GROUNDWATER CONDITIONS
AT GUNNER RANCH WEST

Prepared for
Sun Cal Companies
Roseville, California

By
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November 24, 2006

Mr. John Abrew
Sun Cal Companies
1430 Blue Oaks Blvd, #200
Roseville, CA 95747

Re: Gunner Ranch West

Dear John:

Enclosed is our report on groundwater conditions at Gunner Ranch West. We appreciate the cooperation of Joe Rodriguez, Boyle Engineering Corporation, Children's Hospital, Root Creek Water District, S&J Ranch, and Madera County in providing information for this evaluation.

Sincerely yours,

Kenneth D. Schmidt

KDS/cl

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INTRODUCTION

The proposed Gunner Ranch development is located south of Avenue 10, north of Avenue 8 and the San Joaquin River bluff, between Road 39-1/2 and Highway 41 in Madera County. The northeasterly subarea is located east of Road 40-1/2, and includes the existing Valley Children's Hospital (VCH). This subarea is located in the west half of Section 16 and east half of Section 17 in T12S/R20E. The southwesterly subarea is located west of Road 40-1/2, in the west half of Section 20 and northeast quarter of Section 19, T12S/R20E. The proposed development in the northeasterly subarea includes about 480 acres of residential, commercial, hospital, and open space. The proposed development in the southwesterly subarea includes about 435 acres of residential, open space, and a school site. Water for the project is to be supplied from wells and a wastewater treatment facility is to be developed in the northwest part of the southwesterly subarea. The potable water supply necessary for the project is 2,314 acre-feet per year, according to Sun Cal Companies. An estimated 1,290 acre-feet per year of wastewater effluent would be generated at full buildout of the project.

EXISTING CONDITIONS

Groundwater Basin Description

Davis, et al (1959) described groundwater conditions in the San Joaquin Valley. The San Joaquin Valley is surrounded on the west by the Coast Ranges, on the south by the San Emigdio and Tehachapi Mountains, on the east by the Sierra Nevada and on the north by the Sacramento-San Joaquin Delta and Sacramento Valley. The San Joaquin Valley is a structural trough up to 200 miles long and 70 miles wide that is filled with up to 32,000 feet of deposits. The northern part of the valley is drained toward the Delta by the San Joaquin River and its tributaries. The southern part of the valley is drained primarily by the Kings, Kaweah, Tule, and Kern Rivers, which flow into the beds of the former Tulare, Buena Vista, and Kern Lakes.

The Madera sub-basin consists of lands overlying the alluvium in Madera County. The sub-basin is bounded on the south by the San Joaquin River, on the west by the eastern boundary of the Columbia Canal Service area, on the north by the south boundary of the Chowchilla Sub-basin, and on the east by the crystalline bedrock of the Sierra Nevada foothills. Major streams in the area include the San Joaquin and Fresno Rivers. Average annual precipitation is 11 inches throughout the majority of the sub-basin and 15 inches in the Sierran foothills. Hydrogeologic units in the Madera Sub-basin

consist of unconsolidated continental deposits of Tertiary and Quaternary age, and Quaternary alluvium. The Quaternary older alluvium is the major water producing unit in the Madera basin.

The lacustrine and marsh deposits (which contain the Corcoran Clay) underlie the western portion of the Madera Sub-basin at depths ranging from about 150 to 300 feet. These deposits restrict the vertical movement of groundwater and divide the water-bearing deposits into an upper unconfined aquifer and lower confined aquifer.

Groundwater flow is generally southwestward in the eastern part of the sub-basin and to the northwest in the southern portion, away from the San Joaquin River. Major sources of recharge include seepage from the San Joaquin River and Fresno River, deep percolation from irrigated areas, and canal seepage. Average annual urban pumpage and annual agricultural pumpage were estimated as 15,000 acre-feet and 550,000 acre-feet per year, respectively (California Department of Water Resources, 2004). Groundwater is being overdrafted in most of the sub-basin. Newly developed irrigated lands and residential development have relied primarily on groundwater. The estimated average specific yield of the deposits in the sub-basin is 10.4 percent. The total storage capacity of this sub-basin (above the base of fresh groundwater) is about 41 million acre-feet (California Department of Water Resources, 2004).

The majority of this sub-basin is generally underlain by a calcium-sodium bicarbonate type of groundwater, with sodium bicarbonate and sodium chloride at the western margin of the sub-basin along the San Joaquin River (Mitten, LeBlanc, and Bertoldi, 1970). TDS values in groundwater typically range from 200 to 400 mg/l in much of the area. There are localized areas of high hardness, iron, nitrate, chloride, and DBCP. The high hardness, nitrate, and DBCP concentrations are normally present in only in the shallow groundwater.

Subsurface Geologic Conditions

Figure 1 shows locations of selected wells at and near the project site.

Alluvial deposits of the ancestral San Joaquin River comprise the aquifer at and in the vicinity of the project site. Bedrock (hardrock) has not been encountered by any wells in the vicinity. Appendix A contains water well completion reports for wells and test holes in the area. The alluvial deposits are indicated to be more than 1,200 feet deep beneath the project site. Two test holes were drilled about 900 feet deep at VCH and a 1,200-foot deep gas exploration hole was drilled in the northeasterly subarea. The primary water-producing strata in the area are sand, gravel, and cobbles, particularly above a depth of about 400 feet. At VCH,

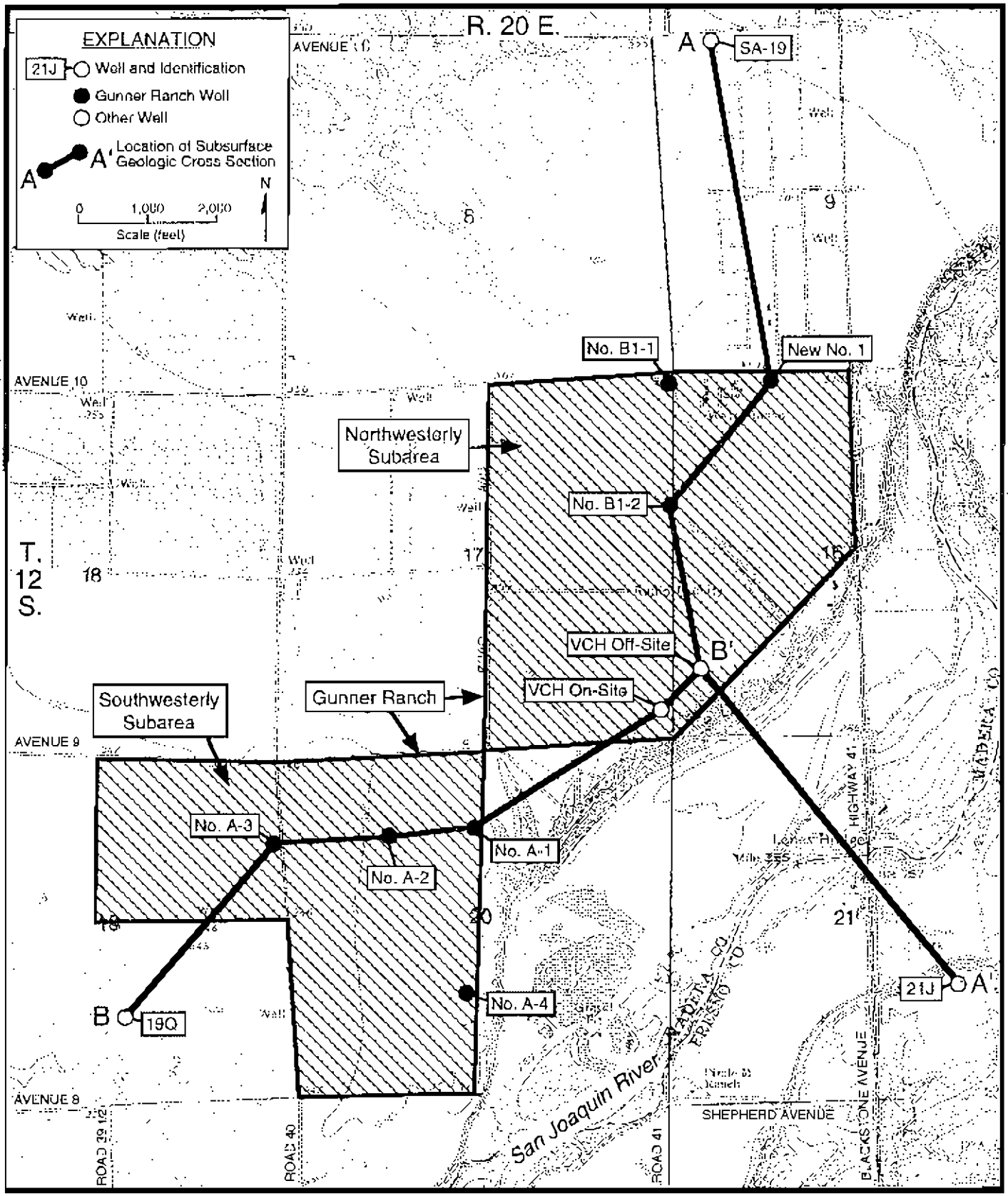

FIGURE 1 - LOCATIONS OF WELLS IN VICINITY AND SUBSURFACE GEOLOGIC CROSS SECTIONS

strata below about 550 feet in depth are primarily fine-grained and have limited water production potential. With increasing distance to the north and west, the deeper deposits have more coarse-grained strata, with more production potential. Subsurface geologic cross sections have been developed in the general area as part of studies for the City of Fresno, Root Creek Water District, and Gateway Village. An important feature in terms of groundwater quality is the presence of blue, black, or blue-green colored deposits at depth in most of the area. Groundwater in such deposits is indicated to be under reduced or anaerobic conditions, which favor the presence of certain constituents at elevated levels (i.e., manganese, arsenic, and heterotrophic plant count).

As part of this evaluation, two new subsurface geologic cross sections were prepared (Figure 1). Cross Section A-A' extends from the north at Rolling Hills, south through the northeasterly subarea and VCH, to the southeast, near the edge of the south bluff of the San Joaquin River and Audobon Drive in the City of Fresno. Cross Section B-B' extends from the southwest, near Avenue 8 and Road 39-1/2, and extends northeasterly through the southwesterly subarea to VCH.

Cross Section A-A' (Figure 2) passes through some of the deepest wells or test wells in the area, including the Rolling Hills well near Avenue 11 and east of Road 41, and one of the deep

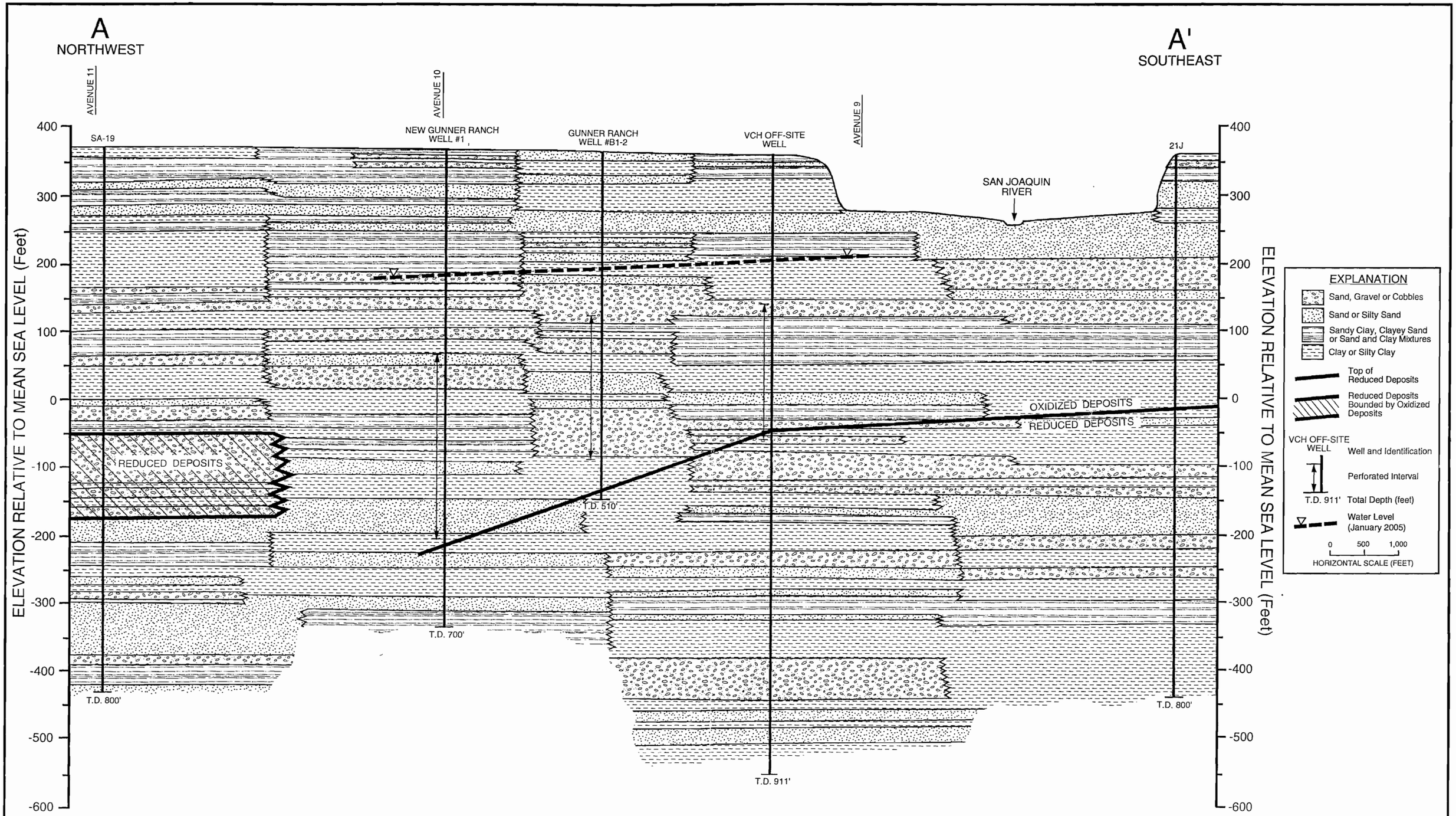

FIGURE 2 - SUBSURFACE GEOLOGIC CROSS SECTION A - A'

test holes at the VCH. The top of the blue-green or reduced deposits was about 400 feet deep at VCH and deepened to the north, to almost 600 feet at new Ranch Well No. 1. Except at the Rolling Hills test well, reduced deposits extend to the total depth of these wells or test holes. At the Rolling Hills test well, oxidized deposits (brown in color) were found below a depth of about 650 feet to the total depth of 900 feet. Fine-grained deposits are predominant below the water level along the south part of Section A-A'. As one proceeds farther north along the section, more coarse-grained strata, particularly below a depth of about 400 feet, are present.

Cross Section B-B' (Figure 3) is oriented from west to east and joins Cross Section A-A' at VCH. The top of the reduced deposits deepens to the southwest along this section, following a trend noted beneath the north part of the City of Fresno, on the other side of the San Joaquin River. The top of the reduced deposits appears to be more than 600 feet deep at Ranch Well A-3. Coarse-grained deposits are generally common above a depth of about 500 feet along this section, whereas fined-grained deposits are predominant below this depth.

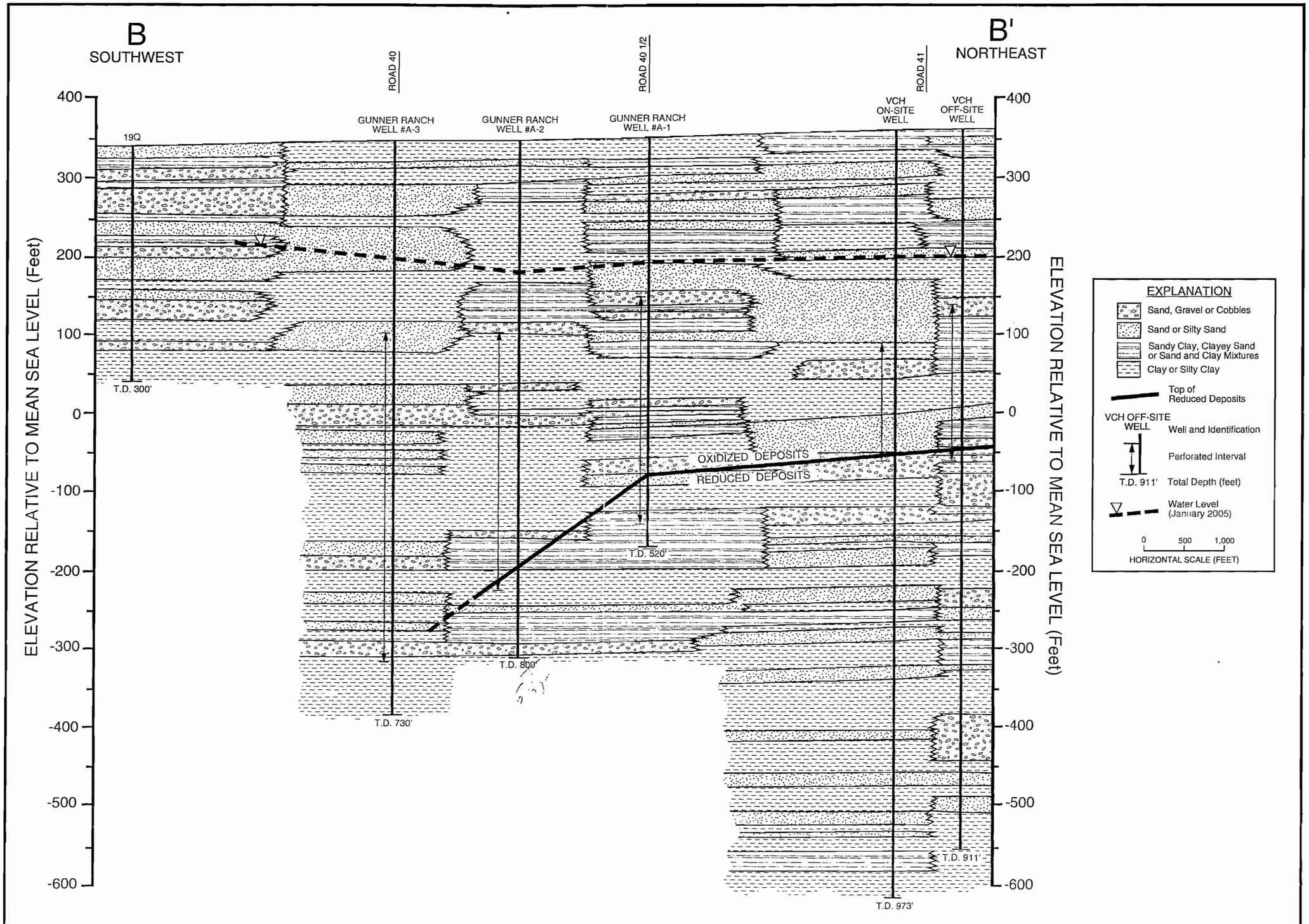

FIGURE 3 - SUBSURFACE GEOLOGIC CROSS SECTION B - B'

Types and Locations of Wells

Table 1 contains a summary of construction data for large-capacity water supply wells in the southwesterly subarea. Four former irrigation wells at the Ranch range in cased depth from about 490 to 660 feet. These four wells were drilled during 1978 and 1981. The deepest hole drilled in this subarea was to a depth of 730 feet at Well A-3. Table 2 contains a summary of construction data for large-capacity water supply wells in the northeasterly subarea, including two at VCH. Two former Ranch irrigation wells and New Well No. 1 range in cased depth from 510 to 600 feet. The two VCH supply wells range in cased depth from 430 to 435 feet, although two test holes near these wells were drilled to a depth of about 1,000 feet. The VCH wells were completed to only moderate depth due primarily to water quality concerns, in particular high HPC and manganese concentrations that were found in the deeper groundwater.

Water Levels

A water-level measurement program was undertaken on January 19, 2005, including all of the wells that could be measured at theproject site and several additional wells. The results are provided in Table 3. Depth to water ranged from 123.5 to 206.0 feet. Land surface elevations were estimated from U.S. Geological

TABLE 1-CONSTRUCTION DATA FOR
SOUTHWESTERLY GUNNER RANCH WELLS

Well No.	Date Drilled	Drilled Depth (feet)	Cased Depth (feet)	Perforated Interval (feet)	Annular Seal (feet)
A-1	7/78	520	488	200-488	None
A-2	4/79	660	573	305-570	None
A-3	6/80	730	660	240-420 & 540-680	None
A-4	5/81	535	510	180-240, 360-390, & 420-510	None

All casings are 16-inch in diameter. Well A-2 was drilled by the cable-tool method, and the other wells by the direct rotary method.

TABLE 2-CONSTRUCTION DATA FOR NORTHEASTERLY
GUNNER RANCH AND VALLEY CHILDREN'S HOSPITAL WELLS

Well No.	Date Drilled	Drilled Depth (feet)	Cased Depth (feet)	Perforated Interval (feet)	Annular Seal (feet)
B-1-1	7/74	510	480	220-480	None
B-1-2	2/75	510	450	240-450	0-50
New Well No. 1	6/00	600	590	300-570	0-270
VCH On-Site	4/96	430	430	200-430	0-200
VCH Off-Site	1/97	435	430	200-435	0-200

The VCH on-site well has a 12-inch diameter casing, and the other wells have 16-inch diameter casings.

TABLE 3-WATER-LEVEL MEASUREMENTS FOR WELLS AT AND IN VICINITY OF GUNNER RANCH (JANUARY 2005)

Well	Measuring Point Elevation (ft)	Depth to Water (feet)	Water-Level Elevation (feet) above MSL
A-1	350	155.2	195
A-2	351	171.0	180
A-3	348	152.3	196
A-4	350	123.5	227
B-1-1	365	189.1	176
B-1-2	366	173.0	193
New Well No. 1	368	182.3	184
VCH Off-site	362	162.4	200
17B	363	189.9	173
17F	360	188.2	172
S&J 22	347	127.2	220
S&J 23	346	133.4	213
S&J 145	355	198.5	156
S&J 180	353	206.0	147

Water levels were measured on January 19, 2005.

Survey quadrangle maps. Water-level elevations ranged from 227 to 147 feet above mean sea level. Figure 4 shows water-level elevation contours and the direction of groundwater flow in January 2005. The direction of groundwater flow was to the northwest from near the San Joaquin River toward a pumping depression in the Madera Ranchos area.

Water-level measurements were obtained from the California Department of Water Resources in Fresno. Long-term water-level records are available for two wells in the northeasterly subarea (T12S/R20E-17H1 and 17H2) and a well about three-fourths of a mile to the west (T12S/R20E-18B1). Records for Well 17H1 extend from 1937-86 and records for Well 17H2 extend from 1978 to the present (Figure 5). Well 17H2 is Ranch Well B-1-2. Prior to 1950, the water level in Well 17H1 was relatively constant (about 90 to 95 feet deep). The water level then fell an average of about 2.1 feet per year between 1966 and 1985. The water level in Well 17H2 fell an average of about 2.1 feet per year between 1980 and 1999, and more than 5 feet per year from 1999-2005. Records for well 18B1 extend from 1964-2001. The water level in Well 18B1 (Figure 6) fell from about 120 feet in 1966 to 179 feet in 1990, or an average decline of 2.5 feet per year. From 1988 through 2001, the water level fell an average of 4.5 feet per year.

A review of water-level hydrographs in the Root Creek Water

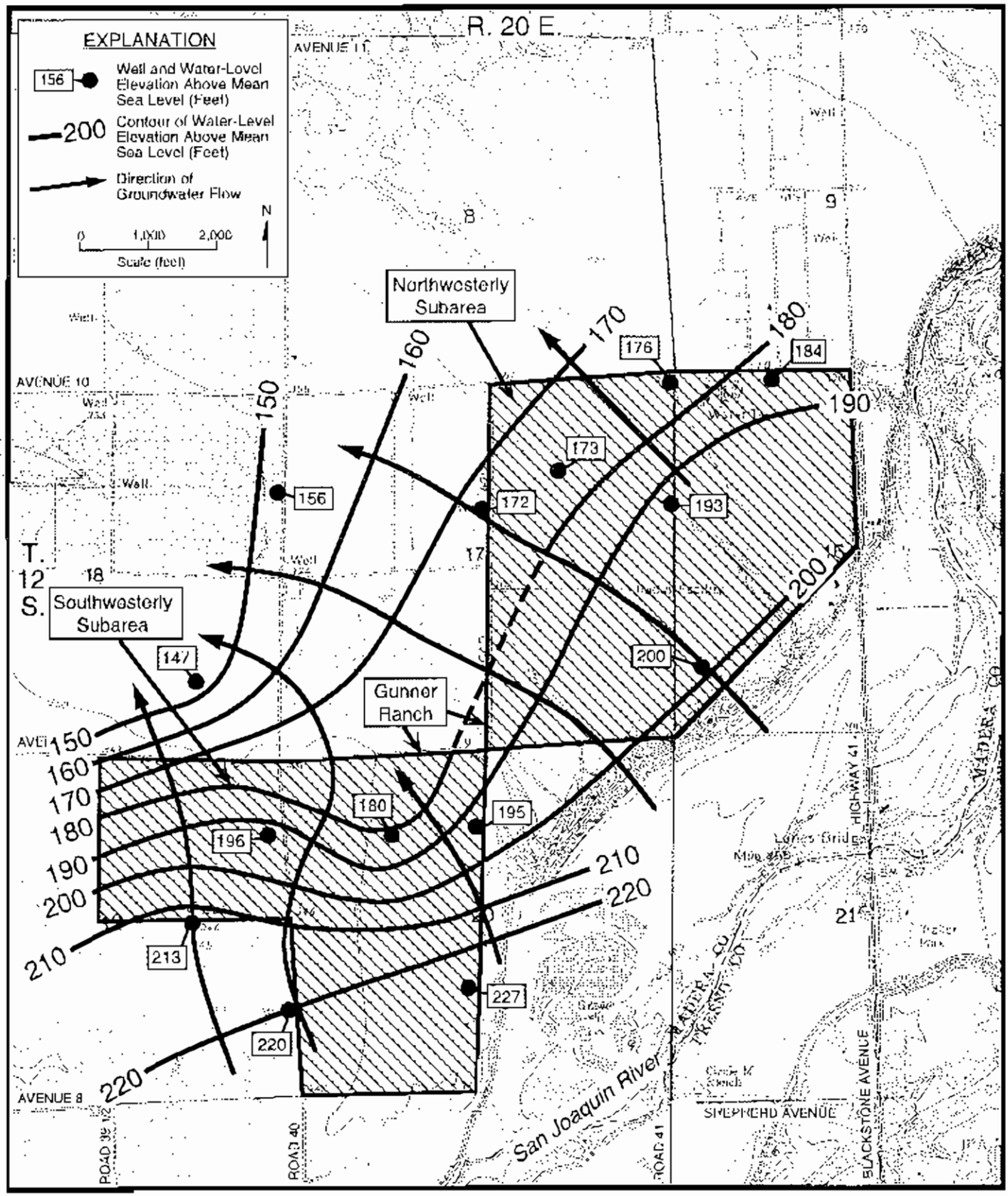

FIGURE 4 - WATER-LEVEL ELEVATIONS (JANUARY 2005)

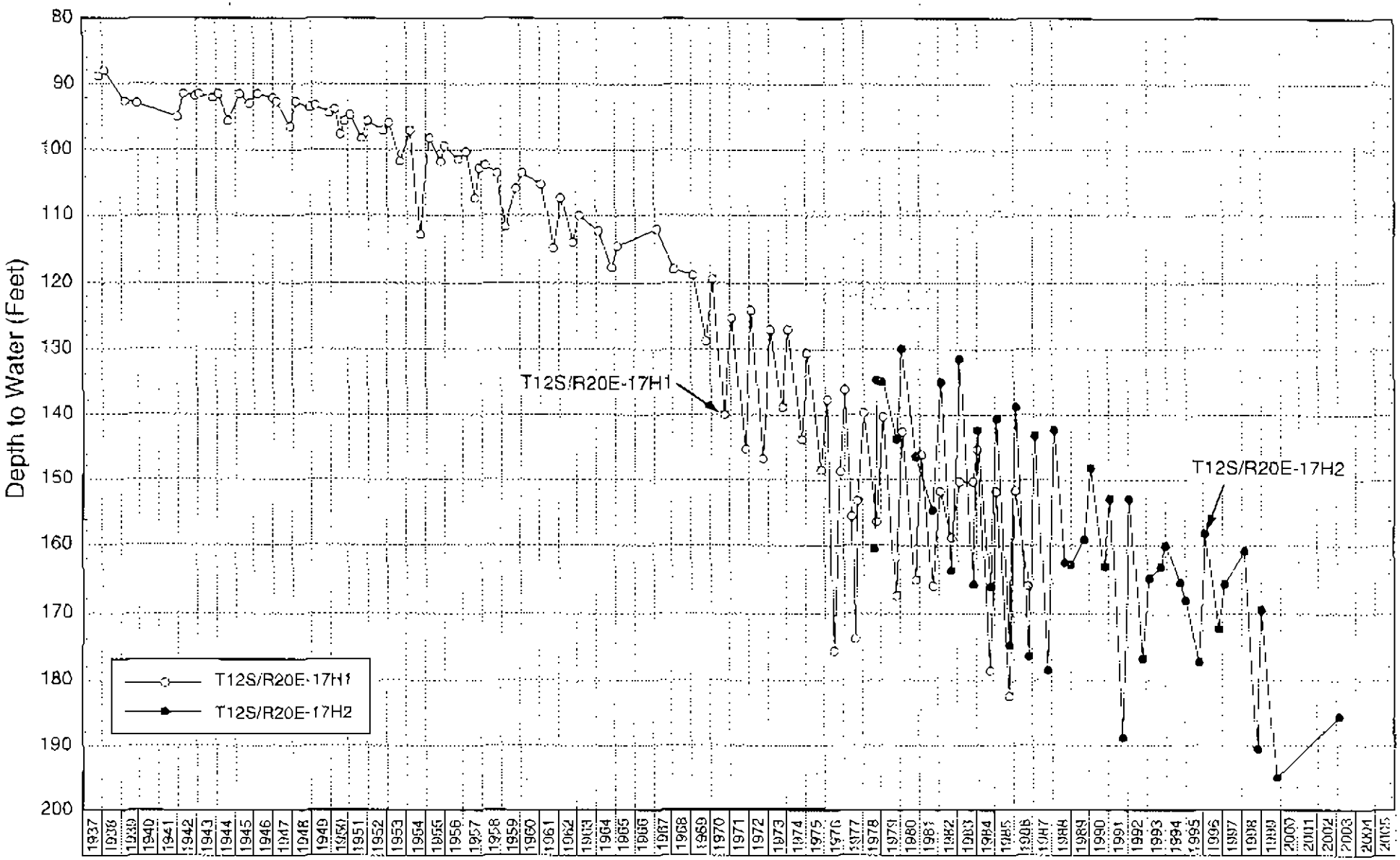

FIGURE 5 - WATER-LEVEL HYDROGRAPHS FOR WELLS T12S/R20E-17H1 AND 17H2

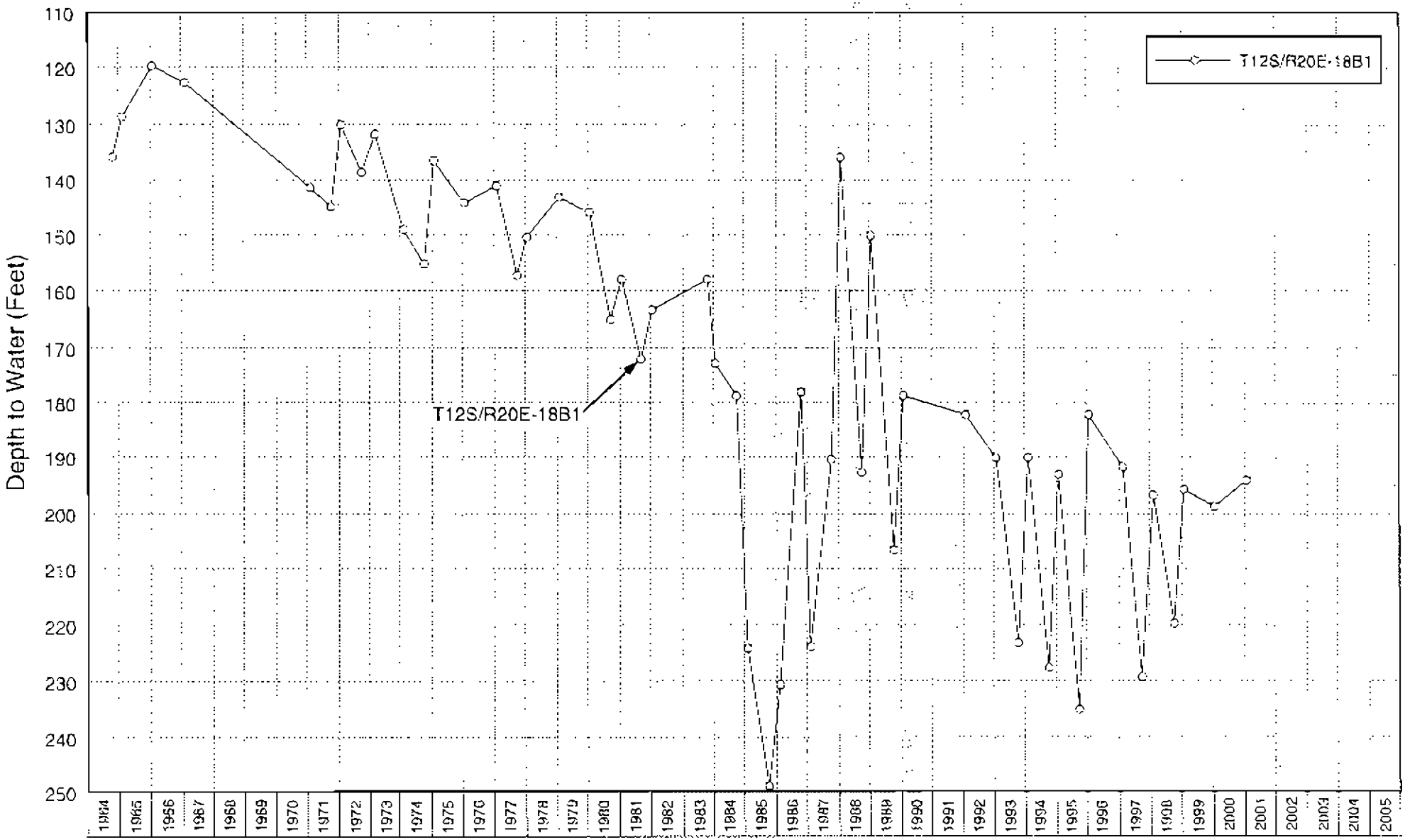

FIGURE 6 - WATER-LEVEL HYDROGRAPH FOR WELL T12S/R20E-18B1

District (west and north of the project site) indicates that water-level declines increase to the north, with increasing distance from the San Joaquin River. Near the river, in the southeast part of the southwest subarea and the southeast part of the northeast subarea, long-term water-level declines are indicated to be only about one foot per year (Kenneth D. Schmidt & Associates and Provost & Pritchard, 1998). Appendix B contains water-level measurements for wells in the area.

Recharge and Discharge

Previous studies for the Root Creek Water District and Gateway Village have indicated that seepage from the San Joaquin River is the major source of recharge to groundwater in the area (Kenneth D. Schmidt and Associates and Provost & Pritchard, 2001). The major source of groundwater discharge is to pumping wells. The most overdraft is in the area generally east of the Santa Fe Railroad tracks and more than several miles north of the San Joaquin River. Surface water deliveries to this are have been minimal.

Pumpage

Appendix C contains information used to determine historical pumpage for the project site. Both irrigation well pumpage and crop consumptive use were determined for the Gunner Ranch for 1991 (Boyle Engineering Corporations, 1992). Pumpage was estimated from

electrical power consumption and PG&E pump tests for the irrigation wells and checked by calculating the consumptive use and estimating the irrigation efficiency. For the southwesterly subarea, the estimated pumpage was 1,370 acre-feet per year (the average of the two methods). Power records for 2002 and PG&E pump tests for 1998 are also available for the four wells in the southwesterly subarea. The pumpage for that subarea in 2002 was calculated to be about 1,220 acre-feet per year. This was the last year that crops were irrigated in this subarea. For the northeasterly subarea, crop acreage varied from year to year, but the average pumpage was estimated to be 600 acre-feet per year. Thus the total pre-project pumpage (prior to development) was 1,970 acre-feet per year. Using California Department of Water Resources estimates for crop consumptive use, the consumptive use of applied water for crops was 1,280 acre-feet per year. An estimated 690 acre-feet per year of applied irrigation water became deep percolation, and thus returned to the groundwater.

Groundwater Overdraft

Todd Engineers (2002) described groundwater conditions in Madera County and developed a groundwater management plan for the County. Todd Engineers estimated an average annual overdraft of "more than 65,000 acre-feet per year" in the Madera Sub-basin since 1952. The present overdraft in this area is indicated to be about

100,000 acre-feet per year. KDSA and Provost & Pritchard (2001) evaluated overdraft in the part of the sub-basin located south of the Fresno River and east of the Santa Fe Railroad tracks. Overdraft was calculated to be 22,000 acre-feet per year in this area, which includes the project site. Most of this part of the Madera sub-basin has no surface water supplies, and thus relies almost entirely on groundwater pumping. Water-level declines ranging from five to ten feet per year have occurred in wells in the central and eastern parts of this area. Using an average water-level decline of about 1.5 feet per year and an estimated average specific yield of 0.15 for the deposits above a depth of 500 feet, the average annual overdraft beneath the 915-acre project site was calculated to be about 210 acre-feet per year.

Groundwater Management

Todd Engineers (2002) discussed groundwater management strategies for the Madera Sub-basin. Included were:

1. Maximizing groundwater recharge
2. Precluding water export
3. Developing enhanced standards for new urban development
4. Protection of groundwater quality
5. Water conservation and reuse
6. Development of an enhanced monitoring program.

One of the major problems in addressing groundwater overdraft in

the County is the huge cost of purchasing supplemental water supplies and ancillary facilities, such as intentional recharge facilities. Further work is in the planning stage to begin implementation of some of the groundwater management strategies.

Aquifer Characteristics and Well Production

Southwesterly Subarea

Table 4 shows pumping rates from the most recent pump tests on the four former irrigation wells in the southwesterly subarea. In July 1998, pumping rates ranged from about 900 to 1,047 gpm. No information on pumping levels, drawdowns, or specific capacities was available for those tests. Pumping rates for these wells ranged from 940 to 1,200 gpm and specific capacities from 12 to 27 gpm per foot in July 1991.

Northeasterly Subarea

Table 5 shows pumping rates, drawdowns, and specific capacities for the two former irrigation wells, Ranch new Well No. 1, and the two VCH wells. Pump tests for the two former irrigation wells ranged from 900 to 960 gpm and specific capacities from 20 to 21 gpm per foot in May 1982. Well B1-1 (17A1) was pump tested in July 2000 by Cal West Rain of Kerman. A pumping rate of 805 gpm and specific capacity of 8 gpm per foot was obtained. At least part of the reduced specific capacity for this well compared to in 1982 was due to the water-level decline that occurred. An aquifer transmis-

TABLE 4-PUMP TEST RESULTS FOR SOUTHWESTERLY GUNNER RANCH WELLS

Well No.	Date	Pumping Rate (gpm)	Static Level (feet)	Pumping Level (feet)	Specific Capacity (gpm/ft)
A-1	7/23/98	898	-	-	-
A-2	7/23/98	999	-	-	-
A-3	7/23/98	915	-	-	-
A-4	7/23/98	1,047	-	-	-

Tests conducted by PG&E.

TABLE 5-PUMP TEST RESULTS FOR NORTHEASTERLY
GUNNER RANCH AND VALLEY CHILDREN'S HOSPITAL WELLS

Well	Date	Pumping Rate (gpm)	Static Level (feet)	Pumping Level (feet)	Drawdown (feet)	Specific Capacity (gpm/ft)
B-1-1	7/13/00	805	190.5	294.4	103.9	7.8
New Well No. 1	6/28/00	1,010	233.4	286.5	53.1	19.1
VCH On-Site	5/3/96	627	148.6	219.0	70.4	8.9
VCH Off-Site	1/27/97	885	152.1	250.7	106.6	8.3

Pump tests by Cal West Rain of Kerman.

sivity of 16,000 gpd per foot was determined from this test.

New Well No. 1 (16C) was completed and pump tested in June 2000. This well is perforated from 300 to 570 feet in depth. A pumping rate of 1,010 gpm and specific capacity of 19 gpm per foot was obtained. A transmissivity of 32,000 gpd per foot was obtained from this test. Nine hour step-drawdown tests were conducted on the two VCH wells. Pumping rates ranged from about 630 to 885 gpm and specific capacities from 8.3 to 8.9 gpm per foot. A transmissivity of 18,000 gpd per foot was obtained from the pump test on the off-site well. Pump test sheets are provided in Appendix D.

Groundwater Quality

Inorganic Chemical Constituents

Table 6 shows the results of chemical analyses of water from the former irrigation wells. The samples were collected on June 8, 2001. Total dissolved solids (TDS) concentrations ranged from about 130 to 200 mg/l, and were lowest in water from Well A-4, the southernmost well. Nitrate concentrations in water from these wells ranged from 1 to 12 mg/l, well below the MCL of 45 mg/l. Manganese concentrations ranged from less than 0.1 to 0.04 mg/l, below the recommended MCL of 0.05 mg/l. Arsenic concentrations ranged from 0.002 to 0.012 mg/l, well below the presently applicable MCL of 0.05 mg/l. The arsenic concentration in water from

TABLE 6-INORGANIC CHEMICAL ANALYSES OF WATER
FROM SOUTHWESTERLY GUNNER RANCH WELLS

Constituent (mg/l)	A-1	A-2	A-3	A-4
Calcium	28	21	18	20
Magnesium	10	7	7	7
Sodium	26	32	28	15
Potassium	3	3	3	3
Carbonate	<2	<2	<2	<2
Bicarbonate	129	151	140	141
Sulfate	18	9	4	2
Chloride	9	10	8	3
Nitrate	12	3	5	1
pH	7.5	7.8	7.7	7.6
Electrical Conductivity (micromhos/cm @ 25°C)	306	293	268	217
Total Dissolved Solids (@180°C)	202	171	159	130
Boron	<0.1	<0.1	<0.1	<0.1
Manganese	0.014	<0.01	0.040	0.027
Arsenic	0.002	0.012	0.005	0.003
HPC (cfu/ml)	103	36	>5,700	8
Date	6/8/01	6/8/01	6/8/01	6/8/01
Perforated Interval (ft)	200-488	305-570	240-680	180-510

Analyses by BC Laboratories, Inc. of Bakersfield, except for HPC, which was by The Twining Laboratories, Inc. of Fresno. For Wells A-3 and A-4, the perforated intervals are the top of the shallowest perforations and the bottom of the deepest perforations.

Well A-2 exceeded the new federal MCL of 0.01 mg/l, to become effective in several years.

Table 7 shows the results of chemical analyses of water from wells in the northeasterly subarea. Water samples were collected from Old Ranch Well B-1-1 and new Well No. 1 at the end of 9-hour pump tests in Summer 2000. TDS concentrations ranged from 110 to 220 mg/l in water from these two wells, and the lower TDS was for the well that had shallower perforations. Manganese concentrations in water from these two wells ranged from less than 0.03 to 0.13 mg/l, and the value for the deeper well exceeded the recommended MCL of 0.05 mg/l. Arsenic concentrations in water from these two wells ranged from 0.005 to 0.021 mg/l, and were less than the presently applicable MCL of 0.05 mg/l. However, the arsenic concentration in water from new Well No. 1 exceeded the new federal MCL of 0.01 mg/l.

Analyses of water from the VCH on-site well (No. 1 or County Well), which is the primary well in use at VCH, and for the VCH off-site well (No. 2 or Children's Well) are available for February 2005. TDS concentrations in water from these wells ranged from 180 to 210 mg/l, and this water was of the calcium-sodium bicarbonate type. Nitrate concentrations ranged from 11 to 12 mg/l, well below the MCL of 45 mg/l. The iron concentration in water from the on-site well was 0.36 mg/l, slightly exceeding the recommended MCL of

TABLE 7-INORGANIC CHEMICAL ANALYSES OF WATER FROM
EASTERLY GUNNER RANCH AND VALLEY CHILDREN'S HOSPITAL WELLS

Constituent (mg/l)	New No.1	Old B1-1	VCH On-Site	VCH Off-Site
Calcium	20	9	21	20
Magnesium	7	4	7	7
Sodium	31	11	20	18
Potassium	3	3	3	3
Carbonate	<10	<10	<1	<10
Bicarbonate	150	60	112	120
Sulfate	<1	2	9	7
Chloride	20	6	8	7
Nitrate	<0.4	6	12	11
pH	7.5	7.2	7.9	7.7
Electrical Conductivity (micromhos/cm @ 25°C)	298	142	230	259
Total Dissolved Solids (@180°C)	220	110	180	210
Boron	<0.1	<0.1	<0.1	-
Iron	0.10	<0.05	0.36	<0.05
Manganese	0.13	<0.03	<0.01	<0.01
Arsenic	0.021	0.005	<0.002	<0.002
Gross Alpha (pc/l)	2	<1	1.8	1.5
Date	6/28/00	7/13/00	2/28/05	2/10/05
Perforated Interval (ft)	300-570	220-480	200-430	200-435

Analyses for New No. 1, Old Well B1-1, and VCH Off-Site Well by FGL Environmental of Santa Paula. VCH On-Site well analyses by BSK Associates of Fresno.

0.3 mg/l. The iron concentration in water from the off-site well was less than 0.05 mg/l. Manganese and arsenic concentrations in water from these wells were not detectable, well below the respective MCLs of 0.05 and 0.01 mg/l, respectively.

Figure 7 shows the results of analyses of water from wells in the area for key constituents.

DBCP, EDB, and Volatile Halocarbons

Water samples collected from the former Ranch wells in the southwesterly subarea in June 2001 were also analyzed for DBCP and EDB by APPL, Inc. of Fresno. These two constituents weren't detected in the samples from any of the wells. Water samples were collected from former Ranch Well B-1-1 and New Well No. 1 in the northeasterly subarea in Summer 2000, near the end of the pump test on each well. APPL, Inc. of Fresno analyzed these samples for DBCP, EDB, and volatile halocarbons, and none of these constituents were detected in either of the samples. The VCH on-site well was sampled on September 10, 2001 for analyses of these constituents, and none were detected. Comprehensive analyses were done on water samples collected from the VCH wells in February 2005 (Appendix E). None of these constituents were detected, including DBCP, EDB, and TCP.

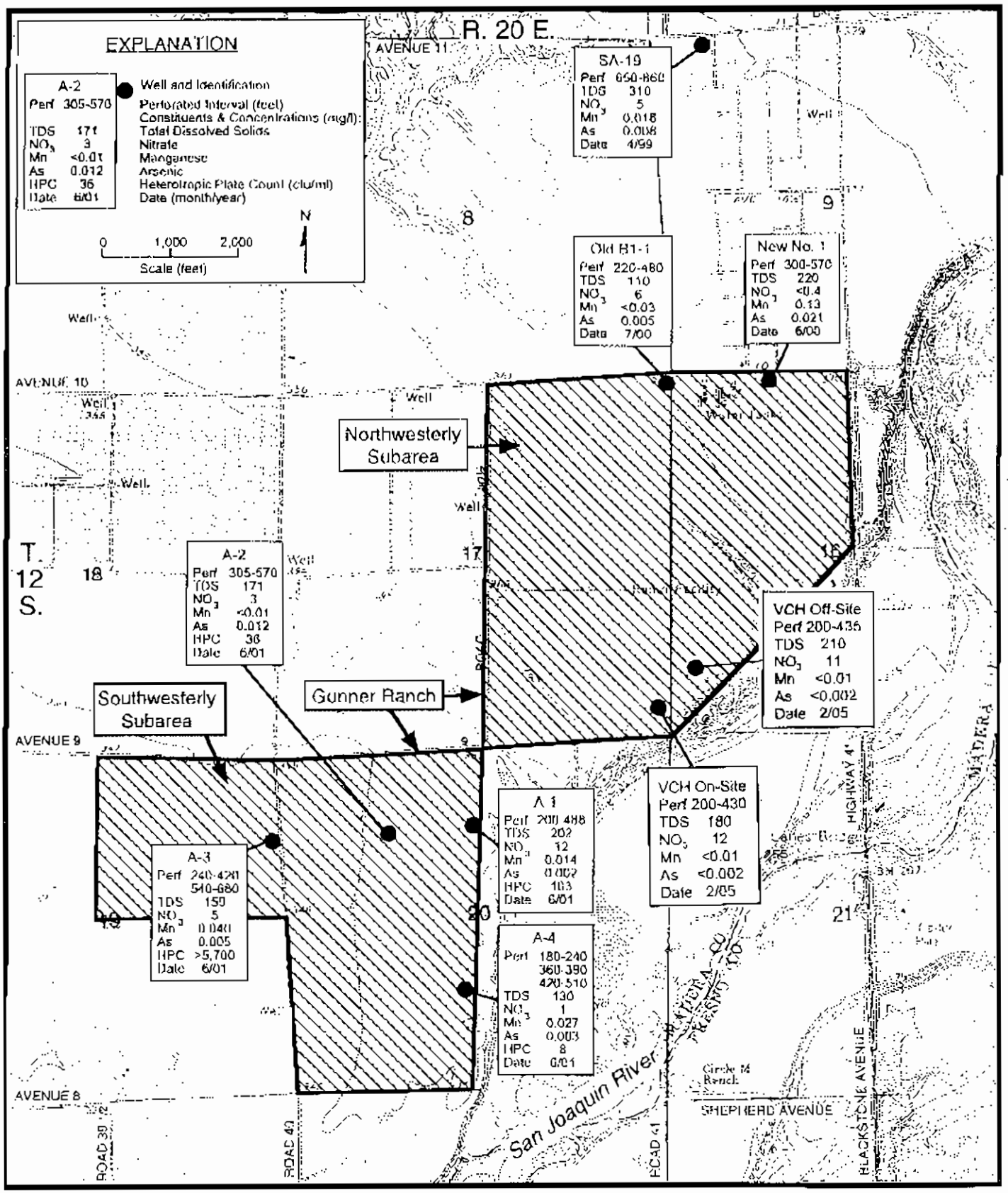

FIGURE 7 - CONCENTRATIONS OF SELECTED CONSTITUENTS IN WATER FROM WELLS

Heterotrophic Plate Count

Water samples collected from the former Ranch wells in the southwesterly subarea in June 2001 were also analyzed for heterotrophic plate count (HPC). This parameter has been an important indicator in the area for slime producing organisms in groundwater. Previous evaluations in the Root Creek water District and at Rolling Hills and Madera Ranches have indicated that HPC values exceeding several hundred cfu/ml are associated with groundwater in the reduced deposits. The results of the June 2001 sampling are proved in Table 6, based on analyses by The Twining Laboratories of Fresno. For three of the wells, HPC values ranged from 8 to 103 cfu/ml, generally not indicative of a problem level. However, the value for the deepest well (A-3) was greater than 5,700 cfu/ml, indicative of a probable slime problem. This well is the only one in the southwesterly subarea that was perforated below a depth of 510 feet.

Radiological Constituents

Alpha activity was determined in the two samples collected from Well B-1-1 and New Well No. 1 in the northeast subarea in Summer 2001. Analyses by FGL Environmental indicated alpha activities of 2 picocuries per liter or less, below the MCL of 15 picocuries per liter. Alpha activities in water from the VCH wells in

February 2005 ranged from 1.5 to 1.8 picocuries per liter, well below the MCL.

Analytical Laboratory sheets for chemical, radiological, and HPC analyses are provided in Appendix E.

REFERENCES

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California Department of Water Resources, 1990, "Ground Water (Level) Trends in the San Joaquin Valley", 31p.

California Department of Water Resources, 2004, "San Joaquin Valley Groundwater Basin, Madera Sub-basin", Bulletin 118 update.

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Mitten, H. T. LeBlanc, R. A., and G. L. Bertoldi, 1970, "Geology, Hydrology, and Quality of Water in the Madera Area, San Joaquin Valley, California", U. S. Geological Survey Open-File Report No. 6410-03, 49p.

Kenneth D. Schmidt and Associates, 1992, "Hydrogeologic Conditions in the Fresno-Clovis Metropolitan Area", Appendix D of Phase I Report, Volume II, prepared for CH_2M Hill, Fresno, California, 75p.

Kenneth D. Schmidt and Associates, 2002, "Groundwater Conditions at Copper River Ranch", prepared for Copper River Ranch, 69p.

Kenneth D. Schmidt and Associates and Provost & Pritchard, 2001, "Hydrogeologic Investigation, Southeastern Madera County", prepared for Root Creek Water District, 38p.

Todd Engineers, 2002, "AB3030 Groundwater Management Plan, Madera County", prepared for County of Madera, Madera, California, 43p.

APPENDIX A

WATER WELL DRILLERS REPORTS

DUPLICATE
Driller's Copy
Page 1 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 814991

OWNER'S Well No. #1
Date Work Began 4-26-00 , Ended 5-25-00
Local Permit Agency Madera County
Permit No. 210664 Permit Date 4-5-00

OWN USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD ___ FLUID ___

DEPTH FROM SURFACE ft. to ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0 – 2	Top Soil
2 – 15	Hard Brown Sand
15 – 30	Hard Brown Clay
30 – 35	Grey Sand
35 – 45	Clay
45 – 50	Sand
50 – 54	Medium Sand
54 – 60	Brown Clay
60 – 103	Medium Sand
103 – 107	Brown Clay
107 – 150	Medium Sand
150 – 155	Brown Clay & Sand
155 – 165	Sand
165 – 180	Gravel
180 – 182	Brown Clay
182 – 200	Sand & Gravel
200 – 210	Brown Clay
210 – 217	Sand
217 – 227	Brown Clay
227 – 239	Sand
239 – 251	Sand & Clay
251 – 260	Sand
260 – 265	Brown Clay
265 – 280	Gravel & Rocks
280 – 295	Sand
295 – 300	Clay & Sand
300 – 303	Brown Clay
303 – 326	Sand & Rocks
326 – 347	Sand
347 – 390	Hard Brown Clay

TOTAL DEPTH OF BORING 580 (Feet)
TOTAL DEPTH OF COMPLETED WELL 570 (Feet)

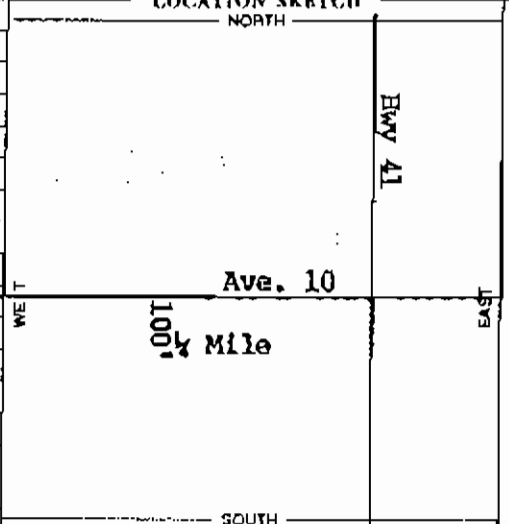
WELL OWNER

Name Gunner Ranch
Mailing Address 40492 Ave. 9
Madera, CA 93638
CITY (559) 999-0128 STATE ZIP

WELL LOCATION

Address ½ Mile West of Hwy 41, 100' South of Ave. 10
City ___
County Madera
APN Book 049 Page 086 Parcel 005
Township ___ Range ___ Section ___
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD * ___ (GPM) & TEST TYPE ___
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
* *May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE ft. to ft.	BORE-HOLE DIA (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 – 50	44"			X		Steel	30"	5/16"	
0 – 275	28"				X	Steel	4"		
0 – 300	28"	X				Steel	14 ¼"	5/16"	
300 – 570	28"		X			Steel	14 ¼"	5/16"	.050 SP

ANNULAR MATERIAL

DEPTH FROM SURFACE ft. to ft.	TYPE: CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 – 50	XX			Six Sack
0 – 260	XX			Ten Sack
260 – 270		XX		Sand/Bentonite
270 – 580			XX	8 X 16

ATTACHMENTS (✓)

___ Geologic Log
X Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Myers Bros. Well Drilling, Inc. RV 1
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

8650 E. Lacey Blvd. Hanford, CA 93230-4844
ADDRESS CITY STATE ZIP

Signed Carla Harrell
(WELL DRILLER/AUTHORIZED REPRESENTATIVE)

6-6-00
DATE SIGNED

548214
C-57 LICENSE NUMBER

DWR 188 REV. 11/96 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

DUPLICATE
Driller's Copy
Page 2 of 2
Owner's Well No. Well #1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 814992

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Date Work Began 4-26-00, Ended 5-25-00
Local Permit Agency Madera County
Permit No. 210664 Permit Date 5-5-00

GEOLOGIC LOG

ORIENTATION (✓) ___ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD ___ FLUID ___

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
390 395	Brown Clay
395 412	Brown Clay & Sand
412 430	Brown Clay
430 450	Brown Sandy Clay
450 460	Hard Brown Clay
460 482	Sand
482 520	Hard Brown Clay
520 568	Sand
568 572	Brown Clay
572 575	Sand
575 580	Brown Clay

TOTAL DEPTH OF BORING ____ (Feet)
TOTAL DEPTH OF COMPLETED WELL ____ (Feet)

WELL OWNER

Name Gunner Ranch
Mailing Address 40492 Ave. 9
City Madera, CA 93638 STATE ZIP

WELL LOCATION

Address
City
County
APN Book ___ Page ___ Parcel ___
Township ___ Range ___ Section ___
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map (on additional paper if necessary). PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER ____ (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL ____ (Ft.) & DATE MEASURED ____
ESTIMATED YIELD * ____ (GPM) & TEST TYPE ____
TEST LENGTH ____ (Hrs.) TOTAL DRAWDOWN ____ (Ft.)
* *May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ____
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED) Myers Bros. Well Drilling, Inc. Rv 1
ADDRESS 8650 E. Lacey Blvd, CITY Hanford, STATE CA ZIP 93230-4844
Signed (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 6-6-00 C-57 LICENSE NUMBER 548214

DWR 188 (REV. 11/96) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

12/20-16

Do Not Fill In
No 89673
State Well No.
Other Well No.

Well B1-2

(1) OWNER:
Name Richard Gunner Ranch
Address 555 W Shaw Suite B1 Fresno Calif.

(2) LOCATION OF WELL:
County Madera Owner's number, if any
Township, Range, and Section
Distance from cities, roads, railroads, etc. ½ mile South of Ave 10
½ mile West of hwy 41

(3) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Destroying ☐
If destruction, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☒
Cable ☐
Other ☐

(6) CASING INSTALLED:
STEEL: OTHER:
SINGLE ☒ DOUBLE ☐

From ft.	To ft.	Diam.	Gage or Wall	Diameter of Bore
0	450	16"	¼	

If gravel packed

From ft.	To ft.
0	510

Size of shoe or well ring:
Size of gravel well gravel
Describe joint welded

(7) PERFORATIONS OR SCREEN:
Type of perforation or name of screen

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
240	450	standard		

(8) CONSTRUCTION:
Was a surface sanitary seal provided? Yes ☒ No ☐ To what depth 50 ft.
Were any strata sealed against pollution? Yes ☐ No ☐ If yes, note depth of strata
From ft. to ft.
From ft. to ft.
Method of sealing Native soil

(9) WATER LEVELS:
Depth at which water was first found, if known ft.
Standing level before perforating, if known ft.
Standing level after perforating and developing ft.

(10) WELL TESTS:
Was pump test made? Yes ☒ No ☐ If yes, by whom Moosies Pump
Yield 800 gal./min. with 194 ft. drawdown after 1 hr.
Temperature of water 66°F Was a chemical analysis made? Yes ☐ No ☒
Was electric log made of well? Yes ☐ No ☐ If yes, attach copy

(11) WELL LOG:
Total depth 510 ft. Depth of completed well 450 ft.
Formations: Describe by color, character, size of material, and structure

ft. to	ft.	
0	9	hard top soil
9	12	coarse red sand
12	34	hard red clay
34	44	fine brown sand
44	80	soft brown clay
80	87	hard brown clay
87	118	coarse brown sand
118	124	soft brown clay
124	131	coarse brown sand
131	136	sand and small rocks 5
136	147	soft brown clay
147	160	coarse brown sand
160	183	soft brown clay
183	191	coarse brown sand
191	234	sand and small rocks 43
234	236	sandy brown clay
236	241	rock 5
241	243	coarse brown sand
243	250	sand rocks 7
250	261	sand and clay
261	265	sand and rocks 4
265	271	coarse brown sand
271	294	sand and rocks 23
294	295	coarse brown sand
295	322	soft brown clay
322	354	coarse brown sand
354	361	soft brown clay
361	373	coarse brown sand
373	447	sand and rocks 74
447	480	soft brown clay
480	484	sandy clay
484	510	soft brown clay
510		stopped drilling

Work started 1/27 19 75 Completed 2/3 19 75

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME WINTER AHAIAN WELL DRILLING
(Person, firm, or corporation) (Typed or printed)
Address 891 So. Golden State Blvd.
Selma, CA 93662

[SIGNED] (Well Driller)

License No. 295660 Dated , 19

SKETCH LOCATION OF WELL ON REVERSE SIDE

DWR 188 (REV. 9-68)

NAL - -

with DWR Well A-1

ic, Ident No.

Permit No. or Date

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 143001
State Well No. 12/20-20
Other Well No.

(1) OWNER: Name Conner Ranches
Address 555 W. Shaw
City Fresno, Ca. Zip

(2) LOCATION OF WELL (See instructions):
County Madera Owner's Well Number
Well address if different from above
Township Range Section
Distance from cities, roads, railroads, fences, etc. ½ mile south of 9th and ½ mile east of Rd. 40, Madera.

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic
Irrigation ☒
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

WELL LOCATION SKETCH

(5) EQUIPMENT:
Rotary ☒ Reverse ☒
Cable ☐ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☒ No ☐ Size
Diameter of bore
Packed from 0 ft. to 520 ft.

(7) CASING INSTALLED:
Steel ☒ Plastic ☐ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	488	16"	¼"

(8) PERFORATIONS:
Type of perforation or wire of screen

From ft.	To ft.	Slot size
200	488	

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☐ No ☒ If yes, to depth ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion ft.

(11) WELL TESTS:
Was well test made? Yes ☐ No ☒ If yes, by whom?
Type of test Pump ☐ Bailer ☐ Air lift ☐
Depth to water at start of test ft. At end of test ft.
Yield gal/min after hours Water temperature
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made? Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 520 ft. Depth of completed well 488 ft.

From ft.	to ft.	Formation (Describe by color, character, size or material)
0	2	heavy brown top soil
2	9	hard pan
9	11	coarse brown sand and gravel
11	12	med gray clay
12	20	hard gray clay
20	22	coarse gray sand
22	26	med brown clay
26	31	sandy red clay
31	33	fine gray sand
33	38	hard gray clay
38	40	coarse gray sand
40	45	hard gray clay
45	57	coarse gray sand
57	61	hard brown clay
61	63	coarse gray sand
63	69	hard gray clay
69	76	med gray sand and gravel
76	79	med brown clay
79	96	coarse white sand
96	104	med brown clay
104	114	coarse brown sand
114	135	sandy brown clay
135	139	med gray sand
139	142	soft brown clay
142	147	fine gray sand
147	157	soft brown clay
157	165	med gray sand
165	169	med gray clay
169	187	med gray sand
187	196	coarse gray sand
196	212	cobble
212	220	sandy gray clay
220	229	small rock
229	241	coarse gray sand and clay
241	247	sandy brown clay
247	257	coarse brown sand
257	262	coarse sand & gravel& clay
262	267	sandy clay and small rock

Work started 6/19 19 78 Completed 7/7 19 78

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED: WATER ARAYAN WELL DRILLING
NAME [redacted] Golden State Blvd.
(Person, firm, or corporation) (Typed or printed)
Address [redacted]
City Zip
License No. 346380 Date of this report 8/1/78

WR 188 (REV. 7-74) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

A-1

NAL
with DWR Well A1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 143002

Intent No.
Permit No. or Date
State Well No.
Other Well No.

) OWNER: Name Gunner Ranches- continued
dress
y Zip

) LOCATION OF WELL (See instructions):
unty Owner's Well Number
ll address if different from above
nship Range Section
tance from cities, roads, railroads, fences, etc.

WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☐ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

5) EQUIPMENT:
tary ☐ Reverse ☐
able ☐ Air ☐
ther ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☐ No ☐ Size
Diameter of bore
Packed from ft. to ft.

7) CASING INSTALLED:
teel ☐ Plastic ☐ Concrete ☐

(8) PERFORATIONS:
Type of perforation or size of screen

From ft.	To ft.	Dia. in.	Gage or Wall	From ft.	To ft.	Slot size

9) WELL SEAL:
Was surface sanitary seal provided? Yes ☐ No ☐ If yes, to depth ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing

10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion ft.

11) WELL TESTS:
Was well test made? Yes ☐ No ☐ If yes, by whom?
Type of test Pump ☐ Bailer ☐ Air lift ☐
Depth to water at start of test ft. At end of test ft.
Hi ye gal/min after hours Water temperature
Chemical analysis made? Yes ☐ No ☐ If yes, by whom?
Was electric log made? Yes ☐ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth ft. Depth of completed well ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
267	274	coarse gray sand and sandy clay
274	277	coarse gray sandand rgavel
277	308	sticky brown clay
308	330	gray clay
330	332	sandy brown clay
332	336	coarse sand
336	338	sandy brown clay
338	341	coarse sand and gravel
341	343	gray clay
343	345	clay and gravel
345	351	coarse sand and gravel
351	352	sandy clay
352	356	coarse sand
356	359	sandy brown clay
359	361	gray clay
361	366	med sand
366	369	gray clay
369	371	sandy clay
371	377	gray clay
377	381	med sand w/gravel
381	390	gray clay
390	409	brown and gray clay
409	412	coarse sand w/gravel
412	416	cobbles w/sand
416	420	coarse sand w/ gravel
420	423	sandy clay
423	424	coarse sand
424	426	rock
426	429	coarse gray sand and small rock
429	431	soft blue clay
431	440	coarse gray sand
440	443	soft blue clay
443	475	soft gray clay
475	478	coarse gray sand
478	483	sandy blue clay
483	487	blue clay and rock
487	489	gravel sand and clay
489	492	rock and clay

Work started 19 Completed 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
SIGNED (Well Driller)
NAME (Person, firm, or corporation) (Typed or printed)
Address
City Zip
License No. Date of this report

DWR 188 (REV. 7-74) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

A-1

INAL

...e with DWR

Well A1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 143003

...f Intent No. _____
...ermit No. or Date _____

State Well No. _____
Other Well No. _____

(1) OWNER: Name Gunner Ranches continued
Address _____
City _____ Zip _____

(2) LOCATION OF WELL (See instructions):
County _____ Owner's Well Number _____
Well address if different from above _____
...ownship _____ Range _____ Section _____
...istance from cities, roads, railroads, fences, etc. _____

(3) TYPE OF WORK:
New Well ☐ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

WELL LOCATION SKETCH

(5) EQUIPMENT:
...tary ☐ Reverse ☐
...ble ☐ Air ☐
...her ☐ Bucket ☐

(6) CASING INSTALLED:
...el ☐ Plastic ☐ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall

(7) GRAVEL PACK:
Yes ☐ No ☐ Size _____
Diameter of bore _____
Placed from _____ ft. to _____ ft.

(8) PERFORATIONS:
Type of perforation or size of screen _____

From ft.	To ft.	Slot size

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☐ No ☐ If yes, to depth _____ ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval _____ ft.
Method of sealing _____

(10) WATER LEVELS:
Depth of first water, if known _____ ft.
Standing level after well completion _____ ft.

(11) WELL TESTS:
Was well test made? Yes ☐ No ☐ If yes, by whom? _____
Type of test Pump ☐ Bailer ☐ Air lift ☐
Depth to water at start of test _____ ft. At end of test _____ ft.
...rge _____ gal/min after _____ hours Water temperature _____
Chemical analysis made? Yes ☐ No ☐ If yes, by whom? _____
Was electric log made? Yes ☐ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth _____ ft. Depth of completed well _____ ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
492	497	coarse gray sand and sandy clay
497	498	gravel
498	500	rock and clay
500	520	med brown clay
520		stopped drilling

Work started _____ 19____ Completed _____ 19____

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED _____ WINTER ABAHAM WELL DRILLING (Well Driller)
NAME _____ 891 So. Golden State Blvd. (Person, firm or corporation) (Type or printed) Selma, CA 93662
Address _____
City _____ Zip _____
License No. _____ Date of this report _____

DWR 188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

A-2

ORIGINAL
File with DWR

Well AZ

Intent No.
Permit No. or Date

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 145258
State Well No. 12/20-20
Other Well No.

(1) OWNER: Name Gunner Ranch
Address office 555 W. Shaw Av. Shop, 41252, Av. 10
Fresno, Ca. 93704 Madera Zip 93637

(2) LOCATION OF WELL (See instructions):
County Madera Owner's Well Number
Well address if different from above 41252 Av. 10 Madera
Township T 12 S Range 20 E Section
Distance from cities, roads, railroads, fences, etc. Near Hwy 41 on approx Rd. 40 ½ mi. So. of Ave. 9

WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☒
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

(5) EQUIPMENT:
Rotary ☐ Reverse ☐
Cable ☒ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☐ No ☒ Size
Diameter of bore 6x5/8x 15
Packed from 6x3/8x 14 ft.

(7) CASING INSTALLED:
Steel ☒ Plastic ☐ Concrete ☐

(8) PERFORATIONS:
Type of perforation or size of screen

From ft.	To ft.	Dia. in.	Gage or Wall	From ft.	To ft.	Slot size
0	573	16	8	305	570	2½ x ¼

14 10 12 perf from 20 rows/ft.
10x6x5/8 steel shoe Butt welded joint

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☐ No ☒ If yes, to depth ____ ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ____ ft.
Method of sealing

(10) WATER LEVELS:
Depth of first water, if known 139 ft.
Standing level after well completion ____ ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☒ If yes, by whom? Madera Pump Co.
Type of test Pump ☒ Bailer ☐ Air lift ☐
Depth to water at start of test 139 ft. At end of test 281 ft.
Discharge 1500 gal/min after 21 hours Water temperature 68°
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made? Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 660 ft. Depth of completed well 660 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	3	Top soil
3	22	Hard pan and gray clay
22	32	Medium sand
32	53	Tough clay
53	80	Laminated
80	182	Adobe clay
182	236	Laminated
236	241	Sand and gravel
241	300	Soft sticky clay
300	310	Tough brown clay
310	319	Medium sand and cobble
319	344	Sticky brown clay
344	350	Laminated, clay, & cobble
350	360	Medium sand & cobble
360	400	Brown soft clay
400	420	Tough gray clay
420	425	Brown adobe clay
425	498	Closely laminated mostly clay
498	505	fine sand & pea gravel
505	545	Laminated, mostly clay
545	578	Blue clay
578	585	Medium sand and gravel
585	595	Sticky blue clay
595	602	Coarse to medium sand
602	614	Sandy blue clay
614	642	Laminated, mostly clay
642	658	Sand & gravel
658	660	Blue clay

OUTSIDE CORC. CLAY AREA

CONFIDENTIAL NOT FOR PUBLIC RELEASE WATER CODE SEC. 13752

Work started 1-29 1979 Completed 4-24 1979

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Signed Leonard J. Larson (Well Driller)
NAME Leonard Larson, Well Drilling
(Person, firm, or corporation) (Typed or printed)
Address 1780 So. Bishop
City Kerman, CA. Zip 93630
License No. 165602 Date of this report 6-17-79

DWR 188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

A-3

...ICAN
...ner's Copy

Well A-3

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

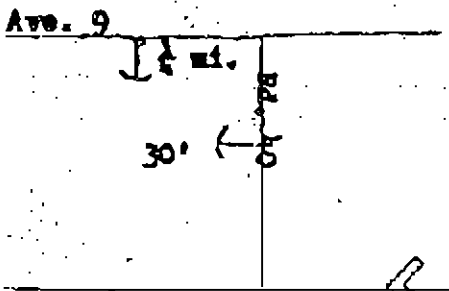
WATER WELL DRILLERS REPORT

Do not fill in
No. 054069

...of Intent No. _____
Permit No. or Date _____
State Well No. _____
Other Well No. _____

OWNER: Name Gunner Ranch
555 W. Shaw Suite B 4
Madera, CA Zip Fresno

LOCATION OF WELL (See instructions):
Madera
Owner's Well Number _____
...ddress if different from above _____
...hip _____ Range _____ Section _____
...ce from cities, roads, railroads, fences, etc. ½ mi. so. of Ave 9
30' West of Rd 40



WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☒
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

...QUIPMENT:
☒ Rotary ☒
☐ Air ☐
☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☐ No ☐ Size Well
Diameter of bore 28"
Packed from 0 ft. to 660 ft.

...ASING INSTALLED:
☐ Plastic ☐ Concrete ☐

...n	To ft.	Dia. In.	Gage or Wall	From ft.	To ft.	Slot size
	240	16	¼	240	420	3. Perf.
	510			510	540	Flu Flo
				540	630	
				630	660	Flu Flo

(8) PERFORATIONS:
Type of perforation or size of screen

...VELL SEAL:
...rface sanitary seal provided? Yes ☐ No ☒ If yes, to depth _____ ft.
...strata sealed against pollution? Yes ☐ No ☒ Interval _____ ft.
...d of sealing _____

...WATER LEVELS:
...of first water, if known 120' ft.
...g level after well completion 120' ft.

...WELL TESTS:
...ell test made? Yes ☐ No ☐ If yes, by whom? _____
...d test Pump ☐ Bailer ☐ Air lift ☐
...to water at start of test _____ ft. At end of test _____ ft.
...ge _____ gal/min after _____ hours Water temperature _____
...al analysis made? Yes ☐ No ☐ If yes, by whom? _____
...ecific log made? Yes ☐ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth 730 ft. Depth of completed well 660 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	1	Top Soil
1	4	Hard Pan
4	6	Sand
6	25	Clay
25	31	Sand
31	72	Clay
72	94	Sand
94	107	Clay
107	165	Sand
165	204	Clay
204	209	Sand
209	227	Clay
227	268	Sand
268	310	Clay
310	332	Sand
332	359	Sand & Small Rocks
359	364	Clay
364	381	Sand
381	386	Clay
386	400	Sand
400	405	Clay
405	420	Sand
420	510	Clay
510	525	Sand
525	545	Sand & Rocks
545	570	Clay
570	585	Sand
585	610	Clay
610	619	Sand
619	635	Clay
635	641	Sand & Gravel
641	655	Rocks
655	730	Clay

Work started 6-16 19 80 Completed 6-20 19 80

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED _____ (Well Driller)

NAME Arthur & Orum Well Drilling Co.
(Person, firm, or corporation) (Typed or printed)

Address 3262 E. Conejo Ave.
City Fresno, CA Zip 93725
License No. 361319 Date of this report 6-27-80

...84 (REV. 3-74) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

RECEIVED JUL 15 ...

A-4

NAL

with DWR Well A-4

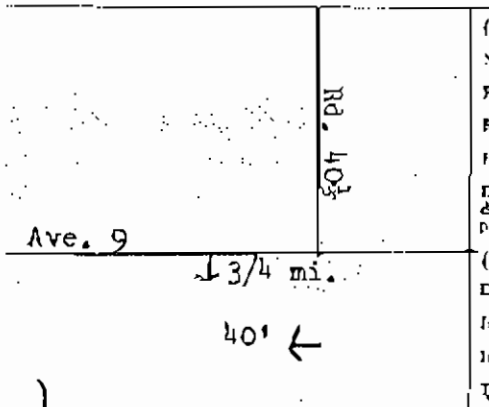
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 082240
State Well No. 12/20-20
Other Well No.

Intent No.
Permit No. or Date

1) OWNER: Name Gunner Ranch
Address 555 W. Shaw Suite B 4
City Fresno Zip

2) LOCATION OF WELL (See instructions):
County: Madera Owner's Well Number
Well address if different from above
Township Range Section
Distance from cities, roads, railroads, fences, etc. 3/4 mi. south of Ave. 9
40' west of Rd. 40½



WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☒
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

EQUIPMENT:
Rotary ☒ Reverse ☒
Cable ☐ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☒ No ☐ Size Well
Diameter of bore 28"
Packed from 0 to 510 ft.

CASING INSTALLED:
Steel ☒ Plastic ☐ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall	Type
0	180	16	1/4	
0	360	standard		
0	420	standard		

(8) PERFORATIONS:
Type of perforation or size of screen

From ft.	To ft.	Slot size
180	240	full flow
360	390	full flow
420	450	full flow

WELL SEAL: 450 510 standard
Was surface sanitary seal provided? Yes ☐ No ☒ If yes, to depth ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing

(11) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion ft.

(9) WELL TESTS:
Was well test made? Yes ☐ No ☐ If yes, by whom?
Type of test Pump ☐ Bailer ☐ Air lift ☐
Depth to water at start of test ft. At end of test ft.
Yield gal/min after hours Water temperature
Chemical analysis made? Yes ☐ No ☐ If yes, by whom?
Electric log made? Yes ☐ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth 535 ft. Depth of completed well 510 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	4	Top Soil
4	10	Hard Pan
10	23	Sand And Gravel
23	58	Clay
58	64	Sand
64	89	Clay
89	96	Sand
96	117	Clay
117	140	Sand
140	148	Clay
148	156	Sand
156	172	Clay
172	183	Sand
183	241	Sand & Rocks
241	249	Clay
249	283	Sand
283	287	Clay
287	335	Sand & Rocks
335	362	Clay
362	372	Sand & Gravel
372	384	Sand & Rocks
384	403	Clay
403	465	Sand
465	479	Clay
479	487	Sand
487	492	Clay
492	501	Sand
501	535	Clay

OUTSIDE CORC CLAY AREA

Work started 5-4 19 81 Completed 5-15 19 81

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED (Well Driller)
NAME Arthur & Crum Well Drilling Co. (Person, firm, or corporation) (Typed or printed)
Address 3262 E. Conejo Ave.
City Fresno, CA Zip 93725
License No. 361319 Date of this report 5-18-81

WATER WELL DRILLERS REPORT

North Well 1741

Well B1-1

Page 1 of 2

Owner's Well No. 74-118

Date Work Began 07/16/74 , Ended 07/20/74

Local Permit Agency

Permit No. Permit Date

GEOLOGIC LOG

Orientation VERTICAL

Depth to First Water

From	To	Description
0	2	HARD TOP SOIL
2	21	SANDY BROWN CLAY
21	26	COARSE BROWN SAND
26	31	HARD BROWN CLAY
31	43	COARSE GRAY SAND
43	51	HARD GRAY CLAY
51	74	COARSE GRAY SAND
74	82	HARD GRAY SAND
82	115	COARSE GRAY SAND
115	133	MED GRAY CLAY
133	137	COARSE GRAY SAND W/SMALL ROCK
137	158	SANDY BROWN CLAY
158	181	COARSE GRAY SAND W/GRAVEL
181	193	SANDY BROWN CLAY
193	231	COARSE BROWN SAND W/GRAVEL
231	239	SANDY BROWN CLAY
239	263	COARSE GRAY SAND
263	268	SANDY BROWN CLAY
268	286	COARSE GRAY SAND W/ROCK
286	287	SANDY BROWN CLAY
287	292	SAND & COBBLES
292	293	SANDY BROWN CLAY
293	305	COARSE GRAY SAND W/COBBLES
305	311	SANDY BROWN CLAY
311	325	COARSE GRAY SAND W/ROCKS
325	332	MED ROCKS & CLAY
332	340	SOFT BROWN CLAY
340	342	MED ROCKS & CLAY
342	350	COARSE GRAY SAND & ROCKS
350	360	LARGE ROCKS & SAND

WELL OWNER

BUNNER RANCH

555 W. SHAW, SUITE B1

FRESNO CA

WELL LOCATION

1/2 M WEST HWY 41 : 40' SOUTH.

OF 10TH AVE.

MADERA

APN Book Page Parcel

Township Range Section 0

Latitude Longitude

DegMinSec DegMinSec

ACTIVITY

NEW WELL

PLANNED USE(S)

[ ] MONITORING

[ ] TEST WELL

[ ] CATHODIC PROTECTION

[ ] OTHER

WATER SUPPLY

[X] Domestic

[ ] Public

[X] Irrigation

[ ] Industrial

Drilling

Method REVERSE ROTARY Fluid WATER

WATER LEVEL & YIELD OF COMPLETED WELL

Depth of Static Water Level

Date Measured

(Ft.)

Estimated Yield (GPM) & Test Type

(May not be representative of a well's long-term yield.)

Test Length (Hrs.) Total Drawdown (Ft.)

Depth of Boring 510 (Ft.) Depth of Completed Well 480 (Ft.)

CASING(S)

Depth From Surface Ft. to Ft.	Bore Hole Dia. (in.)	Type	Material/ Grade	Internal Diameter (in.)	Gauge or Wall Thickness	Slot Size if Any (in.)
0 to 220	26	BLANK	STEEL	16	1/4	
220 to 480	26	SCREEN	STEEL	16	1/4	

ANNULAR MATERIAL

Depth From Surface	Type	Filter P (type/si

Attachments

[ ] Geologic Log

[ ] Well Const. Diag

[ ] Geophysical Log

[ ] Soil/Water Anal.

[ ]

SCHRACK DRILLING CO.

12555 E. Rose Ave. Selma CA 93662

Report Date 05/22/92 C 57 License No. 485557

Driller's Copy

Page 1 of 1

Owner's Well No. Onsite Well

Date Work Began 4-22-96 Ended 4-26-96

Local Permit Agency Madera County

Permit No. 87531 (95) Permit Date 8-25-95

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 550332

STATE WELL NO./STATION NO.

LATITUDE | LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DEPTH TO FIRST WATER ______ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft. to	Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	2	Top Soil
2	23	Sandy Clay
23	30	Clay
30	41	Sand
41	64	Clay
64	96	Sand
96	103	Clay
103	170	Sand
170	200	Clay
200	220	Rock & Sand
220	232	Clay
232	240	Sand
240	270	Clay
270	330	Sand
330	370	Clay
370	430	Hard Stringers of Sand

TOTAL DEPTH OF BORING 430 (Feet)

TOTAL DEPTH OF COMPLETED WELL 420 (Feet)

WELL OWNER

Name Valley Childrens Hospital MCCARTHY B

Mailing Address P.O. Box 14179

Pinedale, CA 93650

CITY STATE ZIP

WELL LOCATION

Address 1 mile south of Ave. 10½, East of Rd. 40½

City

County Madera

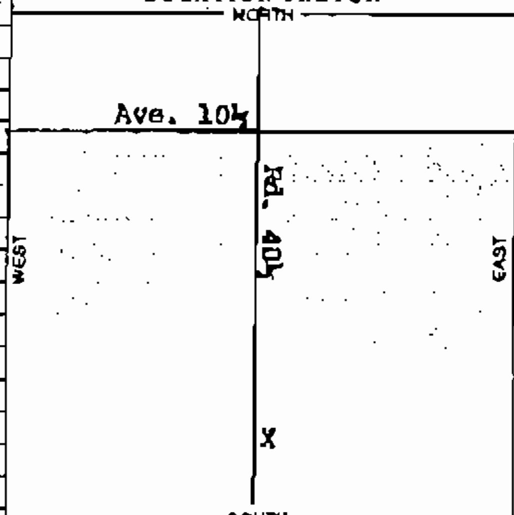
APN Book ___ Page ___ Parcel ___

Township ___ Range ___ Section ___

Latitude ___ NORTH Longitude ___ WEST

DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH



Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc.
PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL

MODIFICATION/REPAIR

___ Deepen

___ Other (Specify)

___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY

___ Domestic

___ Public

___ Irrigation

___ Industrial

___ "TEST WELL"

___ CATHODIC PROTECTION

___ OTHER (Specify)

DRILLING METHOD Reverse FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___

ESTIMATED YIELD* ___ (GPM) & TEST TYPE ___

TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)

* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft. to	Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	270	24"	X				Steel	12"	5/16	
270	420	24"		X			Steel	12"	5/16	Ful Flo
0	200					X	PVC	2"		

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to	Ft.	CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	200	XX			
200	430			XX	¼ X 16

ATTACHMENTS (✓)

___ Geologic Log

___ Well Construction Diagram

___ Geophysical Log(s)

___ Soil/Water Chemical Analyses

___ Other

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Myers Bros. Well Drilling, Inc. RV 4
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

8650 E. Lacey Blvd. Hanford, CA 93230
ADDRESS CITY STATE ZIP

Signed [signature] 4-30-96 548214
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 1-89 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TOTAL P.02

~~DUPLICATE~~
Driller's Copy
Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 500288

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. Off site
Date Work Began 12-3-96 , Ended 1-9-97
Local Permit Agency Madera County
Permit No. 87530 Permit Date 8-25-95

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	4	Hard Brown Clay
4	14	Brown Clay
14	18	Hard Sand
18	35	Hard Pan
35	46	Sand
46	60	Brown Clay
60	110	Sand
110	122	Clay
122	135	Sand
135	220	Clay
220	240	Sand
240	260	Sand & Rocks
260	272	Clay & Gravel
272	310	Sand
310	330	Clay
330	390	Sand
390	400	Blue Clay
400	425	Sand & Gravel
425	430	Blue Clay
430	435	Sand
435		Stop

TOTAL DEPTH OF BORING 435 (Feet)
TOTAL DEPTH OF COMPLETED WELL 432 (Feet)

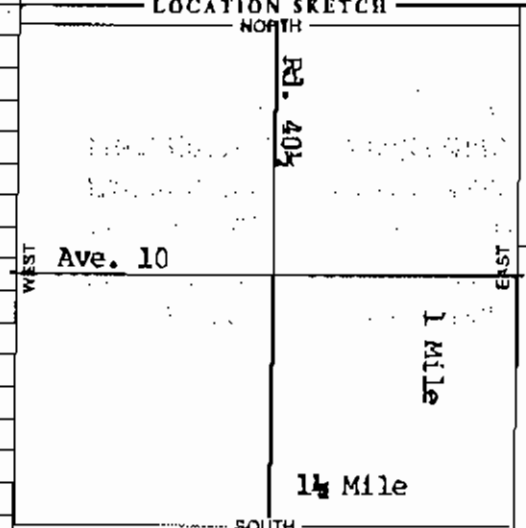
WELL OWNER

Name Valley Childrens Hosp. McCarthy Bros.
Mailing Address P.O. Box 14179
City Pinedale, State CA Zip 93650

WELL LOCATION

Address 1 Mile South of Ave. 10, ½ Mile East of Rd. 40½
City ___
County Madera
APN Book ___ Page ___ Parcel ___
or Township ___ Range ___ Section ___
or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
X Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Reverse FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD* ___ (GPM) & TEST TYPE ___
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
* *May not be representative of a well's long-term yield*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	50	44"			X		Steel	34"	5/16	
0	220	28"	X				Steel	16"	5/16	
220	420	28"		X			Steel	16"	5/16	Ful Flo
420	430	28"	X				Steel	16"	5/16	
0	210					X	Blk Steel	4"		

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	XX			6 sack
0	200	XX			9 sack
200	435			XX	4 X 16

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Myers Bros. Well Drilling, Inc. RV 1
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 8650 E. Lacey Blvd. CITY Hanford, STATE CA ZIP 93230
Signed Carla Farrell
WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 1-21-97
C57 LICENSE NUMBER 548214

DWR 188 (REV. 7-96) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

APPENDIX B

WATER-LEVEL MEASUREMENTS

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
SAN JOAQUIN DISTRICT

GROUND WATER MEASUREMENTS 01/03/2005

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
WELL NUMBER: 12S20E07B001						
12S20E07B001M	01/24/1979	166.5	188.5			5001
12S20E07B001M	09/27/1979	188.1	166.9			5001
12S20E07B001M	01/29/1980	153.0	202.0			5001
12S20E07B001M	10/05/1980	177.6	177.4			5001
12S20E07B001M	09/10/1981	177.7	177.3			5001
12S20E07B001M	01/27/1982	157.6	197.4			5001
WELL NUMBER: 12S20E08M001						
12S20E08M001M	08/15/1978	177.2	183.8			5001
12S20E08M001M	09/27/1978	177.2	183.8			5001
12S20E08M001M	01/19/1979	170.1	190.9			5001
12S20E08M001M	01/29/1980	151.6	209.4			5001
12S20E08M001M	09/25/1980	167.5	193.5			5001
12S20E08M001M	01/27/1981	156.9	204.1			5001
12S20E08M001M	09/10/1981	174.6	186.4			5001
12S20E08M001M	01/27/1982	163.3	197.7			5001
12S20E08M001M	10/05/1982	186.2	174.8			5001
12S20E08M001M	02/23/1983	153.3	207.7			5001
12S20E08M001M	10/19/1983	195.5	165.5			5001
12S20E08M001M	01/24/1984	162.7	198.3			5001
12S20E08M001M	02/07/1985	164.8	196.2			5001
12S20E08M001M	10/01/1985	190.9	170.1			5001
12S20E08M001M	02/06/1986	166.9	194.1			5001
12S20E08M001M	10/09/1986	177.8	183.2			5001
12S20E08M001M	01/26/1987	180.5	180.5			5001
12S20E08M001M	10/05/1987	196.0	165.0			5001
12S20E08M001M	02/01/1988	171.9	189.1			5001
12S20E08M001M	10/04/1988	184.9	176.1			5001
12S20E08M001M	01/25/1989	176.8	184.2			5001
12S20E08M001M	10/03/1989	185.0	176.0			5001
12S20E08M001M	01/24/1990	179.9	181.1			5001
12S20E08M001M	10/02/1990	189.0	172.0			5001
12S20E08M001M	01/29/1991	186.0	175.0			5001
12S20E08M001M	10/03/1991	191.8	169.2			5001
12S20E08M001M	01/28/1992	189.0	172.0			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E08M001M	10/05/1992	195.0	166.0			5001
12S20E08M001M	01/26/1993	191.0	170.0			5001
12S20E08M001M	10/06/1993	196.0	165.0			5001
12S20E08M001M	01/25/1994	192.0	169.0			5001
12S20E08M001M	10/04/1994	199.0	162.0			5001
12S20E08M001M	01/23/2003	1.6	359.4			5001
12S20E08M001M	02/04/2004	4.0	357.0			5001
WELL NUMBER: 12S20E09C001						
12S20E09C001M	10/06/1937	111.9	264.1			5001
12S20E09C001M	03/07/1938	110.2	265.8			5001
12S20E09C001M	09/19/1938	113.9	262.1			5001
12S20E09C001M	04/10/1939	109.2	266.8			5001
12S20E09C001M	11/06/1939	113.6	262.4			5001
12S20E09C001M	12/04/1941	107.7	268.3			5001
12S20E09C001M	09/30/1942	107.8	268.2			5001
12S20E09C001M	01/13/1943	106.8	269.2			5001
12S20E09C001M	09/27/1943	108.1	267.9			5001
12S20E09C001M	12/08/1943	106.7	269.3			5001
12S20E09C001M	09/05/1944	108.5	267.5			5001
12S20E09C001M	03/15/1945	108.3	267.7			5001
12S20E09C001M	10/11/1945	110.1	265.9			5001
12S20E09C001M	07/11/1950	116.8	259.2			5001
12S20E09C001M	10/18/1950	108.2	267.8			5001
12S20E09C001M	03/13/1951	108.1	267.9			5001
12S20E09C001M	10/08/1951	111.9	264.1			5001
12S20E09C001M	11/05/1952	111.0	265.0			5001
12S20E09C001M	02/03/1953	107.5	268.5			5001
12S20E09C001M	08/31/1953	124.9	251.1			5001
12S20E09C001M	01/12/1954	115.3	260.7			5001
12S20E09C001M	10/06/1954	119.3	256.7			5001
12S20E09C001M	01/24/1955	115.0	261.0			5001
12S20E09C001M	09/26/1955	122.0	254.0			5001
12S20E09C001M	02/17/1956	115.2	260.8			5001
12S20E09C001M	10/17/1956	116.6	259.4			5001
12S20E09C001M	02/19/1957	114.3	261.7			5001
12S20E09C001M	10/10/1957	116.9	259.1			5001
12S20E09C001M	02/24/1958	116.3	259.7			5050
12S20E09C001M	10/13/1958	117.4	258.6			5050
12S20E09C001M	03/02/1959	120.6	255.4			5050
12S20E09C001M	10/08/1959	117.6	258.4			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E09C001M	02/23/1960	127.6	248.4			5001
12S20E09C001M	10/25/1960	117.1	258.9			5001
12S20E09C001M	02/20/1961	130.0	246.0			5001
12S20E09C001M	10/11/1961	118.1	257.9			5001
12S20E09C001M	03/05/1962	115.3	260.7			5001
12S20E09C001M	10/15/1962	117.2	258.8			5001
12S20E09C001M	02/11/1963	115.4	260.6			5001
12S20E09C001M	02/12/1964	115.4	260.6			5001
12S20E09C001M	10/07/1964	118.0	258.0			5001
12S20E09C001M	02/10/1965	117.0	259.0			5001
12S20E09C001M	02/03/1966	121.7	254.3			5001
12S20E09C001M	02/07/1967	117.5	258.5			5001
12S20E09C001M	02/07/1968	116.4	259.6			5001
12S20E09C001M	02/11/1969	119.1	256.9			5001

NO MEASUREMENT

0. Meas. discontinued	1. Pumping	2. Pump house locked
3. Tape hung up	4. Can't get tape in	5. Unable to locate
6. Well Destroyed	7. Special	8. Casing wet
9. Temp. inacessible	D. Dry	

QUESTIONABLE MEASUREMENT

0. Caved or deepened	1. Pumping	2. Nearby pump oper.
3. Casing wet	4. Pumped recently	5. Air gauge meas.
6. Other	7. Recharge operation	8. Oil in casing
9. Acoustic sounder		

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
SAN JOAQUIN DISTRICT

GROUND WATER MEASUREMENTS 01/03/2005

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
WELL NUMBER: 12S20E16Q001						
12S20E16Q001M	08/30/1951	11.4	263.6			5001
12S20E16Q001M	03/05/1952	12.0	263.0			5001
12S20E16Q001M	10/14/1952	12.5	262.5			5001
12S20E16Q001M	01/15/1953	11.3	263.7			5001
12S20E16Q001M	09/22/1953	12.7	262.3			5001
12S20E16Q001M	01/15/1954	14.4	260.6			5001
12S20E16Q001M	10/05/1954	13.5	261.5			5001
12S20E16Q001M	01/24/1955	13.5	261.5			5001
12S20E16Q001M	09/26/1955	14.6	260.4			5001
12S20E16Q001M	02/17/1956	10.0	265.0			5001
12S20E16Q001M	10/17/1956	13.0	262.0			5001
12S20E16Q001M	02/19/1957	15.1	259.9			5001
12S20E16Q001M	10/10/1957	14.0	261.0			5001
12S20E16Q001M	02/24/1958	13.7	261.3			5050
12S20E16Q001M	10/13/1958	14.0	261.0			5050
12S20E16Q001M	03/02/1959	13.8	261.2			5050
12S20E16Q001M	10/08/1959	14.1	260.9			5001
12S20E16Q001M	02/23/1960	14.1	260.9			5001
12S20E16Q001M	10/25/1960	14.1	260.9			5001
12S20E16Q001M	02/20/1961	14.7	260.3			5001
12S20E16Q001M	10/11/1961	15.6	259.4			5001
12S20E16Q001M	03/05/1962	13.6	261.4			5001
12S20E16Q001M	10/15/1962	14.4	260.6			5001
12S20E16Q001M	02/11/1963	14.3	260.7			5001
12S20E16Q001M	02/12/1964	15.7	259.3			5001
12S20E16Q001M	10/07/1964	14.7	260.3			5001
12S20E16Q001M	02/10/1965	13.7	261.3			5001
12S20E16Q001M	02/03/1966	14.5	260.5			5001
12S20E16Q001M	02/07/1967	15.2	259.8			5001
12S20E16Q001M	02/07/1968	15.0	260.0			5001
12S20E16Q001M	02/11/1969	10.9	264.1			5001
12S20E16Q001M	10/02/1969	17.1	257.9			5001
12S20E16Q001M	02/03/1970	15.0	260.0			5001
12S20E16Q001M	09/30/1970	17.6	257.4			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E16Q001M	02/05/1971	15.1	259.9			5001
12S20E16Q001M	10/15/1971	20.2	254.8			5001
12S20E16Q001M	02/07/1972	15.0	260.0			5001
12S20E16Q001M	02/28/1973	19.8	255.2			5001
WELL NUMBER: 12S20E17A001						
12S20E17A001M	08/14/1978	167.8	197.2			5001
12S20E17A001M	09/27/1978	145.0	220.0			5001
12S20E17A001M	01/24/1979	136.1	228.9			5001
12S20E17A001M	09/27/1979	174.5	190.5			5001
12S20E17A001M	01/29/1980	136.4	228.6			5001
12S20E17A001M	09/25/1980	150.8	214.2			5001
12S20E17A001M	02/03/1981	141.3	223.7			5001
12S20E17A001M	09/10/1981	162.0	203.0			5001
12S20E17A001M	01/27/1982	153.9	211.1			5001
12S20E17A001M	10/06/1982	160.0	205.0			5001
12S20E17A001M	02/09/1983	148.7	216.3			5001
12S20E17A001M	10/19/1983	158.7	206.3			5001
12S20E17A001M	01/24/1984	143.3	221.7			5001
12S20E17A001M	10/04/1984	173.1	191.9			5001
12S20E17A001M	02/07/1985	148.7	216.3			5001
12S20E17A001M	02/05/1986	144.4	220.6			5001
12S20E17A001M	10/09/1986	162.6	202.4			5001
12S20E17A001M	01/26/1987	153.2	211.8			5001
12S20E17A001M	10/05/1987	178.9	186.1			5001
12S20E17A001M	02/01/1988	154.1	210.9			5001
12S20E17A001M	01/24/1989	157.8	207.2			5001
12S20E17A001M	10/06/1989	186.4	178.6			5001
12S20E17A001M	01/26/1990	159.8	205.2			5001
12S20E17A001M	10/02/1990	179.0	186.0			5001
12S20E17A001M	01/28/1991	166.0	199.0			5001
12S20E17A001M	10/02/1991	204.5	160.5			5001
12S20E17A001M	01/28/1992	168.0	197.0			5001
12S20E17A001M	10/05/1992	183.8	181.2			5001
12S20E17A001M	01/26/1993	169.0	196.0			5001
12S20E17A001M	10/06/1993	179.5	185.5			5001
12S20E17A001M	01/25/1994	171.0	194.0			5001
12S20E17A001M	10/04/1994	181.5	183.5			5001
12S20E17A001M	01/27/1995	182.0	183.0			5001
12S20E17A001M	10/04/1995	183.0	182.0			5001
12S20E17A001M	01/18/1996	172.9	192.1			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E17A001M	09/27/1996	184.3	180.7			5001
12S20E17A001M	02/11/1997	174.2	190.8			5001
12S20E17A001M	10/07/1997	186.6	178.4			5001
12S20E17A001M	01/27/1998	176.6	188.4			5001
12S20E17A001M	10/14/1998	189.2	175.8			5001
12S20E17A001M	01/22/1999	177.2	187.8			5001
12S20E17A001M	10/21/1999	183.6	181.4			5001
WELL NUMBER: 12S20E17H001						
12S20E17H001M	11/01/1937	89.3	272.7			5001
12S20E17H001M	02/07/1938	88.4	273.6			5001
12S20E17H001M	04/10/1939	93.0	269.0			5001
12S20E17H001M	11/06/1939	93.5	268.5			5001
12S20E17H001M	12/12/1941	95.3	266.7			5001
12S20E17H001M	04/08/1942	91.9	270.1			5001
12S20E17H001M	12/08/1942	92.3	269.7			5001
12S20E17H001M	02/09/1943	91.8	270.2			5001
12S20E17H001M	10/12/1943	92.4	269.6			5001
12S20E17H001M	02/07/1944	91.9	270.1			5001
12S20E17H001M	09/05/1944	95.9	266.1			5001
12S20E17H001M	03/20/1945	91.8	270.2			5001
12S20E17H001M	10/11/1945	93.5	268.5			5001
12S20E17H001M	02/21/1946	92.0	270.0			5001
12S20E17H001M	12/11/1946	92.5	269.5			5001
12S20E17H001M	03/06/1947	93.0	269.0			5001
12S20E17H001M	12/02/1947	96.9	265.1			5001
12S20E17H001M	03/03/1948	93.2	268.8			5001
12S20E17H001M	12/08/1948	94.0	268.0			5001
12S20E17H001M	03/08/1949	93.7	268.3			5001
12S20E17H001M	12/02/1949	94.7	267.3			5001
12S20E17H001M	04/05/1950	94.4	267.6			5001
12S20E17H001M	08/01/1950	98.1	263.9			5001
12S20E17H001M	10/06/1950	95.9	266.1			5001
12S20E17H001M	01/04/1951	95.1	266.9			5001
12S20E17H001M	09/05/1951	98.6	263.4			5001
12S20E17H001M	01/04/1952	96.1	265.9			5001
12S20E17H001M	10/02/1952	97.4	264.6			5001
12S20E17H001M	02/03/1953	96.3	265.7			5001
12S20E17H001M	09/22/1953	102.2	259.8			5001
12S20E17H001M	04/05/1954	97.4	264.6			5001
12S20E17H001M	10/05/1954	113.2	248.8			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E17H001M	03/07/1955	98.7	263.3			5001
12S20E17H001M	11/01/1955	102.3	259.7			5001
12S20E17H001M	02/01/1956	99.8	262.2			5001
12S20E17H001M	10/17/1956	102.0	260.0			5001
12S20E17H001M	03/01/1957	100.7	261.3			5001
12S20E17H001M	08/29/1957	107.6	254.4			5001
12S20E17H001M	10/30/1957	103.3	258.7			5001
12S20E17H001M	02/24/1958	102.8	259.2			5050
12S20E17H001M	10/08/1958	104.0	258.0			5050
12S20E17H001M	03/02/1959	112.1	249.9			5050
12S20E17H001M	10/30/1959	106.4	255.6			5001
12S20E17H001M	02/23/1960	103.8	258.2			5001
12S20E17H001M	02/20/1961	105.6	256.4			5050
12S20E17H001M	10/11/1961	115.2	246.8			5001
12S20E17H001M	02/26/1962	107.8	254.2			5001
12S20E17H001M	10/15/1962	114.4	247.6			5001
12S20E17H001M	02/11/1963	110.5	251.5			5001
12S20E17H001M	02/12/1964	112.6	249.4			5001
12S20E17H001M	10/07/1964	118.4	243.6			5001
12S20E17H001M	02/10/1965	115.1	246.9			5001
12S20E17H001M	02/07/1967	112.3	249.7			5001
12S20E17H001M	02/07/1968	118.5	243.5			5001
12S20E17H001M	02/11/1969	119.4	242.6			5001
12S20E17H001M	10/02/1969	129.4	232.6			5001
12S20E17H001M	02/03/1970	120.1	241.9			5001
12S20E17H001M	09/30/1970	140.6	221.4			5001
12S20E17H001M	02/05/1971	126.0	236.0			5001
12S20E17H001M	10/15/1971	145.8	216.2			5001
12S20E17H001M	02/07/1972	124.8	237.2			5001
12S20E17H001M	10/06/1972	147.2	214.8			5001
12S20E17H001M	02/28/1973	127.6	234.4			5001
12S20E17H001M	10/11/1973	139.2	222.8			5001
12S20E17H001M	02/05/1974	127.5	234.5			5001
12S20E17H001M	10/09/1974	144.4	217.6			5001
12S20E17H001M	01/23/1975	131.1	230.9			5001
12S20E17H001M	10/01/1975	149.1	212.9			5001
12S20E17H001M	01/19/1976	138.3	223.7			5001
12S20E17H001M	07/19/1976	176.2	185.8			5001
12S20E17H001M	10/14/1976	149.3	212.7			5001
12S20E17H001M	01/24/1977	136.6	225.4			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E17H001M	06/10/1977	156.1	205.9			5001
12S20E17H001M	08/09/1977	174.5	187.5		6	5001
12S20E17H001M	10/04/1977	153.6	208.4			5001
12S20E17H001M	01/20/1978	140.3	221.7			5001
12S20E17H001M	09/27/1978	156.8	205.2			5001
12S20E17H001M	01/24/1979	140.9	221.1			5001
12S20E17H001M	09/27/1979	168.0	194.0			5001
12S20E17H001M	01/29/1980	143.1	218.9			5001
12S20E17H001M	09/25/1980	165.8	196.2			5001
12S20E17H001M	02/03/1981	146.6	215.4			5001
12S20E17H001M	09/10/1981	166.5	195.5			5001
12S20E17H001M	01/27/1982	152.3	209.7			5001
12S20E17H001M	10/06/1982	159.3	202.7			5001
12S20E17H001M	02/09/1983	150.6	211.4			5001
12S20E17H001M	10/19/1983	150.6	211.4			5001
12S20E17H001M	01/24/1984	145.7	216.3			5001
12S20E17H001M	10/04/1984	179.0	183.0			5001
12S20E17H001M	02/07/1985	152.2	209.8			5001
12S20E17H001M	10/01/1985	183.0	179.0			5001
12S20E17H001M	02/05/1986	152.1	209.9			5001
12S20E17H001M	10/09/1986	166.6	195.4			5001
WELL NUMBER: 12S20E17H002						
12S20E17H002M	08/14/1978	159.6	203.4			5001
12S20E17H002M	09/26/1978	133.7	229.3			5001
12S20E17H002M	01/24/1979	133.9	229.1			5001
12S20E17H002M	09/27/1979	142.7	220.3			5001
12S20E17H002M	01/29/1980	129.0	234.0			5001
12S20E17H002M	09/25/1980	145.3	217.7			5001
12S20E17H002M	09/10/1981	153.6	209.4			5001
12S20E17H002M	01/27/1982	134.1	228.9			5001
12S20E17H002M	10/06/1982	162.8	200.2			5001
12S20E17H002M	02/09/1983	130.6	232.4			5001
12S20E17H002M	10/19/1983	164.9	198.1			5001
12S20E17H002M	01/24/1984	141.4	221.6			5001
12S20E17H002M	10/04/1984	165.1	197.9			5001
12S20E17H002M	02/07/1985	139.5	223.5			5001
12S20E17H002M	10/01/1985	173.9	189.1			5001
12S20E17H002M	02/05/1986	137.8	225.2			5001
12S20E17H002M	10/09/1986	175.7	187.3			5001
12S20E17H002M	01/26/1987	142.2	220.8			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E17H002M	10/05/1987	177.5	185.5			5001
12S20E17H002M	02/01/1988	141.4	221.6			5001
12S20E17H002M	10/04/1988	161.5	201.5			5001
12S20E17H002M	01/24/1989	161.9	201.1			5001
12S20E17H002M	10/06/1989	157.9	205.1			5001
12S20E17H002M	01/26/1990	147.3	215.7			5001
12S20E17H002M	10/02/1990	162.0	201.0			5001
12S20E17H002M	01/28/1991	152.0	211.0			5001
12S20E17H002M	10/02/1991	188.0	175.0			5001
12S20E17H002M	01/28/1992	152.0	211.0			5001
12S20E17H002M	10/05/1992	176.0	187.0			5001
12S20E17H002M	01/26/1993	164.0	199.0			5001
12S20E17H002M	10/06/1993	162.0	201.0			5001
12S20E17H002M	01/25/1994	159.0	204.0			5001
12S20E17H002M	10/04/1994	164.4	198.6			5001
12S20E17H002M	01/27/1995	167.0	196.0			5001
12S20E17H002M	10/04/1995	176.5	186.5			5001
12S20E17H002M	01/18/1996	157.1	205.9			5001
12S20E17H002M	09/27/1996	171.4	191.6			5001
12S20E17H002M	02/11/1997	164.9	198.1			5001
12S20E17H002M	01/27/1998	159.8	203.2			5001
12S20E17H002M	10/14/1998	189.7	173.3			5001
12S20E17H002M	01/22/1999	168.7	194.3			5001
12S20E17H002M	10/21/1999	194.1	168.9			5001
12S20E17H002M	10/17/2000	177.0	186.0			5001
12S20E17H002M	01/23/2003	184.7	178.3			5001
WELL NUMBER: 12S20E18B001						
12S20E18B001M	10/07/1964	135.5	217.0			5001
12S20E18B001M	02/10/1965	128.4	224.1			5001
12S20E18B001M	02/03/1966	119.0	233.5			5001
12S20E18B001M	02/07/1967	122.0	230.5			5001
12S20E18B001M	02/05/1971	140.8	211.7			5001
12S20E18B001M	10/15/1971	144.5	208.0			5001
12S20E18B001M	02/07/1972	129.7	222.8			5001
12S20E18B001M	10/06/1972	138.3	214.2			5001
12S20E18B001M	02/28/1973	131.4	221.1			5001
12S20E18B001M	02/05/1974	148.3	204.2			5001
12S20E18B001M	10/09/1974	154.7	197.8			5001
12S20E18B001M	01/23/1975	136.0	216.5			5001
12S20E18B001M	01/19/1976	143.7	208.8			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E18B001M	01/24/1977	140.7	211.8			5001
12S20E18B001M	10/04/1977	156.6	195.9			5001
12S20E18B001M	01/20/1978	149.8	202.7			5001
12S20E18B001M	01/24/1979	142.7	209.8			5001
12S20E18B001M	01/29/1980	145.5	207.0			5001
12S20E18B001M	09/25/1980	164.4	188.1			5001
12S20E18B001M	02/03/1981	157.2	195.3			5001
12S20E18B001M	09/10/1981	171.6	180.9			5001
12S20E18B001M	01/27/1982	162.8	189.7			5001
12S20E18B001M	10/19/1983	157.2	195.3			5001
12S20E18B001M	01/24/1984	172.4	180.1			5001
12S20E18B001M	10/04/1984	178.0	174.5			5001
12S20E18B001M	02/07/1985	223.4	129.1			5001
12S20E18B001M	10/01/1985	248.5	104.0			5001
12S20E18B001M	02/05/1986	230.2	122.3			5001
12S20E18B001M	10/09/1986	177.5	175.0			5001
12S20E18B001M	01/26/1987	223.3	129.2			5001
12S20E18B001M	10/06/1987	189.7	162.8			5001
12S20E18B001M	02/01/1988	135.4	217.1			5001
12S20E18B001M	10/04/1988	192.0	160.5			5001
12S20E18B001M	01/24/1989	149.3	203.2			5001
12S20E18B001M	10/06/1989	206.2	146.3			5001
12S20E18B001M	01/26/1990	178.3	174.2			5001
12S20E18B001M	01/28/1992	181.5	171.0			5001
12S20E18B001M	01/26/1993	189.5	163.0			5001
12S20E18B001M	10/06/1993	222.5	130.0			5001
12S20E18B001M	01/25/1994	189.5	163.0			5001
12S20E18B001M	10/04/1994	227.0	125.5			5001
12S20E18B001M	01/27/1995	192.5	160.0			5001
12S20E18B001M	10/04/1995	234.5	118.0			5001
12S20E18B001M	01/19/1996	181.5	171.0			5001
12S20E18B001M	02/11/1997	191.2	161.3			5001
12S20E18B001M	10/07/1997	228.6	123.9			5001
12S20E18B001M	01/27/1998	196.4	156.1			5001
12S20E18B001M	10/14/1998	219.2	133.3			5001
12S20E18B001M	01/22/1999	195.2	157.3			5001
12S20E18B001M	01/24/2000	198.4	154.1			5001
12S20E18B001M	01/26/2001	193.5	159.0			5001
WELL NUMBER: 12S20E18B002						
12S20E18B002M	10/07/1964	12.7	339.3			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E18B002M	02/10/1965	10.8	341.2			5001
WELL NUMBER: 12S20E18N001						
12S20E18N001M	01/24/1979	135.6	209.9			5001
12S20E18N001M	01/29/1980	137.2	208.3			5001
12S20E18N001M	02/03/1981	132.5	213.0			5001
12S20E18N001M	01/27/1982	134.4	211.1			5001
12S20E18N001M	10/06/1982	143.0	202.5			5001
12S20E18N001M	02/09/1983	136.3	209.2			5001
12S20E18N001M	10/19/1983	144.7	200.8			5001
12S20E18N001M	01/24/1984	137.1	208.4			5001
12S20E18N001M	10/04/1984	129.7	215.8			5001
12S20E18N001M	02/07/1985	138.0	207.5			5001
12S20E18N001M	10/01/1985	238.4	107.1			5001
12S20E18N001M	02/05/1986	145.6	199.9			5001
12S20E18N001M	10/09/1986	169.0	176.5			5001
12S20E18N001M	02/01/1988	145.0	200.5			5001
12S20E18N001M	01/24/1989	146.8	198.7			5001
12S20E18N001M	10/06/1989	169.8	175.7			5001
12S20E18N001M	01/26/1990	160.6	184.9			5001
12S20E18N001M	01/28/1992	150.5	195.0			5001
12S20E18N001M	01/26/1993	156.5	189.0			5001
12S20E18N001M	01/25/1994	158.5	187.0			5001
12S20E18N001M	10/04/1994	179.0	166.5			5001
12S20E18N001M	01/27/1995	159.5	186.0			5001
12S20E18N001M	01/19/1996	160.0	185.5			5001
12S20E18N001M	02/11/1997	164.0	181.5			5001
12S20E18N001M	01/27/1998	164.6	180.9			5001
12S20E18N001M	01/22/1999	163.7	181.8			5001
12S20E18N001M	10/21/1999	185.8	159.7			5001
WELL NUMBER: 12S20E19R001						
12S20E19R001M	02/11/1969	105.2	240.8			5001
12S20E19R001M	02/03/1970	105.4	240.6			5001
12S20E19R001M	02/05/1971	107.4	238.6			5001
12S20E19R001M	10/15/1971	121.9	224.1			5001
12S20E19R001M	02/07/1972	108.2	237.8			5001
12S20E19R001M	02/28/1973	118.3	227.7			5001
12S20E19R001M	02/05/1974	121.1	224.9			5001
12S20E19R001M	01/23/1975	125.3	220.7			5001
12S20E19R001M	01/19/1976	120.3	225.7			5001
12S20E19R001M	10/14/1976	112.7	233.3			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E19R001M	01/24/1977	110.8	235.2			5001
12S20E19R001M	10/04/1977	121.1	224.9			5001
12S20E19R001M	01/20/1978	113.8	232.2			5001
12S20E19R001M	09/26/1978	114.1	231.9			5001
12S20E19R001M	01/24/1979	112.7	233.3			5001
12S20E19R001M	09/27/1979	120.1	225.9			5001
12S20E19R001M	01/29/1980	111.5	234.5			5001
12S20E19R001M	01/27/1982	115.7	230.3			5001
12S20E19R001M	10/06/1982	125.5	220.5			5001
12S20E19R001M	02/09/1983	111.2	234.8			5001
12S20E19R001M	10/05/1983	146.0	200.0			5001
12S20E19R001M	01/24/1984	137.9	208.1			5001
WELL NUMBER: 12S20E20A001						
12S20E20A001M	09/25/1936	18.0	258.8			5001
12S20E20A001M	03/20/1937	16.2	260.6			5001
12S20E20A001M	10/14/1937	17.1	259.7			5001
12S20E20A001M	04/09/1938	14.4	262.4			5001
12S20E20A001M	10/24/1938	16.7	260.1			5001
12S20E20A001M	06/09/1939	16.6	260.2			5001
12S20E20A001M	09/18/1939	16.9	259.9			5001
12S20E20A001M	11/26/1940	16.9	259.9			5001
12S20E20A001M	12/12/1941	17.5	259.3			5001
12S20E20A001M	04/09/1942	15.6	261.2			5001
12S20E20A001M	10/01/1942	15.9	260.9			5001
12S20E20A001M	01/12/1943	15.9	260.9			5001
12S20E20A001M	09/27/1943	16.0	260.8			5001
12S20E20A001M	12/09/1943	16.4	260.4			5001
12S20E20A001M	09/05/1944	16.3	260.5			5001
12S20E20A001M	03/20/1945	15.9	260.9			5001
12S20E20A001M	12/11/1946	16.9	259.9			5001
12S20E20A001M	12/02/1947	17.7	259.1			5001
12S20E20A001M	03/03/1948	17.7	259.1			5001
12S20E20A001M	12/08/1948	17.8	259.0			5001
12S20E20A001M	03/08/1949	18.2	258.6			5001
12S20E20A001M	12/09/1949	19.7	257.1			5001
12S20E20A001M	09/12/1950	18.5	258.3			5001
12S20E20A001M	03/13/1951	20.0	256.8			5001
12S20E20A001M	08/27/1951	18.9	257.9			5001
12S20E20A001M	10/08/1951	18.3	258.5			5001
12S20E20A001M	10/14/1952	20.0	256.8			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E20A001M	01/15/1953	19.4	257.4			5001
12S20E20A001M	09/22/1953	19.5	257.3			5001
12S20E20A001M	01/15/1954	19.8	257.0			5001
12S20E20A001M	10/05/1954	20.8	256.0			5001
12S20E20A001M	01/24/1955	21.4	255.4			5001
12S20E20A001M	09/26/1955	23.1	253.7			5001
12S20E20A001M	02/17/1956	19.8	257.0			5001
12S20E20A001M	10/17/1956	20.8	256.0			5001
12S20E20A001M	02/19/1957	21.5	255.3			5001
12S20E20A001M	10/10/1957	21.8	255.0			5001
12S20E20A001M	02/24/1958	21.9	254.9			5050
12S20E20A001M	10/13/1958	22.2	254.6			5050
12S20E20A001M	03/02/1959	22.0	254.8			5050
12S20E20A001M	10/08/1959	22.9	253.9			5001
12S20E20A001M	02/23/1960	23.1	253.7			5001
12S20E20A001M	10/25/1960	23.4	253.4			5001
12S20E20A001M	02/20/1961	25.3	251.5			5001
12S20E20A001M	10/11/1961	23.8	253.0			5001
12S20E20A001M	03/05/1962	23.4	253.4			5001
12S20E20A001M	10/15/1962	23.4	253.4			5001
12S20E20A001M	02/11/1963	24.2	252.6			5001
12S20E20A001M	02/12/1964	24.2	252.6			5001
12S20E20A001M	10/07/1964	24.2	252.6			5001
12S20E20A001M	02/10/1965	24.7	252.1			5001
12S20E20A001M	02/03/1966	25.3	251.5			5001
12S20E20A001M	02/07/1967	24.5	252.3			5001
12S20E20A001M	02/07/1968	25.8	251.0			5001
12S20E20A001M	02/11/1969	24.3	252.5			5001
12S20E20A001M	10/02/1969	26.0	250.8			5001
12S20E20A001M	09/30/1970	28.2	248.6			5001
12S20E20A001M	02/05/1971	24.8	252.0			5001
12S20E20A001M	10/15/1971	29.7	247.1			5001
12S20E20A001M	02/07/1972	28.7	248.1			5001
12S20E20A001M	10/06/1972	30.8	246.0			5001
12S20E20A001M	02/28/1973	30.9	245.9			5001
12S20E20A001M	10/11/1973	29.7	247.1			5001
12S20E20A001M	02/05/1974	31.4	245.4			5001
12S20E20A001M	10/09/1974	30.8	246.0			5001
12S20E20A001M	01/23/1975	29.7	247.1			5001
12S20E20A001M	10/01/1975	31.3	245.5			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E20A001M	01/19/1976	31.0	245.8			5001
12S20E20A001M	10/14/1976	29.6	247.2			5001
12S20E20A001M	01/24/1977	30.8	246.0			5001
12S20E20A001M	10/04/1977	31.4	245.4			5001
12S20E20A001M	02/02/1978	31.9	244.9			5001
12S20E20A001M	09/26/1978	31.9	244.9			5001
12S20E20A001M	09/27/1979	32.3	244.5			5001
12S20E20A001M	01/29/1980	27.9	248.9			5001
12S20E20A001M	09/25/1980	33.6	243.2			5001
12S20E20A001M	02/06/1981	32.2	244.6			5001
12S20E20A001M	09/10/1981	31.9	244.9			5001
12S20E20A001M	02/11/1982	24.8	252.0			5001
12S20E20A001M	10/06/1982	32.4	244.4			5001
12S20E20A001M	01/24/1984	15.3	261.5			5001
12S20E20A001M	01/23/1987	33.7	243.1			5001
12S20E20A001M	10/06/1987	39.0	237.8			5001
12S20E20A001M	02/02/1988	35.5	241.3			5001
12S20E20A001M	10/04/1988	43.3	233.5			5001
12S20E20A001M	10/04/1989	27.8	249.0			5001
12S20E20A001M	01/26/1990	41.0	235.8			5001
12S20E20A001M	10/02/1990	40.3	236.5			5001
12S20E20A001M	01/28/1991	41.5	235.3			5001
12S20E20A001M	10/02/1991	44.0	232.8			5001
12S20E20A001M	01/28/1992	39.5	237.3			5001
12S20E20A001M	10/05/1992	42.5	234.3			5001
12S20E20A001M	01/26/1993	39.5	237.3			5001
12S20E20A001M	10/06/1993	40.7	236.1			5001
12S20E20A001M	01/25/1994	38.0	238.8			5001
12S20E20A001M	10/04/1994	40.0	236.8			5001
12S20E20A001M	01/27/1995	37.5	239.3			5001
12S20E20A001M	10/04/1995	38.0	238.8			5001
12S20E20A001M	01/18/1996	33.0	243.8			5001
12S20E20A001M	02/11/1997	31.7	245.1			5001
12S20E20A001M	10/06/1997	39.0	237.8			5001
12S20E20A001M	01/27/1998	38.2	238.6			5001
12S20E20A001M	10/14/1998	38.1	238.9			5001
12S20E20A001M	01/22/1999	37.0	240.0			5001
12S20E20A001M	10/21/1999	42.3	234.7			5001
12S20E20A001M	01/24/2000	38.8	238.2			5001
12S20E20A001M	10/20/2000	37.0	240.0			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E20A001M	01/31/2001	41.5	235.5			5001
12S20E20A001M	01/22/2002	41.4	235.6			5001
12S20E20A001M	02/06/2004	186.5	90.5			5001

NO MEASUREMENT

0. Meas. discontinued	1. Pumping	2. Pump house locked
3. Tape hung up	4. Can't get tape in	5. Unable to locate
6. Well Destroyed	7. Special	8. Casing wet
9. Temp. inacessible	D. Dry	

QUESTIONABLE MEASUREMENT

0. Caved or deepened	1. Pumping	2. Nearby pump oper.
3. Casing wet	4. Pumped recently	5. Air gauge meas.
6. Other	7. Recharge operation	8. Oil in casing
9. Acoustic sounder		

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
SAN JOAQUIN DISTRICT

GROUND WATER MEASUREMENTS 01/03/2005

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
WELL NUMBER: 12S20E30E001						
12S20E30E001M	05/05/1936	7.7	252.3			5001
12S20E30E001M	10/20/1936	10.2	249.8			5001
12S20E30E001M	04/27/1937	7.6	252.4			5001
12S20E30E001M	05/18/1937	6.7	253.3			5001
12S20E30E001M	10/14/1937	10.0	250.0			5001
12S20E30E001M	03/07/1938	5.1	254.9			5001
12S20E30E001M	10/24/1938	9.5	250.5			5001
12S20E30E001M	06/09/1939	9.4	250.6			5001
12S20E30E001M	09/18/1939	10.3	249.7			5001
12S20E30E001M	11/27/1940	10.1	249.9			5001
12S20E30E001M	12/12/1941	9.3	250.7			5001
12S20E30E001M	06/22/1942	6.7	253.3			5001
12S20E30E001M	10/12/1942	9.1	250.9			5001
12S20E30E001M	12/12/1942	9.5	250.5			5001
12S20E30E001M	02/08/1943	8.2	251.8			5001
12S20E30E001M	12/09/1943	9.6	250.4			5001
12S20E30E001M	07/04/1944	8.8	251.2			5001
12S20E30E001M	12/11/1944	10.0	250.0			5001
12S20E30E001M	06/12/1945	8.3	251.7			5001
12S20E30E001M	10/16/1945	9.3	250.7			5001
12S20E30E001M	03/26/1946	9.0	251.0			5001
12S20E30E001M	12/11/1946	10.0	250.0			5001
12S20E30E001M	12/02/1947	10.2	249.8			5001
12S20E30E001M	03/04/1948	10.3	249.7			5001
12S20E30E001M	12/09/1948	11.0	249.0			5001
12S20E30E001M	03/09/1949	7.9	252.1			5001
12S20E30E001M	12/09/1949	10.8	249.2			5001
12S20E30E001M	10/18/1950	9.8	250.2			5001
12S20E30E001M	03/13/1951	9.9	250.1			5001
12S20E30E001M	10/08/1951	10.9	249.1			5001
12S20E30E001M	03/05/1952	9.5	250.5			5001
12S20E30E001M	01/15/1953	11.4	248.6			5001
12S20E30E001M	09/22/1953	11.6	248.4			5001
12S20E30E001M	01/13/1954	12.1	247.9			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E30E001M	10/05/1954	12.4	247.6			5001
12S20E30E001M	01/24/1955	13.2	246.8			5001
12S20E30E001M	09/26/1955	13.3	246.7			5001
12S20E30E001M	02/20/1956	9.5	250.5			5001
12S20E30E001M	10/17/1956	12.2	247.8			5001
12S20E30E001M	02/19/1957	13.2	246.8			5001
12S20E30E001M	10/10/1957	13.5	246.5			5001
12S20E30E001M	02/24/1958	13.8	246.2			5050
12S20E30E001M	10/13/1958	11.0	249.0			5050
12S20E30E001M	03/02/1959	8.4	251.6			5050
12S20E30E001M	10/08/1959	11.1	248.9			5001
12S20E30E001M	02/23/1960	10.2	249.8			5001
12S20E30E001M	10/25/1960	11.3	248.7			5001
12S20E30E001M	02/20/1961	11.7	248.3			5001
12S20E30E001M	10/11/1961	11.3	248.7			5001
12S20E30E001M	03/05/1962	11.0	249.0			5001
12S20E30E001M	10/15/1962	11.2	248.8			5001
12S20E30E001M	02/11/1963	11.2	248.8			5001
12S20E30E001M	02/12/1964	10.3	249.7			5001
12S20E30E001M	10/07/1964	15.1	244.9			5001
12S20E30E001M	02/10/1965	9.8	250.2			5001
12S20E30E001M	02/07/1968	9.0	251.0			5001
12S20E30E001M	02/11/1969	10.2	249.8			5001
12S20E30E001M	10/02/1969	15.6	244.4			5001
12S20E30E001M	02/03/1970	12.8	247.2			5001
12S20E30E001M	09/30/1970	13.4	246.6			5001
WELL NUMBER: 12S20E30J001						
12S20E30J001M	05/05/1936	87.9	247.1			5001
12S20E30J001M	10/21/1936	81.8	253.2			5001
12S20E30J001M	04/28/1937	81.6	253.4			5001
12S20E30J001M	07/13/1937	83.7	251.3			5001
12S20E30J001M	10/14/1937	81.9	253.1			5001
12S20E30J001M	03/07/1938	82.3	252.7			5001
12S20E30J001M	10/25/1938	82.5	252.5			5001
12S20E30J001M	04/10/1939	84.7	250.3			5001
12S20E30J001M	09/19/1939	81.9	253.1			5001
12S20E30J001M	11/27/1940	81.5	253.5			5001
12S20E30J001M	08/15/1941	84.5	250.5			5001
12S20E30J001M	01/21/1942	80.6	254.4			5001
12S20E30J001M	10/01/1942	79.8	255.2			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E30J001M	01/12/1943	80.1	254.9			5001
12S20E30J001M	10/12/1943	80.3	254.7			5001
12S20E30J001M	07/04/1944	79.7	255.3			5001
12S20E30J001M	12/11/1944	79.7	255.3			5001
12S20E30J001M	06/12/1945	80.1	254.9			5001
12S20E30J001M	10/16/1945	81.1	253.9			5001
12S20E30J001M	12/11/1946	81.2	253.8			5001
12S20E30J001M	03/06/1947	81.1	253.9			5001
12S20E30J001M	12/02/1947	82.9	252.1			5001
12S20E30J001M	07/06/1949	82.4	252.6			5001
12S20E30J001M	12/09/1949	89.5	245.5			5001
12S20E30J001M	10/18/1950	82.6	252.4			5001
12S20E30J001M	03/13/1951	81.8	253.2			5001
12S20E30J001M	10/08/1951	84.8	250.2			5001
12S20E30J001M	03/05/1952	82.4	252.6			5001
12S20E30J001M	10/14/1952	83.9	251.1			5001
12S20E30J001M	01/15/1953	90.7	244.3			5001
12S20E30J001M	09/22/1953	85.6	249.4			5001
12S20E30J001M	01/13/1954	84.7	250.3			5001
12S20E30J001M	10/05/1954	92.8	242.2			5001
12S20E30J001M	09/26/1955	85.6	249.4			5001
12S20E30J001M	02/20/1956	83.5	251.5			5001
12S20E30J001M	10/17/1956	85.3	249.7			5001
12S20E30J001M	02/19/1957	86.0	249.0			5001
12S20E30J001M	10/10/1957	86.6	248.4			5001
12S20E30J001M	02/24/1958	85.9	249.1			5050
12S20E30J001M	10/13/1958	84.5	250.5			5050
12S20E30J001M	03/02/1959	84.4	250.6			5050
12S20E30J001M	10/08/1959	88.7	246.3		2	5001
12S20E30J001M	02/23/1960	85.2	249.8			5001
12S20E30J001M	10/25/1960	86.7	248.3			5001
12S20E30J001M	02/20/1961	85.7	249.3			5001
12S20E30J001M	10/11/1961	88.0	247.0			5001
12S20E30J001M	03/05/1962	86.1	248.9			5001
12S20E30J001M	10/15/1962	87.0	248.0			5001
12S20E30J001M	02/11/1963	86.7	248.3			5001
12S20E30J001M	02/12/1964	86.8	248.2			5001
12S20E30J001M	10/05/1964	95.0	240.0			5001
12S20E30J001M	02/10/1965	88.6	246.4			5001
12S20E30J001M	02/03/1966	94.8	240.2			5001

STATE WELL NUMBER	DATE	GROUND TO WATER	WATER SURFACE ELEVATION	NM	QM	AGENCY
12S20E30J001M	02/08/1967	95.7	239.3			5001

NO MEASUREMENT

0. Meas. discontinued	1. Pumping	2. Pump house locked
3. Tape hung up	4. Can't get tape in	5. Unable to locate
6. Well Destroyed	7. Special	8. Casing wet
9. Temp. inacessible	D. Dry	

QUESTIONABLE MEASUREMENT

0. Caved or deepened	1. Pumping	2. Nearby pump oper.
3. Casing wet	4. Pumped recently	5. Air gauge meas.
6. Other	7. Recharge operation	8. Oil in casing
9. Acoustic sounder		

APPENDIX C

PUMPAGE RECORDS FOR RANCH IRRIGATION WELLS

GUNNER RANCH
IRRIGATION WELL PUMPAGE

Well	Meter No.	March-Sept 2002 KWH	KWH/AF from Pump Test	Acre-Feet Pumped
A-1	Meter No. 40955R	170,979	593.9	288
A-2	Meter No. 92575T	147,940	489.3	302
A-3	Meter No. 43116R	157,400	538.9	292
A-4	Meter No. 58R241	166,500	488.6	341
				1,223

Pacific Gas & Electric Company
Pump Testing Services

Well A1-1

98

Test Date: 07/23/1998
Tested By: Malcom Tracy

Pump Test Report

Customer
Gunner Ranch
555 W Shaw Ave #B-4
Fresno, CA 93704

Account Information

Control No.:	3913717
Account No.:	ZTN4573001
Meter No.:	R55171
Pump Usage:	100,940 KWH/YR
Account Usage:	100,940 KWH/YR
Energy Cost:	13.10 Cents/KWH
$/Acre-foot:	$77.80

System Specs

Drive:	Electric Motor
Drive Make:	Newman
Horse Power:	100
Pump Make:	Peerless
Pump Type:	Turbine
Water Source:	Well

Pump Location

Service Address:	NE NW SEC 20-12-20
Service City:	Fresno
Cust Station Name:	RANCH 41, DW #1
Pump ID:	1
PG&E Plant Name:	

Pump Test Results

Survey Date	Test Type	Run	Standing Water Level (ft)*	Draw Down (ft)**	Pumping Water Level (ft)*	Discharge Level (ft)*	Discharge Pressure (PSI)*	Total Lift (ft)**	PG&E Water Flow (gpm)*	Customer Water Flow (gpm)*	Well Yield (gpm/ft)**	KW Input*	Horse Power Input**	Percent of Rated Motor Load**	Acre Foot Per 24 Hours**	kWh per Acre Foot**	Overall Plant Efficiency (%)**
07/23/1998	Routine Test	1				5.8	2.5		898			98.2	131.6	120.0	4.0	593.9	

Key: * = Measured in field ** = Calculated value

Test Remarks

Run	Condition
1	Unable to sound well. Suitable opening or air line required for water levels.
1	No access to well. Unable to measure water levels for OPE calculation.
1	Test results may be impaired due to poor hydraulic test section.

Potential Savings

The Potential Savings shown below are possible if the overall efficiency of the pumping plant is improved to the level indicated under the Estimated After Repairs column.

Not Applicable

98

Well A-2

Pacific Gas & Electric Company
Pump Testing Services

Test Date: 07/23/1998
Tested By: Malcom Tracy

Pump Test Report

Customer
Gunner Ranch
555 W Shaw Ave #B-4
Fresno, CA 93704

Account Information

Control No.:	3921165	
Account No.:	ZTN4574021	
Meter No.:	92575T	
Pump Usage:	95,510	KWH/YR
Account Usage:	95,510	KWH/YR
Energy Cost:	12.47	Cents/KWH
$/Acre-foot:	$61.02	

System Specs

Drive:	Electric Motor
Drive Make:	Newman
Horse Power:	100
Pump Make:	Peerless
Pump Type:	Turbine
Water Source:	Well

Pump Location

Service Address:	NW SEC 20-12/20
Service City:	Fresno
Cust Station Name:	RANCH 41, DW #2
Pump ID:	1
PG&E Plant Name:	

Pump Test Results

Survey Date	Test Type	Run	Standing Water Level (ft)*	Draw Down (ft)**	Pumping Water Level (ft)*	Discharge Level (ft)*	Discharge Pressure (PSI)*	Total Lift (ft)**	PG&E Water Flow (gpm)*	Customer Water Flow (gpm)*	Well Yield (gpm/ft)**	KW Input*	Horse Power Input**	Percent of Rated Motor Load**	Acre Foot Per 24 Hours**	kWh per Acre Foot**	Overall Plant Efficiency (%)**
07/23/1998	Routine Test	1				8.3	3.6		999			90	120.6	110.0	4.4	489.3	

Key: * = Measured in field ** = Calculated value

Test Remarks

TOO MUCH FALLING WATER FOR ACCURATE SOUNDING.

Potential Savings

The Potential Savings shown below are possible if the overall efficiency of the pumping plant is improved to the level indicated under the Estimated After Repairs column.

Not Applicable

Pacific Gas & Electric Company
Pump Testing Services

Well A-3

Test Date: 07/23/1998
Tested By: Malcom Tracy

98

Pump Test Report

Customer
Gunner Ranch
555 W Shaw Ave #B-4
Fresno, CA 93704

Account Information

Control No.:	4189929	
Account No.:	ZTN4574361	
Meter No.:	407R30	
Pump Usage:	96,540	KWH/YR
Account Usage:	96,540	KWH/YR
Energy Cost:	12.88	Cents/KWH
$/Acre-foot:	$69.41	

System Specs

Drive:	Electric Motor
Drive Make:	Newman
Horse Power:	100
Pump Make:	Peerless
Pump Type:	Turbine
Water Source:	Well

Pump Location

Service Address:	SE NE NE SEC 19-12/2
Service City:	Fresno
Cust Station Name:	RANCH 41, DW #3
Pump ID:	1
PG&E Plant Name:	

Pump Test Results

Survey Date	Test Type	Run	Standing Water Level (ft)*	Draw Down (ft)**	Pumping Water Level (ft)*	Discharge Level (ft)*	Discharge Pressure (PSI)*	Total Lift (ft)**	PG&E Water Flow (gpm)*	Customer Water Flow (gpm)*	Well Yield (gpm/ft)**	KW Input*	Horse Power Input**	Percent of Rated Motor Load**	Acre Feet Per 24 Hours**	kWh per Acre Foot**	Overall Plant Efficiency (%)**
07/23/1998	Routine Test	1				8.3	3.6		915			90.8	121.7	111.0	4.1	538.9	

Key: * = Measured in field ** = Calculated value

Test Remarks

Run	Condition
1	Unable to sound well. Suitable opening or air line required for water levels.
1	No access to well. Unable to measure water levels for OPE calculation.
1	Test results may be impaired due to poor hydraulic test section.

Potential Savings

The Potential Savings shown below are possible if the overall efficiency of the pumping plant is improved to the level indicated under the Estimated After Repairs column.

Not Applicable

Pacific Gas & Electric Company
Pump Testing Services

Well A-4

Test Date: 07/23/1998
Tested By: Malcom Tracy

98

Pump Test Report

Customer
Gunner Ranch
555 W Shaw Ave #B-4
Fresno, CA 93704

Account Information

Control No.:	4308337	
Account No.:	ZTN4573681	
Meter No.:	58R241	
Pump Usage:	81,030	KWH/YR
Account Usage:	81,030	KWH/YR
Energy Cost:	13.54	Cents/KWH
$/Acre-foot:	$66.16	

System Specs

Drive:	Electric Motor
Drive Make:	Newman
Horse Power:	100
Pump Make:	Unknown
Pump Type:	Turbine
Water Source:	Well

Pump Location

Service Address:	SE NE SW SEC 20-12-2
Service City:	Fresno
Cust Station Name:	RANCH 41, DW #4
Pump ID:	1
PG&E Plant Name:	

Pump Test Results

Survey Date	Test Type	Run	Standing Water Level (ft)*	Draw Down (ft)**	Pumping Water Level (ft)*	Discharge Level (ft)*	Discharge Pressure (PSI)*	Total Lift (ft)**	PG&E Water Flow (gpm)*	Customer Water Flow (gpm)*	Well Yield (gpm/ft)**	KW Input*	Horse Power Input**	Percent of Rated Motor Load**	Acre Feet Per 24 Hours**	kWh per Acre Foot**	Overall Plant Efficiency (%)**
07/23/1998	Routine Test	1				8.8	3.8		1,047			94.2	126.3	115.0	4.6	488.6	

Key: * = Measured in field ** = Calculated value

Test Remarks

Run	Condition
1	Test results may be impaired due to poor hydraulic test section.

TOO MUCH FALLING WATER FOR ACCURATE SOUNDING.

Potential Savings

The Potential Savings shown below are possible if the overall efficiency of the pumping plant is improved to the level indicated under the Estimated After Repairs column.

Not Applicable

APPENDIX D

PUMP TESTS FOR SUPPLY WELLS

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS
600 WEST SHAW, SUITE 250
FRESNO, CALIFORNIA 93704
TELEPHONE (559) 224-4412

July 13, 2000

Mr. Richard V. Gunner
555 W. Shaw Avenue, Suite B4
Fresno, CA 93704

Re: New Well at Gunner Ranch

Dear Richard:

Attached are copies of the electric log and our geologic log for the new well located south of Avenue 10 and about one quarter mile west of Highway 41. On June 28, 2000, Cal West Rain of Kerman conducted a 9-hour step drawdown test on the new well. The static level prior to pumping was 233.4 feet below the measuring point. The well was pumped for three hours at an average rate of 660 gpm, for the next three hours at 1,010 gpm, and for the last three hours at 1,385 gpm. Following is information on pumping levels, drawdowns, and specific capacities for the test.

Pumping Rate (gpm)	Time (hours)	Pumping Level (feet)	Drawdown (feet)	Specific Capacity (gpm per foot)
660	3.0	265.7	32.3	20.4
1,010	3.0	286.5	53.1	19.1
1,385	3.0	301.5	68.1	20.3

A total of 549,900 gallons was pumped during the test, and the average pumping rate was 1,020 gpm. Drawdown measurements indicate a transmissivity of 37,000 gpd per foot.

Water-level recovery was measured for three hours after pumping stopped. After three hours of recovery, depth to water was 246.1 feet, or about 13 feet below the static level prior to pumping. Recovery measurements indicate that full recovery would have occurred within about 13 hours after pumping stopped. Recovery measurements indicate a transmissivity of 32,000 gpd per foot. Copies of the pump test measurements are attached.

Considering the top of the perforations (300 feet deep), I recommend pumping the well at no more than about 850 gpm. At that pumping rate, the pumping level is expected to normally range from about 280 to 300 feet. I recommend installing the pump to a depth of about 420 feet, to allow for future water-level declines. We will provide the results of chemical analyses when they are available. Please call me if you have any questions.

Sincerely yours,

Kenneth D. Schmidt

KDS/sll

Gunner Ranch
Well No. 1

Length of Air Line 342'
Pump Setting 342'
Top of Perfs 300'

DRAWDOWN MEASUREMENTS
Airline Used to measure Water Level

+/min	Date/Time	Water Level (feet) 342 - (PSI x 2.31)		Well Discharge AF Inst. (gpm)	Total ~~(gallons)~~	Notes
	6/28/00 6:45am	SWL - 47x2.31 = 233.4			212.8075	
	6:50am	SWL = 47x2.31 = 233.4				
+/min	7:00am	Pump On		700		
1	7:00am	(38)	254.2		0212.81	
2	7:02am	(36)	258.8		0212.81	
4	7:04 am	(36)	258.8			
6	7:06 am	(36)	258.8			
8	7:08 am	(36)	258.8			
10	7:10 am	(36)	258.8	716	0212.81	
12	7:12am	(35)	261.1		0212.82	STEP1
14	7:14am	(35)	261.1		021283	
16	7:16am	(35)	261.1		021284	QwtQ: 659
18	7:18 am	(35)	261.1		021284	dd: 32.3 ft
20	7:20am	(35)	261.1		021284	SC: 20.4
25	7:25am	(35)	261.1		021285	
30	7:30am	(34)	263.4		021287	
35	7:35am	(34)	263.4		021288	
40	7:40 am	(33)	265.7		0212.89	
45	7:45am	(33)	265.7		0212.90	
50	7:50 am	(34)	263.4		021290	
60	8:00 am	(33)	265.7		0212.92	
65	8:05 am	(34)	263.4		0212.93	
70	8:10 am	(33)	265.7		0212.94	
75	8:15 am	(35)	261.1	717	0212.95	
80	8:20 am	(35)	261.1		0212.96	
85	8:25 am	(34)	265.7		0212.97	
90	8:30 am	(34)	265.7		0212.98	T 73°F
95	8:35 am	(34)	265.7		0212.99	EC 253 umh
100	8:40 am	(34)	265.7		0213.00	pH 7.0
105	8:45 am	(34)	265.7		0213.01	
110	8:50 am	(34)	265.7		0213.02	
120	9:00 am	(34)	265.7	681	0213.04	
130	9:10 am	(33)	265.7		213.06	
145	9:25 a m	(33)	265.7		213.10	

Gunner Ranch

Well No. 1

– AF readings, x 325,851, ÷ by min

WL = 342 – (PSI x 2.31)

DRAWDOWN MEASUREMENTS

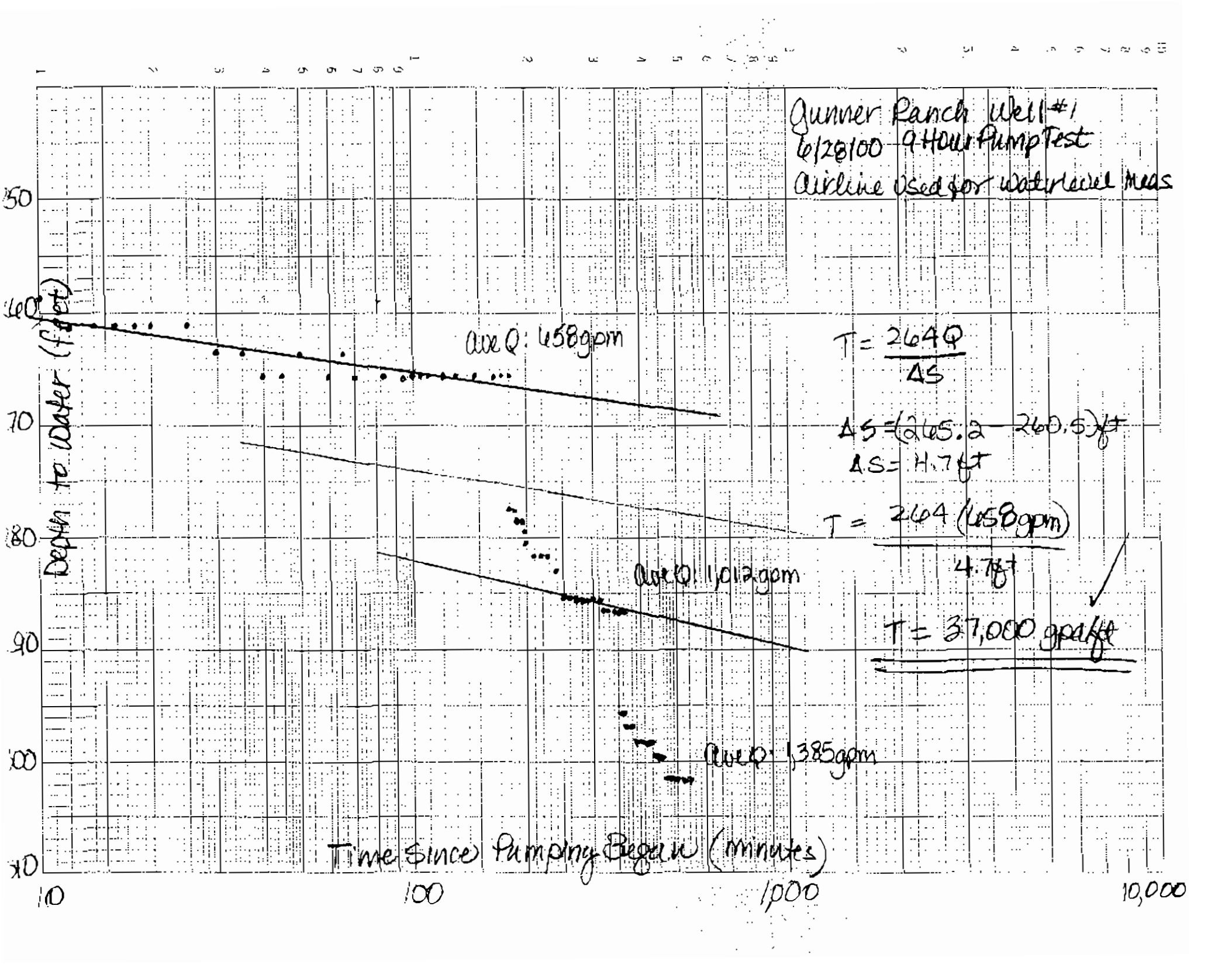
/min	Date/Time 6/28/00	Water Level (feet)		Well Discharge Inst. (gpm)	Well Discharge AF Total (~~gallons~~)	Notes
162	9:42 am	(33)	265.7		213.13	
178	9:55 am	(33)	265.7		213.16	
180	10:00	(33)	265.7		213.171	no sand
	10:00 am	Increase Q →			213.171	
182	10:02	(28)	277.3		213.176	
184	10:04	(28)	277.3		213.1825	
186	10:06	(27.5)	278.5			
188	10:08	(27.5)	278.5	1,026		
190	10.10	(27.5)	278.5		213.2026	
196	10:16	(27.5)	278.5		213.2025	STEP 2
198	10:18	(26.5)	280.7		213.2085	ave Q 1,029
200	10:20	(26.5)	280.7		213.2045	dd 53.1 ft
210	10:30	(26)	281.9		213.275	SC 19.1 gpm
220	10:40	(26)	281.9		213.385	
230	10:50	(26)	281.9		213.310	
240	11:00 am	(25.5)	283.0		213.325	
250	11:10 am	(24.5)	285.4		213.355	
260	11:20 am	(24.5)	285.4		213.365	
270	11:30 am	(24.5)	285.4			
280	11:40 am	(24.5)	285.4		213.495	
290	11:50 am	(24.5)	285.4		213.515	
300	12:00 pm	(24.5)	285.4		213.530	
310	12:10 pm	(24.5)	285.4		213.545	T 75°F
320	12:20 pm	(24)	286.5		213.6160	EC 253 umh
330	12:30	(24)	286.5		213.675	pH 7.02
340	12:40	(24)	286.5		213.690	
350	12:50	(24)	286.5		213.710	
360	1:00 pm	(24)	286.5		213.730	
	1:00 pm	Increase Q →				
362	1:02 pm	(20)	295.8		213.740	
364	1:04 pm	(20)	295.8		213.765	
366	1:06 pm	(20)	295.8		213.740	
368	1:08 pm	(19.5)	296.9		213.735	
370	1:10 pm	(19.5)	296.9		213.710	

Gunner Ranch

Well No. 1

DRAWDOWN MEASUREMENTS

t/min	Date/Time 6/28/00	Water Level (feet)		Well Discharge AF Inst. (gpm)	Total (~~gallons~~)	Notes
372	1:12 pm	(19.5)	296.9		213.790	
374	1:14 pm	(19.5)	296.9		213.880	
376	1:16 pm	(19.5)	296.9		213.860	
378	1:18 pm	(19.5)	296.9	1,292	213.835	
380	1:20 pm	(19.5)	296.9		213.825	STEP 3
390	1:30 pm	(19)	298.1		213.830	Ave Q: 1,385
400	1:40	(19)	298.1		213.970	dd: 68.1ft
410	1:50	(19)	298.1		213.935	Sc: 2039
420	2:00 pm	(19)	298.1		213.990	
430	2:10 pm	(19)	298.1		214.050	
440	2:20 pm	(18.5)	299.2		214.065	T 75°F
450	2:30 pm	(18.5)	299.2		214.160	EC 271 umh
460	2:40	(18.5)	299.2	1,392	214.185	pH 7.02
470	2:50	(17.5)	301.5		214.195	
480	3:00	(17.5)	301.5		214.270	
490	3:10	(17.5)	301.5		214.275	No Sand
500	3:20	(17.5)	301.5		214.380	
510	3:30	(17.5)	301.5		214.375	
520	3:40	(17.5)	301.5		214.375	
530	3:50	(17.5)	301.5		214.475	
540	4:00 pm	(17.5)	301.5		214.495	
	4:00 pm	Pump Shut off.				


Gunner Ranch Well #1
6/28/00 9 Hour Pump Test
Airline Used for Water Level Meas
Ave Q: 458 gpm
Ave Q: 1,012 gpm
Ave Q: 1,385 gpm
T = 264Q / ΔS
ΔS = (265.2 − 260.5) ft
ΔS = 4.7 ft
T = 264 (458 gpm) / 4.7 ft
T = 37,000 gpd/ft
Depth to Water (Feet)
Time Since Pumping Began (Minutes)
50
60
70
80
90
100
10
100
1,000
10,000

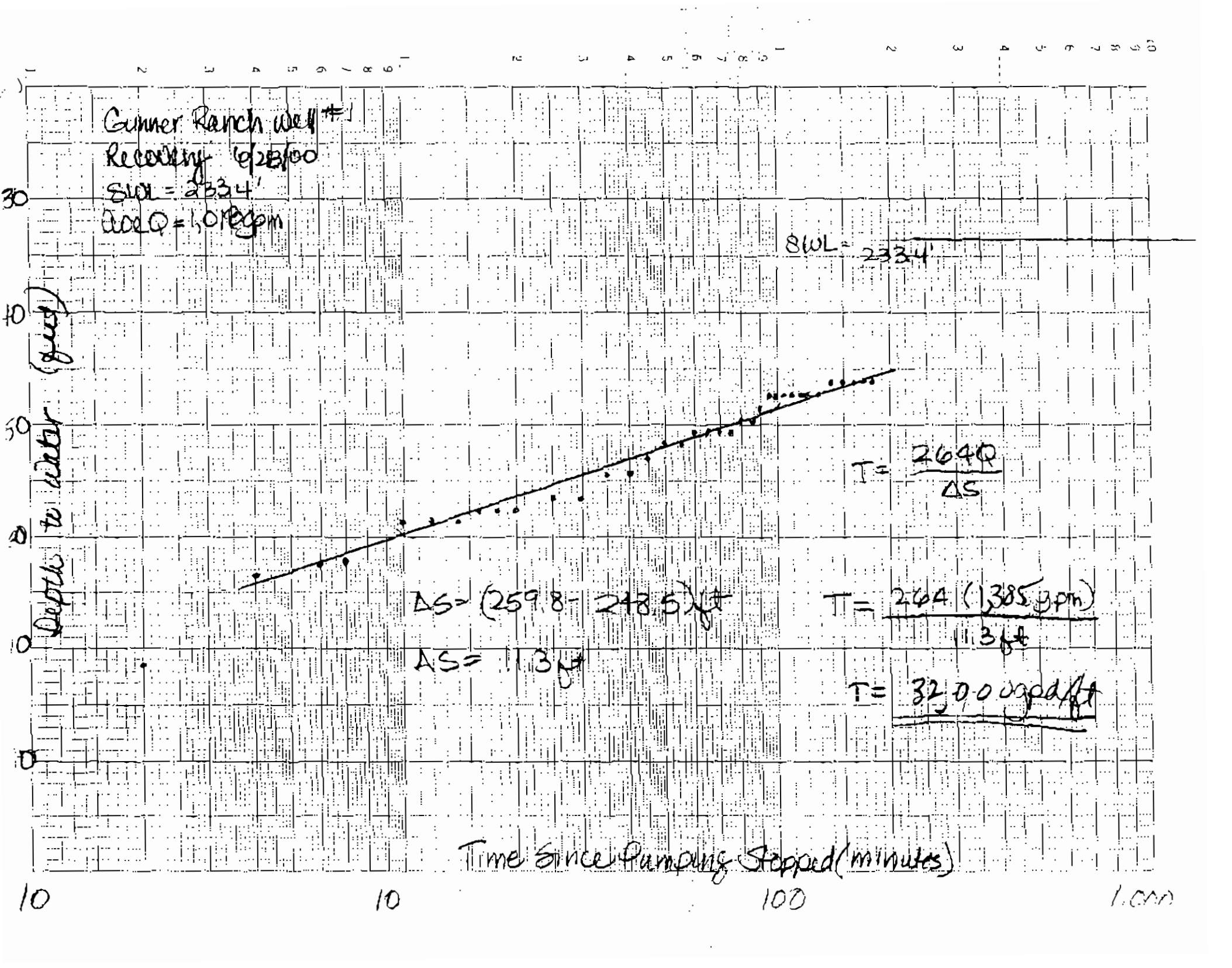
Gunner Ranch
Well No. 1

Page No. 1/1

SWL = 233.4'
Airline Used for WL Meas.
Length of Air Line 342'

RECOVERY MEASUREMENTS

t (min)	Date/Time	342 − Water Level (PSI) x 2.31 (feet)		t (min)	Date/Time	Water Level (feet)	
	6/28/00						
	4:00pm	Pump Shut off		t(min)	6/28/00		
2	4:02 pm	(30.5)	271.5	95	5:35	(41)	247.2
4	4:04	(34)	263.4	100	5:40	(41)	247.2
6	4:06	(34.5)	262.3	105	5:45	(41)	247.2
8	4:08	(34.5)	262.3	110	5:50	(41)	247.2
10	4:10	(36)	258.8	115	5:55	(41)	247.2
12	4:12	(36)	258.8	120	6:00 pm	(41)	247.2
14	4:14	(36)	258.8	130	6:10	(41)	247.2
16	4:16	(36.5)	257.6	140	6:20	(41.5)	246.1
18	4:18	(36.5)	257.6	150	6:30	(41.5)	246.1
20	4:20	(36.5)	257.6	160	6:40	(41.5)	246.1
25	4:25	(37)	256.5	170	6:50	(41.5)	246.1
30	4:30	(37)	256.5	180	7:00 pm	(41.5)	246.1
35	4:35	(38)	254.2	End of Measurements			
40	4:40	(38)	254.2				
45	4:45	(38.5)	253.0				
50	4:50	(39)	251.9				
55	4:55	(39)	251.9				
60	5:00 pm	(39.5)	250.7				
65	5:05	(39.5)	250.7				
70	5:10	(39.5)	250.7				
75	5:15	(39.5)	250.7				
80	5:20	(40)	249.6				
85	5:25	(40)	249.6				
90	5:30	(40.5)	248.4				


Gunner Ranch Well #1
Recovery 9/28/00
SWL = 2334'
Last Q = 1,080 gpm
SWL = 2334'
T = 264Q / ΔS
ΔS = (259.8 - 248.5) ft
ΔS = 11.3 ft
T = 264 (1,385 gpm) / 11.3 ft
T = 32,000 gpd/ft
Depths to water (feet)
Time Since Pumping Stopped (minutes)
10
10
100

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS
600 WEST SHAW, SUITE 250
FRESNO, CALIFORNIA 93704
TELEPHONE (209) 224-4412

July 25, 2000

Mr. Richard V. Gunner
555 W. Shaw Avenue, Suite B4
Fresno, CA 93704

Re: Ag Well B1-1 at Gunner Ranch

Dear Richard:

On July 13, 2000, Cal West Rain of Kerman conducted a 9-hour step drawdown test on the new well. The static level prior to pumping was 190.5 feet below the measuring point. The well was pumped for three hours at an average rate of 485 gpm, for the next three hours at 805 gpm, and for the last three hours at 1,115 gpm. Following is information on pumping levels, drawdowns, and specific capacities for the test.

Pumping Rate gpm	Time (hours)	Pumping Level (feet)	Drawdown (feet)	Specific Capacity (gpm per foot)
485	3.0	252.9	62.4	7.8
805	3.0	294.4	103.9	7.8
1,115	3.0	345.2	154.7	7.2

A total of 433,600 gallons was pumped during the test, and the average pumping rate was 805 gpm. Drawdown measurements indicate a transmissivity of 9,000 gpd per foot, which isn't considered representative of the aquifer.

Water-level recovery was measured for three hours after pumping stopped. After three hours of recovery, depth to water was 206.7 feet, or about 16 feet below the static level prior to pumping. Recovery measurements indicate that full recovery would have occurred within about 17 hours after pumping stopped. Recovery measurements indicate a transmissivity of 16,000 gpd per foot.

Depth to water was measured in the new well during the pump test. Depth to water in this well was 234.1 feet prior to pumping and 236.9 feet near the end of the pumping period. Thus the apparent drawdown was 2.8 feet. Projections indicate that a drawdown of about 5 to 10

feet would be expected in the new well due to pumping of Well B1-1, for several days. Copies of the pump test measurements are attached.

Considering the drawdowns experienced, I recommend pumping the well at no more than about 800 gpm. At that pumping rate, the pumping level is expected to normally range from about 300 to 320 feet. I recommend installing the pump to a depth of about 400 feet, to allow for future water-level declines. We will provide the results of chemical analyses when they are available. Please call me if you have any questions.

Sincerely yours,

Kenneth D. Schmidt

KDS:sam

Gunner Ranch

Well No. ~~Aquell~~ BI-1

Page No. 1/3

Top of Perf 220' T.D. 490'

Length of Airline 403'

DRAWDOWN MEASUREMENTS

PSI x 2.31 - 403' = WL

min	Date/Time	Water Level (feet)	Well Discharge Inst. (gpm)	Well Discharge Total (~~gallons~~)	Notes
	7/13/00 6:50am	SWL = 92 190.5		216514 63	
	6:58am	SWL = 92 = 1905'			
	7/13/00 7:00am	Pump On	500		
1	7:00am	(79) 220.51		216555 20	
2	7:02am	(78) 222.8			
4	7:04	(74) 232.1		216656 20	
6	7:06	(73) 234.4		216657 50	STEP 1
8	7:08	(73) 234.4'		216657 85	Ave Q: 486
10	7:10	(73) 234.4		216657 15	dd: 62.4'
12	7:12	(72) 234.4		216657 50	SC: 7.89pm/
14	7:14	(72) 234.4	514	216658 75	
16	7:16	(71) 238.9		216658 13	
18	7:18	(71) 238.9		216658 35	
20	7:20	(70) 241.3	506	216658 05	
26	7:26	(70) 241.3		216659 45	
30	7:30	(70) 241.3	513	216660 13	
35	7:35	(70) 241.3		216661 90	No Sand
40	7:40	(70) 241.3	514	216661 65	
45	7:45	(70) 241.3		216662 30	T 74° F
51	7:51	(70) 241.3		216663 20	EC 125umhos
60	8:00am	(70) 241.3		216664 45	pH 6.22
72	8:12	(69) 243.6	513	216666 20	No Odor
80	8:20	(68) 245.9		216667 10	
85	8:25	(68) 245.9		216668 25	
90	8:30	(68) 245.9	512	216669 85	
95	8:35	(68) 245.9		216669 60	
100	8:40	(67) 248.2		216670 20	
105	8:45	(67) 248.2		216671 80	
110	8:50	(67) 248.2		216671 63	
120	9:00am	(67) 248.2	510	216673 0	T 74° F
131	9:11	(67) 248.2	508	216674 60	EC 125umhos
146	9:25	(66) 250.5	511	216676 70	pH 6.59
156	9:35	(66) 250.5	511	216678 75	No Odor
166	9:45	(65) 252.9	505	216679 40	

James

Gunner Ranch

Well No. B1 Well 1 Page No. 2/3

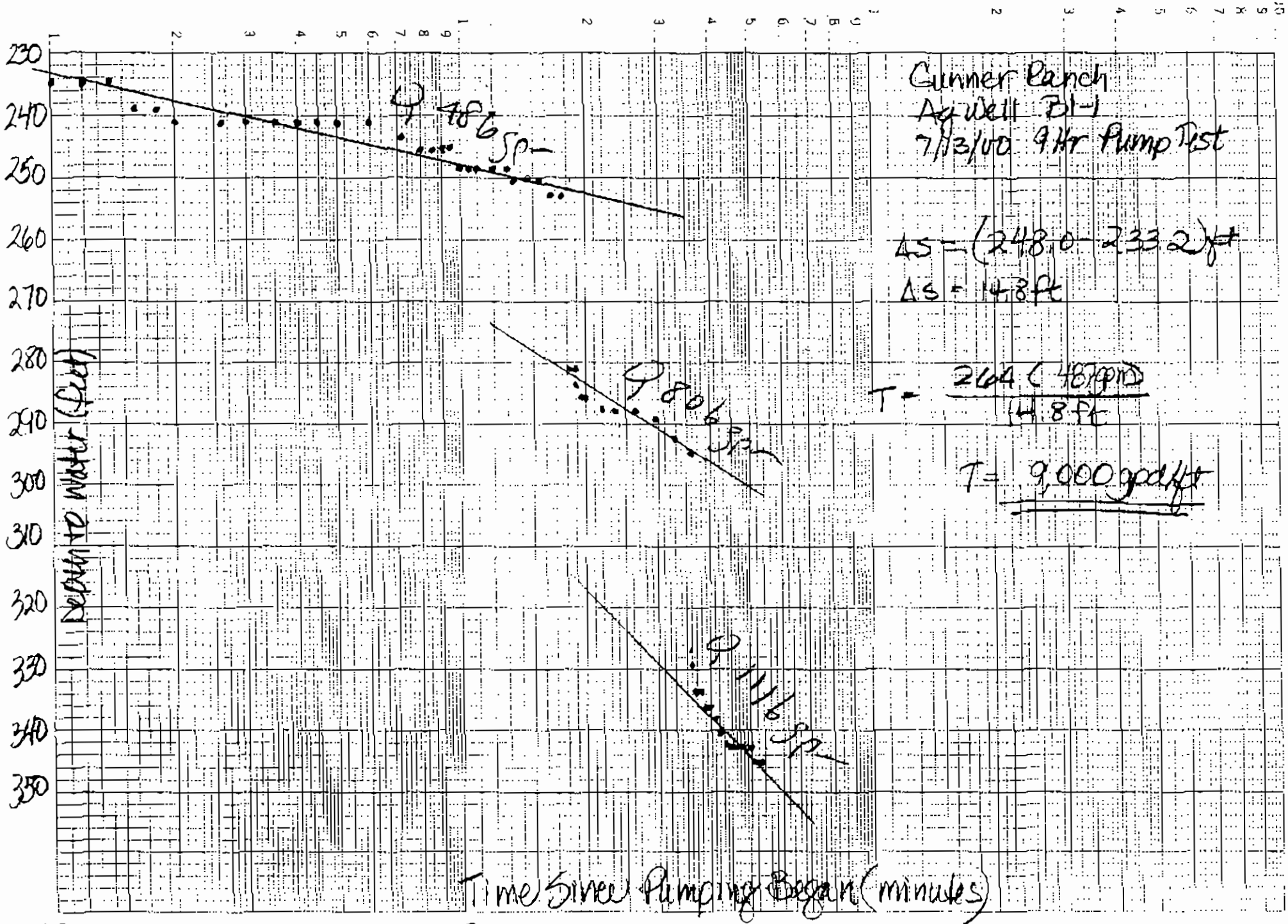
Topperf 220'

Airline Length 403'

DRAWDOWN MEASUREMENTS

(PSI x 2.31 - 403) = WL

min	Date/Time 7/13/00	Water Level (feet)	Well Discharge Inst. (gpm)	Well Discharge Total (~~gallons~~ AF x1,000)	Notes
175	9:55 am	(65) 252.9		21680.80	
180	10:00 am	Increase Q →	800	21681.50	STEP 2
182	10:02	(53) 280.6		21682.05	Ave Q: 806gpm
184	10:04	(53) 280.6	830	21682.60	dd: 103.9'
186	10:06	(53) 280.6		21683.10	SC: 7.89gpm/ft
188	10:08	(53) 280.6	814	21683.60	
190	10:10	(52) 282.9		21684.08	
192	10:12	(52) 282.9		21684.60	
194	10:14	(51) 285.2		21685.10	
196	10:16	(51) 285.2		21685.85	No Sand
198	10:18	(51) 285.2		21686.13	
200	10:20	(51) 285.2	818	21686.60	T 74°F
220	10:40	(50) 287.5	814	21692.45	EC 128umhos
235	10:55	(50) 287.5	812	21695.30	pH 6.63
265	11:25 am	(50) 287.5	811	21703.85	No Odor
295	11:55 am	(49) 289.8	814 807	21710.03	
326	12:26pm	(48) 292.1	811 806	21718.95	
360	12:60pm 1:00pm	(47) 294.4 Increase Q →	1,100	21726.05	
362	1:02	(33) 326.8	1,118	21727.80	
364	1:04	(32) 329.1		21727.45	
366	1:06	(31) 331.4		21728.15	STEP 3
368	1:08	(31) 331.4		21729.80	Ave Q: 1,116gpm
370	1:10	(30) 333.7	1,120	21729.50	dd: 154.7'
372	1:12	(30) 333.7		21730.20	SC: 7.2gpm/ft
374	1:14	(30) 333.7		21731.90	
376	1:16	(30) 333.7		21731.60	
378	1:18	(30) 333.7		21732.25	
380	1:20	(30) 333.7		21733.93	
385	1:25	(30) 333.7		21734.65	T 74°F
390	1:30	(29) 336.0	1,110	21736.30	EC 128 umhos
400	1:40	(29) 336.0	1,118	21739.55	pH 7.0
410	1:50	(28) 338.3		21744.15	No Odor
420	2:00pm	(27) 340.6	1109	21745.33	
430	2:10	(26) 342.9		21749.75	


Gunner Ranch
Ag Well #1
7/13/00 9 Hr Pump Test
Q = 486 GPM
Q = 486 GPM
Q = 486 GPM
Δs = (248.0 - 233.2) ft
Δs = 14.8 ft
T = 264 (486 GPM) / 14.8 ft
T = 9,000 gpd/ft
Depth to Water (feet)
230
240
250
260
270
280
290
300
310
320
330
340
350
Time Since Pumping Began (minutes)
10
100
1,000

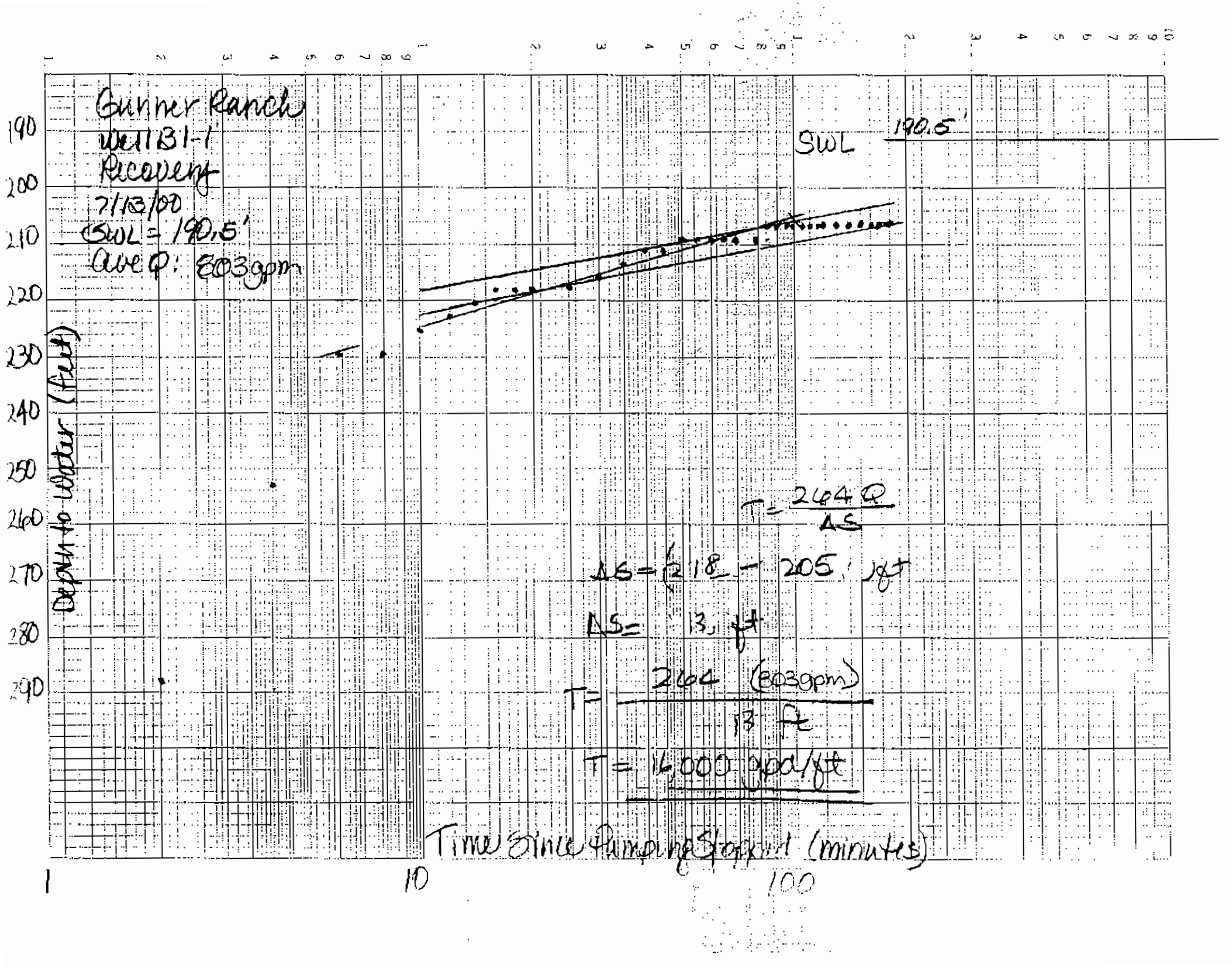
Gunner Ranch
Well No. B1 Well 1

Page No. 1/1

Airline used for WL meas.
Length of airline 403'

RECOVERY MEASUREMENTS

	Date/Time 7/13/00	Water Level (PSI)x2.31 + (-403) = WL (feet)		Date/Time 7/13/00	Water Level (PSI)x2.3 + (-403) = WL (feet)	
min	4:00 pm	Pump shut off		+/min		
2	4:02	(50)	287.5	100	5:40	(85) 206.7
4	4:04	(65)	252.9	105	5:45	(85) 206.7
6	4:06	(75)	229.8	110	5:50	(85) 206.7
8	4:08	(75)	229.8	115	5:55	(85) 206.7
10	4:10	(77)	225.1	120	6:00 pm	(85) 206.7
12	4:12	(78)	222.8	130	6:10	(85) 206.7
14	4:14	(79)	220.5	140	6:20	(85) 206.7
16	4:16	(80)	218.2	150	6:30	(85) 206.7
18	4:18	(80)	218.2	160	6:40	(85) 206.7
20	4:20	(80)	218.2	170	6:50	(85) 206.7
25	4:25	(80)	218.2	181	7:01 pm	(85) 206.7
30	4:30	(81)	215.9	End of Measurements		
35	4:35	(82)	213.6			
40	4:40	(83)	211.3			
45	4:45	(83)	211.3			
50	4:50	(84)	208.91			
55	4:55	(84)	208.91			
60	5:00 pm	(84)	208.9			
65	5:05	(84)	208.9			
70	5:10	(84)	208.9			
80	5:20	(84)	208.9			
85	5:25	(85)	206.7			
90	5:30	(85)	206.7			
95	5:35	(85)	206.7			


Gunner Ranch
WellB1-1
Recovery
7/13/00
SWL = 190.5'
Ave Q: 803gpm
SWL
190.5'
Depth to Water (feet)
190
200
210
220
230
240
250
260
270
280
290
T = 264 Q / Δs
Δs = 218 - 205 ft
Δs = 13 ft
T = 264 (803gpm) / 13 ft
T = 16,000 gpd/ft
Time Since Pumping Stopped (minutes)
1
10
100

Grinnell Ranch

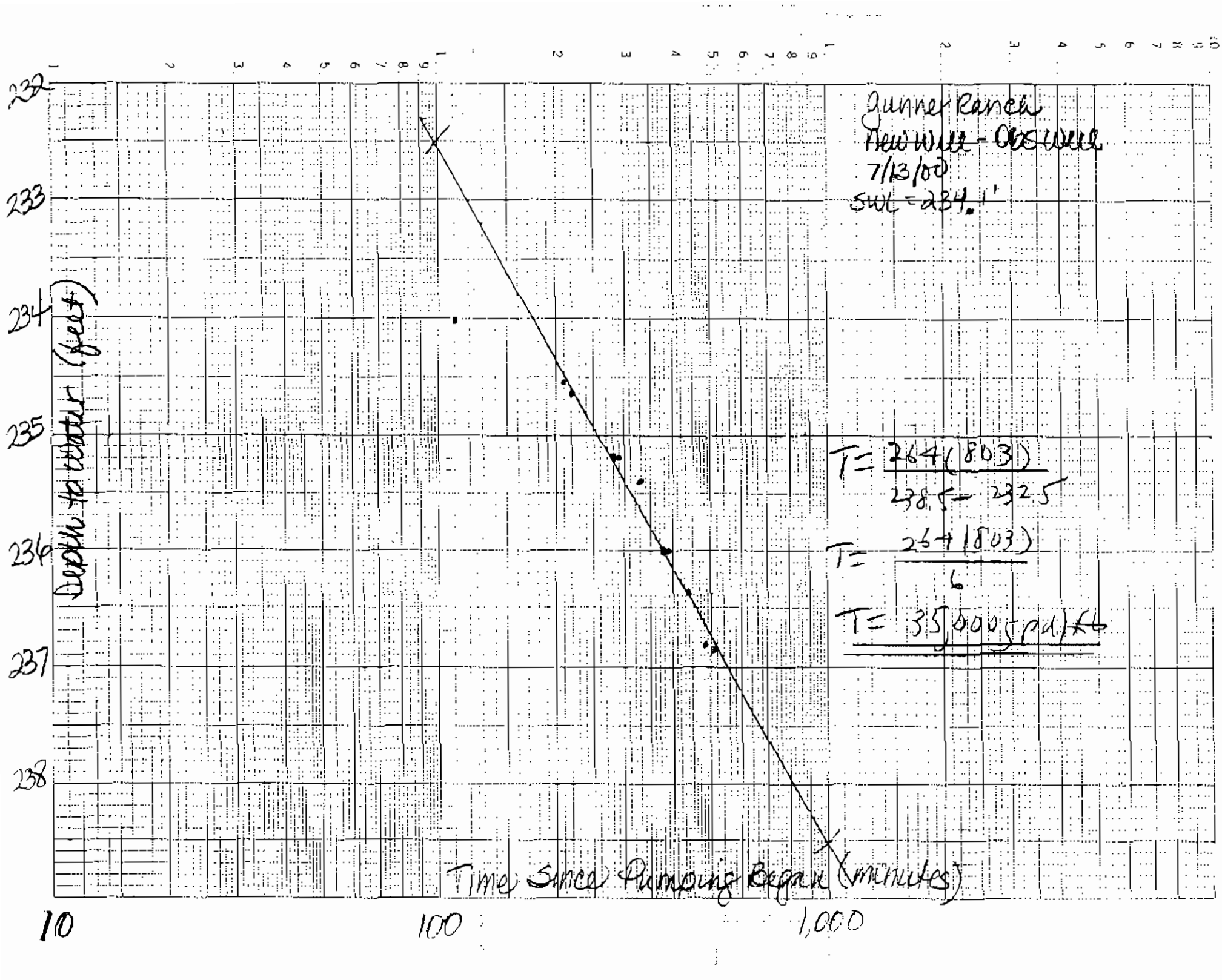
Well No. 1

Page No. 1/1

Obs. Well

DRAWDOWN MEASUREMENTS

t (min)	Date/Time 7/13/00	Water Level (feet)	~~Well Discharge~~ Inst. (gpm)	~~Well Discharge~~ ~~Total (gallons)~~	Notes
	6:30	SWL = 234.05			
	7:00am	Ag Well Pump On	(B1 Well 1)		
110	8:50 am	234.02			
208	10:28 am	234.55			
219	10:39 am	234.65			
280	11:40 am	235.20			
290	11:50 am	235.23			
330	12:30 pm	235.41			
377	1:43 pm	236.00			
283	1:48 pm	236.01			
442	2:22 pm	236.37			
493	3:13 pm	236.82			
504	3:24 pm	236.85			
540	4:00 pm	Ag Well (B1-1) Pump Off			


Sunner Ranch
New Well - Obs Well
7/13/00
SWL = 234.1'
Depth to water (feet)
232
233
234
235
236
237
238
Time Since Pumping Began (minutes)
10
100
1,000
T = 264(803) / 238 - 225
T = 264(803) / 6
T = 35,000 (gpd) x 6

Gunner Ranch

Well No. 1

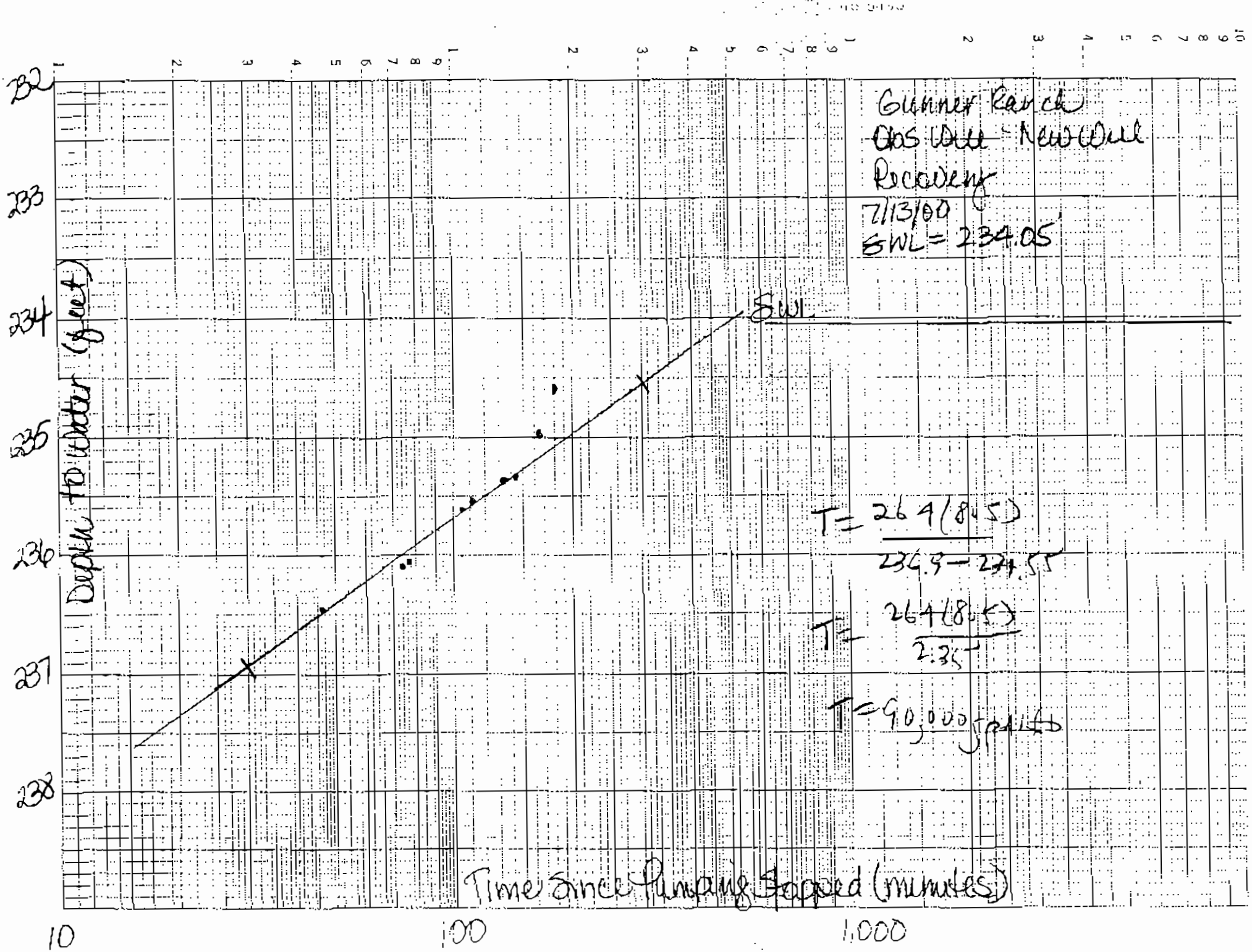
Page No. 1/1

Obs. Well

RECOVERY MEASUREMENTS

(PSI) x 2.31 + (-403) = WL

+(min)	Date/Time	Water Level (feet)	Date/Time	Water Level (feet)
	7/13/00 4:00pm	Obs. Well Pump Off		
46	4:46	236.23		
73	5:13pm	236.10		
77	5:17	236.05		
106	5:46	235.62		
108	5:48	235.56		
111	5:51	235.55		
131	6:11pm	235.37		
135	6:15	235.36		
43	6:23	235.34		
63	6:43	234.95		
180	7:00	234.54		
	End of	Measurements		


Gunner Ranch
Obs Well - New Well
Recovery
7/13/00
SWL = 234.05'
SWL
T = 264(8.5)
234.5 - 234.05
T = 264(8.5)
2.35
T = 90,000 gpd
Depth to Water (feet)
Time Since Pumping Stopped (minutes)
232
233
234
235
236
237
238
10
100
1,000

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS
600 WEST SHAW, SUITE 250
FRESNO, CALIFORNIA 93704
TELEPHONE (209) 224-4412

January 27, 1997

Mr. Brian Ehlers
Provost & Pritchard, Inc.
286 W. Cromwell
Fresno, CA 93711-6162

Re: Pump Test for VCH
Off-site Supply Well

Dear Brian:

On January 23-24, 1997, Cal West Rain of Kerman conducted a 24-hour pump test on the Off-site Supply Well. The static water level in the pumped well was 152.1 feet prior to pumping. The well was pumped for three hours at an average rate of about 705 gpm, for the next three hours at 1,015 gpm, for the next two and a half hours at 1,395 gpm, and for the rest of the pumping period at 885 gpm. Following is information on pumping levels, drawdowns, and specific capacities for the test.

Pumping Rate (gpm)	Time (hours)	Pumping Level (feet)	Drawdown (feet)	Specific Capacity (gpm/ft)
705	3.0	221.2	69.1	10.2
1,015	3.0	264.8	112.8	9.0
1,395	2.5	314.0	162.0	8.6
885	15.5	258.7	106.6	8.3

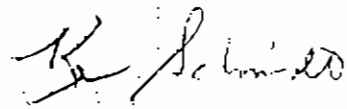
A total of 1,342,200 gallons was pumped during the test and the average pumping rate was 930 gpm. An aquifer transmissivity of 14,000 gpd per foot was determined from drawdown measurements in the pumped well. Depth to water was also measured in the On-site Supply Well during pumping of the new well. The water-level in the On-site Well fell from 141.4 feet prior to pumping to 148.7 feet near the end of the pumping period, or a drawdown of 7.3 feet.

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS

Water-level recovery was measured for four and a half hours after pumping stopped. After 4.5 hours of recovery, depth to water in the pumped well was 163.0 feet, or about 11 feet below the static level prior to pumping. Uncorrected recovery measurements for the pumped well indicated a transmissivity of 18,000 gpd per foot. The transmissivity values are in good agreement with the specific capacity value at the lowest pumping rate. After four and two-thirds hours of recovery, depth to water in the On-site well was 142.6 feet, or 1.2 feet below the static level prior to pumping.

Noticeable falling water was encountered at pumping rates exceeding 1,000 gpm. Considering the top of the perforations at a depth of 220 feet, I don't recommend pumping the well at more than about 850 gpm. The projected pumping level at a pumping rate of 850 gpm is in the range of 260 to 280 feet. I recommend setting the pump to a depth of at least 330 feet. Please call me if you have any questions.

Sincerely yours,



Kenneth D. Schmidt

Well No. _____ VALLEY CHILDRENS HOSPITAL Page No. 4/3

OFF Site Well

DRAWDOWN MEASUREMENTS

Date/Time	Water Level (feet)	Well Discharge Inst. (gpm)	Well Discharge Total (AF)	Notes
1/23/97 7:10	Ag 152+.18 = 152.18	SWL	0077.4608	
	152+.08 = 152.08	SWL		
much)				
	7:30AM Pump On			
32	198.25 = 198.25			
34	200.95 = 200.95			
36	201+.67 = 201.67	[illegible]	[illegible]	
38	202+.72 = 202.72			STEP 1
7:40	204+.80 = 204.80			Ave Q: 704 gpm
42	205+.69 = 205.69	752	[illegible]	d.d.: 69.1 ft
44	205+.65 = 205.65			SC: 10,290 µS/cm
45	206+.17 = 206.17			
7:50	207+.60 = 207.60	[illegible]	[illegible]	
55	208+.02 = 208.02			
8:00	208+.78 = 208.78	751	[illegible]	
05	209+.24 = 209.24			
10	209+.53 = 209.53			
15	210+.31 = 210.31			
20	210+.82 = 210.82	734		
25	211+.33 = 211.33			
30	211+.67 = 211.67			
35	211+.86 = 211.86			
40	212+.76 = 212.76	709		adj Q
45	213+.53 = 213.53			
8:50	213+.79 = 213.79			
55	215+.32 = 215.32			
9:00	215+.40 = 215.40	681	0077.6459	adj Q
10	218+.85 = 218.85	749		
9:20	219+.31 = 219.31	744		
30	219+.73 = 219.73	727	0077.7159	
9:45	219+.75 = 219.75			
50	220+.29 = 220.29			
10:00 AM	220+.81 = 220.81			TDS 285 mM

Well No. Off site Well — VALLEY CHILDRENS HOSPITAL — Page No. 2/3

DRAWDOWN MEASUREMENTS

	Date/Time	Water Level (feet)	Well Discharge Inst. (gpm)	Well Discharge Total (AF ~~gallons~~)	Notes
	1/23/97				
165	10:15 AM	220.72 - 220.72			
180	10:30	221+.17 - 221.19		00-78.2498	
	10:30AM	Increase Q to 1,000 gpm			
5	10:32 AM	241.50 - 246.50	1,000		
4	34	241+.95 - 246.95			
6	36	247+.85 - 247.85			STEP 2: ✓
8	38	245.59 - 245.59			AVE Q: 1,014 gpm
10	40	249+.17 - 249.17			d.d.: 1178 ft
12	42	249+.71 - 249.71			S.C.: 9.0 gpm/ft
14	44	249+.87 - 249.87	1,032		
16					
20	50	250+.94 - 250.94			
25	55	251+.18 - 251.18		0078.3455	
30	11:00	251+.65 - 251.65	1,006		
35	11:05	251+.81 - 251.81			
40	11:10	252+.16 - 252.16			
45	11:15	252+.51 - 252.51			
50	11:20	252+.66 - 252.66			
55	11:25	252+.83 - 252.83			
60	11:30	253+.10 - 253.10			
250	11:40	253+.45 - 253.45	1067.4	00-78.3791	
260	11:50	253+.71 - 253.71			
270	12:00 PM	253+.90 - 253.90		0078.1380	
280	12:10	254+.21 - 254.21			
290	20	254+.36 - 254.36			
300	30	254+.58 - 254.58	860		
310	40	260+.43 - 260.43	1,019		adj Q
320	50	263+.66 - 263.66			
330	1:00	263+.99 - 263.99	947	0078.3123	
345	15	264+.17 - 264.17			70°F 231 µmho EC
360	1:30	264+.84 - 264.84		0078.4098	Tech Sand
	1:30pm	Increase Q to	1250 gpm		

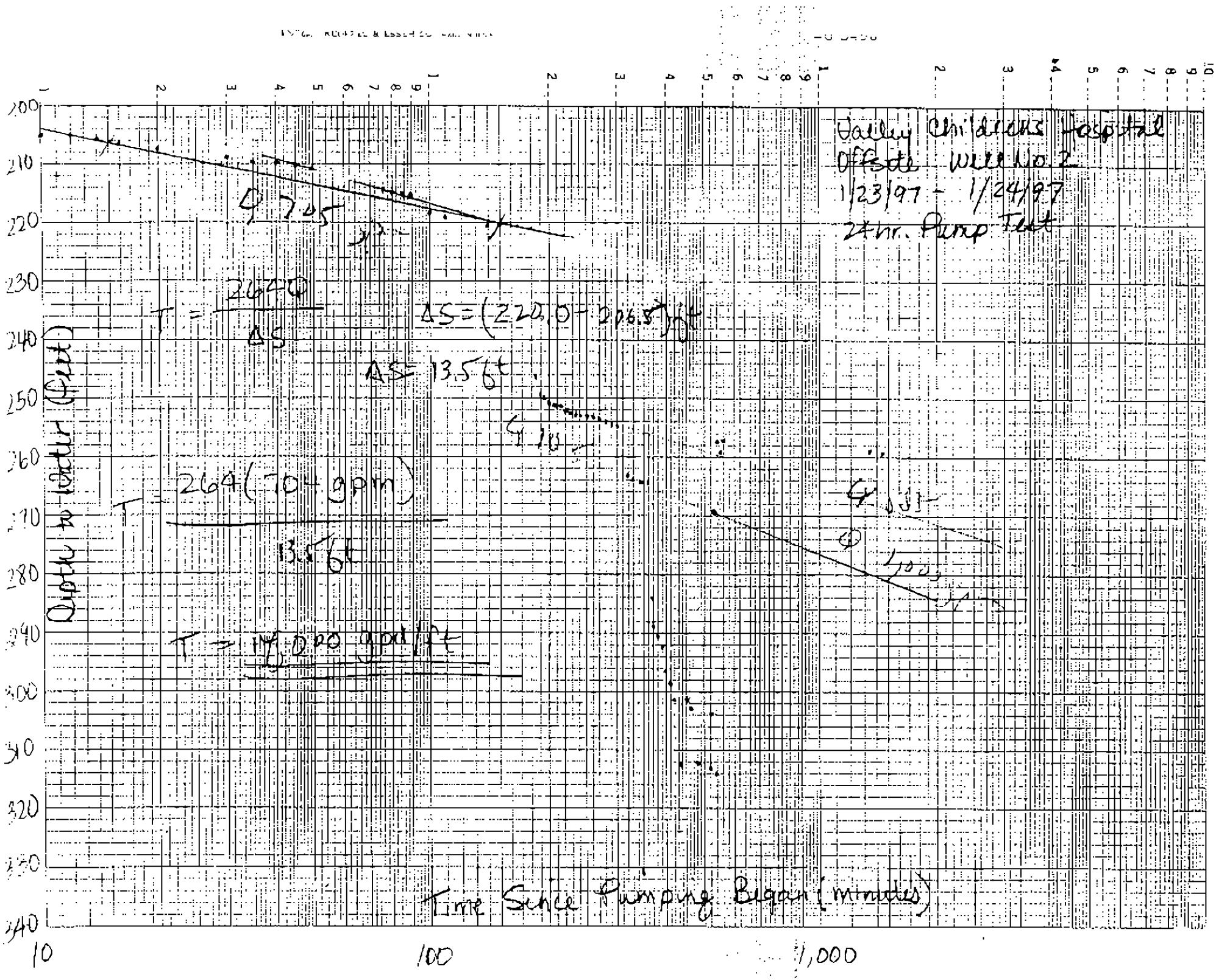
Well No. Offsite Well

VALLEY CHILDRENS HOSPITAL

DRAWDOWN MEASUREMENTS

	Date/Time 1250 gpm	Water Level (feet)	Well Discharge Inst. (gpm)	Total (gallons) AF 7.20 0078.4498	Notes
362	1/23/97 1:32 PM	284+.12 = 284.12			
364	34	281+.86 = 281.86			Falling Water
366	36	282+.45 = 282.45			Cascading sound
368	38	284+.01 = 284.01			
370	40	288+.88 = 288.88			
372	42	290+.01 = 290.01			
374	44	291+.05 = 291.05			
376	46	292+.34 = 292.37			STEP 3:
378	48	292+.83 = 292.83			Ave Q: 1,395 gpm
380	1:50	290+.67 = 290.67	1255		dd: 162.0 ft
385	55	291+.35 = 291.35			SC: 8.6 gpm/ft
390	2:00	292+.09 = 292.09	1270	0078.5265	
395	05	292+.72 = 292.72			
400	10	296+.89 = 296.89			
405	15	298+.06 = 298.06			
410	20	290+.70 = 298.70			
420	2:30	301+.93 = 301.93	1273	0078.6459	
430	40	312+.06 = 312.06			Water Level
					Diff to Meas
450	3:00	301+.45 = 301.45			
460	10	303+.00 = 303.00		0078.8043	Try Sheath
490	3:40	312.42 = 312.42		0078.9312	NG.
502	3:52	313+.80 = 313.80		0078.9702	
510	4:00	314.04 = 314.04	→ Constant Q	0079.0519	Decr. Q
525	4:15 pm	300+.42 = 300.42			
535	4:25	269.00 = 269.00			Lower
540	4:30	257.42 = 257.42		0079.1089	Falling Water
545	4:35	258.23 = 258.23			No Falling
550	4:40	259.53 = 259.53	895		Water
560	4:50	258.52 = 258.52	811	0079.1587	Water Samples Taken
1380	1/24/97 6:50 AM	258+.38 = 258.38	896		EC 232 µmhos
1410	Pump OFF 7:30	258+.65 = 258.65		0091.5798	T 66°F

END OF MEASUREMENTS


Valley Childrens Hospital
Offsite Well No. 2
1/23/97 - 1/24/97
24 hr. Pump Test
Q 725 gpm
T = 2640 / Δs
Δs = (220.0 - 206.5) ft
Δs = 13.5 ft
Q 710 gpm
264 (710 gpm) / 13.5 ft
T = 14,000 gpd/ft
Q 695 gpm
Drawdown (Feet)
Time Since Pumping Began (minutes)
10
100
1,000

Shaw

VALLEY CHILDRENS HOSPITAL

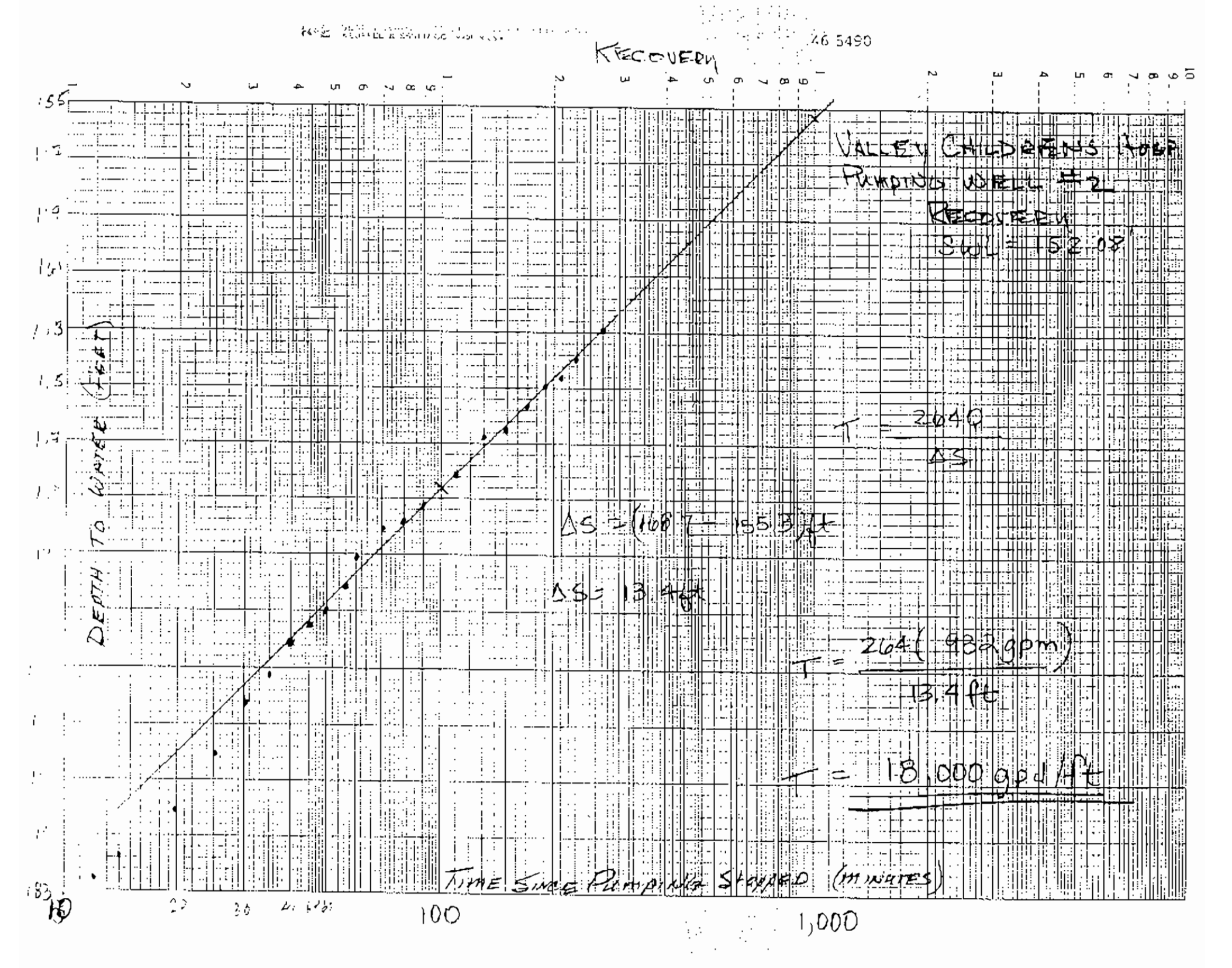
Well No. Off site Well

Page No. 1/1

RECOVERY MEASUREMENTS

SWL 152.08

(min)	Date/Time	Water Level (feet)	(min)	Date/Time	Water Level (feet)
	1/24/97				
	Pump OFF 7:30AM		t		
2	32	191+.67 = 191.67	150	1/24/97 10:00 AM	166+.21 = 166.21
4	34	189+.58 = 189.58	170	10:20	165+.49 = 165.49
6	36	187+.53 = 187.53	190	10:40	164+.92 = 164.92
8	38	185+.21 = 185.21	210	11:00	164+.43 = 164.43
10	7:40	183+.80 = 183.80	230	11:20	163+.78 = 163.78
12	42	182+.70 = 182.70			
14	44	181+.57 = 181.57	270	12:00 PM	162+.95 = 162.95
15	45	180+.12 = 180.12	END OF MEASUREMENTS		
20	7:50	179+.71 = 179.71			
25	55	177.56 = 177.56			
30	8:00	176+.32 = 176.32			
35	05	175+.23 = 175.23			
40	8:10	174+.35 = 174.35			
45	15	173+.41 = 173.41			
50	8:20	172+.91 = 172.91			
55	25	172+.39 = 172.39			
60	8:30	171+.87 = 171.87			
70	8:40	170.83 = 170.83			
80	8:50	169.98 = 169.98			
90	9:00	169.23 = 169.23			
110	20	168.13 = 168.13			
130	9:40 AM	166+.82 = 166.82			


KEUFFEL & ESSER CO.
46 5490
RECOVERY
VALLEY CHILDREN'S HOSP
PUMPING WELL #2
RECOVERY
SWL = 52.04
T = 264Q / Δs
Δs = (108.7 − 95.3) ft
Δs = 13.4 ft
T = 264 (982 gpm) / 13.4 ft
T = 18,000 gpd/ft
DEPTH TO WATER (FEET)
TIME SINCE PUMPING STARTED (MINUTES)
10
100
1,000

Well No. 1 — VALLEY CHILDRENS HOSP. WELL NO. 1 ONSITE — Page No. 1/1

OBSERVATION FOR PUMPING OF OFFSITE WELL

DRAWDOWN MEASUREMENTS

	Date/Time	Water Level (feet)	Well Discharge Inst. (gpm)	Well Discharge Total (gallons)	Notes
	1/23/97 6:50AM	141.32 = WL.32	SWL		OIL HEATH BCE
	Pump on 7:30AM	141.37 = WL.37	SWL		
45	8:15	142.23 - 142.23			
130	9:40	[illegible]			
30	11:20	143.63			
85	12:15	144.28			
	1:20	144.63			
5	2:25	145.20			
10	4:00	[illegible]			
10	1/24/97 7:00	145.65			
		END OF MEASUREMENTS			

VALLEY CHILDRENS HOSPITAL
OBSERVATION FOR #2

Well No. 1

Page No. _____

RECOVERY MEASUREMENTS

Date/Time	Water Level (feet)	Date/Time	Water Level (feet)
1/24/97			
7:30AM	Pump Off		
70 8:40	148.65 = 148.65		
130 9:40	148.04 = 148.04		
210 11:05	145.78 = 145.78		
270 12:15	142.56 = 142.56		
	End of measurements		

APPENDIX E

WATER QUALITY ANALYSES OF WELL WATER

ENVIRONMENTAL

ANALYTICAL CHEMISTS

GENERAL MINERAL, PHYSICAL, INORGANIC, & RADIOLOGICAL CHEMICAL ANALYSES

Date of Report: **July 21, 2000** Sample ID No. **SP 15352-01**
Laboratory Name: **FGL Environmental** Signature Lab Director:
Name of Sampler: **Jenifer Higby** Employed By: **K.D. Schmidt & Assoc**
Date/time Sample Collected: **06/28/2000-1600** Date/Time Sample Rec. @ Lab: **06/30/2000-0930** Date Analyses Completed: **07/18/2000**

System Name: **GUNNER RANCH WELL#1** System Number:

Name or Number of Sample Source: **Gunner Ranch Well** No.1 New Well

User ID: Station Number:

Date/Time of Sample: **0 0 0 6 2 8 1 6 0 0** (Y Y M M D D T T T T) Laboratory Code: **5 8 6 7**

Submitted by: **FGL Environmental** Phone #**(805) 659-0910**

GENERAL MINERAL & PHYSICAL CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
	mg/L	Total Hardness (as $CaCO_3$)	00900	79	7.0
	mg/L	Calcium (Ca)	00916	20	1
	mg/L	Magnesium (Mg)	00927	7	1
	mg/L	Sodium (Na)	00929	31	1
	mg/L	Potassium (K)	00937	3	1
	meq/L	Total Cations		3.0	
	mg/L	Total Alkalinity (as $CaCO_3$)	00410	120	10
	mg/L	Hydroxide (OH)	71830	ND	10
	mg/L	Carbonate (CO_3)	00445	ND	10
	mg/L	Bicarbonate (HCO_3)	00440	150	10
* +	mg/L	Sulfate (SO_4)	00945	ND	1
* +	mg/L	Chloride (Cl)	00940	20	1
45	mg/L	Nitrate (NO_3)	71850	ND	0.4
1.4-2.4	mg/L	Fluoride (F)	00951	0.1	0.1
	meq/L	Total Anions		3.0	
	Std Units	pH (Laboratory)	00403	7.5	0.10
** +	umhos/cm2	Specific Conductance (E.C.)	00095	298	1
*** +	mg/L	Total Filterable Residue at 180 °C (TDS)	70300	220	40
0.5	mg/L	MBAS	38260	ND	0.10

MCL - Maximum Contaminate Level DLR - Detection Limit for Reporting purposes ND - Not Detected at or above DLR
* 250-500-600 ** 900-1600-2200 *** 500-1000-1500 + Indicates Secondary Drinking Water Standards

This report package is not intended for use in the State of Utah unless bound or paginated

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CA ELAP Certification No: 1583

Field Office
Visalia, CA
TEL: 559/734-9473
FAX: 559/734-8435
Mobile: 559/737-2399

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
1000	ug/L	Aluminum	01105	ND	10
6	ug/L	Antimony	01097	ND	1.0
50	ug/L	Arsenic	01002	21	2
1000	ug/L	Barium	01007	148	0.2
4	ug/L	Beryllium	01012	ND	0.2
5	ug/L	Cadmium	01027	ND	0.2
50	ug/L	Chromium (Total Cr)	01034	ND	1
1000 +	ug/L	Copper	01042	ND	50
300 +	ug/L	Iron	01045	100	50
50	ug/L	Lead	01051	ND	0.2
50 +	ug/L	Manganese	01055	130	30
2	ug/L	Mercury	71900	ND	0.2
100	ug/L	Nickel	01067	ND	1
50	ug/L	Selenium	01147	ND	2
50	ug/L	Silver	01077	ND	1
2	ug/L	Thallium	01059	ND	0.2
5000	ug/L	Zinc	01092	ND	50

RADIOLOGICAL CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
15 ‼	pCi/L	Gross Alpha	01501	2	1
	pCi/L	Gross Alpha Counting Error	01502	± 1.0	
20	pCi/L	Uranium	28012	0.3	2
	pCi/L	Uranium Counting Error	A-028	± 1.0	

‼ > 5 May require testing for Uranium and/or Radium. Unaccounted Alpha ((Gross Alpha - Uranium) > 15 exceeds MCL.
Note: Gross Alpha/Beta based on Th-230/Cs-137 Standard Curve.

ADDITIONAL INORGANIC CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
	mg/L	Boron	01020	ND	0.1
	mg/L	Langelier Index Source Temp	71814	-0.5	0.1
10000	ug/L	Nitrate + Nitrite as N	A-029	ND	100
1000	ug/L	Nitrite as N (Nitrogen)	00615	ND	100
	mg/L	Sodium Adsorption Ratio (SAR)	00931	2	1
		Aggressiveness Index	82383	11.3	0.10

MCL - Maximum Contaminate Level DLR - Detection Limit for Reporting purposes ND - Not Detected at or above DLR
+ Indicates Secondary Drinking Water Standards

Wet Lab Analysis

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Cheryl Lassotovitch

Project: GUNNER RANCH

Sample ID: GUNNER RANCH WELL #1

Sample Collection Date: 6/28/00

APPL ID: AP94380

ARF: 33025

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
EPA 150.1	pH	7.7@21.0	N/A	pH Units	6/29/00	6/29/00
EPA 180.1	Turbidity	0.26	0.10	NTU	6/30/00	6/30/00
SM 2120B	Color	Not detected	1.0	UNITS	6/30/00	6/30/00
SM 2150B	Odor	Not detected	1.0	T.O.N.	6/29/00	6/29/00

DBCP and EDB

Kenneth D. Schmidl & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

Attn: Cheryl Lassotovitch

Project: GUNNER RANCH

Sample ID: GUNNER RANCH WELL #1

Sample Collection Date: 6/28/00

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 33025

APPL ID: AP94380

QCG: $DOHS-000703A-26846

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
DOHS	1,2,3-Trichloropropane	Not detected	0.01	ug/L	7/3/00	7/19/00
DOHS	DBCP	Not detected	0.01	ug/L	7/3/00	7/19/00
DOHS	EDB	Not detected	0.01	ug/L	7/3/00	7/19/00
DOHS	Surrogate: DBP	96.8	68-125	%	7/3/00	7/19/00

Run #: 174
Instrument: ECD04
Sequence: 000714
Dilution Factor: 1
Initials: NV

Printed: 7/20/00 10:52:28 AM

EPA 524.2

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Cheryl Lassotovitch
Project: GUNNER RANCH
Sample ID: GUNNER RANCH WELL #1
Sample Collection Date: 6/28/00

ARF: 33025
APPL ID: AP94380
QCG: $524B-000710BC-26578

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 524.2	Chloromethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Dibromochloromethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Dibromomethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Dichlorodifluoromethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Ethylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Freon-113	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Hexachlorobutadiene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Isopropylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Methylene Chloride	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	n-Butylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	n-Propylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Naphthalene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	p-Isopropyltoluene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	sec-Butylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Styrene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	t-1,2-Dichloroethene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	t-1,3-Dichloropropene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	tert-Butylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Tetrachloroethene	Not detected	0.2	ug/L	7/7/00	7/7/00
EPA 524.2	Toluene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Trichloroethene	Not detected	0.2	ug/L	7/7/00	7/7/00
EPA 524.2	Trichlorofluoromethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Vinyl Chloride	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Xylenes	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Surrogate recovery (BFB)	96.7	70-130	%	7/7/00	7/7/00
EPA 524.2	Surrogate recovery (DCB)	100	70-130	%	7/7/00	7/7/00

Run #: 0707G16W.D
Instrument: CHICO
Sequence: C000707
Dilution Factor: 1
Initials: RV

Printed: 7/11/00 04:00:49 PM

EPA 524.2

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

Attn: Cheryl Lassotovitch
Project: GUNNER RANCH
Sample ID: GUNNER RANCH WELL #1
Sample Collection Date: 6/28/00

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 33025
APPL ID: AP94380
QCG: $524B-000710BC-26578

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 524.2	1,1,1,2-Tetrachloroethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,1,1-Trichloroethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,1,2,2-Tetrachloroethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,1,2-Trichloroethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,1-Dichloroethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,1-Dichloroethene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,1-Dichloropropene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2,3-Trichlorobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2,3-Trichloropropane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2,4-Trichlorobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2,4-Trimethylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2-Dibromo-3-chloropropane	Not detected	2.0	ug/L	7/7/00	7/7/00
EPA 524.2	1,2-Dibromoethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2-Dichlorobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2-Dichloroethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,2-Dichloropropane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,3,5-Trimethylbenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,3-Dichlorobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,3-Dichloropropane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	1,4-Dichlorobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	2,2-Dichloropropane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	2-Chlorotoluene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	4-Chlorotoluene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Benzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Bromobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Bromochloromethane	Not detected	1.0	ug/L	7/7/00	7/7/00
EPA 524.2	Bromodichloromethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Bromoform	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Bromomethane	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	c-1,2-Dichloroethene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	c-1,3-Dichloropropene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Carbon Tetrachloride	Not detected	0.2	ug/L	7/7/00	7/7/00
EPA 524.2	Chlorobenzene	Not detected	0.5	ug/L	7/7/00	7/7/00
EPA 524.2	Chloroethane	Not detected	1.0	ug/L	7/7/00	7/7/00
EPA 524.2	Chloroform	Not detected	0.5	ug/L	7/7/00	7/7/00

Run #: 0707C16W.D
Instrument: CHICO
Sequence: C000707
Dilution Factor: 1
Initials: RV

Printed: 7/11/00 04:00:49 PM

ENVIRONMENTAL

ANALYTICAL CHEMISTS

GENERAL MINERAL, PHYSICAL, INORGANIC, & RADIOLOGICAL CHEMICAL ANALYSES

Date of Report: **August 14, 2000** Sample ID No. **SP 15823-01**

Laboratory Name: **FGL Environmental** Signature Lab Director: *for K.D.*

Name of Sampler: **Jenifer Higby** Employed By: **K.D. Schmidt & Assoc**

Date/time Sample Collected:	Date/Time Sample Rec. @ Lab:	Date Analyses Completed:
07/13/2000-1530	**07/18/2000-1130**	**08/04/2000**

System Name: **GUNNER RANCH** System Number:

Name or Number of Sample Source: **B-1 Well 1 Ag Well**

User ID: Station Number:

Date/Time of Sample: **0 0 0 7 1 3 1 5 3 0** (Y Y M M D D T T T T) Laboratory Code: **5 8 6 7**

Submitted by: **FGL Environmental** Phone #(805) 659-0910

GENERAL MINERAL & PHYSICAL CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
	mg/L	Total Hardness (as $CaCO_3$)	00900	39	7.0
	mg/L	Calcium (Ca)	00916	9	1
	mg/L	Magnesium (Mg)	00927	4	1
	mg/L	Sodium (Na)	00929	11	1
	mg/L	Potassium (K)	00937	3	1
	meq/L	Total Cations		1.3	
	mg/L	Total Alkalinity (as $CaCO_3$)	00410	50	10
	mg/L	Hydroxide (OH)	71830	ND	10
	mg/L	Carbonate (CO_3)	00445	ND	10
	mg/L	Bicarbonate (HCO_3)	00440	60	10
* +	mg/L	Sulfate (SO_4)	00945	2	1
* +	mg/L	Chloride (Cl)	00940	6	1
45	mg/L	Nitrate (NO_3)	71850	5.8	0.4
1.4-2.4	mg/L	Fluoride (F)	00951	0.2	0.1
	meq/L	Total Anions		1.3	
	Std Units	pH (Laboratory)	00403	7.2	0.10
** +	umhos/cm2	Specific Conductance (E.C.)	00095	142	1
*** +	mg/L	Total Filterable Residue at 180 °C (TDS)	70300	110	40
0.5	mg/L	MBAS	38260	ND	0.10

MCL - Maximum Contaminate Level DLR - Detection Limit for Reporting purposes ND - Not Detected at or above DLR

* 250-500-600 ** 900-1600-2200 *** 500-1000-1500 + Indicates Secondary Drinking Water Standards

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CA ELAP Certification No: 1563

Field Office
Visalia, CA
TEL: 559/734-9473
FAX: 559/734-8435
Mobile: 559/757-2969

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
1000	ug/L	Aluminum	01105	ND	10
6	ug/L	Antimony	01097	ND	1.0
50	ug/L	Arsenic	01002	5	2
1000	ug/L	Barium	01007	32.6	0.2
4	ug/L	Beryllium	01012	ND	0.2
5	ug/L	Cadmium	01027	ND	0.2
50	ug/L	Chromium (Total Cr)	01034	1	1
1000 +	ug/L	Copper	01042	ND	50
300 +	ug/L	Iron	01045	ND	50
50	ug/L	Lead	01051	ND	0.2
50 +	ug/L	Manganese	01055	ND	30
2	ug/L	Mercury	71900	ND	0.2
100	ug/L	Nickel	01067	ND	1
50	ug/L	Selenium	01147	ND	2
50	ug/L	Silver	01077	ND	1
2	ug/L	Thallium	01059	ND	0.2
5000	ug/L	Zinc	01092	ND	50

RADIOLOGICAL CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
15 ‼	pCi/L	Gross Alpha	01501	0.4	1
	pCi/L	Gross Alpha Counting Error	01502	± 0.77	
20	pCi/L	Uranium	28012	0.2	2
	pCi/L	Uranium Counting Error	A-028	± 1.0	

‼ > 5 May require testing for Uranium and/or Radium. Unaccounted Alpha ((Gross Alpha - Uranium) > 15 exceeds MCL.
Note: Gross Alpha/Beta based on Th-230/Cs-137 Standard Curve.

ADDITIONAL INORGANIC CHEMICALS

MCL	UNITS	CHEMICAL	ENTRY	RESULT	DLR
	mg/L	Boron	01020	ND	0.1
	mg/L	Langelier Index Source Temp	71814	-1.5	0.1
10000	ug/L	Nitrate + Nitrite as N	A-029	1300	100
1000	ug/L	Nitrite as N (Nitrogen)	00615	ND	100
	mg/L	Sodium Adsorption Ratio (SAR)	00931	ND	1
		Aggressiveness Index	82383	10.3	0.10

MCL - Maximum Contaminate Level DLR Detection Limit for Reporting purposes ND - Not Detected at or above DLR
+ Indicates Secondary Drinking Water Standards

Wet Lab Analysis

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Cheryl Lassotovitch

Project: GUNNER RANCH AG WELL

Sample ID: GUNNER RANCH AG WELL (81 WELL1)

APPL ID: AP94726

Sample Collection Date: 7/13/00

ARF: 33098

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
EPA 150.1	pH	7.5@20.8	N/A	pH Units	7/14/00	7/14/00
EPA 180.1	Turbidity	3.0	0.10	NTU	7/14/00	7/14/00
SM 2120B	Color	4.0	1.0	UNITS	7/15/00	7/15/00
SM 2150B	Odor	Not detected	1.0	T.O.N.	7/14/00	7/14/00

Printed: 8/1/00 03:31:08 PM

DBCP and EDB

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Attn: Cheryl Lassotovitch

Project: GUNNER RANCH AG WELL

ARF: 33096

Sample ID: GUNNER RANCH AG WELL (B1 WELL1)

APPL ID: AP94726

Sample Collection Date: 7/13/00

QCG: $DOHS-26902-26902

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
DOHS	1,2,3-Trichloropropane	Not detected	0.01	ug/L	7/17/00	7/18/00
DOHS	DBCP	Not detected	0.01	ug/L	7/17/00	7/18/00
DOHS	EDB	Not detected	0.01	ug/L	7/17/00	7/18/00
DOHS	Surrogate: DBP	92.0	68-125	%	7/17/00	7/18/00

Run #: 116
Instrument: ECD04
Sequence: 000714
Dilution Factor: 1
Initials: NV

Printed: 7/24/00 9:19:37 AM

EPA 524.2

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

Attn: Cheryl Lassolovitch
Project: GUNNER RANCH AG WELL
Sample ID: GUNNER RANCH AG WELL (B1 WELL1)
Sample Collection Date: 7/13/00

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

ARF: 33096
APPL ID: AP94726
QCG: $524B-000718AC-26857

Method	Analyte	Result	POL	Units	Extraction Date	Analysis Date
EPA 524.2	Chloromethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Dibromochloromethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Dibromomethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Dichlorodifluoromethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Ethylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Freon-113	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Hexachlorobutadiene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Isopropylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Methylene Chloride	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	MTBE	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	n-Butylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	n-Propylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Naphthalene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	p-Isopropyltoluene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	sec-Butylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Styrene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	t-1,2-Dichloroethene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	t-1,3-Dichloropropene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	tert-Butylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Tetrachloroethene	Not detected	0.2	ug/L	7/18/00	7/18/00
EPA 524.2	Toluene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Trichloroethene	Not detected	0.2	ug/L	7/18/00	7/18/00
EPA 524.2	Trichlorofluoromethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Vinyl Chloride	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Xylenes	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Surrogate recovery (BFB)	94.7	70-130	%	7/18/00	7/18/00
EPA 524.2	Surrogate recovery (DCB)	98.8	70-130	%	7/18/00	7/18/00

Run #: 0718C16W.D
Instrument: CHICO
Sequence: C000718
Dilution Factor: 1
Initials: RV

Printed: 7/20/00 04:12:11 PM

EPA 524.2

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

Attn: Cheryl Lassotovitch

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Project: GUNNER RANCH AG WELL

Sample ID: GUNNER RANCH AG WELL (B1 WELL1)

Sample Collection Date: 7/13/00

ARF: 33096

APPL ID: AP94726

QCG: $524B-000718AC-26857

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
EPA 524.2	1,1,1,2-Tetrachloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,1,1-Trichloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,1,2,2-Tetrachloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,1,2-Trichloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,1-Dichloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,1-Dichloroethene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,1-Dichloropropene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2,3-Trichlorobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2,3-Trichloropropane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2,4-Trichlorobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2,4-Trimethylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2-Dibromo-3-chloropropane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2-Dibromoethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2-Dichlorobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2-Dichloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,2-Dichloropropane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,3,5-Trimethylbenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,3-Dichlorobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,3-Dichloropropane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	1,4-Dichlorobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	2,2-Dichloropropane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	2-Chlorotoluene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	4-Chlorotoluene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Benzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Bromobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Bromochloromethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Bromodichloromethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Bromoform	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Bromomethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	c-1,2-Dichloroethene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	c-1,3-Dichloropropene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Carbon Tetrachloride	Not detected	0.2	ug/L	7/18/00	7/18/00
EPA 524.2	Chlorobenzene	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Chloroethane	Not detected	0.5	ug/L	7/18/00	7/18/00
EPA 524.2	Chloroform	1.4	0.5	ug/L	7/18/00	7/18/00

Run #: 0718C16W.D
Instrument: CHICO
Sequence: C000718
Dilution Factor: 1
Initials: RV

Printed: 7/20/00 04:12:10 PM

ANALYTICAL CHEMISTS

March 9, 2005

Kenneth D. Schmidt & Associates
600 West Shaw Avenue, #250
Fresno, CA 93704

Lab ID : SP 501456-01
Customer ID: 2-6051

Sampled On : February 10, 2005-12:00
Sampled By : Cheryl Lassotovitch
Received On: February 14, 2005-10:00
Matrix : Ground Water

Description : VCH Offsite Well
Project : Gunner Ranch

Sample Results - Inorganic

Constituent	Results	PQL	Units	MCL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Metals, Diss P:1								
Arsenic	ND	0.002	mg/L		200.8	02/25/05:B204	200.8	02/28/2005:A01
Calcium	20	1	mg/L		200.7	02/24/05:A203	200.7	02/24/2005:A01
Iron	ND	0.05	mg/L		200.7	02/24/05:A203	200.7	02/24/2005:A01
Magnesium	7	1	mg/L		200.7	02/24/05:A203	200.7	02/24/2005:A01
Manganese	ND	0.01	mg/L		200.7	02/24/05:A203	200.7	02/24/2005:A01
Potassium	3	1	mg/L		200.7	02/24/05:A203	200.7	02/24/2005:A01
Sodium	18	1	mg/L		200.7	02/24/05:A203	200.7	02/24/2005:A01
Wet Chemistry P:1,4								
Alkalinity (as CaCO3)	100	10	mg/L		2320B	02/15/05:A202	2320B	02/15/2005:A01
Bicarbonate	120	10	mg/L		2320B	02/15/05:A202	2320B	02/15/2005:A01
Carbonate	ND	10	mg/L		2320B	02/15/05:A202	2320B	02/15/2005:A01
Hydroxide	ND	10	mg/L		2320B	02/15/05:A202	2320B	02/15/2005:A01
Chloride	7	1	mg/L	500[2]	300.0	02/14/05:B215	300.0	02/15/2005:A07
Conductivity	259	1	umhos/cm	1600[2]	2510B	02/15/05:B212	2510B	02/15/2005:A01
Nitrate	10.6	0.4	mg/L	45	4500NO3F	02/16/05:B220 12:10	4500NO3F	02/16/2005:D04 16:19
pH	7.7	--	units		4500-H B	02/14/05:A246	4500-H B	02/14/2005:A01 17:10
Solids, Total Dissolved (TDS)	210	40	mg/L	1000[2]	2540C	02/15/05:A235	2540 C,E	02/16/2005:A00
Sulfate	7	1	mg/L	500[2]	300.0	02/14/05:B215	300.0	02/15/2005:A07

ND=Non-Detect. PQL. Practical Quantitation Limit. ♦ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
MCL. = Maximum Contaminat Level. [2] - Secondary Standard.
Containers: (P) Plastic Preservatives: (1) Cool 4°C. (4) H2SO4 pH: < 2

Corporate Offices & Laboratory
P.O. Box 272 / 853 Corporation Street
Santa Paula, CA 93061-0272
TEL: (805) 392-2000
FAX: (805) 525-4172
CA NELAP Certification No. CA1005CA

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209) 942-0182
FAX: (209) 942-0423
CA NELAP Certification No. 1565

Field Office
Visalia, California
TEL: (559) 734-9473
FAX: (559) 734-8435
Mobile: (559) 737-2399

ANALYTICAL CHEMISTS

March 9, 2005

Kenneth D. Schmidt & Associates
600 West Shaw Avenue, #250
Fresno, CA 93704

Lab ID : SP 501456-01
Customer ID: 2-6051

Sampled On : February 10, 2005-12:00
Sampled By : Cheryl Lassotovitch
Received On: February 14, 2005-10:00
Matrix : Ground Water

Description : VCH Offsite Well
Project : Gunner Ranch

Sample Results - Radio

Constituents	Result ± Error	Units	MCL	Preparation Method	Preparation Date/ID	Analysis Method	Analysis Date/ID
Radio Chemistry P-1 Gross Alpha	1.46 ± 1.06	pCi/L	15*	900.0	02/15/05:A207	900.0	02/18/2005:A01

MCL Maximum Contaminat Level. Containers: (P) Plastic Preservatives: (1) Cool 4°C

* Including Radium but excluding Uranium. (Ref. Title 22 sec. 64441.)

Corporate Offices & Laboratory
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2500 Stagecoach Road
Stockton, CA 95215
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FAX: (209) 942-0423
CA ELAP Certificate No. 1561

Field Office
Visalia, California
TEL: (559) 734-9473
FAX: (559) 734-8435
Mobile: (559) 737-2359

DBCP and EDB

Kenneth D. Schmidt & Assoc.
600 West Shaw Avenue Suite 250
Fresno, CA 93704

Attn: Cheryl Lassotovitch

APPL Inc.
4203 West Swift Avenue
Fresno, CA 93722

Project: FRESNO CA

ARF: 46561

Sample ID: VCH OFFSITE WELL

APPL ID: AX12844

Sample Collection Date: 2/10/2005

QCG: $DOHS-050211A-84019

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
DOHS	1,2,3-Trichloropropane	0.013	0.01	ug/L	2/11/2005	2/21/2005
DOHS	DBCP	Not detected	0.01	ug/L	2/11/2005	2/21/2005
DOHS	EDB	Not detected	0.01	ug/L	2/11/2005	2/21/2005
DOHS	Surrogate: DBP	88.0	56-131	%	2/11/2005	2/21/2005

Run #: 65
Instrument: ECD04
Sequence: 050208
Dilution Factor: 1
Initials: JT

Printed: 2/23/2005 9:26:32 AM
Form 1 - APPL Standard GC - No MC

PRECISION ENVIRO-TECH
A&B Laboratory - Division

✓ (S)

GENERAL MINERAL & PHYSICAL & INORGANIC ANALYSIS (9/99)

Date of Report: 02/11/18 Sample ID No. 18484
Laboratory Name: PRECISION ENVIRO-TECH ANALYTICAL LAB
Signature Lab Director: [signature]
Name of Sampler: Mr. Le
Employed By: P.E.T.A.L A&BLAB DIVISION
Date/Time Sample Collected: 02/11/12/0830
Date/Time Sample Received @ Lab: 02/11/12/1700
Date Analyses Completed: 02/11/14

System Name: VALLEY CHILDREN'S HOSPITAL
System Number: 2000275
Name or Number of Sample Source: MAIN WELL - Onsite Well

User ID: 20C
Station Number: 2000275-001
Date/Time of Sample: |02|11|12|0830| YY MM DD TTTT
Laboratory Code: 2213
Date Analysis completed: |02|11|14| YY MM DD
Submitted by: ______
Phone #: ______

MCL	REPORTING UNITS	CHEMICAL	ENTRY #	ANALYSES RESULTS	DLR
	mg/L	Total Hardness (as CaCO3) (mg/L)	00900		
	mg/L	Calcium (Ca) (mg/L)	00916		
	mg/L	Magnesium (Mg) (mg/L)	00927		
	mg/L	Sodium (NA) (mg/L)	00929		
	mg/L	Potassium (K) (mg/L)	00937		
Total Cations		Meq/L Value: 0.00			
	mg/L	Total Alkalinity (AS CaCO3) (mg/L)	00410		
	mg/L	Hydroxide (OH) (mg/L)	71830		
	mg/L	Carbonate (CO3) (mg/L)	00445		
	mg/L	Bicarbonate (HCO3) (mg/L)	00440		
*	mg/L+	Sulfate (SO4) (mg/L)	00945		.5
*	mg/L+	Chloride (Cl) (mg/L)	00940		
45	mg/L	Nitrate (as NO3) (mg/L)	71850	7.9	2.0
**	mg/L	Fluoride (F) Temp. Depend. (mg/L)	00951		.1
Total Anions		Meq/L Value: 0.13			
	Std.Units+	PH (Laboratory) (Std.Units)	00403		
***	umho/cm+	Specific Conductance (E.C.) (umhos/cm)	00095		
****	mg/L+	Total Filterable Residue@180C(TDS) (mg/L)	70300		
	Units	Apparent Color (Unfiltered) (Units)	00081		
	TON	Odor Threshold at 60 C (TON)	00086		
	NTU	Lab Turbidity (NTU)	82079		
0.5	mg/L+	MBAS (mg/L)	38260		

* 250-500-600 ** 0.6-1.7 *** 900-1600-2200 **** 500-1000-1500

[illegible] Stockton, CA [illegible] Tel: [illegible] Fax: (209) 466-0706

PRECISION ENVIRO-TECH
A&B Laboratory - Division

INORGANIC CHEMICALS 18484

MCL	REPORTING UNITS	CHEMICAL	ENTRY #	ANALYSES RESULTS	DLR
50	ug/L	Chromium (Total Cr) (ug/L)	01034	ND	10.0
	ug/L	Chromium (Total Cr-CrVI screen) (ug/L)	A-044	ND	1.0
	ug/L	Chromium, hexavalent (CrVI) (ug/L)	01032	ND	1.0
		ADDITIONAL ANALYSES			
	ug/L	Boron (ug/L)	01020	ND	100
10000	ug/L	Nitrate + Nitrite as Nitrogen(N) (ug/L)	A-029	17831	400
1000	ug/L	Nitrite as Nitrogen(N) (ug/L)	00620	ND	400
	ug/L	Vanadium (ug/L)	01087	ND	3.0
	ug/L	Perchlorate (ug/L)	A-031	ND	4.0

\+ Indicates Secondary Drinking Water Standards

PRECISION ENVIRO-TECH
A&B Laboratory - Division

ORGANIC CHEMICAL ANALYSIS (9/99)

Date of Report: 02/11/18 Sample ID No.18484
Laboratory Signature Lab Director:
Name: PRECISION ENVIRO-TECH ANALYTICAL LAB
Name of Sampler:Mr. Le Employed By: P.E.T.A.L A&BLAB DIVISION
Date/Time Sample Collected:02/11/12/0830 | Date/Time Sample Received @ Lab:02/11/12/1700 | Date Analyses Completed:02/11/14

System Name:VALLEY CHILDREN'S HOSPITAL
Name or Number of Sample Source:MAIN WELL Onsite Well
System Number: 2000275

User ID: 20C
Date/Time of Sample: |02|11|12|0830| (YY MM DD TTTT)
Station Number: 2000275-001
Laboratory Code: 2213
Date Analysis completed: |02|11|14| (YY MM DD)
Submitted by:
Phone #:

Page 1 of 1

REGULATED ORGANIC CHEMICALS

TEST METHOD	CHEMICAL ALL CHEMICALS REPORTED ug/L	ENTRY #	ANALYSES RESULTS	MCL ug/L	DLR ug/L

UNREGULATED ORGANIC CHEMICALS

524.2	Dichlorodifluoromethane	34668	ND		0.50
524.2	1,2,3-Trichloropropane	77443	ND		.005

EDT

A & B Laboratories
333 El Dorado
Monterey, CA 93940

ORGANIC CHEMICAL ANALYSIS (9/99)

te of Report: 01/10/06 Sample ID No.0109-11306
boratory Signature Lab
me: FRESNO COUNTY PUBLIC HEALTH LABORATORY Director: [illegible]
me of Sampler:S. Pearce Employed By: Valley Children's Hospita
te/Time Sample Date/Time Sample Date Analyses
llected:01/09/10/1730 Received @ Lab:01/09/11/0000 Completed:01/09/18

stem System
me:VALLEY CHILDREN'S HOSPITAL Number: 2000275
me or Number of Sample Source:MAIN WELL Onsite well

User ID: 20C Station Number: 2000275-001
Date/Time of Sample: |01|09|10|1730| Laboratory Code: 5112
YY MM DD TTTT YY MM DD
Date Analysis completed: |01|09|18|
Submitted by: [illegible], A&B Labs Phone #: (831) 644-9078

REGULATED ORGANIC CHEMICALS

TEST METHOD	CHEMICAL ALL CHEMICALS REPORTED ug/L	ENTRY #	ANALYSES RESULTS	MCL ug/L	DLR ug/L
	Bromodichloromethane	32101	ND		.50
	Bromoform	32104	ND		.50
	Chloroform (Trichloromethane)	32106	ND		.50
	Dibromochloromethane	32105	ND		.50
	Total Trihalomethanes (THM'S/ TTHM)	82080	ND	100	.50
	Benzene	34030	ND	1	.50
	Carbon Tetrachloride	32102	ND	.5	.50
	1,2-Dichlorobenzene (o-DCB)	34536	ND	600	.50
	1,4-Dichlorobenzene (p-DCB)	34571	ND	5	.50
	1,1-Dichloroethane (1,1-DCA)	34496	ND	5	.50
	1,2-Dichloroethane (1,2-DCA)	34531	ND	.5	.50
	1,1-Dichloroethylene (1,1-DCE)	34501	ND	6	.50
	cis-1,2-Dichloroethylene (c-1,2-DCE)	77093	ND	6	.50
	trans-1,2-Dichloroethylene (t-1,2-DCE)	34546	ND	10	.50
	Dichloromethane (Methylene Chloride)	34423	ND	5	.50
	1,2-Dichloropropane	34541	ND	5	.50
	Total 1,3-Dichloropropene	34561	ND	.5	.50
	Ethyl Benzene	34371	ND	700	.50
	Monochlorobenzene (Chlorobenzene)	34301	ND	70	.50
	Styrene	77128	ND	100	.50
	1,1,2,2-Tetrachloroethane	34516	ND	1	.50
	Tetrachloroethylene (PCE)	34475	ND	5	.50
	Toluene	34010	ND	150	.50
	1,2,4-Trichlorobenzene	34551	ND	70	.50
	1,1,1-Trichloroethane (1,1,1-TCA)	34506	ND	200	.50
	1,1,2-Trichloroethane (1,1,2-TCA)	34511	ND	5	.50
	Trichloroethylene (TCE)	39180	ND	5	.50
	Trichlorofluoromethane (FREON 11)	34488	ND	150	5.00
	Trichlorotrifluoroethane (FREON 113)	81611	ND	1200	10.00

REGULATED ORGANIC CHEMICALS CONTINUED 0109-11306

TEST METHOD	CHEMICAL ALL CHEMICALS REPORTED ug/L	ENTRY #	ANALYSES RESULTS	MCL ug/L	DLR ug/L
	Vinyl Chloride (VC)	39175	ND	.5	.50
	m,p-Xylene	A-014	ND		.50
	o-Xylene	77135	ND		.50
	Total Xylenes (m,p, & o)	81551	ND	1750	.50
	UNREGULATED ORGANIC CHEMICALS				
	Bromobenzene	81555	ND		.50
	Bromochloromethane	A-012	ND		.50
	Bromomethane (Methyl Bromide)	34413	ND		.50
	n-Butylbenzene	A-010	ND		.50
	sec-Butylbenzene	77350	ND		.50
	tert-Butylbenzene	77353	ND		.50
	Chloroethane	34311	ND		.50
	Chloromethane (Methyl Chloride)	34418	ND		.50
	2-Chlorotoluene	A-008	ND		.50
	4-Chlorotoluene	A-009	ND		.50
	Dibromomethane	77596	ND		.50
	1,3-Dichlorobenzene (m-DCB)	34566	ND		.50
	Dichlorodifluoromethane	34668	ND		1.00
	1,3-Dichloropropane	77173	ND		.50
	2,2-Dichloropropane	77170	ND		.50
	1,1-Dichloropropane	A-007	ND		
	1,1-Dichloropropene	77168	ND		.50
	Hexachlorobutadiene	34391	ND		.50
	Isopropylbenzene (Cumene)	77223	ND		.50
	p-Isopropyltoluene	A-011	ND		.50
	Naphthalene	34696	ND		.50
	n-Propylbenzene	77224	ND		.50
	1,1,1,2-Tetrachloroethane	77562	ND		.50
	1,2,3-Trichlorobenzene	77613	ND		.50
	1,2,3-Trichloropropane	77443	ND		.50
	1,2,4-Trimethylbenzene	77222	ND		.50
	1,3,5-Trimethylbenzene	77226	ND		.50

A & B Laboratories
333 El Dorado
Monterey, CA 93940
EDT

ORGANIC CHEMICAL ANALYSIS (9/99)

ate of Report: 01/10/06 Sample ID No.0109-11307
aboratory Signature Lab
ame: FRESNO COUNTY PUBLIC HEALTH LABORATORY Director: Doug Vasa
ame of Sampler:S. Pearce Employed By: Valley Children's Hospita
ate/Time Sample Date/Time Sample Date Analyses
ollected:01/09/10/1730 Received @ Lab:01/09/11/0000 Completed:01/09/20

ystem System
ame:VALLEY CHILDREN'S HOSPITAL
ame or Number of Sample Source:MAIN WELL Onsite Well Number: 2000275

User ID: 20C Station Number: 2000275-001
Date/Time of Sample: |01|09|10|1730| Laboratory Code: 5112
YY MM DD TTTT YY MM DD
Date Analysis completed: |01|09|20|
Submitted by: Doug Vasa A+B Labs Phone #: (831)644-9078

age 1 of 1 REGULATED ORGANIC CHEMICALS

TEST METHOD	CHEMICAL ALL CHEMICALS REPORTED ug/L	ENTRY #	ANALYSES RESULTS	MCL ug/L	DLR ug/L
	Dibromochloropropane (DBCP)	38761	ND	.2	.01
	Ethylene Dibromide (EDB)	77651	ND	.05	.02
	UNREGULATED ORGANIC CHEMICALS				
	1,2,3-Trichloropropane	77443	ND		.50

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ENVIRONMENTAL HEALTH

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A & B Laboratories
333 El Dorado
Monterey, CA 93940

ORGANIC CHEMICAL ANALYSIS (9/99)

:e of Report: 01/12/16 — Sample ID No.0110173-01B
oratory — Signature Lab
ne: NORTH COAST LABS — Director: Doug Deasy
ne of Sampler: J. Deasy — Employed By: A & B Laboratories
:e/Time Sample — Date/Time Sample — Date Analyses
lected:01/10/01/1600 — Received @ Lab:01/10/05/0000 — Completed:01/10/20

stem — System
ne:VALLEY CHILDREN'S HOSPITAL — Number: 2000275
ne or Number of Sample Source:MAIN WELL Onsite Well

User ID: 20C — Station Number: 2000275-001 *
Date/Time of Sample: |01|10|01|1600| — Laboratory Code: 3334 *
YY MM DD TTTT — YY MM DD *
Date Analysis completed: |01|10|20| *
Submitted by: Doug Deasy, A&B Labs — Phone #: (831)644-9078 *

ge 1 of 1

REGULATED ORGANIC CHEMICALS

TEST METHOD	CHEMICAL ALL CHEMICALS REPORTED ug/L	ENTRY #	ANALYSES RESULTS	MCL ug/L	DLR ug/L
	Atrazine (AATREX)	39033	ND	3	1.00
	Molinate (ORDRAM)	82199	ND	20	2.00
	Simazine (PRINCEP)	39055	ND	4	1.00
	Thiobencarb (BOLERO)	A-001	ND	70	1.00
	Alachlor (ALANEX)	77825	ND	2	1.00
	Bromacil (HYVAR)	82198	ND		10.00
	Butachlor	77860	ND		.38
	Diazinon	39570	ND		.25
	Dimethoate (CYGON)	38458	ND		10.00
	Metolachlor	39356	ND		
	Metribuzin	81408	ND		
	Prometryn (CAPAROL)	39057	ND		2.00
	Propachlor	38533	ND		.50

A & B Laboratories
333 El Dorado
Monterey, CA 93940

EDT

ORGANIC CHEMICAL ANALYSIS (9/99)

Date of Report: 01/12/16
Laboratory
Name: NORTH COAST LABS
Name of Sampler: J. Deasy
Date/Time Sample Collected: 01/10/01/1600

Sample ID No. 0110173-01A
Signature Lab Director: Doug Deasy
Employed By: A & B Laboratories
Date/Time Sample Received @ Lab: 01/10/05/0000
Date Analyses Completed: 01/10/20

System Name: VALLEY CHILDREN'S HOSPITAL
Name or Number of Sample Source: MAIN WELL Onsite Well

System Number: 2000275

User ID: 20C
Date/Time of Sample: |01|10|01|1600|
YY MM DD TTTT

Station Number: 2000275-001 *
Laboratory Code: 3334 *
Date Analysis completed: YY MM DD |01|10|20| *
Phone #: (831) 644-9078 *

Submitted by: Doug Deasy of A&B Labs

Page 1 of 1

REGULATED ORGANIC CHEMICALS

TEST METHOD	CHEMICAL ALL CHEMICALS REPORTED ug/L	ENTRY #	ANALYSES RESULTS	MCL ug/L	DLR ug/L
	Endrin	39390	ND	2	.10
	Lindane (gamma-BHC)	39340	ND	.2	.20
	Methoxychlor	39480	ND	40	10.00
	Toxaphene	39400	ND	3	1.00
	Chlordane	39350	ND	.1	.10
	Heptachlor	39410	ND	.01	.01
	Heptachlor epoxide	39420	ND	.01	.01
	Alachlor (ALANEX)	77825	ND	2	1.00
	Hexachlorobenzene	39700	ND	1	.50
	Hexachlorocyclopentadiene	34386	ND	50	1.00
	Aldrin	39330	ND		.075
	Dieldrin	39380	ND		.02

PRECISION ENVIRO-TECH
A&B Laboratory - Division

GENERAL MINERAL & PHYSICAL & INORGANIC ANALYSIS (9/99)

ate of Report: 02/11/18 Sample ID No.18484
aboratory Signature Lab
ame: PRECISION ENVIRO-TECH ANALYTICAL LAB Director:
ame of Sampler:Mr. Le Employed By: P.E.T.A.L A&BLAB DIVISION
ate/Time Sample collected:02/11/12/0830 | Date/Time Sample Received @ Lab:02/11/12/1700 | Date Analyses Completed:02/11/14

ystem ame:VALLEY CHILDREN'S HOSPITAL
ame or Number of Sample Source:MAIN WELL Onsite Well
System Number: 2000275

User ID: 20C
Date/Time of Sample: |02|11|12|0830| (YY MM DD TTTT)
Station Number: 2000275-001 *
Laboratory Code: 2213 *
Date Analysis completed: |02|11|14| (YY MM DD) *
Submitted by: _____ Phone #: _____ *

MCL	REPORTING UNITS	CHEMICAL	ENTRY #	ANALYSES RESULTS	DLR
	mg/L	Total Hardness (as CaCO3) (mg/L)	00900		
	mg/L	Calcium (Ca) (mg/L)	00916		
	mg/L	Magnesium (Mg) (mg/L)	00927		
	mg/L	Sodium (NA) (mg/L)	00929		
	mg/L	Potassium (K) (mg/L)	00937		
Total Cations		Meq/L Value: 0.00			
	mg/L	Total Alkalinity (AS CaCO3) (mg/L)	00410		
	mg/L	Hydroxide (OH) (mg/L)	71830		
	mg/L	Carbonate (CO3) (mg/L)	00445		
	mg/L	Bicarbonate (HCO3) (mg/L)	00440		
*	mg/L+	Sulfate (SO4) (mg/L)	00945		.5
*	mg/L+	Chloride (Cl) (mg/L)	00940		
45	mg/L ✓	Nitrate (as NO3) (mg/L)	71850	7.9	2.0
**	mg/L	Fluoride (F) Temp. Depend. (mg/L)	00951		.1
Total Anions		Meq/L Value: 0.13			
	Std.Units+	PH (Laboratory) (Std.Units)	00403		
***	umho/cm+	Specific Conductance (E.C.) (umhos/cm)	00095		
****	mg/L+	Total Filterable Residue@180C(TDS) (mg/L)	70300		
	Units	Apparent Color (Unfiltered) (Units)	00081		
	TON	Odor Threshold at 60 C (TON)	00086		
	NTU	Lab Turbidity (NTU)	B2079		
0.5	mg/L+	MBAS (mg/L)	38260		

* 250-500-600 ** 0.6-1.7 *** 900-1600-2200 **** 500-1000-1500

545 E. Cleveland St. Suite A, Stockton, CA 95204 Tel: 866-455-0865 Fax: (209) 485-0705

PRECISION ENVIRO-TECH
A&B Laboratory - Division

GE 2 OF 2 INORGANIC CHEMICALS 18484

MCL	REPORTING UNITS	CHEMICAL	ENTRY #	ANALYSES RESULTS	DLR
50	ug/L	Chromium (Total Cr) (ug/L)	01034	ND	10.0
	ug/L	Chromium (Total Cr-CrVI screen) (ug/L)	A-044	ND	1.0
	ug/L	Chromium, hexavalent (CrVI) (ug/L)	01032	ND	1.0
		ADDITIONAL ANALYSES			
	ug/L	Boron (ug/L)	01020	ND	100
0000	ug/L	Nitrate + Nitrite as Nitrogen(N) (ug/L)	A-029	1783	400
1000	ug/L	Nitrite as Nitrogen(N) (ug/L)	00620	ND	400
	ug/L	Vanadium (ug/L)	01087	ND	3.0
	ug/L	Perchlorate (ug/L)	A-031	ND	4.0

+ Indicates Secondary Drinking Water Standards

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554290

Project ID:
Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Alkalinity (as CaCO3)	SM 2320 B	110	mg/L	1	1	1	02/28/05	02/28/05
Aluminum (Al)	EPA 200.7	ND	mg/L	0.05	1	0.05	03/01/05	03/14/05
Antimony (Sb)	EPA 200.8	ND	µg/L	2	1	2	03/01/05	03/10/05
Arsenic (As)	EPA 200.8	ND	µg/L	2	1	2	03/01/05	03/10/05
Barium (Ba)	EPA 200.7	ND	mg/L	0.05	1	0.05	03/01/05	03/14/05
Beryllium (Be)	EPA 200.8	ND	µg/L	1	1	1	03/01/05	03/10/05
Bicarbonate (as CaCO3)	SM 2320 B	110	mg/L	1	1	1	02/28/05	02/28/05
Cadmium (Cd)	EPA 200.8	ND	µg/L	1	1	1	03/01/05	03/10/05
Calcium (Ca)	EPA 200.7	21	mg/L	0.1	1	0.1	03/01/05	03/14/05
Carbonate (as CaCO3)	SM 2320 B	ND	mg/L	1	1	1	02/28/05	02/28/05
Chloride (Cl)	EPA 300.0	8.0	mg/L	1	1	1	03/01/05	03/01/05
Chromium - Total (Cr)	EPA 200.8	ND	µg/L	10	1	10	03/01/05	03/10/05
Color (APHA)	SM 2120 B	ND	units	1	1	1	03/01/05 15:43	03/01/05 15:43
Conductivity - Specific (EC)	SM 2510 B	230	µmhos/cm	1	1	1	02/28/05	02/28/05
Copper (Cu)	EPA 200.8	ND	µg/L	50	1	50	03/01/05	03/10/05
Cyanide (CN)	SM 4500-CN-F	ND	µg/L	20	1	20	03/04/05	03/04/05
Fluoride	EPA 300.0	ND	mg/L	0.1	1	0.1	03/01/05	03/01/05
Hardness (as CaCO3)	SM 2340 B	83	mg/L	1.0	1	1.0	03/17/05	03/17/05
Hydroxide (as CaCO3)	SM 2320 B	ND	mg/L	1	1	1	02/28/05	02/28/05
Iron (Fe)	EPA 200.7	0.36	mg/L	0.05	1	0.05	03/01/05	03/14/05
Langelier Index (Saturation Index)		0.050	-	-	1	N/A	03/17/05	03/17/05
Lead (Pb)	EPA 200.8	ND	µg/L	5	1	5	03/01/05	03/10/05
Magnesium (Mg)	EPA 200.7	7.4	mg/L	0.1	1	0.1	03/01/05	03/14/05
Manganese (Mn)	EPA 200.7	ND	mg/L	0.01	1	0.01	03/01/05	03/14/05
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	mg/L	0.05	1	0.05	03/01/05 12:00	03/01/05 17:00
Mercury (Hg)	EPA 200.8	ND	µg/L	0.4	1	0.4	03/01/05	03/10/05
Nickel (Ni)	EPA 200.8	ND	µg/L	10	1	10	03/01/05	03/10/05
Nitrate (NO3)	EPA 300.0	12	mg/L	1	1	1	03/01/05 09:39	03/01/05 09:39

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554290

Report Issue Date: 03/18/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Nitrite (NO2-N)	EPA 300.0	ND	mg/L	0.05	1	0.05	03/01/05 09:39	03/01/05 09:39
Odor	SM 2150 B	1.0	TON	1	1	1	03/01/05 15:43	03/01/05 15:43
pH	SM 4500-H+ B	7.9	Std. Unit	-	1	N/A	02/28/05 21:30	02/28/05 21:30
Potassium (K)	EPA 200.7	3.0	mg/L	2	1	2	03/01/05	03/14/05
Selenium (Se) - Total	EPA 200.8	ND	µg/L	2	1	2	03/01/05	03/10/05
Silver (Ag)	EPA 200.8	ND	µg/L	10	1	10	03/01/05	03/10/05
Sodium (Na)	EPA 200.7	20	mg/L	1	1	1	03/01/05	03/14/05
Sulfate (SO4)	EPA 300.0	9.0	mg/L	2	1	2	03/01/05	03/01/05
Thallium (Tl)	EPA 200.8	ND	µg/L	1	1	1	03/01/05	03/10/05
Total Dissolved Solids (TDS)	SM 2540 C	180	mg/L	5	1	5	03/01/05	03/04/05
Turbidity	SM 2130 B	2.7	NTU	0.1	1	0.1	03/01/05 15:43	03/01/05 15:43
Zinc (Zn)	EPA 200.7	ND	mg/L	0.05	1	0.05	03/01/05	03/14/05

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Dibromochloropropane	EPA 504.1	ND	µg/L	0.01	1	0.01	03/10/05	03/11/05
Ethylenedibromide	EPA 504.1	ND	µg/L	0.02	1	0.02	03/10/05	03/11/05
Aldrin	EPA 505	ND	µg/L	0.075	1	0.075	03/04/05	03/04/05
Chlordane	EPA 505	ND	µg/L	0.1	1	0.1	03/04/05	03/04/05
Chlorobenzilate (Daconil,Bravo)	EPA 505	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Dieldrin	EPA 505	ND	µg/L	0.02	1	0.02	03/04/05	03/04/05
Endrin	EPA 505	ND	µg/L	0.1	1	0.1	03/04/05	03/04/05
Heptachlor	EPA 505	ND	µg/L	0.01	1	0.01	03/04/05	03/04/05
Heptachlor epoxide	EPA 505	ND	µg/L	0.01	1	0.01	03/04/05	03/04/05
Hexachlorobenzene	EPA 505	ND	µg/L	0.50	1	0.50	03/04/05	03/04/05
Hexachlorocyclopentadiene	EPA 505	ND	µg/L	1.0	1	1.0	03/04/05	03/04/05
Lindane	EPA 505	ND	µg/L	0.2	1	0.2	03/04/05	03/04/05
Methoxychlor	EPA 505	ND	µg/L	10	1	10	03/04/05	03/04/05
PCBs: Arochlor Screen	EPA 505	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
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S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratories. See External Laboratory Report attachments.

Report Authentication Code:

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Certificate of Analysis

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Project ID:
Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Toxaphene	EPA 505	ND	µg/L	1.0	1	1.0	03/04/05	03/04/05
Trifluralin	EPA 505	ND	µg/L	1.0	1	1.0	03/04/05	03/04/05
2,4,5-T	EPA 515.3	ND	µg/L	1.0	1	1.0	03/02/05	03/02/05
2,4,5-TP (Silvex)	EPA 515.3	ND	µg/L	1.0	1	1.0	03/02/05	03/02/05
2,4-D	EPA 515.3	ND	µg/L	10	1	10	03/02/05	03/02/05
Dentazon (Basagran)	EPA 515.3	ND	µg/L	2.0	1	2.0	03/02/05	03/02/05
Dalapon	EPA 515.3	ND	µg/L	10	1	10	03/02/05	03/02/05
Dicamba (Banvel)	EPA 515.3	ND	µg/L	1.5	1	1.5	03/02/05	03/02/05
Dinoseb (DNBP)	EPA 515.3	ND	µg/L	2.0	1	2.0	03/02/05	03/02/05
Pentachlorophenol (PCP)	EPA 515.3	ND	µg/L	0.2	1	0.2	03/02/05	03/02/05
Picloram	EPA 515.3	ND	µg/L	1.0	1	1.0	03/02/05	03/02/05
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,1,1-Trichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,1,2-Trichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,1-Dichloro-2-propanone	EPA 524.2	ND	µg/L	10.0	1	10	03/04/05	03/04/05
1,1-Dichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,1-Dichloroethene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,1-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2,3-Trichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2,3-Trichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2,4-Trichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2,4-Trimethylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2-Dibromo-3-chloropropane (DBCP)	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2-Dichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2-Dichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,2-Dichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,3,5-Trimethylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554290

Project ID: Project Desc

Submission Comments:

Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
1,3-Dichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,3-Dichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1,4-Dichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
1-Chlorobutane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
2,2-Dichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
2-Butanone	EPA 524.2	ND	µg/L	10.0	1	10	03/04/05	03/04/05
2-Chlorotoluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
2-Hexanone	EPA 524.2	ND	µg/L	10.0	1	10	03/04/05	03/04/05
3-Chloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
4-Chlorotoluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
4-Methyl-2-pentanone	EPA 524.2	ND	µg/L	10.0	1	10	03/04/05	03/04/05
Acetone	EPA 524.2	ND	µg/L	10.0	1	10	03/04/05	03/04/05
Benzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Bromobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Bromochloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Bromodichloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Bromoform	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Bromomethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Carbon Disulfide	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Carbontetrachloride	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Chlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Chloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Chloroform	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Chloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
cis-1,2-Dichloroethene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
cis-1,3-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Dibromochloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Dibromomethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Dichlorodifluoromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analyses performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554290

Report Issue Date: 03/18/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Diethyl ether	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Ethyl t-Butyl Ether	EPA 524.2	ND	µg/L	3.0	1	3.0	03/04/05	03/04/05
Ethylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Ethylmethacrylate	EPA 524.2	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Hexachlorobutadiene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Hexachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Iodomethane	EPA 524.2	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Isopropylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Methylacrylate	EPA 524.2	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Methylene Chloride	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Methylmethacrylate	EPA 524.2	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Methyl-t-Butyl Ether	EPA 524.2	ND	µg/L	3.0	1	3.0	03/04/05	03/04/05
Naphthalene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
n-Butylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Nitrobenzene	EPA 524.2	ND	µg/L	10.0	1	10	03/04/05	03/04/05
n-Propylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Pentachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
p-Isopropyltoluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
sec-Butylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Styrene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
t-Amyl Methyl Ether	EPA 524.2	ND	µg/L	3.0	1	3.0	03/04/05	03/04/05
tert-Butylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Tetrachloroethene (PCE)	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Toluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Total 1,3-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5		
Total Trihalomethanes	EPA 524.2	ND	µg/L	-	-	N/A		
Total Xylene Isomers	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
trans-1,2-Dichloroethene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
trans-1,3-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05

mg/L: Milligrams/Liter (ppm)
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P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8330 Fax 559 485 6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554290

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Trichloroethene (TCE)	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Trichlorofluoromethane	EPA 524.2	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Vinyl Chloride	EPA 524.2	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05
Alachlor (Alanex)	EPA 525.2	ND	µg/L	1.0	1	1.0	03/04/05	03/10/05
Atrazine (AAtrex)	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Benzo(a)pyrene	EPA 525.2	ND	µg/L	0.1	1	0.1	03/04/05	03/10/05
bis(2-ethylhexyl) adipate	EPA 525.2	ND	µg/L	3.0	1	3.0	03/04/05	03/10/05
bis(2-ethylhexyl) phthalate	EPA 525.2	ND	µg/L	3.0	1	3.0	03/04/05	03/10/05
Bromacil (Hyvar)	EPA 525.2	ND	µg/L	10	1	10	03/04/05	03/10/05
Butachlor	EPA 525.2	ND	µg/L	0.38	1	0.38	03/04/05	03/10/05
Diazinon	EPA 525.2	ND	µg/L	0.25	1	0.25	03/04/05	03/10/05
Dimethoate (Cygon)	EPA 525.2	ND	µg/L	10	1	10	03/04/05	03/10/05
Metolachlor	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Metribuzin	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Molinate (Ordram)	EPA 525.2	ND	µg/L	2.0	1	2.0	03/04/05	03/10/05
Prometryn (Caparol)	EPA 525.2	ND	µg/L	2.0	1	2.0	03/04/05	03/10/05
Propachlor	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Simazine (Princep)	EPA 525.2	ND	µg/L	1.0	1	1.0	03/04/05	03/10/05
Thiobencarb (Bolero)	EPA 525.2	ND	µg/L	1.0	1	1.0	03/04/05	03/10/05
3-Hydroxycarbofuran	EPA 531.1	ND	µg/L	3.0	1	3.0	03/07/05	03/08/05
Aldicarb	EPA 531.1	ND	µg/L	3.0	1	3.0	03/07/05	03/08/05
Aldicarb Sulfone	EPA 531.1	ND	µg/L	2.0	1	2.0	03/07/05	03/08/05
Aldicarb Sulfoxide	EPA 531.1	ND	µg/L	3.0	1	3.0	03/07/05	03/08/05
Carbaryl	EPA 531.1	ND	µg/L	5.0	1	5.0	03/07/05	03/08/05
Carbofuran	EPA 531.1	ND	µg/L	5.0	1	5.0	03/07/05	03/08/05
Methomyl	EPA 531.1	ND	µg/L	2.0	1	2.0	03/07/05	03/08/05
Oxamyl	EPA 531.1	ND	µg/L	20.0	1	20	03/07/05	03/08/05
Glyphosate	EPA 547	ND	µg/L	25	1	25	03/02/05	03/06/05
Endothall	EPA 548.1	ND	µg/L	45	1	45	03/03/05	03/11/05

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H: Analyzed outside of hold time
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S: Suspect result. See Case Narrative for comments
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Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8318 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554290

Project ID: Project Desc.
Submission Comments:
Sample Type: Liquid
Sample Description: County Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1445
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Diquat	EPA 549.2	ND	µg/L	4	1	4	03/03/05	03/10/05
Surrogate								
Bromoform	EPA 504.1	112	% Rec	-	1	N/A	03/10/05	03/11/05
Tetrachloro-m-xylene	EPA 505	100	% Rec		1	N/A	03/04/05	03/04/05
DCPAA	EPA 515.3	102	% Rec		1	N/A	03/02/05	03/02/05
1,2-Dichlorobenzene-d4	EPA 524.2	86.0	% Rec	-	1	N/A	03/04/05	03/04/05
4-Bromofluorobenzene	EPA 524.2	85.0	% Rec	-	1	N/A	03/04/05	03/04/05
1,3-Dimethyl-2-nitrobenzene	EPA 525.2	109	%Rec		1	N/A	03/04/05	03/10/05
BDMC	EPA 531.1	113	% Rec	-	1	N/A	03/07/05	03/08/05
AMPA	EPA 547	135	% Rec	-	1	N/A	03/02/05	03/06/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
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1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK LABORATORIES
1414 Stanislaus St.
Fresno, CA 93706

EDT

GENERAL MINERAL & PHYSICAL & INORGANIC ANALYSIS (3/03)

Date of Report: 06/04/04
Laboratory Name: BSK ANALYTICAL LABORATORIES

Sample ID No.2006011829-684864

Authorized Signature:

Name of Sampler: Cecil Harris Employed By: BSK Laboratories

Date/Time Sample Collected:	Date/Time Sample Received:	Date Analyses Completed:
06/01/31/0740	06/01/31/0825	06|01|31

System Name: VALLEY CHILDREN'S HOSPITAL System #: 2000275
Name or Number of Sample Source: WELL #1 COUNTRY WELL - INACTIVE

User ID: 20C
Date/Time of Sample: 06|01|31|0740|

Station Number: 2000275-001
Laboratory Code: 5810
Date Analysis Completed: 06|01|31

Submitted by: _____ Phone #: _____

INORGANIC CHEMICALS

MCL	REPORTING UNITS	CHEMICAL	ENTRY#	ANALYSIS RESULTS	DLR
45	mg/L	Nitrate (NO3)	71850	11	2.

Total Anions Meq/L Value: 0.18

* 250 500 600 ** 900-1500-2200 *** 500-1000-1500
! Indicates Secondary Drinking Water Standards

EDT

RADIOACTIVITY ANALYSIS (9/99)

Date of Report: 06/03/31 Sample ID No.684864
Laboratory Signature Lab
Name: SEVEREN TRENT LABORATORIES - RICHLAND Director:
Name of Sampler:Cecil Harris Employed By: BSK Laboratories
Date/Time Sample Collected:06/01/31/0740 | Date/Time Sample Received @ Lab:06/02/06/0950 | Date Analyses Completed:06/03/09

System Name:VALLEY CHILDREN'S HOSPITAL | System Number: 2000275
Name or Number of Sample Source:WELL #1 COUNTRY WELL - INACTIVE

User ID: 20C | Station Number: 2000275-001
Date/Time of Sample: |06|01|31|0740| (YY MM DD TTTT) | Laboratory Code: 2425 (YY MM DD) | Date Analysis completed: |06|03|09|
Submitted by: | Phone #: 559-375-3131

MCL	REPORT UNITS	CHEMICAL	STORET CODE	ANALYSES RESULTS	DLR
15	pCi/L	Gross Alpha	03501	- 1.87	3.0
	pCi/L	Gross Alpha Counting Error	01502	1.2	
50	pCi/L	Gross Beta	03501		4.0
	pCi/L	Gross Beta Counting Error	03502		
20	pCi/L	Uranium	28012		2.0
	pCi/L	Uranium Counting Error	A-028		
	pCi/L	Radium 226	09501	- 0.13	1.0
	pCi/L	Radium 226 Counting Error	09502	- 0.09	
	pCi/L	Radium 228	11501	0.5	1.0
	pCi/L	Radium 228 Counting Error	11502	- 0.37	
	pCi/L	Ra 226 + Ra 228	11503	0.63	5
	pCi/L	Ra 226 + Ra 228 Counting Error	11504	- 0.46	
	pCi/L	Radon 222	82303		100.0
	pCi/L	Radon 222 Counting Error	82302		
8	pCi/L	Strontium 90	13501		2.0
	pCi/L	Strontium 90 Counting Error	13502	-	
20000	pCi/L	Tritium	07000		1000
	pCi/L	Tritium Counting Error	07001	-	

EDT

RADIOACTIVITY ANALYSIS (9/99)

Date of Report: 06/06/08 Sample ID No.713917

Laboratory Signature Lab

Name: SEVEREN TRENT LABORATORIES - RICHLAND Director:

Name of Sampler:Cecil Harris Employed By: BSK Laboratories

Date/Time Sample Collected:06/04/25/0940	Date/Time Sample Received @ Lab:06/04/28/1030	Date Analyses Completed:06/06/06

System Name:CHILDREN'S HOSPITAL CENTRAL CALIF

System Number: 2000275

Name or Number of Sample Source:WELL #1 COUNTRY WELL - INACTIVE

User ID: 20C Station Number: 2000275-001

Date/Time of Sample: |06|04|25|0940| (YY MM DD TTTT) Laboratory Code: 2425

Date Analysis completed: (YY MM DD) |06|06|06|

Submitted by: Phone #: 509-375-5151

MCL	REPORT UNITS	CHEMICAL	STORET CODE	ANALYSES RESULTS	DLR
15	pCi/L	Gross Alpha	01501	2.2	3.0
	pCi/L	Gross Alpha Counting Error	01502	± 1.1	
50	pCi/L	Gross Beta	03501		4.0
	pCi/L	Gross Beta Counting Error	03502		
20	pCi/L	Uranium	28012		2.0
	pCi/L	Uranium Counting Error	A-028		
	pCi/L	Radium 226	09501	0.17	1.0
	pCi/L	Radium 226 Counting Error	09502	± 0.20	
	pCi/L	Radium 228	11501	0.67	1.0
	pCi/L	Radium 228 Counting Error	11502	± 0.23	
5	pCi/L	Ra 226 + Ra 228	11503	0.84	
	pCi/L	Ra 226 + Ra 228 Counting Error	11504	± 0.43	
	pCi/L	Radon 222	82303		100.0
	pCi/L	Radon 222 Counting Error	82302		
8	pCi/L	Strontium 90	13501		2.0
	pCi/L	Strontium 90 Counting Error	13502		
20000	pCi/L	Tritium	07000		1000
	pCi/L	Tritium Counting Error	07001		

EDT

RADIOACTIVITY ANALYSIS (9/99)

Date of Report: 06/08/21 Sample ID No.744002

Laboratory Signature Lab

Name: SEVEREN TRENT LABORATORIES - RICHLAND Director:

Name of Sampler:Cecil Harris Employed By: BSK Laboratories

Date/Time Sample Collected:06/07/18/0925 | Date/Time Sample Received @ Lab:06/07/25/1000 | Date Analyses Completed:06/08/17

System Name:CHILDREN'S HOSPITAL CENTRAL CALIF | System Number: 2000275

Name or Number of Sample Source:SOURCE WELL 1 COUNTY

User ID: 20C Station Number: 2000275-001

Date/Time of Sample: |06|07|18|0925| (YY MM DD TTTT) Laboratory Code: 2425

Date Analysis completed: |06|08|17| (YY MM DD)

Submitted by: Phone #: 509-375-3131

MCL	REPORT UNITS	CHEMICAL	STORET CODE	ANALYSES RESULTS	DLR
	pCi/L	TITLE 22 CALIFORNIA CODE OF REGULATIONS			
	pCi/L	SECTION 64442 (22 CCR 64442)			
15	pCi/L	Gross Alpha	01501	0.21	3.0
	pCi/L	Gross Alpha Counting Error	01502	± 0.60	
20	pCi/L	Uranium	28022		1.0
	pCi/L	Uranium Counting Error	A-028		
	pCi/L	Radium 226	09501	0.26	1.0
	pCi/L	Radium 226 Counting Error	09502	± 0.16	
	pCi/L	Radium 228	11501	0.39	1.0
	pCi/L	Radium 228 Counting Error	11502	0.20	
5	pCi/L	Ra 226 + Ra 228	11503	0.65	
	pCi/L	Ra 226 + Ra 228 Counting Error	11504	± 0.36	
	pCi/L	TITLE 22 CALIFORNIA CODE OF REGULATIONS			
	pCi/L	SECTION 64443 (22 CCR 64443)			
50	pCi/L	Gross Beta	03501		4.0
	pCi/L	Gross Beta Counting Error	03502		
4	pCi/L	Gross Beta, Calculated Dose Equivalent *	A 071		
	pCi/L	* See Below			
8	pCi/L	Strontium 90	13501		2.0
	pCi/L	Strontium 90 Counting Error	13502		
20000	pCi/L	Tritium	07000		1000
	pCi/L	Tritium Counting Error	07001		

pCi/L Radon 222	82303		100.0
pCi/L Radon 222 Counting Error	82302		
pCi/L			
pCi/L			
pCi/L *Gross Beta, Calculated Total Body or			
pCi/L Organ Dose Equivalent, Per 22 CCR 64443			
pCi/L			

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554291

Project ID:
Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Alkalinity (as CaCO3)	SM 2320 B	120	mg/L	1	1	1	02/28/05	02/28/05
Aluminum (Al)	EPA 200.7	ND	mg/L	0.05	1	0.05	03/01/05	03/14/05
Antimony (Sb)	EPA 200.8	ND	µg/L	2	1	2	03/01/05	03/10/05
Arsenic (As)	EPA 200.8	ND	µg/L	2	1	2	03/01/05	03/10/05
Barium (Ba)	EPA 200.7	0.060	mg/L	0.05	1	0.05	03/01/05	03/14/05
Beryllium (Be)	EPA 200.8	ND	µg/L	1	1	1	03/01/05	03/10/05
Bicarbonate (as CaCO3)	SM 2320 B	120	mg/L	1	1	1	02/28/05	02/28/05
Cadmium (Cd)	EPA 200.8	ND	µg/L	1	1	1	03/01/05	03/10/05
Calcium (Ca)	EPA 200.7	20	mg/L	0.1	1	0.1	03/01/05	03/14/05
Carbonate (as CaCO3)	SM 2320 B	ND	mg/L	1	1	1	02/28/05	02/28/05
Chloride (Cl)	EPA 300.0	7.0	mg/L	1	1	1	03/01/05	03/01/05
Chromium - Total (Cr)	EPA 200.8	ND	µg/L	10	1	10	03/01/05	03/10/05
Color (APHA)	SM 2120 B	ND	units	1	1	1	03/01/05 15:46	03/01/05 15:46
Conductivity - Specific (EC)	SM 2510 B	240	µmhos/cm	1	1	1	02/28/05	02/28/05
Copper (Cu)	EPA 200.8	ND	µg/L	50	1	50	03/01/05	03/10/05
Cyanide (CN)	SM 4500-CN-F	ND	µg/L	20	1	20	03/04/05	03/04/05
Fluoride	EPA 300.0	ND	mg/L	0.1	1	0.1	03/01/05	03/01/05
Hardness (as CaCO3)	SM 2340 B	79	mg/L	1.0	1	1.0	03/17/05	03/17/05
Hydroxide (as CaCO3)	SM 2320 B	ND	mg/L	1	1	1	02/28/05	02/28/05
Iron (Fe)	EPA 200.7	ND	mg/L	0.05	1	0.05	03/01/05	03/14/05
Langelier Index (Saturation Index)		0.067	-	-	1	N/A	03/17/05	03/17/05
Lead (Pb)	EPA 200.8	ND	µg/L	5	1	5	03/01/05	03/10/05
Magnesium (Mg)	EPA 200.7	7.0	mg/L	0.1	1	0.1	03/01/05	03/14/05
Manganese (Mn)	EPA 200.7	ND	mg/L	0.01	1	0.01	03/01/05	03/14/05
MBAS, Calculated as LAS, mol wt 340	SM 5540 C	ND	mg/L	0.05	1	0.05	03/01/05 12:00	03/01/05 17:00
Mercury (Hg)	EPA 200.8	ND	µg/L	0.4	1	0.4	03/01/05	03/10/05
Nickel (Ni)	EPA 200.8	ND	µg/L	10	1	10	03/01/05	03/10/05
Nitrate (NO3)	EPA 300.0	9.0	mg/L	1	1	1	03/01/05 09:48	03/01/05 09:48

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovery (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting = PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory report attachments.

Report Authentication Code:

1414 Stanislaus Street, Fresno, CA 93706-5623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554291

Report Issue Date: 03/18/2005

Project ID: Project Dose
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Nitrite (NO2-N)	EPA 300.0	ND	mg/L	0.05	1	0.05	03/01/05 09:48	03/01/05 09:48
Odor	SM 2150 B	1.0	TON	1	1	1	03/01/05 15:46	03/01/05 15:46
pH	SM 4500-H+ B	7.9	Std. Unit	-	1	N/A	02/28/05 21:38	02/28/05 21:38
Potassium (K)	EPA 200.7	3.0	mg/L	2	1	2	03/01/05	03/14/05
Selenium (Se) Total	EPA 200.8	ND	µg/L	2	1	2	03/01/05	03/10/05
Silver (Ag)	EPA 200.8	ND	µg/L	10	1	10	03/01/05	03/10/05
Sodium (Na)	EPA 200.7	23	mg/L	1	1	1	03/01/05	03/14/05
Sulfate (SO4)	EPA 300.0	8.0	mg/L	2	1	2	03/01/05	03/01/05
Thallium (Tl)	EPA 200.8	ND	µg/L	1	1	1	03/01/05	03/10/05
Total Dissolved Solids (TDS)	SM 2540 C	180	mg/L	5	1	5	03/01/05	03/04/05
Turbidity	SM 2130 B	0.20	NTU	0.1	1	0.1	03/01/05 15:46	03/01/05 15:46
Zinc (Zn)	EPA 200.7	ND	mg/L	0.05	1	0.05	03/01/05	03/14/05

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Dibromochloropropane	EPA 504.1	ND	µg/L	0.01	1	0.01	03/10/05	03/11/05
Ethylenedibromide	EPA 504.1	ND	µg/L	0.02	1	0.02	03/10/05	03/11/05
Aldrin	EPA 505	ND	µg/L	0.075	1	0.075	03/04/05	03/04/05
Chlordane	EPA 505	ND	µg/L	0.1	1	0.1	03/04/05	03/04/05
Chlorothalonil (Daconil,Bravo)	EPA 505	ND	µg/L	5.0	1	5.0	03/04/05	03/04/05
Dieldrin	EPA 505	ND	µg/L	0.02	1	0.02	03/04/05	03/04/05
Endrin	EPA 505	ND	µg/L	0.1	1	0.1	03/04/05	03/04/05
Heptachlor	EPA 505	ND	µg/L	0.01	1	0.01	03/04/05	03/04/05
Heptachlor epoxide	EPA 505	ND	µg/L	0.01	1	0.01	03/04/05	03/04/05
Hexachlorobenzene	EPA 505	ND	µg/L	0.50	1	0.50	03/04/05	03/04/05
Hexachlorocyclopentadiene	EPA 505	ND	µg/L	1.0	1	1.0	03/04/05	03/04/05
Lindane	EPA 505	ND	µg/L	0.2	1	0.2	03/04/05	03/04/05
Methoxychlor	EPA 505	ND	µg/L	10	1	10	03/04/05	03/04/05
PCBs: Aroclor Screen	EPA 505	ND	µg/L	0.5	1	0.5	03/04/05	03/04/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments
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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554291
Project ID: Project Desc. 3/16
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Toxaphene	EPA 505	ND	µg/L	1.0	1	1.0	03/04/05	03/04/05
Trifluralin	EPA 505	ND	µg/L	1.0	1	1.0	03/04/05	03/04/05
2,4,5-T	EPA 515.3	ND	µg/L	1.0	1	1.0	03/02/05	03/02/05
2,4,5-TP (Silvex)	EPA 515.3	ND	µg/L	1.0	1	1.0	03/02/05	03/02/05
2,4-D	EPA 515.3	ND	µg/L	10	1	10	03/02/05	03/02/05
Bentazon (Basagran)	EPA 515.3	ND	µg/L	2.0	1	2.0	03/02/05	03/02/05
Dalapon	EPA 515.3	ND	µg/L	10	1	10	03/02/05	03/02/05
Dicamba (Banvel)	EPA 515.3	ND	µg/L	1.5	1	1.5	03/02/05	03/02/05
Dinoseb (DNBP)	EPA 515.3	ND	µg/L	2.0	1	2.0	03/02/05	03/02/05
Pentachlorophenol (PCP)	EPA 515.3	ND	µg/L	0.2	1	0.2	03/02/05	03/02/05
Picloram	EPA 515.3	ND	µg/L	1.0	1	1.0	03/02/05	03/02/05
1,1,1,2-Tetrachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,1,1-Trichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,1,2,2-Tetrachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,1,2-Trichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,1-Dichloro-2-propanone	EPA 524.2	ND	µg/L	10.0	1	10	03/02/05	03/02/05
1,1-Dichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,1-Dichloroethene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,1-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2,3-Trichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2,3-Trichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2,4-Trichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2,4-Trimethylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2-Dibromo-3-chloropropane (DBCP)	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2-Dichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2-Dichloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,2-Dichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,3,5-Trimethylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
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Certificate of Analysis

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ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554291

Report Issue Date: 03/18/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
1,3-Dichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,3-Dichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1,4-Dichlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
1-Chlorobutane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
2,2-Dichloropropane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
2-Butanone	EPA 524.2	ND	µg/L	10.0	1	10	03/02/05	03/02/05
2-Chlorotoluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
2-Hexanone	EPA 524.2	ND	µg/L	10.0	1	10	03/02/05	03/02/05
3-Chloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
4-Chlorotoluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
4-Methyl-2-pentanone	EPA 524.2	ND	µg/L	10.0	1	10	03/02/05	03/02/05
Acetone	EPA 524.2	ND	µg/L	10.0	1	10	03/02/05	03/02/05
Benzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Bromobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Bromochloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Bromodichloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Bromoform	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Bromomethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Carbon Disulfide	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Carbontetrachloride	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Chlorobenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Chloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Chloroform	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Chloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
cis-1,2-Dichloroethene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
cis-1,3-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Dibromochloromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Dibromomethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Dichlorodifluoromethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05

mg/L: Milligrams/Liter (ppm)
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BSK Submission #: 2005021853
BSK Sample ID #: 554291

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Report Issue Date: 03/18/2005

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Diethyl ether	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Ethyl t-Butyl Ether	EPA 524.2	ND	µg/L	3.0	1	3.0	03/02/05	03/02/05
Ethylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Ethylmethacrylate	EPA 524.2	ND	µg/L	5.0	1	5.0	03/02/05	03/02/05
Hexachlorobutadiene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Hexachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Iodomethane	EPA 524.2	ND	µg/L	5.0	1	5.0	03/02/05	03/02/05
Isopropylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Methylacrylate	EPA 524.2	ND	µg/L	5.0	1	5.0	03/02/05	03/02/05
Methylene Chloride	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Methylmethacrylate	EPA 524.2	ND	µg/L	5.0	1	5.0	03/02/05	03/02/05
Methyl-t-Butyl Ether	EPA 524.2	ND	µg/L	3.0	1	3.0	03/02/05	03/02/05
Naphthalene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
n-Butylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Nitrobenzene	EPA 524.2	ND	µg/L	10.0	1	10	03/02/05	03/02/05
n-Propylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Pentachloroethane	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
p-Isopropyltoluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
sec-Butylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Styrene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
t-Amyl Methyl Ether	EPA 524.2	ND	µg/L	3.0	1	3.0	03/02/05	03/02/05
tert-Butylbenzene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Tetrachloroethene (PCE)	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Toluene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Total 1,3-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5		
Total Trihalomethanes	EPA 524.2	ND	µg/L	-	-	N/A		
Total Xylene Isomers	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
trans-1,2-Dichloroethene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
trans-1,3-Dichloropropene	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code

1414 Stanislaus Street, Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2005021853
BSK Sample ID #: 554291

Report Issue Date: 03/18/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Trichloroethene (TCE)	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Trichlorofluoromethane	EPA 524.2	ND	µg/L	5.0	1	5.0	03/02/05	03/02/05
Vinyl Chloride	EPA 524.2	ND	µg/L	0.5	1	0.5	03/02/05	03/02/05
Alachlor (Alanex)	EPA 525.2	ND	µg/L	1.0	1	1.0	03/04/05	03/10/05
Atrazine (AAtrex)	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Benzo(a)pyrene	EPA 525.2	ND	µg/L	0.1	1	0.1	03/04/05	03/10/05
bis(2-ethylhexyl) adipate	EPA 525.2	ND	µg/L	3.0	1	3.0	03/04/05	03/10/05
bis(2-ethylhexyl) phthalate	EPA 525.2	ND	µg/L	3.0	1	3.0	03/04/05	03/10/05
Bromacil (Hyvar)	EPA 525.2	ND	µg/L	10	1	10	03/04/05	03/10/05
Butachlor	EPA 525.2	ND	µg/L	0.38	1	0.38	03/04/05	03/10/05
Diazinon	EPA 525.2	ND	µg/L	0.25	1	0.25	03/04/05	03/10/05
Dimethoate (Cygon)	EPA 525.2	ND	µg/L	10	1	10	03/04/05	03/10/05
Metolachlor	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Metribuzin	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Molinate (Ordram)	EPA 525.2	ND	µg/L	2.0	1	2.0	03/04/05	03/10/05
Pentachlorophenol (Penta)	EPA 525.2	ND	µg/L	2.0	1	2.0	03/04/05	03/10/05
Propachlor	EPA 525.2	ND	µg/L	0.5	1	0.5	03/04/05	03/10/05
Simazine (Princep)	EPA 525.2	ND	µg/L	1.0	1	1.0	03/04/05	03/10/05
Thiobencarb (Bolero)	EPA 525.2	ND	µg/L	1.0	1	1.0	03/04/05	03/10/05
3 Hydroxycarbofuran	EPA 531.1	ND	µg/L	3.0	1	3.0	03/07/05	03/08/05
Aldicarb	EPA 531.1	ND	µg/L	3.0	1	3.0	03/07/05	03/08/05
Aldicarb Sulfone	EPA 531.1	ND	µg/L	2.0	1	2.0	03/07/05	03/08/05
Aldicarb Sulfoxide	EPA 531.1	ND	µg/L	3.0	1	3.0	03/07/05	03/08/05
Carbaryl	EPA 531.1	ND	µg/L	5.0	1	5.0	03/07/05	03/08/05
Carbofuran	EPA 531.1	ND	µg/L	5.0	1	5.0	03/07/05	03/08/05
Methomyl	EPA 531.1	ND	µg/L	2.0	1	2.0	03/07/05	03/08/05
Oxamyl	EPA 531.1	ND	µg/L	20.0	1	20	03/07/05	03/08/05
Glyphosate	EPA 547	ND	µg/L	25	1	25	03/02/05	03/06/05
Endothall	EPA 548.1	ND	µg/L	45	1	45	03/03/05	03/12/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street, Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

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Report Issue Date: 03/18/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Childrens Well
Sample Comments:

Date Sampled: 02/28/2005
Time Sampled: 1420
Date Received: 02/28/2005

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Diquat	EPA 549.2	ND	µg/L	4	1	4	03/03/05	03/10/05
Surrogate								
Bromoform	EPA 504.1	118	% Rec	-	1	N/A	03/10/05	03/11/05
Tetrachloro-m-xylene	EPA 505	101	% Rec		1	N/A	03/04/05	03/04/05
DCPAA	EPA 515.3	106	% Rec		1	N/A	03/02/05	03/02/05
1,2-Dichlorobenzene-d4	EPA 524.2	85.0	% Rec	-	1	N/A	03/02/05	03/02/05
4-Bromofluorobenzene	EPA 524.2	88.0	% Rec	-	1	N/A	03/02/05	03/02/05
1,3-Dimethyl-2-nitrobenzene	EPA 525.2	113	%Rec		1	N/A	03/04/05	03/10/05
HDMC	EPA 531.1	113	% Rec	-	1	N/A	03/07/05	03/08/05
AMPA	EPA 547	94.0	% Rec	-	1	N/A	03/02/05	03/06/05

mg/L: MilliGrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
[illegible] See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street, Fresno, CA 93706-1623 Phone 559 497 2888, In CA 800-877-8310 Fax 559 485 6935

EDT

RADIOACTIVITY ANALYSIS (9/99)

Date of Report: 06/08/21 Sample ID No.744003
Laboratory Signature Lab
Name: SEVEREN TRENT LABORATORIES - RICHLAND Director:
Name of Sampler:Cecil Harris Employed By: BSK Laboratories
Date/Time Sample Collected:06/07/18/0935 Date/Time Sample Received @ Lab:06/07/25/1000 Date Analyses Completed:06/08/17

System Name:CHILDREN'S HOSPITAL CENTRAL CALIF System Number: 2000275
Name or Number of Sample Source:SOURCE WELL 2 VCH

User ID: 20C Station Number: 2000275-002
Date/Time of Sample: |06|07|18|0935| (YY MM DD TTTT) Laboratory Code: 2425
Date Analysis completed: |06|08|17| (YY MM DD)
Submitted by: Phone #: 509-375-3131

MCL	REPORT UNITS	CHEMICAL	STORET CODE	ANALYSES RESULTS		DLR
	pCi/L	TITLE 22 CALIFORNIA CODE OF REGULATIONS				
	pCi/L	SECTION 64442 (22 CCR 64442)				
15	pCi/L	Gross Alpha	01501	2.2		3.0
	pCi/L	Gross Alpha Counting Error	01502	1.1	-	
20	pCi/L	Granium	28012			1.0
	pCi/L	Uranium Counting Error	A-028			
	pCi/L	Radium 226	09501	0.37		1.0
	pCi/L	Radium 226 Counting Error	09502	0.38	-	
	pCi/L	Radium 228	11501	0.13		1.0
	pCi/L	Radium 228 Counting Error	11502	0.20		
5	pCi/L	Ra 226 + Ra 228	11503	0.50		
	pCi/L	Ra 226 + Ra 228 Counting Error	11504	0.38	-	
	pCi/L	TITLE 22 CALIFORNIA CODE OF REGULATIONS				
	pCi/L	SECTION 64443 (22 CCR 64443)				
50	pCi/L	Gross Beta	03501			4.0
	pCi/L	Gross Beta Counting Error	03502			
4	pCi/L	Gross Beta, Calculated Dose Equivalent *	A-071			
	pCi/L	* See Below				
8	pCi/L	Strontium 90	13501			2.0
	pCi/L	Strontium 90 Counting Error	13502		-	
20000	pCi/L	Tritium	07000			1000
	pCi/L	Tritium Counting Error	07001			

pCi/L	Radon 222	82303	100.0
pCi/L	Radon 222 Counting Error	82302	
pCi/L			
pCi/L			
pCi/L	*Gross Beta, Calculated Total Body or		
pCi/L	Organ Dose Equivalent, Per 22 CCR 64443		
pCi/L			

EDT

RADIOACTIVITY ANALYSIS (9/99)

Date of Report: 06/06/08 Sample ID No.713918

Laboratory Signature Lab

Name: SEVEREN TRENT LABORATORIES - RICHLAND Director:

Name of Sampler:Cecil Harris Employed By: BSK Laboratories

Date/Time Sample Collected:06/04/25/0926 | Date/Time Sample Received @ Lab:06/04/28/1030 | Date Analyses Completed:06/06/06

System Name:CHILDREN'S HOSPITAL CENTRAL CALIF | System Number: 2000275

Name or Number of Sample Source:WELL 02 VCR WELL

User ID: 20C Station Number: 2000275-002

Date/Time of Sample: |06|04|25|0926| (YY MM DD TTTT) Laboratory Code: 2425

Date Analysis completed: |06|06|06| (YY MM DD)

Submitted by Phone #:

MCL REPORT UNITS	CHEMICAL	STORET CODE	ANALYSES RESULTS	DLR
15 pCi/L	Gross Alpha	01501	1.4	3.0
pCi/L	Gross Alpha Counting Error	01502	± 0.92	
50 pCi/L	Gross Beta	03501		4.0
pCi/L	Gross Beta Counting Error	03502		
20 pCi/L	Uranium	28012		2.0
pCi/L	Uranium Counting Error	A-028		
pCi/L	Radium 226	09501	0.27	1.0
pCi/L	Radium 226 Counting Error	09502	± 0.17	
pCi/L	Radium 228	11501	0.76	1.0
pCi/L	Radium 228 Counting Error	11502	± 0.25	
5 pCi/L	Ra 226 + Ra 228	11503	1.0	
pCi/L	Ra 226 + Ra 228 Counting Error	11504	± 0.42	
pCi/L	Radon 222	82303		100.0
pCi/L	Radon 222 Counting Error	82302		
8 pCi/L	Strontium 90	13501		2.0
pCi/L	Strontium 90 Counting Error	13502		
20000 pCi/L	Tritium	07000		1000
pCi/L	Tritium Counting Error	07001		

EDT

RADIOACTIVITY ANALYSIS (9/99)

Date of Report: 06/03/31 Sample ID No.684865

Laboratory Name: SEVEREN TRENT LABORATORIES - RICHLAND Signature Lab Director:

Name of Sampler:Cecil Harris Employed By: BSK Laboratories

Date/Time Sample Collected:06/01/31/0730 Date/Time Sample Received @ Lab:06/02/06/0950 Date Analyses Completed:06/03/09

System Name:VALLEY CHILDREN'S HOSPITAL System Number: 2000275

Name or Number of Sample Source:WELL 02 VCH WELL

User ID: 20C Station Number: 2000275-002

Date/Time of Sample: |06|01|31|0730| YY MM DD TTTT Laboratory Code: 2425 YY MM DD

Date Analysis completed: |06|03|09|

Submitted by: Phone #: 501-375-3131

MCL	REPORT UNITS	CHEMICAL	STORET CODE	ANALYSES RESULTS	DLR
15	pCi/L	Gross Alpha	01501	0.7	3.0
	pCi/L	Gross Alpha Counting Error	01502	0.84	
50	pCi/L	Gross Beta	03501		4.0
	pCi/L	Gross Beta Counting Error	03502		
20	pCi/L	Uranium	28012		2.0
	pCi/L	Uranium Counting Error	A-028		
	pCi/L	Radium 226	09501	0.32	1.0
	pCi/L	Radium 226 Counting Error	09502	0.16	
	pCi/L	Radium 228	11501	0.27	1.0
	pCi/L	Radium 228 Counting Error	11502	0.39	
	pCi/L	Ra 226 + Ra 228	11503	0.59	5
	pCi/L	Ra 226 + Ra 228 Counting Error	11504	0.55	
	pCi/L	Radon 222	82303		100.0
	pCi/L	Radon 222 Counting Error	82302		
8	pCi/L	Strontium 90	13501		2.0
	pCi/L	Strontium 90 Counting Error	13502		
20000	pCi/L	Tritium	07000		1000
	pCi/L	Tritium Counting Error	07001		

BSK LABORATORIES
1414 Stanislaus St.
Fresno, CA 93706

EDT

GENERAL MINERAL & PHYSICAL & INORGANIC ANALYSIS (3/03) -

Date of Report: 06/04/04 Sample ID No.2006011829 684865
Laboratory
Name: BSK ANALYTICAL LABORATORIES Authorized Signature:

Name of Sampler: CLIENT Employed By: Childrens Hospital Central

Date/Time Sample Collected: 06/01/31/0730 Date/Time Sample Received: 06/01/31/0825 Date Analyses Completed: 06|01|31

System Name: VALLEY CHILDREN'S HOSPITAL System #: 2000275
Name or Number of Sample Source: WELL 02 VCH WELL

User ID: 20C Station Number: 2000275-002
Date/Time of Sample: 06|01|31|0730| Laboratory Code: 5810
Date Analysis Completed: 06|01|31

Submitted by: Phone #:

INORGANIC CHEMICALS

MCL	REPORTING UNITS	CHEMICAL	ENTRY#	ANALYSIS RESULTS	DLR
45	mg/L	Nitrate (NO3)	71850	8.0	2.

Total Anions Meq/L Value: 0.13

* 250-500-600 ** 900-1600-2200 *** 500-1000-1500
* Indicates Secondary Drinking Water Standards

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Neal Pearson
Childrens Hospital Central California
9300 Valley Children's Place
Madera, CA 93638

BSK Submission #: 2006011829
BSK Sample ID #: 684865

Report Issue Date: 04/04/2006

Project ID: Project Desc: Annual NO3 / Qrtly. Radiological
Submission Comments:
Sample Type: Liquid
Sample Description: VCH Well 2
Sample Comments:

Date Sampled: 01/31/2006
Time Sampled: 0730
Date Received: 01/31/2006

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Nitrate (NO3)	EPA 300.0	**8.0**	mg/L	1	1	1	01/31/06 14:03	01/31/06 14:03

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
L: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code

TECHNICAL MEMORANDUM NO. 1
WATER-LEVEL ELEVATION MAP

The report "Hydrogeologic Investigation of Southeastern Madera County", prepared for Root Creek Water District (RCWD) by Kenneth D. Schmidt and Associates (KDSA) and Provost & Pritchard (July 2001) contained a water-level elevation and direction of groundflow map for Spring 2001. This map showed that the highest water-level elevations (exceeding 220 feet above mean sea level) were near the San Joaquin River. In contrast, the lowest water-level elevations (less than 120 feet) were beneath and east of Madera Ranchos. Groundwater was flowing away from the San Joaquin River toward a depression cone north of Avenue 11 and east of Road 35. Water-level contours for 2001 were shown in the Rio Mesa area, east of Highway 41, based on a one-time water-level measurement program in that area in 2001. Water-level contours in that area aren't expected to have changed significantly since 2001, because there was only one active large capacity well in that area that was pumping during 2001-06.

Water-level measurements for Spring 2006 were obtained from the California Department of Water Resources, San Joaquin District, and from the RCWD. The attached illustration show water-level elevations and the direction of groundwater flow in Spring 2006. Essentially, the highest water-level elevations (exceeding 210 feet) were near the San Joaquin River. The lowest water-level elevations

(less than 110 feet) were in the area north of Avenue 12 and east of Madera Ranchos. The water-level depression in this part of the study area was lower than the depression in Madera Ranchos at the time of the measurements. The Spring 2006 map is indicated to be more representative for this area than the Spring 2001 map, because water-level measurements are available for many more wells in 2006 than in 2001. The cone of depression east of Madera Ranchos and north of Rolling Hills is due to pumping for irrigation in that area. Overall, groundwater in the study area was moving from the San Joaquin River toward two depressions. Relatively high water-level elevations were also present near the Fresno River, in the northwest part of the study area. This indicates recharge from seepage of Fresno River streamflow seepage in this area. The direction of groundwater flow from Gunner Ranch West was to the northwest, thence north toward the depression east of Madera Ranchos.

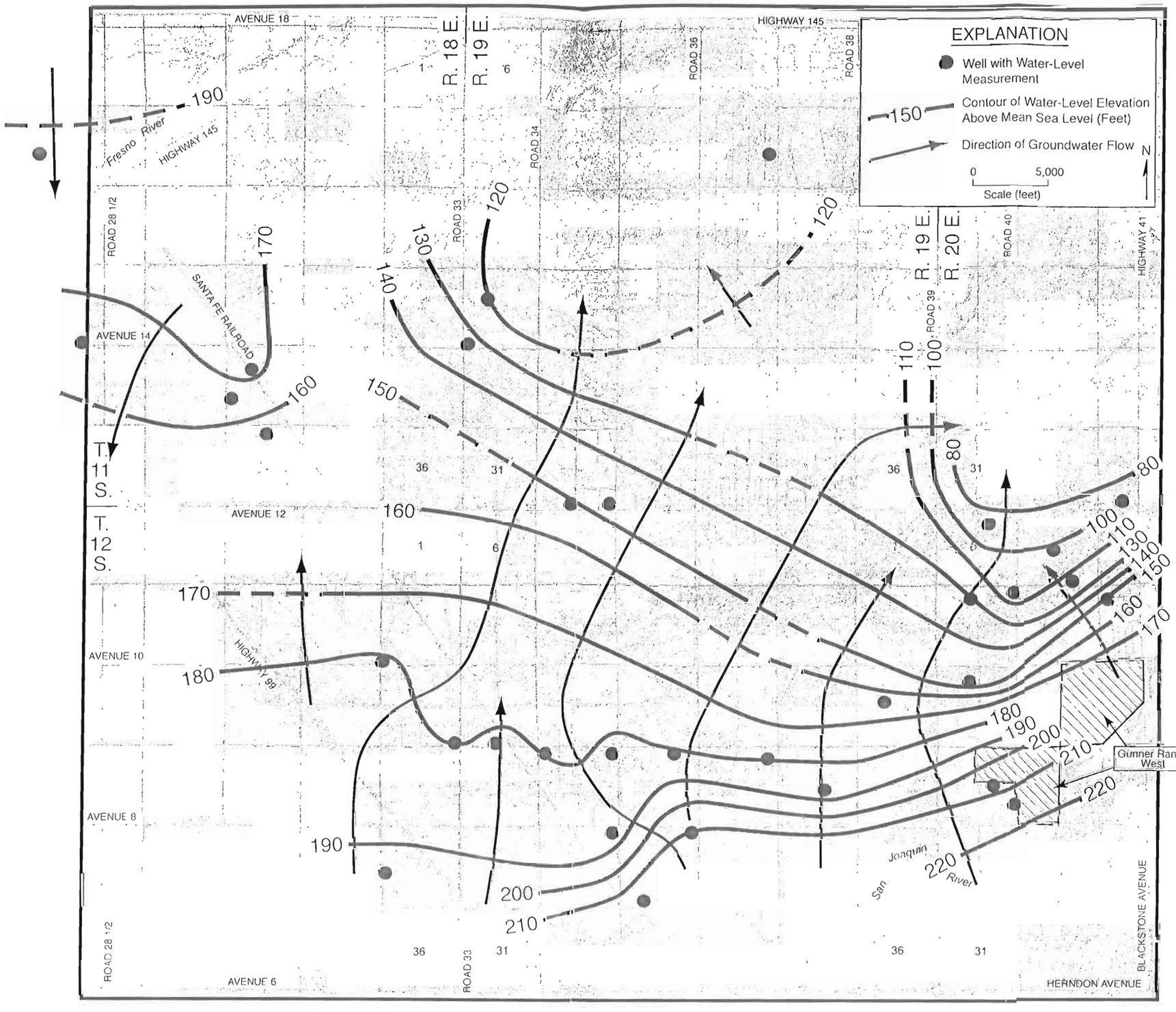


FIGURE 1 - WATER-LEVEL ELEVATIONS AND DIRECTION OF GROUNDWATER FLOW (SPRING 2006)

TECHNICAL MEMORANDUM NO. 2
UPDATE OF WATER-LEVEL HYDROGRAPHS

The report "Hydrogeologic Investigation of Southeastern Madera County" (2001) included a summary of 33 water-level hydrographs in the valley part of southeastern Madera County. Of these hydrographs, 15 were for wells in the Root Creek Water District (RCWD). The wells in the RCWD have generally been measured annually in the spring since 1997. Rates of water-level decline during the several decades prior to 2001 had ranged from less than one foot per year near the San Joaquin and Fresno River to more than five feet per year in part of the Madera Ranchos area. Water-level declines through 2001 in the Root Creek WD increased with increasing distance from the San Joaquin River. The average decline near Avenue 8 was about one foot per year and near Avenue 9 was about two feet per year. The average water-level decline was about four feet per year near Avenue 10 and five feet per year near Avenue 11-1/2. The average rate of water-level decline in the RCWD between 1980 and 2001 was about three and a half feet per year. Average water-level declines in the part of the MID served with canal water in the western part of the study area averaged about two feet per year during 1980-2001. Water-level declines in the alluvial part of the study area outside of the MID and RCWD averaged about five feet per year during 1980-2001.

In the report on southeastern Madera County, the overdraft in

the study area was calculated to be about 22,000 acre-feet per year. Of this amount, about 3,400 acre-feet per year was in the RCWD.

As part of this evaluation, water-level hydrographs for wells in the California Department of Water Resources water-level data base were obtained for the study area through Spring 2006. Also, water-level measurements for wells in the RCWD since 2001 were obtained (attached). Of these hydrographs, 26 extend through at least 2004 (attached). Most of these hydrographs extend back to at least the 1960's. A number of wells in the part of the study area north of Avenue 12 and east of the MID are no longer measured (measurements stopped during 2001-03).

Average water-level declines in the study area were determined for 1975-2005 (Figure 1). These declines were similar to those described in the 2001 report on southeastern Madera County. Average water-level declines were less than one foot per year within about a mile of the San Joaquin River west of Highway 41 and within about two miles of the Fresno River. In the area east of the Santa Fe Railroad tracks, water-level declines increased with increasing distance from the San Joaquin River, north to about Avenue 13-1/2. The greatest water-level declines (more than four feet per year) were in the area between Avenues 11 and 13-1/2 and Roads 34 and Highway 41. The results of the evaluation indicate that the esti-

mates of groundwater overdraft in the 2001 report of the study area are still valid. That is, the average long-term rates of water-level decline have not significantly changed.

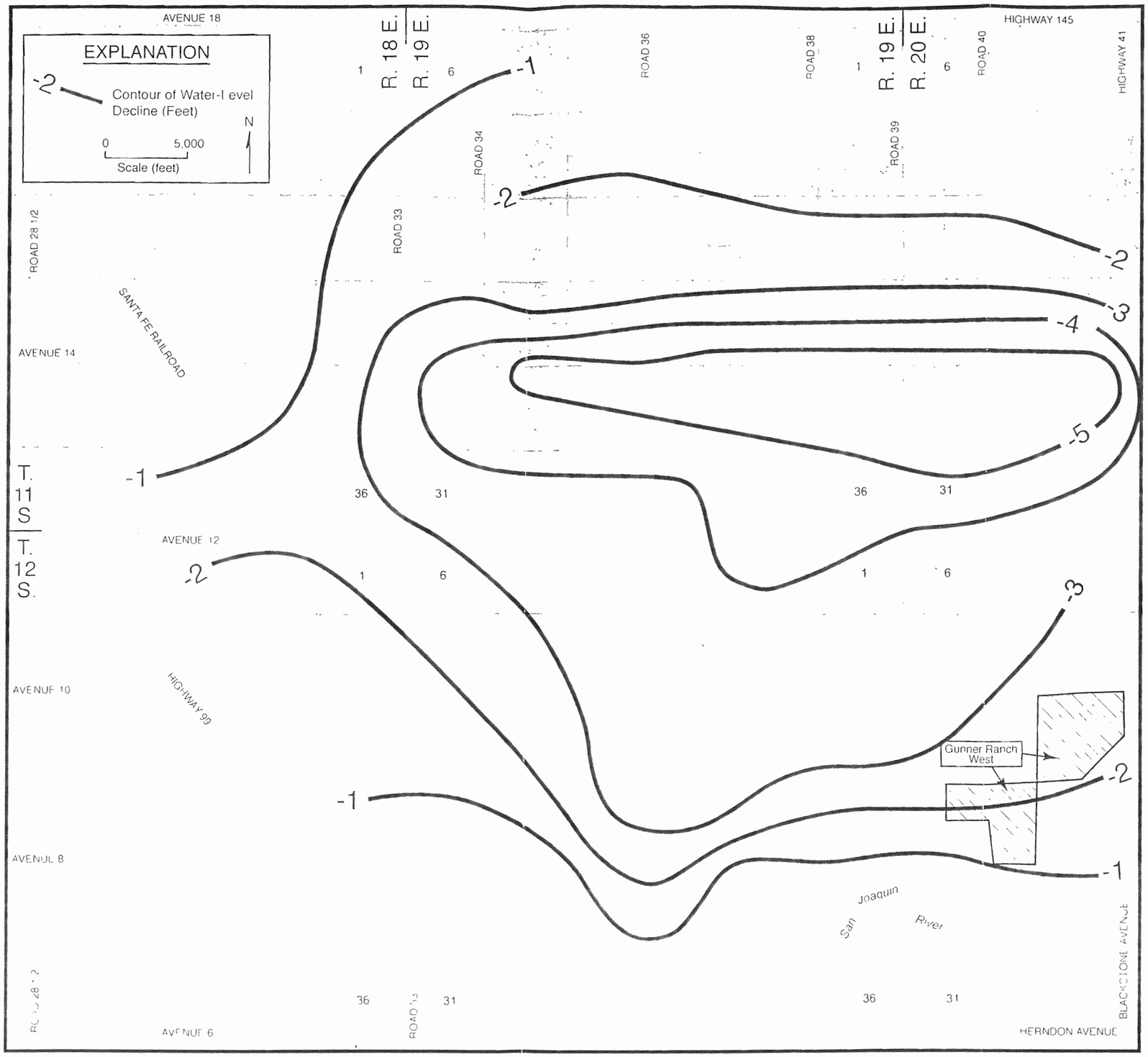
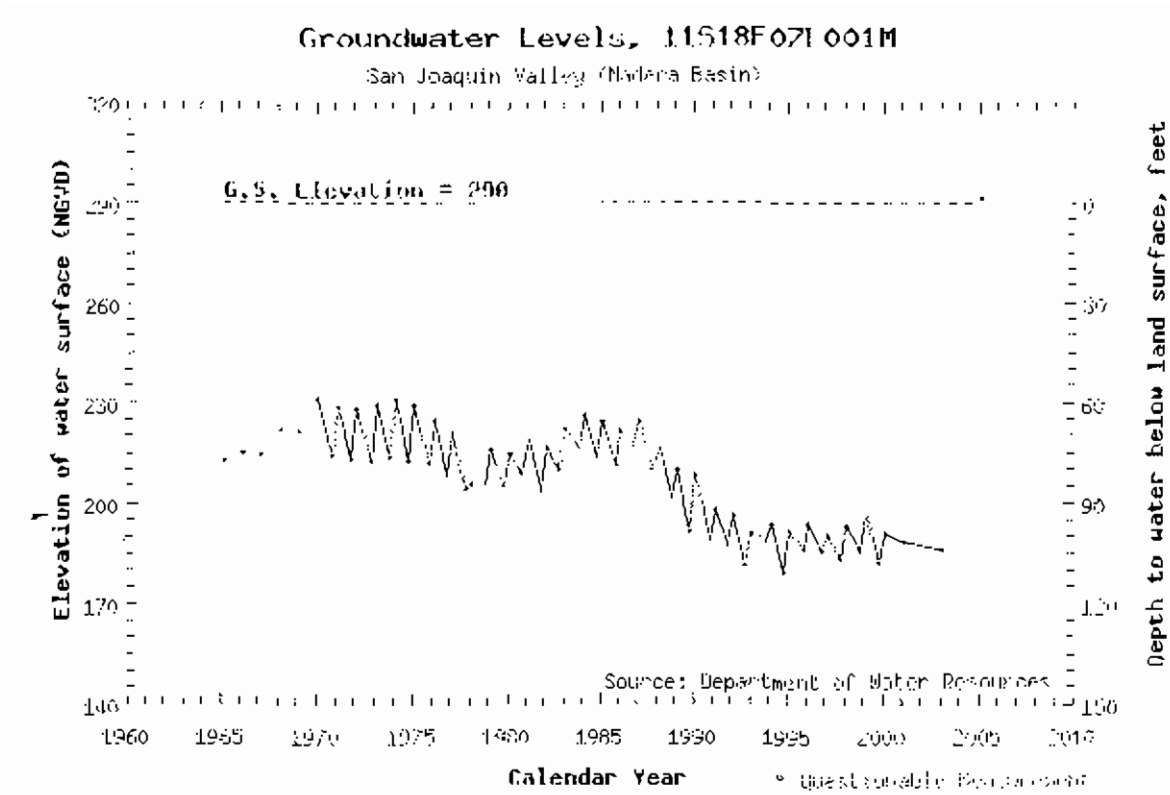
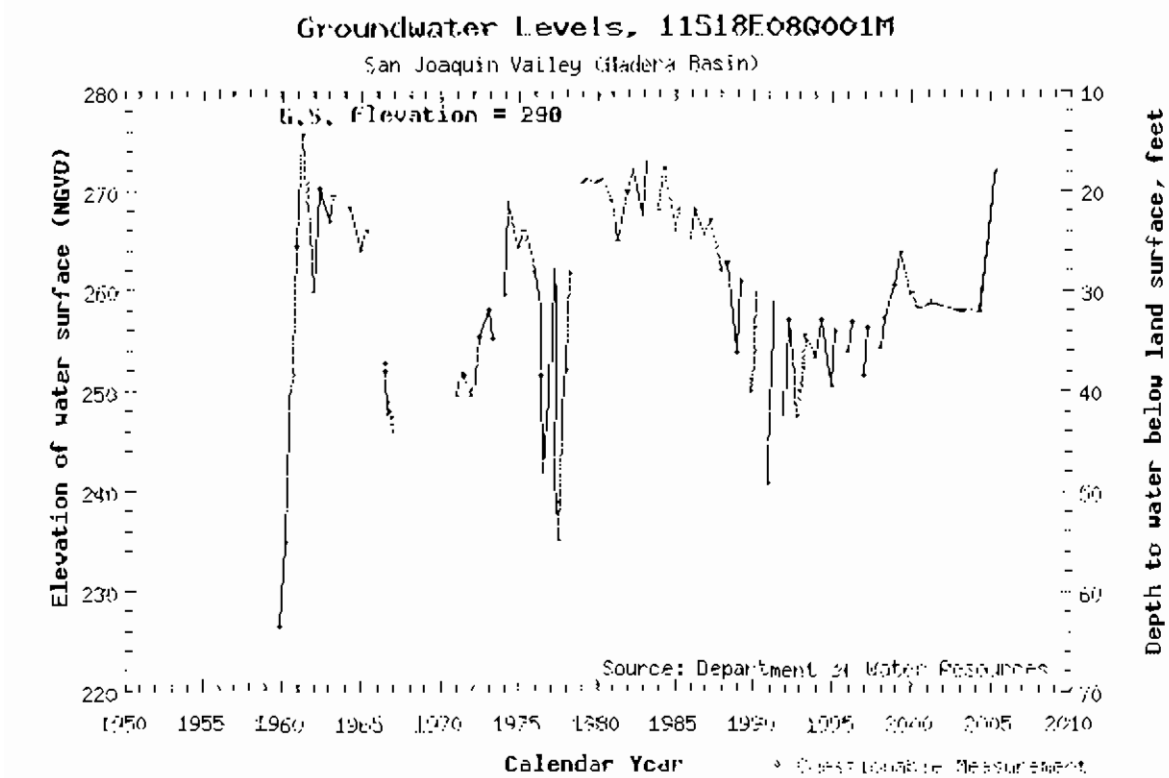
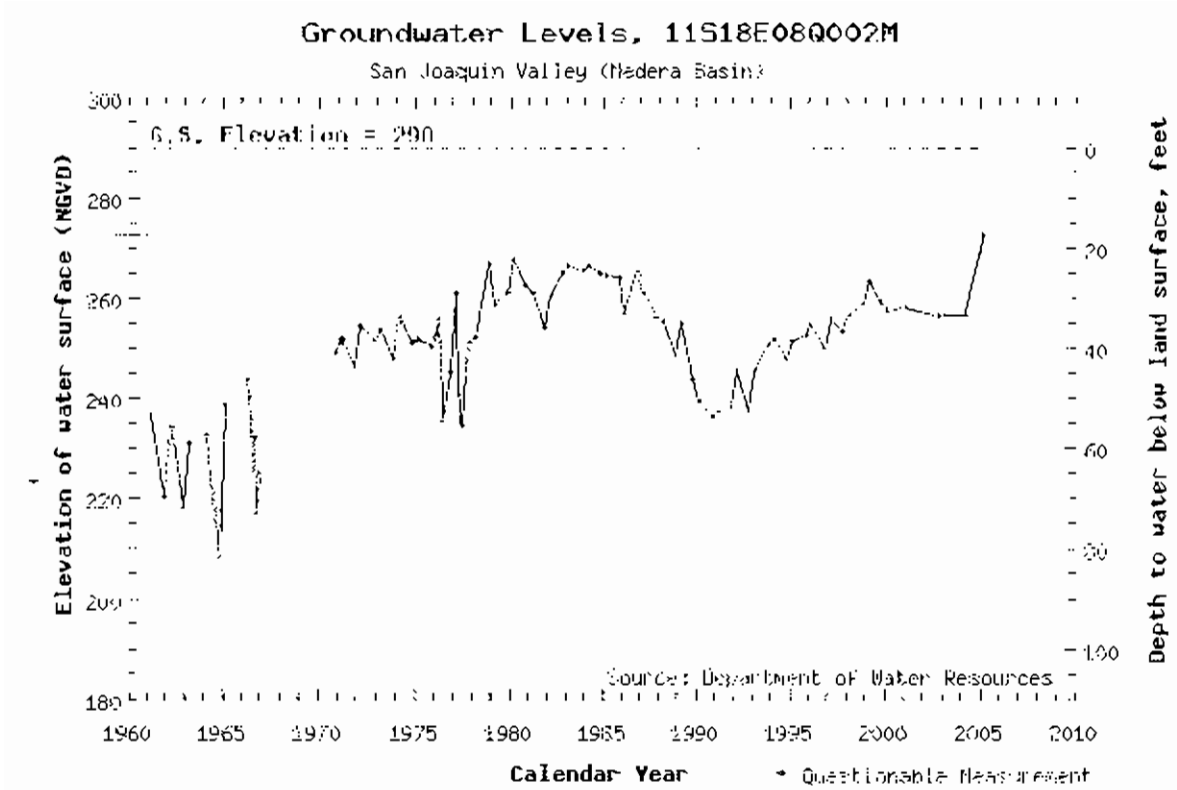
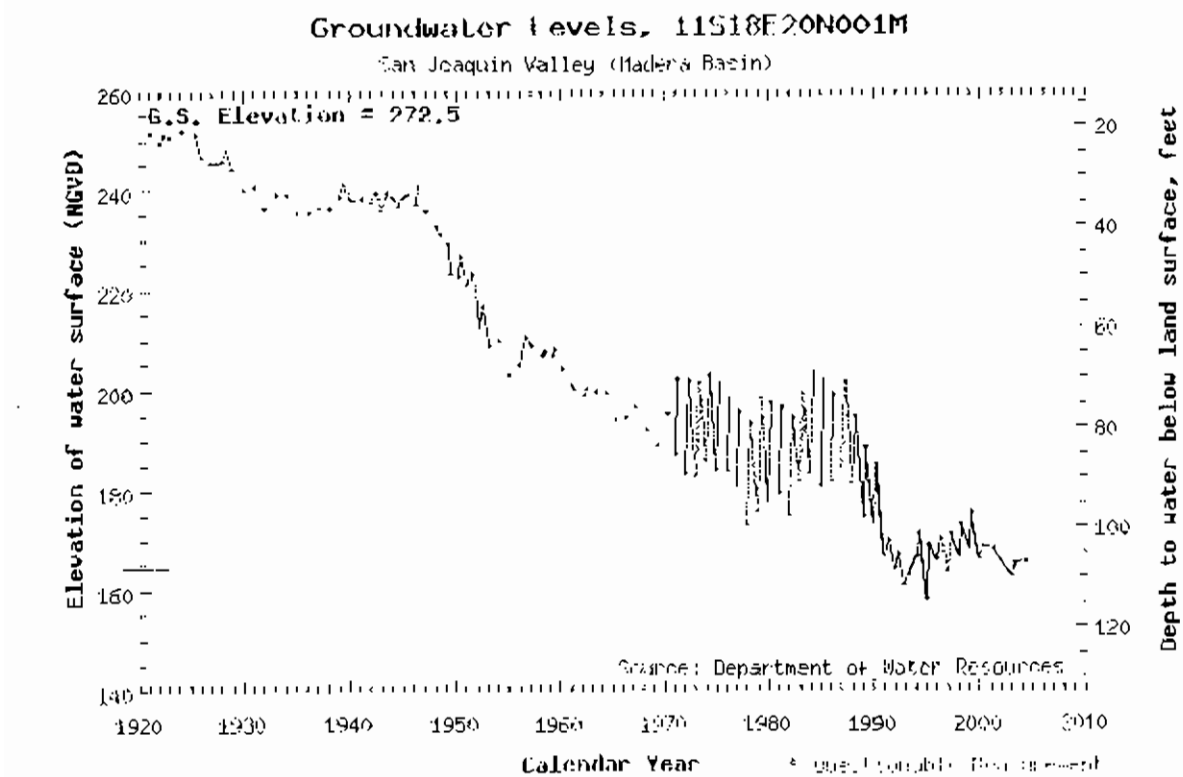


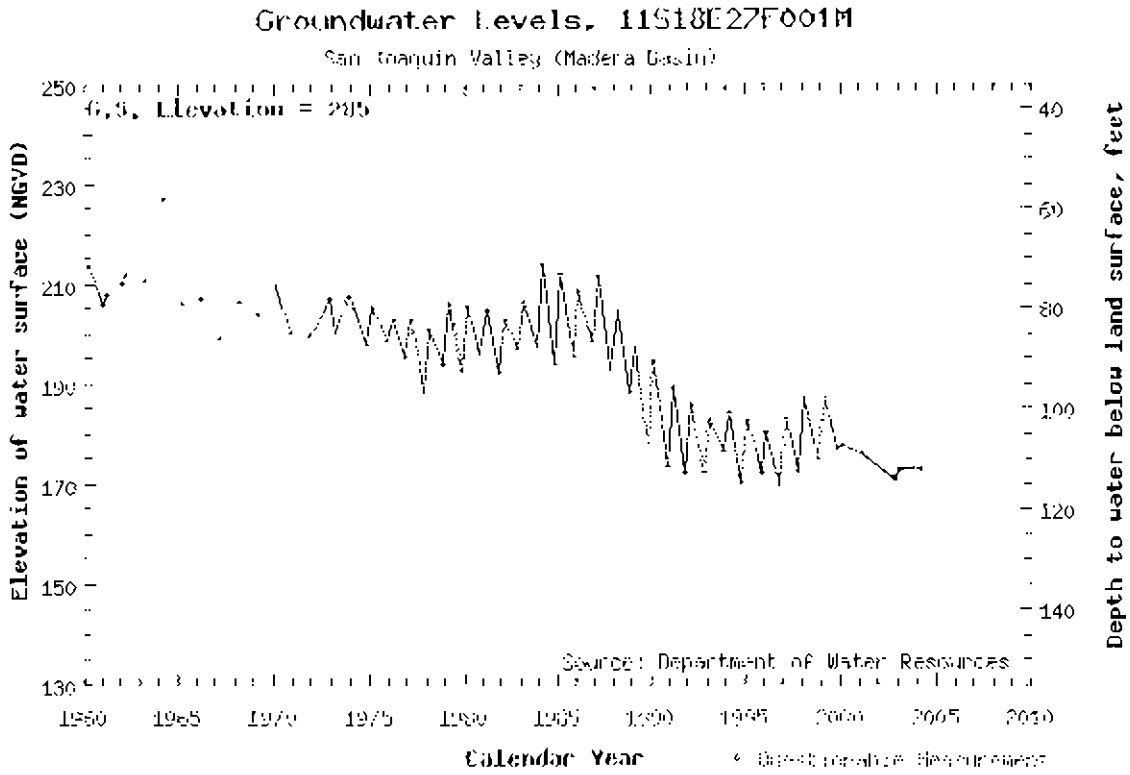
FIGURE 1 - AVERAGE WATER-LEVEL DECLINES (1975-2005)

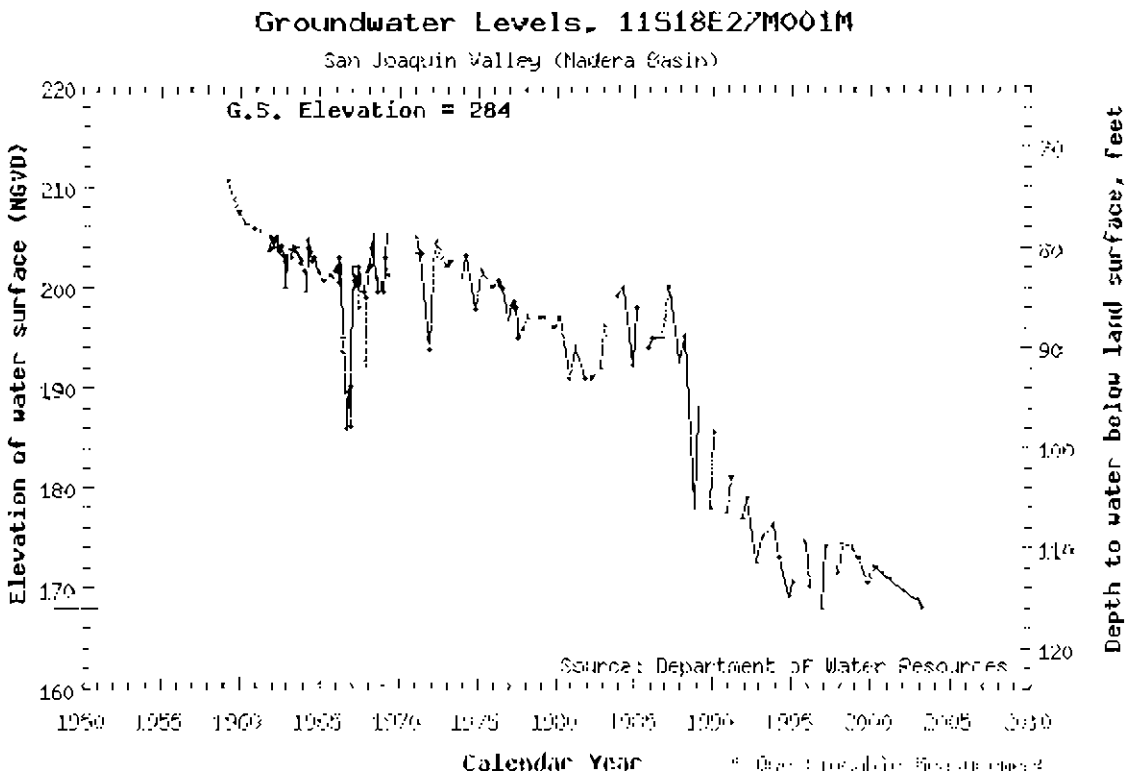

Groundwater Levels, 11S18E07L001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 290
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

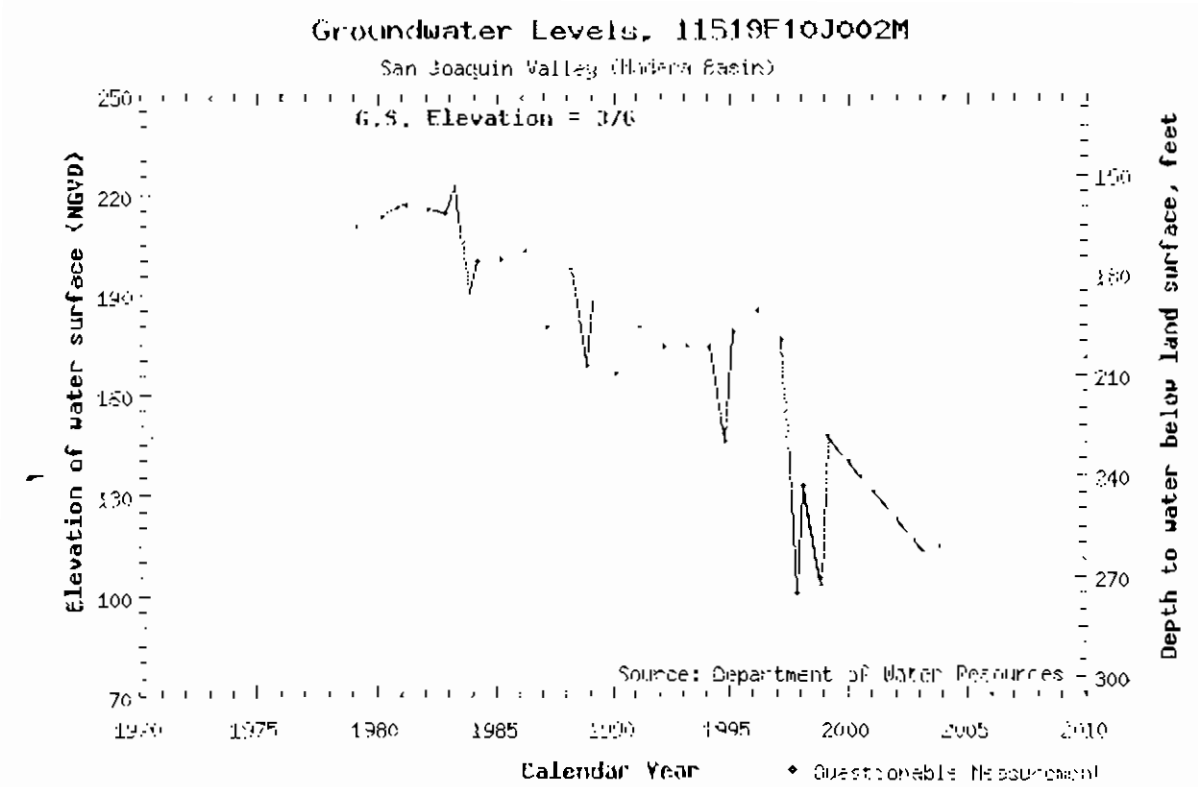

Groundwater Levels, 11S18E08Q001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 290
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

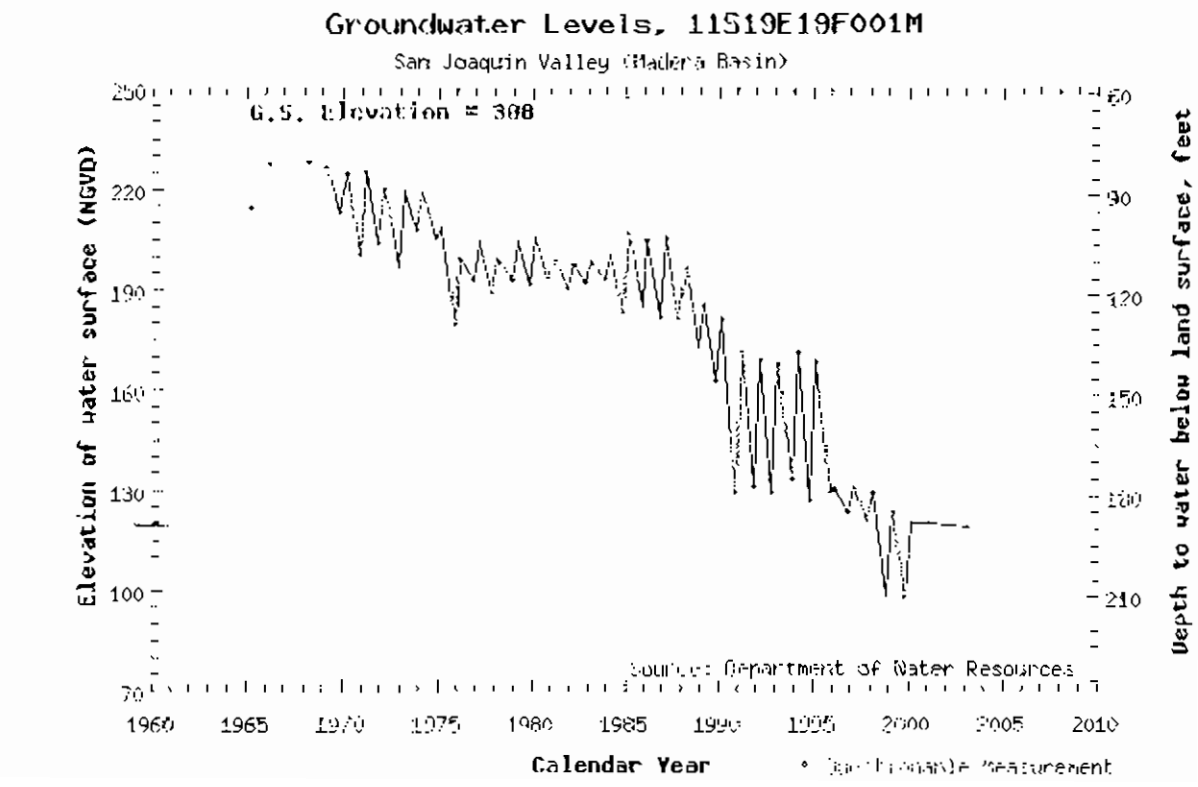

Groundwater Levels, 11S18E08Q002M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 290
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
* Questionable Measurement

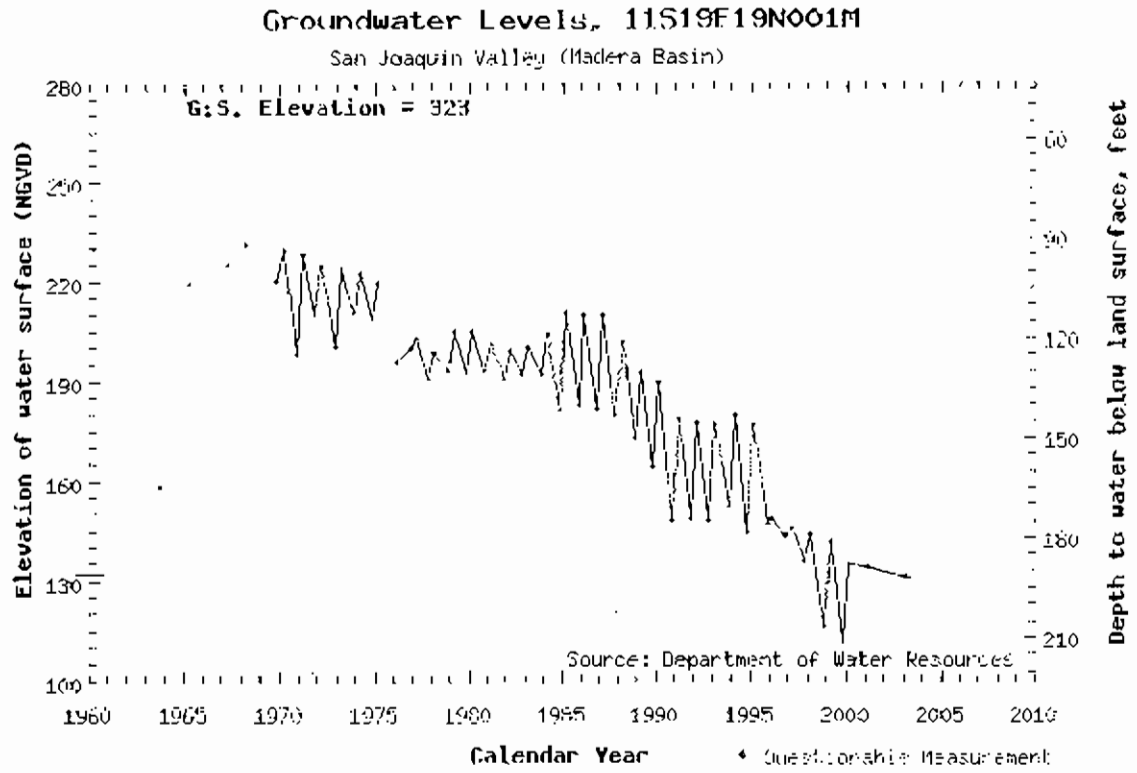

Groundwater Levels, 11S18E20N001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 272.5
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

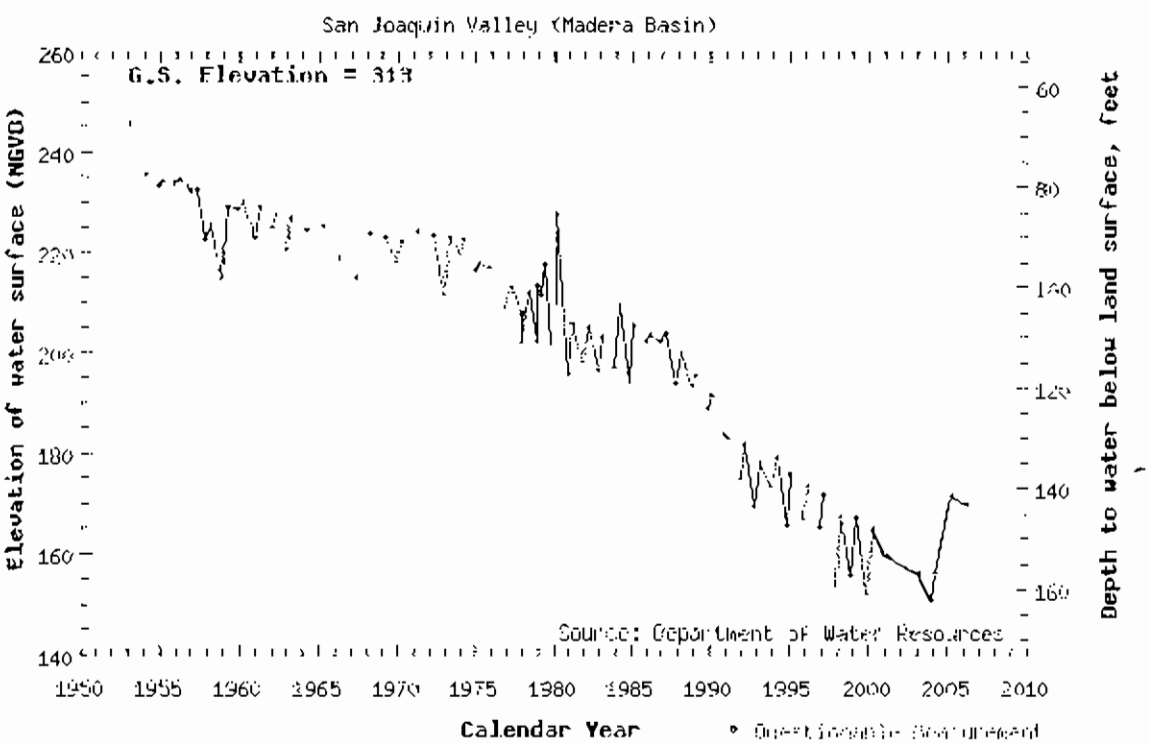

Groundwater Levels, 11S18E27F001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 285
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 11S18E27M001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 284
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 11S19E10J002M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 370
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

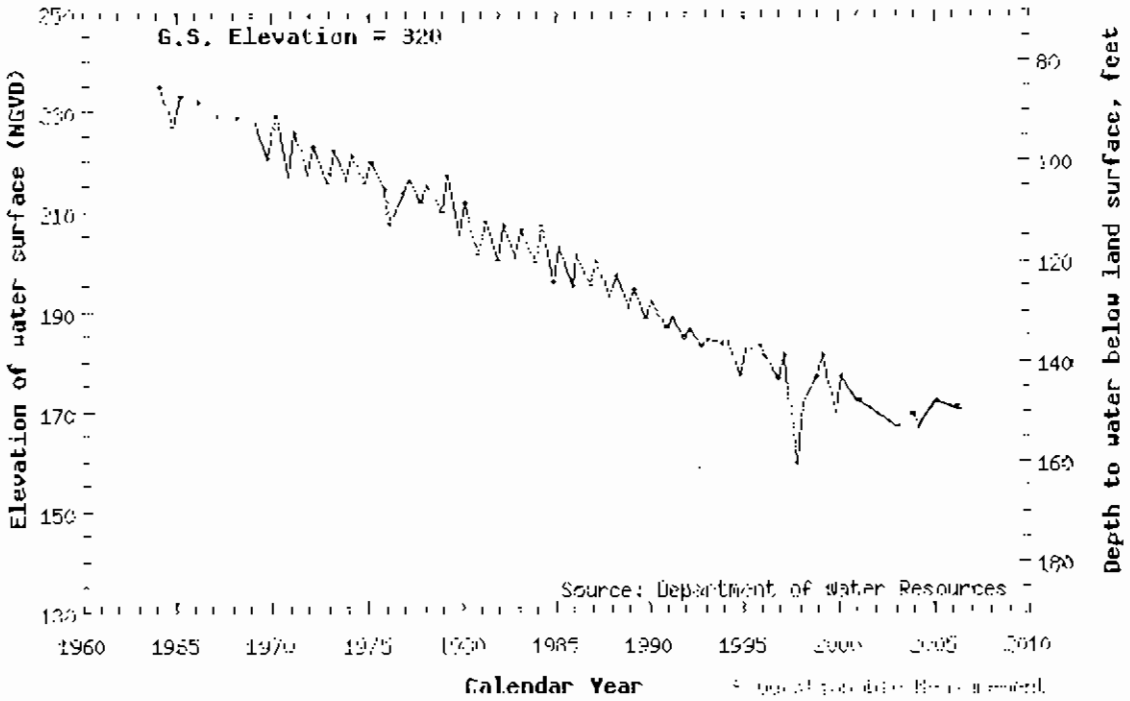

Groundwater Levels, 11S19E19F001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 308
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 11S19E19N001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 323
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
280
260
220
190
160
130
100
60
90
120
150
180
210
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010


Groundwater Levels, 11S19E32P001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 313
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
260
240
220
200
180
160
140
60
80
100
120
140
160
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010

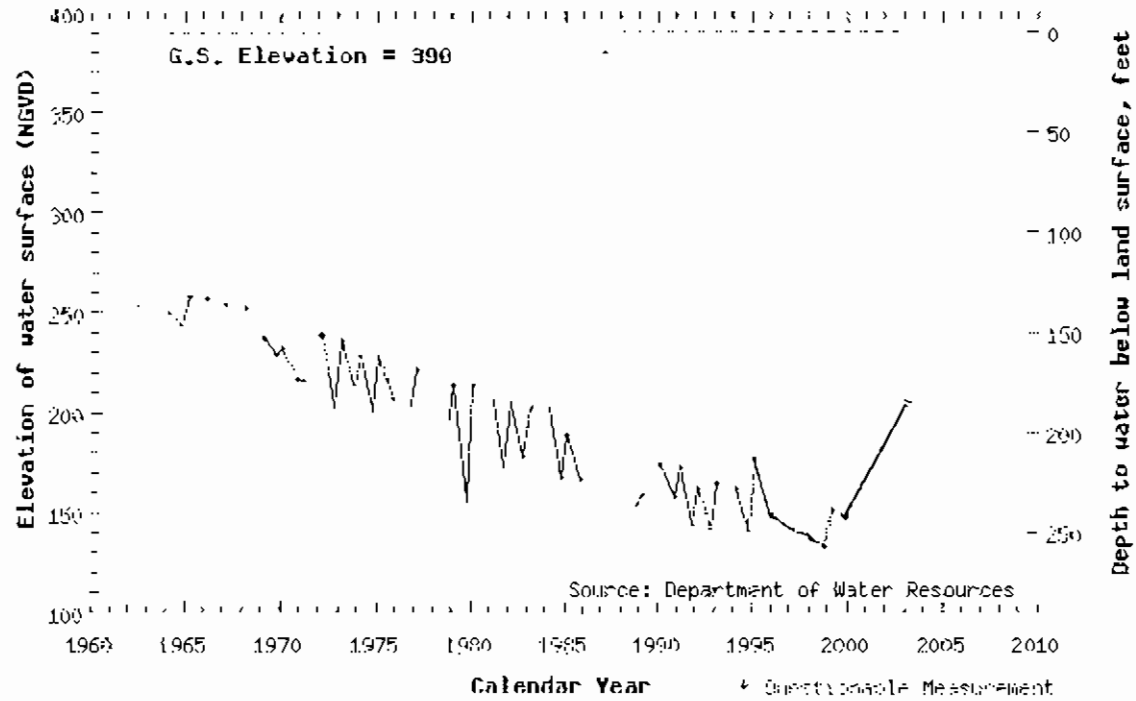
Groundwater Levels, 11S19E32R001M

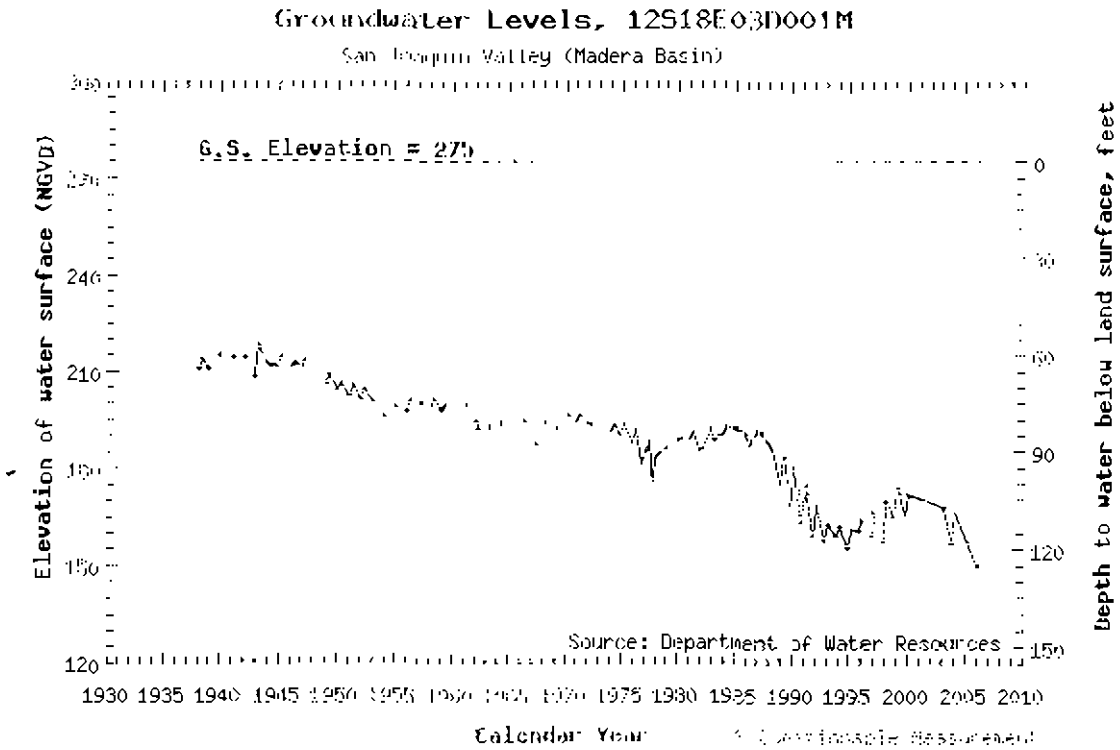
San Joaquin Valley (Madera Basin)

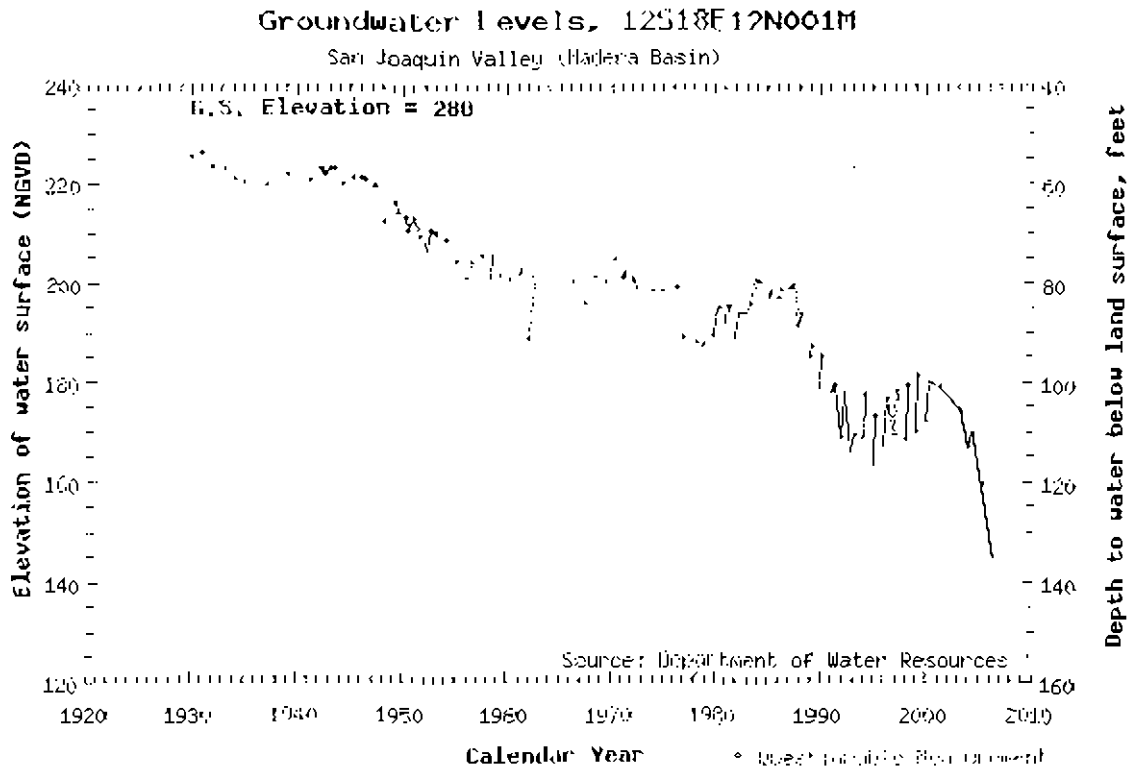


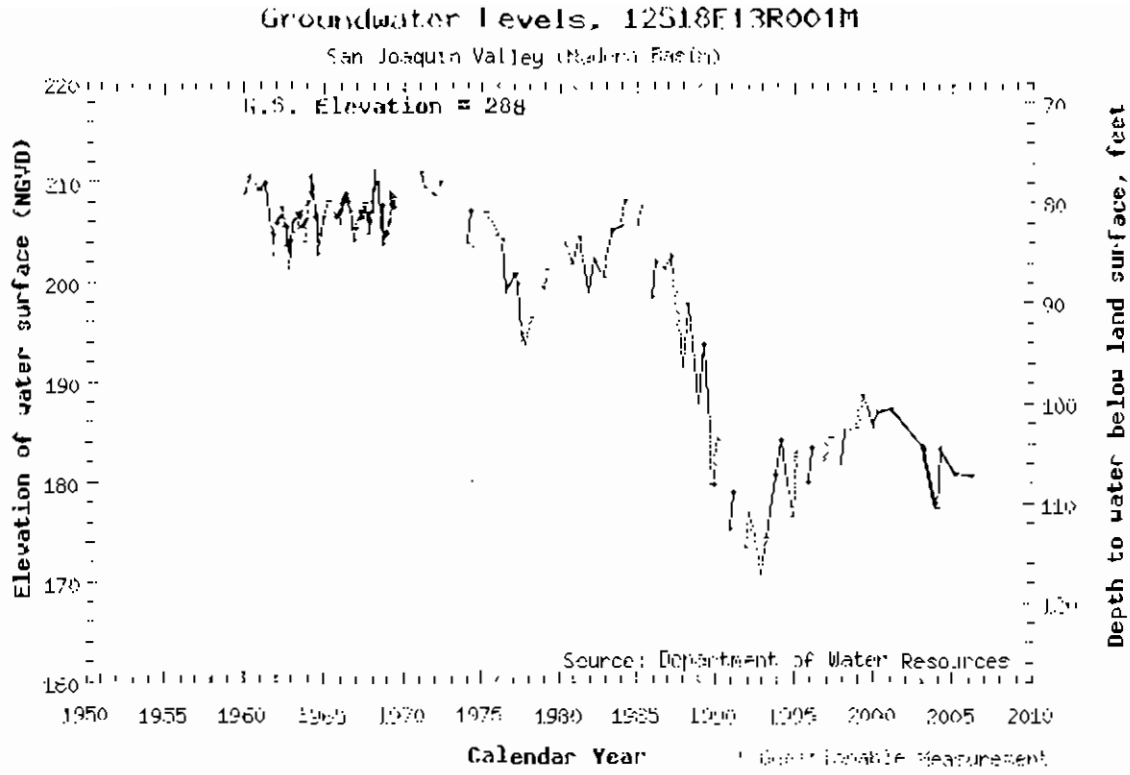
Groundwater Levels, 11S20E33K001M

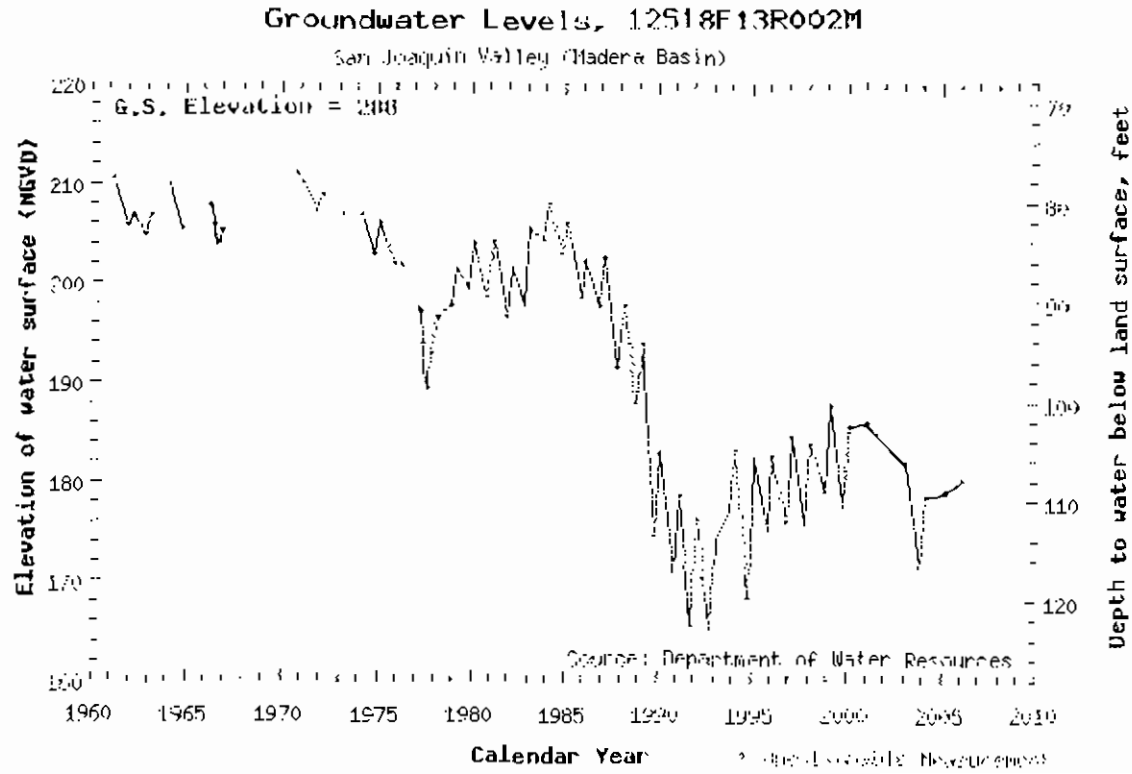
San Joaquin Valley (Madera Basin)

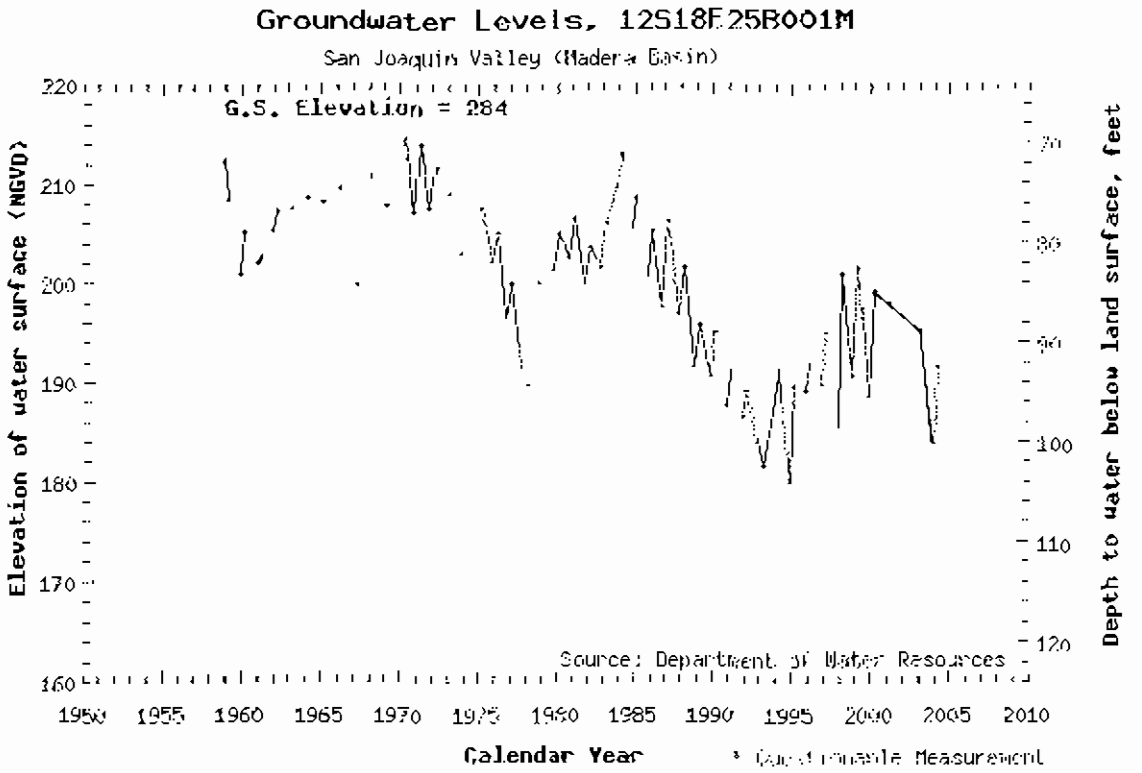


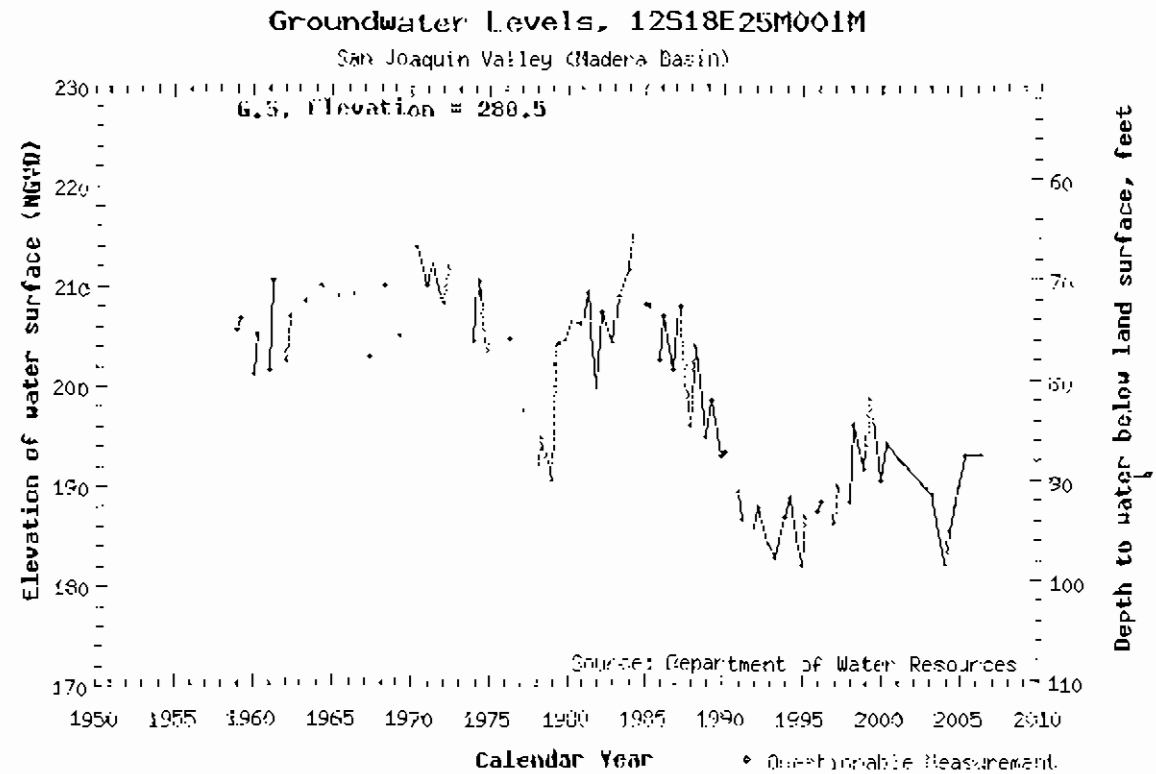

Groundwater Levels, 12S18E03D001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 275
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010
Calendar Year


Groundwater Levels, 12S18E12N001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 280
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
1920 1930 1940 1950 1960 1970 1980 1990 2000 2010
Calendar Year


Groundwater Levels, 12S18E13R001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 288
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 12S18E13R002M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 288
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 12S18E25B001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 284
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
220
210
200
190
180
170
160
70
80
90
100
110
120
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010


Groundwater Levels, 12S18E25M001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 280.5
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
230
220
210
200
190
180
170
60
70
80
90
100
110
1950
1955
1960
1965
1970
1975
1980
1985
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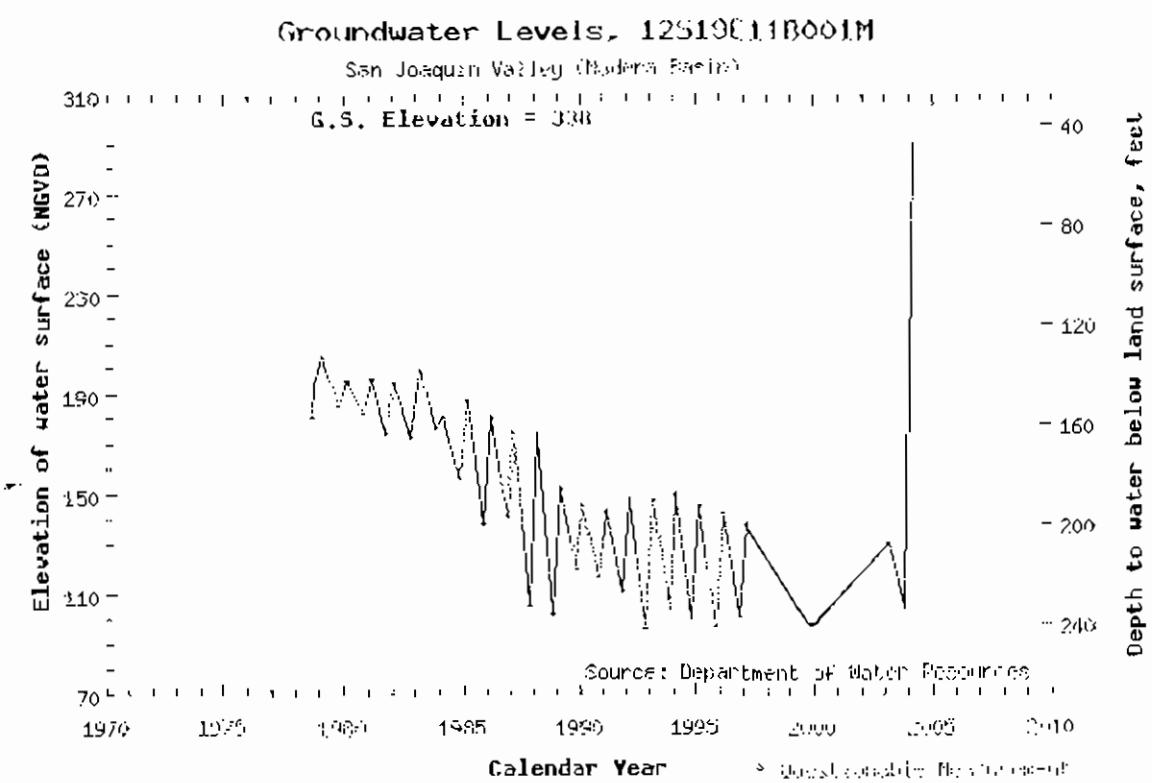
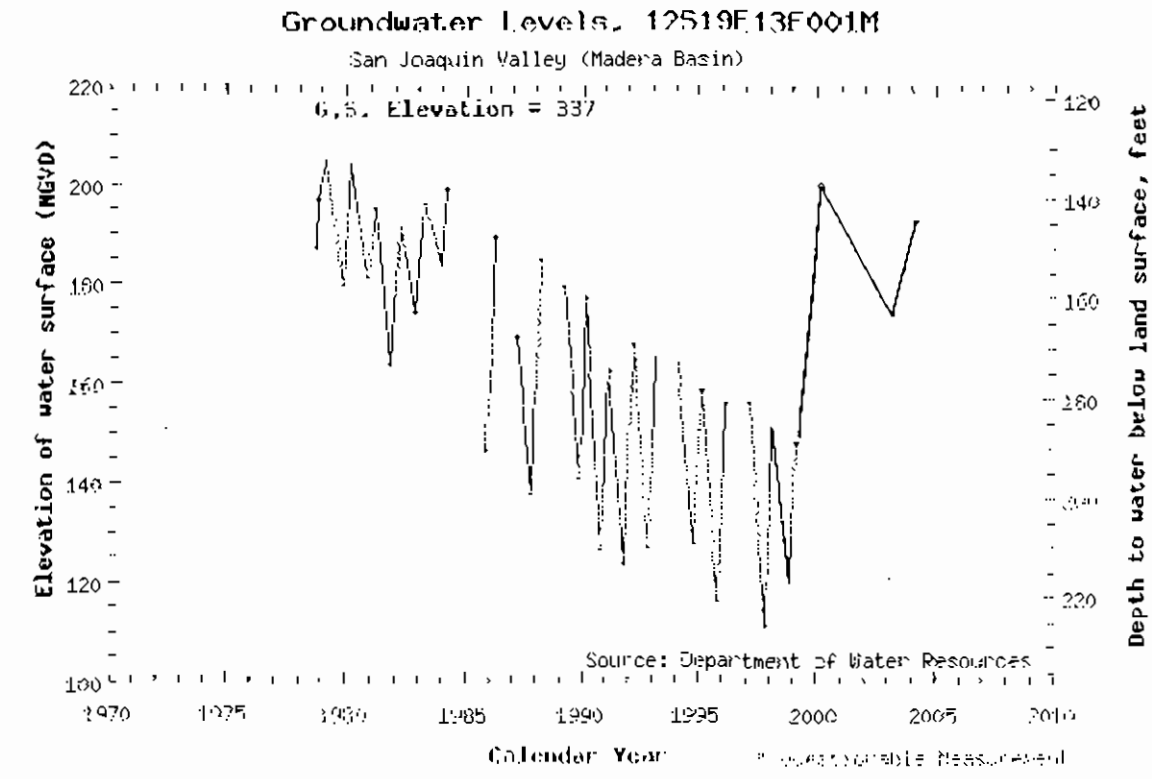
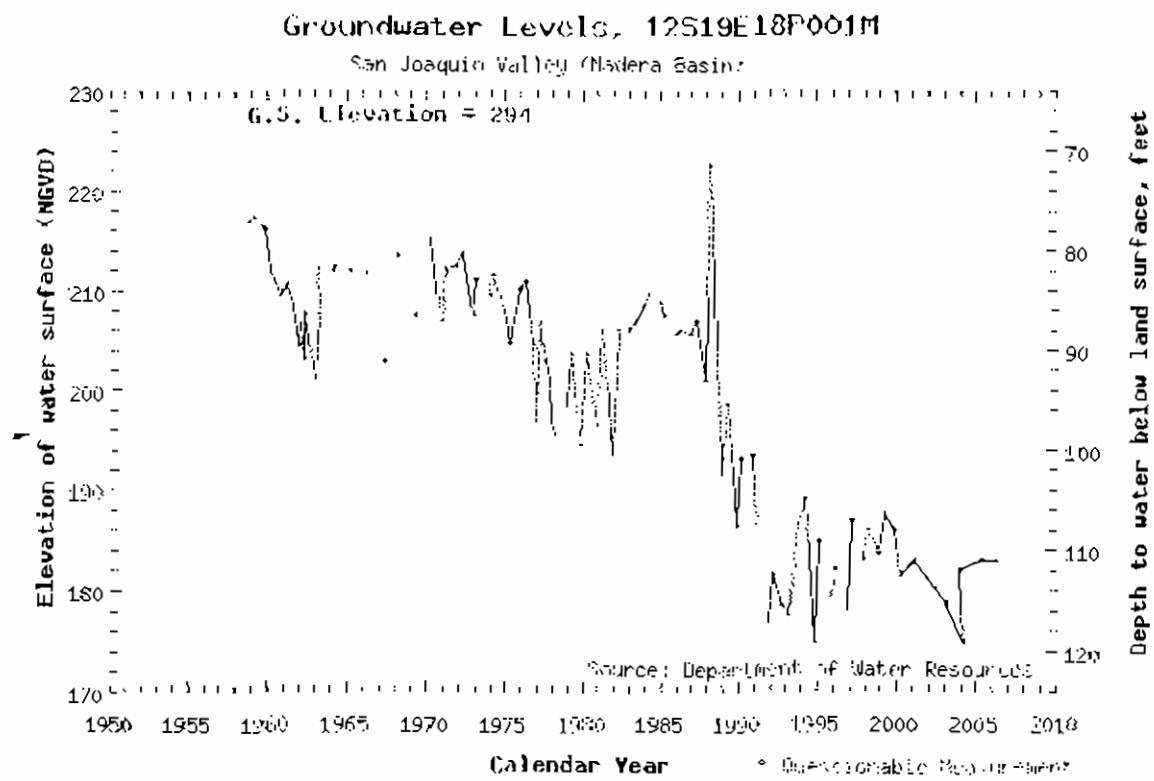
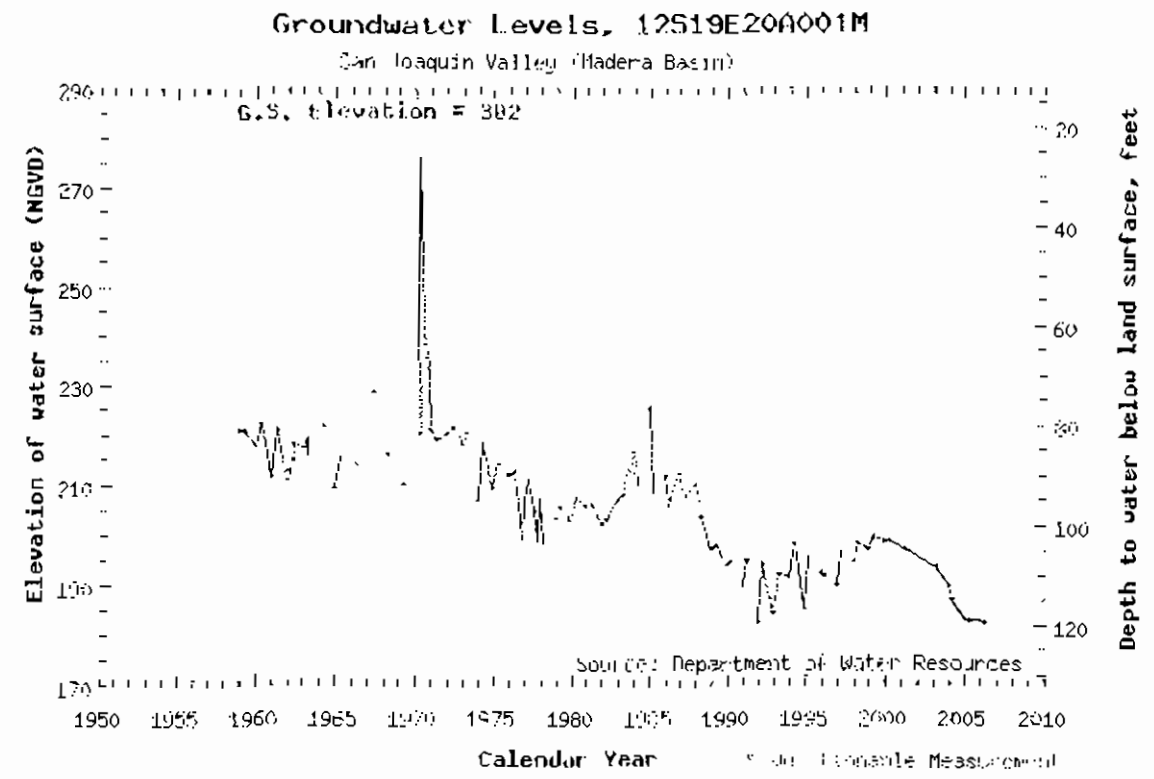
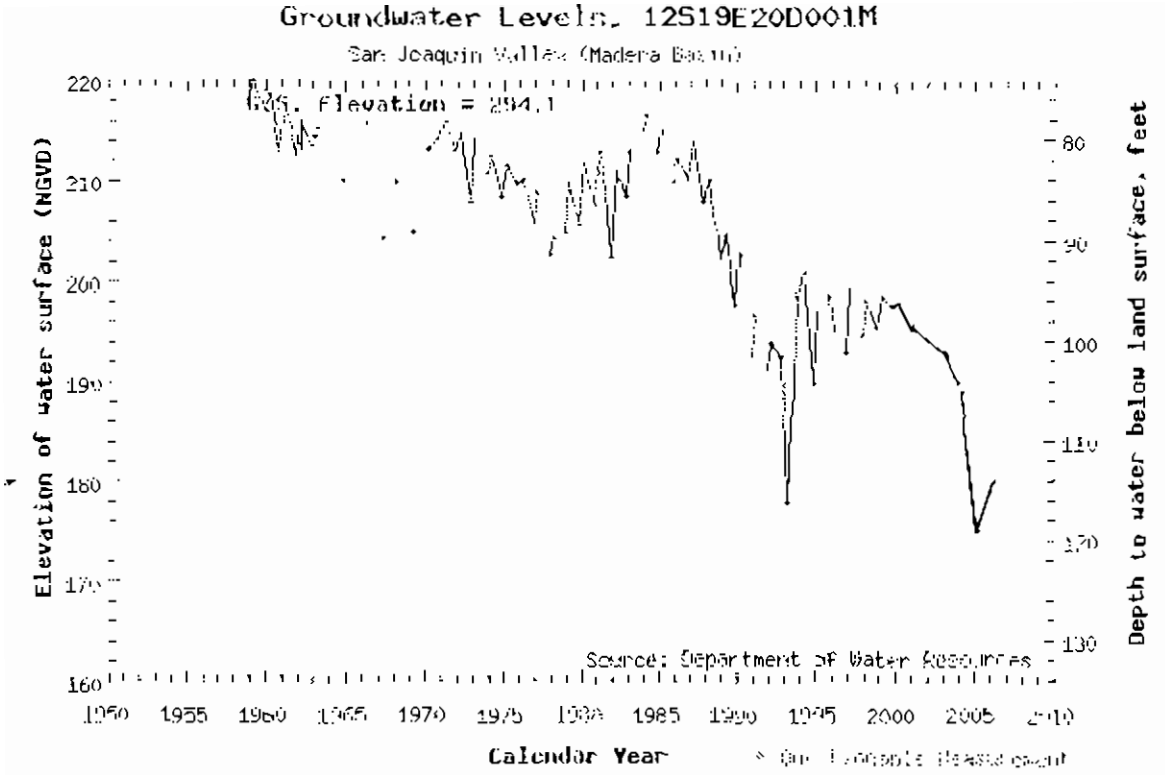
1995
2000
2005
2010

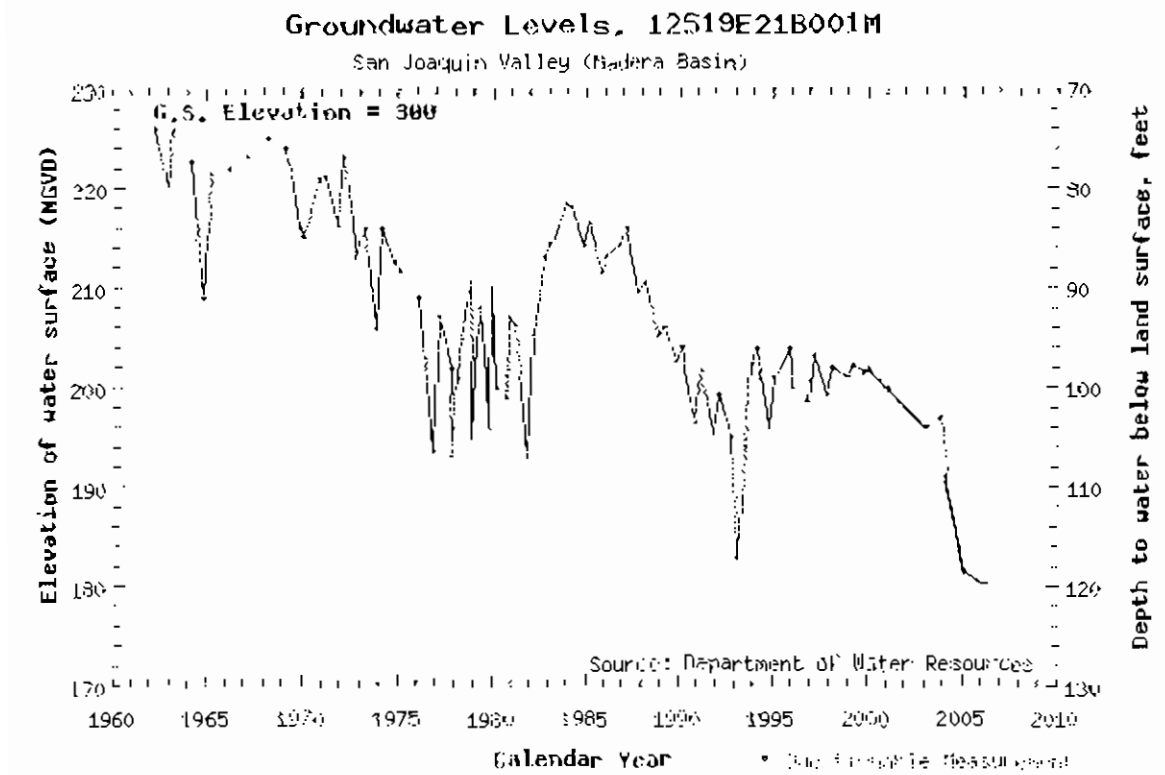

Groundwater Levels, 12S19E11B001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 338
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

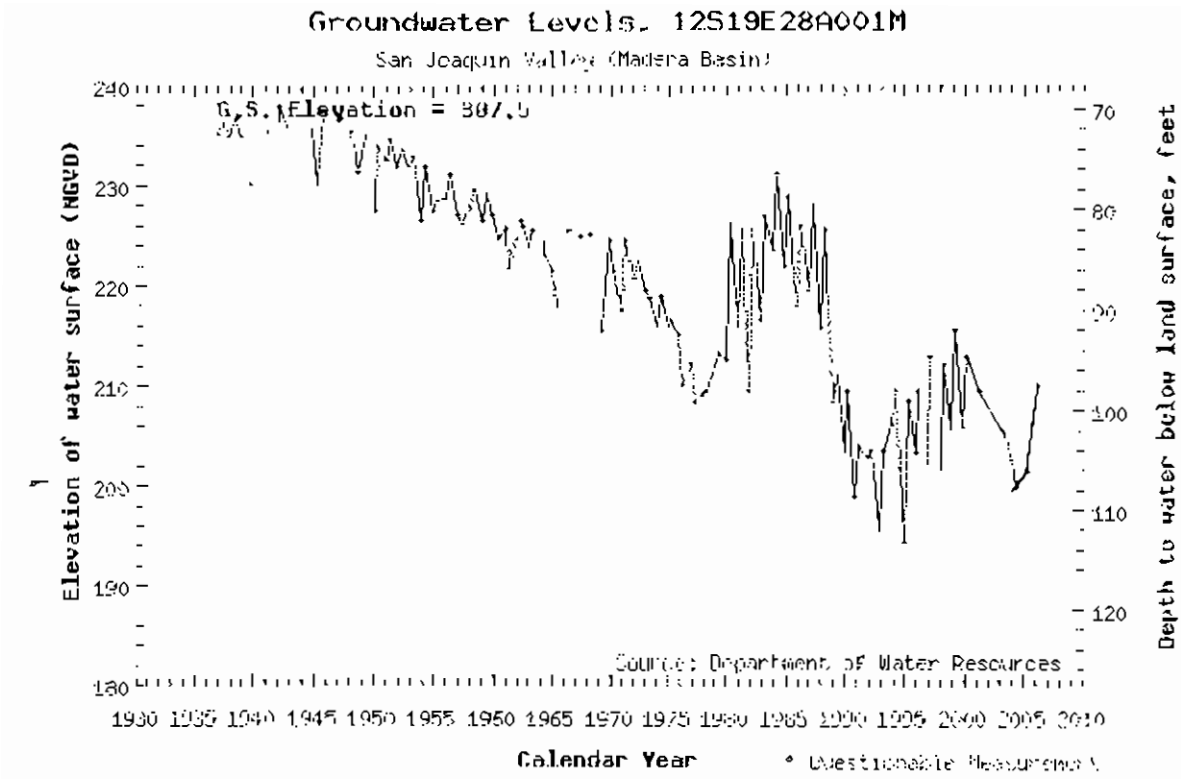

Groundwater Levels, 12S19E13F001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 337
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

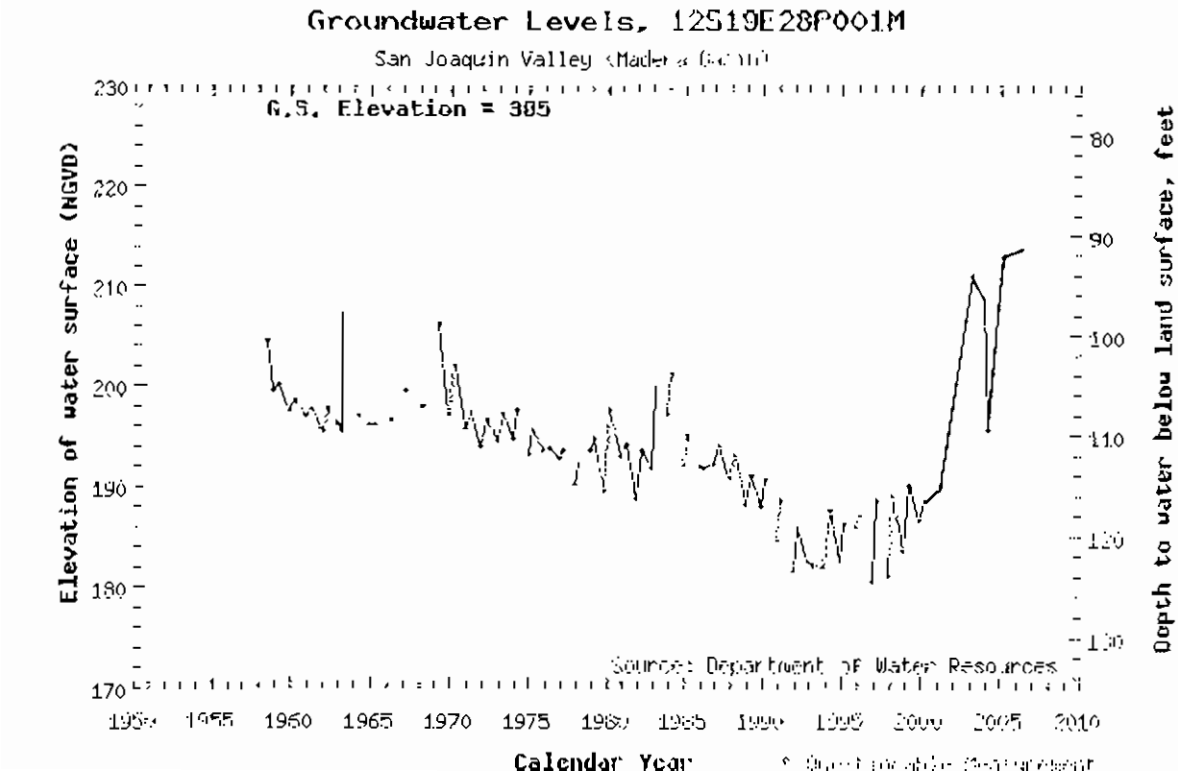

Groundwater Levels, 12S19E18P001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 294
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
230
220
210
200
190
180
170
70
80
90
100
110
120
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010

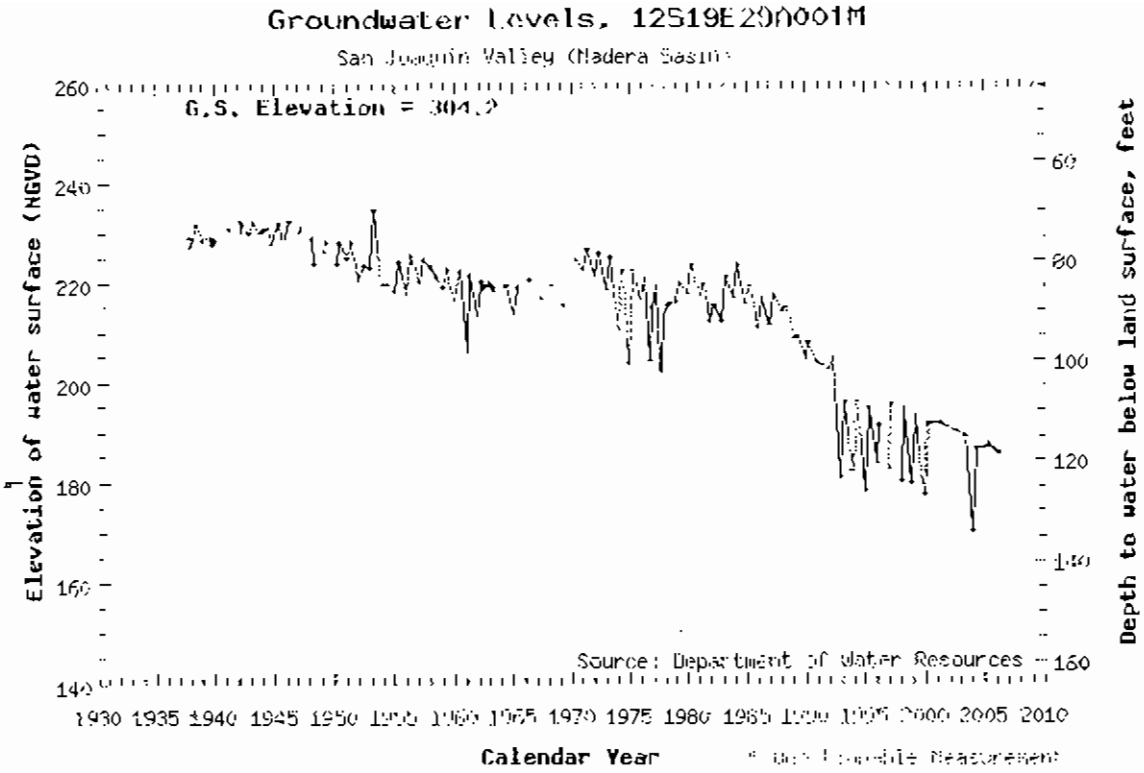

Groundwater Levels, 12S19E20A001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 302
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
290
270
250
230
210
190
170
20
40
60
80
100
120
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010

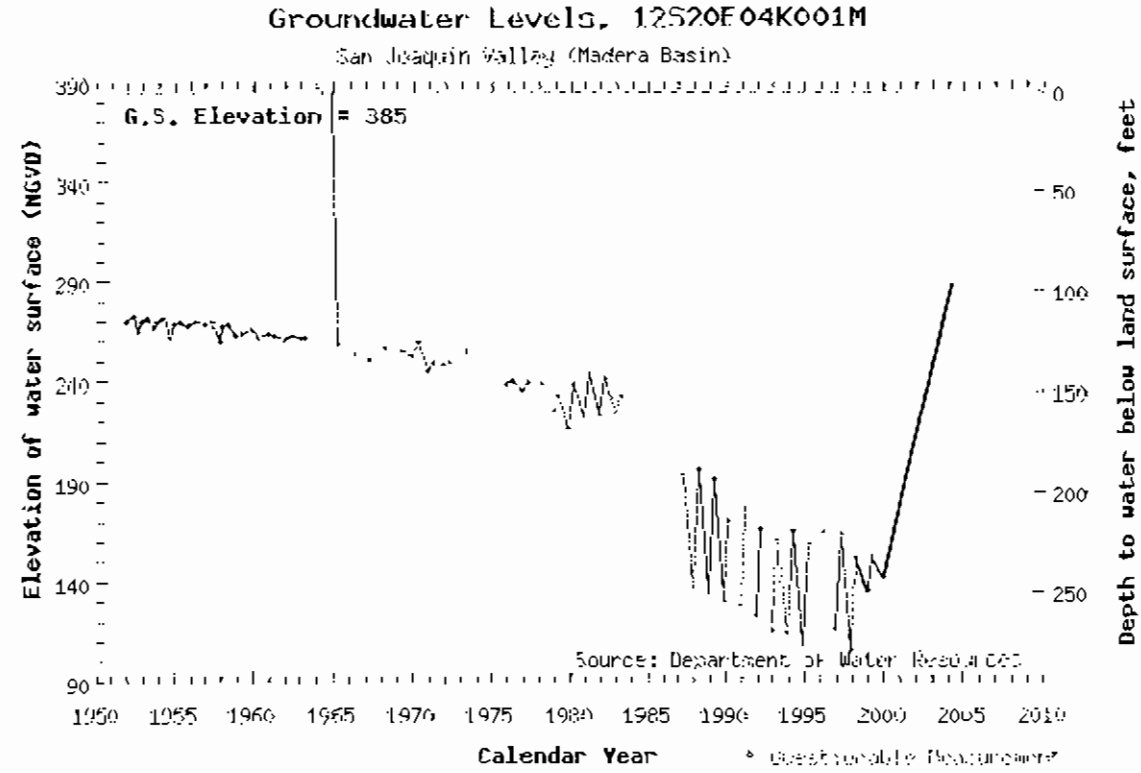

Groundwater Levels, 12S19E20D001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 294.1
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

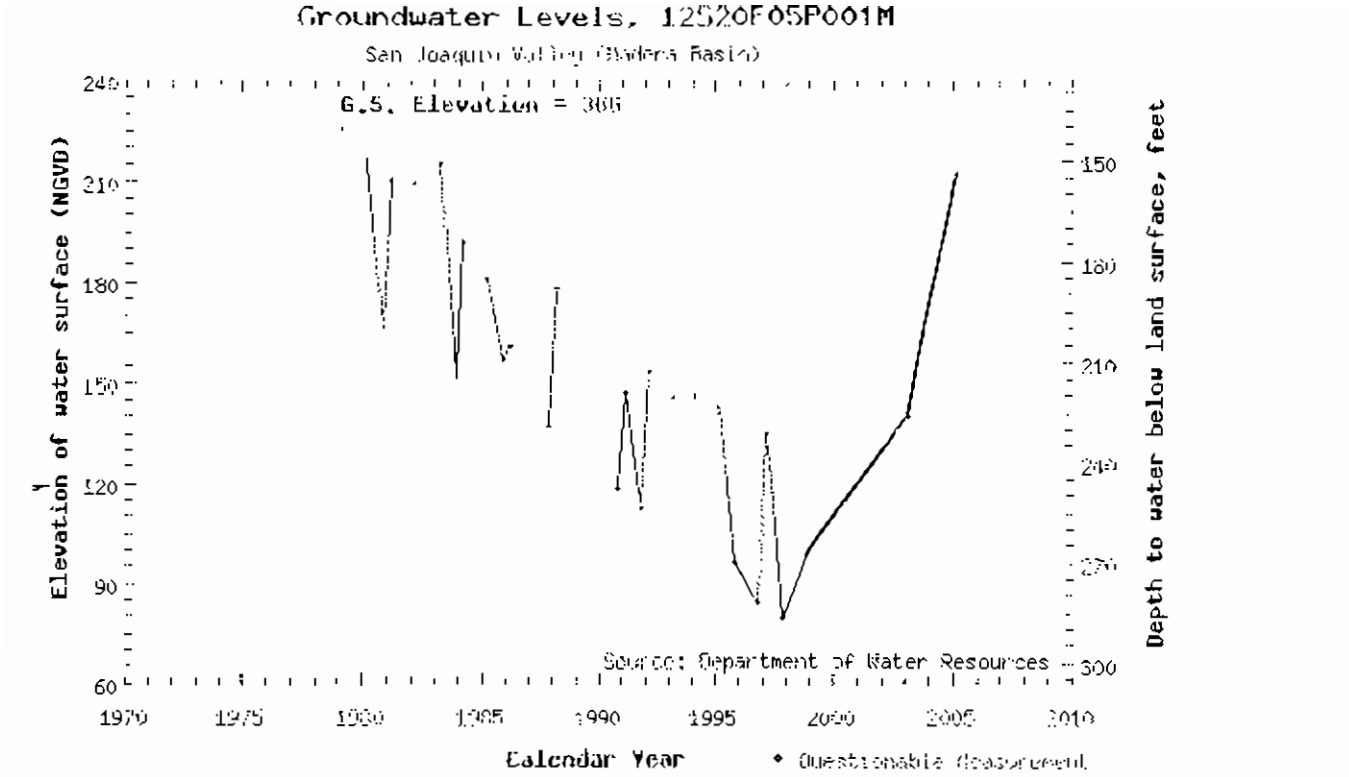

Groundwater Levels, 12S19E21B001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 300
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year

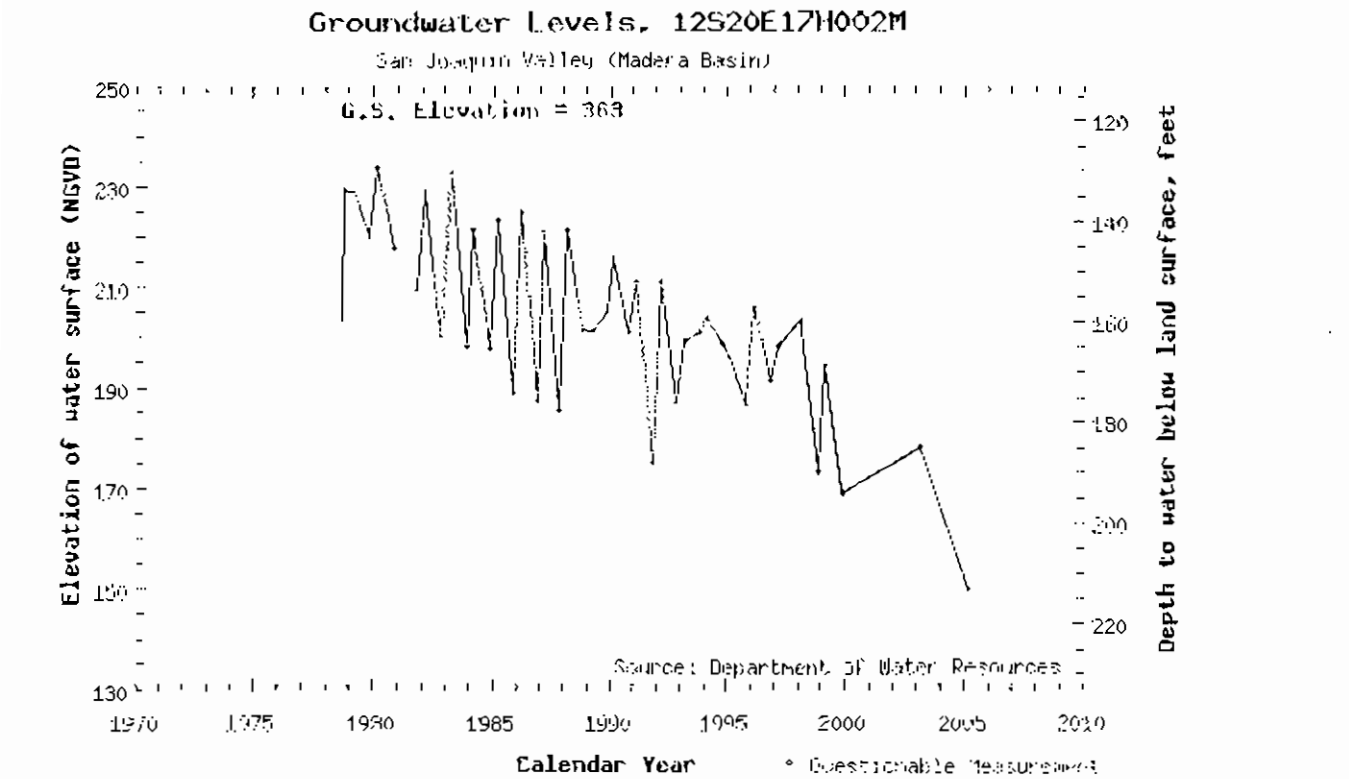

Groundwater Levels, 12S19E28A001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 307.5
Elevation of water surface (NGVD)
Depth to water below land surface, feet
240
230
220
210
200
190
180
70
80
90
100
110
120
Source: Department of Water Resources
1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010
Calendar Year
* Questionable Measurement

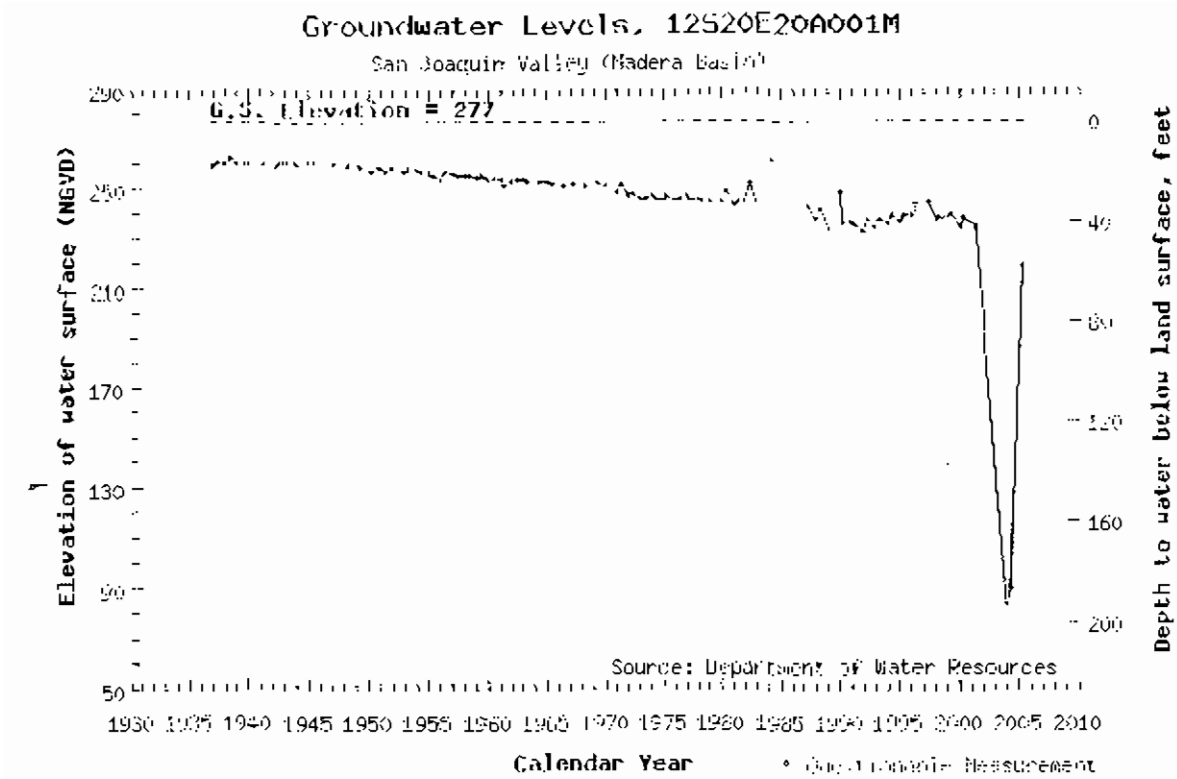

Groundwater Levels, 12S19E28P001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 385
Elevation of water surface (NGVD)
Depth to water below land surface, feet
230
220
210
200
190
180
170
80
90
100
110
120
130
Source: Department of Water Resources
1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010
Calendar Year
* Questionable Measurement


Groundwater Levels, 12S19E29N001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 304.2
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 12S20E04K001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 385
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year


Groundwater Levels, 12S20E05P001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 365
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
• Questionable measurement


Groundwater Levels, 12S20E17H002M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 363
Elevation of water surface (NGVD)
Depth to water below land surface, feet
Source: Department of Water Resources
Calendar Year
• Questionable measurement


Groundwater Levels, 12S20E20A001M
San Joaquin Valley (Madera Basin)
G.S. Elevation = 272
Elevation of water surface (NGVD)
Depth to water below land surface, feet
290
250
210
170
130
90
50
0
40
80
120
160
200
Source: Department of Water Resources
1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010
Calendar Year
• Groundwater Measurement

Agency	Well ID	S and J #	T/R/S/Tract	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1 Year Change	3 Year Change
Madera Irrigation District	121925EX2		121925E							32						
S and J Ranch	112033PX1	142	112033P				246	255	250	248	256	260	262	269	-7.0	-11.7
S and J Ranch	121901QX1	077	121901Q				228	237	223	222	225	226	177	230	-53.0	-4.6
S and J Ranch	121911KX1	085	121911K				204	196	205	197	201	204	204	210	-6.0	-8.9
S and J Ranch	121913DX1	033	121913F													
S and J Ranch	121913MX1	039	121913M				267	167	162	178	180	161	161	175	-14.0	5.1
S and J Ranch	121914CX1	076	121914C				176	187	185	179	180	182	184	189	-5.0	-8.9
S and J Ranch	121914RX1	038	121914R				170	165	172	166	168	169	172	175	-3.0	-6.9
S and J Ranch	121922HX1	146	121922H				137	137	138	132	135	136	137	139	-2.0	-4.7
S and J Ranch	121923KX1	093	121923K				135	128	131	122	128	130	131	131	0.0	-3.0
S and J Ranch	121924LX1	091	121924L				168	170	162	157	159	162	161	175	-14.0	-16.0
S and J Ranch	122005DX1	078	122005D				250	267	252	250	254	258	258	265	-7.0	-10.5
S and J Ranch	122005FX1	153	122005F										288	294	-6.0	
S and J Ranch	122005MX1	050	122005M										248	258	-10.0	
S and J Ranch	122005PX1	065	122005P										225	230	-5.0	
S and J Ranch	122006BX1	130	122006B				276	282	300	297	275	267	269	270	-1.0	5.1
S and J Ranch	122007GX1	113	122007G				210	211	213	207	209	213	216	220	-4.0	-11.0
S and J Ranch	122008DX1	105	122008D				224	237	222	215	219	269	222	234	-12.0	-15.0
S and J Ranch	122008KX1	016	122008K													
S and J Ranch	122009EX1	066	122009E				214	217	200	206	213	215	217	221	-4.0	-7.9
S and J Ranch	122018BX1	003	122018B										189	198	-9.0	
S and J Ranch	122018HX1	145	122018H										192	196	-4.0	
S and J Ranch	122018JX1	182	122018J				196	197	188	178	208	214	216	221	-5.0	-13.0
S and J Ranch	122018JX2	025	122018J								181					
S and J Ranch	122019KX1	023	122019K				126	127	130	126	130	129	130	132	-2.0	-2.0
S and J Ranch	122019RX1	022	122019R				124	124	124	122	123	124	125	126	-1.0	-3.0
US Bureau of Reclamation	121913EX1	038	121913E	180	182	182	187	190			241					
US Bureau of Reclamation	121926CX1	092	121926C				142	131	121	185	157					
US Bureau of Reclamation	122005PX1	005	122005P	213		220					190					
US Bureau of Reclamation	122018BX1	003	122018B				197	196	199	194						
US Bureau of Reclamation	122018NX1		122018N	161	162	166	166	165								

[redacted]

Agency	Well ID	S and J #	T/R/S/Tract	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1 Year Change	3 Year Change
Madera Irrigation District	121925FX2		121925E							32						
S and J Ranch	112033PX1	142	112033P				264	288	288		290	289	289		0.0	
S and J Ranch	121901QX1	077	121901Q	225			240	224	229		231	231	245		-14.0	
S and J Ranch	121911KX1	085	121911K	228			225	271	226		283	238	233		5.0	
S and J Ranch	121913DX1	030	121913F	176												
S and J Ranch	121913MX1	039	121913M				272	168	166		169	160	169		-9.0	
S and J Ranch	121914CX1	076	121914C				203	230	228		280	230	233		-3.0	
S and J Ranch	121914RX1	088	121914R	224			200	198	198		199	216	195		21.0	
S and J Ranch	121922HX1	146	121922J				152	170	151		162	164	156		8.0	
S and J Ranch	121923KX1	083	121923K	152			130	140	141		148	145	145		0.0	
S and J Ranch	121924LX1	091	121924L				172	179	184		186	197	193		4.0	
S and J Ranch	122005BX1	078	122005B	291			263	285	277		289	281	301		-20.0	
S and J Ranch	122005FX1	153	122005F										320			
S and J Ranch	122005MX1	050	122005M										275			
S and J Ranch	122005PX1	065	122005P										251			
S and J Ranch	122006BX1	130	122006G				285	338	330		300	300				
S and J Ranch	122006JX1	070	122006J	275												
S and J Ranch	122007GX1	113	122007G	271			243	240	247		250	261	251		10.0	
S and J Ranch	122008DX1	105	122008D				245	247	250		259	269	265		4.0	
S and J Ranch	122008KX1	016	122008K	234												
S and J Ranch	122009EX1	066	122009E	246			222	200	235		240	246	253		7.0	
S and J Ranch	122018BX1	003	122018B										113			
S and J Ranch	122018HX1	145	122018H										218			
S and J Ranch	122018JX1	182	122018J	187			195	196	190		252	253	257		-4.0	
S and J Ranch	122019KX1	023	122019K	131			128	131	132		134	132	132		0.0	
S and J Ranch	122019RX1	022	122019R	122			126	125	126		126	126	127		-1.0	
US Bureau of Reclamation	121913EX1	038	121913E	222		227	217		232							
US Bureau of Reclamation	121926CX1	092	121926C	184			148	144	193							
US Bureau of Reclamation	122005PX1	065	122005P	259	271	276	257		265							
US Bureau of Reclamation	122018BX1	003	122018B				220									
US Bureau of Reclamation	122018NX1		122018N					187								

TECHNICAL MEMORANDUM NO. 3
THICKNESS OF USABLE ALLUVIAL AQUIFER

Two subsurface geologic cross sections were presented in the 2001 Hydrogeologic Investigation of Southeastern Madera County. These sections generally extended to depths of about 700 to 900 feet, which generally corresponded with the depths of the deepest water supply wells along the sections. In this memorandum, the focus is on the saturated thickness of the entire alluvial aquifer in the valley part of southeastern Madera County. The base of the usable aquifer in the northeast part of the study area is the top of the crystalline rock (hardrock). In this part of the study area, there is no known connate groundwater in the alluvial deposits. Connate groundwater is ancient water (deposited with the deposits) that has a TDS concentration exceeding 2,000 mg/l. This is based on previous studies in the San Joaquin Valley by the U. S. Geologic Survey. In the southwest part of the study area, bedrock is more than 5,000 feet deep. In this part of the area, the top of the connate groundwater is the base of the alluvial aquifer. As part of this evaluation, it was desired to develop several subsurface cross sections which indicate the present and projected groundwater levels and the base of the usable aquifer. Such sections were not previously available for the study area.

Three subsurface cross sections were developed (Figure 1). Cross Section A-A' extends from near the Gunner Ranch West project

(Valley Children's Hospital) to the northwest, through Madera Ranchos to near Highway 145 in the northwest part of the study area. This section is oriented perpendicular to the inferred dip of the alluvial deposits and passes through some of the deepest test holes and/or wells in the area. Cross Section B-B' extends from Gunner Ranch West on the south to the north, through the Rolling Hills subdivision to near Avenue 15, where relatively shallow bedrock is present. Cross Section C-C' extends from west to east along the San Joaquin River, from near Herndon to Highway 41. This section is based primarily on deep test holes in the City of Fresno, and a log for a very deep gas exploration well near Herndon Avenue and the Santa Fe Railroad tracks. This section is generally oriented parallel to the inferred dip of the alluvial deposits, and indicates where connate groundwater is present along the west part of the section.

Spring 2006 water-level data are shown on the sections. Historical long-term average rates of water-level decline were used to project water levels to 2030. For Cross Sections A-A' and B-B' (in Madera County), these historical declines are for 1975-2005. For Cross Section C-C' (in Fresno County), these declines are for 1965-2006. All of these sections show the saturated thickness of the usable alluvial aquifer in 2006 and the projected thickness in 2030. Perforated intervals for representative large-capacity water

supply wells along the sections are also shown.

Cross Section A-A' (Figure 2) is indicated to be east of the east edge of the connate groundwater, and the base of the usable aquifer is indicated to be the top of the hardrock. The top of the hardrock was determined and projected, based on logs for several deep gas exploration wells, and one irrigation well that is about 1,340 feet deep and located near the north part of this section. Depth to the top of the bedrock is projected to range from about 1,500 feet near the north edge of the section to about 1,700 feet beneath the southeast edge. Depths of most large capacity wells along the section range from about 500 to 800 feet. However, some deeper water-supply wells are present in the vicinity of the north part of the section. The thickness of the saturated alluvium in the usable aquifer along this cross section ranged from about 1,400 to 1,600 feet in Spring 2006. Water levels are projected to be about 40 feet deeper near the San Joaquin River and about 150 feet deeper near Avenue 12 in 2030 along this section, compared to in Spring 2006. By 2030, the saturated thickness of the usable aquifer would still be about 1,300 to 1,500 feet along most of this section.

Cross Section B-B' (Figure 3) shows a number of wells that have encountered bedrock in the area north of Avenue 11. Connate groundwater is not present in this area. Depth to the top of the

bedrock increases to the south along this section, from less than 300 feet near Avenue 15 to more than 1,700 feet (projected) near the south end. The deepest large-capacity water supply wells along the section are generally about 700 to 900 feet deep. Near the north end of this section, less than 50 feet of saturated alluvium were present in Spring 2006. Near Avenue 12, about 300 feet of saturated alluvium were present in Spring 2006. Near the south edge of Gunner Ranch West, an estimated 1,600 feet of saturated alluvium were present in Spring 2006. Projected water levels in 2030 would be about 30 feet lower near the south end of Gunner Ranch West and about 130 feet lower near Avenue 13 along this section, compared to in Spring 2006. Near the north end of this section, some of the alluvial deposits would be dewatered by 2030. In contrast, near Gunner Ranch West, the saturated thickness of the alluvium would still be about 1,600 feet in 2030. Near Avenue 12, the saturated thickness of the alluvium would be about 200 feet in 2030.

Along Cross Section C-C' the top of the hardrock is the base of the usable aquifer east of Marks Avenue, and the top of the connate groundwater is the base west of Marks Avenue. The depths of City of Fresno wells south of the San Joaquin River along this section range from about 500 to 860 feet. In Spring 2006, the saturated thickness ranged from about 1,900 feet near the east edge of

this section to about 2,200 feet near Marks Avenue. By 2030, the water level along this section is projected to be about 20 to 30 feet deeper. The saturated thickness (rounded off) in 2003 will still be about the same as in Spring 2006.

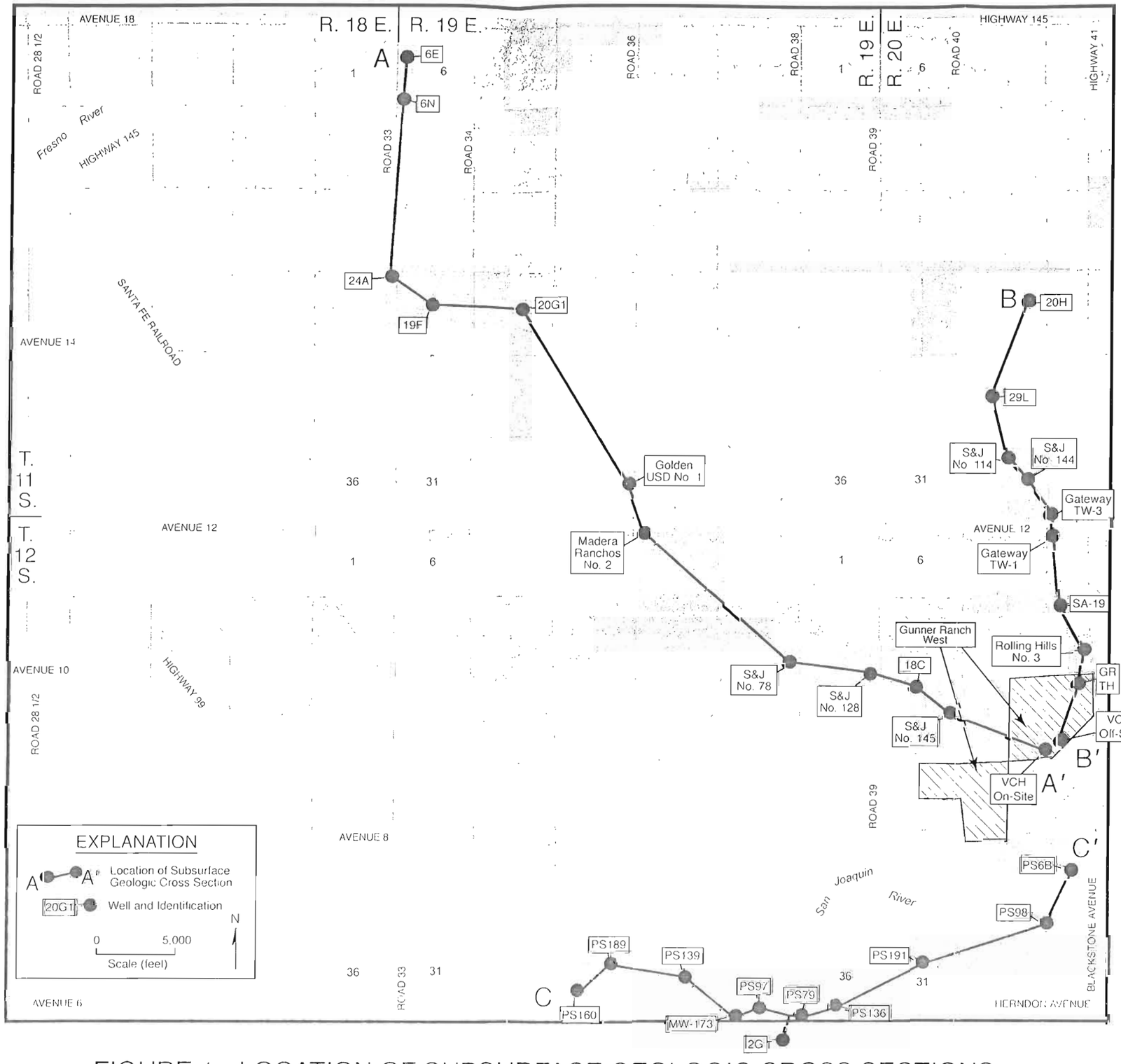


FIGURE 1 - LOCATION OF SUBSURFACE GEOLOGIC CROSS SECTIONS

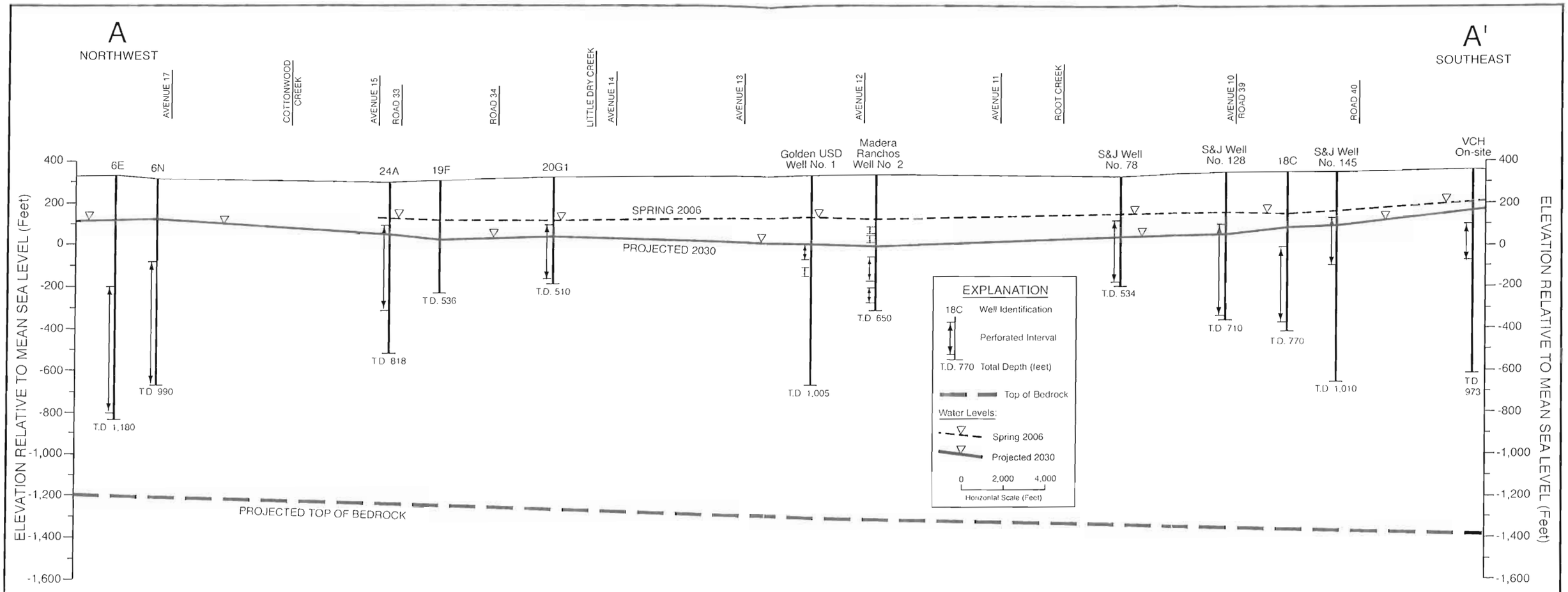


FIGURE 2 - SUBSURFACE GEOLOGIC CROSS SECTION A- A'

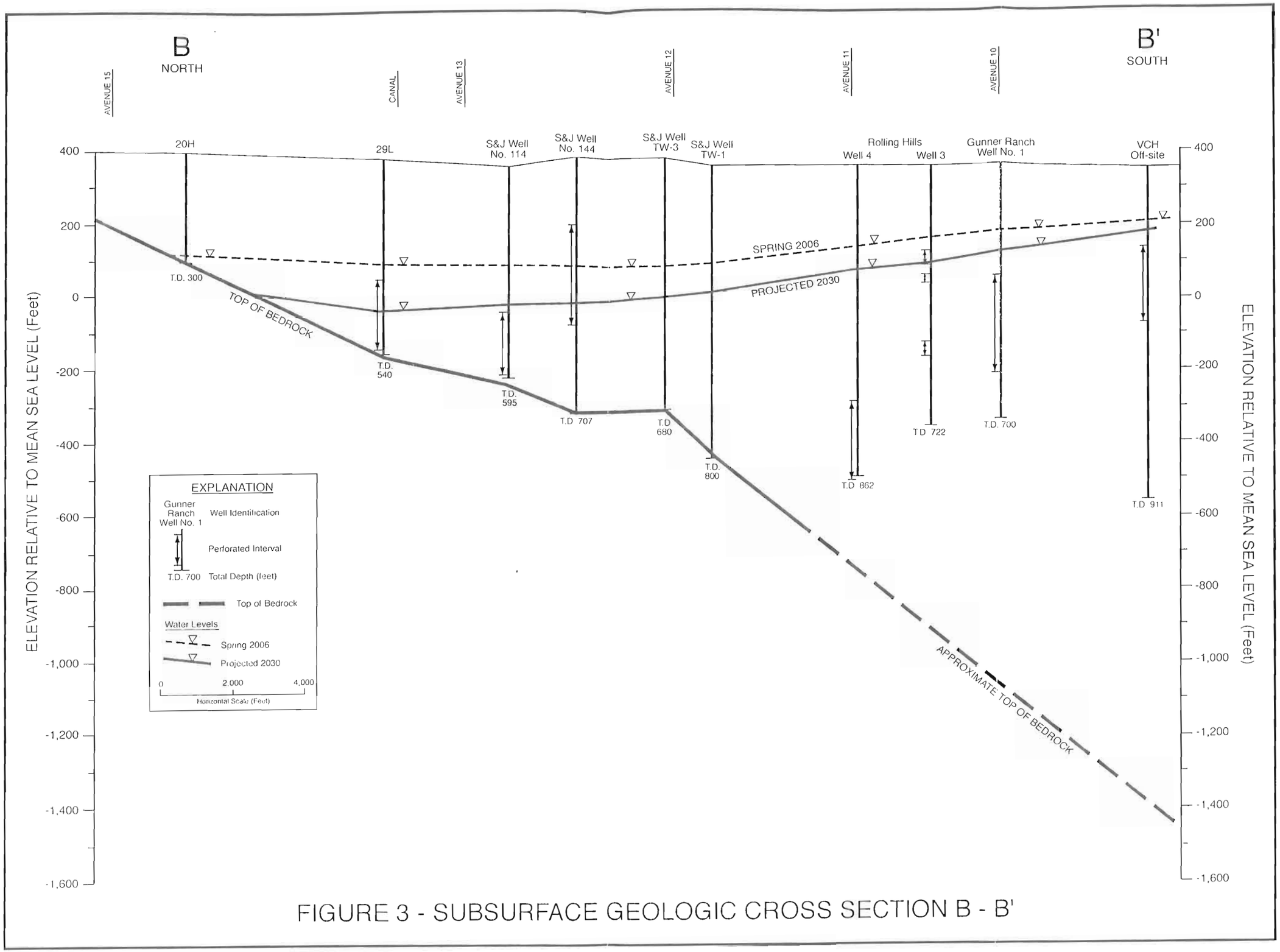


FIGURE 3 - SUBSURFACE GEOLOGIC CROSS SECTION B - B'

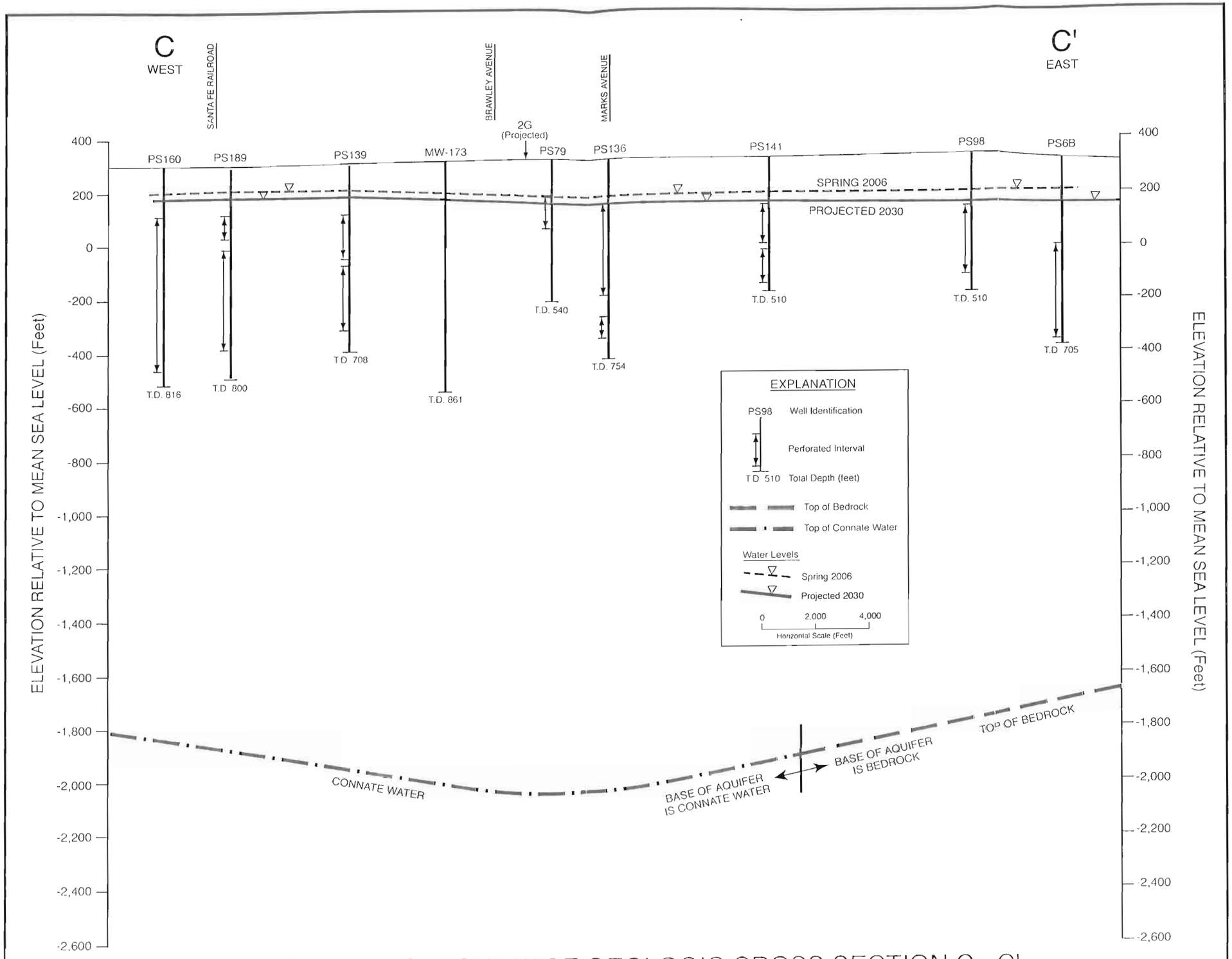


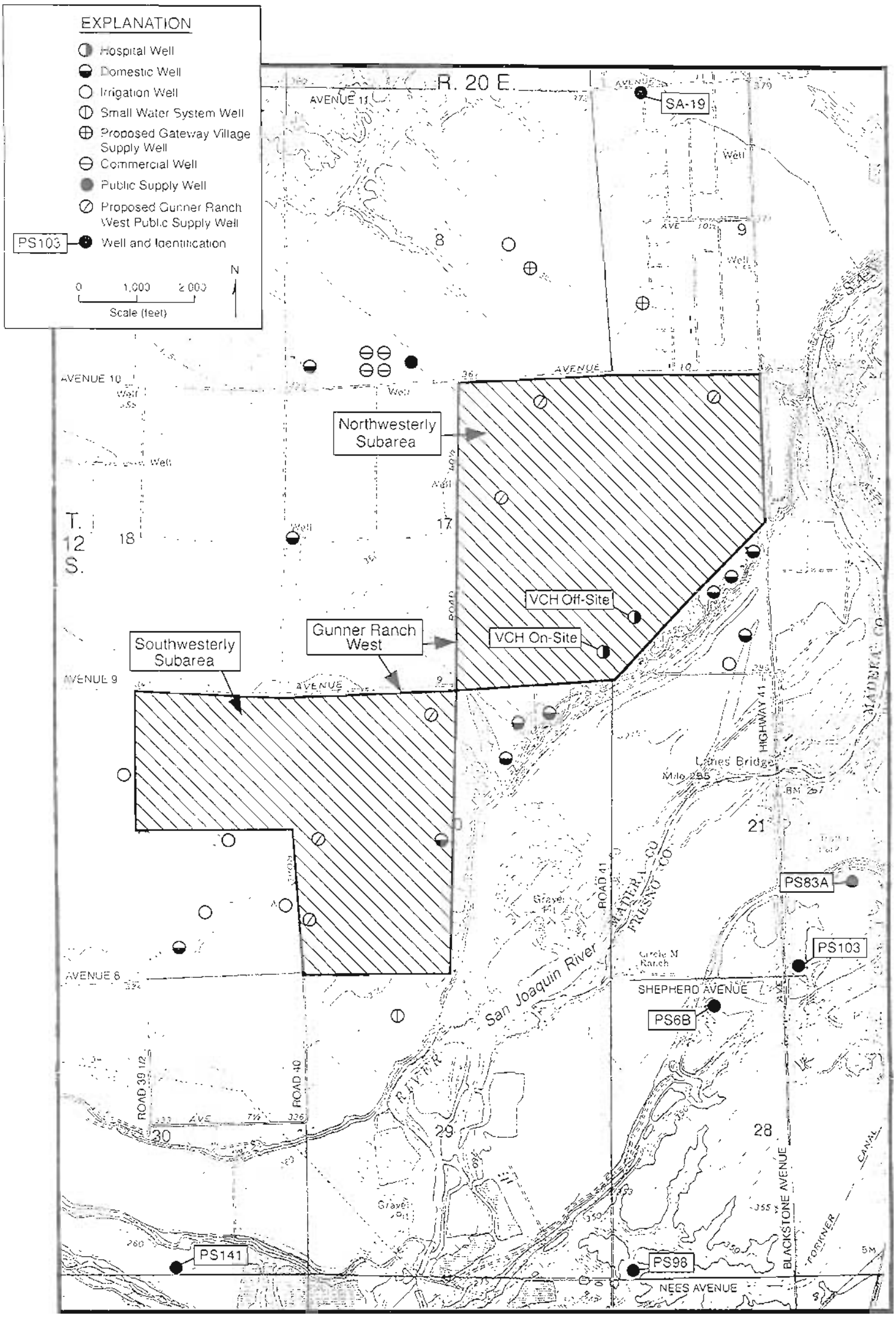
FIGURE 4 - SUBSURFACE GEOLOGIC CROSS SECTION C - C'

TECHNICAL MEMORANDUM NO. 4
LOCATIONS OF SUPPLY WELLS IN VICINITY

Locations of on-site wells at Gunner Ranch West, public supply wells, and S&J Ranch irrigation wells were available for this evaluation. As part of this evaluation, other supply wells within one mile of Gunner Ranch West were field located in December 2006. Figure 1 shows the location of these active supply wells and the six proposed public supply wells for Gunner Ranch West. There is a supply well at Rolling Hills (SA-19) that is located near Avenue 11, one mile north of the project site. There is another public supply well for a commercial area north of Avenue 10, about 900 feet from the project site. There are two sites for proposed new Gateway Village public supply wells north of Avenue 10. There are five City of Fresno public supply wells south of the San Joaquin River bluff. The closest of these (PS 6B) is 4,500 feet from the project site. There is a community water system well located about 750 feet south of the project site. There are eleven active private domestic wells and six private irrigation wells within one mile of the project site.

Most of the large capacity wells in the vicinity of the project site range from about 330 to 500 feet in depth, except for two wells. The SA-19 well is almost 900 feet deep, and City of Fresno PS 6B is almost 700 feet deep. Small capacity private domestic wells on the terrace above the San Joaquin River floodplain are in-

dicated to be about 200 to 300 feet deep. Based on available data, the most likely perforated interval for the new Gunner Ranch wells is about 300 to 520 feet.



LOCATION OF SUPPLY WELLS IN VICINITY

TECHNICAL MEMORANDUM NO. 5
DRAWDOWNS IN OTHER SUPPLY WELLS

An aquifer test was conducted on Gunner Ranch New Well No.1 in June 2000. This well is located south of Avenue 10, about 1,150 feet west of Highway 41. The well is perforated from 300 to 570 feet in depth. A transmissivity of 32,000 gpd per foot was indicated by the test results. Examination of Cross Section A-A' in the report "Groundwater Conditions at Gunner Ranch West" indicates that the aquifer above a depth of 570 feet is unconfined. Considering the thickness of coarse-grained and fine-grained strata likely to be tapped by the new Gunner Ranch West wells, a storage coefficient of 0.10 is considered applicable.

For ease in calculations, the northeasterly three proposed new Gunner Ranch West wells were represented as a centroid. The three new southwesterly wells were represented by another centroid. Each well would be pumped at a maximum of about 900 gpm during the summer peak demand period (150 days). The Theis non-equilibria formula was used to calculate drawdowns at the end of the 150 days of pumping. Use of this formula is based on the assumption that there is no recharge. Because of the presence of the San Joaquin River southeast of the project site, substantial recharge is present. Thus the drawdown calculations should be considered to be conservative, particularly for wells south of the project site.

The drawdown at each centroid would be about 17 feet after 150

days of continuous pumping of the new Gunner Ranch West wells at 900 gpm apiece (in the absence of recharge).

For the north centroid, drawdowns were calculated for distances ranging from about 2,500 feet (a proposed new Gateway Village public supply well to the northwest) to 6,000 feet (the SA-19 well). Because of the deep annular seal (about 650 feet) in the SA-1 well, there would be no drawdown due to pumping of the shallower Gunner Ranch West wells. There would be drawdowns of about eight to ten feet in two proposed Gateway Village wells north of Avenue 10, due to pumping of the new Gunner Ranch West wells, after 150 days of continuous pumping at 900 gpm per well. There would be a drawdown of about five feet in the VCH on-site well and seven feet in the public supply well to the northwest and S&J Ranch Well No. 16.

For the south centroid, the nearest irrigation well (S&J Ranch No. 22) is 1,700 feet from the centroid. The small water system well is 3,350 feet from the centroid, and the VCH on-site well is 5,400 feet from the centroid. The nearest City of Fresno well (PS 6B) is 7,000 feet from the centroid. Drawdowns in the nearest two irrigation wells (S&J Ranch No. 22 and 23) due to pumping of the new Gunner Ranch West wells continuously for 150 days at 900 gpm apiece would range from about 12 to 17 feet. The drawdown in the small water system well would be about six feet, and the drawdown

in the VCH on-site well would be about two feet. The drawdown in the nearest City of Fresno well would be about one foot.