or cause to be drilled an exempt well, or deepen or replace an existing one, without first filing a Notice of Intention to Drill with the Department.



INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

WELL/LAND LOCATION

1. Township 16 (N)/S
2. Range 1 E (W)
3. Section 19
4. SE¼ NW¼ SW¼
   10 acre sub-division
5. County _____
6. Owner of Well:
   DAVID G PERKINS
   Name
   BOX 365
   Mailing Address
   CLARKDALE AZ 86324
   City State Zip
   Telephone 634-2990
7. Owner of land:
   Name SAME
   Address
   City State Zip
   Telephone _____

DESCRIPTION OF PROPOSED WELL:

8. Diameter 6"
   Depth 550'
9. Type of Casing IRON OR PLASTIC
10. Design pump capacity:
    30 gallons per minute
11. Estimate of total annual pumping: 2 acre feet
12. Specific use of water:
    DOMESTIC & LIVESTOCK
13. If use includes irrigation, state to the nearest tenth of an acre on which water will be applied: 1.99 acres
14. Construction will start about:
    NOV OR DEC 1986
    Month Year

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

FILE NO. B(16-1)19 cbd
FILED 11-4-86 BY S.V.
INPUT ENTERED NOV 06 1986
DUPLICATE MAILED 11-5-86 BY S.V.
REGISTRATION NO. 55-515980
AMA Prescott
W/S 05 S/B 01

PLACE OF USE

15. Township 16 (N)/S
16. Range 1 E (W)
17. Section 19
18. Legal description of land: SEC 19
    T16N R1W
19. Action requested:
    Drill ✓ Deepen __ Replace __
    55-_____
20. This notice filed by:
    Owner ✓
    Lessee _____
    DAVID G PERKINS
    Name
    BOX 365
    Address
    CLARKDALE AZ 86324
    City State Zip
21. Driller's Name:
    Edwardson Drilling C
    Name
    PO Box 401
    Address
    China Valley 86323
    City State Zip
    54 447443
    DWR License Number

22. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials: Yes __ No ✓

GENERAL INSTRUCTIONS

1. Fill out this form in duplicate and send to 99 East Virginia, Suite 100, Phoenix, Az. 85004.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen or replace an exempt well used for domestic and/or stockwatering in an Active Management Area.
4. If the exempt well is a replacement or deepening of an existing well, provide the registration number of the existing well in Item 19.
5. Construction standards for new and replacement wells and the deepening and abandonment of existing wells, shall be in accordance with Department Rules and Regulations.

I state that this Notice is filed in compliance with ARS §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this exempt well for domestic purposes as set forth on the reverse side of this form.

11-4-86
Date

David G. Perkins
Signature of Person Filing

SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS

1. Upon receipt of the return of this annotated Notice, the owner is authorized to proceed in drilling or deepening the well as set forth on this Notice.

2. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.

3. Domestic purposes means a well which withdraws groundwater for uses related to the supply, service and activities of households and private residences. Stockwatering means the watering of livestock, range livestock or poultry.

4. If withdrawals of groundwater for other than domestic and/or stockwatering purposes are intended, a different Department form entitled Notice of Intention to Drill an exempt well for Non-Domestic purposes must be filed.

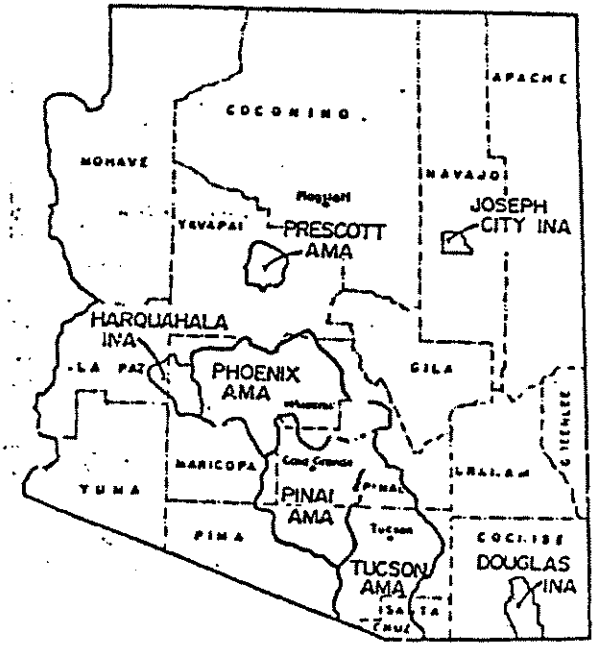
5. Only one exempt well may be drilled or used to serve the same use at the same location.

6. The drilling or deepening of this well shall be completed within one (1) year of the date of this Notice.

7. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this Notice.

8. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of the annotated copy of this Notice.

9. A sketch map depicting the four designated Active Management Areas is shown at the right. Greater detail maps of these AMAs are available on request.



DAVID PERKINS
P.O. Box 365
Clarkdale, Az. 86324

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	515980
	THRU

ACCOUNT NO. FUND SOURCE	AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
					FILING FEE FOR NOTICE OF INTENT TO DRILL	10.00	10.00
					1 EXEMPT WELL IN AN ACTIVE MANAGEMENT AREA		
					REG. NO. 55-515980		
					FILE NO. B(16-1)19 cbd		
					CASH 11-4-86 sv		

NOV 1986 PAID

TOTAL $ 10.00

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

DAVID PERKINS
P.O. Box 365
Clarkdale, Az, 86324

NOVEMBER 5, 1986

File No. B(16-1)19 cbd
Registration No. 55-515980

Dear Well Owner:

Enclosed for your records is a copy of the Notice of Intention to Drill a well which was recently filed with this Department. This is returned to you as evidence of compliance with ARS §45-596. Also enclosed is a Completion Report to be submitted when pump equipment is installed. Your driller has been mailed separately a Well Drilling Card and a Well Drilling Report form. Your driller may not begin to drill your well until he has received the Well Drilling Card, and is required to display the Drilling Card on his rig while drilling. If you elect to change drillers, you are required to notify this Department of that fact and who the new driller is. Please ensure that any driller you elect to use is properly licensed to drill the type of well you require since licensed well drillers must pass an examination that proves they understand professional well drilling methods and they are familiar with the laws and regulations which govern well construction in Arizona.

In the event that you determine it necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources before proceeding with the drilling. A properly signed amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized.

ARS §45-600 requires the registered well owner to submit a Completion Report within 30 days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within 30 days after completion of drilling. You should insist and ensure that both of these are done.

For your <u>future</u> use, a Change of Well Information form is enclosed should it become needed. Per ARS §45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep the well registration file current and accurate.

Sincerely,

Richard A. Gessner
Chief, Operations Division

RAG: sv
Enclosures

DWR-55-1-10/84 (Revised)

Think Conservation!

ARIZONA DEPARTMENT OF WATER RESOURCES

OPERATIONS DIVISION
15 South 15th Avenue
Phoenix, Arizona 85007
(602) 542-1581

RECEIVED
MAY 11 1994
WATER DIV.

NOTE: A.R.S.§45-593.C. requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty (30) days after changes take place. **Therefore, this form may be completed in full by either the previous or new owner.**

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

CHANGE OF WELL INFORMATION

Well Registration No. 55-_____ File No._____(If known)

I/We request the following well information be changed:_____

_____

_____

_____

Date:_____ **Signature of Current Well Owner**_____

STATEMENT OF CHANGE OF WELL OWNERSHIP

I, Howard Sample, state that I am (no longer) the (new) owner of the well described below:

SE¼ NW¼ SW¼; Section 19 Township 16N Range 1W
10 acre 40 acre 160 acre

Well Registration No. 55-515980 File No. B(16 01) 19 CBD (If known)

_____
PRINT Previous Owner's Name

_____
Mailing Address

_____
City State Zip

_____
Telephone

Howard Sample
PRINT New Owner's Name

HC 62 Box 200
Mailing Address

Camp Verde Az 86322
City State Zip

602 567 6179
Telephone

Dated_____ Signature Previous/New Owner Howard Sample

ENTERED MAY 12 1994

DWR-55-71-6/93(Rev)

DOR

KINGMAN BASIN STUDY

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: Matthew L. Dolf
Address: 575 E Remington Dr Apt 22E Sunnyvale Calif 94087
City State Zip

3. Location: 23 (N)/S 16 E/(W) 18 ¼ SE ¼ NE ¼ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 573016 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 920' ft.
7. Type of casing Steel / PVC.
8. Diameter and length of casing 2 in. from 0 to 20, 4.5 in from 0 to 773
9. Method of sealing at reduction points cement
10. Perforated from 703 to 723', from 320' to 360' from _____ to _____
11. Size of cuts 1/8" X 6 Number of cuts per foot 1
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction Drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 2 (Month) 12 (Day) 99 (Year)
15. Date completed 5 (Month) 10 (Day) 99 (Year)
16. Depth to water 340' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Natural Grade
18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-573016
File No. B(23-16) 18 BAA
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

RECEIVED JUL 07 1999

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	40	Overburden Sand & Gravel
40	48	Green Clay
48	85	Alluvium
85	100	Tan Rhyolite
100	103	Brown Clay
103	158	Red Rhyolite
158	340	Granite
340	345	Granite W/ Fractures H^{20} 2 g.p.m.
345	798	Granite
~~798~~ 798	860	Rhyolites
860	873	Volcanic Breccia (Fractured)
873	920	Granite
		Approx Total well production is 2 G.P.M.
		Static is 222'

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE

Street

KINGMAN, AZ 86401-3411

City State Zip Phone No.

Signature of Driller

5-25-99

Date

ATE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

is report should be prepared by the driller in all detail and filed with the Department thin 30 days following completion of the well.

Owner Imogene + Noah Brown
Name
Box 41oc - Kingman, Az. 86401
Address

Lessee or Operator Same
Name
Address

Driller Al Wilson Drilling Co.
Name
1100 N. Arbor - Case Grande Az 85222
Address

Location of well: SW¼ - SE¼ - SE¼ - T23N - R16W

Permit No. 55-500011
(if issued)

DESCRIPTION OF WELL

Total depth of hole 290' ft.
Type of Casing Steel + Plastic
Diameter and length of casing 6⅝" in. from 0 to 16', 5" in from 0 to 290'.
Method of sealing at reduction points Cement Grout
Perforated from 250' to 290', from ____ to ____, from ____ to ____
Size of cuts 6" X 1/8" Number of cuts per foot 1
If screen was installed: Length ____ ft. Diam ____ in. Type ____
Method of construction Drilled
drilled, dug, driven, bored, jetted, etc.
Date started 6 - 12 - 81
Month day year
Date completed 6 - 15 - 81
Month day year
Depth to water 95' ft. (If flowing well, so state.)
Describe point from which depth measurements were made, and give sea-level elevation if available. Ground level

If flowing well, state method of flow regulation ____

REMARKS: ____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-500011
Received ____ By ____
Entered 8-5-81 By [illegible]
File No. B(23-16)17ddc

(Well log to appear on Reverse side)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	12'	Decomposed Granite
12'	290'	Solid Granite

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Albert A. Peterson
Name

1100 N. Arbor Lane Lemoore, Ca. 93245
Address

Date 6-19-81

2-73

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
JAN - 6 1999
RECORDS MGT

1. THF DRILLING, INC.
2420 S 16TH AVENUE
PHOENIX, AZ 85007

2. Owner Name: City of Kingman
Address: Kingman (City) AZ (State) 86401 (Zip)

3. Location: 22 (N)S (Township) 16 (E)W (Range) 20 (Section) ¼ NE (10-acre) ¼ NE (40-acre) ¼ SE (160-acre)

4. Well Registration No. 55-571222 (Required)

5. Permit No. — (If issued) TH-3

DESCRIPTION OF WELL

6. Total depth of hole 1200 ft.
7. Type of casing 21'x8" steel conductor, pvc well casing
8. Diameter and length of casing 4 in. from 0 to 700, ____ in from ____ to ____ 9.
Method of sealing at reduction points —
10. Perforated from — to —, from — to — from — to — 11.
Size of cuts — Number of cuts per foot — 12.
If screen was installed: Length 500 ft. Diam 4 in. Type pvc 13.
Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 11 (Month) 20 (Day) 98 (Year)
15. Date completed 11 (Month) 30 (Day) 98 (Year)
16. Depth to water 580 ft. (If flowing well, so state)

17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground level
18. If flowing well, state method of flow regulation: static

19. Remarks:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-571222
File No. B(22-16) 20 DAA
Received ____ By ____
Entered ____ By ____

DWR-55-55-7/95 (Rev.)

ANSWERED JAN 7 1999

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	180	Silt Clay
180	1200	Sand Gravels

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: THF DRILLING, INC.

2420 S 16TH AVENUE [redacted]
Street

PHOENIX, AZ 85007
City State Zip Phone No.

Vern R Christ 12-21-88
Signature of Driller Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

RECEIVED
MAY 20 2002
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: John Lingenfelter
Address: Kingman (City) AZ. (State) 86401 (Zip)

3. Location: 22 (N/S) 16 (E/W) 15 (Section) ¼ NW (10-acre) ¼ NE (40-acre) ¼ NE (160-acre)
Township Range

4. Well Registration No. 55-590897 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 800 ft.
7. Type of casing Steel
8. Diameter and length of casing 13 in. from 0 to 22, 8 5/8 in from +1 to 800
9. Method of sealing at reduction points Cement
10. Perforated from 580 to 800, from _____ to _____ from _____ to _____
11. Size of cuts ¼" X6 Number of cuts per foot 2
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 3 (Month) 03 (Day) 02 (Year)
15. Date completed 3 (Month) 10 (Day) 02 (Year)
16. Depth to water 580 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
natural grade
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 590897
File No. B(22-16) 15 AAB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED MAY 2 2002

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	580	alluvium
580	600	sand & gravel
600	755	alluvium
755	800	cemented conglomerate
		total well prod. approx. 300+ gpm
		static water level - 470 ft.

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE
Street

KINGMAN, AZ 86401-3411
City State Zip Phone No.

Signature of Driller

5-10-2002
Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

No. 10

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner City of Kingman
   Name
   310 N. 4th St., Kingman, AZ 86401
   Mailing Address
2. Driller Sergent, Hauskins & Beckwith Geotechnical Engineers, Inc.
   Name
   3232 W. Virginia Ave., Phoenix, AZ 85009
   Mailing Address
3. Location of well: SW ¼, NW ¼, SE ¼, Section 11, T22N, R16W
4. Permit No. 55-532756 (If issued)

DESCRIPTION OF WELL

5. Total depth of hole 30 ft.
6. Type of casing Sch. 40 PVC, 2-inch diameter
7. Diameter and length of casing 2 in. from +1.1' to 3.9', ____ in from ____ to ____.
8. Method of sealing at reduction points N/A
9. Perforated from N/A to ____, from ____ to ____, from ____ to ____.
10. Size of cuts N/A Number of cuts per foot N/A
11. If screen was installed: Length 25 ft. Diam 2 in. Type Sch. 40 PVC, 0.02 inch machine slotted
12. Method of construction Hollow Stem Auger
    drilled, dug, driven, bored, jetted, etc
13. Date started August (Month) 23 (Day) 1991 (Year)
14. Date completed August (Month) 23 (Day) 1991 (Year)
15. Depth to water None ft. (If flowing well, so state)
16. Describe point from which depth measurements were made, and give sea-level elevation if available Ground surface
17. If flowing well, state method of flow regulation: N/A
18. Remarks: Installed 6" x 5' steel protective surface casing around PVC casing.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. No. 55-532756

File No. B(22-16)11dbc

Entered ENTERED SEP 9 1991 By ____

DWR-55-55-2/89

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	6	Sandy silt, some clay, fine sand, light brown.
6	8	Silty sand, some fine gravel, fine sand, light brown.
8	14	Gravelly sand, fine gravel, coarse sand, light orange brown.
14	19	Silty sand and gravelly sand, fine sand and gravelly
		coarse sand layers, brown.
19	23	Sand, some fine gravel, medium to coarse sand, light
		orange brown.
23	29	Clayey sand, fine sand, orange brown.
29	30	Gravelly silty sand, fine gravel, fine to coarse sand,
		light orange brown.
	NO GROUNDWATER ENCOUNTERED	

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Norman R. Hauskins
Name

Sergent, Hauskins & Beckwith Engineers
3232 W. Virginia Ave.
Address

Phoenix AZ 85009
City State Zip

Date August 26, 1991

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

NOV 14 1990

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner CITY OF KINGMAN
Name
310 N. 4th St., KINGMAN, AZ 86401
Mailing Address

2. Driller CAMPBELLS DRILLING INC.
P.O. BOX 3019
Name
WICKENBURG, AZ 85358
(602) 684-7546 Mailing Address

3. Location of well: T22N, R16W, Sec 11, SE¼, NE¼, SW¼

4. Permit No. _____
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 685 ft.

6. Type of casing STEEL

7. Diameter and length of casing 16 in. from 0 to 21'. 8 in from 0 to 650'.

8. Method of sealing at reduction points Cemented

9. Perforated from 510' to 640', from ____ to ____, from ____ to ____.

10. Size of cuts 1/8" X 3" Number of cuts per foot 12

11. If screen was installed: Length ____ ft. Diam ____ in. Type ____

12. Method of construction DRILLED
drilled, dug, driven, bored, jetted, etc

13. Date started 10 - 30 - 90
Month Day Year

14. Date completed 11 - 09 - 90
Month Day Year

15. Depth to water 423 ft. (If flowing well, so state)

16. Describe point from which depth measurements were made, and give sea-level elevation if available _____

17. If flowing well, state method of flow regulation: _____

18. Remarks ESTIMATED CAPACITY 50 G.P.M.
OPEN HOLE 650'-685'

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. No. 55-529463

File No. B(22-16)11cad

Entered _____ By _____
ENTERED NOV 15 1990

DWR-55-55-2/89

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	19	Sandy Clay
19	60	Fairly hard Conglomerate with Clay
60	140	Conglomerate with a little more Clay
140	460	Cemented Conglomerate
460	510	Clay with some rock
510	600	Conglomerate, some clay
600	685	Conglomerate, Clay

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Charles E. "Gene" Campbell
Name

CAMPBELLS DRILLING INC.
Address
P.O. BOX 3019
WICKENBURG, AZ 85358
City (602) 684-7546 Zip

Date 11-12-90

B(22-16)7 DCC

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAR 19 1998
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Tim & Robin Medlin
Address: 2639 E Calle Allende Kingman Az. 86401
City State Zip

3. Location: 22 N/S 16 E/W 7 ¼ SW ¼ SW ¼ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 565798 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 880 ft.
7. Type of casing STEEL & PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 880
9. Method of sealing at reduction points —
10. Perforated from 800 to 880, from _____ to _____ from _____ to _____
11. Size of cuts 1/8 X 6 Number of cuts per foot 3
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started 1-20-98
Month Day Year
15. Date completed 2-1-98
Month Day Year
16. Depth to water 800 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
GROUND
18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-565798
File No. B(22-16) 7 DCC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

STEPPED MAR 19 1998

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	5	Top Soil
5	19	Clay Rock
19	280	Conglomerate - Gravel
280	442	" " - Malapai Boulders
442	595	" " - Granite & Malapai Rock
595	642	Purple Malapai
642	855	Red Malapai (800' WATER)
855	880	Decomposed Granite

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller 2-25-98
Date

DEPARTMENT OF
WATER RESOURCES

ATE OF ARIZONA

RECEIVED JUN 9 1982 DEPT. OF WATER RESOURCES

WELL DRILLER REPORT

is report should be prepared by the driller in all detail and filed with the Department thin 30 days following completion of the well.

Owner DESERT CONSTRUCTION 3290 N.BANK ST. (Name)
KINGMAN,AZ. 86401 (Address)

Lessee or Operator (Name)
(Address)

Driller PENROD DRILLING CO. (Name)
3020 JAGERSON AVE. KINGMAN, AZ. (Address)

Location of well: TWP 22N RGE. 16W SEC. 34 NE¼ SW¼ NW¼

Permit No. 55-500156 (if issued)

DESCRIPTION OF WELL

Total depth of hole 700 ft.

Type of Casing STEEL

Diameter and length of casing 85/8 in. from 0 to 700, _____ in from _____ to _____.

Method of sealing at reduction points _____

Perforated from 590 to 690, from _____ to _____, from _____ to _____

Size of cuts 1/8" 3"long Number of cuts per foot _____

If screen was installed: Length _____ ft. Diam _____ in. Type _____

Method of construction DRILLED (drilled, dug, driven, bored, jetted, etc.)

Date started JULY (Month) 1 (day) 1981 (year)

Date completed JULY (Month) 20 (day) 1981 (year)

Depth to water 575 ft. (If flowing well, so state.)

Describe point from which depth measurements were made, and give sea-level elevation if available.

If flowing well, state method of flow regulation _____

REMARKS: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-500156

Received _____ By _____

Entered 6-10-82 By _____

File No. B(22-16)34bca

(Well log to appear on Reverse side)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	11	TOP SOIL
11	28	SAND & GRAVEL
28	109	GRAVEL & CLAY
109	280	SILTY RED CLAY
280	295	SAND & GRAVEL
295	430	SILTY RED CLAY
430	450	SAND & GRAVEL
450	546	SILTY RED CLAY
546	578	CLAY GRAVEL MIXED
578	596	GRAVEL & RIVER ROCK WATER
596	656	STICKY RED CLAY
656	667	SAND & GRAVEL
667	700	STICKY RED CLAY

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Preston Pennock
Name

3020 Jagerson Ave. Kingman, AZ.
Address

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: JASON MINTER
   Address: 10261 Haisee Pl. San Diego CA. 92126
   Street City State Zip
2. Driller Name: Penrod Drilling
   Address: 3020 Ingerson Kingman Az. 86401
   Street City State Zip
3. Location: 22 (N)S / 16 E(W) / 7 / SE 1/4 / NW 1/4 / NE 1/4
   Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55- 534005 (Required)
5. Permit No. _____ (If issued)

RECEIVED
OCT 28 1992
OPERATIONS DIV.

DESCRIPTION OF WELL

6. Total depth of hole 870 ft.
7. Type of casing steel & PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½" in from 20 to 870
9. Method of sealing at reduction points —
10. Perforated from 780 to 870, from _____ to _____, from _____ to _____.
11. Size of cuts 1/8 x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam — in. Type —
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 4 - 10 - 92
    Month Day Year
15. Date completed 4 - 20 - 92
    Month Day Year
16. Depth to water 780' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    ground level
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Reg	55-534005
File	B(22-16)7ABD
Rec	
Ent	ENTERED OCT 28 1992

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	2	Top Soil
2	21	Conglomerate gravel
21	70	Clay Sand Gravel
70	105	Conglomerate gravel
105	225	Clay gravel
225	530	Conglomerate gravel & clay
530	570	Boulders
570	630	Loose Conglomerate
630	650	Clay small Boulders
650	680	Clay Boulders
680	725	Conglomerate sand gravel
725	780	Clay gravel
780	870	Conglomerate gravel streaks (water)

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling

3020 Jagerson Ave
Street

Kingman Az. 86401
City State Zip

Date 10-25-92

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAY - 6 1999
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Richard & Marilee Hamilton
Address: 3648 Bird Rd Golden Valley Az. 86413
City State Zip

3. Location: 22 (N)/S 16 E/(W) 6 ¼ SW ¼ SW ¼ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 568668 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 895' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 895
9. Method of sealing at reduction points —
10. Perforated from 800 to 895, from _____ to _____ from _____ to _____
11. Size of cuts ½ X 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 4-1-99
Month Day Year
15. Date completed 4-10-99
Month Day Year
16. Depth to water 760 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-568668
File No. B(22-16) 6 DCC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ANSWERED MAY 1999

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	260	Conglomerate
260	400	Clay Rock
400	650	Conglomerate
650	765	Clay & Large Rock
765	820	Cong. (Sand streaks) (Water)
820	895	Red Malapai

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller 5-3-99
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
SEP 21 2001
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Mitch or Rita Freed
Address: 2177 E Calle Castano Kingman AZ. 86401
City State Zip

3. Location: 22 N/S 16 E/W 6 ¼ SW ¼ SE ¼ SW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-588073 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 525' ft.
7. Type of casing Steel PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 525
9. Method of sealing at reduction points —
10. Perforated from 475 to 525, from _____ to _____ from _____ to _____
11. Size of cuts ¼ x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction Drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 8-13-01
Month Day Year
15. Date completed 8-17-01
Month Day Year
16. Depth to water 450' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
Ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 588073
File No. B(22-16) 6 CDC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	40	Brown Clay
40	50	Tufa
50	200	Purple Mesapai
200	300	Red " "
300	445	Black " "
445	460	Red Decomp. Granite (water)
460	500	Red Granite
500	525	Green Decomp. Gr.

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller

9-18-01
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

MAY 2 9 1992

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Jack Fuller
   Address: 807 Parkview Kingman Az. 86401
   Street City State Zip
2. Driller Name: Brown Drilling
   Address: 3595 E Gordon Dr. Kingman Az. 86401
   Street City State Zip
3. Location: 22 (N)S Township | 16 E(W) Range | 6 Section | NE 1/4 10-acre | SW1/4 40-acre | SW 1/4 160-acre
4. Well Registration No. 55- 535074 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 545' ft.
7. Type of casing PVC
8. Diameter and length of casing 6" in. from 0 to 20', 4½" in from 0 to 545'.
9. Method of sealing at reduction points _____
10. Perforated from 425' to 525', from _____ to _____, from _____ to _____.
11. Size of cuts 1/8" x 10" Number of cuts per foot 2
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 4 /27 /92
    Month Day Year
15. Date completed 4 /30 /92
    Month Day Year
16. Depth to water 435' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    measured from ground level
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DWR-55-55-7/91 (Rev.)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-535074
File No. B(22-16) 6cca
Received By
Entered ENTERED JUN - 3 1992

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	50'	alluvium dirt + gravel
50'	210'	Volcanics (black)
210'	440'	granite water at 435'
440'	545'	granite

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

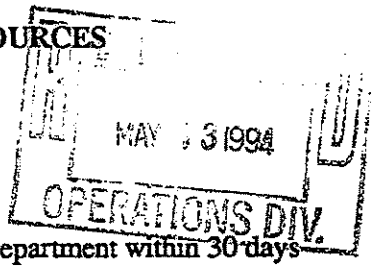
Driller Name: Eugene Bacon

1731 Davis
Street

Kingman Az. 86401
City State Zip

Date 5/26/92

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007



WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: W-B. Drewery
   Address: PO Box 3657, Kingman, Az, 86402
   (Street, City, State, Zip)
2. Driller Name: Brown Drilling
   Address: 3595 E. Gordon, Kingman, Az. 86401
   (Street, City, State, Zip)
3. Location: 22 (N) Township; 16 (W) Range; 6 Section; NW 1/4 10-acre; NW 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55- 543521 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 620 ft.
7. Type of casing PVC and Steel
8. Diameter and length of casing 6 in. from +1 to 20, 4½ in from +1 to 620.
9. Method of sealing at reduction points none
10. Perforated from 560 to 620, from _____ to _____, from _____ to _____.
11. Size of cuts ⅛ x 3" Number of cuts per foot _____
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 4 (Month) 30 (Day) 94 (Year)
15. Date completed 5 (Month) 5 (Day) 94 (Year)
16. Depth to water 475 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    surface
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-543531
File No. B(22-16)6cbb
Received _____ By _____
Entered ENTERED MAY 16 1994

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	100	soft grey volcanics
100	220	hard grey volc.
220	380	hard and soft zones of red & black basalt
380	560	schist with quartz, granite stringers
560	620	granite
		water zones at 485' ½ gpm
		and 600' ½ gpm

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Dave Brown Drilling

3595 E. Gordon Dr.
Street

Kingman AZ 86401
City State Zip

Date 5-10-94

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
SEP - 5 2001
RECORDS MGT

1. C.D.I. DRILLING
P.O. BOX 3019
WICKENBURG, AZ 85358-3019

2. Owner Name: SAN AND LINDA YARBROUGH
Address: P.O. BOX 6134 KINGMAN, ARIZONA 86402
City State Zip

3. Location: 22N N/S 16W E/W 6 ¼ SW ¼ SE ¼ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-588137 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 1160' ft.
7. Type of casing STEEL
8. Diameter and length of casing 8" in. from 0' to 20', 5" in from 0' to 1160'
9. Method of sealing at reduction points CEMENTED
10. Perforated from 800' to 880', from 900' to 920' from 940' to 960'
PERF. 980'-1000', 1020'-1040', 1060'-1160'
11. Size of cuts 1/8 X 2 1/2 Number of cuts per foot 12 SLOTS PER FOOT
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started AUGUST 17 2001
Month Day Year
15. Date completed AUGUST 29 2001
Month Day Year
16. Depth to water 850' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
_____
18. If flowing well, state method of flow regulation: _____
19. Remarks: ESTIMATED 10 GPM

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 588137
File No. B(22-16) 6 BDC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED SEP 5 2001

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0'	300'	LOOSE FRACTURED GRANITE
300'	900'	DECOMPOSED GRANITE SOME HARD SPOTS
900'	960'	SANDY CLAY
960'	980'	RED CLAY
980'	1100'	CONGLOMERATE CEMENTED
1100'	1160'	CONGLOMERATE

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: C.D.I. DRILLING

P.O. BOX 3019
Street

WICKENBURG, AZ 85358-3019 520-684-3212
City State Zip Phone No.

Charles E. Campbell SEPTEMBER 3, 2001
Signature of Driller Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Arthur J. Hood
Name
748 Knollwood San Dimas, Ca. 91773
Address

2. Lessee or Operator
Name
Address

3. Driller Campbell's Drilling Inc.
Name
P.O. Box 932 Wickenburg Az. 85358
Address

4. Location of well: 22N 16W 16 SW¼ NW¼ NW¼

5. Permit No. 55-508968
(if issued)

DESCRIPTION OF WELL

6. Total depth of hole 1040 ft.
7. Type of Casing 5" PVC 8" steel
8. Diameter and length of casing 8" steel in. from 0 to 20, 5" PVC in from 0 to 940.
9. Method of sealing at reduction points Cemented
10. Perforated from 1040 to 960, from to , from to
11. Size of cuts 1/8 Number of cuts per foot 4
12. If screen was installed: Length ft. Diam in. Type
13. Method of construction drilled
drilled, dug, driven, bored, jetted, etc.
14. Date started 8 (Month) 17 (day) 84 (year)
15. Date completed 8 (Month) 31 (day) 84 (year)
16. Depth to water 20 ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea level elevation if available.
18. If flowing well, state method of flow regulation
19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-508968
Received By
Entered 9-14-84 By
File No. B(22-16)6bbc

(Well log to appear on Reverse side)

DWR 55-6-5/83

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	920	decomposed granite
920	1040	Clay and granite
	940'	Casing installed

I hereby certify that this well was drilled by me (or under my supervison), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Campbells Drilling Inc
Name

P.O. Box 933
Address

Wickenburg Az. 85358
City State Zip

Date 9-10-84

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
500 North 3rd Street
Phoenix, Arizona 85004

RECEIVED
DEC 22 1995
RECORDS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Edward Nole
   Address: 2821 E. Calle Dimas (Street) Kingman (City) AZ (State) 86401 (Zip)
2. Driller Name: Penrod Drilling Co.
   Address: 3020 Jagerson Ave (Street) Kingman (City) AZ (State) 86401 (Zip)
3. Location: 22 (N/S) 16 (E/W) 6 (Section) ¼ SE (10-acre) ¼ SW (40-acre) ¼ NE (160-acre)
   (Township, Range)
4. Well Registration No. 55- 552313 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 950' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 950
9. Method of sealing at reduction points —
10. Perforated from 880 to 950, from _____ to _____ from _____ to _____
11. Size of cuts 1/8 x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 11-6-95 (Month, Day, Year)
15. Date completed 12-14-95 (Month, Day, Year)
16. Depth to water 880 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    ground
18. If flowing well, state method of flow regulation: —
19. Remarks: —

DWR-55-55-10/94 (Rev.)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-552313
File No. B(22-16)6 ACD
Received _____ By _____
Entered ENTERED DEC 27 1995 By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	5	Top Soil
5	240	Clay & gravel
240	425	Conglomerate
425	525	Broken Purple Malapai
525	640	Black malapai
640	680	Broken Red malapai
680	880	Black Malapai
880	890	Quartz (water)
890	925	Blue Granite
925	950	Fractured Granite

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling

3020 Jagerson
Street

Kingman AZ. 86401 757-2931
City State Zip Phone No.

12-7-95
Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

TATE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Sandra Connell
Name
P.O. Box 3034 Kingman, Az. 86402
Address

2. Lessee or Operator
Name
Address

3. Driller Campbell's Drilling Inc.
Name
P.O Box 938 Wickenburg, Az 85358
Address

4. Location of well: 22N 16W 16 SW SW NE

5. Permit No. (if issued) 55-508855

DESCRIPTION OF WELL

6. Total depth of hole 940 ft.
7. Type of Casing 8" steel 6" PVC
8. Diameter and length of casing 8" steel in. from 0 to 20, 6" PVC in from 0 to 940.
9. Method of sealing at reduction points Cemented
10. Perforated from 940 to 860, from to , from to
11. Size of cuts 1/8 Number of cuts per foot 4
12. If screen was installed: Length ft. Diam in. Type
13. Method of construction drilled
drilled, dug, driven, bored, jetted, etc.
14. Date started 8 (Month) 7 (day) 84 (year)
15. Date completed 8 (Month) 9 (day) 84 (year)
16. Depth to water 840 ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available.
18. If flowing well, state method of flow regulation
19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-508855
Received By
Entered 9-21-84 By SE
File No. B(22-16)6ACC

(Well log to appear on Reverse side)

RECEIVED
SEP 20 1984
DEPT. OF
WATER RESOURCES

VERIFIED

DWR-53-6-5/83

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	360	Decomposed granite
360	940	Volcanics

I hereby certify that this well was drilled by me (or under my supervison), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Campbells Drilling Inc
Name

P.O. Box 933
Address

Wickenburg, Az. 85358
City State Zip

Date 9-19-84

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES

SEP 1986
DEPARTMENT OF WATER RESOURCES

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner D BOEHME
Name
Box 8296 #B Kingman, Ariz. 86401
Address

2. Lessee or Operator
Name
Address

3. Driller Penrod Drilling Co.
Name
3020 Jagerson Ave Kingman Az. 86401
Address

4. Location of well: Twp 22N R16W Sec 6 NW¼ NE¼ NE¼

5. Permit No. (if issued)

DESCRIPTION OF WELL

6. Total depth of hole 415 ft.
7. Type of Casing 10" Conductor pipe Grouted in & capped
8. Diameter and length of casing 10 in. from 0 to 20, in from to .
9. Method of sealing at reduction points
10. Perforated from to , from to , from to
11. Size of cuts Number of cuts per foot
12. If screen was installed: Length ft. Diam in. Type
13. Method of construction Drilled
drilled, dug, driven, bored, jetted, etc.
14. Date started 4 (Month) 15 (day) 86 (year)
15. Date completed Not Completed Run out of Money - 7-11-86 (Month) (day) (year)
16. Depth to water NA ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available.:
18. If flowing well, state method of flow regulation
19. REMARKS: Want to complete at a later Date will want to renew Permit.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-511709
Received By
Entered By
File No. B(22-16)6 aab

ENTERED SEP 18 1986

(Well log to appear on Reverse side)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feer)	To (feet)	Description of formation material
0	8	TOP SOIL
8	16	SAND
16	58	CLAY SAND & GRAVEL
58	160	SAND GRAVEL & SOME CLAY
160	235	SAND GRAVEL & SMALL BOULDERS
235	325	SAND CLAY & GRAVEL
325	395	SAND GRAVEL & SMALL BOULDERS
395	415	CLAY & LARGE BOULDERS

I hereby certify that this well was drilled by me (or under my supervison), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Pennel Drilling Co
Name

3020 Jagerson Ave.
Address

Kingman AZ. 86401
City State Zip

Date 8- 25 86

ARIZONA DEPARTMENT OF WATER RESOURCES B(22-16)2 ABD
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
FEB 22 1999
RECORDS MGT

1. THF DRILLING, INC.
2420 S 16TH AVENUE
PHOENIX, AZ 85007

2. Owner Name: City of Kingman
Address: Kingman (City) AZ (State) 86401 (Zip)

3. Location: 22 (N/S) 16 (E/W) S 36 (Section) ¼ SE (10-acre) ¼ NW (40-acre) ¼ NE (160-acre)
Township Range

4. Well Registration No. 55-572015 (Required)

5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 650 ft.
7. Type of casing PVC 8"x20' steel conductor
8. Diameter and length of casing 4 in. from 0 to 380, 4 in from 460 to 480
9. Method of sealing at reduction points —
10. Perforated from — to —, from — to — from — to —
11. Size of cuts — Number of cuts per foot —
12. If screen was installed: Length 80 ft. Diam 4 in. Type PVC
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 2 (Month) 10 (Day) 99 (Year)
15. Date completed 2 (Month) 16 (Day) 99 (Year)
16. Depth to water 400 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground level
18. If flowing well, state method of flow regulation: STATIC
19. Remarks: _____

DWR-55-55-7/95 (Rev.)

ANSWERED FEB 2 2 1999

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-572015
File No. B(22-16) 2 ABD
Received _____ By _____
Entered _____ By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	180	Clay
180	650	Clay Gravels
	400	Water

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: THF DRILLING, INC.

2420 S 16TH AVENUE
Street

PHOENIX, AZ 85007
City State Zip Phone No.

Vernon Christ 2-18-99
Signature of Driller Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
GROUNDWATER MANAGMENT SUPPORT SECTION

500 North Third Street - Phoenix, Arizona 85004-3903
Phone (602) 417-2470 Fax (602) 417-2422

WELL DRILLER REPORT

This report should be prepared by the Driller in all detail and filed with the Department within 30 days following completion of the well.

Owner's Name: CITY OF KINGMAN

Address: 310 NORTH 4TH STREET (Street) KINGMAN (City) ARIZONA (State) 86401 (Zip) 753-8124 (Telephone Number)

Drilling Firm: PENROD DRILLING CO.

Address: 3020 JAGERSON AVE (Street) KINGMAN (City) ARIZONA (State) 86401 (Zip) 757-2931 (Telephone Number)

Location: SW ¼ (10 Acre) SE ¼ (40 Acre) SW ¼ (160 Acre) of Section 24 Township 21N Range 17W

Well Registration No. 55-557491 (Required)

Permit No. _____ (If issued)

DESCRIPTION OF WELL

ENTERED MAY 15 1997

Total Depth of Hole 223 ft.
Type of Casing STEEL
Diameter and length of casing 10 inches from 0 to 223 . inches from _____ to _____
Method of sealing at reduction points _____
Perforated from 163 to 218 from _____ to _____ from _____ to _____
Size of cuts 1/8 X 3 Number of cuts per foot 44
If screen was installed: Length NONE feet. Diameter _____ inches. Type _____
Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc.)

Date started MAY (Month) 06 (Day) 1996 (Year)

Date completed JULY (Month) 10 (Day) 1996 (Year)

Depth to water 120' 6" ft. (If flowing well, so state).

Describe point from which depth measurements were made, and give sea-level elevation if available

GROUND

If flowing well, state method of flow regulation:

Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-557491
File No. B(21-17)24CDC
Received _____ By _____
Entered _____ By _____

WR-55-55 (Rev 2/96)

LOG OF WELL

ndicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which countered, and depth to which it rose in well.

From (feet)	To (feet)	
0	5	TOP SOIL
5	20	WHITE TUFA
20	52	GRAY TUFA
52	63	LIGHT BROWN TUFA
63	95	SOFT PURPLE MALAPAI
95	123	HARD PURPLE MALAPAI
123	128	BROKEN PURPLE MALAPAI (WATER)
128	144	HARDER PURPLE MALAPAI
144	152	SOFT BROKEN PURPLE MALAPAI
152	156	HARD PURPLE MALAPAI
156	203	SOFTER PURPLE MALAPAI SOME CLAY
203	218	PURPLE MALAPAI CLAY MIXED
218	223	VARY HARD PURPLE MALAPAI

hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of y knowledge and belief.

Kim Preston Penrod

Driller's Name (Qualifying Party): PENROD DRILLING CO

3020 JAGERSON AVE
Street

KINGMAN | ARIZONA | 86401
City | State | Zip

757-2931 | 7-29-96
Phone Number | Date

WR 55-55 (Rev 2/96)

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
SEP 14 2000
RECORDS MGT

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: K. C. Ott
Address: Kingman (City) AZ. (State) 86401 (Zip)

3. Location: 21 (N)S 17 E(W) 11 ¼ SW ¼ NE ¼ SE
(Township, Range, Section, 10-acre, 40-acre, 160-acre)

4. Well Registration No. 55-582763 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 305 ft.
7. Type of casing Steel / P.V.C.
8. Diameter and length of casing 7 in. from 0 to 20, 4 1/2 in from 0 to 305
9. Method of sealing at reduction points Cement
10. Perforated from 270 to 305, from 225 to 245 from _____ to _____
11. Size of cuts 1/8" x 6 Number of cuts per foot 1 1/2
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction Drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 8 (Month) 15 (Day) 2000 (Year)
15. Date completed 8 (Month) 15 (Day) 2000 (Year)
16. Depth to water 215 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if availabl
Natural Grade
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

ANSWERED SEP 21 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 582763
File No. B(21-17) 11 DAC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	165	Basalt
165	245	Clay Alt Rhyolite H30@215-226.P.M
245	305	Basalt Mose H30@245-286.P.M
		Production - 30 G.P.M.
		static- 167'

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE
Street

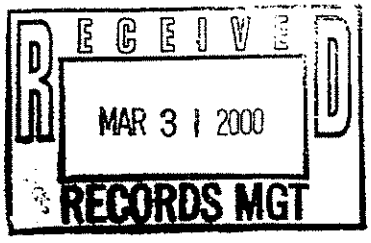
KINGMAN, AZ 86401-3411
City State Zip Phone No.

[signature]
Signature of Driller

9-10-2000
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.



1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Scott Shuffler
Address: 925 Garden Crest (City) Kingman (State) Az (Zip) 86401

3. Location: 21 (N/S) Township 17 (E/W) Range 1 Section ¼ NE 10-acre ¼ NW 40-acre ¼ NW 160-acre

4. Well Registration No. 55- 577903 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 425 ft.
7. Type of casing Steel and PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 425
9. Method of sealing at reduction points _____
10. Perforated from 300 to 425, from _____ to _____ from _____ to _____
11. Size of cuts ⅛ x Co Number of cuts per foot 3
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled (drilled, dug, driven, bored, jetted, etc)
14. Date started 11 (Month) 22 (Day) - 99 (Year)
15. Date completed 11 (Month) 28 (Day) 99 (Year)
16. Depth to water 265 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: STATIC 265'

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-577903
File No. B(21-17) 1 BBA
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ANSWERED APR 5 2000

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	45	Malapai Mix
45	85	Black Malapai
85	115	Red Malapai
115	190	Black Malapai
190	285	Red Malapai
285	325	Red Cinders (water)
325	425	Black Malapai

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE

Street

KINGMAN, AZ 86401-1515

City State Zip Phone No.

Signature of Driller 12-22-99 Date

1st well
Bull Mtn Rd
off Stn Hill

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAY - 8 2002
RECORDS MGT

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: Lance Bomar
Address: PO Box 3429 Kingman (City) AZ (State) 86402 (Zip)

3. Location: 22 (N/S) 17 (E/W) 14 (Section) ¼ SE (10-acre) ¼ SW (40-acre) ¼ SE (160-acre)
Township Range

4. Well Registration No. 55-590016 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 1005 ft.
7. Type of casing Steel
8. Diameter and length of casing 7 in. from 0 to 20, _____ in from _____ to _____
9. Method of sealing at reduction points _____
10. Perforated from _____ to _____, from _____ to _____ from _____ to _____
11. Size of cuts _____ Number of cuts per foot _____
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction _____
(drilled, dug, driven, bored, jetted, etc)
14. Date started 02 (Month) 21 (Day) 2002 (Year)
15. Date completed 02 (Month) 23 (Day) 2002 (Year)
16. Depth to water _____ ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea level elevation if availab
natural grade
18. If flowing well, state method of flow regulation: _____
19. Remarks: The hole was Dry at 1005 ft
A 6" Steel Cap has been welded solid at the surface.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 590016
File No. B(22-17) 14 DCD
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED MAY 0 8 2002

LOG OF WELL

ate depth at which water was first encountered, and the depth and thickness of water bearing beds If water is sian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	35	decomp granite
35	185	granite
185	205	clay alt. granite
205	1205	granite

hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE
Street

KINGMAN, AZ 86401-3411
City State Zip Phone No.

Signature of Driller

4-28-02
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

RECEIVED JUN 1 1992

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Everett Burge
   Address: 556 Christy Plaza (Street) Kingman (City) AZ (State) 86401 (Zip)
2. Driller Name: MARK Bailey
   Address: Box 3805 (Street) Kingman (City) AZ (State) 86402 (Zip)
3. Location: 22 (N/S) Township; 17 (E/W) Range; 11 Section; NE 1/4 10-acre; NE 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55- 535275 (Required)
5. Permit No ..... (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 315 ft.
7. Type of casing PVC
8. Diameter and length of casing 5 in. from 0 to 315, _____ in from _____ to _____.
9. Method of sealing at reduction points Cement
10. Perforated from 255 to 315, from _____ to _____, from _____ to _____.
11. Size of cuts 1/4 Number of cuts per foot 8
12. If screen was installed: Length 0 ft. Diam _____ in. Type _____
13. Method of construction Drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 5 (Month) 15 (Day) 92 (Year)
15. Date completed 5 (Month) 22 (Day) 92 (Year)
16. Depth to water 100 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Drill pipe
18. If flowing well, state method of flow regulation: 0
19. Remarks: 6 gals mud

55-535275
B(22-17)11 caa
ENTERED JUN - 3 1992
Entered _____ By _____

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	10	Sand clay
10	50	Brown Rock
50	120	Gray Rock Hard Little water
120	130	Brown Rock
130	240	Gray Rock
240	250	Brown Rock Little water
250	300	Gray Rock
300	315	Brown Rock Little watter

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Mark Bailey

Box 3805
Street

Kingman AZ 86402
City State Zip

Date 5-25-92

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

RECEIVED
APR 15 2002
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. MARANATHA DRILLING & PUMP SERVICE
22893 HIGHWAY 6
BENTON, CA 93512-7400

2. Owner Name: Kile Chester Po Box 4800
Address: Hyampzi (City) Ariz (State) 86412 (Zip)

3. Location: 23 (N/S) 17 (E/W) 36 (Section) ¼ SE (10-acre) ¼ SW (40-acre) ¼ NW (160-acre)
Township Range

4. Well Registration No. 55-590894 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 650 ft.
7. Type of casing Steel
8. Diameter and length of casing 6 5/8 in. from +1 to 35', _____ in from _____ to _____
9. Method of sealing at reduction points N/A
10. Perforated from N/A to _____, from _____ to _____ from _____ to _____
11. Size of cuts N/A Number of cuts per foot N/A
12. If screen was installed: Length N/A ft. Diam _____ in. Type _____
13. Method of construction Drilled Rotary Air
(drilled, dug, driven, bored, jetted, etc)
14. Date started 2 - 13 - 02
Month Day Year
15. Date completed 3 - 10 - 02
Month Day Year
16. Depth to water 164' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
Ground Surface
18. If flowing well, state method of flow regulation: N/A
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 590894
File No. B(23-17) 36 BCD
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED MAY 0 3 2002

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	30	Brown Clay Rock & Boulders, Sand, Alaval
30	165	Black Basalt Hard
165	270	Water At Granite Contact Some Small White & Black Granite Fratures
270	320	Black Granite Hard
320	475'	Pink & White Quartz in White Granite
475	606	White & Black Granite Verry Small Fratures
606	650	Black Hard Granite
165		Water Coming In At Fratures Less Than 2" Total Depth of Fratures
475		Less Than 2" Fratue
		Total Water Production Aprox
		2 GPM

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: MARANATHA DRILLING & PUMP SERVICE

22893 HIGHWAY 6
Street

BENTON, CA 93512-7400 760-933-2390
City State Zip Phone No.

Russell Rule 4-10 — 02
Signature of Driller Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Delbert Plumley
   Address: 3562 Diagonal Way (Street) Kingman (City) Az. (State) 86401 (Zip)
2. Driller Name: Penrod Drilling Co.
   Address: 3020 Jagerson (Street) Kingman (City) Az. (State) 86401 (Zip)
3. Location: 23 (Township) N/S 17 (Range) E/W 35 (Section) NW 1/4 (10-acre) SW 1/4 (40-acre) NE 1/4 (160-acre)
4. Well Registration No. 55- 538350 (Required)
5. Permit No. _____ (If issued)

RECEIVED MAR 25 1993 OPERATIONS DIV.

DESCRIPTION OF WELL

6. Total depth of hole 285 ft.
7. Type of casing steel & PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 285.
9. Method of sealing at reduction points —
10. Perforated from 200 to 285, from _____ to _____, from _____ to _____.
11. Size of cuts ⅛ x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 3-10-93 (Month Day Year)
15. Date completed 3-11-93 (Month Day Year)
16. Depth to water 200 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    ground
18. If flowing well, state method of flow regulation: ENTERED MAR 25 1993
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
55-538350
B(23-17)35ACB

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	3	Top Soil
3	45	Loose Conglomerate
45	65	Brown Decomposed Granite
65	117	Green " "
117	150	Blue Granite
150	170	Quartz
170	190	Black Granite
190	200	Blue " & Bentonite
200	225	Blue "
225	275	Quartz
275	285	Gray Granite

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling

3020 Jameson
Street

Kingman AZ. 86401
City State Zip

Date 3-22-93

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAR 31 2000
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Vicky L. Reed
Address: PO Box 6233 Kingman AZ. 86401
City State Zip

3. Location: 23 (N)S 17 E(W) 25 ¼ NW ¼ SW ¼ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 570128 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 625' ft.
7. Type of casing STEEL ePVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 625
9. Method of sealing at reduction points —
10. Perforated from 500 to 625, from _____ to _____ from _____ to _____
11. Size of cuts ½ x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 10 - 3 - 98
Month Day Year
15. Date completed 10 - 10 - 98
Month Day Year
16. Depth to water 500' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-570128
File No. B(23-17) 25 ACB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ANSWERED APR 5 2000

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	4	Top Soil
4	188	Clay Rock
188	350	Malapai
350	480	Black Granite (WATER)
480	560	Blue Granite Quartz Streaks 500
560	625	Gray Granite.

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller 11-3-98
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

RECEIVED
APR 22 1997
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. PENROD DRILLING CO.
3020 JAGERSON AVE
KINGMAN, AZ 86401

2. Owner Name: GILBERT & SUE SILVA
Address: 1711 Stockton Hill Rd. Kingman AZ. 86401
City State Zip

3. Location: 23 (N)S 17 E(W) 23 ¼ SW ¼ SE ¼ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-560792 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 445 ft.
7. Type of casing STEEL & [redacted]
8. Diameter and length of casing 7 in. from 0 to 20, _____ in from _____ to _____
9. Method of sealing at reduction points _____
10. Perforated from — to _____, from _____ to _____ from _____ to _____
11. Size of cuts — Number of cuts per foot _____
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 3-25-97
Month Day Year
15. Date completed 3-29-97
Month Day Year
16. Depth to water 140' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground
18. If flowing well, state method of flow regulation: _____ ENTERED APR 28 1997
19. Remarks: SOLID ROCK HOLE NO CASING AT THIS TIME (SLOW RECOVERY RATE)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-560792
File No. B (23-17) 23 DDC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	4	Top Soil
4	65	Brown Decomposed Granite
65	140	Blue Granite
140	143	Quartz (water seep)
143	260	Grey Granite
260	445	Blue Granite

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling Inc.

3020 Jagerson

Street

Kingman AZ. 86401 757-2931

City State Zip Phone No.

Signature of Driller

4-21-97

Date

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
500 North 3rd Street
Phoenix, Arizona 85004

RECEIVED
OCT - 5 1995
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 day following completion of the well.

1. Owner Name: James and Ruth HOLMES
   Address: 2345 AMES (Street) Kingman (City) AZ (State) 86401 (Zip)
2. Driller Name: Penrod Drilling Co.
   Address: 3020 Jagerson (Street) Kingman (City) AZ (State) 86401 (Zip)
3. Location: 23 (N/S) Township 17 (E/W) Range 23 Section ¼ NW 10-acre ¼ SW 40-acre ¼ SW 160-acre
4. Well Registration No. 55-549406 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 205 ft.
7. Type of casing STEEL & PVC
8. Diameter and length of casing 7 in. from 0 to 20 . 4½ in from 0 to 205
9. Method of sealing at reduction points —
10. Perforated from 100 to 205 from _____ to _____ from _____ to _____
11. Size of cuts 1/8 x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 9-5-95 (Month Day Year)
15. Date completed 9-7-95 (Month Day Year)
16. Depth to water 105 [redacted] ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DWR-55-55-10/94 (Rev.)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-549406
File No. 623-17 22 CCB
Received _____ By _____
Entered ENTERED OCT 10 1995 By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If wate is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	6	Clay Boulders
6	45	Green Decomposed Granite
45	85	Brown " "
85	104	Blue Granite
104	112	Quartz (WATER)
112	160	Blue Granite
160	205	Gray Granite

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling Co

3020 Jagerson Ave
Street

Kingman AZ 86401 757-2931
City State Zip Phone No.

10-2-95
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
SEP 21 2001
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Ross Reinoso
Address: 949 W Canyon Dr. Kingman Az. 86401
City State Zip

3. Location: 23 (N/S) 17 (E/W) 23 ¼ SW ¼ NE ¼ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-587231 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 225 ft.
7. Type of casing Steel PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4 1/2 in from 0 to 225
9. Method of sealing at reduction points —
10. Perforated from 125 to 225, from _____ to _____ from _____ to _____
11. Size of cuts 1/8 x 6 Number of cuts per foot 3
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction Drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 9-1-01
Month Day Year
15. Date completed 9-3-01
Month Day Year
16. Depth to water 70 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
Ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 587231
File No. B(23-17) 23 BAC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

- 2001

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	2	Top Soil
2	35	Clay Boulders
35	90	Gray Granite
90	110	Quartz
110	225	Gray Granite

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller

9-18-01
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
SEP 21 2001
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: PAMELA McDERMOTT
Address: 8436 N BRADLEY AVE KINGMAN AZ. 86401
City State Zip

3. Location: 23 N/S 17 E/W 23 ¼ NW ¼ SW ¼ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-586884 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 200 ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 200
9. Method of sealing at reduction points —
10. Perforated from 100 to 200, from _____ to _____ from _____ to _____
11. Size of cuts 4" x 6 Number of cuts per foot 3
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 8-26-01
Month Day Year
15. Date completed 8-28-01
Month Day Year
16. Depth to water 60' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 586884
File No. B(23-17) 23 ACB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
[redacted]		
0	36	Sand Boulders
36	65	Brown Decomp. Granite
65	70	Gray Granite
70	80	Quartz (WATER)
80	200	Gray Granite

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller

9-18-01
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
JAN 31 2000
RECORDS MGT

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: Ray Shipley
Address: Kingman (City) Arizona (State) 86401 (Zip)

3. Location: 23 (N/S) Township 17 (E/W) Range 13 Section ¼ NW ¼ 10-acre SW ¼ 40-acre NE 160-acre

4. Well Registration No.: 55-576879 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 245 ft.
7. Type of casing Steel
8. Diameter and length of casing 7 in. from 0 to 20, 4.5 in from 0 to 245
9. Method of sealing at reduction points cement
10. Perforated from 185 to 245, from _____ to _____ from _____ to _____
11. Size of cuts 1/8" X 6 Number of cuts per foot 1
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled (drilled, dug, driven, bored, jetted, etc)
14. Date started 08 (Month) 18 (Day) 99 (Year)
15. Date completed 08 (Month) 19 (Day) 99 (Year)
16. Depth to water 200 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
natural grade
18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-576879
File No. ~~B(15-17) 31 AAB~~ B(23-17)13 ACB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ANSWERED JAN 31 2000

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	15	sand & gravel
15	25	decomposed granite
25	135	granite
135	195	quartzite 420. 5 gpm.
195	245	granite
		total well production approx. 5 gpm.
		static water level 170 ft.

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE

Street

KINGMAN, AZ 86401-3411

City State Zip Phone No.

[signature] 9-30-99

Signature of Driller Date

TE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

is report should be prepared by the driller in all detail and filed with the Department thin 30 days following completion of the well.

Copy sent to driller for clarification of 4 4 4 nw

Owner THERON I FLEMING
Name

2013 MOTOR AVE KINGMAN, ARIZONA 86401
Address

Lessee or Operator
Name

Address

Driller PEMROD DRILLING CO. 3020 JAGERSON AVE. KINGMAN 86401
Name

Address

Location of well: TWP 21N RGE. 16W SEC 17 ~~SE¼ SW¼ NE¼~~ SE

Permit No. 55-506113
(if issued)

DESCRIPTION OF WELL

Total depth of hole 595 ft.

Type of Casing PVC. & STEEL

Diameter and length of casing 4 in. from 0 to 595, in from
STEEL 0 TO 20
to .

Method of sealing at reduction points

Perforated from 480 to 580, from to , from to

Size of cuts 1/7" X 5 Number of cuts per foot 4

If screen was installed: Length ft. Diam in. Type

Method of construction DRILLED
drilled, dug, driven, bored, jetted, etc.

Date started 9 (Month) 14 (day) 1983 (year)

Date completed 9 (Month) 24 (day) 1983 (year)

Depth to water 470 ft. (If flowing well, so state.)

Describe point from which depth measurements were made, and give sea-level elevation if available.

If flowing well, state method of flow regulation

REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-506113

Received By

Entered 1-10-84 By JE

File No. B(21-16)17dcd

RECEIVED JAN 9 1984 DEPT. OF WATER RESOURCES

(Well log to appear on Reverse side)

VERIFIED

DWR-6 5-83

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	55	LOOSE FILL
55	180	ORIENTED SEDIMENT
180	265	BLACK MALAPAI
265	310	RED MALAPAI
310	490	BLACK MALAPAI
490	495	MEDIUM PURPLE MALAPAI LITTLE WATER
495	525	BLACK MALAPI
525	535	RED MALAPI WATER
535	595	BLACK MALAPI

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Kim Penrod
Name

3020 Jaggerson Ave. Kingman AZ
Address

12-28-83

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

RECEIVED
JAN 10 2000
RECORDS

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. HEBER MINING & EXPLORATION COMPANY
22010 NORTH 21ST AVENUE
PHOENIX, AZ 85027-0026

2. Owner Name: CFJ Properties
Address: 4185 S. Harrison Blvd. Ogden, UT 84403
City State Zip

3. Location: 21 (N)S 16 E(W) 8 ¼ NE ¼ SE ¼ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 577417 (Required)
5. Permit No. NA (If issued)

DESCRIPTION OF WELL

6. Total depth of hole Varies 144' to 170' ft.
7. Type of casing None
8. Diameter and length of casing NA in. from ____ to ____, ____ in from ____ to ____
9. Method of sealing at reduction points NA
10. Perforated from NA to ____, from ____ to ____ from ____ to ____
11. Size of cuts NA Number of cuts per foot ____
12. If screen was installed: Length NA ft. Diam ____ in. Type ____
13. Method of construction drilled w/ 4 1/4" I.D. hollow stem auger
(drilled, dug, driven, bored, jetted, etc)
14. Date started Dec. 6 1999
Month Day Year
15. Date completed Dec. 8 1999
Month Day Year
16. Depth to water Dry while drilling ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
Existing ground near test boring
18. If flowing well, state method of flow regulation: NA

19. Remarks: Three (3) test borings drilled, sampled & abandoned by backfilling to 20' & grouting upper 20ft.

DWR-55-55-7/95 (Rev.)

ENTERED JAN 10 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-577417
File No. B(21-16) 8 BDA
Received ____ By ____
Entered ____ By ____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
		TYPICAL LOG OF BORING
0	35'	Brn. Silty CLAY / Clayey SILT w/ some Caliche.
35'	120'	Brn. Silty SAND / SAND & GRAVEL
120'	170'	Brn. Silty SAND / SAND & GRAVEL w/ Clay & possible rock layers
		Bottom of Boring @ 144' - 170'
		Dry while Drilling

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: HEBER MINING & EXPLORATION

COMPANY

22010 NORTH 21ST AVENUE

Street

PHOENIX, AZ 85027-0026 623-780-0023

City State Zip Phone No.

Signature of Driller #260 1-6-00 Date

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES

GROUNDWATER MANAGEMENT SUPPORT SECTION

500 North Third Street, Phoenix, Arizona 85004-3903
Phone (602) 417-2470 Fax (602) 417-2422

*

WELL DRILLER REPORT

This report should be prepared by the Driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner's Name: MAVIT CORP.
   Address: 3997 E AIRWAY AVE Kingman AZ 86401
   Street City State Zip

2. Driller's Name: PENROD DRILLING CO
   Address: 3020 JAGERSON AVE Kingman AZ 86401
   Street City State Zip

3. Location: NW ¼ NE ¼ NW ¼ of Section 3 Township 21 N Range 16 W
   10 ACRE 40 ACRE 160 ACRE

4. Well Registratiin No. 55-553041 (Required)

5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total Depth of Hole 800' ft.
7. Type of Casing STEEL CASING
8. Diameter and length of casing 8" STEEL inches from 0 to 728, _____ inches from _____ to _____
9. Method of sealing at reduction points _____
10. Perforated from 685' to 725' from _____ to _____ from _____ to _____
11. Size of cuts 1/8" X 3 Number of cuts per foot 18
12. If screen was installed: Length — feet. Diameter — inches. Type _____
13. Method of construction DRILLED
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 11 (Month) 15 (Day) 95 (Year)
15. Date Completed 2 (Month) 2 (Day) 96 (Year)
16. Depth to water 668' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available GROUND LEVEL
18. If flowing well, state method of flow regulation:
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-553041
B(21-16)3bab
File No. _____
Received _____ By _____
Entered ENTERED MAR 8 1996 By _____

DWR-55-55 (Rev 10/95)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of Formation Material
0	10	Top Soil
10	35	SAND CLAY BOULDERS
35	105	SAND GRAVEL CLAY
105	260	Silty Clay
260	370	Silty Clay Small GRAVEL
370	496	Grey Clay Gravle mix
496	610	Grey Clay Gravel & Boulders
610	670	Boulders Clay & GRAVEL
670	720	Beatobite & Clay SAND GRAVEL WATER
720	800	Black malapi & WATER

I hereby certify that this well was drilled by me(or under my supervison), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Pomroy Drilling Co

3020 Jagerson Ave
Street

Kingman AZ 86401
City State Zip

757-2931 2-28-96
Phone Number Date

DWR-55-55 (Rev 10/95)

TE OF RIZONA

DEPARTMENT OF
WATER RESOURCES

WELL DRILLER REPORT

s report should be prepared by the driller in all detail and filed with the Department hin 30 days following completion of the well.

Owner Martin Morgan
Name

3385 N Bank Kingman AZ 86401
Address

Lessee or Operator
Name

Address

Driller Penrod Drilling
Name

3020 Jagerson Kingman Az. 86401
Address

Location of well: T23N R-16W Sec

Permit No. 55 - 503426
(if issued)

DESCRIPTION OF WELL

Total depth of hole 115 ft.

Type of Casing 4" PVC

Diameter and length of casing 6 in. from 0 to 20, 4 in from 0 to 115.

Method of sealing at reduction points —

Perforated from 30 to 115, from to , from to

Size of cuts 1/8 x 6 Number of cuts per foot 3

If screen was installed: Length — ft. Diam in. Type

Method of construction drilled
drilled, dug, driven, bored, jetted, etc.

Date started 7 - 8 - 82
Month day year

Date completed 7 - 10 - 82
Month day year

Depth to water 30 ft. (If flowing well, so state.)

Describe point from which depth measurements were made, and give sea-level elevation if available.
ground Level

If flowing well, state method of flow regulation —

REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-503426
Received By
Entered 8-5-82 By
File No. B(23-16)35bac

(Well log to appear on Reverse side)

RECEIVED
AUG 3 1982
DEPT. OF
WATER RESOURCES

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	10	Top Soil
10	35	Boulders & Clay
35	115	Silica

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Ken Conrad
Name

3220 Jagerson Kenai Ak.
Address

Date 8-2-82

2-72

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Don Longoria
   Address: P.O. Box 95093 (Street) Las Vegas (City) NV. (State) 89193 (Zip)
2. Driller Name: Thatcher Drilling Co.
   Address: P.O. Box 6964 (Street) Kingman, Az. (City) (State) 86402 (Zip)
3. Location: 23 (N/S) (Township) 16 (E/W) (Range) 33 (Section) SW1/4 (10-acre) SW1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55- 535555 (Required)
5. Permit No. _____ (If issued)

JAN 21 1993

DESCRIPTION OF WELL

6. Total depth of hole 611 ft.
7. Type of casing 8" steel 5" steel
8. Diameter and length of casing 8 in. from +1 to 17, 5 in from +1.5 to 611.
9. Method of sealing at reduction points Welded steel Plate between 8" + 5"
10. Perforated from 581 to 611, from _____ to _____, from _____ to _____.
11. Size of cuts ¼ x 4" slotts Number of cuts per foot 3
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction Drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started July (Month) 10 (Day) 1992 (Year)
15. Date completed Jan (Month) 1 (Day) 1993 (Year)
16. Depth to water Dry Hole ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground level 3400' + - 200'
18. If flowing well, state method of flow regulation: _____
19. Remarks: 5" Casing left in hole, Casing should either be pulled + hole abandoned or deepened as client see's fit. grout packers were installed at 40'

DWR-55-55-7/91 (Rev.)

DO NOT WRITE IN THIS SPACE

Rc 55-535555
Fi B(23-16)33CCC
Rc
Et ENTERED JAN 22 1993

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	80	Surface alluvium
80	550	Sand, gravel + clay alluvium
550	593	sand + gravel / some clay
593	611	Decomposed granite
		Possible perched water encountered 550 - 611. If so, it depleted upon yield test.
		Hole was left uncompleted for client to decide whether to Deepen or abandon.

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Edward T Hatcher

P.O Box 6964

Street

Kingman, Az. 86402

City State Zip

Date 1-17-93

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. PENROD DRILLING COMPANY
   3020 JAGERSON AVENUE
   KINGMAN AZ 86401-1515

2. Owner Name: SCOTT WILLIAMS
   Address: HC 32 BOX 2500 KINGMAN AZ 86401
   City State Zip

3. Location: 23 N/S 16 E/W 31 ¼ SE ¼ NW ¼ SE
   Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-564803 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 930 ft.
7. Type of casing STEEL
8. Diameter and length of casing 7 in. from 0 to 20, _____ in from _____ to _____
9. Method of sealing at reduction points —
10. Perforated from — to —, from _____ to _____ from _____ to _____
11. Size of cuts — Number of cuts per foot —
12. If screen was installed: Length — ft. Diam — in. Type —
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 11-20-97
    Month Day Year
15. Date completed 11-26-97
    Month Day Year
16. Depth to water — ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
18. If flowing well, state method of flow regulation: _____
19. Remarks: DRY HOLE
    SURFACE SEAL LEFT IN
    CAPPED ~ WILL DEEPEN
    LATER ON

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-564803
File No. B(23-16) 31 DBD
Received _____ By _____
Entered _____ By _____
ENTERED JAN - 8 1998

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	4	Top Soil
4	120	Conglomerate
120	182	" " Large Boulders
182	380	Brown Mal. (Broken)
380	524	Black Mal. (Broken)
524	744	Brown Granite
744	930	Grey Granite
		(Dry Hole)

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling

3020 Jagerson

Street

Kingman Az. 86401 757-2931

City State Zip Phone No.

Signature of Driller Date 12-29-97

(13)

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
OCT 16 2000
RECORDS MGT

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: Mattew L. Dolph
Address: 575 E. Remington Dr #22-E Sunnyvale Ca. 94087
City State Zip

3. Location: 23 (N)S 16 E(W) 29 ¼ SW ¼ SE ¼ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 578386 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 565' ft.
7. Type of casing steel + PVC
8. Diameter and length of casing 2 in. from +1 to 20, 4½ in from 0 to 565
9. Method of sealing at reduction points cement
10. Perforated from 520 to 565, from _____ to _____ from _____ to _____
11. Size of cuts 1/8" X 6" Number of cuts per foot 1.5
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 2 (Month) 16 (Day) 2000 (Year)
15. Date completed 2 (Month) 17 (Day) 2000 (Year)
16. Depth to water _____ ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
natural grade
18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-578386
File No. B(23-16) 29 BDC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ANSWERED NOV 14 2000

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	65	Basalt
65	95	Rhyolite
95	160	Basalt
160	170	Clay
170	260	Rhyolite
260	300	Clay Alt Rhyolite
300	430	Basalt
430	440	Rhyolite moist
440	520	Basalt
520	535	Fractured Basalt Wtr @ 56 G.P.M.
535	565	Basalt
		Production 56 G.P.M.
		Static - 400'

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE

Street

KINGMAN, AZ 86401-3411

City State Zip Phone No.

Signature of Driller

9-12-2000

Date

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
500 North 3rd Street
Phoenix, Arizona 85004

RECEIVED
5 1995
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Gayla Ray GEE
   Address: P.O. BOX 4041 (Street) Kingman (City) AZ (State) 86402 (Zip)
2. Driller Name: Penrod Drilling Co.
   Address: 3020 Jagerson (Street) Kingman (City) AZ (State) 86401 (Zip)
3. Location: 23 (N/S) 16 (E/W) 21 (Section) ¼ SW (10-acre) ¼ NE (40-acre) ¼ NE (160-acre)
   (Township, Range)
4. Well Registration No. 55-550633 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 700' ft.
7. Type of casing STEEL & PVC
8. Diameter and length of casing 7 in. from 0 to 20 ,4½ in from 0 to 700'
9. Method of sealing at reduction points —
10. Perforated from _____ to _____, from _____ to _____ from _____ to _____
11. Size of cuts 1/8 X 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled (drilled, dug, driven, bored, jetted, etc)
14. Date started 8-28-95 (Month, Day, Year)
15. Date completed 9-3-95 (Month, Day, Year)
16. Depth to water 580' ground ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DWR-55-55-10/94 (Rev.)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 550633
File No. B(23-16)21 aac
Received _____ By _____
Entered ENTERED OCT 10 1995 By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	4	Top Soil
4	210	Conglomerate
210	340	Clay & Gravel
340	410	Decomposed Granite
410	465	Brn Granite
465	515	Gray "
515	580	Blue "
580	595	Quartz (water)
595	630	Blue Granite
630	700	Gray Granite

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling

3020 Jagerson
Street

Kingman Az. 86401 757-2931
City State Zip Phone No.

10-2-95
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAY - 5 1999
RECORDS MGT

1. BRINER DRILLING, INC.
555 N. PARKSON ROAD
HENDERSON, NV 89015-4021

2. Owner Name: RALPH E. SANDOVAL 551 I AVE.
Address: CORONADO (City) CA (State) 92118 (Zip)

3. Location: 23 (Township) N/S 16 (Range) E/W 20 (Section) ¼ SE (10-acre) ¼ SW (40-acre) ¼ SW (160-acre)

4. Well Registration No. 55- 571915 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 909' ft.
7. Type of casing STEEL + PVC
8. Diameter and length of casing 5 in. from +2 to 909', _____ in from _____ to _____
9. Method of sealing at reduction points —
10. Perforated from 800' to 900', from _____ to _____ from _____ to _____
11. Size of cuts 1/8" X 2½" Number of cuts per foot 3
12. If screen was installed: Length —ft. Diam _____ in. Type _____
13. Method of construction DRILLED
(drilled, dug, driven, bored, jetted, etc)
14. Date started 3 (Month) 24 (Day) 1999 (Year)
15. Date completed 4 (Month) 14 (Day) 1999 (Year)
16. Depth to water 482' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
G.L.
18. If flowing well, state method of flow regulation: _____

19. Remarks: _____

DWR-55-55-7/95 (Rev.)

ANSW[illegible] 1999

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-571915
File No. B(23-16) 20 CCD
Received _____ By _____
Entered _____ By _____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	21	COURSE SAND
21	239	RED QUARTZ
239	909	GRANITE w/ PINK, RED QUARTZ

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BRINER DRILLING, INC.

555 N. PARKSON ROAD
Street

HENDERSON, NV 89015-4021 702-565-6226
City State Zip Phone No.

Signature of Driller 4-29-99
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

DEPARTMENT OF WR
APR 11 1994
OPERATIONS DIV

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Therese Francois
   Address: 10741 Esco Bar, San Diego, CA 92124
   Street / City / State / Zip
2. Driller Name: Mark Bailey
   Address: P.O. Box 3805 Kingman, AZ 86402
   Street / City / State / Zip
3. Location: 23 (N/S) Township; 16 (E/W) Range; 19 Section; SE 1/4 10-acre; SE 1/4 40-acre; SE 1/4 160-acre
4. Well Registration No. 55- 541211 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 1680 ft.
7. Type of casing 5" PVC
8. Diameter and length of casing 5 in. from 0 to 1680, _____ in from _____ to _____.
9. Method of sealing at reduction points cement
10. Perforated from 1600 to 1680, from _____ to _____, from _____ to _____.
11. Size of cuts 1/8" Number of cuts per foot 4
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction Drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started Feb. (Month) 2 (Day) 1994 (Year)
15. Date completed Feb (Month) 23 (Day) 1994 (Year)
16. Depth to water 350 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Air Pressure + Drill Pipe
18. If flowing well, state method of flow regulation: _____
19. Remarks: 35 gal. per min.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
55-541211
B(23-16)19 DDD
Received ENTERED APR 11 1994
Entered _____ By _____

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	80	Decomposed Granite
80	150	GRN Granite
150	190	BRN Granite
190	250	GRN Granite
250	310	BRN Granite
310	460	GRN Granite
460	490	BRN Granite
490	590	GRN Granite
590	680	BRN Granite

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: MARK Bailey

P.O. Box 3805
Street

Kingman AZ 86402
City **State** **Zip**

Date 4-3-94

Stn Hill Rd E. Mile 13

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED JAN - 7 2002 RECORDS MGT

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: John H and Julie A. Baldwin (928-692-8314)
Address: Kingman (City) PO Box 4147 AZ (State) 86402 (Zip)

3. Location: 23 (N/S) 16 (E/W) 19 (Section) ¼ NW (10-acre) ¼ SW (40-acre) ¼ SW (160-acre)
Township Range

4. Well Registration No. 55-589934 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 705 ft.
7. Type of casing Steel/pvc.
8. Diameter and length of casing 7 in. from 0 to 20.45 in from 0 to 705
9. Method of sealing at reduction points cement
10. Perforated from 340 to 360, from 500 to 520 from 685 to 705
11. Size of cuts 1/8"x6 Number of cuts per foot 2
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 12 (Month) 12 (Day) 2001 (Year)
15. Date completed 12 (Month) 13 (Day) 2001 (Year)
16. Depth to water 315 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if available
natural grade
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 589934
File No. B(23-16) 19 CCB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED JAN 15 2002

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	18	overburden
18	380	granite - fract. at 315 - H20. 5 gpm.
380	455	granite
455	495	basalt
495	560	granite
560	565	tan clay
565	655	volcanic with 60% quartz
655	660	basalt
660	680	granite - 60% quartz
680	690	quartzite
690	705	granite with 60% quartz
		total well prod. approx 0.7 gpm.
		static water level: approx 290 ft.

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE
Street

KINGMAN, AZ 86401-3411
City State Zip Phone No.

Signature of Driller

12-30-2001
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: Linda Marie Alles
   Address: 4960 Martin St. Mira Loma Ca. 91752
   Street City State Zip
2. Driller Name: Penrod Drilling
   Address: 3020 Jagerson Kingman Az. 86401
   Street City State Zip

3. Location: 23 (N)S / 16 E(W) / 19 / SW 1/4 / SW 1/4 / NE 1/4
   Township / Range / Section / 10-acre / 40-acre / 160-acre

4. Well Registration No. 55- 538483 (Required)

5. Permit No. _____ (If issued)

RECEIVED
- 6
OPERATIONS DIV.

DESCRIPTION OF WELL

6. Total depth of hole 545 ft.
7. Type of casing steel PVC
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 545.
9. Method of sealing at reduction points —
10. Perforated from 340 to 545, from _____ to _____, from _____ to _____.
11. Size of cuts 1/8 x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 4-1-93
    Month Day Year
15. Date completed 4-6-93
    Month Day Year
16. Depth to water 340 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
ENTERED MAY - 7 1993
Re
Fil 55-538483
Re B(23-16)19ACC
Ent

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	6	Top Soil
6	45	Red Malapai
45	135	Black "
135	185	Black " & BENTONITE mix
185	220	Brown "
220	285	Red "
285	340	Black "
340	400	Fractured Blue Malapai (WATER)
400	500	Red Malapai
500	545	GRANITE

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Penrod Drilling

3020 Jagerson
Street

Kingman AZ. 86401
City State Zip

Date 5-5-93

(18)

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

RECEIVED
OCT 16 2000
RECORDS MGT

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: Greg Livinston
Address: 20403 Elfin Forest Rd. Escondido Ca 92029
City State Zip

3. Location: 23 (N)/S 16 E(W) 18 ¼ SW ¼ NE ¼ SE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-579217 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 585 ft.
7. Type of casing Steel / P.V.C.
8. Diameter and length of casing 7 in. from +0 to 20, 4 1/2 in from 0 to 580'
9. Method of sealing at reduction points cement
10. Perforated from 540 to 580, from 340 to 360 from _____ to _____
11. Size of cuts 1/8" x 6 Number of cuts per foot 1
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction Drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 2 8 00
Month Day Year
15. Date completed 2 9 00
Month Day Year
16. Depth to water 340' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if availabl
Natural Grade
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

ENTERED OCT 17 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 579217
File No. B(23-16) 18 DAC
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	15	overburden
15	130	Basalt
130	195	Rhyolite
195	220	Basalt
220	260	Rhyolites
260	270	Quartzite
270	365	Rhyolite H20 @ 340' - 3 GPM.
365	380	Basalt
380	540	Rhyolite H20 @ 415 2 GPM
540	570	quartzite
570	585	Rhyolite
		production ~ 5 G.P.M.
		static 320'

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE
Street

KINGMAN, AZ 86401-3411
City State Zip Phone No.

Signature of Driller

9-12-2000
Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Marvin H. Ledgerwood
Name
Box 3963 Kingman, Az. 86402
Mailing Address

2. Driller Thatcher Drilling Co.
Name
Box 6964 Kingman, Az. 86402
Mailing Address

3. Location of well: T-23N R 16W Sec 18 SW¼ SW¼ SW¼

4. Permit No. 55-532139
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 168 ft.

6. Type of casing 5" Steel 4½" PVC.

7. Diameter and length of casing 5" in. from +1 to 20, 4½ in from 20 to 164.

8. Method of sealing at reduction points Cement Grout.

9. Perforated from 150 to 168, from ____ to ____, from ____ to ____.

10. Size of cuts ½" Holes Number of cuts per foot 10

11. If screen was installed: Length ____ ft. Diam ____ in. Type ____

12. Method of construction Drilled
drilled, dug, driven, bored, jetted, etc

13. Date started 8-1 1 91
Month Day Year

14. Date completed 8- 5 91
Month Day Year

15. Depth to water 150 ____ ft. (If flowing well, so state)

16. Describe point from which depth measurements were made, and give sea-level elevation if available G.L. 3200' + + 200'

17. If flowing well, state method of flow regulation: ____

18. Remarks: ____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. No.

File No. 55-532139
B(23-16)18 CCC

Entered ____

ENTERED SEP 03 1991

DWR-55-55-2/89

0199

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	125	Clay + Rocks
125	150	Basalt
150	168	Fractured Red Basalt. (Water) SL 150

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Edward Shatlen
Name

Box 6964
Address

Kingman Az. 86402
City State Zip

Date 8-28-91

ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

(11)

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
OCT 16 2000
RECORDS MGT

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: Art Miller
Address: Escondido (City) California (State) 92025 (Zip)

3. Location: 23 (N)/S (Township) 16 E(W) (Range) 18 (Section) ¼ NW ¼ (10-acre) NW ¼ (40-acre) NW (160-acre)

4. Well Registration No. 55- 577461 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 245 ft.
7. Type of casing Steel / P.V.C.
8. Diameter and length of casing 7 in. from 0 to 20, 4.5 in from 0 to 245
9. Method of sealing at reduction points cement
10. Perforated from 205 to 245, from 105 to 125 from _____ to _____
11. Size of cuts 1/8" X6 Number of cuts per foot _____
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 2 (Month) 7 (Day) 2000 (Year)
15. Date completed 2 (Month) 7 (Day) 2000 (Year)
16. Depth to water 195' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
natural grade
18. If flowing well, state method of flow regulation: _____
19. Remarks: ~~ENTERED OCT~~ 17 2000

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-577461
File No. B(23-16) 18 BBB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	100	Rhyolite
100	130	clay
130	205	Rhyolite
205	220	Basalt H²⁰⁰ 5 G.P.M.
220	245	Granite
		Production 5 G.P.M
		static 91'

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE

Street

KINGMAN, AZ 86401-3411

City State Zip Phone No.

9-12-2000

Signature of Driller Date

OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

City 7

WELL DRILLER REPORT

is report should be prepared by the driller in all detail and filed with the Department thin 30 days following completion of the well.

Owner CITY OF KINGMAN
Name
310 NORTH 4th St KINGMAN AZ 86401
Address

Lessee or Operator
Name
Address

Driller BC+M Drilling, Inc.
Name
1128 S. Lewis Mesa, Az 85202
Address

Location of well: ~~I 28 N~~ 22N R 16W S 28 NE¼ SE¼ NW¼

Permit No. (if issued) 55-504272

DESCRIPTION OF WELL

6. Total depth of hole 1006 ft.
7. Type of Casing Mild Steel (low carbon)
8. Diameter and length of casing 18" in. from +2' to 740', in from to .
9. Method of sealing at reduction points No reduction points
10. Perforated from to , from to , from to
11. Size of cuts Number of cuts per foot
12. If screen was installed: Length 240' ft. Diam 18" in. Type Lop Johnson S/S
13. Method of construction Drilled by Reverse Circulation
drilled, dug, driven, bored, jetted, etc.
14. Date started 11 (Month) 26 (day) 82 (year)
15. Date completed 12 (Month) 3 (day) 82 (year)
16. Depth to water 531 ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available. from Top of casing, approx 3302' above sea level
18. If flowing well, state method of flow regulation
19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-504272
Received By
Entered 2-9-83 By
File No. B(~~28~~ 32 16) 28bda

(Well log to appear on Reverse side)

RECEIVED
FEB 4 1983
DEPT. OF
WATER RESOURCES

11-2-82

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller [signature] Name

1128 S. Lewis Address

Date Feb 1, 1983

7-73

DEPARTMENT OF WATER RESOURCES
99 East Virginia
Phoenix, Arizona 85004

Registration No. 55-504272 INPUT
Owner of
Well Site City of Kingman 10-7-83

File No. ~~B(28-16)28bda~~ B(22-16)28bda

COMPLETION REPORT

1. Completion Report to be filed with the Department within 30 days after installation of pump equipment.

2. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

3. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.

4. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.

RECEIVED
OCT 6 - 1983
WATER RESOURCES

LOCATION OF THE WELL

T.22N., R.16W., Sec. 28, NW-1/4 - Mohave County, Arizona

Date Well Completed December 17, 1982 Depth of Well 1,006 feet

1. Well Test:
Test Pumping Capacity 2,400 (Gal. per min.) Date Well Tested January 3, 4, 5, 6, 1983

Method of Discharge Measurement orifice (weir, orifice, current meter, etc.)

Static Groundwater Level 531.0 ft. Drawdown 44.5 ft.

Total Pumping Lift 575.5 ft. Drawdown lbs. (Flowing Well)

2. Equipment Installed:

Kind of Pump Turbine (turbine, centrifugal, etc.)

Kind of Power Electric (Elec., Nat. Gas, Etc.) H.P. Rating of Motor 600

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Marion E. Miller
Signature MARION E. MILLER, Vice President
GILBERT PUMP & EQUIPMENT CO., INC.
Address
P.O. Box 20216,
Phoenix, AZ 85036
City State Zip

October 4, , 1983
Date

DWR-7 5-83

1128 SOUTH LEWIS
MESA, ARIZONA 85202

DATE 11/28/82

Y City of Kingman

NUMBER OF WELL B-82-11

F WELL Lava-mountain

NUMBER OF BITS USED 1

17½ -26" Reamer

TYPE AND FEET PER BIT

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

EPTH TO	FORMATION	TIME START	TIME END	TOTAL MIN.	AIR-PSI COMPRES.	ROTARY RPM	WEIGHT ON BIT
45	Gravel	7:10	7:52	42	120	45	5000
50	N/sand.	7:52	8:05	13	120	45	5000
55	" "	8:05	8:25	20	120	45	5000
60	" "	8:25	8:40	15	120	45	5000
65	" "	8:40	8:50	10	120	45	5000
70	" "	8:50	9:03	13	120	45	5000
	Con 30-30	9:03	9:30				
75	N/sand	9:30	9:42	12	120	55	8000
80	" "	9:42	9:53	11	120	55	8000
85	" "	9:53	10:04	11	120	55	8000
90	" "	10:04	10:15	11	120	55	8000
95	" "	10:15	10:26	11	120	55	8000
100	" "	10:26	10:36	11	120	55	8000
	Con. 30-20	10:36	11:35				
105	Sand	11:35	11:50	15	120	55	10000
110	Sand with Some Clay	11:50	12:03	13	120	55	10000
115	Sand /Clay	12:03	12:14	11	120	55	10000
120	Sand/Clay	12:14	12:24	10	120	55	10000
125	Clay	12:24	12:36	12	120	55	10000
130	Clay	12:36	12:50	14	120	55	10000
	Con 30-10	12:50	1:15	ADD 40' AIR Line. Lin 4½			
135	Sand /Gravel	1:15	1:27	12	125	55	10000
140	" " "	1:27	1:41	14	125	55	10000
145	Sand/Clay	1:41	1:52	11	125	55	10000
150	" "	1:52	2:04	12	125	55	10000
155	" "	2:04	2:14	10	125	55	10000
160	" "	2:14	2:24	10	125	55	10000
161	" "	2:24	2:26	2	125	55	10000
	CON. 30-35	2:26	3:25	RUNNED SURVEY INDICATOR 160'			
165	Gravel/Sand	3:25	3:36	11	125	55	12000
170	" "	3:36	3:47	11	125	55	12000
175	" "	3:47	4:00	13	125	55	12000
180	Clay & Gravels	4:00	4:43	23	125	55	12000
185	Sand/Clay	4:43	4:55	12	175	55	12000
190	" "	4:55	5:07	12	175	55	12000
191	" "	5:07	5:08	1	175	55	12000
	CON. 30-45	5:08	5:23				

KS: 70' Air Line
110' Air Line

2 D L & M DRILLING INC. DATE 11/26/82

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

ANY City of Kingman NUMBER OF WELL A-82-11

OF WELL Long Mountain NUMBER OF BITS USED 1

ZE 17½ - 26" Reame TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
195	Gravels/Sand	5:28	5:38	10	125	55	15000
200	" "	5:38	5:47	9	125	60	18000
205	" "	5:47	5:56	9	125	60	18000
210	" "	5:56	6:07	11	125	60	18000
215	Sandy Clay	6:07	6:16	9	125	60	18000
220	" "	6:16	6:24	8	125	60	18000
221	" "	6:24	6:25	1	125	60	18000
	Sub 1-70	6:25		400 Sub & C Hammer			
	Con. 30-20		7:08	Kelly Sub C Hammer Kelly			
225	Sandy Clay	7:08	7:16	8	125	60	18000
230	" "	7:16	7:25	9	125	60	18000
235	" "	7:25	7:33	8	125	60	18000
240	Sand - Clay	7:33	7:43	9	125	60	18000
245	" "	7:43	7:50	8	125	60	18000
250	" "	7:50	8:00	10	125	60	18000
253	" "	8:00	8:05	5	125	150	18000
	Con 30-20	8:05	8:17				
255	Sand - Clay	8:17	8:20	3	125	60	18000
260	" "	8:20	8:31	10	125	60	18000
265	" "	8:31	8:42	11	125	60	18000
270	" "	8:42	8:52	10	125	60	18000
275	" "	8:52	9:03	11	125	60	18000
280	" "	9:03	9:15	12	125	60	18000
283	" "	9:15	9:22	7	125	60	18000
	Con. 30-20	9:22	9:32				
285	Sand - Clay	9:32	9:38	6	125	60	18000
290	" "	9:38	9:50	12	125	60	18000
295	" "	9:50	10:02	12	125	60	18000
300	" "	10:02	10:13	11	125	60	18000
305	" "	10:13	10:21	8	125	60	18000
310	" "	10:21	10:32	11	125	60	18000
314	" "	10:32	10:43	11	125	60	18000
	Con. 26-45	10:43	11:20	Pick up Drill Collars & Drlg Bushing Survey 1 Degree			
315	Sand	11:20	11:21	1	175	60	18000
329	Sand	11:21	11:35	14	125	60	18000
325	Sand	11:35	11:47	12	125	60	18000
337	Sand	11:47	11:58	11	125	60	18000

ARKS: 1571' Ft. Log

DATE 1-28-83

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED
FEB 4 1983
DEPT. OF WATER RESOURCES

ANY City of Kingman NUMBER OF WELL A-82-11

OF WELL Long Mountain NUMBER OF BITS USED 1-26" Reamer

ZE 17½ 26" Reamer TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
470	Sand	655	7:10	15	125	60	18000
475	"	7:10	7:25	15	125	60	18000
480	"	7:25	7:35	10	125	60	18000
485	"	7:35	7:48	13	125	60	18000
490	"	7:48	8:03	15	125	60	18000
493	"	8:03	8:12	9	125	60	18000
Hole sv	Con 30 20 2-50	8:12	8:35				
495	Sand	8:35	8:39	4	125	60	18000
500	"	8:39	8:52	13	125	60	18000
505	"	8:52	9:05	13	125	60	18000
510	"	9:05	9:12	7	125	60	18000
515	"	9:12	9:23	11	125	60	18000
520	"	9:23	9:35	12	125	60	18000
525	"	9:35	9:40	5	125	60	18000
526	"	9:40	9:42	2	125	60	18000
	Con. 29-65	9:42	11:06				
530	Sand	11:06	11:16	10	125	60	18000
535	"	11:16	11:34	18	125	60	18000
540	"	11:34	11:47	13	125	60	18000
545	Gravel	11:47	12:02	15	125	60	18000
550	Sand	12:02	12:22	20	125	60	18000
555	Gravel/Sand	12:22	12:38	16	125	60	18000
556	" "	12:38	12:41	3	125	60	18000
	Con. 28-35			Tripping For Conv. Hose			
560	Gravel/Sand	5:20	5:38	18	125	60	15000
565	" "	5:38	5:58	20	125	60	25000
570	" "	5:38	6:20	22	125	60	25000
575	" "	6:20	6:42	22	125	60	25000
580	" "	6:42	6:59	17	125	60	25000
585	" "	6:59	7:14	15	125	60	25000
	Con. 29-85	7:14	7:27	13	125	60	25000
585	Gravel/Sand	7:27	7:33	6	125	60	25000
590	Gravel	7:33	7:52	19	125	60	25000
595	"	7:52	8:13	21	125	60	25000
600	"	8:13	8:35	22	125	60	25000
605	"	8:35	8:53	18	125	60	25000
610	"	8:53	9:13	20	125	60	25000

RKS: 170 [illegible]

1128 SOUTH LEWIS
MESA, ARIZONA 85202

DATE 2/21/83

NY City of Kingman NUMBER OF WELL A 82-11

OF WELL Long Mountain #5 NUMBER OF BITS USED 1 - (2) 26" Reme

ZE 17½-26" Reme TYPE AND FEET PER BIT

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO	Continued	START	END	MIN.	COMPRES.	RPM	ON BIT
614	Gravel	9:13	9:35	22	125	60	25
	Con 30-55	9:35	9:53				
615	Gravel	9:53	9:56	3	125	60	25
620	"	9:56	10:19	23	125	60	25000
625	"	10:19	10:45	26	125	60	25000
630	"	10:45	11:09	24	125	60	25000
635	"	11:09	11:28	19	125	60	25000
640	"	11:28	11:58	30	125	60	25000
645	"	11:58	12:20	22	125	60	25000
	Con. 30-50	12:20	12:35				
650	Fine Gravel	12:35	1:47	1:12	125	60	25000
655	5% Clay 95% Gravel	1:47	2:16	28	125	60	25000
660	Gravel	2:16	3:04	49	125	60	25000
665	Gravel	3:04	3:26	21	125	60	25000
670	Gravel	3:25	3:45	20	125	60	25000
673	Gravel	3:45	3:55	10	125	60	25000
	Con. 30-70	3:55	4:15				
675	Gravel	4:13	4:20	5	125	60	25000
680	Gravel	4:20	4:40	20	125	60	25000
685	"	4:40	4:48	18	125	60	25000
690	"	4:48	5:18	20	125	60	25000
695	"	5:18	5:36	18	125	60	25000
700	"	5:36	6:00	14	125	60	25000
704		6:00	6:28	28	125	60	25000
	Con 30-50	6:28	6:35				
705	Sandy Clay & Gravel	6:35	6:45	10	125	60	25000
710	" " "	6:45	6:55	10	125	60	25000
715	" " "	6:55	7:15	20	125	60	25000
720	" " "	7:15	7:31	16	125	60	25000
725	" " "	7:31	7:51	20	125	60	25000
730	" " "	7:51	8:10	19	125	60	25000
734	" " "	8:10	8:27	17	125	60	25000
	Con. 30-60	8:27	8:35				
735	Gravel Sandy Clay	8:35	8:42	7	125	60	25000
740	" " "	8:42	9:00	18	125	60	25000
745	" " "	9:00	9:20	20	125	60	25000
750	" " "	9:20	9:35	15	125	60	25000

RKS: 170' Air line.

DATE 1/21/83

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

NY City of Kingman NUMBER OF WELL A82-11

OF WELL Long Mountain NUMBER OF BITS USED 1-(2) 26" Reme

ZE 17½-26" Remmey TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO	Continued	START	END	MIN.	COMPRES.	RPM	ON BIT
614	Gravel	9:13	9:35	22	125	60	25000
	Con 30-55	9:35	9:53				
615	Gravel	9:53	9:56	3	125	60	25000
620	"	9:56	10:19	23	125	60	25000
625	"	10:19	10:45	26	125	60	25000
630	"	10:45	11:09	24	125	60	25000
635	"	11:09	11:28	19	125	60	25000
640	"	11:28	11:58	30	125	60	25000
645	"	11:58	12:20	22	125	60	25000
	Con. 28-50	12:20	12:35				
650	Fine Gravel	12:35	1:47	1:12	125	60	25000
655	5% Clay 95% Gravel	1:47	2:16	28	125	60	25000
660	Gravel	2:16	3:04	49	125	60	25000
665	Gravel	3:04	3:26	21	125	60	25000
670	Gravel	3:25	3:45	20	125	60	25000
673	Gravel	3:45	3:55	10	125	60	25000
	Con. 30-70	3:55	4:15				
675	Gravel	4:15	4:20	5	125	60	25000
680	Gravel	4:20	4:40	20	125	60	25000
685	"	4:40	4:48	18	125	60	25000
690	"	4:48	5:18	20	125	60	25000
695	"	5:18	5:36	18	125	60	25000
700	"	5:36	6:00	14	125	60	25000
704		6:00	6:28	28	125	60	25000
	Con 30-50	6:28	6:35				
705	Sandy Clay & Gravel	6:35	6:46	10	125	60	25000
710	" " "	6:45	6:55	10	125	60	25000
715	" " "	6:55	7:15	20	125	60	25000
720	" " "	7:15	7:31	16	125	60	25000
725	" " "	7:31	7:51	20	125	60	25000
730	" " "	7:51	8:10	19	125	60	25000
734	" " "	8:10	8:27	17	125	60	25000
	Con. 30-60	8:27	8:35				
735	Gravel Sandy Clay	8:35	8:42	7	125	60	25000
740	" " "	8:42	9:00	18	125	60	25000
745	" " "	9:00	9:20	20	125	60	25000
750	" " "	9:20	9:35	15	125	60	25000

RKS: 170' Air Line.

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

DATE 11/22/82

ANY City of Kingman NUMBER OF WELL B-82-11

OF WELL Long Mountain NUMBER OF BITS USED 1-26" Reamer

ZE 17½ 26" Reamer TYPE AND FEET PER BIT (2-57)

DEPTH	FORMATION			TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
755	Gravel and Clay	9:35	9:50	15	125	60	25000
760	" " "	9:50	10:10	20	125	60	25000
765	" " "	10:10	10:20	10	125	60	31000
	Con. 30-55	10:20	10:30				
770	Gravel Clay	10:30	10:40	10	125	60	25000
775	" "	10:40	11:01	21	125	60	25000
780	" "	11:01	11:18	17	125	60	25000
785	" "	11:18	11:35	17	125	60	25000
790	Gravel	11:35	12:00				
795	"	12:00	12:26	26	125	60	25000
	Con. 30-10	12:26	1:06	Remove Survey Indication			
800	Gravel	1:06	1:20	20	125	60	25000
805	" "	1:20	1:42	22	125	60	25000
810	"	1:42	2:06	24	125	60	25000
815	" "	2:06	2:25	19	125	60	25000
820	" "	2:25	2:46	19	125	60	25000
825	"	2:46	3:06	20	125	60	25000
	Con. 29-30	3:06	3:15				
830	Gravel/Sand	3:15	3:37	22	125	60	25000
835	" "	3:37	4:04	27	125	60	25000
840	"	4:04	4:30	26	125	60	25000
845	Gravel	8:39	8:47	8	125	60	22000
850	"	8:47	8:58	11	125	60	22000
855	"	8:58					
1.80	Change from Reamer to Bit						
853	Gravel		9:05	7	125	60	22000
	Con. 30-75	9:05	9:17				
855	Gravel	9:17	9:21	4	125	60	22000
860	"	9:21	9:32	11	125	60	22000
865	"	9:32	9:44	12	125	60	22000
870	"	9:44	9:59	15	125	60	22000
875	"	9:59	10:18	19	125	60	22000
880	"	10:18	10:38	20	125	60	22000
884	"	10:38	10:49	11	125	60	22000
	Con. 29-85	10:49	11:05				
885	Gravel	11:05	11:09	4	125	60	22000
890	Gravel	11:09	11:26	17	125	60	25000

RKS: 170' Ft Lic

DATE 1/7 1982

1128 SOUTH LEWIS
MESA, ARIZONA 85202

NY City of Kingman

NUMBER OF WELL A 82-11

F WELL King Mountain

NUMBER OF BITS USED 1 Hall Pennex 1 26" Bit

E 26"

TYPE AND FEET PER BIT

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

EPTH TO	FORMATION	TIME START	TIME END	TOTAL MIN.	AIR-PSI COMPRES.	ROTARY RPM	WEIGHT ON BIT
895	Gravels	11:26	11:48	22	125	60	22000
900	"	1:48	12:10	22	125	60	22000
905	"	12:10	12:27	17	125	60	22000
910	"	12:27	12:48	21	125	60	22000
914	"	12:41	1:02	14	125	60	22000
	Con 28-35	1102	1:20				
915	Gravel	1:20	1:22	2	125	60	22000
920	"	1:22	1:35	13	125	60	22000
925	"	1:35	1:52	14	125	60	22000
930	"	1:52	2:10	18	125	60	22000
935	"	210	228	18	125	60	22000
940	"	2:28	2:55	27	125	60	22000
942	"	2:55	3:04	9	125	60	22000
	Con 30-60	3:04	3:25				
945	Gravel	3:25	3:40	15	125	60	22000
950	"	3:40	4:10	30	125	60	22000
955	"	4:10	4:28	18	125	60	22000
960	"	428	4:45	17	125	60	22000
965	"	445	5:03	18	125	60	22000
970	"	5:03	5:15	12	125	60	22000
972	"	5:15	5:26	13	125	60	22000
	Con 29-60	5:26	5:42				
975	Gravel	5:42	5:50	8	125	60	22000
980	"	5:50	6:15	25	125	60	22000
985	"	6:15	6:37	22	125	60	22000
992	"	6:37	7:00	23	125	60	22000
994	"	7:00	722	22	125	60	22000
1000	"	7:22	7:42	20	125	60	22000
1003	"	7:42	7:50	8	125	60	22000
	Con 30-20	7:50	8:15				
1005	Gravel	8:15	8:18	3	125	60	22000
1010 →	1006 → TD Gravel →	8:18	8:25	7	125	60	22000
1015							
1020							
1025							
1030							
1033							

KS:

RECEIVED
FEB 4 1983
DEPT. OF
WATER RESOURCES

DEPARTMENT OF WATER RESOURCES
99 East Virginia - Suite 100
Phoenix, Arizona 85004

Registration No. 55-504272
Owner of Well Site CITY OF KINGMAN
File No. B(~~28~~ 22-16)28bda

COMPLETION REPORT

1. A Completion Report is to be filed with the Department within 30 days after installation of pump equipment.

2. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least four hours and for a flowing well by measuring the natural flow at the land surface.

3. Drawdown of the water level for a non-flowing well should be measured in feet after not less than four hours of continuous operation and while still in operation and for a flowing well the shutin pressure should be measured in feet above the land or in pounds per square inch at the land surface.

4. The static groundwater level should be measured in feet from the surface immediately prior to the well capacity test.

LOCATION OF THE WELL:
Kingman, Arizona

Date well completed 12-3-82 Depth of well 1006'

1. Well Test:

Test pumping capacity 2400 (Gallons per minute) Date well tested Jan 3-6, 1983

Method of discharge measurement Orifice (Weir, orifice, current meter, et cetera)

Static groundwater level 531.3 Feet drawdown 43.7 feet

Total pumping lift 575 Feet drawdown N/A (flowing well) pounds

2. Equipment Installed:

Kind of pump Not installed as yet (Turbine, centrifugal, et cetera)

Kind of power _____ (Electric, natural gas, et cetera) Horse power rating of motor _____

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Signature

1128 S. Lewis
Address

Feb 1, 19 83
Date

Mesa Az 85202
City State Zip

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

BC&M DRILLING INC
1126 SOUTH LEWIS
MESA AZ 85202

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	504272
	THRU

CITY OF KINGMAN

ACCOUNT NO. AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
				FILING FEE FOR NOTICE OF INTENTION TO DRILL		10.00
				(1) NON-EXEMPT WELL		
				FILE# B(22-16)28bda Reg.#55-504272		
				CHECK#9042		

WAITER PAYMENT
GUESTS 1
CHK NO 9042
55-I 10.00
TAX 0.00
TOTL 10.00
GEN.CHEK 10.00

3860 A 15:03

11/2/82/ek

TOTAL $ 10.00

City of Kingman
310 NORTH FOURTH STREET • KINGMAN • ARIZONA • 86401 • 602 • 753-5561

November 9, 1982

RE: Registration No. 55-504272
File No. B(28-16) 28bda

AZ Department of Water Resources
99 E. Virginia Avenue
Phoenix, AZ 85004

Attn: Richard A. Gessner
Chief, Operations Branch

Gentlemen:

In our review of your letter dated November 2, 1982, copy attached, we noticed that the wrong Township has been used in describing the location of the well in the Notice of Intention to Drill a Well. The proposed well will be located in Township 22 North, and not in Township 28 North.

We accordingly believe that the File No. should be B(22-16)28 bda.

Please advise us of what should be done to correct this error. If necessary a new Notice of Intention can be filed.

Sincerely,

E. B. Covington
Asst. Public Works Director

EBC:NJD:cw
xc: B.C.& M. Drilling, Inc.
N.J.Devlin

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

NOVEMBER 2, 1982

CITY OF KINGMAN
310 NORTH 4th ST
KINGMAN AZ 86401

File No. B(22-16)28bda ~~B(28-16)28bda~~

Registration No. 55-504272

Dear Well Owner:

A copy of Notice of Intention to Drill a Well is returned to you for your records. Your driller has been mailed separately a Well Drilling Card, Well Drilling Report, and a Completion Report.

Arizona Revised Statute 45-600 requires the driller to furnish this Department a complete and accurate log of the well within 30 days of completion of drilling, and a Completion Report within 30 days after installation of pumping equipment.

Also enclosed for your future use is a Change of Well Information form. Per Arizona Revised Statute 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and information pertaining to the physical aspects of the well to keep the well registration record current and accurate.

In the event it is necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources before proceeding with the drilling.

Further, from the information you have provided, it appears that your well is near the Colorado River. If in the future, it is determined that the water from your well is supplied from the river, and you do not have a perfected water right to Colorado River water established prior to 1929, the U.S. Bureau of Reclamation may require you to either cease pumping or enter into a contract for use of Colorado River water.

Sincerely,

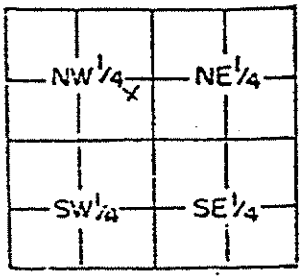
Richard A. Gessner
Chief, Operations Branch

RAG :ek
Enclosures

EXEMPT WELL 10.00 NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL. NON-EXEMPT WELL
ING FEE: $3.00 OUTSIDE OF A DESIGNATED ACTIVE MANAGEMENT AREA

tion 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, erson may not drill or cause to be drilled any well or deepen or replace an existing well with first filing a Notice of Intention to Drill with the Department on a form prescribed and fur hed by the department. The well shall be completed within one year after the date of notice.

North



South

Indicate Well Location by X
(Above diagram represents one 640 acre section)

L/LAND LOCATION:

1. Township 28N 22N
2. Range 16W
3. Section 28
4. NE ¼ SE ¼ NW ¼ 10 acre subdivision
5. County Mohave
6. Owner of Well:

City of Kingman
Name
310 North 4th Street
Address
Kingman, Arizona 86401
City State Zip

7. Owner of land:

City of Kingman
Name
310 North 4th Street
Address
Kingman, Arizona 86401
City State Zip

DESCRIPTION OF WELL:

8. Diameter 26"
   Depth 1000'
9. Type of casing
18" O.D. Steel 0.375" Wall
10. Principal use of water
Municipal
11. Other uses intended
None
12. Construction will start about:
Nov. 1982
Month Year
13. Design pump capacity
To be determined by test
(1000 - 1500 gpm tentative
14. Total number acres
N.A.
(If irrigation well)

02

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
FILE NO. 55-504272 bda
FILED 11-2-82 BY EK
INPUT BY
DUPLICATE MAILED 11-2-82 BY EK
REGISTRATION NO 55-5042 72
NON EXPANSION AREA

PLACE OF USE:

15. Township 21 & 22 N
16. Range 16 & 17 W
17. Section —
18. Legal description of land water is to be used on:
City of Kingman Municipal Water System Service Area
19. Action requested
Drill X
Deepen
Replace
20. This notice filed by:
Owner
Lessee
Driller X

BC & M Drilling, Inc.
Name
1128 S. Lewis
Address
Mesa Arizona 85202
City State Zip

21. Driller's Name:
BC & M Drilling, Inc.
1128 S. Lewis
Mesa, Arizona 85202
Drillers Contr. 19 4404 2
Department license number

1. Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 222 North Central Avenue, Suite 550, Phoenix, Arizona 85004.
2. If the Non-exempt well is in fact a replacement (or deepening) well, state the registration number of the existing well.
3. Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with department rules and regulations.
4. This form should also be used to replace or deepen an existing irrigation well in an irrigation non-expansion area. However, water from an irrigation well drilled, deepened or replaced in a non-expansion area may not be used to increase the acreage as authorized by ARS 45-434.

I, _____, state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds a contractor's license pursuant to ARS 45-595.

DATE 11-2-82 Signature of person filing Dave L Hamm

EXEMPT WELL

DEPARTMENT OF WATER RESOURCES

NON-EXEMPT WELL

ING FEE: ~~$10.00~~ $3.00

NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL OUTSIDE OF A DESIGNATED ACTIVE MANAGEMENT AREA

ion 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management rson may not drill or cause to be drilled any well or deepen or replace an existing well wit first filing a Notice of Intention to Drill with the Department on a form prescribed and fur ed by the department. The well shall be completed within one year after the date of notice.

North

NW¼ NE¼ East

SW¼ SE¼

South

ndicate Well Location by X
(Above diagram represents one 640 acre section)

/LAND LOCATION:

Township ~~28N~~ 22N See 11-9-82 letter in file

Range 16W

Section 28

NE ¼ SE ¼ NW ¼
10 acre subdivision

County Mohave

Owner of Well:

City of Kingman
ame

310 North 4th Street
dress

Kingman, Arizona 86401
ity State Zip

Owner of land:

City of Kingman
ame

310 North 4th Street
dress

Kingman, Arizona 86401
ity State Zip

DESCRIPTION OF WELL:

8. Diameter 26"
Depth 1000'

9. Type of casing
18" O.D. Steel 0.375" Wall

10. Principal use of water
Municipal

11. Other uses intended
None

12. Construction will start about:
Nov. 1982
Month Year

13. Design pump capacity
To be determined by test
(1000 - 1500 gpm tentative

14. Total number acres
N.A.
(If irrigation well)

02

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
FILE NO. B (22-16) 28 bda
FILED 11-2-82 BY EK
INPUT 11-3-82 corrected 11-12-82 BY
DUPLICATE MAILED 11-2-82 BY EK
REGISTRATION NO 55-504272
NON EXPANSION AREA

corrected notice & letter sent to City of Kingman 11-12-82 jz

PLACE OF USE:

15. Township 21 & 22 N

16. Range 16 & 17 W

17. Section --

18. Legal description of land water is to be used on:
City of Kingman Municipal Water System Service Area

19. Action requested
Drill X
Deepen
Replace

20. This notice filed by:
Owner
Lessee
Driller X

BC & M Drilling, Inc.
Name
1128 S. Lewis
Address
Mesa Arizona 85202
City State Zip

21. Driller's Name:
BC & M Drilling, Inc.

1128 S. Lewis

Mesa, Arizona 85202

Drillers 19 Contr. 4402
Department license number

Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 222 North Central Avenue, Suite 550, Phoenix, Arizona 85004.
If the Non-exempt well is in fact a replacement (or deepening) well, state the registration number of the existing well.
Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with department rules and regulations.
This form should also be used to replace or deepen an existing irrigation well in an irrigation non-expansion area. However, water from an irrigation well drilled, deepened or replaced in a non-expansion area may not be used to increase the acreage as authorized by ARS 45-434.

_____, state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds a contractor's license pursuant to ARS 45-595.

DATE 11-2-82 Signature of person filing Dean L Hanson

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

NOVEMBER 2, 1982

CORRECTED COPY 11-12-82
per E. B. Covington

CITY OF KINGMAN
310 NORTH 4th ST
KINGMAN AZ 86401

File No. B(22-16)28 bda ~~B(28-16)28bda~~

Registration No. 55-504272

Dear Well Owner:

A copy of Notice of Intention to Drill a Well is returned to you for your records. Your driller has been mailed separately a Well Drilling Card, Well Drilling Report, and a Completion Report.

Arizona Revised Statute 45-600 requires the driller to furnish this Department a complete and accurate log of the well within 30 days of completion of drilling, and a Completion Report within 30 days after installation of pumping equipment.

Also enclosed for your future use is a Change of Well Information form. Per Arizona Revised Statute 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and information pertaining to the physical aspects of the well to keep the well registration record current and accurate.

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Further, from the information you have provided, it appears that your well is near the Colorado River. If in the future, it is determined that the water from your well is supplied from the river, and you do not have a perfected water right to Colorado River water established prior to 1929, the U.S. Bureau of Reclamation may require you to either cease pumping or enter into a contract for use of Colorado River water.

Sincerely,

Richard A. Gessner
Chief, Operations Branch

RAG :ek
Enclosures

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAY - 9 2001
RECORDS MGT

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Neon Cook
Address: 3205 N 2nd St, Kingman AZ. 86401
City State Zip

3. Location: 21 S 17 E 12 ¼ NW ¼ SW ¼ SW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55-584935 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 560 ft.
7. Type of casing steel epoc
8. Diameter and length of casing 7 in. from 0 to 20, 4½ in from 0 to 560
9. Method of sealing at reduction points —
10. Perforated from 400 to 560, from _____ to _____ from _____ to _____
11. Size of cuts 1/8 x 6 Number of cuts per foot 2
12. If screen was installed: Length — ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 4-10-01
Month Day Year
15. Date completed 4-13-01
Month Day Year
16. Depth to water 58' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if availabl
ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 584935
File No. B(21-17) 12 CCB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED MAY 10 2001

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	3	Top Soil
3	55	Red MALPAI
55	80	BLACK MAL.
80	105	Red MAL.
105	260	BLACK MAL. (150' WATER) 1gpm
260	395	Red MAL.
395	560	BRN. TUFA (540 WATER) 5gpm.

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE
Street

KINGMAN, AZ 86401-1515
City State Zip Phone No.

Signature of Driller

5-05-01
Date

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North 3rd Street
Phoenix, Arizona 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

RECEIVED
MAR 28 2001
RECORDS MGT

1. THF DRILLING, INC.
2420 SOUTH 16TH AVENUE
PHOENIX, AZ 85007-4403

2. Owner Name: City of Kingman
Address: Kingman (City) AZ (State) 86401 (Zip)

3. Location: 22 (N)S (Township) 16 E(W) (Range) 32 (Section) ¼ SE (10-acre) ¼ SE (40-acre) ¼ SE (160-acre)

4. Well Registration No. 55-582951 (Required)

5. Permit No. _____ (If Issued)

DESCRIPTION OF WELL

6. Total depth of hole 1200' ft. well installed to 720'
7. Type of casing pvc
8. Diameter and length of casing 8 in. from 0 to 22, 4 in from 0 to 640
9. Method of sealing at reduction points Cement
10. Perforated from — to —, from — to — from — to —
11. Size of cuts — Number of cuts per foot —
12. If screen was installed: Length 60 ft. Diam 4 in. Type pvc
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 12 (Month) 21 (Day) 00 (Year)
15. Date completed 3 (Month) 23 (Day) 01 (Year)
16. Depth to water 640' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea_level elevation if availabl
ground level
18. If flowing well, state method of flow regulation: static
19. Remarks: 0 640 CASING
640-700 SCREEN
700-720 CASING SUMP

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55- 582951
File No. B(22-16) 32 DDD
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

COMPLETED APR 0 3 2001

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	120	Silt clay
120	600	Granite
600	1200	Basalt
	640	water

I hereby certify that this well was drilled by me (or under by supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: THF DRILLING, INC.

2420 SOUTH 16TH AVENUE
Street

PHOENIX, AZ 85007-4403
City State Zip Phone No.

Signature of Driller 3-26-01
Date

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

FEB 2 1 1991
OPERATIONS DIV.

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner CITY OF KINGMAN
Name
310 N. FOURTH ST., KINGMAN, AZ 86401
Mailing Address

2. Driller CAMPBELLS DRILLING INC.
P.O. BOX 3019
WICKENBURG, AZ 85358
(602) 684-7546
Name
Mailing Address

3. Location of well: T22N, R16W/SEC 17, SE¼, SE¼, SE¼

4. Permit No. _____
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 1200 ft.

6. Type of casing Steel + PVC

7. Diameter and length of casing 8 in. (Steel) from 0' to 20', 4 in. (PVC) from 0' to 1200'.

8. Method of sealing at reduction points _____

9. Perforated from 640' to 820', from 840' to 1020', from 1080' to 1200'.

10. Size of cuts .020 Number of cuts per foot _____

11. If screen was installed: Length 520 ft. Diam 4 in. Type PVC Sch. 80

12. Method of construction DRILLED
drilled, dug, driven, bored, jetted, etc

13. Date started 01-10-91
Month Day Year

14. Date completed 02-06-91
Month Day Year

15. Depth to water 650 ft. (If flowing well, so state)

16. Describe point from which depth measurements were made, and give sea-level elevation if available _____

17. If flowing well, state method of flow regulation: _____

18. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. No. 55-529815

File No. B(22-16)17ddd

Entered ENTERED FEB 22 1991

DWR-55-55-2/89

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	490	Multisize Decomposed Granite
490	700	Small size decomposed granite
700	710	Clay layer
710	890	Hard rock layer granite
890	1200	Uniform decomposed granite loose & permeable

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Charles E. "Gene" Campbell
Name

CAMPBELLS DRILLING INC.
Address P.O. BOX 3019
WICKENBURG, AZ 85358
(602) 684-7546
City State Zip

Date 02-20-91

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner C & M Glass
3740 Cantle Dr. Name Kingman, Az 86401
Mailing Address

2. Driller Thatcher Drilling Co.
P.O. Box 6964 Name Kingman, Az. 86402
Mailing Address

3. Location of well: T. 21N R 17W Sec 10 ne ¼ se ¼ se ¼

4. Permit No. 55-~~526416~~ 526516
(If issued)

DESCRIPTION OF WELL

5. Total depth of hole 268 ft.
6. Type of casing 6" Steel 4½" PVC.
7. Diameter and length of casing 6 in. from 0 to 20, 4½ in from 20 to 268.
8. Method of sealing at reduction points Cement Grout.
9. Perforated from 200 to 268, from ____ to ____, from ____ to ____.
10. Size of cuts ½" Holes Number of cuts per foot 6
11. If screen was installed: Length ____ ft. Diam ____ in. Type ____
12. Method of construction Drilled
drilled, dug, driven, bored, jetted, etc
13. Date started April (Month) 10 (Day) 1990 (Year)
14. Date completed June (Month) 1 (Day) 1990 (Year)
15. Depth to water 187 ft. (If flowing well, so state)
16. Describe point from which depth measurements were made, and give sea-level elevation if available GL. 3400' +- 100'
17. If flowing well, state method of flow regulation: ____
18. Remarks: Well Produces Approx 30 GPM.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
REG. No. 55-~~526416~~ 526516
File No. B(21-17)1ddd
Entered ENTERED JUN 19 1990 By ____

RECEIVED
JUN 5 1990
OPERATIONS

DWR-55-55-2/89

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	10'	Silt.
10	200	DeComposed Granite
200	268	Fractured + DeComposed Granite (water)
		Static Level 182'

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Edward Thatcher
Name

P.O. Box 6964
Address

Kingman Az - 86402
City State Zip

Date 6-12-90

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

RECEIVED
SEP - 3 1999
RECORDS MGT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. BROWN DRILLING
3595 EAST GORDON DRIVE
KINGMAN, AZ 86401-3411

2. Owner Name: William Estes
Address: P.O. Box 6007 Kingman, AZ 86402
City State Zip

3. Location: 22 (N/S) 16 (E/W) 7 ¼ NW ¼ NW ¼ NW
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 576620 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 940' ft.
7. Type of casing steell
8. Diameter and length of casing 6 in. from +1 to 20 , _____ in from _____ to _____
9. Method of sealing at reduction points none
10. Perforated from _____ to _____ from _____ to _____ from _____ to _____
11. Size of cuts _____ Number of cuts per foot _____
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 8 20 99
Month Day Year
15. Date completed 8 23 99
Month Day Year
16. Depth to water 890' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
surface
18. If flowing well, state method of flow regulation: _____
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-576620
File No. B(22-16) 7 BBB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ENTERED SEP 14 1999

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	20	very soft sand gravel
20	365'	mostly gravel alluvium, some clay mix
365'	368	clay
368	535	sand, gravel, clay mix
535	593	volcanic tuffa, feacture at 563
593	730	hard rhyolite
730	760	brown clay
760	765	gray, brown rhyolite
765	840	red clay
840	870	brown clay
870	895	tan clay
895	903	rhyolite
903	940	tan clay with some rhyolite,
		3-7 gpm at 900'
		Well is caving in at 3 areas: 560',
		760' and 900'.
		We couldn't get PVC casing past 560'
		We pulled casing out + we may case with

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

steel casing at a later date.

Driller Name: BROWN DRILLING

3595 EAST GORDON DRIVE

Street

KINGMAN, AZ 86401-3411

City State Zip Phone No.

Dave Brown 8-29-99

Signature of Driller Date

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES

WELL DRILLER REPORT

RECEIVED MAY 5 1982 DEPT. OF WATER RESOURCES

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner John Van Dyke
Name
Box 1177 Eunice AZ 86442
Address

2. Lessee or Operator
Name
Address

3. Driller Penrod Drilling
Name
3020 Jaguar Kingman AZ 86401
Address

4. Location of well: 22N 16W 7 SW¼ SW¼ SW¼

5. Permit No. (if issued) 55-501694

DESCRIPTION OF WELL

6. Total depth of hole 850 ft.

7. Type of Casing 4" PVC

8. Diameter and length of casing 8 in. from 0 to 20, 0 in from to 850.

9. Method of sealing at reduction points —

10. Perforated from 698 to 850, from to , from to

11. Size of cuts 1/8" x 6" Number of cuts per foot 3

12. If screen was installed: Length ft. Diam in. Type

13. Method of construction drilled
drilled, dug, driven, bored, jetted, etc.

14. Date started 1/30/82
Month day year

15. Date completed 2/19/82
Month day year

16. Depth to water 690 ft. (If flowing well, so state.)

17. Describe point from which depth measurements were made, and give sea-level elevation if available. ground level

18. If flowing well, state method of flow regulation —

19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-501694
Received By
Entered 5-7-82 By
File No. B(22-16)7ccc

(Well log to appear on Reverse side)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

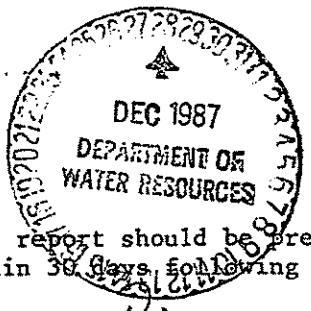
FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	12	Topsoil
12	40	Clay & gravel
40	125	Conglomerate & gravel
125	160	Clay & gravel
160	190	White Cong.
190	490	Cong. clay gravel
490	710	Hard purple malapai
710	740	Tufa & Red malapai
740	745	Cinder & Tufa
745	780	Black & Red Malapai
780	850	Brown Clay (sticky) & black malapai mix

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller.....
Name

3020 Jaguar Kingman AZ
Address

2/22/82



STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Richard Neal
Name

Mailing Address

2. Driller ASKEW DRILLING
P.O. BOX 3128
KINGMAN, ARIZONA 86402-3128
753-4884
Name

Mailing Address

3. Location of well: 22N 17W 14 SE¼ NW¼ NW¼

4. Permit No. 55-578155 (if issued)

DESCRIPTION OF WELL

5. Total depth of hole 240' ft.

6. Type of casing Steel PVC

7. Diameter and length of casing 6" in. from 1½' to 20', 5" in from 1' to 240'.

8. Method of sealing at reduction points grout seal

9. Perforated from 100' to 240', from ____ to ____, from ____ to ____.

10. Size of cuts ⅛"x 5" Number of cuts per foot 2

11. If screen was installed: Length — ft. Diam ____ in. Type ____

12. Method of construction drilled
drilled, dug, driven, bored, jetted, etc.

13. Date started 12 (Month) 1 (Day) 87 (Year)

14. Date completed 12 (Month) 5 (Day) 87 (Year)

15. Depth to water 87' ft. (If flowing well, so state.)

16. Describe point from which depth measurements were made, and give sea-level elevation if available ground level approx. 3,000' above Sea level

17. If flowing well, state method of flow regulation: ____

18. Remarks: ____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

REG. NO. ____

File No. ____

Entered ____ By ____

ENTERED DEC 28 1987

DWR-55-6-Rev. 8/85

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	2	TOP SOIL + CLAY
2	10'	BOULDERS + Decomposed Granite
10'	70'	" " "
70	90	Decomposed granite
90	80	Purple Rock
80	200	Decomposed Granite
200	230	Pink Granite
230	240	Blue Granite
		1st H20 - 120'
		2nd " - 180'
		3rd " 200'

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller ASKEW DRILLING
Name
P.O. BOX 3128
KINGMAN, ARIZONA 86402-3128
Address
753-4884

City State Zip

Date 12-23-81

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street
Phoenix, Arizona 85004
WELL DRILLER REPORT

RECEIVED
JUL - 8 1999
RECORDS MGT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. PENROD DRILLING COMPANY
3020 JAGERSON AVENUE
KINGMAN, AZ 86401-1515

2. Owner Name: Willard Van Pelt
Address: 3730 N Kenneth Rd. Kingman Az. 86401
City State Zip

3. Location: 22 N/S 17 E/W 13 ¼ NW ¼ SW ¼ NE
Township Range Section 10-acre 40-acre 160-acre

4. Well Registration No. 55- 575340 (Required)
5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 245' ft.
7. Type of casing Steel & PVC
8. Diameter and length of casing 7 in. from 0 to 90, 4½ in from 0 to 245
9. Method of sealing at reduction points —
10. Perforated from 100 to 245, from _____ to _____ from _____ to _____
11. Size of cuts 1/2 x 6 Number of cuts per foot 2
12. If screen was installed: Length _____ ft. Diam _____ in. Type _____
13. Method of construction drilled
(drilled, dug, driven, bored, jetted, etc)
14. Date started 6-23-99
Month Day Year
15. Date completed 6-24-99
Month Day Year
16. Depth to water 100' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
ground
18. If flowing well, state method of flow regulation: _____
19. Remarks: STATIC 50'

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-575340
File No. B(22-17) 13 ACB
Received _____ By _____
Entered _____ By _____

DWR-55-55-7/95 (Rev.)

ANSWERED JUL 09 1999

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	6	Top Soil
6	50	Brown Decomp. Granite
50	65	Quartz (water)
65	85	Red Granite
85	110	Gray Granite
110	138	Red "
138	160	Gray Granite & Quartz (main water)
160	245	Red - Granite

I hereby certify that this well was drilled by me(or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: PENROD DRILLING COMPANY

3020 JAGERSON AVENUE

Street

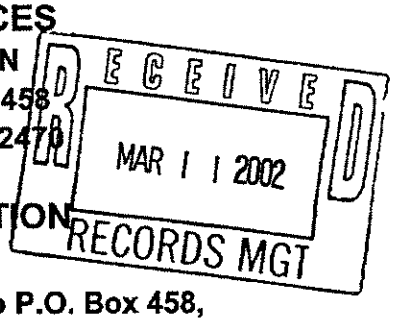
KINGMAN, AZ 86401-1515

City State Zip Phone No.

Signature of Driller 6-28-99 Date

ARIZONA DEPARTMENT OF WATER RESOURCES

GROUNDWATER MANAGEMENT SUPPORT SECTION
MAIL TO: P.O. BOX 458 - PHOENIX, ARIZONA 85001- 0458
FOR INFORMATION: CALL MONICA ORTIZ AT 602-417-2470



REQUEST FORM TO CHANGE WELL INFORMATION OWNERSHIP * DRILLER

Please complete the appropriate section of this request form and return to P.O. Box 458, Phoenix, Arizona 85001-045. In accordance with A.R.S. § 45-113, please submit the applicable fee. NOTE: A.R.S. §45-593 (C) requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty days after changes take place.

SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.

1. **CHANGE OF WELL INFORMATION: (NO FEE REQUIRED)** AT NW corner of Property

NOTE: If the location of the proposed well changes after drilling authority has been issued, **attach a $10.00 reissue fee for each of the drilling authorities to be changed.**

WELL REGISTRATION NO. 55- 553041 **FILE NO:** _____

I/We request the following well information be changed: _____

Date 3/05/02 Signature of Current Well Owner Donald J. Zblezniak
***Note: This information is on your copy of the Notice of Intent to Drill.**

2. **STATEMENT OF CHANGE OF WELL OWNERSHIP: ($10.00 FEE REQUIRED)**

NOTE: If this change consists of more than one well and the names are common: attach a $10.00 fee. Otherwise, each well requires a separate fee of $10.00.

I, Dott. Ruggiero Vitobello, President of Mavit Corp., state that I am the Previous~~/New Owner~~ of the well described below:

_____ ¼ _____ ¼ _____ ¼ of Section 3 Township 21.0 N/S Range 16.0 E/W
10 Acre 40 Acre 160 Acre

Assessor's tax parcel number of the parcel on which the well is located: Book _____ Map _____ Parcel _____.

Well Registration No. 55- 553041 File No. B(21-16)3BAB (if known)

Mavit Corp.	ZBELLA INVESTMENTS, L.L.C. an Arizona limited liability company
PRINT Previous Owner's Name	PRINT New Owner's Name
4422 North Civic Center Plaza Suite 101	8787 E. Pinnacle Peak Road Suite 200
Mailing Address	Mailing Address
Scottsdale, Arizona 85251-3523	Scottsdale, Arizona 85255
City State Zip	City State Zip
~~480/707-5000~~	~~480/889-7325~~
Telephone Number	Telephone Number

Signature of Previous~~/New Well Owner~~ _____ Date February 27 2002

DWR 55-71a (Rev 1/99)

3:49p 11/MAR/02

Arizona Department of Water Resources

500 N Third Street
Phoenix AZ 85004
602-417-2405

INVOICE # 18915
REGISTER:1
CASHIER: ME

E:ZBELLA INVESTMENTS, LLC CUSTOMER:

YPE	DESCRIPTION	QTY	PRICE	EXT PRICE
9-12	CHANGE OF WELL OWNERSHIP	1	10.00	10.00

1 UNIT(S) SUBTOTAL: 10.00

55-546817
55-553041
Cash: 10.00

INVOICE TOTAL: 10.00

THIS IS YOUR RECEIPT
"Thank You" Az Department of Water Resources

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES

GROUNDWATER MANAGEMENT SUPPORT SECTION

500 North Third Street, Phoenix, Arizona 85004-3903
Phone (602) 417-2470 Fax (602) 417-2422

*

WELL DRILLER REPORT

This report should be prepared by the Driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner's Name: MAVIT CORP.
   Address: 3997 E AIRWAY AVE (Street) Kingman (City) AZ (State) 86401 (Zip)

2. Driller's Name: PENROD DRILLING CO
   Address: 3020 JAGERSON AVE (Street) Kingman (City) AZ (State) 86401 (Zip)

3. Location: NW ¼ (10 ACRE) NE ¼ (40 ACRE) NW ¼ (160 ACRE) of Section 3 Township 21 N Range 16 W

4. Well Registratiin No. 55-553041 (Required)

5. Permit No. _____ (If issued)

DESCRIPTION OF WELL

6. Total Depth of Hole 800' ft.
7. Type of Casing STEEL CASING
8. Diameter and length of casing 8" STEEL inches from 0 to 728, _____ inches from _____ to _____
9. Method of sealing at reduction points _____
10. Perforated from 685 to 725' from _____ to _____ from _____ to _____
11. Size of cuts 1/8" X 3 Number of cuts per foot 18
12. If screen was installed: Length — feet. Diameter — inches. Type _____
13. Method of construction DRILLED (drilled, dug, driven, bored, jetted, etc)
14. Date started 11 (Month) 15 (Day) 95 (Year)
15. Date Completed 2 (Month) 2 (Day) 96 (Year)
16. Depth to water 668' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available GROUND LEVEL
18. If flowing well, state method of flow regulation:
19. Remarks: _____

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-553041
B(21-16)3bab
File No. _____
Received _____ By _____
Entered ENTERED MAR 8 1996 By _____

DWR-55-55 (Rev 10/95)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

From (feet)	To (feet)	Description of Formation Material
0	16	Top Soil
16	35	SAND CLAY BOULDERS
35	105	SAND GRAVEL CLAY
105	260	Silty Clay
260	370	Silty Clay small GRAVEL
370	496	Gray Clay Gravle mix
496	610	Gray Clay Gravel & Boulders
610	670	Boulders Clay & GRAVEL
670	720	Beatchite & Clay Sand GRAVEL WATER
720	800	BLACK BASALT & WATER

I hereby certify that this well was drilled by me(or under my supervison), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Pomroy Drilling CO

3020 Jagerson Ave
Street

Kingman AZ 86401
City State Zip

757-2931 2-28-96
Phone Number Date

DWR-55-55 (Rev 10/95)

ARIZONA DEPARTMENT OF WATER RESOURCES
OPERATIONS – 500 NORTH 3RD. STREET
PHOENIX, AZ 85004 (602)417-2470

NOTICE OF INTENTION TO DRILL, DEEPEN, REPLACE OR MODIFY A WELL

RECEIVED
NOV 13 1995
AZ GROUNDWATER MGT

Section § 45-596, A.R.S., provides: a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

IF PARCEL IS 20 ACRES OR LESS, THE APPLICABLE COUNTY OR LOCAL HEALTH AUTHORITY MUST ENDORSE ALL ITEMS IN THE BOX BELOW, BEFORE SUBMITTING TO THE DEPARTMENT OF WATER RESOURCES.

MAVIT CORPORATION 3997 E. AIRWAY AVE KINGMAN AZ 86401
Land Owner's Name / Address / City / State / Zip

Telephone (520) 757-5335

COUNTY ASSESSOR'S PARCEL ID INFORMATION:
322 03 (322-15-03) 40
BOOK MAP PARCEL No. of Acres of Parcel

OFFICIAL SEAL

County: MOHAVE

Well/Land Location:
NW 1/4 NE 1/4 NW 1/4 of Section 3 Township 21 N Range 16 W
10AC 40ac 160ac

COUNTY OR LOCAL AUTHORITY ENDORSEMENT

Check one:
Recommend Approval _____; Insufficient information to make determination _____; Variance required _____ (Explanation attached).

DATE _____ AUTHORIZED SIGNATURE _____

GENERAL INSTRUCTIONS FOR FILING NOTICE WITH

1. Section § 45-596(D) provides that the Director shall determine that all information required on this form has been submitted. If not, the person filing will be notified, and the drilling, deepening or modification of the well may not proceed.
2. Section § 45-596(D), provides that the Department has 15 days after the receipt of a complete and correct notice of intention to record the notice and mail the duplicate to the owner.
3. Fill out this form and site plan in DUPLICATE and send WITH $10.00 FEE to 500 N. THIRD ST., PHOENIX, AZ 85004. USE BLACK OR BLUE
4. For specific instructions, limitations and conditions, see the reverse side of this form.
5. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in item 2.
6. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.

1. Owner of well:
MAVIT CORPORATION
Name
3997 E. AIRWAY AVE
Mailing Address
KINGMAN AZ 86401
City State Zip
Telephone: (520) 757-5335

2. Action requested: Drill New Well X; Deepen ____ Modify ____ Replace ____
For a replacement well provide: Maximum capacity of the original well ____ gallons per minute; distance from the original well ____ feet.
Well Registration No. 55- ____

3. Construction will start about:
Month 11 Year 95

4. DESCRIPTION OF PROPOSED WELL:
Diameter 8" inches
Depth APP 800' feet
Type of Casing STEEL

5. Design Pump Capacity: 200 gallons per minute
APPX ~~800~~

6. Lessee of Land of wellsite:
Name
SAME
Mailing Address
City State Zip
Telephone:

7. Principal use of water:(be specific)
Irrigation

8. Other uses of water:(be specific)
TREES & GRASS

9. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: 20

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
File No. 621-413 BAB By R.
Filed 11-13-95 By
Input By
DUPLICATE MAILED
Date 11-16-95 By R
Registration 55- 553041
AMA/INA
WS 02 - - - - - S/B - - -
ENTERED NOV 16 1995

10. PLACE OF USE (Legal Description of Land):
Township 21 N Range 16 W
Section ~~NW~~ 3 1/4 ~~NW~~ 1/4 NE 1/4 NW

11. Type of well: Exempt [redacted] X
Residential [redacted] X

12. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? YES ____ NO X

13. DRILLING FIRM:
Ford Drilling Co.
Firm Name
3000 Jagerson Ave
Mailing Address
Kingman AZ 86401
City State Zip
DWR License 111
ROC License Classification C53 L53

MAVIT CORPORATION
CHARLES J. SPERRAZZA
Typed or Printed Name of Owner or Lessee

Signature [X] Land Owner [ ] Lessee of Wellsite

11/10/95
DATE

SPECIFIC INSTRUCTIONS, LIMITATIONS AND CONDITIONS

1. If any water from a proposed well on a parcel of land of twenty or fewer acres will be used for domestic purposes, as defined in § 45-454, the applicant shall submit a site plan to scale of the property with the county assessor's parcel identification number. The site plan:

   a. Will be on a 8½"x11" piece of plain paper with representation of the locations of all structures, septic tank or sewer systems and proximity of adjacent lot lines to scale.
   b. Must show the proposed well location and the location of any septic or sewer system that is either located on the property or within one hundred feet of the proposed well site.
   c. Shall demonstrate to the director's satisfaction that the well will not be drilled within one hundred feet of any septic or sewer system.
   d. Must be approved by the county health authority, or by a local health authority in areas where the county health authority has delegated authority to approve septic or sewer systems. Before approval, the health authority shall review the plan and determine whether the proposed well location complies with applicable state and local laws regarding the placement of wells. If so, the health authority shall endorse the site plan and the proposed well placement.

2. Endorsement by the county/local authority is based solely on the best available judgement that this well, as shown on the site plan submitted, is 100 feet or more from all known and visually identifiable sewage treatment systems. It is not a representation that a well placed at this site will be guaranteed as to quantity or quality. Information brought to light at a future date may render this determination invalid.

3. If a well which was originally drilled as an exploration well, a monitor well, a piezometer well or for any use other than domestic use and is later proposed to be converted to use for domestic purposes, as defined in § 45-454, the well owner shall file a notice of intention to drill and comply with the requirements prescribed pursuant to this section before the well is converted and any water from that well used for domestic purposes.

4. Only a well driller licensed in the State of Arizona is authorized to drill, deepen or modify a well. A well driller may commence drilling a well only if the well drilling contractor or licensee has possession of a drilling card at the well site, issued by the Director in the name of the well drilling contractor or licensee, authorizing the drilling of the specific well in the specific location.

5. An exempt well means a well having a pump with a maximum capacity of not more than thirty-five (35) gallons per minute and may include the application of water to less than two (2) acres of land in an Irrigation Non-Expansion Area or Active Management Area to produce plants or parts of plants for sale, human consumption or for use as feed for livestock, range livestock or poultry.

6. The drilling, deepening, or modification of this well shall be completed within one (1) year of the date of the notice (§ 45-596.E.).

7. Within thirty (30) days after the installation of pumping equipment on this well, the registered well owner shall file the prescribed Completion Report. A form for this purpose will be furnished to the registered owner with the return of an annotated copy of this notice.

8. The person to whom a well is registered shall notify the Department of a change in ownership or a change in data relating to this well. The prescribed form for these purposes will be furnished to the registered owner with the return of an annotated copy of this Notice.

9. If an individual other than the land owner or lessee signs this Notice, an original letter of authorization from the land owner/lessee, stating that the individual has permission to sign this specific Notice on their behalf, shall accompany the Notice.

ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2470
Fax (602) 417-2422

November 15, 1995

MAVIT CORP.
3997 E. AIRWAY AVE.
KINGMAN, AZ. 86401

Registration No. 55-553041
File No. B(21-16)3BAB

Dear Well Owner:

Enclosed is a copy of the Notice of Intention (NOI) to drill/deepen/replace/modify a well. This NOI, which was recently filed with this Department, is being returned to you as evidence of your compliance with ARS §45-596. The enclosed Completion Report is to be submitted when pump equipment is installed. The Drilling Card and Well Drilling Report form have been sent to your driller. He may not begin drilling until he has received the Drilling Card and it must be displayed on the rig during drilling. If you change drillers, you must supply this Department with the new driller's identity. Please ensure that the driller you select is licensed to drill the type of well you require. All well drillers must pass an examination proving they understand the drilling methods for that particular license, and are familiar with the laws and regulations which govern well construction in Arizona.

If it is necessary to change the location of the proposed well, immediately contact the Department of Water Resources to obtain written permission before proceeding with the drilling. A properly signed, amended Drilling Card must be in the possession of the driller before drilling commences at a different location than originally authorized. **In no case may the replacement well be more than 660 feet from the well it is replacing.**

ARS §45-600 requires the registered well owner to submit a completion report within thirty (30) days after the installation of pumping equipment. It also requires the driller to furnish this Department a complete and accurate log of the well within thirty (30) days after completion of drilling. You should insist, and ensure, that both of these are done.

If in the course of drilling a new well, it is determined that the new well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the new well must be properly abandoned and a Well Abandonment Completion Report submitted per R12-15-816.F.

Per ARS §45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. We have enclosed a Change of Well Information Form should it be needed in the future. If, in the future, it is determined that water from your well is supplied from the river and you do not have a perfected water right to Colorado River water established prior to 1929, the U.S. Bureau of Reclamation may require you to cease pumping or enter into a contract for use of colorado river water.

Sincerely,

Ellen C. Kane
Water Resource Technician
Groundwater Section

ARIZONA DEPARTMENT OF WATER RESOURCES

GROUNDWATER MANAGEMENT SUPPORT SECTION

500 North Third Street
Phoenix, Arizona 85004-3903

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO: 55-553041

AUTHORIZED DRILLER: PENROD DRILLING CO. LICENSE NO: 111

NOTICE OF INTENTION TO DRILL A NON EXEMPT WELL HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: MAVIT CORP.

The well(s) is/are to be located in the:

NW 1/4 of the NE 1/4 of the NW 1/4 Section 3 Township 21N Range 16W

No. of Wells in this project: 1

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE 12TH DAY OF NOVEMBER, 1996.

CHIEF, GROUNDWATER MANAGEMENT SUPPORT

THE DRILLER MUST FILE A LOG OF THE WELL WITHIN 30 DAYS OF COMPLETION OF DRILLING

GREAT SEAL OF THE STATE OF ARIZONA
DITAT DEUS
1912

RECEIPT № 23742

'AVIT CORP.
3[illegible] E. AIRWAY AVE.
[illegible]A , AZ. 86401

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
500 NORTH THIRD STREET
PHOENIX, ARIZONA 85004
(602) 417-2405

ENTRY CODE 55

FILE NO. B(21-16)3bab 553041 THRU

ITEM DESCRIPTION	RATE	AMOUNT
'OI FEE		$10.00
11/16/95/ek CK#4397		$10.00

PAID NOV 14 1995 PAID

CHECK NO. _____ FEE ACCOUNT NO. _____ TOTAL $ _____

CHIT NO. _____ RECEIVED BY _____ DATE _____

IPS 1821 – Rev. 4/91

STATE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

RECEIVED JUN 9 1982 DEPT. OF WATER RESOURCES

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner DESERT CONSTRUCTION 3290 N.BANK ST.
Name
KINGMAN,AZ. 86401
Address

2. Lessee or Operator
Name
Address

3. Driller PENROD DRILLING CO.
Name
3020 JAGERSON AVE. KINGMAN, AZ.
Address

4. Location of well: TWP 22N RGE. 16W SEC. 34 NE¼ SW¼ NW¼

5. Permit No. 55-500156
(If issued)

DESCRIPTION OF WELL

6. Total depth of hole 700 ft.

7. Type of Casing STEEL

8. Diameter and length of casing 85/8 in. from 0 to 700, in from to .

9. Method of sealing at reduction points

10. Perforated from 590 to 690, from to , from to

11. Size of cuts 1/8" 3"long Number of cuts per foot

12. If screen was installed: Length ft. Diam in. Type

13. Method of construction DRILLED
drilled, dug, driven, bored, jetted, etc.

14. Date started JULY (Month) 1 (day) 1981 (year)

15. Date completed JULY (Month) 20 (day) 1981 (year)

16. Depth to water 575 ft. (If flowing well, so state.)

17. Describe point from which depth measurements were made, and give sea-level elevation if available.

18. If flowing well, state method of flow regulation

19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-500156
Received By
Entered 6-10-82 By
File No. B(22-16)34bca

(Well log to appear on Reverse side)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL
0	11	TOP SOIL
11	28	SAND & GRAVEL
28	109	GRAVEL & CLAY
109	280	SILTY RED CLAY
280	295	SAND & GRAVEL
295	430	SILTY RED CLAY
430	450	SAND & GRAVEL
450	546	SILTY RED CLAY
546	578	CLAY GRAVEL MIXED
578	596	GRAVEL & RIVER ROCK WATER
596	656	STICKY RED CLAY
656	667	SAND & GRAVEL
667	700	STICKY RED CLAY

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller Preston Pennock
Name

3020 Jagerson Ave. Kingman, AZ.
Address

DEPARTMENT OF WATER RESOURCES
99 East Virginia - Suite 100
Phoenix, Arizona 85004

Registration No. 55-500156
Owner of
Well Site Desert Constr Inc
File No. B(22-16)34bca

COMPLETION REPORT

1. A Completion Report is to be filed with the Department within 30 days after installation of pump equipment.

2. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least four hours and for a flowing well by measuring the natural flow at the land surface.

3. Drawdown of the water level for a non-flowing well should be measured in feet after not less than four hours of continuous operation and while still in operation and for a flowing well the shutin pressure should be measured in feet above the land or in pounds per square inch at the land surface.

4. The static groundwater level should be measured in feet from the surface immediately prior to the well capacity test.

LOCATION OF THE WELL:

TWP 22N RGE 16W SEC 34 NE¼ SW¼ NW¼

Date well completed JULY 1981 Depth of well 700

1. Well Test:

Test pumping capacity 100 (Gallons per minute) Date well tested JULY 1981

Method of discharge measurement METER (Weir, orifice, current meter, et cetera)

Static groundwater level 575 Feet drawdown 40 feet

Total pumping lift 650 Feet drawdown _____ pounds (flowing well)

2. Equipment Installed:

Kind of pump SUBMERGIBLE (Turbine, centrifugal, et cetera)

Kind of power ELECTRIC (Electric, natural gas, et cetera) Horse power rating of motor 15

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Preston Penrod
Signature

3020 Tagerson Ave
Address

6-5, 19 82
Date

Kingman Az. 86401
City State Zip

6-10-82

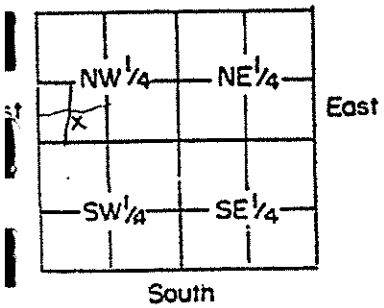
-EXEMPT WELL

DEPARTMENT OF WATER RESOURCES
NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL
OUTSIDE OF A DESIGNATED ACTIVE MANAGEMENT AREA

NON-EXEMPT WELL

ING FEE: $3.00

tion 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, erson may not drill or cause to be drilled any well or deepen or replace an existing well with- first filing a Notice of Intention to Drill with the Department on a form prescribed and fur- ed by the department. The well shall be completed within one year after the date of notice.



Indicate Well Location by X
(Above diagram represents one 640 acre section)

L/LAND LOCATION:

4. Township 22 N
5. Range 16 E W
6. Section 34
7. NE¼ SW¼ NW¼ 10 acre subdivision
8. County Mohave
9. Owner of Well:

Desert Const. Inc.
Name
3290 N. Bank
Address
Kingman, AZ 86401
City State Zip

10. Owner of land:

Desert Const. Inc
Name
3290 N. Bank
Address
Kingman, AZ 86401
City State Zip

DESCRIPTION OF WELL:

8. Diameter 10"
   Depth Unknown
9. Type of casing 8"
   Steel Casing
10. Principal use of water
    Washing of Sand & Gravel
11. Other uses intended
    Domestic
12. Construction will start about:
    June 1981
    Month Year
13. Design pump capacity
    100 gals. Per Min.
14. Total number acres
    _____
    (If irrigation well)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
FILE NO. B(22-16)34 bca
FILED 6-12-81 BY
INPUT 6-15-81 BY
DUPLICATE MAILED 6-16-81 BY
REGISTRATION NO 55-500156
NON EXPANSION AREA —

PLACE OF USE:

15. Township 22 W
16. Range 16 R
17. Section 34
18. Legal description of land water is to be used on:
    _____
    _____
19. Action requested
    Drill X
    Deepen _____
    Replace _____
20. This notice filed by:
    Owner X
    Lessee _____
    Driller _____

Desert Const., Inc.
Name
3290 N. Bank
Address
Kingman AZ 86401
City State Zip

21. Driller's Name:

Penrod Drilling Co.
3020 Jagerson Ave.
Kingman, AZ 86401
T-111 30322
Department license number

1. Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 99 East Virginia, Suite 100, Phoenix, Arizona 85004.
2. If the Non-exempt well is in fact a replacement (or deepening) well, state the registration number of the existing well. _____
3. Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with department rules and regulations.
4. This form should also be used to replace or deepen an existing irrigation well in an irrigation non-expansion area. However, water from an irrigation well drilled, deepened or replaced in a non-expansion area may not be used to increase the acreage as authorized by ARS 45-434.

I, Kenneth Short, state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds a contractor's license pursuant to ARS 45-595.

DATE 6-11-81 Signature of person filing Kenneth Short (Pres.)

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

June 16, 1981

Desert Constr. Inc
3290 N Bank
Kingman AZ 86401

Registration No. 55-500156

Dear Well Owner:

A copy of Notice of Intention to Drill a Well is returned to you for your records. Your driller has been mailed a Well Drilling Card, Well Drilling Report, and a Completion Report.

ARS 45-600 requires the driller to furnish this Department a complete and accurate Log of Well within 30 days of completion of drilling, and a Completion Report within 30 days after installation of pumping equipment.

Also enclosed for your future use is a Change of Well Information form. Per ARS 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and information pertaining to the physical aspects of the well to keep the well registration record current and accurate.

In the event it is necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources before proceeding with the drilling.

Sincerely,

Richard A. Gessner
Chief, Operations Branch

RAG/ps
Enclosures

Desert Construction Inc.
C30 North Banks Street
Kingman, AZ 86401

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT — FILE

KIND ENTRY	FILE REFERENCE NO.
55	500156
	THRU

№ 8879

ACCOUNT NO. AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
				Filing fee for Notice of Intention to Drill a		
				Non-Exempt Well Outside of a Designated Active Management Area		3.00
						WATER PAYMENT
				File #B(22-16)34 bca		GUESTS 1
				Registration #55-500156		CHK NO 24481
						SUB- 3.00
				Check #24481		TAX 0.00
						TOTAL 3.00
						GEN.CHEK 3.00

06-12-81

TOTAL $ 3.00

ATE OF ARIZONA

DEPARTMENT OF
WATER RESOURCES

City 5

WELL DRILLER REPORT

is report should be prepared by the driller in all detail and filed with the Department thin 30 days following completion of the well.

Owner CITY OF KINGMAN
Name
310 NORTH 4th St KINGMAN AZ 86401
Address

Lessee or Operator
Name
Address

Driller BC+M Drilling, Inc.
Name
1128 S. Lewis Mesa Az 85202
Address

Location of well: ~~T28N~~ 22N R16W S 28 NE¼ SE¼ NW¼

Permit No. (if issued) 55-504272

DESCRIPTION OF WELL

Total depth of hole 1006 ft.

Type of Casing Mild Steel (low carbon)

Diameter and length of casing 18" in. from +2' to 740', in from to .

Method of sealing at reduction points No reduction points

Perforated from to , from to , from to

Size of cuts Number of cuts per foot

If screen was installed: Length 240' ft. Diam 18" in. Type 40P Johnson S/S

Method of construction Drilled by Reverse Circulation
drilled, dug, driven, bored, jetted, etc.

Date started 11 (Month) 26 (day) 82 (year)

Date completed 12 (Month) 3 (day) 82 (year)

Depth to water 531 ft. (If flowing well, so state.)

Describe point from which depth measurements were made, and give sea-level elevation if available. from Top of casing, approx. 3302' above sea level

If flowing well, state method of flow regulation

REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-504272
Received By
Entered 2-9-83 By
File No. B(~~28~~ 22-16)28bda

(Well log to appear on Reverse side)

RECEIVED
FEB 4 1983
DEPT. OF
WATER RESOURCES

11-2-82

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

FROM (FEET)	TO (FEET)	DESCRIPTION OF FORMATION MATERIAL

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller [signature] Name

1128 S. Lewis Address

Date Feb 1, 1983

2-73

DEPARTMENT OF WATER RESOURCES
99 East Virginia
Phoenix, Arizona 85004

✓

Registration No. 55-504272 INPUT
Owner of 10-7-83
Well Site City of Kingman

File No. ~~B(28-16)28bda~~ gc
B(22-16)28bda

COMPLETION REPORT

1. Completion Report to be filed with the Department within 30 days after installation of pump equipment.

2. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

3. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.

4. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.

RECEIVED
OCT 6 - 1983
WATER RESOURCES

LOCATION OF THE WELL

T.22N., R.16W., Sec. 28, NW-1/4 - Mohave County, Arizona

Date Well Completed December 17, 1982 Depth of Well 1,006 feet

1. Well Test:
Test Pumping Capacity 2,400 (Gal. per min.) Date Well Tested January 3, 4, 5, 6, 1983

Method of Discharge Measurement orifice (weir, orifice, current meter, etc.)

Static Groundwater Level 531.0 ft. Drawdown 44.5 ft.

Total Pumping Lift 575.5 ft. Drawdown _____ lbs. (Flowing Well)

2. Equipment Installed:

Kind of Pump Turbine (turbine, centrifugal, etc.)

Kind of Power Electric (Elec., Nat. Gas, Etc.) H.P. Rating of Motor 600

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Marion E. Miller
Signature MARION E. MILLER, Vice President
GILBERT PUMP & EQUIPMENT CO., INC.
Address
P.O. Box 20216,
Phoenix, AZ 85036
City State Zip

October 4, 1983
Date

DWR-7 5-83

1128 SOUTH LEWIS
MESA, ARIZONA 85202

DATE: 11/28/82

ANY City of Kingman

NUMBER OF WELL D-82-11

OF WELL Lake-mountain

NUMBER OF BITS USED 1

ZE 17½ -26" Reamer

TYPE AND FEET PER BIT

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
45	Gravel	7:10	7:52	42	120	45	5000
60	N/sand.	7:52	8:05	13	120	45	5000
55	" "	8:05	8:25	20	120	45	5000
60	" "	8:25	8:40	15	120	45	5000
65	" "	8:40	8:50	10	120	45	5000
70	" "	8:50	9:03	13	120	45	5000
	Con 30-30	9:03	9:30				
75	N/sand	9:30	9:42	12	120	55	8000
80	" "	9:42	9:53	11	120	55	8000
85	" "	9:53	10:04	11	120	55	8000
90	" "	10:04	10:15	11	120	55	8000
95	" "	10:15	10:26	11	120	55	8000
100	" "	10:26	10:36	11	120	55	8000
	Con. 30-20	10:36	11:35				
105	Sand	11:35	11:50	15	120	55	10000
110	Sand with Some Clay	11:50	12:03	13	120	55	10000
115	Sand/clay	12:03	12:14	11	120	55	10000
120	Sand/clay	12:14	12:24	10	120	55	10000
125	Clay	12:24	12:36	12	100	55	10000
130	Clay	12:36	12:50	14	120	55	10000
	Con 30-10	12:50	1:15	ADD 40' AIR LINE. TOTAL 170'			
135	Sand/Gravel	1:15	1:27	12	125	55	10000
140	" " "	1:27	1:41	14	125	55	10000
145	Sand/clay	1:41	1:52	11	125	55	10000
150	" "	1:52	2:04	12	125	55	10000
155	" "	2:04	2:14	10	125	55	10000
160	" "	2:14	2:24	10	125	55	10000
161	" "	2:24	2:26	2	125	55	10000
	CON. 30-35	2:26	3:25	RUNNED SURVEY INDICATOR 160'			
165	Gravel/Sand	3:25	3:36	11	125	55	12000
170	" "	3:36	3:47	11	175	55	12000
175	" "	3:47	4:00	13	125	55	12000
180	Sand/clay	4:00	4:43	23	125	55	12000
185	Sand/clay	4:43	4:55	12	175	55	12000
190	" "	4:55	5:07	12	175	55	12000
191	" "	5:07	5:08	1	175	55	12000
	CON. 30-45	5:08	5:28				

RKS: 70' Air Line
110' Air Line

2 — B L & M DRILLING INC. — DATE 11/26/82

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

COMPANY City of Kingman — NUMBER OF WELL A-82-11

NAME OF WELL Long Mountain — NUMBER OF BITS USED 1

SIZE 17½ - 26" Reamer — TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO	CON. 30-45	START	END	MIN.	COMPRES.	RPM	ON BIT
195	Gravels/Sand	5:04	5:38	10	125	55	15000
200	" / "	5:38	5:47	9	125	60	18000
205	" "	5:47	5:56	9	125	60	18000
210	" "	5:56	6:07	11	125	60	18000
215	Sandy Clay	6:07	6:16	9	125	60	18000
220	" "	6:16	6:24	8	125	60	18000
221	" "	6:24	6:25	1	125	60	18000
	Sub I-70	6:25		ADD Sub & Reamer			
	Con. 30-20		7:08	Kelly Sub Other Kelly Bit			
225	Sandy Clay	7:08	7:16	8	125	60	18000
230	" "	7:16	7:25	9	125	60	18000
235	" "	7:25	7:33	8	125	60	18000
240	Sand - Clay	7:33	7:42	9	125	60	18000
245	" "	7:42	7:50	8	125	60	18000
250	" "	7:50	8:00	10	125	60	18000
253	" "	8:00	8:05	5	125	60	18000
	CON 20-20	8:05	8:17				
255	Sand - Clay	8:17	8:20	3	125	60	18000
260	" "	8:20	8:31	10	125	60	18000
265	" "	8:31	8:42	11	125	60	18000
270	" "	8:42	8:52	10	125	60	18000
275	" "	8:52	9:03	11	125	60	18000
280	" "	9:03	9:15	12	125	60	18000
283	" "	9:15	9:22	7	125	60	18000
	CON. 30-20	9:22	9:32				
285	Sand - Clay	9:32	9:38	6	125	60	18000
290	" "	9:38	9:50	12	125	60	18000
295	" "	9:50	10:02	12	125	60	18000
300	" "	10:02	10:13	11	125	60	18000
305	" "	10:13	10:21	8	125	60	18000
310	" "	10:21	10:32	11	125	60	18000
314	" "	10:32	10:43	11	125	60	18000
	CON. 26-45	10:43	11:20	PICKED UP DRILL STRING TO CHANGE REAMER SURVEY INDICATES			
315	Sand	11:20	11:21	1	125	60	18000
320	Sand	11:21	11:35	14	125	60	18000
325	Sand	11:35	11:47	12	125	60	18000
330	Sand	11:47	11:58	11	125	60	18000

REMARKS: 150' Fill

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED
FEB 4 1983
DEPT. OF WATER RESOURCES

DATE 2-1-83

ANY City of Kingman — NUMBER OF WELL A-82-11

OF WELL Long Mountain — NUMBER OF BITS USED 1-26" Reamer

ZE 17½ 26" Reamer — TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
470	Sand	655	7:10	15	125	60	18000
475	"	7:10	7:25	15	125	60	18000
480	"	7:25	7:35	10	125	60	18000
485	"	7:35	7:48	13	125	60	18000
490	"	7:48	8:03	15	125	60	18000
493	"	8:03	8:12	9	125	60	18000
Hole su	Con 30 20 2.5°	8:12	8:35				
495	Sand	8:35	8:39	4	125	60	18000
500	"	8:39	8:52	13	125	60	18000
505	"	8:52	9:05	13	125	60	18000
510	"	9:05	9:12	7	125	60	18000
515	"	9:12	9:23	11	125	60	18000
520	"	9:33	9:35	12	125	60	18000
526	"	9:35	9:40	5	125	60	18000
526	"	9:40	9:42	2	125	60	18000
	Con. 29-35	9:42	11:06				
530	Sand	11:06	11:16	10	125	60	18000
535	"	11:16	11:34	18	125	60	18000
540	"	11:34	11:47	13	125	60	18000
545	Gravel	11:47	12:02	15	125	60	18000
550	Sand	12:02	12:22	20	125	60	18000
555	Gravel/Sand	12:22	12:38	16	125	60	18000
556	" "	12:38	12:41	3	125	60	18000
	Con. 28-35			Tripping For Conc. Hole			
560	Gravel/Sand	5:20	5:38	18	125	60	25000
565	" "	5:38	5:58	20	125	60	25000
570	" "	5:38	6:20	22	125	60	25000
575	" "	6:20	6:42	22	125	60	25000
580	" "	6:42	6:59	17	125	60	25000
585	" "	6:59	7:14	15	125	60	25000
	CON. 29-35	7:14	7:27	13	125	60	25000
585	Gravel/Sand	7:27	7:33	6	125	60	25000
590	Gravel	7:33	7:52	19	125	60	25000
595	"	7:52	8:13	21	125	60	25000
600	"	8:13	8:35	22	125	60	25000
605	"	8:35	8:53	18	125	60	25000
610	"	8:53	9:13	20	125	60	25000

RKS: 170 gal. fuel

1128 SOUTH LEWIS
MESA, ARIZONA 85202

DATE 2/2/83

COMPANY City of Kingman NUMBER OF WELL A82-11

NAME OF WELL Long Mountain #3 NUMBER OF BITS USED 1-(2) 26" Reamers

SIZE 17½-26" Reamer TYPE AND FEET PER BIT

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO	Cont. from ol	START	END	MIN.	COMPRES.	RPM	ON BIT
614	Gravel	9:13	9:35	22	125	60	25000
	Con 30-55	9:35	9:53				
615	Gravel	9:53	9:56	3	125	60	25000
620	"	9:56	10:19	23	125	60	25000
625	"	10:19	10:45	26	125	60	25000
630	"	10:45	11:09	24	125	60	25000
635	"	11:09	11:28	19	125	60	25000
640	"	11:28	11:58	30	125	60	25000
645	"	11:58	12:20	22	125	60	25000
	Con. 30-50	12:20	12:35				
650	Fine Gravel	12:35	1:47	1:12	125	60	25000
655	5% Clay 95% Gravel	1:47	2:16	28	125	60	25000
660	Gravel	2:16	3:04	49	125	60	25000
665	Gravel	3:04	3:26	21	125	60	21000
670	Gravel	3:25	3:45	20	125	60	21000
673	Gravel	3:45	3:55	10	125	60	25000
	Con. 30-70	3:55	4:15				
675	Gravel	4:15	4:20	5	125	60	21000
680	Gravel	4:20	4:40	20	125	60	21000
685	"	4:40	4:48	18	125	60	21000
690	"	4:48	5:18	20	125	60	21000
695	"	5:18	5:36	18	125	60	21000
700	"	5:36	6:00	14	125	60	21000
704		6:00	6:28	28	125	60	21000
	Con 30-50	6:28	6:35				
705	Sandy Clay & Gravel	6:35	6:45	10	125	60	21000
710	" " "	6:45	6:55	10	125	60	25000
715	" " "	6:55	7:15	20	125	60	21000
720	" " "	7:15	7:31	16	125	60	25000
725	" " "	7:31	7:51	20	125	60	25000
730	" " "	7:51	8:10	19	125	60	21000
734	" " "	8:10	8:27	17	125	60	21000
	Con. 30-60	8:27	8:35				
735	Gravel Sandy Clay	8:35	8:42	7	125	60	25000
740	" " "	8:42	9:00	18	125	60	21000
745	" " "	9:00	9:20	20	125	60	25000
750	" " "	9:20	9:35	15	125	60	25000

REMARKS: 170' Air line.

DATE 4/21/82

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED
FEB 4 1983
DEPT. OF
WATER RESOURCES

PANY City of Kingman NUMBER OF WELL A 82-11

E OF WELL Long Mountain NUMBER OF BITS USED 1 - (1) 26" Reme

IZE 17½-26" Remer TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO	Continued	START	END	MIN.	COMPRES.	RPM	ON BIT
614	Gravel	9:13	9:35	22	125	60	25000
	Con 30-55	9:35	9:53				
615	Gravel	9:53	9:56	3	125	60	25000
620	"	9:56	10:19	23	125	60	25000
625	"	10:19	10:45	26	125	60	25000
630	"	10:45	11:09	24	125	60	25000
635	"	11:09	11:28	19	125	60	25000
640	"	11:28	11:58	30	125	60	25000
645	"	11:58	12:20	22	125	60	25000
	Con. 30-50	12:20	12:35				
650	Fine Gravel	12:35	1:47	1:12	125	60	25000
655	5% Clay 95% Gravel	1:47	2:15	28	125	60	25000
660	Gravel	2:15	3:04	49	125	60	25000
665	Gravel	3:04	3:25	21	125	60	25000
670	Gravel	3:25	3:45	20	125	60	25000
673	Gravel	3:45	3:55	10	125	60	25000
	Con. 30-70	3:55	4:15				
675	Gravel	4:15	4:20	5	125	60	25000
680	Gravel	4:20	4:40	20	125	60	25000
685	"	4:40	4:48	18	125	60	25000
690	"	4:48	5:18	20	125	60	25000
695	"	5:18	5:36	18	125	60	25000
700	"	5:36	6:00	14	125	60	25000
704		6:00	6:28	28	125	60	25000
	Con 30-50	6:28	6:35				
705	Sandy Clay & Gravel	6:35	6:45	10	125	60	25000
710	" " "	6:45	6:55	10	125	60	25000
715	" " "	6:55	7:15	20	125	60	25000
720	" " "	7:15	7:31	16	125	60	25000
725	" " "	7:31	7:51	20	125	60	25000
730	" " "	7:51	8:10	19	125	60	25000
734	" " "	8:10	8:27	17	125	60	25000
	Con. 30-60	8:27	8:35				
735	Gravel Sandy Clay	8:35	8:42	7	125	60	25000
740	" " "	8:42	9:00	18	125	60	25000
745	" " "	9:00	9:20	20	125	60	25000
750	" " "	9:20	9:35	15	125	60	25000

ARKS: 170' Air line.

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED FEB 4 1983 DEPT. OF WATER RESOURCES

DATE 11/22/82

ANY City of Kingman NUMBER OF WELL B-82-11

OF WELL Long Mountain NUMBER OF BITS USED 1-26" Reamer

ZE 17½ 26" Reamer TYPE AND FEET PER BIT

DEPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
755	Gravel and Clay	9:35	9:50	15	125	60	25000
760	" " "	9:50	10:10	20	125	60	25000
765	" " "	10:10	10:20	10	125	60	25000
	Con. 30-55	10:20	10:30				
770	Gravel Clay	10:30	10:40	10	125	60	25000
775	" "	10:40	11:01	21	125	60	25000
780	" "	11:01	11:18	17	125	60	25000
785	" "	11:18	11:35	17	125	60	25000
790	Gravel	11:35	12:00				
795	"	12:00	12:26	26	125	60	25000
	Con. 30-10	12:26	1:06	Reamed Survey Indication			
800	Gravel	1:06	1:20	20	125	60	25000
805	" "	1:20	1:42	22	125	60	25000
810	"	1:42	2:06	24	125	60	25000
815	" "	2:06	2:25	19	125	60	25000
820	" "	2:25	2:46	19	125	60	25000
825	"	2:46	3:06	20	125	60	25000
	Con. 29-30	3:06	3:15				
830	Gravel/Sand	3:15	3:37	22	125	60	25000
835	" "	3:37	4:04	27	125	60	25000
840	"	4:04	4:30	26	125	60	25000
845	Gravel	8:39	8:47	8	125	60	22000
850	"	8:47	8:58	11	125	60	22000
855	"	8:58					
-1.80	Change from Reamer to Bit						
853	Gravel		9:05	7	125	60	22000
	Con. 30-75	9:05	9:17				
855	Gravel	9:17	9:21	4	125	60	22000
860	"	9:21	9:32	11	125	60	22000
865	"	9:32	9:44	12	125	60	22000
870	"	9:44	9:59	15	125	60	22000
875	"	9:59	10:18	19	125	60	22000
880	"	10:18	10:38	20	125	60	22000
884	"	10:38	10:49	11	125	60	22000
	Con. 29-85	10:49	11:05				
885	Gravel	11:05	11:09	4	125	60	22000
890	Gravel	11:09	11:26	17	125	60	25000

RKS: 170' Ft Line

DATE 1/7 10/1 2

1128 SOUTH LEWIS
MESA, ARIZONA 85202

RECEIVED
FEB 4 1983
DEPT. OF
WATER RESOURCES

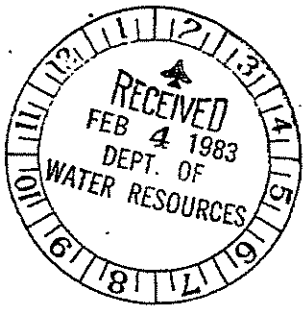
NY City of Kingman NUMBER OF WELL A 82-11

F WELL King Mountain NUMBER OF BITS USED 1 121 Rock

E 26" TYPE AND FEET PER BIT 1 26" Bit

EPTH	FORMATION	TIME		TOTAL	AIR-PSI	ROTARY	WEIGHT
TO		START	END	MIN.	COMPRES.	RPM	ON BIT
895	Gravels	11:26	11:48	22	125	60	22000
900	"	11:48	12:10	22	125	60	22000
905	"	12:10	12:27	17	125	60	22000
910	"	12:27	12:48	21	125	60	22000
914	"	12:48	1:02	14	125	60	22000
	Con 28-35	1:02	1:20				
915	Gravel	1:20	1:22	2	125	60	22000
920	"	1:22	1:35	13	125	60	22000
925	"	1:35	1:52	14	125	60	22000
930	"	1:52	2:10	18	125	60	22000
935	"	2:10	2:28	18	125	60	22000
940	"	2:28	2:55	27	125	60	22000
942	"	2:55	3:04	9	125	60	22000
	Con 30-60	3:04	3:25				
945	Gravel	3:25	3:40	15	125	60	22000
950	"	3:40	4:10	30	125	60	22000
955	"	4:10	4:28	18	125	60	22000
960	"	4:28	4:45	17	125	60	22000
965	"	4:45	5:03	18	125	60	22000
970	"	5:03	5:15	12	125	60	22000
972	"	5:15	5:28	13	125	60	22000
	Con 20-60	5:28	5:42				
975	Gravel	5:42	5:50	8	125	60	22000
980	"	5:50	6:15	25	125	60	22000
985	"	6:15	6:37	22	125	60	22000
992	"	6:37	7:00	23	125	60	22000
995	"	7:00	7:22	22	125	60	22000
1000	"	7:22	7:42	20	125	60	22000
1003	"	7:42	7:50	8	125	60	22000
	Con 30-20	7:50	8:15				
1005	Gravel	8:15	8:18	3	125	60	22000
1010 →	1006 → TD Gravel →	8:18	8:25	7	125	60	22000
1015							
1020							
1025							
1030							
1033							

KS:



DEPARTMENT OF WATER RESOURCES
99 East Virginia - Suite 100
Phoenix, Arizona 85004

Registration No. 55-504272
Owner of Well Site CITY OF KINGMAN
File No. B(~~28~~-16) 28bda
22

COMPLETION REPORT

1. A Completion Report is to be filed with the Department within 30 days after installation of pump equipment.

2. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least four hours and for a flowing well by measuring the natural flow at the land surface.

3. Drawdown of the water level for a non-flowing well should be measured in feet after not less than four hours of continuous operation and while still in operation and for a flowing well the shutin pressure should be measured in feet above the land or in pounds per square inch at the land surface.

4. The static groundwater level should be measured in feet from the surface immediately prior to the well capacity test.

LOCATION OF THE WELL:
Kingman, Arizona

Date well completed 12-3-82 Depth of well 1006'

1. Well Test:

Test pumping capacity 2400 (Gallons per minute) Date well tested Jan 3-6, 1983

Method of discharge measurement Orifice (Weir, orifice, current meter, et cetera)

Static groundwater level 531.3 Feet drawdown 43.7 feet

Total pumping lift 575 Feet drawdown N/A (flowing well) pounds

2. Equipment Installed:

Kind of pump Not installed as yet (Turbine, centrifugal, et cetera)

Kind of power _____ (Electric, natural gas, et cetera) Horse power rating of motor _____

I ~~HEREBY~~ CERTIFY that the above statements are true to the best of my knowledge and belief.

Signature

1128 S. Lewis
Address

Feb 1, 19 83
Date

Mesa Az 85202
City State Zip

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

BC&M DRILLING INC
1128 SOUTH LEWIS
MESA AZ 85202

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	504272
	THRU

CITY OF KINGMAN

ACCOUNT NO. AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
				FILING FEE FOR NOTICE OF INTENTION TO DRILL		10.00
				(1) NON-EXEMPT WELL		
				FILE# B(22-16)28bda Reg.#55-504272		
				CHECK#9042		

WAITER PAYMENT
GUESTS 1
CHK NO 9042
55-I 10.00
TAX 0.00
TOTL 10.00
GEN.CHEK 10.00

~~# 3360 R 15:03~~

11/2/82/ek

TOTAL $ 10.00

City of Kingman
310 NORTH FOURTH STREET • KINGMAN • ARIZONA • 86401 • 602 • 753-5561

November 9, 1982

RE: Registration No. 55-504272
File No. B(28-16) 28bda

AZ Department of Water Resources
99 E. Virginia Avenue
Phoenix, AZ 85004

Attn: Richard A. Gessner
Chief, Operations Branch

Gentlemen:

In our review of your letter dated November 2, 1982, copy attached, we noticed that the wrong Township has been used in describing the location of the well in the Notice of Intention to Drill a Well. The proposed well will be located in Township 22 North, and not in Township 28 North.

We accordingly believe that the File No. should be B(22-16)28 bda.

Please advise us of what should be done to correct this error. If necessary a new Notice of Intention can be filed.

Sincerely,

E. B. Covington
Asst. Public Works Director

EBC:NJD:cw
xc: B.C.& M. Drilling, Inc.
N.J.Devlin

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

NOVEMBER 2, 1982

CITY OF KINGMAN
310 NORTH 4th ST
KINGMAN AZ 86401

File No. B(22-16)28bda ~~B(28-16)28bda~~

Registration No. 55-504272

Dear Well Owner:

A copy of Notice of Intention to Drill a Well is returned to you for your records. Your driller has been mailed separately a Well Drilling Card, Well Drilling Report, and a Completion Report.

Arizona Revised Statute 45-600 requires the driller to furnish this Department a complete and accurate log of the well within 30 days of completion of drilling, and a Completion Report within 30 days after installation of pumping equipment.

Also enclosed for your future use is a Change of Well Information form. Per Arizona Revised Statute 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and information pertaining to the physical aspects of the well to keep the well registration record current and accurate.

In the event it is necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources before proceeding with the drilling.

Further, from the information you have provided, it appears that your well is near the Colorado River. If in the future, it is determined that the water from your well is supplied from the river, and you do not have a perfected water right to Colorado River water established prior to 1929, the U.S. Bureau of Reclamation may require you to either cease pumping or enter into a contract for use of Colorado River water.

Sincerely,

Richard A. Gessner
Chief, Operations Branch

RAG :ek
Enclosures

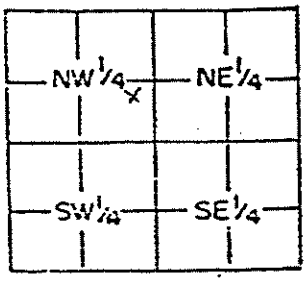
EXEMPT WELL 10.00 NON-EXEMPT WELL

ING FEE: $3.00

NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL OUTSIDE OF A DESIGNATED ACTIVE MANAGEMENT AREA

tion 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, rson may not drill or cause to be drilled any well or deepen or replace an existing well with first filing a Notice of Intention to Drill with the Department on a form prescribed and fur ed by the department. The well shall be completed within one year after the date of notice.

North



South

dicate Well Location by X
(Above diagram represents one 640 acre section)

LAND LOCATION:

Township 28N 22N

Range 16W

Section 28

NE ¼ SE ¼ NW ¼
10 acre subdivision

County Mohave

Owner of Well:

City of Kingman
ame

310 North 4th Street
ddress

Kingman, Arizona 86401
ity State Zip

Owner of land:

City of Kingman
ame

310 North 4th Street
ddress

Kingman, Arizona 86401
ity State Zip

DESCRIPTION OF WELL:

8. Diameter 26"
Depth 1000'

9. Type of casing
18" O.D. Steel 0.375" Wall

10. Principal use of water
Municipal

11. Other uses intended
None

12. Construction will start about:
Nov. 1982
Month Year

13. Design pump capacity
To be determined by test
(1000 - 1500 gpm tentative

14. Total number acres
N.A.
(If irrigation well)

02

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

FILE NO. 55-504272 (illegible)

FILED 11-2-82 BY EK

INPUT BY

DUPLICATE MAILED 11-2-82 BY EK

REGISTRATION NO 55-504272

NON EXPANSION AREA

PLACE OF USE:

15. Township 21 & 22 N

16. Range 16 & 17 W

17. Section —

18. Legal description of land water is to be used on:
City of Kingman Municipal Water System Service Area

19. Action requested
Drill X
Deepen
Replace

20. This notice filed by:
Owner
Lessee
Driller X

BC & M Drilling, Inc.
Name

1120 S. Lewis
Address

Mesa Arizona 85202
City State Zip

21. Driller's Name:
BC & M Drilling, Inc.

1128 S. Lewis

Mesa, Arizona 85202

Drillers 19 Contr. 44042
Department license number

1. Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 222 North Central Avenue, Suite 550, Phoenix, Arizona 85004.
2. If the Non-exempt well is in fact a replacement (or deepening) well, state the registration number of the existing well.
3. Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with department rules and regulations.
4. This form should also be used to replace or deepen an existing irrigation well in an irrigation non-expansion area. However, water from an irrigation well drilled, deepened or replaced in a non-expansion area may not be used to increase the acreage as authorized by ARS 45-434.

I, _____, state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds a contractor's license pursuant to ARS 45-595.

DATE 11-2-82 Signature of person filing Dave L Hammond

EXEMPT WELL

ING FEE: ~~$3.00~~ 10.00

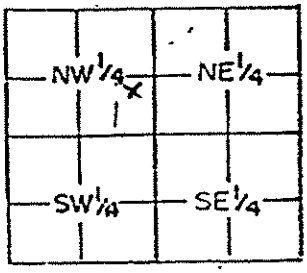
DEPARTMENT OF WATER RESOURCES

NOTICE OF INTENTION TO DRILL A NON-EXEMPT WELL
OUTSIDE OF A DESIGNATED ACTIVE MANAGEMENT AREA

NON-EXEMPT WELL

ion 45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management rson may not drill or cause to be drilled any well or deepen or replace an existing well wit first filing a Notice of Intention to Drill with the Department on a form prescribed and fur ed by the department. The well shall be completed within one year after the date of notice.

North



South

ndicate Well Location by X
(Above diagram represents one 640 acre section)

/LAND LOCATION:

Township ~~28N~~ 22N See 11-9-82 letter inc. file

Range 16W

Section 28

NE ¼ SE ¼ NW ¼
10 acre subdivision

County Mohave

Owner of Well:

City of Kingman
ame

310 North 4th Street
dress

Kingman, Arizona 86401
ity State Zip

Owner of land:

City of Kingman
ame

310 North 4th Street
dress

Kingman, Arizona 86401
ity State Zip

DESCRIPTION OF WELL:

8. Diameter 26"
Depth 1000'

9. Type of casing
18" O.D. Steel 0.375" Wall

10. Principal use of water
Municipal

11. Other uses intended
None

12. Construction will start about:
Nov. 1982
Month Year

13. Design pump capacity
To be determined by test
(1000 - 1500 gpm tentative

14. Total number acres
N.A.
(If irrigation well)

02

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

FILE NO. B(22-16)28bdd
FILED 11-2-82 BY EK
INPUT 11-3-82 corrected 11-12-82 BY
DUPLICATE MAILED 11-2-82 BY EK
REGISTRATION NO 55-504272
NON EXPANSION AREA —

corrected notice & letter sent to City of Kingman 11-12-82 jz

PLACE OF USE:

15. Township 21 & 22 N

16. Range 16 & 17 W

17. Section --

18. Legal description of land water is to be used on:
City of Kingman Municipal Water System Service Area

19. Action requested
Drill X
Deepen
Replace

20. This notice filed by:
Owner
Lessee
Driller X

BC & M Drilling, Inc.
Name
1128 S. Lewis
Address
Mesa Arizona 85202
City State Zip

21. Driller's Name:
BC & M Drilling, Inc.

1128 S. Lewis

Mesa, Arizona 85202

Drillers 19 Contr. 4402
Department license number

Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 222 North Central Avenue, Suite 550, Phoenix, Arizona 85004.
If the Non-exempt well is in fact a replacement (or deepening) well, state the registration number of the existing well.
Construction standards for new and replacement wells and the deepening and abandonment of existing wells shall be in accordance with department rules and regulations.
This form should also be used to replace or deepen an existing irrigation well in an irrigation non-expansion area. However, water from an irrigation well drilled, deepened or replaced in a non-expansion area may not be used to increase the acreage as authorized by ARS 45-434.

_____, state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds a contractor's license pursuant to ARS 45-595.

DATE 11-2-82 Signature of person filing Diane L Hamm

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

NOVEMBER 2, 1982

CORRECTED COPY 11-12-82
per E. B. Covington

CITY OF KINGMAN
310 NORTH 4th ST
KINGMAN AZ 86401

File No. B(22-16)28 bda ~~B(28-16)28bda~~

Registration No. 55-504272

Dear Well Owner:

A copy of Notice of Intention to Drill a Well is returned to you for your records. Your driller has been mailed separately a Well Drilling Card, Well Drilling Report, and a Completion Report.

Arizona Revised Statute 45-600 requires the driller to furnish this Department a complete and accurate log of the well within 30 days of completion of drilling, and a Completion Report within 30 days after installation of pumping equipment.

Also enclosed for your future use is a Change of Well Information form. Per Arizona Revised Statute 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and information pertaining to the physical aspects of the well to keep the well registration record current and accurate.

In the event it is necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources before proceeding with the drilling.

Further, from the information you have provided, it appears that your well is near the Colorado River. If in the future, it is determined that the water from your well is supplied from the river, and you do not have a perfected water right to Colorado River water established prior to 1929, the U.S. Bureau of Reclamation may require you to either cease pumping or enter into a contract for use of Colorado River water.

Sincerely,

Richard A. Gessner
Chief, Operations Branch

RAG :ek
Enclosures

TH-1

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner City of Kingman (Name)
310 N 4th St Kingman AZ 86401 (Address)

2. Lessee or Operator CITY OF KINGMAN (Name)
SAME (Address)

3. Driller DRILLING SERVICES CO. (Name)
9002 S. HARDY DR. TEMPE, AZ (Address)

4. Location of well: SEC. 28 T 22N R 16W

5. Permit No. (if issued) 55-502501

DESCRIPTION OF WELL

6. Total depth of hole 1105 ft.
7. Type of Casing 1¼" PVC
8. Diameter and length of casing 1¼ x 20' in. from 0 to 1054, ____ in from ____ to ____.
9. Method of sealing at reduction points NA
10. Perforated from 1054 to 554, from ____ to ____, from ____ to ____
11. Size of cuts ⅛" x 3" Number of cuts per foot 3
12. If screen was installed: Length ____ ft. Diam ____ in. Type ____
13. Method of construction drilled (drilled, dug, driven, bored, jetted, etc.)
14. Date started 4 (Month) – 5 (day) – 82 (year)
15. Date completed 4 (Month) – 11 (day) – 82 (year)
16. Depth to water 524 ft. (If flowing well, so state.)
17. Describe point from which depth measurements were made, and give sea-level elevation if available. TOP OF 8" STEEL CASING 3301 FT ABOVE MSL
18. If flowing well, state method of flow regulation —
19. REMARKS:

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
Registration No. 55-502501
Received ____ By ____
Entered 5-19-82 By [illegible]
File No. B(22-16)28cda

(Well log to appear on Reverse side)

RECEIVED MAY 17 1982 DEPT. OF WATER RESOURCES

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

CITY OF KINGMAN
LONG MT. WELL SITE #2
TEST HOLE NO-1
[B(22-N) 23 cda.]

100
200
300
400
500
600
700
800
900
1100

0-657 · GRAYWACKE CONGLOMERATE & BRECCIA

CLAYEY SILTY SAND, GRAVEL & SUBANGULAR ROCK FRAGMENTS.

(NON WATER BEARING)

STATIC WATER LEVEL
CM #2 WELL · 523'

(PARTIALLY WATER BEARING AT CONTACT WITH VOLCANIC TUFF)

APPARENT 15½" ARTESIAN HEAD

657

657-1105 · VOLCANIC TUFF & BRECCIA

UNCONSOLIDATED ? & CONSOLIDATED COURSE GRAINED SAND, ANGULAR ROCK FRAGMENTS & FINE VOLCANIC ASH (MOST FRAGMENTS SMALLER THAN ¼")

(WATER BEARING)

1105

CASING LEVEL 2" I.D.

657 · 0.025
677 · 0.01
697 · 0.03
707 · 0.025
737 · 0.01
757 · <0.01
777 · <0.01
777 · <0.02
817 · 0.01
817 · 0.01
847 · <0.01
877 · <0.02
897 · 0.12
917 · 0.01
932 · 0.025
957 · <0.01
977 · <0.02
997 · 0.01

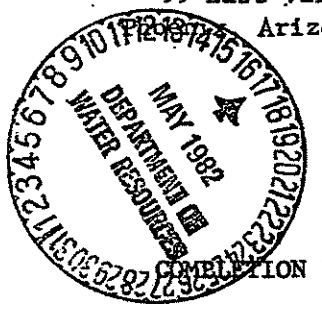
1017 · <0.02
1037 · <0.01
1057 · <0.01
1077 · 0.0
1097 · >0.01
1105 · 0.0

HOLE DRILLING 8 3/4"

I hereby certify that this well was drilled by me (or under my supervision), and that each and all of the statements herein contained are true to the best of my knowledge and belief.

Driller DRILLING SERVICES Co. Jay C Dotson
Name

DEPARTMENT OF WATER RESOURCES
99 East Virginia
Phoenix, Arizona 85004



Registration No. 55-502501
Owner of
Well Site City of Kingman

File No. B(22-16)28cda

COMPLETION REPORT

1. Completion Report to be filed with the Department within 30 days after installation of pump equipment.

2. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

3. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.

4. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.

LOCATION OF THE WELL

SECTION 28 T 22 N R 16 W.

Date Well Completed 4-11-82 Depth of Well 1105

1. Well Test:
Test Pumping Capacity NONE (Gal. per min.) Date Well Tested NONE
Method of Discharge Measurement NA (weir, orifice, current meter, etc.)
Static Groundwater Level 523 ft. Drawdown NA ft.
Total Pumping Lift NA ft. Drawdown NA lbs. (Flowing Well)

2. Equipment Installed:

Kind of Pump NONE (turbine, centrifugal, etc.)
Kind of Power NONE (Elec., Nat. Gas, Etc.) H.P. Rating of Motor

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

Jay C Adson Drilling Services
Signature
9002 S. Hardy Dr.
Address
Tempe AZ 85284
City State Zip

4-11, 1982
Date

(1)

City of Kingman

310 NORTH FOURTH STREET • KINGMAN • ARIZONA • 86401 • 602 • 753-5561

November 9, 1982

RE: Registration No. 55-502501

AZ Department of Water Resources
99 E. Virginia Avenue
Phoenix, AZ 85004

Attn: Richard A. Gessner
Chief, Operations Branch

Gentlemen:

In reply to your letter dated October 29, 1982, copy attached, please be advised that the well has been drilled and completed as an observation well substantially in accordance with the details described in the Notice of Intention to Drill an Exempt Well filed by the drilling contractor. There will be no pumping equipment installed in the well.

The Contract provides that the necessary well log and completion reports will be completed and filed by the Contractor, but apparently this has not been done. By means of a copy of this letter, we are reminding the contractor of this requirement.

Thanks for bringing this oversight to our attention.

Sincerely,

E. B. Covington
Asst.Public Works Director

EBC:NJD:cw
xc: Drilling Services Company
N. J. Devlin

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

OCT 29 1982

B 22C 16C 28 C C A WR 502501 Cnl
Co
CITY OF KINGMAN
31C N 4TH ST
KINGMAN AZ 86401

Gentlemen:

The Department of Water Resources issued drilling authority six months ago for the well referenced by our file number on the label at the top of this form. Our records show that this well has not yet been completed.

Our experience shows that most wells are drilled soon after filing. Consequently, this letter is only intended as a courteous reminder that if the well has been completed, certain reports are required. If the well has not been drilled, you have some months remaining to complete the well.

Arizona Revised Statute 45-600 requires the driller to furnish a complete and accurate Log of the Well within 30 days of completion of drilling. Within 30 days after the installation of the pump equipment, a Completion Report is required.

Specifically, if your well has been completed, we need the following report(s) to bring the well into full compliance with the law:

1. Have Log of Well,
2. ✓ Completion Report.

We will appreciate your immediate assistance in reporting if you have drilled or completed your well. Please contact this office if further assistance or information is required.

Sincerely,

W. Don Maughan
Deputy Director

By: Richard A. Gessner
Richard A. Gessner
Chief, Operations Branch

WDM/RAG
6-month letter

State of Arizona

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

April 2, 1982

City of Kingman
310 N 4th St
Kingman AZ 86401

Registration No. 55-502501

Dear Well Owner:

A copy of Notice of Intention to Drill a Well is returned to you for your records. Your driller has been mailed separately a Well Drilling Card, Well Drilling Report, and a Completion Report.

ARS 45-600 requires the driller to furnish this Department a complete and accurate log of the well within 30 days of completion of drilling, and a Completion Report within 30 days after installation of pumping equipment.

Also enclosed for your future use is a Change of Well Information Form. Per ARS 45-593, the person to whom a well is registered shall notify this Department of a change in ownership of the well and information pertaining to the physical aspects of the well to keep the well registration record current and accurate.

In the event it is necessary to change the location of the proposed well, you should obtain the written permission of the Department of Water Resources before proceeding with the drilling.

Very truly yours,

Richard A. Gessner
Chief, Records Section

RAG : ek
Enclosures

Drilling Services Co Div. Lane Western Co Inc
9002 S Hardy Dr
Tempe AZ 85283

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES
WATER RIGHTS ADMINISTRATION
99 EAST VIRGINIA
PHOENIX, ARIZONA 85004

RECEIPT

KIND ENTRY	FILE REFERENCE NO.
55	502501
	THRU

City of Kingman

ACCOUNT NO. AGENCY	CHAPTER	DIV.	INT. ACCT.	ITEM DESCRIPTION	RATE	$ AMOUNT
				Notice of Intention to Drill an		3.00
				Exempt Well		
				File No:B(22-16)28cda		
				Registration # 55-502501		
				Check #3357		

WAITER PAYMENT
GUESTS 1
CHK NO 3357
55-I 3.00
TAX 0.00
TOTL 3.00
GEN.CHEK 3.00

6099 A 13:55

4/2/82/ek

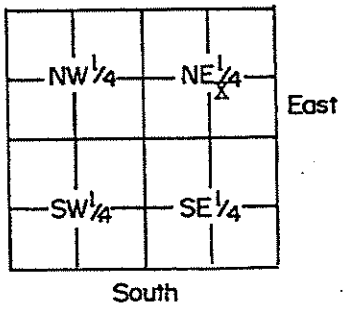
TOTAL $ 3.00

EMPT WELL
LING FEE: $3.00

DEPARTMENT OF WATER RESOURCES
NOTICE OF INTENTION TO DRILL OR DEEPEN AN EXEMPT WELL

EXEMPT WELL

tion 45-596, Arizona Revised Statutes, provides: A person may not drill or cause to be drilled y well or deepen or replace an existing well without first filing a Notice of Intention to Drill h the Department on a form prescribed and furnished by the Department. The well shall be com- ted within one year after the date of Notice. An exempt well means a well having a pump with aximum design capacity of not more than 35 gallons per minute which is used to withdraw ground- ter. An exempt well may include the non-commercial irrigation of not more than 1 acre of land.



-Indicate Well Location by X
(Above diagram represents one 640 acre section)

LL/LAND LOCATION:
1. Township 22N
2. Range 16W
3. Section 28
4. NE ¼ SE ¼ NW ¼
10 acre sub-division
County Mohave

DESCRIPTION OF WELL:
8. Diameter 5¼"
Depth approximately 1200'
9. Type of Casing 1¼"
P.V.C.
10. Principal use of Water.
Monitoring only
11. Other uses Intended
Observation well
(If for non-commercial irrigation, state approximate area being cultivated.)
12. Construction will start about:
April 6, 1982
Month Year

PLACE OF USE:
13. Township None
14. Range "
15. Section "
16. Legal description of land water is to be used on:
Not applicable
17. Design Pump Capacity
None
18. Action Requested:
Drill X
Deepen
Replace
19. This notice filed by:
Owner
Lessee
Driller X

. Owner of Well:
City of Kingman
me
310 N. 4th Street
ddress
Kingman, Arizona 86401
ity State Zip

. Owner of Land:
Same
me
ddress
ity State Zip

DO NOT WRITE IN THIS SPACE
OFFICE RECORD
FILE NO. B(22-16)28cda
FILED 4-2-82 BY EK
INPUT 4-5-82 BY
DUPLICATE MAILED 4-2-82 BY EK
REGISTRATION NO 55-50 2501
AMA NON EXPANSION AREA —

52. Drilling Services Company
Division of Layne-Western Co., Inc.
Name
9002 South Hardy Drive
Address
Tempe, Arizona 85284
City State Zip

20. Drillers Name:
As above
Name
Address
City State Zip
52
Department License Number

. Fill out this form in duplicate and mail to P.O. Box 2600, Phoenix, Arizona, 85002, or deliver to 99 East Virginia, Suite 100, Phoenix, Arizona 85004.
If the Exempt Well is in fact a replacement (or deepening) well, state the registration number of the existing well. None
. Construction standards for new and replacement wells and the deepening and abandonment of existing wells, shall be in accordance with Department Rules and Regulations.

N. E. Mehlhorn, state that the construction will be under the direct and personal supervision of the well driller designated on this form and that the designated driller holds a contractors license pursuant to ARS 45-595.

March 31, 1982
Date

N. E. Mehlhorn
Signature of Person Filing

APPENDIX B

"City 9 sto"

Well No. TH-3

CLEAR CREEK ASSOCIATES

Project Kingman	Location B(22-16) 20 d a a	Elevation 3324	Project No.
Drilling Co.	Drilling Equipment	Date Started 11-98	Date Finished 12-98
Conductor Casing	Casing	Screen	
Filter Pack	Lithology Described By JGA	Drilling Method Rev. Circ.	
Bentonite Seal	Geophysical Logs	Drilling Fluid	
Cement Grout Seal(s)	Development	Total Depth 1200'	
	Water Level 578'	Completion Depth 1093', 4" pvc	

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
0 — 140 Silts, clays, and sands Younger Basin-fill seds. Tan/brown. Sand that is present is granitic, subangular to subrounded; qtz & feld. predominate,	0, 20, 40, 60, 80, 100, 120, 140			Re-log of cuttings 5-14-2002 Strong Reaction to HCL from 0 — 520
140 - 160 Coarse-grained silty sands. Granitic provenance. Poor induration, poor cementation by carbonate. Clasts are subangular.	160			
160 - 340 As interval 0-140	180, 200, 220, 240			▒ - Fines (Clay + Silt) ▨ - Sand ▭ - Grand (≥4mm)

Well No. TH-3
Page 2 of 4

CLEAR CREEK ASSOCIATES

Project No. _____
Date 5/14/02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
160 - 340 (continued)	240			strong reaction to HCL, from 0-520
	260			
	280			
	300			
	320			
340 - 520 Silty coarse-grained sands. Unconsolidated, subrounded to subangular, granitic provenance. Weak carbonate cementation is inconsistent. Clasts are +70% granitic, however maroon and dark grey andesite clasts are also present. Below 440' ratio of granitic to volcanic clasts changes from 70/30 to 60/40 ± 10,	340			
	360			
	380			
	400			
	420			
	440			
	460			
	480			
	500			
520 - ~~500~~ 600 Sandy clayey Silts. Poor consolidation. Clasts of sand are subangular to subrounded and are 50/50 granitic and Tv. (Tv = andesite, basalt volcanics)	520			Moderate reaction to HCL 520-
	540			
	560			

Well No. TH-3
Page 3 of 4

CLEAR CREEK ASSOCIATES

Project No. _____
Date 5/14/02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
~~560~~ 600 – 680 Silty coarse-grained sands poor consolidation. Clasts are ~~50/50~~ to 60/40 granitic + andesitic. Clasts are sub-rounded to subangular	560 580 600 620 640 660 680			Moderate reaction to HCL to 840
680 – 700 Sandy silt. Poor consolidation Sand clasts are subrounded.	700			
700 – 720 As interval 600-680	720			
720 – 740 As above however silt content increases to approx. 40%.	740			
740 – 780 Coarse-grained sand to sandy gravels. Poor consolidation. Cementation is weak $CaCO_3$. Clasts are polylithic, granitic, andesitic, dacitic, and basaltic clasts are subrounded to sub-angular.	760 780 800			
780 – 1060 As above however consolidation is probably increased due to increase in shattered clasts. Majority are subangular to angular. $CaCO_3$ cement is minor	820 840 860 880			840 – Weak reaction to HCL

Well No. TH-3
Page 4 of 4

CLEAR CREEK ASSOCIATES

Project No. _____
Date 5/14/02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
780 - 1060 (continued). % of clasts broken by drilling now @ 10-20%. Mix of clast type @ 40/60 granitic to andesitic-dacitic.	880 900 920 940 960			Weak reaction to HCL through 1200'.
@ 980 clast type ratio changes from 40/60 to 20/80 granitic to andesitic-dacitic-rhyolitic, Abundance of shattered clasts still at 20%, Remaining clasts show subangular to subrounded weathering	980 1000 1020 1040			
1060 - 1200 Polylithic sandy gravel, wk to moderate consolidation. Clast types range from Andesite to dacite to rhyolite to granitics. Matrix is same composition. Cementation is weak $CaCO_3$	1060 1080 1100 1120 1140 1160 1180 1200			EOH - 1200'

Well No. City 6 observation Well
Page 1 of 8
(Relog by DCA)

CLEAR CREEK ASSOCIATES

Project Kingman Water Supply	Location B(22-16) 17 ddd	Elevation 3301	Project No.
Drilling Co.	Drilling Equipment	Date Started	Date Finished 12-7-94
Conductor Casing	Casing	Screen	
Filter Pack	Lithology Described By DCA	Drilling Method	
Bentonite Seal	Geophysical Logs	Drilling Fluid	
Cement Grout Seal(s)	Development	Total Depth	
	Water Level	Completion Depth	

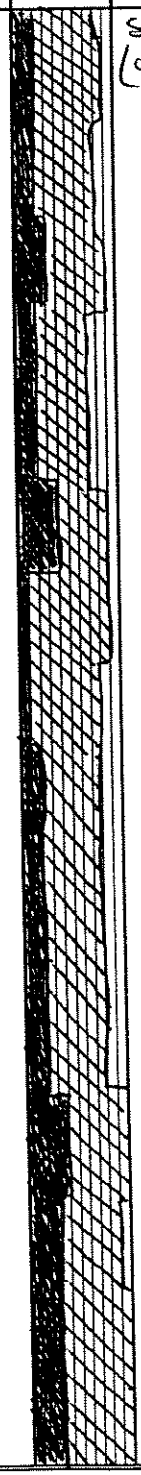
Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
0-20 Recent Valley fill. Gravels silts, sands, sandy silty gravel. Clasts are subrounded to subangular granitic with minor Tertiary volcanic component. Unconsolidated	0, 10, 20			~~Strong~~ reaction to HCL 0-
20-130 Basin fill sediments, silty sands and sandy silty gravels. Clast types range from granitics, gneisses to andesitic volcanics. Clasts are subangular to subrounded poor consolidation suspected,	30, 40, 50, 60, 70, 80, 90, 100, 110, 120			▓ - Fines ▨ - Sand ▭ - Gravel (≥4mm)

Well No. City 6 observation well

CLEAR CREEK ASSOCIATES

Project No. _____

Date 5-16-02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
120-130 (continued) Silty sands, gravels Basin-fill.	120			Strong reaction to HCL (continued)
130-170 Basin-fill seds., Silty sands coarse-grained sands and gravels, clasts are subangular to subrounded. Poor consolidation Abundant $CaCO_3$.	130			
	140			
	150			
	160			
	170			
170-190 As above however lower gravel content.	180			
	190			
190-240 As above (interval 130-170)	200			
	210			
	220			
	230			
	240			
240-290 As above however lower gravel content.	250			
	260			
	270			
	280			

Well No. city 6 observation well
Page 3 of 8

CLEAR CREEK ASSOCIATES

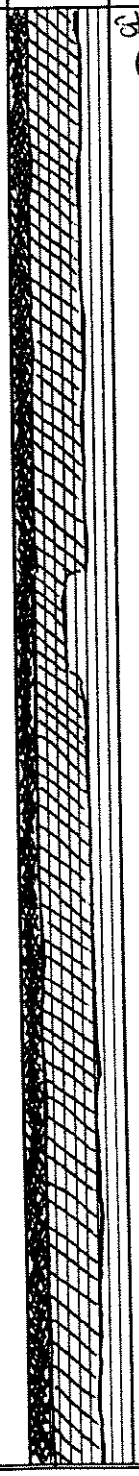
Project No. _____
Date 5/17/02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
	280			strong reaction to HCL continued.
290 - 390 Silty coarse-grained sands and gravels. Poor consolidation strong reaction to HCL. Sub-rounded to sub angular polylithic clasts; ranging from granitic to gneissic to occasional volcanics.	290			
	300			
	310			
	320			
	330			
	340			
	350			
	360			
	370			
	390			
390 - 650 Sandy silty gravels. Basin fill sads. Poor consolidation. Clasts are sub-angular to sub rounded, polylithic granitics gneisses and minor volcanics.	390			
	400			
	410			
	420			
	480			
	440			

Well No. Lot 6 Observation Well
Page 4 of 8

CLEAR CREEK ASSOCIATES

Project No. _____
Date 5-17-02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
390-650 (continued)	440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600			Strong reaction to HCL (continued)

Well No. City 6 Observation Well

Page 5 of 8

CLEAR CREEK ASSOCIATES

Project No. _____

Date 5-17-02

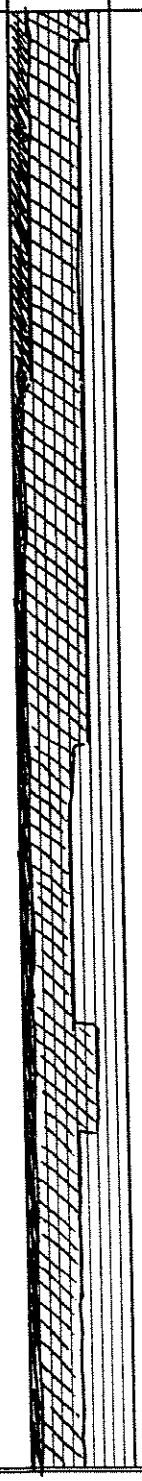
Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
390 - 650 (continued)	600			strong reaction to HCL through 680'
	610			
	620			
	630			
	640			
	650			
650 - 670 Silty, sandy fine-grained gravels and coarse-grained sands.	660			
	670			
670 - 720 coarse-grained sands, silty sands, and fine-grained, silty gravels. Clasts are sub-angular to sub-rounded, polylithic consisting of granitics, gneisses, and andesitic volcanics consolidation is poor	680			weak to moderate reaction to HCL 680-760
	690			
	700			
	710			
720 - 750 coarse-grained sands and fine-grained gravels.	720			
	730			
	740			
750 - 760 coarse-grained sands and silty sands.	750			
	760			No reaction to HCL 760-

Well No. city 6 observation well

CLEAR CREEK ASSOCIATES

Project No. _____

Date 5-17-02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
760 - 860 fine-grained gravels and silty sands, clasts are sub angular to sub-rounded, polylithic; granitics, gneisses and more abundant volcanics. Poor consolidation.	760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920			
860 - 1050 As above however gravels are coarser-grained.				

Well No. City 6 observation well
Page 7 of 8

CLEAR CREEK ASSOCIATES

Project No. 2e109
Date 5/20/02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
860-1050 (continued)	920			Trace reaction to HCl through 1200'
	930			
	940			
	950			
	960			
	970			
	980			
	990			
	1000			
	1010			
	1020			
	1030			
	1040			
1050-1200 As above, however gravels are fine-grained to absent.	1050			
	1060			
	1070			
	1080			

Well No. City 6 observation well
Page 8 of 8

CLEAR CREEK ASSOCIATES

Project No. Pelog
Date 5/20/02

Description	Depth (ft)	Drill Rate	F S G (%)	Remarks
1050 - 1200 (continued) Clasts are still polylithic with ƒ3./feldspar predominating. Andesitic and latitic volcanic clasts are common. Most clasts are angular to subangular. Consolidation is poor. Most fines were probably washed away during drilling.	1080 1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200			Fz reaction to HCL through 1200' E.O.H. 1200'

Well ID:
Project No.:
ADWR Registration No.:
Page 1 of ____

573.4

Client: City of Kingman	Location: B(22-16)29 aaa	Project No.:	Elevation (ft amsl): 3366
Well ID: TH-1 @ City 7	ADWR Registration No.:	Date Started:	Date Finished:
Drilling Co.: THF	Drilling Equipment:		
Conductor Casing Material(s): LCS	Casing Material(s):	Screen Material(s):	
Filter Pack ——	Lithology Described By: D. Armstrong 4/2003	Drilling Method:	
Bentonite Seal Interval(s), ft bls:	Geophysical Logging By:	Drilling Fluid:	
Cement Grout Seal Interval(s), ft bls: 0 - 20	Method of Development:	Total Depth (ft bls):	
Water Level (ft bls): Date:	Method of Water Level Measurement:	Completion Depth (ft bls):	

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
0 - 160 Tan-Brown silty/sandy clays. Clay content increases @ 60'. Sand grain size ranges from ≤1mm up to ≈2.5 to 3 mm. Qtz & Feldspathic	0, 20, 40, 60, 80, 100, 120, 140, 160, 180			▭ - Fines (Silt + Clay) ▨ - Sand ▩ - Gravel (≥ 4mm)
160 - 300 Silty Clays, few sand grains, dry bricks!				

CLEAR CREEK ASSOCIATES

Well ID: TH-1 (City 7 site)
Project No.:
ADWR Registration No.:
Page 2 of 5

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
160 - 300 (Continued) Clays/silts with minor sand. Tan/Brown	180			
	200			
	220			
	240			
	260			
	280			
300 - 346 Silty sands with minor clay content. Poor sorting, sub angular. Sands are both volcanic and granitic derived.	300			
	320			
	340			
340 - 660 Sandy-silty gravels. Sub-angular to angular. Clasts are sub angular volcanics and granitics	360			
	380			
	400			
	420			
	440			
	460			
	480			

CLEAR CREEK

Well ID: TH-1 (City 7 site)
Project No.:
IDWR Registration No.:
Page 3 of 5

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
580 - 660 (Continued) Mix of clast types seems to be fairly uniform @ 50/50 Volcanic/granitics. Roundy is more advanced in the granitics however. Volcanics are basaltic/andesitic	480 500 520 540 560 580 600 620 640 660			
660 - 760 Coarse-grained sands to silty Sands. Tan/grey-brown, subangular to subrounded. Clasts are now 60% volcanics, 40% granitics. Volcanics are dacitic and basaltic	680 700 720 740			
760 - 920 Sandy gravels Tan/grey 70/30 Volcanic/granitic, subangular. Volcanics are Dacitic to basaltic	760 780			

CLEAR CREEK ASSOCIATES

Well ID: TH-1 (City 7 site)
Project No.:
CDWR Registration No.:
Page 4 of 5

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
760 - 920 (continued) sandy fine-grained gravels, predomantly Volcanics. Subangular	780			
	800			
	820			
	840			
	860			
	880			
	900			
920 - 1020 Coarse-grained sands Subrounded, only minor silt content. Clasts are still predomantly Volcanics Dacite and basalt.	920			
	940			
	960			
	980			
	1000			
1020 - 1200 Coarse-grained sands as above however basalt, ~~as~~ Clasts are more abundant, ~~now~~ now at 60 - 65%	1020			
	1040			
	1060			
	1080			

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
DWR Registration No.:

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
1020-1200 (Continued) Coarse-grained sands sub angular to subrounded. Volcanic clasts (basalt) predominate	1080 1100 1120 1140 1160 1180 1200			
TD				

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
ADWR Registration No.: 55-612659
Page 1 of 2

630.4 10/23/02

Client: City of Kingman	Location: B(22-16)28 add	Project No.: 028004	Elevation (ft amsl):
Well ID: Long Mtn 2	ADWR Registration No.: 55-612659	Date Started: —	Date Finished: —
Drilling Co.: —	Drilling Equipment: —		
Conductor Casing Material(s): —	Casing Material(s): —	Screen Material(s): —	
Filter Pack —	Lithology Described By: DGA	Drilling Method: —	
Bentonite Seal Interval(s), ft bls: —	Geophysical Logging By: —	Drilling Fluid: —	
Cement Grout Seal Interval(s), ft bls: —	Method of Development: —	Total Depth (ft bls): 1105'	
Water Level (ft bls): Date: —	Method of Water Level Measurement: —	Completion Depth (ft bls):	

Description	Depth (ft)	Drill Rate (ft/hr)	Vol, Gr (%)	Remarks
0-100 Basin fill sediments. Unconsol; polylithic poorly sorted, subangular clastics. Only one sample from 0-150', probably a composit sample	0			Log of washed cuttings provided by City of Kingman. All fines have been removed!
100-200 - As Above	50			Logged 4/28/2003
200-300 - As Above	100			
	150			
300-350 As Above, however ½% to 2% of cuttings/clasts are derived from mafic source, (basaltic diabase)	200			
	250			
350-400 As Above. Minor white coatings on some clasts ($CaCO_3$)	300			
400-450 As Above however Mafic clasts @ 10%	350			
	400			
	450			□ = % Volcanics; ▨ = % Granitics; ▤ = % Mafics

CLEAR CREEK ASSOCIATES

Well ID: Long Mtn No. 2
Project No.:
DWR Registration No.: 55-612659

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
430-450 As Above however % Volcanics are now at 20%, < 1% mafic, 80% granitics	450			
450-500 As Above, ≤ 10% volcanics and ≤ 10% mafics	500			
500-550 As Above however mafics are @ 15% to 20%, Volcanics @ ≤ 10%	550			
550-600 As Above however composition of Volcanics changed to dacitic from andesitic-basaltic. Mafic content is below 10% % Vol now @ ± 20%.	600			
600-630 As Above	650			
630-650 As Above however Volcanics are now 40%, mafics at 15-20%	700			
650-700 As Above	750			
700-750 As Above, however Volcanics are now @ 65%, mafics = 10% granites 25%	800			Missing Samples
750-800 As Above				
800-850 Missing	850			
850-900 Penetrated 700-750				
900-930 As Above however mafics @ 15%	900			
930-950 As Above				
950-1000 As Above	950			
1000-1050 As Above however Volcanics are now both Dacitic + Basaltic Andesite Mafics are diminished to ≤ 10%	1000			
1050-1105 As Above	1050			
	1100			
	1105 T.D.			

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
ADWR Registration No.: 572015
Page 1 of 3

Client: City of Kingman	Location:	Project No.: 028003	Elevation (ft amsl):
Well ID: WWTP MW-2	ADWR Registration No.:	Date Started:	Date Finished:
Drilling Co.: THF	Drilling Equipment:		
Conductor Casing Material(s):	Casing Material(s): 4" PVC	Screen Material(s): 4" PVC	
Filter Pack	Lithology Described By: DGA	Drilling Method: Rev. Circ Air	
Bentonite Seal Interval(s), ft bls:	Geophysical Logging By:	Drilling Fluid:	
Cement Grout Seal Interval(s), ft bls:	Method of Development:	Total Depth (ft bls): 660'	
Water Level (ft bls): 409.6' bls Date: 10-23-02	Method of Water Level Measurement: Sounder	Completion Depth (ft bls):	

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
0-480' Tan-brown (10yr 7/4) medium-to fine-grained, mod. sorting, subangular-subrounded, qtz/feld/biotite poorly consolidated basin-fill sds. Clasts derived from quartzofeldspathic gneisses. Biotite/Phlogophite is common	Surface, 20, 40, 60, 80, 100, 120, 140, 160, 180			Moderate reaction to HCL Gravel > 2mm Sand 0.06→2mm Fines < 0.06mm

CLEAR CREEK ASSOCIATES

Well ID: MW-2
Project No.:
CDWR Registration No.:
Page 2 of 3

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
160-480 (continued)	180			Moderate reaction to HCl
	200			
	220			
240-260 Gravel-rich unit, Unchanged from above with the exception of coarse-grained fraction. Clasts are up to 4mm dia quartzo-feldspathic, sub-rounded	240			
	260			
	280			
	300			
	320			
	340			
	360			
	380			
400-480 Clay/silt-rich zone in basin fill sed's. Uncharged from above except for clay/silt content. Unit probably reflects lacustrine deposits within basin-fill. May also reflect the top of an older basin-fill sequence.	400			SWL 409.6 bls ▽ 10/23/02
	420			
	440			
	460			
	480			

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
CDWR Registration No.:

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
480-520 Medium-to coarse-grained silty sands, subangular, poor consolidation. Clast type is unchanged from above.	480			Moderate reaction to HCl
520-560 - Clay/silt rich portion of Basin fill sed's. Bulk composition unchanged from above with the exception of fines content	500			
	520			
	540			
	560			
	580			Weak reaction to HCl
	600			
	620			Moderate reaction to HCl
	640			
	660			

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
ADWR Registration No.: 529463
Page 1 of ____

Client:	Location:	Project No.:	Elevation (ft amsl):
City of Kingman		028003	
Well ID: WWTP MW-1	ADWR Registration No.: 55-529463	Date Started:	Date Finished:
Drilling Co.:	Drilling Equipment:		
Conductor Casing Material(s):	Casing Material(s):	Screen Material(s):	
Filter Pack	Lithology Described By: PAB	Drilling Method:	
Bentonite Seal Interval(s), ft bls:	Geophysical Logging By:	Drilling Fluid:	
Cement Grout Seal Interval(s), ft bls:	Method of Development:	Total Depth (ft bls):	
Water Level (ft bls): Date:	Method of Water Level Measurement:	Completion Depth (ft bls):	

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
NO SAMPLE CUTTINGS AVAILABLE	0, 10, 20, 30, 40, 50			GRAVEL >2mm; SAND 0.06-2mm; FINES ≤0.06 mm. Cuttings have been washed, so fines estimate may be lower than in reality, prior to washing.
Granite-derived, subangular to angular gravel-sized cuttings. Few fines present; most fines likely due to drilling mud. Large gravels present @ 65'-Us (~2 cm) well graded.	60, 70, 80, 90	UNKNOWN		RXN TO HCl: MODERATE; STRONG

CLEAR CREEK ASSOCIATES

Vell ID:
roject No.:
DWR Registration No.:
'age 2 of 5

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
	100	UNKNOWN		RXN TO HCL STRONG
	110			
Increase in fines with redish tint. Likely from formation, not drilling mud. (120' bls)	120			WEAK-MOD.
125' bls - fines becoming less red, back to previous tan-brown.	130			MODERATE
140' bls - Increase in gravels ≥ 1 cm (~15%)	140			WEAK
150' bls - Increasing fines	150			STRONG
160' bls - Increasing fines; decrease in large gravels	160			
	170			
180' bls - Decrease in fines. Cuttings otherwise unchanged from above. Possibly due to washing.	180			NONE
	190			
200' bls - Increase in fines. Slight reddish tint	200			STRONG-MOD.
210' bls - Fines quantity unchanged, but now tan-brown.	210			
	220			
230' bls - Increase in fines	230			
	240			MODERATE
	250			WEAK

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
DWR Registration No.:

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks: BSN TO HCl
260' bls - similar to above and below cuttings, but presence of mafic gneiss (~15-20%)	260	UNKNOWN		WEAK
	270			
	280			
	290			
300' bls - Cuttings unchanged, but increase in gravels ~1.5 cm	300			MODERATE
	310			
320' bls - decrease in gravel-sized cuttings	320			
	330			
	340			NONE
	350			
360' bls - Andesitic-basaltic volcanics present (<50%)	360			
	370			
	380			
	390			
400' bls - No volcanics present; increase in fines	400			MODERATE
410' bls - Decrease in fines; subround-subangular coarse sands and gravels	410			NONE

CLEAR CREEK ASSOCIATES

Well ID:
Project No.:
IDWR Registration No.:

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
				RXN TO HCl
420' bls - same as above, but decrease in gravels	420	UNKNOWN		MODERATE
	430			
	440			
	450			
460' bls - increase in gravel content Subround-Subangular	460			WEAK
	470			
480' bls - decrease in gravel content	480			
	490			
	500			
	510			
	520			
	530			
540' bls - same as above, but increase in fines	540			MODERATE
	550			STRONG
559' bls - same as above, but slight decrease in fines; decrease in gravels	560			WEAK
	570			

CLEAR CREEK ASSOCIATES

ell ID:
ject No.:
WR Registration No.:
ıge 5 of 5

Description	Depth (ft)	Drill Rate (ft/hr)	F S G (%)	Remarks
	580	UNKNOWN		RXN TO HCl: WEAK ↓ NONE ↓ MODERATE ↓ STRONG
95' bls - Subround-Subangular Andesitic volcanics (vesicular) Generally coarse sand sized.	590			
	600			
20' bls - No volcanics present. Grain size increased from above to coarse sand-gravels. Increased fines	620			
	630			
	640			
	650			

CLEAR CREEK ASSOCIATES

APPENDIX C

hydroGEOPHYSICS, Inc.

TECHNICAL MEMORANDUM

TO: Scott Yocum (City of Kingman), Dale Armstrong (Clear Creek Associates)

FROM: Robert McGill (hydroGEOPHYSICS, Inc.)

SUBJECT: Gravity Results for the Airport Sub-basin near City of Kingman

DATE: August 8, 2003

INTRODUCTION

This technical memorandum presents the results of our gravity survey completed for the Airport Sub-basin Site (herein referred to as the Site). This memorandum was prepared for City of Kingman (City) by hydroGEOPHYSICS, Inc. (HGI) under the City's Purchase Order Number 010660.

Background

A planned production well (City Well 8) encountered a highly cemented volcanic conglomerate at an approximate depth of 380 feet. The well was determined to be non-producing and subsequently abandoned. The City requested a gravity survey in order to determine the extent of the volcanic conglomerate and if other gravity responses existed that could be attributed to near surface bedrock features.

The Site area for this investigation is located in the southwestern Hualapai Valley area. The southern Cerbat Mountains serve as the western boundary. The northern extent of the Hualapai Mountains and Interstate 40 serve as the southern boundary. From these boundaries, the study area extends into the valley approximately 12 miles north and 11 miles east.

Purpose and Objective

The purpose of this investigation was to acquire sufficient gravity data so that a relative depth-to-bedrock image could be constructed. The objective of this investigation was to

provide additional information that will better define relatively shallow subsurface bedrock areas that in turn, could help better place future production wells for the City.

HGI had recommended that any available aeromagnetic data be reprocessed and correlated with the gravity results. Unfortunately, only regional aeromagnetic coverage exists for the area and does not have the sufficient line spacing that would allow useful characterization. The budget that was initially reserved for aeromagnetic processing was therefore applied to additional gravity data acquisition.

GRAVITY SURVEY METHOD AND RESULTS

Method

Gravity surveying is a geophysical method that aids in determining the depth-to-bedrock, overall basin geometry within, and surrounding a site, and relative changes in bedrock topography. Lateral differences in gravitational attraction are caused by contrasting densities of geologic media, such as alluvium versus bedrock, along with a myriad of other influences that are accounted for in processing. The information gained from the survey determines relative depth to bedrock estimates over a defined investigation area. Gravity surveying can also define the locations of possible buried geologic structures.

By taking several gravity measurements within an area at discrete points, a contoured gravitational map is developed. The map is used to determine the location of lower density alluvial deposits versus higher density shallow bedrock. Acquired field data are processed and typically presented in both plan and modeled cross-sectional plots.

Logistics

Gravity data were acquired from June 11th through 16th, and July 22nd, 2003. A total of 108 new gravity stations were established during this time period.

Each gravity station was located using hand-held GPS equipment. The purpose of the GPS surveying was to accurately determine gravity station locations and acquire elevation data, which are used to process gravity data.

Daily gravity loops were tied to a state gravity field base station located at the western edge of Edward Beale Memorial Park. The park is located at the juncture of U.S.

Highways 93 and 66. The field station was subsequently tied to our base station at our Tucson office.

A Scintrex Autograv Model CG-3 gravimeter (S/N 9610345) was used for gravity data acquisition. Daily loops were tied to the afore-mentioned base station, to account for instrumental drift. A Garmin Etrex Vista hand-held GPS unit was used for positional and vertical control. The Garmin unit was calibrated several times a day using known elevation controls, such as benchmarks. The elevation data were additionally quality checked against topographic contours on USGS 7.5-minute quadrangle maps.

Data Reduction

Gravity data reduction includes the following steps:

- Conversion from dial reading to milligals.
- Removal of solid earth tidal effects.
- Removal of instrumental drift.
- Adjustment of milligal values to the regional base station value to produce absolute gravity values.
- Removal of latitudinal effects.
- Correction for elevation (Free Air Anomaly or FAA).
- Correction for the Bouguer slab (Simple Bouguer Anomaly or SBA).
- Removal of terrain effects (Complete Bouguer Anomaly or CBA).

A regional trend is then removed to produce the Residual Gravity Anomaly (RGA). The trend is commonly referred to as the isostatic trend. It was developed by Dr. Carlos Aiken (1976) for his Ph.D. dissertation as part of his interpretation of the statewide gravity survey. The regional trend was originally presented by Dr. Robert West (1972), in his Ph.D. dissertation. It uses a two-dimensional Fourier series surface based on regional elevation trends and deep-crustal density compensation.

The density used for the Bouguer slab reduction is 2.67 g/cc, which is the crustal average density for the earth.

Gravity is measured as acceleration due to gravitational pull, or gravitational force per unit mass. Final data values are presented in units of milligals (abbreviated mGal), which

are 10^{-3} Gal (1 Gal = 1 cm/s^2 = 10^{-2} m/s^2 = 10^{-2} newton/kg). The Earth's nominal gravity is 980 Gal.

After the data were quality checked, they were integrated into our gravity database. No points were rejected from the data set acquired for this project. A few existing points from the database were rejected due to non-matching values.

Results

Attached to this memorandum are five figures representing the gravity data results and gravity models for the Site.

Figure 1 is a topographic base map of the study area and vicinity showing the gravity station distribution for the area, as well as the RGA contoured values. This map represents the gravity results after the isostatic trend was removed. Blue dots are the stations established for this survey, and red dots represent stations existing within the database. Two gravity profiles are presented as red lines.

Figure 2a is one of two versions of profile A-A' that begins at Bull Mountain and extends eastward, towards the main gravity low. Figure 2b uses the same gravity profile, but uses lithologic constraints. Figure 3a shows the modeled results for profile B-B' at an extended scale. Figure 3b is the same model, but with an expanded vertical scale.

The modeled profiles were developed by the following steps:

- Preferentially orient the profiles to cross major gravity responses orthogonally (gravity modeling software must assume an infinite strike length of the modeled body in the third dimension).
- Digitize the contoured gravity responses along the chosen profiles.
- Integrate elevation data from the two DEMs covering the area and gravity station elevations acquired in the field.
- Import the matched topographic and gravity data into the software modeling package GM-SYS.
- Construct (initially) a simple geologic model by incorporating known geologic information.
- Refine the model by adjusting the geometry of polygonal bodies and provide the best fit of calculated versus "observed" data.

- Analyze the results and provide additional versions where appropriate if complex geology exists.

It should be noted that the "observed" values shown on the upper pane of the modeled profiles are actually interpolated values that were extracted after kriging of the data was completed.

For all modeled cross-sections, the upper pane represents the gravity response along the chosen profile orientation. The lower pane represents the modeled geologic section.

Interpretation

Our interpretation is based upon the general trends evident in the RGA plots, the modeled gravity profiles, and correlations with other geo-related data.

RGA values range from -30 to -5 milligals. The highest values represent exposed or relatively shallow bedrock, whereas the lower values generally represent increasing alluvial thickness.

A dominant gravity low for the area is centered approximately two miles north and one-half mile east of the Kingman Airport complex. This gravity low strikes northeast-southwest and appears to extend to the southwest, towards Sawmill Canyon Road. The center of the gravity low and its lateral extent suggests that the thickest deposits of alluvium exist in the eastern half of the Site area. The northern and eastern extent of the gravity low response is not well defined by this study. The extension of the gravity low towards Sawmill Canyon suggests a possible inlet/outlet feature that could provide hydrologic connection with the Sacramento Valley. However, additional data acquisition would be necessary in order to confirm this trend.

A gravity high extends into the valley approximately three miles east of Bull Mountain. The highest amplitude of this response is slightly shifted (by roughly one mile) to the south of Bull Mountain. This response is interpreted as either a bedrock shelf that is relatively near surface and extends out into the basin locally, or some other type of high-density lithology (such as the volcanic conglomerate). It is most likely a combination of a bedrock extension as well as additional high-density material above the bedrock. Note that the gravity contours begin to trend back towards the Cerbat Mountains as the contours cross profile A-A'. This "curvature" is interpreted as representing the northern

extension of shallow bedrock. To the south of the gravity high, and towards the sewage disposal ponds, the contours again trend back towards the west.

Another localized gravity high appears to extend into the valley from the upper center portion of the image, just east of profile B-B'. This feature is sympathetic with outcroppings that also extend into the valley from the north/northwest. These outcroppings are comprised of Tertiary volcanic and undifferentiated Precambrian rocks. From the gravity response, it appears that shallow bedrock extends further into the basin by approximately two miles from the southern-most exposed outcrop.

Gravity Models

For the models, we first assumed a basement bedrock density of 2.67 g/cc, which is the average density for the earth's crust (i.e., basement). We used three density contrasts; 0.3, 0.4, and 0.5 g/cc to represent the alluvium-to-bedrock model. These three contrasts represent average alluvial densities of 2.37, 2.27, and 2.17 g/cc, respectively. For three of the models (Figs. 2a, 3a, and 3b), three density contrasts representing unconsolidated basin fill are displayed sequentially using different color hues. Our experience in the southwest is that basin fill typically has a density ranging between 2.1 to 2.3 g/cc. Based on this, the two models using densities of 2.17 and 2.27 g/cc are considered the most appropriate.

The attached two-dimensional models show the hypothetical bedrock profile for the three density contrasts as labeled on the plots. For Figure 2b, a volcanic rock member was modeled using representative polygons and densities.

The orientation of profile A-A' shown in Figure 2a was located - in part - based on station control and proximity to City Well 8. The west end of the model is anchored in exposed outcrop (Bull Mountain), while the east side is "unhinged" and ends in surface alluvium. The modeled results show that relatively shallow bedrock extends into the valley by approximately 2-1/2 to 3 miles, before the deeper portion of the basin is encountered (near the intersection of B-B'). After this point, bedrock depth increases rapidly. Using the most conservative estimate of 2.17 g/cc, basin fill is estimated to be approximately 6,000 feet thick at the center of the gravity low.

Since some amount of geologic control existed for City Well 8 (located approximately ½-mile north of the profile), we chose to model the same profile using a volcanic lithology

positioned immediately above basement rock and below alluvium. We constrained the depth of the volcanics to 400 feet at station 16,000 along the profile, in order to approximate the results of the well. We also used the modeled depth derived from profile B-B' to constrain the depth estimate for this profile at their intersecting point. This constraint was chosen because profile B-B' was "anchored" in bedrock at each end of the profile, thus providing a more representative estimate of depth-to-bedrock for both profiles. Again, the resulting model, shown in Figure 2b, indicates a lateral extension of basement/volcanics into the valley to approximately 25,000 feet along the profile. Of the two models for profile A-A', Figure 2b is considered more representative of the responses due to the integration of geologic information.

The results of Figures 3a and 3b present a gradually increasing depth-to-bedrock as the profile continues into the valley towards the northwest. The northwestern portion of the profile has been truncated due to complex 3-D geometry of the response patterns encountered in the area. Maximum depth of basin fill is estimated to be approximately 3,200 feet thick using the most conservative sediment density of 2.17 g/cc. The model suggests a northwesterly tilted fault block that may be structurally controlled along the northwestern edge of the sub-basin, due to the abrupt change in gravity responses that are noticeable in both plan and sectional views.

CONCLUSIONS & RECOMMENDATIONS

The gravity results sufficiently define basin geometry and bedrock topography within the main portion of the Site. Additional gravity stations would help define the northern, eastern, and southwestern portions of the basin further, should these areas become a future consideration.

The gravity response within the area of City Well 8 – most noticeable immediately to the south – is interpreted as representing shallow high-density material. Based on modeled gravity results, shallow high-density material appears to laterally extend east into the valley by approximately three miles. The gravity high does not appear to continue for any considerable distance towards the north.

The gravity high agrees with drill log information for wells listed in the ADWR registry. Specifically, for listed City wells:

- 55-576713 (B-22-16-29-aaa) City Well No. 7: "welded volcanic ash" from 300 to 730 feet below ground surface (bgs).
- 55-582951 (B-22-16-32ddd) Test Hole TH-4: "basalt flows and agglomerates" from 600 to 1200 feet bgs.
- 55-571224: (B-22-16-29-aaa) Test Hole 1; "clay gravels" and "sand gravels" to 1,020, volcanic conglomerates to 1,200 feet.

Although the logs of the above-referenced wells are somewhat mixed due to different drilling contractors and personnel being involved, in general wells within the area have encountered highly cemented material to some degree and at different elevations. Also, the basalt flows and agglomerates have proven to provide substantial permeability. The complex geology cannot be resolved by the gravity technique alone, which classifies responses only by densities.

Future well site locations could benefit from other geophysical imaging techniques that may help characterize lithologic conditions within the immediate area, prior to drilling. These methods include resistivity soundings and seismic surveys that tend to work well in stratified geologic environments.

COPY /Files
Attachments /Figs. 1, 2a, 2b, 3a, 3b

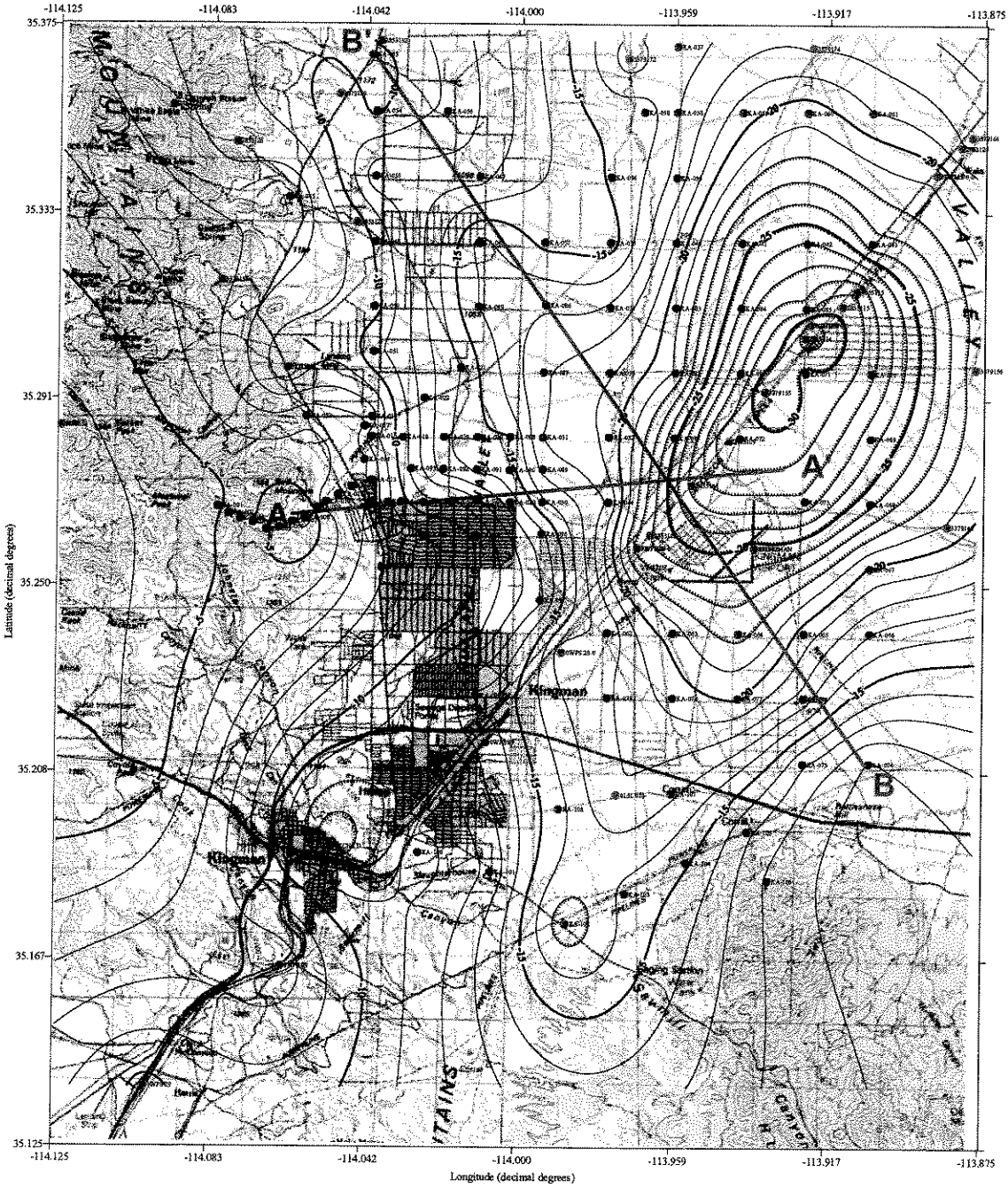
\\Sv-1000\Jobs\2003-030_BS_CityofKingman\Report\Gravity Survey Tech Memo HGI-FINAL-8-13-03-rlm.doc

REFERENCES

Aiken, C.L.V., 1976, *The analysis of the gravity anomalies of Arizona*, 127 p., unpublished PhD dissertation, University of Arizona, Tucson.

West, R.E., 1972, *A Regional Bouguer gravity anomaly map of Arizona.* 186 p., unpublished PhD dissertation, University of Arizona, Tucson.

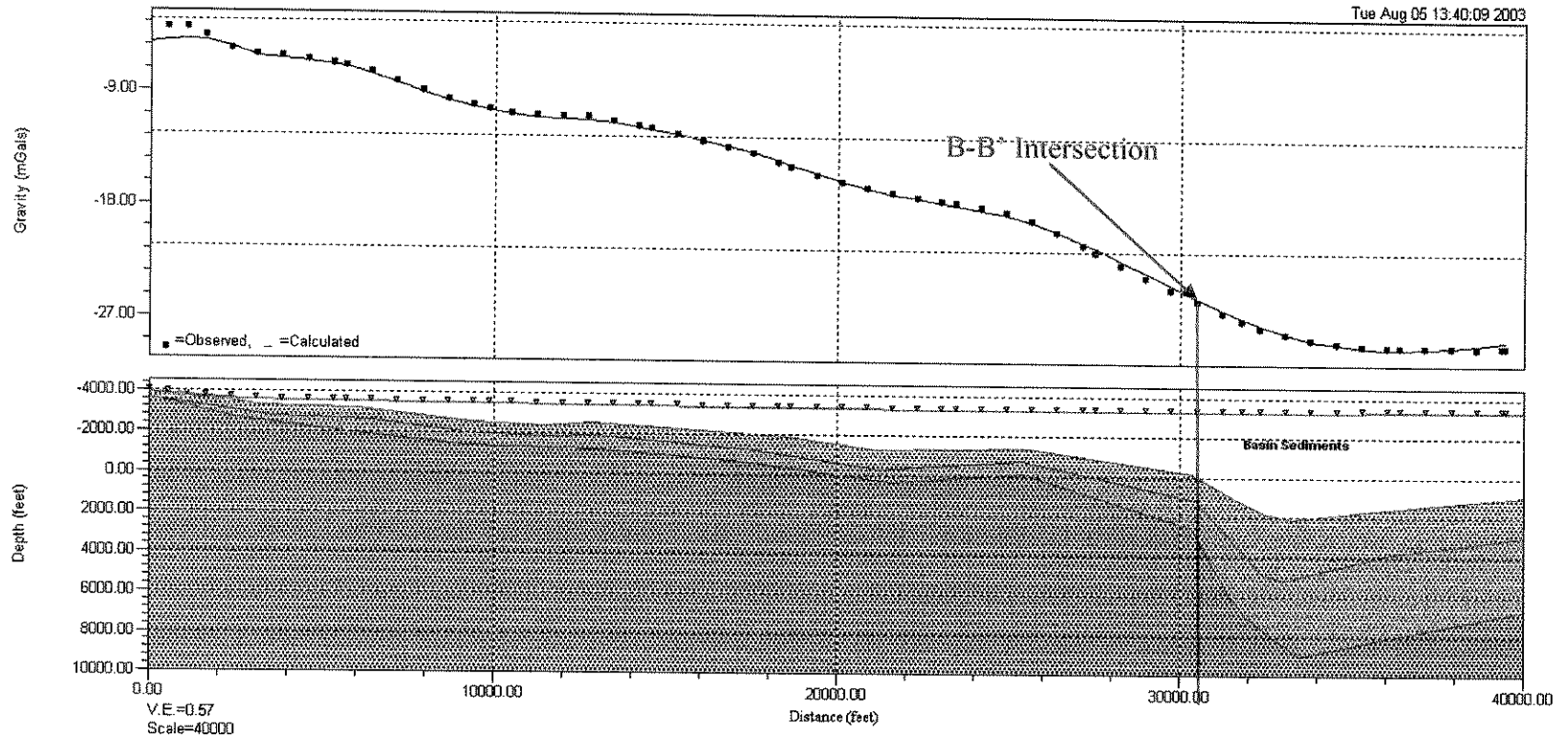
Residual Gravity Anomaly
(Isostatic Trend Removed)



Geophysical Survey	
	City of Kingman Airport Sub-Basin Mohave County, AZ
14742	Date: Jun 2003 | Fig: 1

City of Kingman Gravity Models
A-A' Version 1
Showing Three Density Contrasts with No Volcanics
(looking north)

A Cerbat Mts. A'



Basin Sediments Density = 2.17 g/cc

Basin Sediments Density = 2.27 g/cc

Basin Sediments Density = 2.37 g/cc

Bedrock Density = 2.67 g/cc

Geophysical Survey

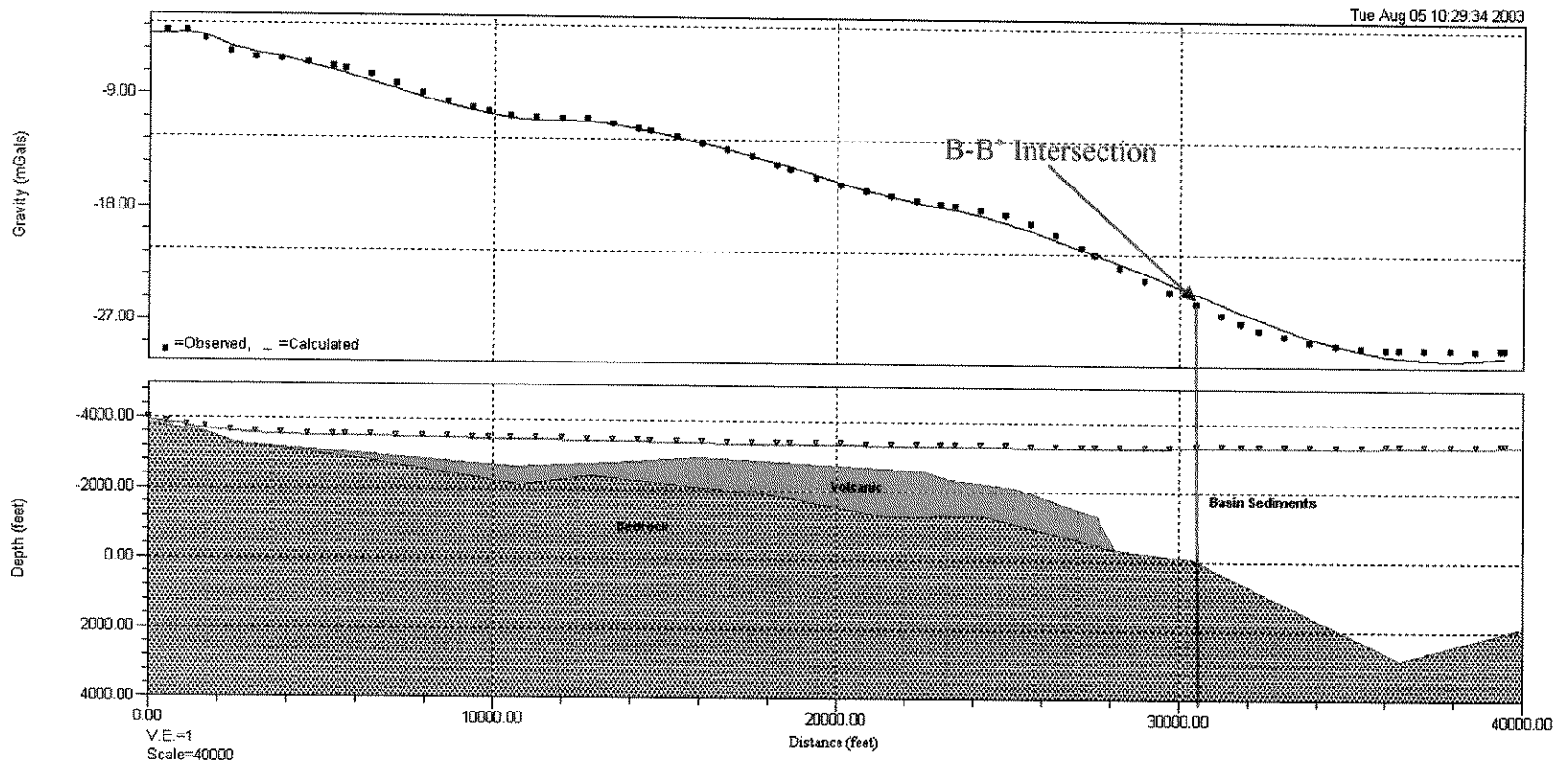
City of Kingman
Airport Sub-Basin
Mohave County, AZ

14748 Date: *July 2003* Fig: *2a*

2302 N. Forbes Blvd. • Tucson, AZ 85745 • (520) 647-9515

City of Kingman Gravity Models
A-A' Version 2
(showing single density contrast with volcanics
(looking north)

A Cerbat Mts. A'



Basin Sediments Density = 2.17 g/cc

Volcanics Density = 2.1 g/cc

Bedrock Density = 2.67 g/cc

Geophysical Survey

City of Kingman
Airport Sub-Basin
Mohave County, AZ

14748

Date: *July 2003* **Fig:** *2b*

FILE: Sv-1000\Jobs\2003-030_BS_CityOfKingman\Gravity Modeling 2003 GD

2302 N. Forbes Blvd. • Tucson, AZ 85745 • (520) 647-3315

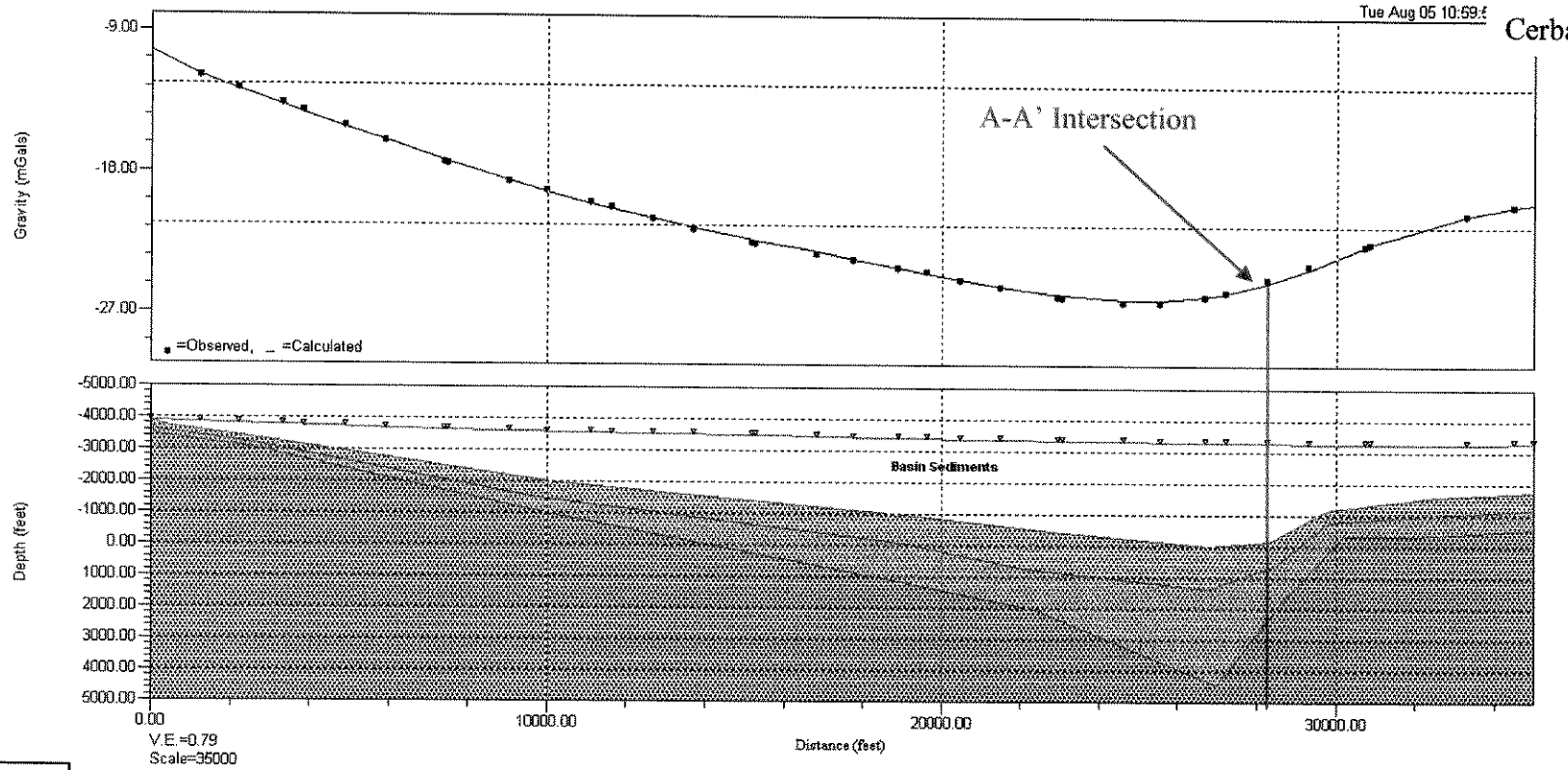
City of Kingman Gravity Models
B-B' Perspective 1
(looking southwest)

B

Hualapai Mts.

B'

Cerbat Mts.



Basin Sediments Density = 2.17 g/cc

Basin Sediments Density = 2.27 g/cc

Basin Sediments Density = 2.37 g/cc

Bedrock Density = 2.67 g/cc

Geophysical Survey

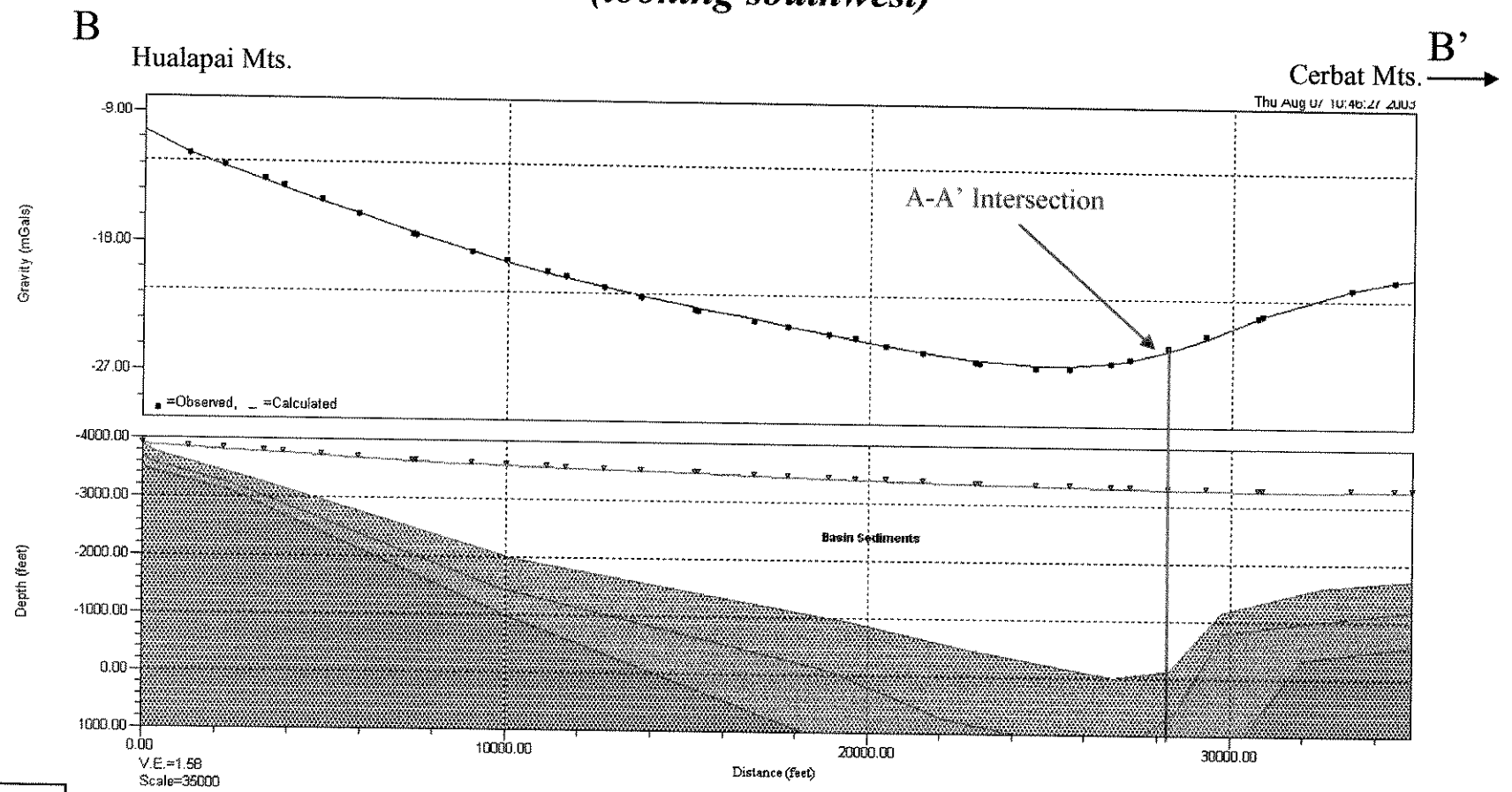
City of Kingman
Airport Sub-Basin
Mohave County, AZ

14749

Date: *July 2003* | **Fig:** *3a*

2302 N. Forbes Blvd. • Tucson, AZ 85745 • (520) 647-3315

City of Kingman Gravity Models
B-B' Perspective 2 (expanded vertical scale)
(looking southwest)



Basin Sediments Density = 2.17 g/cc

Basin Sediments Density = 2.27 g/cc

Basin Sediments Density = 2.37 g/cc

Bedrock Density = 2.67 g/cc

Geophysical Survey

City of Kingman
Airport Sub-Basin
Mohave County, AZ

14748

Date: *July 2003* | **Fig:** *3b*

2302 N. Forbes Blvd. • Tucson, AZ 85745 • (520) 647-3015

FILE: 8x-1900\Jobs\2003-030_BS_CityOfKingman\Gravity Modeling 2003 030

APPENDIX D

Appendix D

REPORT OF ANALYSIS

JOB NO. XUQ 001
April 24, 2003

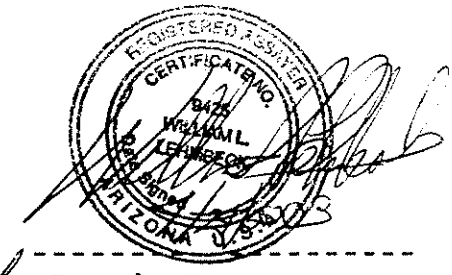
CLEAR CREEK ASSOCIATES
Attn: Mr. Dale Armstrong
221 N. Court Ave., Suite 101
Tucson, AZ 85701

Analysis of 40 Drill Cutting Samples

ITEM	SAMPLE NUMBER	Cr (ppm)
1	CITY 6 640-650	73.
2	CITY 6 690-700	92.
3	CITY 6 700-710	52.
4	CITY 6 740-750	57.
5	CITY 6 750-760	74.
6	CITY 6 790-800	51.
7	CITY 6 840-850	66.
8	CITY 6 890-900	52.
9	CITY 6 940-950	57.
10	CITY 6 990-1000	46.
11	TH-3 660-680	87.
12	TH-3 680-700	85.
13	TH-3 760-780	59.
14	TH-3 780-800	54.
15	TH-3 840-860	57.
16	TH-3 880-890	55.
17	TH-3 940-960	48.
18	TH-3 980-1000	31.
19	TH-3 1020-1040	57.
20	TH-3 1080-1100	73.
21	LONG MTN 2 640-650	46.
22	LONG MTN 2 690-700	48.
23	LONG MTN 2 740-750	45.
24	LONG MTN 2 790-800	55.
25	LONG MTN 2 840-850	51.

JOB NO. XUQ 001
April 24, 2003
PAGE 2 OF 2

ITEM	SAMPLE NUMBER	Cr (ppm)
26	LONG MTN 2 890-900	54.
27	LONG MTN 2 940-950	41.
28	LONG MTN 2 990-1000	41.
29	LONG MTN 2 1040-1050	88.
30	LONG MTN 2 1090-1100	67.
31	TH-1 CITY 7 640-660	44.
32	TH-1 CITY 7 680-700	52.
33	TH-1 CITY 7 740-760	59.
34	TH-1 CITY 7 780-800	60.
35	TH-1 CITY 7 840-860	45.
36	TH-1 CITY 7 880-900	47.
37	TH-1 CITY 7 940-960	51.
38	TH-1 CITY 7 980-1000	77.
39	TH-1 CITY 7 1040-1060	111.
40	TH-1 CITY 7 1080-1100	136.



Bernie Dunn
Manager

1775 W. Sahuaro Dr., P.O. Box 85670, Tucson, AZ 85754 Tel (520) 622-4836 Fax (520) 622-6065
William L. Lehmbeck Arizona Registered Assayer No. 9425
Bernard J. Dunn Arizona Registered Assayer No. 36447
James A. Martin Arizona Registered Assayer No. 11122

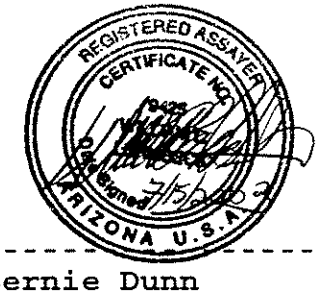
REPORT OF ANALYSIS

JOB NO. XUQ 002
July 14, 2003
TH-4 (700 TO 1130)

CLEAR CREEK ASSOCIATES
Attn: Mr. Dale Armstrong
221 N. Court Ave., Suite 101
Tucson, AZ 85701

Analysis of 10 Drill Cutting Samples

ITEM	SAMPLE NUMBER	Cr (ppm)
1	TH-4 700-710	264.
2	TH-4 740-750	406.
3	TH-4 800-810	429.
4	TH-4 840-850	398.
5	TH-4 900-910	452.
6	TH-4 940-950	451.
7	TH-4 980-990	416.
8	TH-4 1040-1050	450.
9	TH-4 1080-1090	412.
10	TH-4 1120-1130	358.



Bernie Dunn
Manager

APPENDIX E

TRANSWEST GEOCHEM

May 15, 2003

Dale Armstrong
Clear Creek Associates
221 N. Court Ave.
Suite 101
Tucson, AZ 85701

RE: Kingman Basin Study
Work Order No.: 0304329

Dear Dale,
Transwest Geochem, Inc. received 7 samples on 4/22/2003 2:27:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Michelle Parker for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

CC: Rochelle Destrampe, Clear Creek Associates

TRANSWEST GEOCHEM

Date Printed 14-May-03
License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Project Name: Kingman Basin Study
Project Number:
Work Order: 0304329
Date Received: 22-Apr-03

Case Narrative
Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

D1	Sample required dilution due to matrix interference. See case narrative.
D2	Sample required dilution due to high concentration of target analyte.
M1	Matrix spike recovery was high, the method control sample recovery was acceptable.

TRANSWEST GEOCHEM

Date Printed 14-May-03
License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Project Name: Kingman Basin Study
Project Number:
Work Order: 0304329
Date Received: 22-Apr-03

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
City #1	0304329-01A	EPA200.7	4/22/2003 7:35:00 AM
		EPA200.9	4/22/2003 7:35:00 AM
	0304329-01B	EPA160.1	4/22/2003 7:35:00 AM
		EPA300	4/22/2003 7:35:00 AM
		EPA354.1	4/22/2003 7:35:00 AM
		SM2320 B	4/22/2003 7:35:00 AM
	0304329-01C	EPA353.2	4/22/2003 7:35:00 AM
City #2	0304329-02A	EPA200.7	4/22/2003 7:50:00 AM
		EPA200.9	4/22/2003 7:50:00 AM
	0304329-02B	EPA160.1	4/22/2003 7:50:00 AM
		EPA300	4/22/2003 7:50:00 AM
		EPA354.1	4/22/2003 7:50:00 AM
		SM2320 B	4/22/2003 7:50:00 AM
	0304329-02C	EPA353.2	4/22/2003 7:50:00 AM
City #7	0304329-03A	EPA200.7	4/22/2003 8:00:00 AM
		EPA200.9	4/22/2003 8:00:00 AM
	0304329-03B	EPA160.1	4/22/2003 8:00:00 AM
		EPA300	4/22/2003 8:00:00 AM
		EPA354.1	4/22/2003 8:00:00 AM
		SM2320 B	4/22/2003 8:00:00 AM
	0304329-03C	EPA353.2	4/22/2003 8:00:00 AM
Long Mountain #4	0304329-04A	EPA200.7	4/22/2003 8:10:00 AM
		EPA200.9	4/22/2003 8:10:00 AM
	0304329-04B	EPA160.1	4/22/2003 8:10:00 AM
		EPA300	4/22/2003 8:10:00 AM
		EPA354.1	4/22/2003 8:10:00 AM
		SM2320 B	4/22/2003 8:10:00 AM
	0304329-04C	EPA353.2	4/22/2003 8:10:00 AM
Bank Street	0304329-05A	EPA200.7	4/22/2003 8:35:00 AM
		EPA200.9	4/22/2003 8:35:00 AM
	0304329-05B	EPA160.1	4/22/2003 8:35:00 AM
		EPA300	4/22/2003 8:35:00 AM
		EPA354.1	4/22/2003 8:35:00 AM
		SM2320 B	4/22/2003 8:35:00 AM

CLIENT:	Clear Creek Associates
Project Name:	Kingman Basin Study
Project Number:	
Work Order:	0304329
Date Received:	22-Apr-03

Work Order Sample Summary

Client Sample ID	Lab Sample ID	Test Code	Collection Date
Bank Street	0304329-05C	EPA353.2	4/22/2003 8:35:00 AM
5-1 Ranch Road	0304329-06A	EPA200.7	4/22/2003 9:05:00 AM
		EPA200.9	4/22/2003 9:05:00 AM
	0304329-06B	EPA160.1	4/22/2003 9:05:00 AM
		EPA300	4/22/2003 9:05:00 AM
		EPA354.1	4/22/2003 9:05:00 AM
		SM2320 B	4/22/2003 9:05:00 AM
	0304329-06C	EPA353.2	4/22/2003 9:05:00 AM
Santa Fe	0304329-07A	EPA200.7	4/22/2003 9:25:00 AM
		EPA200.9	4/22/2003 9:25:00 AM
	0304329-07B	EPA160.1	4/22/2003 9:25:00 AM
		EPA300	4/22/2003 9:25:00 AM
		EPA354.1	4/22/2003 9:25:00 AM
		SM2320 B	4/22/2003 9:25:00 AM
	0304329-07C	EPA353.2	4/22/2003 9:25:00 AM

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Project Name: Kingman Basin Study
Project Number:
Work Order: 0304329
Date Received: 22-Apr-03

Definitions

Analytical Spike (AS)	The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix.
Continuing Curve Verification (CCV)	The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method.
Dilution Factor (DF)	The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases.
Internal Standard (IS)	The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods.
Laboratory Control Sample (LCS)	The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples.
Matrix Spike (MS)	The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples.
Method Blank (MB)	The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab.
Method Detection Limit (MDL)	The MDL is the lowest level of detection of which a method is capable.
Practical Quantitation Limit (PQL)	The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL.
Relative Percent Difference (RPD)	The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result.
Secondary Source QC Sample (LCSV)	The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance.
Surrogate	A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success.
Trip Blank (TB)	The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation.

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-01
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: City #1
Collection Date: 4/22/2003 7:35:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	130	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	130	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	16	2.5		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	1.9	0.50		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Sulfate	16	3.0		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	2.1	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	210	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	<0.0040	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	22	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	0.078	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	16	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	2.6	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	24	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-02
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: City #2
Collection Date: 4/22/2003 7:50:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	130	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	130	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	21	2.5		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	1.4	0.50		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Sulfate	18	3.0		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	2.7	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	230	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	0.0046	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	18	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	0.056	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	17	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	5.1	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	32	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-03
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: City #7
Collection Date: 4/22/2003 8:00:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	170	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	170	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	28	2.5		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	<0.50	0.50		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Sulfate	19	3.0		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	3.1	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	300	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	<0.0040	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	36	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	0.019	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	23	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	4.0	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	19	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-04
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: Long Mountain #4
Collection Date: 4/22/2003 8:10:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	130	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	130	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	77	5.0	D2	mg/L	2.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	0.55	0.50		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Sulfate	76	6.0	D2	mg/L	2.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	2.6	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	430	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	<0.0040	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	46	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	0.028	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	30	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	5.3	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	37	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-05
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: Bank Street
Collection Date: 4/22/2003 8:35:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	120	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	120	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	170	13	D2	mg/L	5.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	<0.50	0.50		mg/L	1.0	EPA300	N/A	4/29/03	TL	IC-4/29/2003
Sulfate	240	15	D2	mg/L	5.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	2.0	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	740	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	<0.0040	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	100	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	<0.010	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	56	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	5.9	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	55	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-06
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: 5-1 Ranch Road
Collection Date: 4/22/2003 9:05:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	230	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	230	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	24	2.5		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	<0.50	0.50		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Sulfate	21	3.0		mg/L	1.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	3.4	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	360	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	<0.0040	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	50	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	<0.010	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	35	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	2.2	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	13	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date Printed 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Lab ID: 0304329-07
Project Name: Kingman Basin Study
Project Number:

Client Sample ID: Santa Fe
Collection Date: 4/22/2003 9:25:00 AM
Matrix: GROUNDWATER

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Alkalinity, Bicarbonate (As CaCO3)	210	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	210	10		g/L CaCO	1.0	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Chloride	52	5.0	D2	mg/L	2.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	<0.50	0.50		mg/L	1.0	EPA300	N/A	4/29/03	TL	IC-4/29/2003
Sulfate	34	6.0	D1	mg/L	2.0	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Nitrate (As N)	5.3	0.50		mg/L	1.0	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1.0	EPA354.1	N/A	4/24/03 07:26	KMB	NO2_W-4/24/2003
Total Dissolved Solids	420	10		mg/L	1.0	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Arsenic	<0.0040	0.0040		mg/L	1.0	EPA200.9	4/25/03	5/7/03	KMB	6116
Calcium	61	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	<0.010	0.010		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	25	1.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	4.8	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	24	2.0		mg/L	1.0	EPA200.7	4/28/03	5/5/03	AD	6122

TRANSWEST GEOCHEM

Date: 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Project: Kingman Basin Study

QC SUMMARY REPORT

Method Blank

Analyte	Result	PQL	Qual	Units	DF	Test Code	Date Prepared	Date Analyzed	Analyst	Batch ID
Total Dissolved Solids	<10	10		mg/L	1	EPA160.1	N/A	4/24/03	SO	TDS_W-4/24/2003
Chloride	<2.5	2.5		mg/L	1	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	<0.50	0.50		mg/L	1	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Sulfate	<3.0	3.0		mg/L	1	EPA300	N/A	4/28/03	TL	IC-4/28/2003
Fluoride	<0.50	0.50		mg/L	1	EPA300	N/A	4/29/03	TL	IC-4/29/2003
Nitrate (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrate-Nitrite (As N)	<0.50	0.50		mg/L	1	EPA353.2	N/A	5/2/03		NO3_W-5/2/2003
Nitrite (As N)	<0.020	0.020		mg/L	1	EPA354.1	N/A	4/24/03 7:26:00 AM	KMB	NO2_W-4/24/2003
Alkalinity, Bicarbonate (As CaCO3)	<10	10		mg/L CaCO3	1	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Carbonate (As CaCO3)	<10	10		mg/L CaCO3	1	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Hydroxide (As CaCO3)	<10	10		mg/L CaCO3	1	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Alkalinity, Total (As CaCO3)	<10	10		mg/L CaCO3	1	SM2320 B	N/A	5/5/03	KMB	ALK_W-5/5/2003
Calcium	<1.0	1.0		mg/L	1	EPA200.7	4/28/03	5/5/03	AD	6122
Chromium	<0.010	0.010		mg/L	1	EPA200.7	4/28/03	5/5/03	AD	6122
Magnesium	<1.0	1.0		mg/L	1	EPA200.7	4/28/03	5/5/03	AD	6122
Potassium	<2.0	2.0		mg/L	1	EPA200.7	4/28/03	5/5/03	AD	6122
Sodium	<2.0	2.0		mg/L	1	EPA200.7	4/28/03	5/5/03	AD	6122
Arsenic	<0.0040	0.0040		mg/L	1	EPA200.9	4/25/03	5/7/03	KMB	6116

TRANSWEST GEOCHEM

Date: 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Project: Kingman Basin Study

QC SUMMARY REPORT

Sample Duplicate

Analyte	Result	PQL	Units	RPD Ref Val	% RPD	RPD Limit	Test Code	Date Prepared	Date Analyzed	Analyst	Qual
Sample ID: **0304329-01BD** Batch ID: TDS_W-4/24/2003											
Client ID: **City #1**											
Total Dissolved Solids	210	10	mg/L	206.0	0%	20	EPA160.1	N/A	4/24/03	SO	
Sample ID: **0304329-04CD** Batch ID: NO3_W-5/2/2003											
Client ID: **Long Mountain #4**											
Nitrate-Nitrite (As N)	2.6	0.50	mg/L	2.556	1%	20	EPA353.2	N/A	5/2/03		
Sample ID: **0304272-01AD** Batch ID: NO3_W-5/2/2003											
Client ID:											
Nitrate-Nitrite (As N)	1.5	0.50	mg/L	1.520	0%	20	EPA353.2	N/A	5/2/03		

TRANSWEST GEOCHEM

Date: 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Project: Kingman Basin Study

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **0304395-09AS**	Batch ID: IC-4/28/2003			Test Code: EPA300				Date Analyzed: 04/28/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Chloride	18.95	2.5	20.00	<2.5	95%	80	120				
Fluoride	4.958	0.50	5.000	<0.50	99%	80	120				
Sulfate	19.30	3.0	20.00	<3.0	97%	80	120				
Sample ID: **0304395-09ASD**	Batch ID: IC-4/28/2003			Test Code: EPA300				Date Analyzed: 04/28/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Chloride	19.19	2.5	20.00	<2.5	96%	80	120	18.95	1%	20	
Fluoride	5.091	0.50	5.000	<0.50	102%	80	120	4.958	3%	20	
Sulfate	19.15	3.0	20.00	<3.0	96%	80	120	19.30	1%	20	
Sample ID: **0304299-09ASD**	Batch ID: IC-4/29/2003			Test Code: EPA300				Date Analyzed: 04/29/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Fluoride	4.950	0.50	5.000	<0.50	99%	80	120	4.995	1%	20	
Sample ID: **0304299-09AS**	Batch ID: IC-4/29/2003			Test Code: EPA300				Date Analyzed: 04/29/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Fluoride	4.995	0.50	5.000	<0.50	100%	80	120				
Sample ID: **0304272-01AS**	Batch ID: NO3_W-5/2/2003			Test Code: EPA353.2				Date Analyzed: 05/02/03 00:00			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	12.11	1.0	10.00	1.611	105%	90	110				
Sample ID: **0304329-04CS**	Batch ID: NO3_W-5/2/2003			Test Code: EPA353.2				Date Analyzed: 05/02/03 00:00			
Client ID: **Long Mountain #4**				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	12.99	1.0	10.00	2.824	102%	90	110				
Sample ID: **0304353-07DSD**	Batch ID: NO2_W-4/24/2003			Test Code: EPA354.1				Date Analyzed: 04/24/03 07:26			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrite (As N)	0.09880	0.020	0.1000	<0.020	99%	80	120	0.09620	3%	20	
Sample ID: **0304353-07DS**	Batch ID: NO2_W-4/24/2003			Test Code: EPA354.1				Date Analyzed: 04/24/03 07:26			
Client ID:				Units: mg/L				Date Prepared: N/A			
Nitrite (As N)	0.09620	0.020	0.1000	<0.020	96%	80	120				
Sample ID: **0304329-01BSD**	Batch ID: NO2_W-4/24/2003			Test Code: EPA354.1				Date Analyzed: 04/24/03 07:26			
Client ID: **City #1**				Units: mg/L				Date Prepared: N/A			
Nitrite (As N)	0.08930	0.020	0.1000	<0.020	89%	80	120	0.08740	2%	20	

TRANSWEST GEOCHEM

Date: 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Project: Kingman Basin Study

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **0304329-01BS**	Batch ID: NO2_W-4/24/2003			Test Code: EPA354.1				Date Analyzed: 04/24/03 07:26			
Client ID: **City #1**				Units: mg/L				Date Prepared: N/A			
Nitrite (As N)	0.08740	0.020	0.1000	<0.020	87%	80	120				
Sample ID: **0304353-02DS**	Batch ID: ALK_W-5/5/2003			Test Code: SM2320 B				Date Analyzed: 05/05/03 00:00			
Client ID:				Units: mg/L CaCO3				Date Prepared: N/A			
Alkalinity, Total (As CaCO3)	467.9	10	167.0	326.9	84%	80	120				
Sample ID: **0304353-02DSD**	Batch ID: ALK_W-5/5/2003			Test Code: SM2320 B				Date Analyzed: 05/05/03 00:00			
Client ID:				Units: mg/L CaCO3				Date Prepared: N/A			
Alkalinity, Total (As CaCO3)	469.8	10	167.0	326.9	86%	80	120	467.9	0%	20	
Sample ID: **0304443-06BSD**	Batch ID: ALK_W-5/5/2003			Test Code: SM2320 B				Date Analyzed: 05/05/03 00:00			
Client ID:				Units: mg/L CaCO3				Date Prepared: N/A			
Alkalinity, Total (As CaCO3)	176.6	10	167.0	15.0	97%	80	120	178.5	1%	20	
Sample ID: **0304443-06BS**	Batch ID: ALK_W-5/5/2003			Test Code: SM2320 B				Date Analyzed: 05/05/03 00:00			
Client ID:				Units: mg/L CaCO3				Date Prepared: N/A			
Alkalinity, Total (As CaCO3)	178.5	10	167.0	15.0	98%	80	120				
Sample ID: **0304329-01ASD**	Batch ID: 6122			Test Code: EPA200.7				Date Analyzed: 05/05/03 00:00			
Client ID: **City #1**				Units: mg/L				Date Prepared: 4/28/03			
Calcium	70.90	1.0	51.00	21.73	96%	70	130	71.72	1%	20	
Chromium	0.9790	0.010	1.000	0.07793	90%	70	130	0.9947	2%	20	
Magnesium	67.79	1.0	51.00	15.52	102%	70	130	68.40	1%	20	
Potassium	63.11	2.0	50.00	2.595	121%	70	130	63.12	0%	20	
Sodium	88.35	2.0	50.00	23.97	129%	70	130	89.27	1%	20	
Sample ID: **0304329-01AS**	Batch ID: 6122			Test Code: EPA200.7				Date Analyzed: 05/05/03 00:00			
Client ID: **City #1**				Units: mg/L				Date Prepared: 4/28/03			
Calcium	71.72	1.0	51.00	21.73	98%	70	130				
Chromium	0.9947	0.010	1.000	0.07793	92%	70	130				
Magnesium	68.40	1.0	51.00	15.52	104%	70	130				
Potassium	63.12	2.0	50.00	2.595	121%	70	130				
Sodium	89.27	2.0	50.00	23.97	131%	70	130				M1
Sample ID: **0304329-07AS**	Batch ID: 6116			Test Code: EPA200.9				Date Analyzed: 05/07/03 00:00			
Client ID: **Santa Fe**				Units: mg/L				Date Prepared: 4/25/03			
Arsenic	0.01779	0.0040	0.01500	<0.0040	119%	70	130				
Sample ID: **0304329-07ASD**	Batch ID: 6116			Test Code: EPA200.9				Date Analyzed: 05/07/03 00:00			
Client ID: **Santa Fe**				Units: mg/L				Date Prepared: 4/25/03			
Arsenic	0.01758	0.0040	0.01500	<0.0040	117%	70	130	0.01779	1%	20	

TRANSWEST GEOCHEM

Date: 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Project: Kingman Basin Study

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: **LCS**	Batch ID: IC-4/28/2003			Test Code: EPA300				Date Analyzed: 04/28/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Chloride	23.62	2.5	25.00	<2.5	94%	90	110				
Fluoride	4.776	0.50	5.000	<0.50	96%	90	110				
Sulfate	29.14	3.0	30.00	<3.0	97%	90	110				
Sample ID: **LCS**	Batch ID: IC-4/29/2003			Test Code: EPA300				Date Analyzed: 04/29/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Fluoride	4.595	0.50	5.000	<0.50	92%	90	110				
Sample ID: **LCS**	Batch ID: NO3_W-5/2/2003			Test Code: EPA353.2				Date Analyzed: 05/02/03 00:00			
				Units: mg/L				Date Prepared: N/A			
Nitrate-Nitrite (As N)	5.092	0.50	5.000	<0.50	102%	90	110				
Sample ID: **LCS**	Batch ID: NO2_W-4/24/2003			Test Code: EPA354.1				Date Analyzed: 04/24/03 07:26			
				Units: mg/L				Date Prepared: N/A			
Nitrite (As N)	0.09350	0.020	0.1000	<0.020	94%	85	115				
Sample ID: **LCS**	Batch ID: ALK_W-5/5/2003			Test Code: SM2320 B				Date Analyzed: 05/05/03 00:00			
				Units: mg/L CaCO3				Date Prepared: N/A			
Alkalinity, Total (As CaCO3)	163.5	10	167.0	<10	98%	85	115				
Sample ID: **LCSD-6122**	Batch ID: 6122			Test Code: EPA200.7				Date Analyzed: 05/05/03 00:00			
				Units: mg/L				Date Prepared: 4/28/03			
Calcium	51.56	1.0	51.00	<1.0	101%	85	115	51.32	0%	20	
Chromium	0.9399	0.010	1.000	<0.010	94%	85	115	0.9273	1%	20	
Magnesium	53.24	1.0	51.00	<1.0	104%	85	115	52.93	1%	20	
Potassium	52.75	2.0	50.00	<2.0	106%	85	115	52.43	1%	20	
Sodium	55.05	2.0	50.00	<2.0	110%	85	115	54.74	1%	20	
Sample ID: **LCS-6122**	Batch ID: 6122			Test Code: EPA200.7				Date Analyzed: 05/05/03 00:00			
				Units: mg/L				Date Prepared: 4/28/03			
Calcium	51.32	1.0	51.00	<1.0	101%	85	115				
Chromium	0.9273	0.010	1.000	<0.010	93%	85	115				
Magnesium	52.93	1.0	51.00	<1.0	104%	85	115				
Potassium	52.43	2.0	50.00	<2.0	105%	85	115				
Sodium	54.74	2.0	50.00	<2.0	109%	85	115				
Sample ID: **LCSD-6116**	Batch ID: 6116			Test Code: EPA200.9				Date Analyzed: 05/07/03 00:00			
				Units: mg/L				Date Prepared: 4/25/03			
Arsenic	0.01548	0.0040	0.01500	<0.0040	103%	85	115	0.01569	1%	20	

TRANSWEST GEOCHEM

Date: 14-May-03

License No. AZM133/AZ0133

CLIENT: Clear Creek Associates
Work Order: 0304329
Project: Kingman Basin Study

QC SUMMARY REPORT

Blank Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	% Rec	Low Limit	High Limit	RPD Ref Val	% RPD	RPD Limit	Qual
Sample ID: LCS-6116	Batch ID: 6116			Test Code: EPA200.9				Date Analyzed: 05/07/03 00:00			
				Units: mg/L				Date Prepared: 4/25/03			
Arsenic	0.01569	0.0040	0.01500	<0.0040	105%	85	115				

TRANSWEST GEOCHEM

Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

TGI Work Order No: 030329

Date 4/22/03 Page 1 of 1

Project Manager:	Dave Armstrong
Client Name:	Clear Creek Associates
Address:	221 N. Court Ave, Ste 101
City, State ZIP:	Tucson, AZ 85701
Phone:	520/622-3222 Fax: 520/622-4040

Bill to:	Same Please send copy of lab results to: Richelle Destrampe, Clear Creek 2150 E. Highland Ave, Ste 201 Phoenix AZ 85016
Company:	
Address:	
City, State ZIP:	
Phone:	602/294-9700 Fax: 602 294-9700

P.O. No.:	
Project Name:	Kirkman Basin Study
Project Number:	

SAMPLE RECEIPT

Temperature:	1.6°	Ambient / Cold	Ice:
Received Intact:	Y		Absent / Present
Custody Seals:	N		Wet / Blue
Total No. of Containers:	21		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers	TPH, (418.1 /418.1AZ)	TPH, 8015AZR.1	BTEX (8021B)	Volatile Organics GCMS (624/8260AZ)	SDWA Volatiles, (524.2)	Semi-Volatile Organics GCMS (625/8270)	Organochlorine Pesticides (608/8081)	PCB's, (8082)	PAH, EPA 8310	8 RCRA Metals	13 Priority Pollutant Metals	Total Metals - As, Ca, Cr, K, Mg, Na	Cl, F, SO4, NO3	TDS, Alkalinity						Comments
City #1	GW	4/22/03	07:35	1	3												X	X	X						Calcite carbonate + bicarbonate
City #2	GW	4/22/03	07:50	2	3												X	X	X						
City #7	GW	4/22/03	08:00	3	3												X	X	X						
Long Mountain #4	GW	4/22/03	08:10	4	3												X	X	X						
Bank Street	GW	4/22/03	08:35	5	3												X	X	X						
DO [redacted] 5-L Ranch Road	GW	4/22/03	09:05	6	3												X	X	X						
Santa Fe	GW	4/22/03	09:25	7	3												X	X	X						

Relinquished by: (Signature)	(Print Name)	Date/Time	Received by: (Signature)	(Print Name)	Date/Time
1 Richelle Destrampe	Richelle Destrampe	4/22/03 14:27		Skip Hudson	4/22/03 14:27
2					
3					

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised : 6/29/00

APPENDIX F