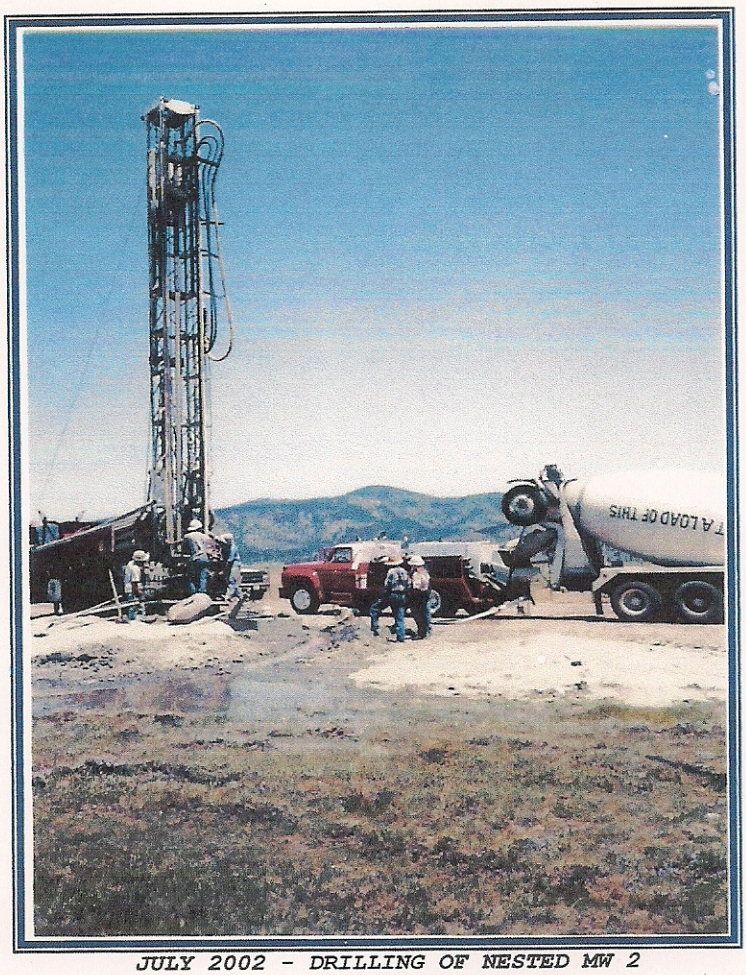
MAY 2003



JULY 2002 - DRILLING OF NESTED MW 2
BRADLEY AND SONS WELL DRILLING

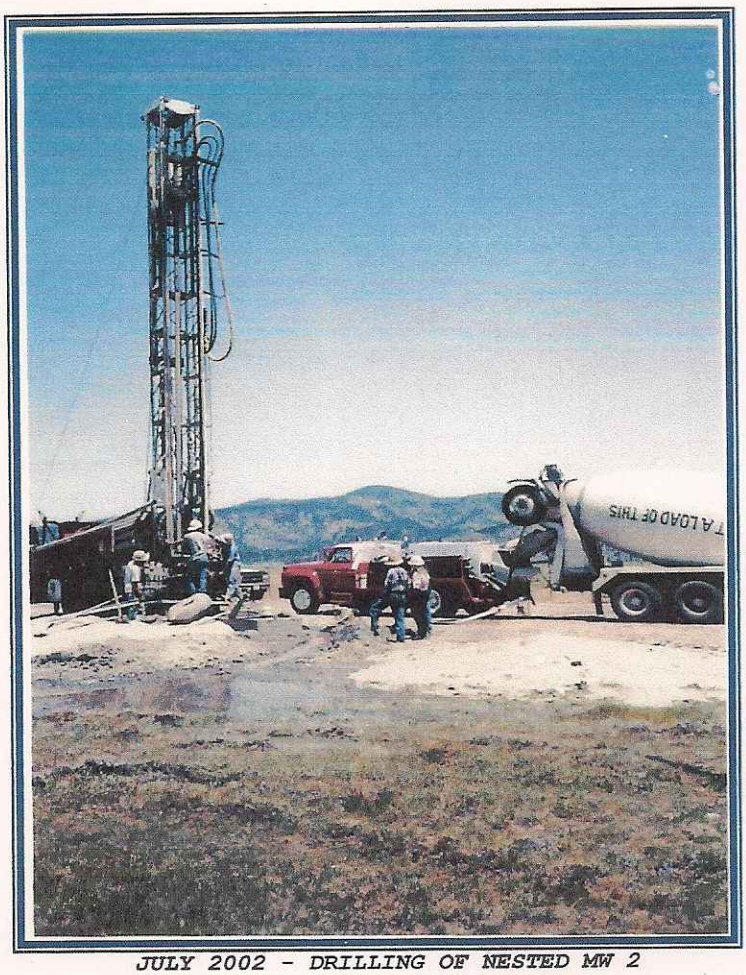
Hydrogeology And Groundwater Monitoring In Sierra Valley

Plumas Geo-Hydrology
P.O. Box 1922, Portola, CA. 96122
(530) 836-2208

SIERRA VALLEY ALONG HIGHWAY 89 - LOOKING SOUTH FROM NESTED MW 2

LOCAL GROUNDWATER ASSISTANCE GRANT REPORT - *MAY 2003*
Under Local Groundwater Management Assistance Act. Of 2002, (AB 303)
Presented By: THE SIERRA VALLEY GROUNDWATER MANAGEMENT DISTRICT
JUDY DILLON, Project Manager

MAY 2003



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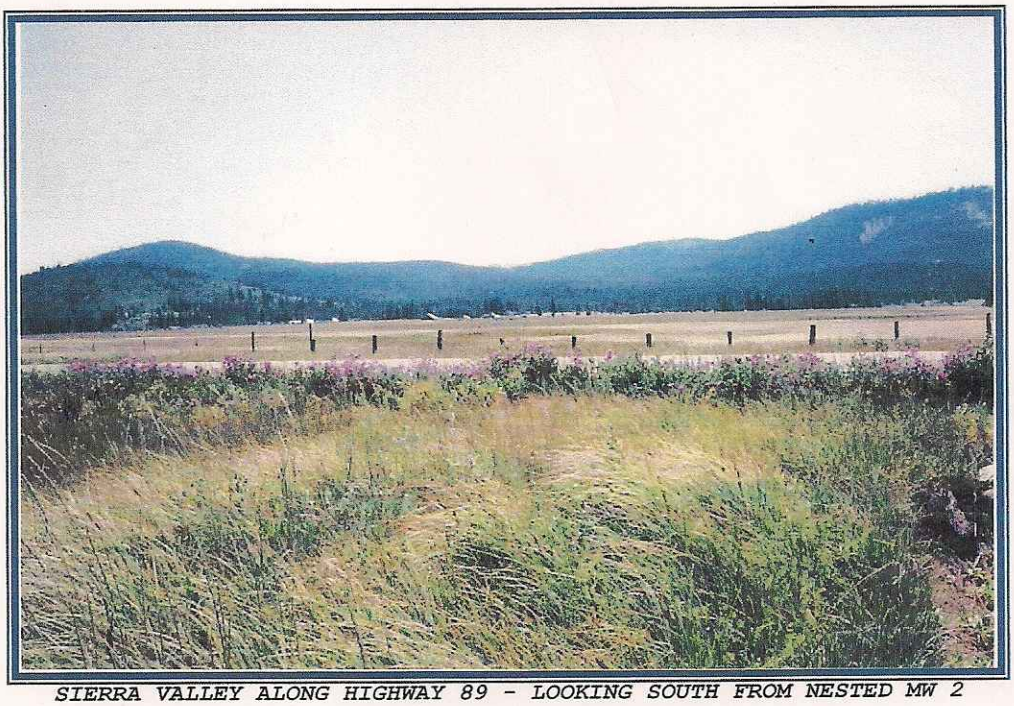

SIERRA VALLEY ALONG HIGHWAY 89 - LOOKING SOUTH FROM NESTED MW 2

LOCAL GROUNDWATER ASSISTANCE GRANT REPORT - *MAY 2003*

Under Local Groundwater Management Assistance Act. Of 2002, (AB 303)

Presented By: THE SIERRA VALLEY GROUNDWATER MANAGEMENT DISTRICT

JUDY DILLON, Project Manager

LOCAL GROUNDWATER ASSISTANCE GRANT REPORT
Under Local Groundwater Management Assistance Act. Of 2000, (AB 303)

Hydrogeology And Groundwater Monitoring In Sierra Valley

Presented By:
THE SIERRA VALLEY GROUNDWATER MANAGEMENT DISTRICT
Judy Dillon, Project Manager

May 2003

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

May 1, 2002

Ms. Judy Dillon
Sierra Valley Groundwater
Management District
P.O. Box 312
Sierra Valley, California 96126

Re: 1998-2003 Hydrogeologic Evaluation

Dear Judy:

Submitted herewith is our report on the 1998-2003 update for groundwater conditions in Sierra Valley. We appreciate the cooperation of the Groundwater Management District and the Northern District of the California Department of Water Resources in supplying information for this report.

Sincerely yours,

Kenneth D. Schmidt

KDS/sre

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TECHNICAL REPORT ON 1998-2003 HYDROGEOLOGIC EVALUATION FOR SIERRA VALLEY

Prepared for
Sierra Valley Groundwater Management District
Sierraville, California

By
Kenneth D. Schmidt and Associates
Groundwater Quality Consultants
Fresno, California

May 1, 2003

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EXECUTIVE SUMMARY

During 2002, three new cluster monitor wells were installed in the Sierra Valley-Calpine area. These wells provided new information on subsurface geologic conditions, water levels, and groundwater quality. These wells are to be monitored in the future by the District. As part of this evaluation, four new subsurface geologic cross sections were developed. These sections indicate the extent of the major confining bed in the valley, as well as the shallow and deep water-producing zones. Water samples were also collected from 27 private wells in the area for chemical analyses. This information updated information on groundwater quality that was more than two decades old. Trends in groundwater quality for wells in the valley were discussed.

Records of metered pumpage and water levels in Sierra Valley were updated from Spring 1998-Spring 2003. Pumpage decreased after 1992 through 1998. This resulted in substantial water-level rises in most wells in the valley. There was also more recharge due to precipitation during this period. Water levels in some wells nearly recovered to levels prior to 1979. Pumpage in the valley increased each year after 1998, and this resulted in water levels falling to near the previous low levels in the early 1990's. Records indicate that the safe yield in the developed part of the valley is about 6,000 acre-feet per year. Pumpage greater than this amount causes water levels to decline.

TECHNICAL REPORT ON 1998-2003 HYDROGEOLOGIC EVALUATION FOR SIERRA VALLEY

INTRODUCTION

The Sierra Valley Groundwater Management District received funding from the California Department of Water Resources under the Local Groundwater Management Assistance Acts of 2000 (AB 303). This technical report describes the hydrogeologic evaluations that were done for this project. The following components of the evaluation are discussed:

1. Nested monitor well installation and testing
2. Subsurface geologic cross sections
3. Water-level hydrographs
4. Supply well sampling and analyses
5. Update of Sierra Valley pumpage and water-level reports for 1998-2003.

MONITOR WELL INSTALLATION AND TESTING

Well Construction

Bradley and Sons of Madera installed the three nested monitor wells by the direct rotary method. Welenco ran an electric log in the pilot hole for each well. Kenneth D. Schmidt and Associates logged the drill cuttings and prepared a geologic log for each hole. The electric logs, geologic logs, and completion diagrams for these wells are provided in Appendix A. Figure 1 shows the location of these wells. MW-1 is a previously installed District monitor well near Loyalton (location not shown). MW-2 was install-

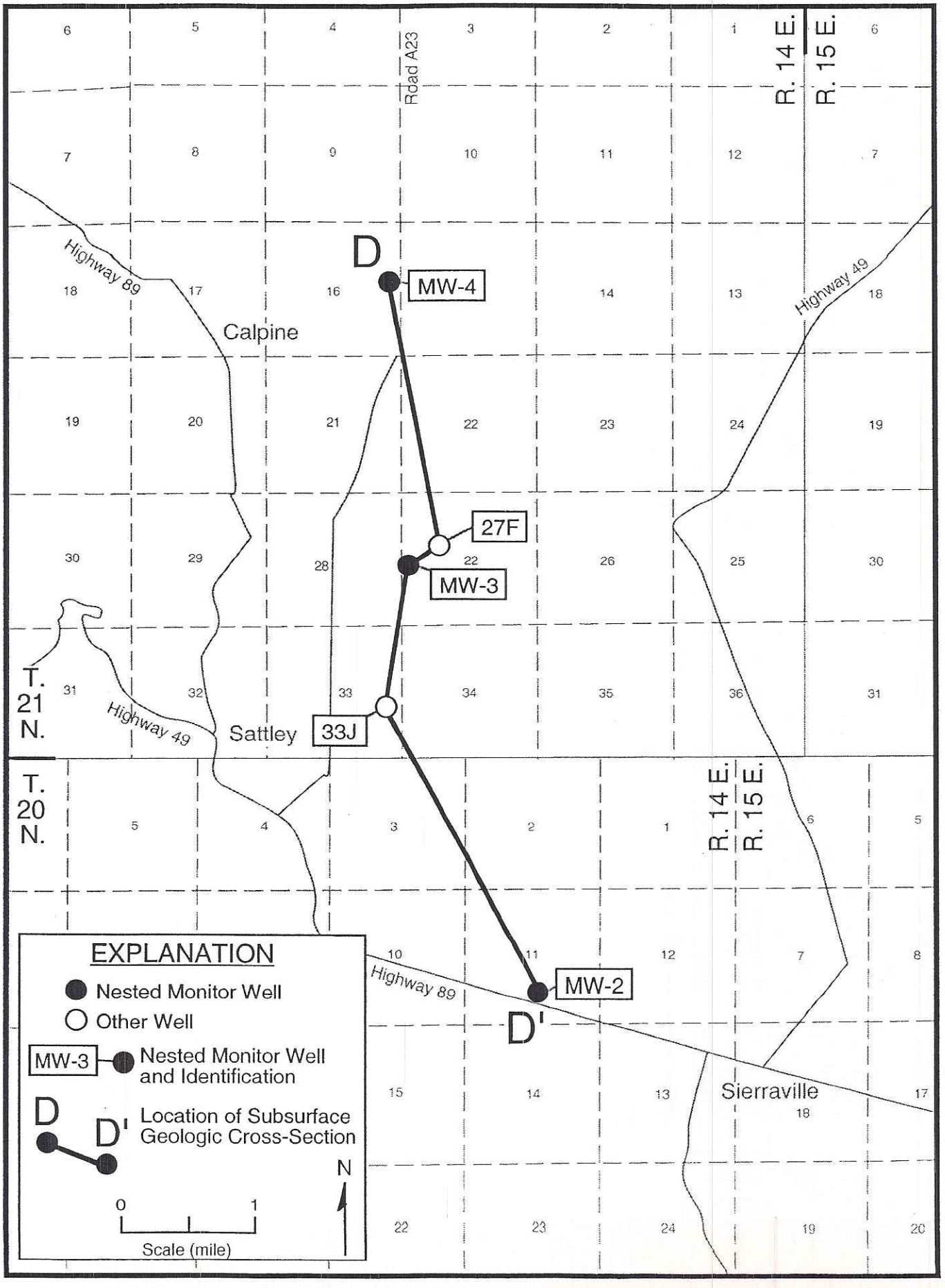


FIGURE 1 - LOCATION OF NESTED MONITOR WELLS

ed along Highway 89, about two mile west-northwest of Sierraville. MW-3 was installed east of the Sattley-Beckworth Road, about two miles northeast of Sattley. MW-4 was installed along the same road, about one mile east-northeast of Calpine.

For each well, a six-inch pilot hole was first drilled to the total depth. MW-2 bottomed in hardrock at 675 feet in depth, MW-3 bottomed in hardrock at 420 feet in depth, and MW-4 was drilled to a depth of 720 feet without encountering hardrock. After the completion zones were selected, the upper part of the hole was reamed to 12 inches in diameter and the middle part to 9 inches in diameter. Two-inch diameter Schedule 40 PVC casing was used for the shallow wells, and two-inch diameter Schedule 80 PVC casing was used for the intermediate and deep wells. From 10 to 30 feet of perforated casing (0.03 inch slot size) were installed for each well. After the gravel pack was placed for each zone, a bentonite seal was placed above the gravel. For the uppermost zone, a cement seal was placed above the bentonite. The wells were initially developed by airlifting and then by pumping and surging with a submersible pump. Drillers reports for the wells are provided in Appendix B. Table 1 summarizes construction data for the nested wells.

Subsurface Geologic Conditions

At MW-1, clay and sandy clay were predominant below a depth of

TABLE 1-CONSTRUCTION DATA FOR NESTED MONITOR WELLS

Well No.	State Location	Date Drilled	Hole Depth (feet)	Perforated Interval (feet)	Annular Seal (feet)
MW-2	T20N/R14E-11Q	06/02	675	85-100	0-71
				220-250	201-210
				420-450	375-385
MW-3	T21N/R14E-27M	07/02	440	90-100	0-80
				255-270	200-210
				340-355	295-305
MW-4	T21N/R14E-16J	07/02	720	260-270	0-185
				530-550	485-500
				670-690	579-589

Wells constructed by Bradley & Sons of Madera, California. Casings are two-inch diameter PVC.

about 100 feet. The uppermost 80 feet were coarse-grained and saturated below a depth by about ten feet. This zone was tapped by the shallow zone well. The intermediate zone well tapped a sand layer between 238 and 249 feet in depth. The deep zone well tapped two sand layers between 422 and 450 feet in depth, which were indicated to be the most productive strata below a depth of 100 feet at the site.

At MW-3, coarse-grained strata were also predominant above a depth of 100 feet, and silty or sandy clay was predominant below that depth. The coarse-grained strata were tapped by the shallow zone well. A highly productive sand layer from 254 to 274 feet in depth was tapped by the intermediate zone well. A sand layer from 344 to 350 feet in depth was tapped by the deep zone well. This was the deepest significant coarse-grained layer at MW-3.

At MW-4, coarse-grained strata were predominant above a depth of about 290 feet. The shallow zone well was completed in a highly productive sand layer between 200 and 266 feet in depth. From 292 to 502 feet in depth, a thick silty and sandy clay was present. This is indicated to be a significant confining bed. The intermediate zone well was completed in a productive sand layer from 528 to 550 feet in depth. The deep zone well was completed in another productive sand layer, from 662 to 690 feet in depth. The trend for these three nested monitor wells is for the confining

layer or layers to thicken and be more significant to the north.

Water Levels

Measuring point elevations for the new wells were surveyed by Hamby Engineering. Table 2 provides water-level data for these wells. Depth to water in the wells at MW-2 ranged from 2.8 to 10.1 feet on October 2, 2002. The water-level elevation was the highest in the deepest well, indicating an upward direction of groundwater flow. At MW-3, depth to water ranged from 2.2 feet below land surface to 5.3 feet above the land surface. The deep well at this location was flowing. An upward direction of groundwater flow was also indicated at this well. An upward direction of flow is probably typical of pre-development conditions in many parts of the valley. The deepest water levels for the nested monitor wells were at MW-4, where depth to water ranged from 16.8 to 37.7 feet. The lowest water-level elevation at MW-4 was for the deep zone, and a downward direction of groundwater flow was indicated. This is probably due to pumping of water from deep strata in the vicinity. Appendix C shows water-level hydrographs for the nested monitor wells for September 2002-March 2003. Water levels in most of these wells rose or were relatively constant during this period.

Water Sampling and Analyses

Water samples were collected after each of the wells was de-

TABLE 2-WATER-LEVEL DATA FOR NESTED MONITOR WELLS

Well No.	Zone	Depth to Water (feet)	Measuring Point Elevation (feet)	Water-Level Elevation (feet)
MW-2	Shallow	10.1	4,949.68	4,939.6
	Intermediate	6.4	4,949.85	4,943.5
	Deep	2.8	4,949.84	4,947.0
MW-3	Shallow	2.2	4,911.71	4,909.5
	Intermediate	1.2	4,911.71	4,910.5
	Deep	+5.3	4,911.71	4,917.0
MW-4	Shallow	16.8	4,915.90	4,899.1
	Intermediate	31.7	4,916.62	4,885.2
	Deep	37.7	4,916.29	4,878.6

Water levels were measured on October 3, 2002.

veloped by pumping about two gpm for about one hour. The temperature, electrical conductivity, and pH were measured in the field during pumping. The samples were preserved and shipped to FGL Environmental in Santa Paula for analyses. Appendix D contains the laboratory sheets for the chemical analyses for the nested monitor wells. Table 3 summarizes the results of the analyses for MW-2. TDS concentrations ranged from 144 to 156 mg/l. The shallow ground water was of the mixed cation bicarbonate type. The intermediate and deep groundwater was of the sodium bicarbonate type. Manganese concentrations ranged from 0.11 to 0.21 mg/l, exceeding the recommended MCL of 0.05 mg/l. The low nitrate concentrations indicate that the groundwater was present under reduced conditions.

Table 4 summarizes results of analyses for of water samples from MW-3. TDS concentrations ranged from 182 to 210 mg/l, slightly higher than for MW-2. All of the groundwater was of the sodium bicarbonate type. Concentrations of sodium, sulfate, and chloride increased with increasing depth. The iron concentration in water from the shallowest zone was 0.37 mg/l, exceeding the recommended level for drinking water of 0.3 mg/l.

Table 5 summarizes the results of chemical analyses of water for MW-4. TDS concentrations ranged from 224 to 383 mg/l, and increased with increasing depth. The waters were of the sodium

TABLE 3-CHEMICAL ANALYSES OF WATER FROM MW-2

Constituent (mg/l)	Shallow	Intermediate	Deep
Calcium	11	6	4
Magnesium	8	4	3
Sodium	10	23	31
Potassium	5	9	9
Carbonate	<10	<10	<10
Bicarbonate	110	100	90
Sulfate	<1	7	14
Chloride	<1	4	5
Nitrate	<0.4	<0.4	<0.4
Boron	<0.05	0.06	0.10
Fluoride	<0.1	<0.1	0.1
pH	7.4	7.5	7.8
Electrical Conductivity (micromhos/cm @ 25°C)	170	193	216
Total Dissolved Solids (@ 180°C)	144	153	156
Iron	0.07	0.08	0.26
Manganese	0.21	0.16	0.11
Perforated Interval (feet)	85-100	220-250	420-450

Samples were collected on August 14, 2002 and analyzed by FGL Environmental of Santa Paula.

TABLE 4-CHEMICAL ANALYSES OF WATER FROM MW-3

Constituent (mg/l)	Shallow	Intermediate	Deep
Calcium	4	3	3
Magnesium	2	1	1
Sodium	38	41	51
Potassium	6	8	8
Carbonate	<10	<10	<10
Bicarbonate	130	130	120
Sulfate	<1	1	12
Chloride	2	6	15
Nitrate	<0.4	<0.4	<0.4
Boron	0.35	0.36	0.35
Fluoride	0.4	0.3	0.2
pH	7.8	7.9	7.9
Electrical Conductivity (micromhos/cm @ 25°C)	214	231	286
Total Dissolved Solids (@ 180°C)	182	190	210
Iron	0.37	<0.05	0.12
Manganese	0.08	0.01	0.03
Perforated Interval (feet)	90-100	225-270	340-355

Samples were collected on August 14, 2002, and analyzed by FGL Environmental of Santa Paula.

TABLE 5-CHEMICAL ANALYSES OF WATER FROM MW-4

Constituent (mg/l)	Shallow	Intermediate	Deep
Calcium	6	9	8
Magnesium	7	8	6
Sodium	40	78	96
Potassium	4	8	8
Carbonate	<10	<10	<10
Bicarbonate	140	160	140
Sulfate	<1	<2	<2
Chloride	27	91	125
Nitrate	<0.4	<0.4	<0.4
Boron	0.12	0.41	0.83
Fluoride	<0.1	<0.1	<0.1
pH	7.5	7.2	7.7
Electrical Conductivity (micromhos/cm @ 25°C)	329	578	637
Total Dissolved Solids (@ 180°C)	224	254	383
Iron	0.46	0.52	0.06
Manganese	0.10	0.19	0.13
Temperature (°F)	60	64	63
Perforated Interval (feet)	210-240	530-550	670-690

Samples were collected on August 14, 2002 and analyzed by FGL Environmental of Santa Paula.

bicarbonate type. Concentrations of sodium, chloride, and boron also increased with increasing depth. Groundwater below the major confining bed was noticeably warmer that above. The low nitrate and sulfate concentrations were indicative of reduced conditions. Iron concentrations in the water from the shallow and intermediate zone samples ranged from 0.46 to 0.52 mg/l, and exceeded the recommended MCL of 0.3 mg/l for drinking water. Manganese concentrations in water from the three zones ranged from 0.10 to 0.19 mg/l, also exceeding the recommended MCL.

SUBSURFACE GEOLOGIC CROSS SECTIONS

Four subsurface geologic cross sections were presented in the report "Sierra Valley Ground Water Study" by the California Department of Water Resources (June 1983). The cross sections were somewhat generalized and included deep (hardrock) conditions, below the depths of most water supply wells in the area. More information, particularly electric logs, is now available. As part of this evaluation, four new subsurface geologic cross sections were prepared. Three of these focused on the area west and southwest of Vinton and the area near and north of Loyalton. This includes the area where most of the large capacity wells in the valley are located. A fourth cross section was developed in the

Sierraville-Calpine area, based primarily on logs for the new nested monitor wells. These sections generally focus on conditions above a depth of about 900 feet, and on the deposits tapped by water supply wells in the valley.

Figure 2 shows the locations of cross sections in the Vinton-Loyalton area. Cross Section A-A′ extends from north of Highway 24, south through Loyalton to Sierra Brooks. Cross section B-B′ extends from west to east, in the area north of Highway 24, between Beckwourth and Vinton. Cross section C-C′ generally extends from west to east along Dyson Lane.

Subsurface Cross Section A-A′ (Figure 3) shows the major confining bed in Sierra Valley. The bed is primarily clay, silty clay, or sandy clay. This bed thickens toward the center of the valley. Along this section, the clay is thickest at Lucky Herford Well No. 8, where it is about 600 feet thick. Above this bed, the coarse-grained deposits of the shallow water producing zone are generally less than 50 feet thick along much of the section. Near Loyalton and Sierra Brooks, in the alluvial fan of Smithneck Creek, the shallow coarse-grained deposits are much thicker, approaching 300 to 350 feet in thickness. Coarse-grained, highly productive deposits of the deep water-producing zone are present below an average depth of about 600 feet. These deposits are thickest and

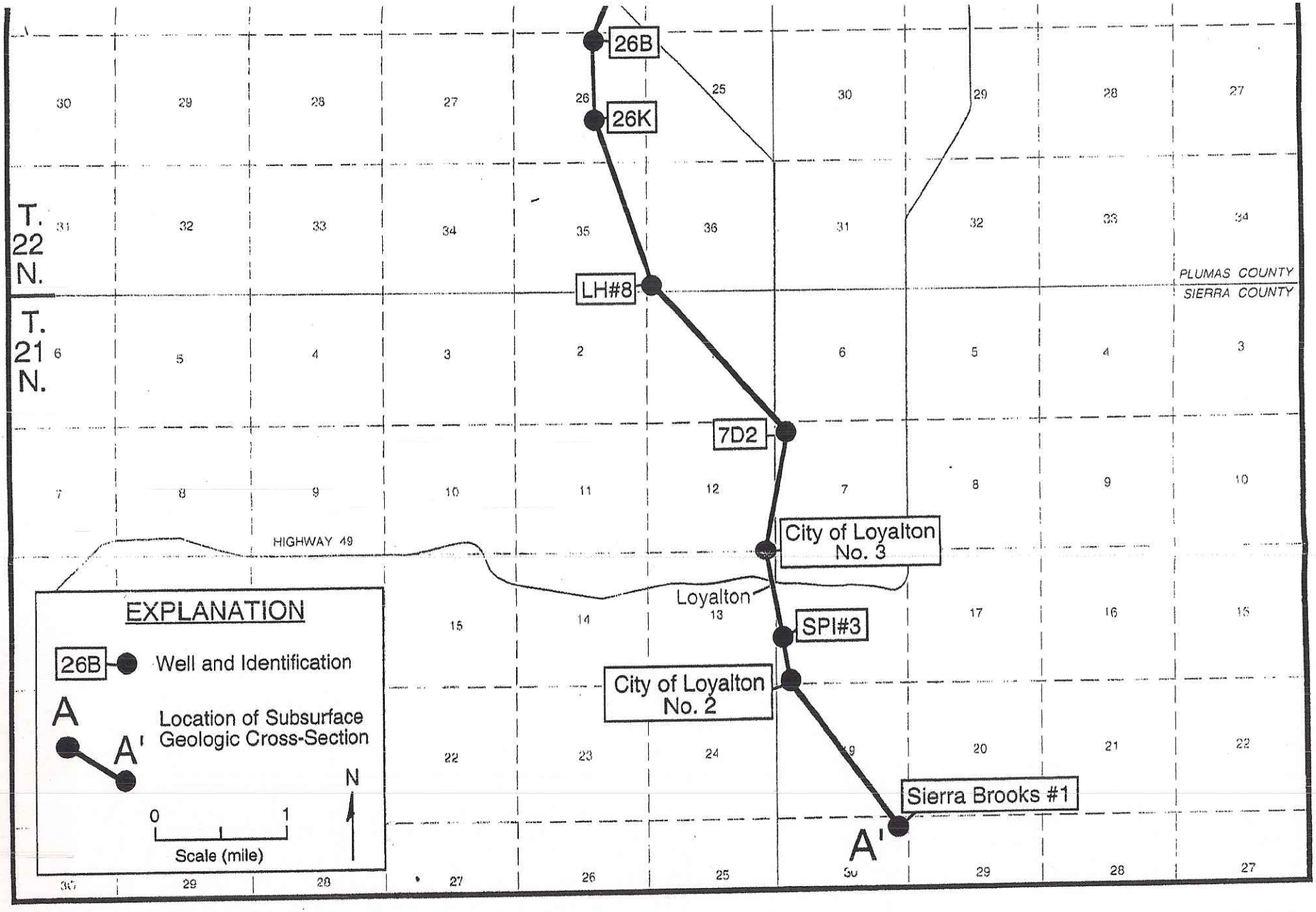
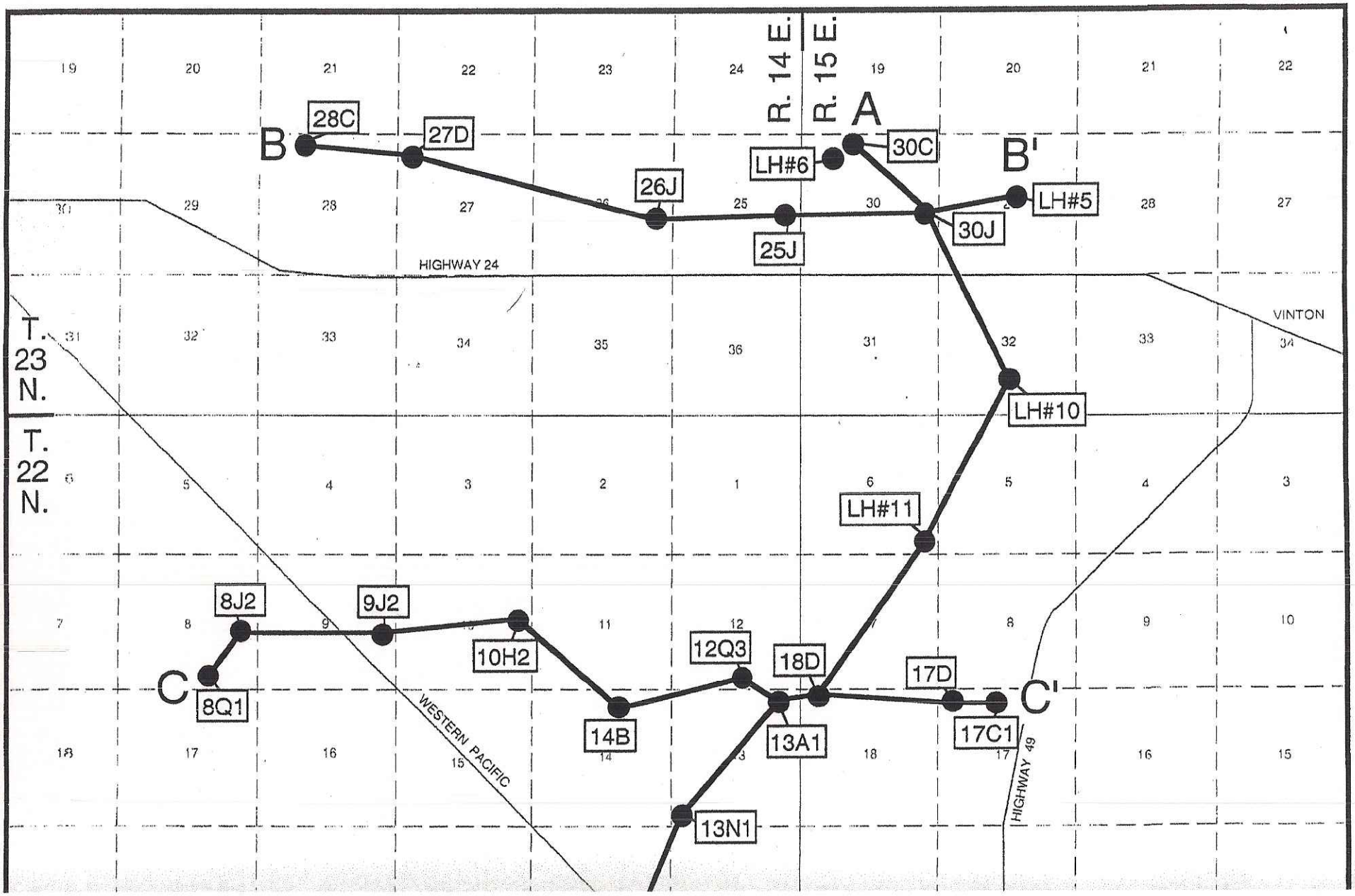


FIGURE 2 - LOCATION OF SUBSURFACE GEOLOGIC CROSS SECTIONS (MAIN PART OF VALLEY)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R. 15 E.
T. 23 N.
T. 22 N.
A
B
B'
C
C'
28C
27D
26J
25J
LH#6
30C
30J
LH#5
LH#10
LH#11
8J2
9J2
10H2
14B
12Q3
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HIGHWAY 24
VINTON
WESTERN PACIFIC
HIGHWAY 49

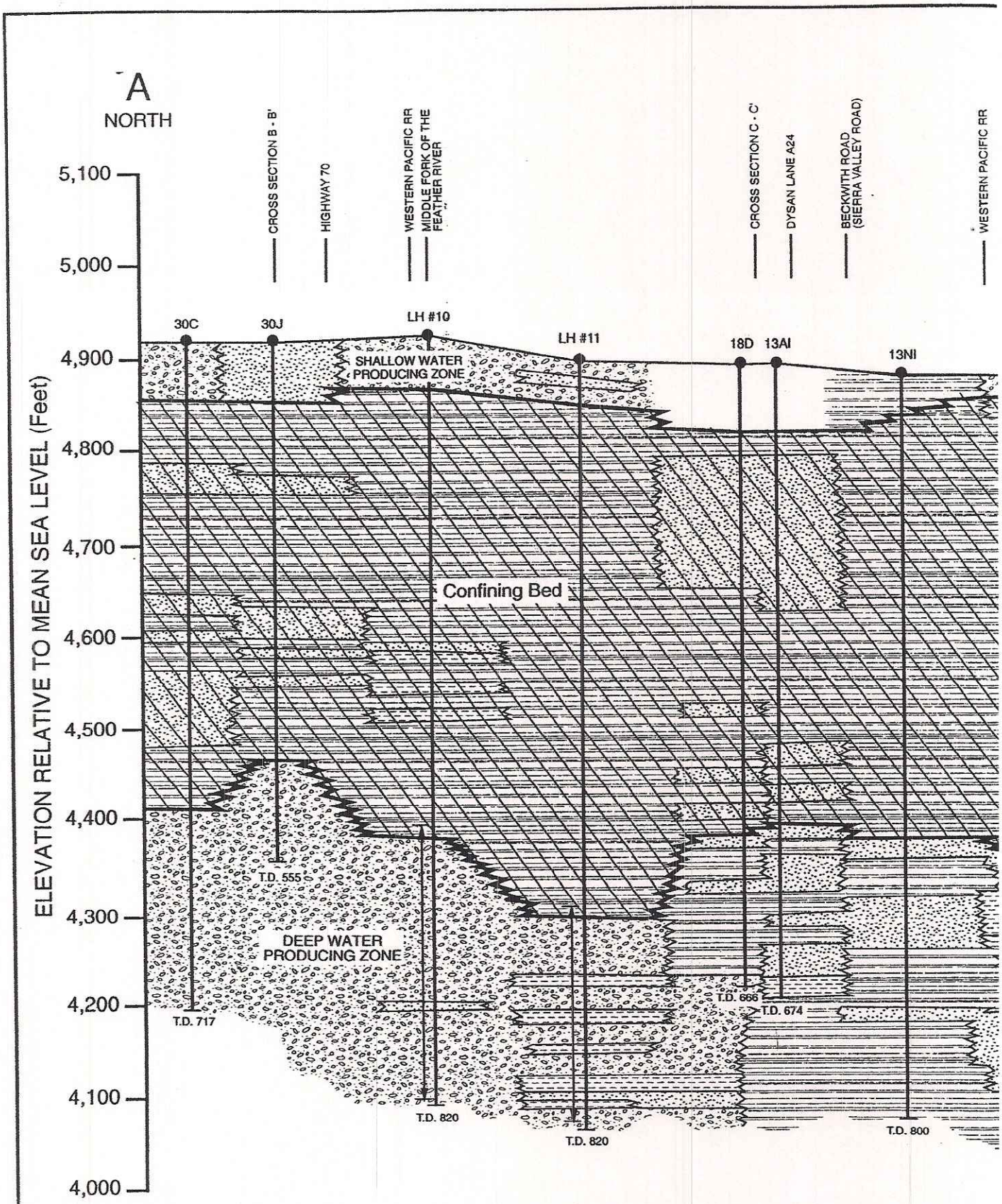
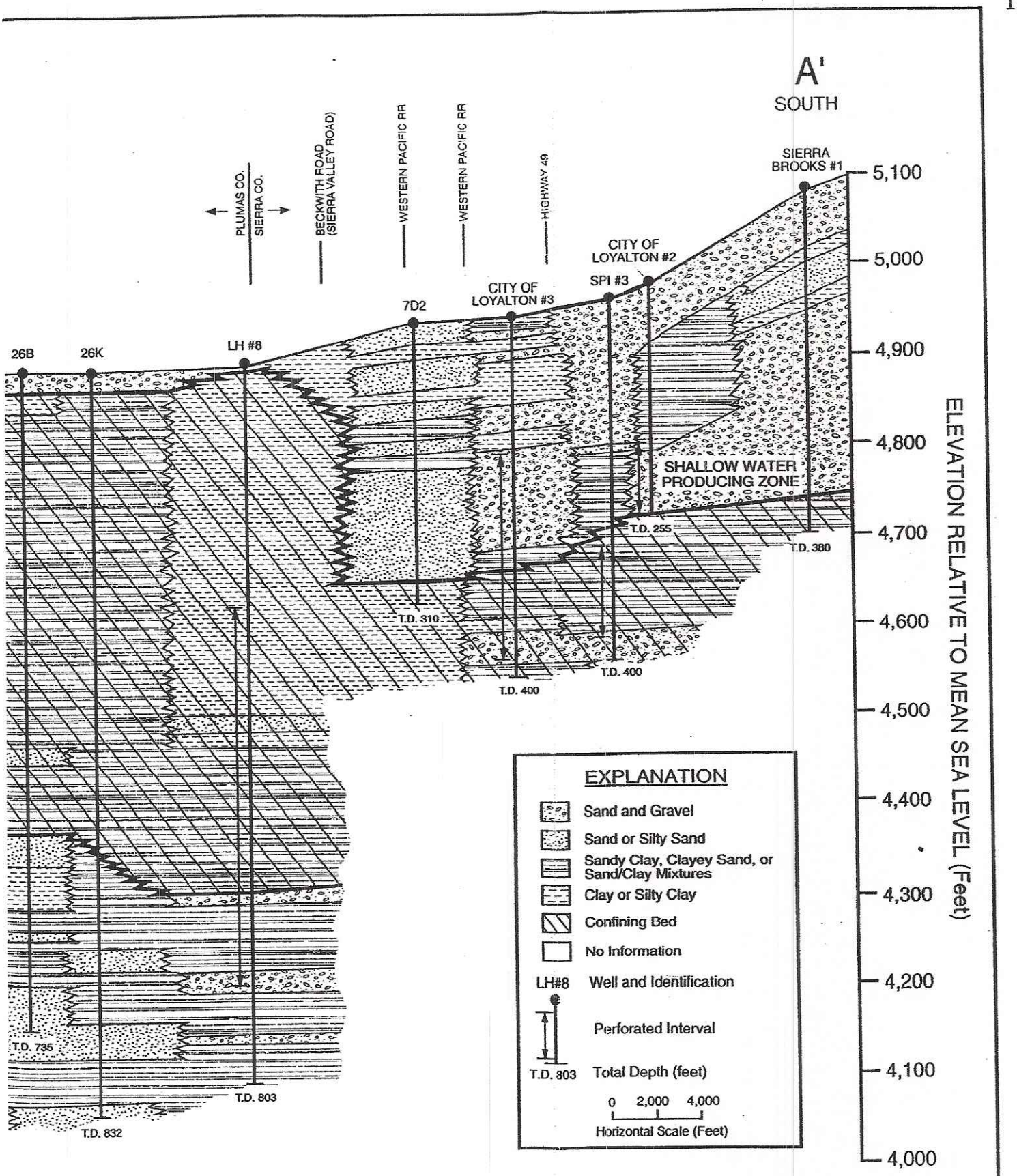


FIGURE 3 - SUBSURFACE



;EOLOGIC CROSS SECTION A - A'

best developed along this section in the area north of Dyson Lane. Groundwater in the deep water-producing zone is confined by the over-lying major confining bed in the valley. Prior to the 1970's, many wells tapping the deep water producing zone flowed. Thus there was over 600 feet of hydraulic head or pressure in the deep zone at these wells.

Cross section B-B′ (Figure 4) shows subsurface conditions in the area north of Highway 24. The shallow water-producing zone averages about 75 feet thick along the section. The confining bed averages about 500 feet thick along the section. Coarse-grained deposits of the deep water-producing zone are well developed, particularly along the east part of the section, where stream channel deposits (coarser than sand) are present. These are probably associated with the alluvial fan of the Middle Fork of the Feather River.

Cross section C-C′ (Figure 5) indicates a relatively thick (about 350 feet) shallow water-producing zone along the central part of the section. This zone thins both to the west and east along the section. The confining bed is thickest along the west part of the section, where it is almost 500 feet thick. Beneath the central and east part of the section, the bed averages about 250 feet thick. The deep water-producing zone is shallower to the east along the section.

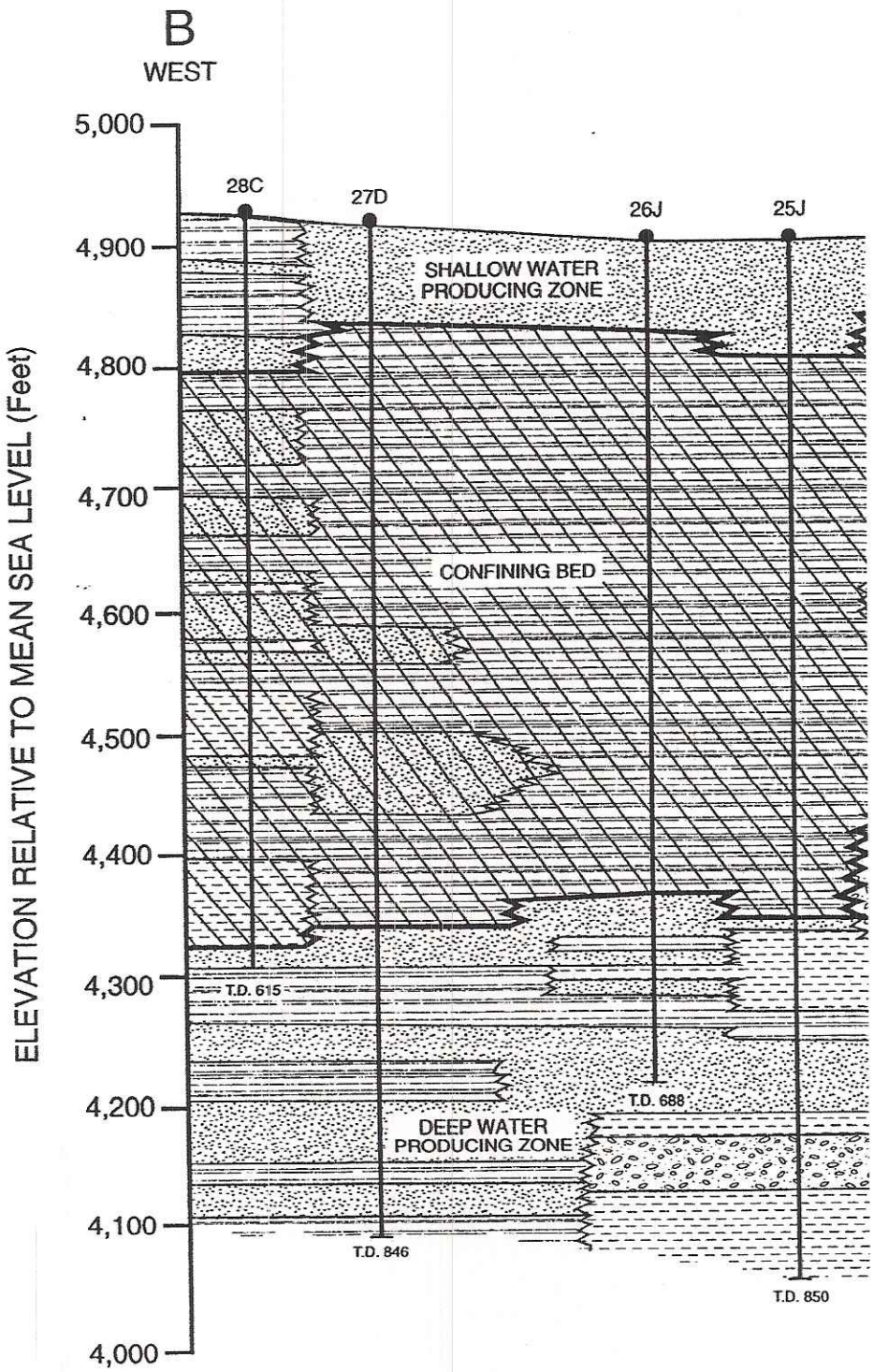
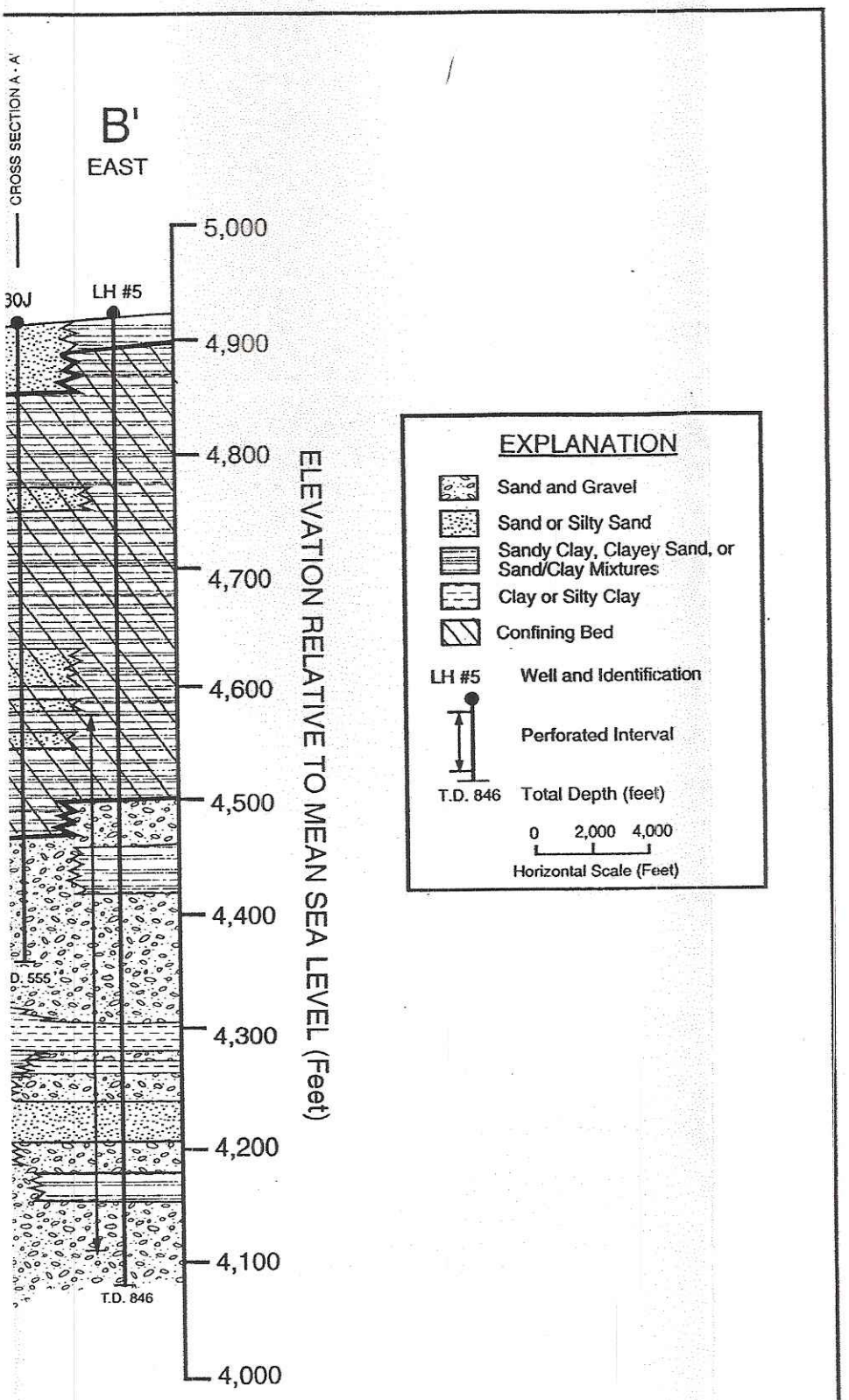


FIGURE 4 - SUBSURFACE GE



LOGIC CROSS SECTION B - B'

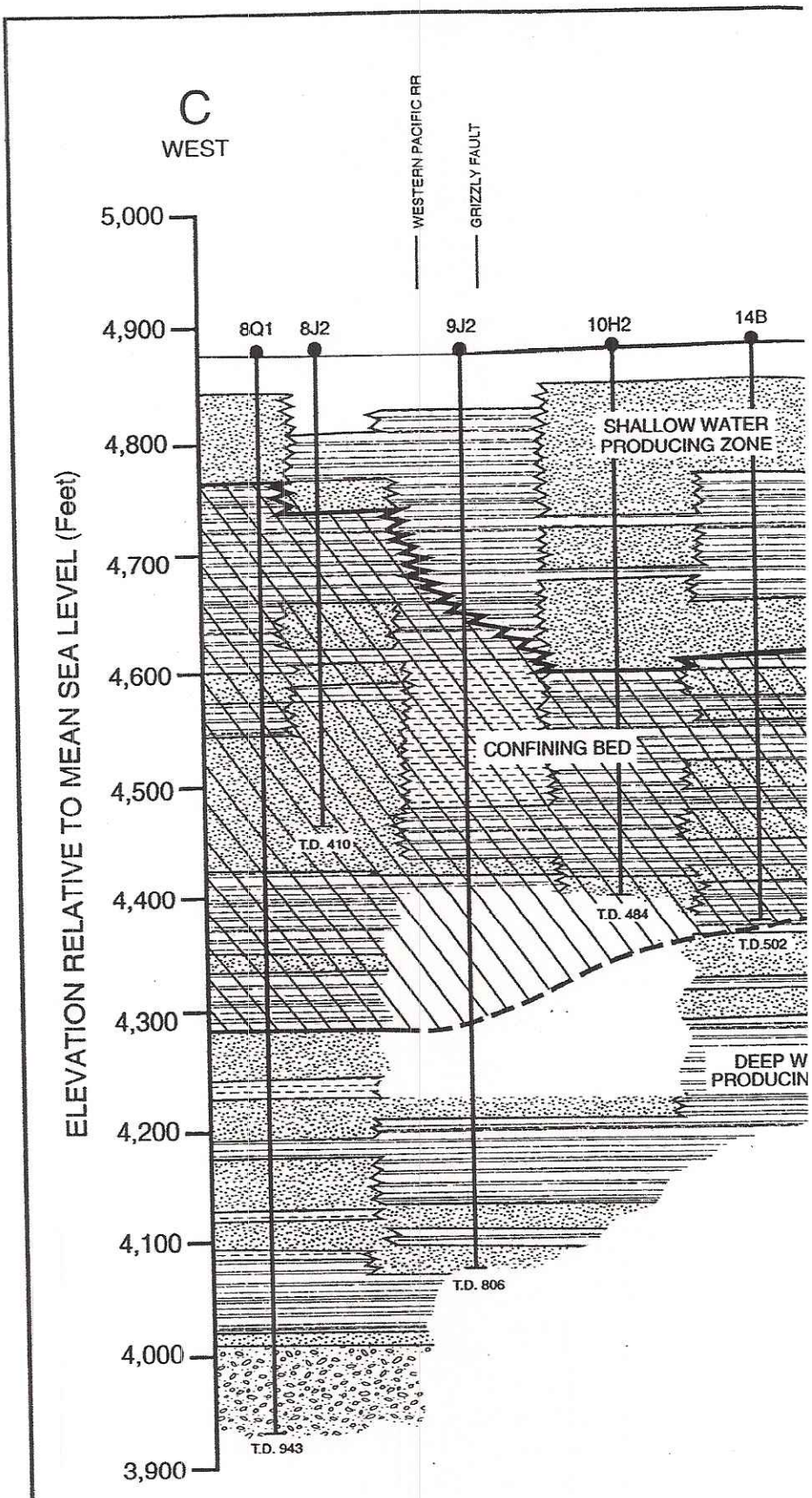
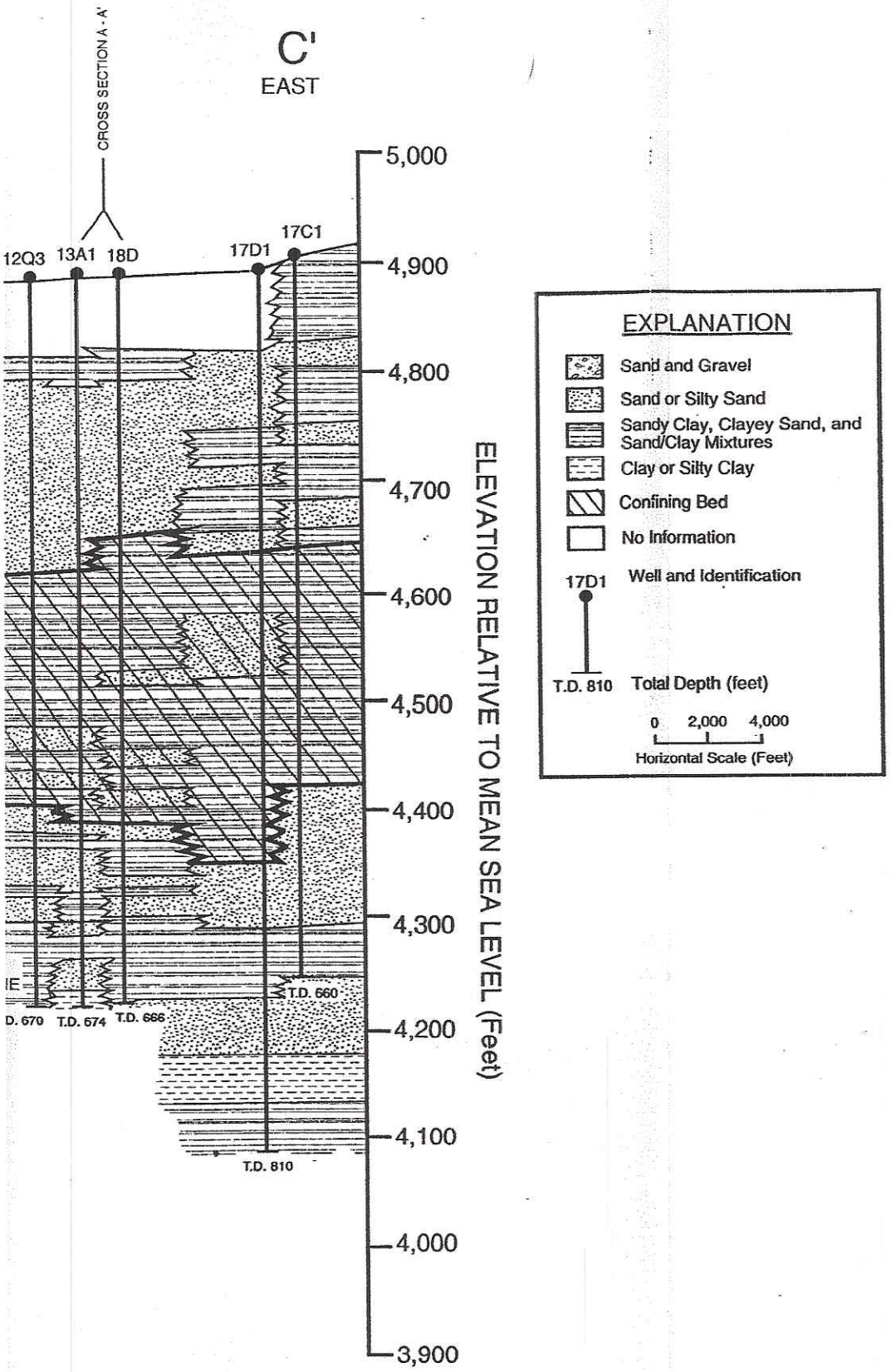


FIGURE 5 - SUBSURFAC



GEOLOGIC CROSS SECTION C - C'

Figure 1 shows the location of cross section D-D′, which extends through the three new nested monitor wells constructed in 2002. The section (Figure 6) extends from east of Calpine south to west of Sierraville. The southerly two District monitor wells (MW-2 and MW-3) along this section both encountered hardrock. The top of the hardrock was about 420 feet deep at MW-3 and 675 feet deep at MW-3. Because of the location of this section (in the extreme southwest part of Sierra Valley), the three major subsurface units shown in the other cross sections are more difficult to distinguish. The confining bed is indicated to be about 200 feet thick at MW-4, about 230 feet at MW-3, and about 400 feet thick at MW-2. The deep water-producing zone is not as well developed along this section as in much of the rest of the valley. At MW-2 and MW-4, four sand layers were in this zone. At MW-3, there was only one sand layer in this zone, partly because of the shallow hardrock.

WATER SUPPLY WELL SAMPLING

The California Department of Water Resources (1983) summarized the results of chemical analyses of water samples collected from wells in Sierra Valley, including sampling undertaken in 1980-81. Prior to the present evaluation, there was a lack of up-to-date chemical analyses for many private wells in the valley. As part of this evaluation, water samples were collected from 27 wells. Field

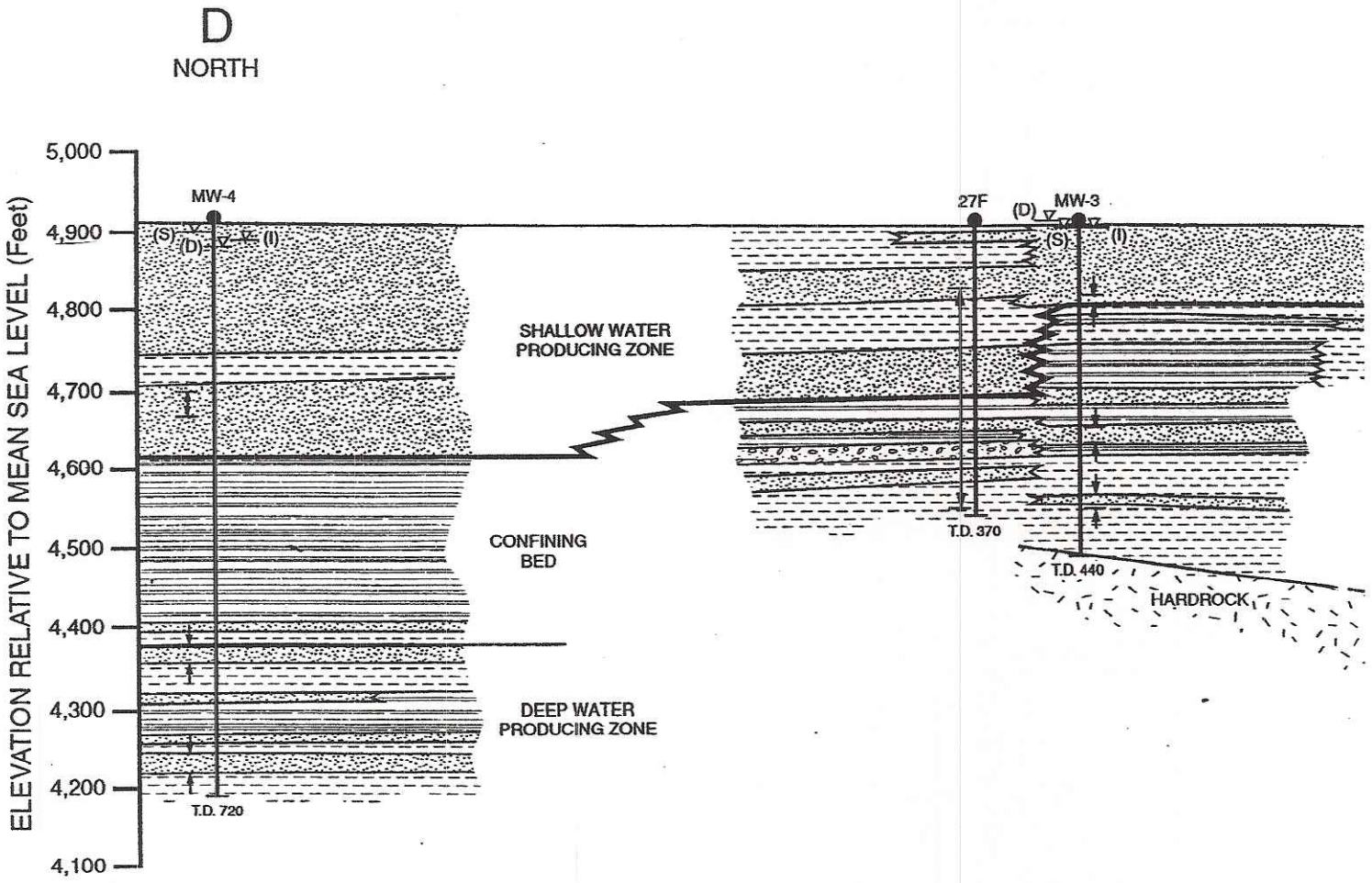
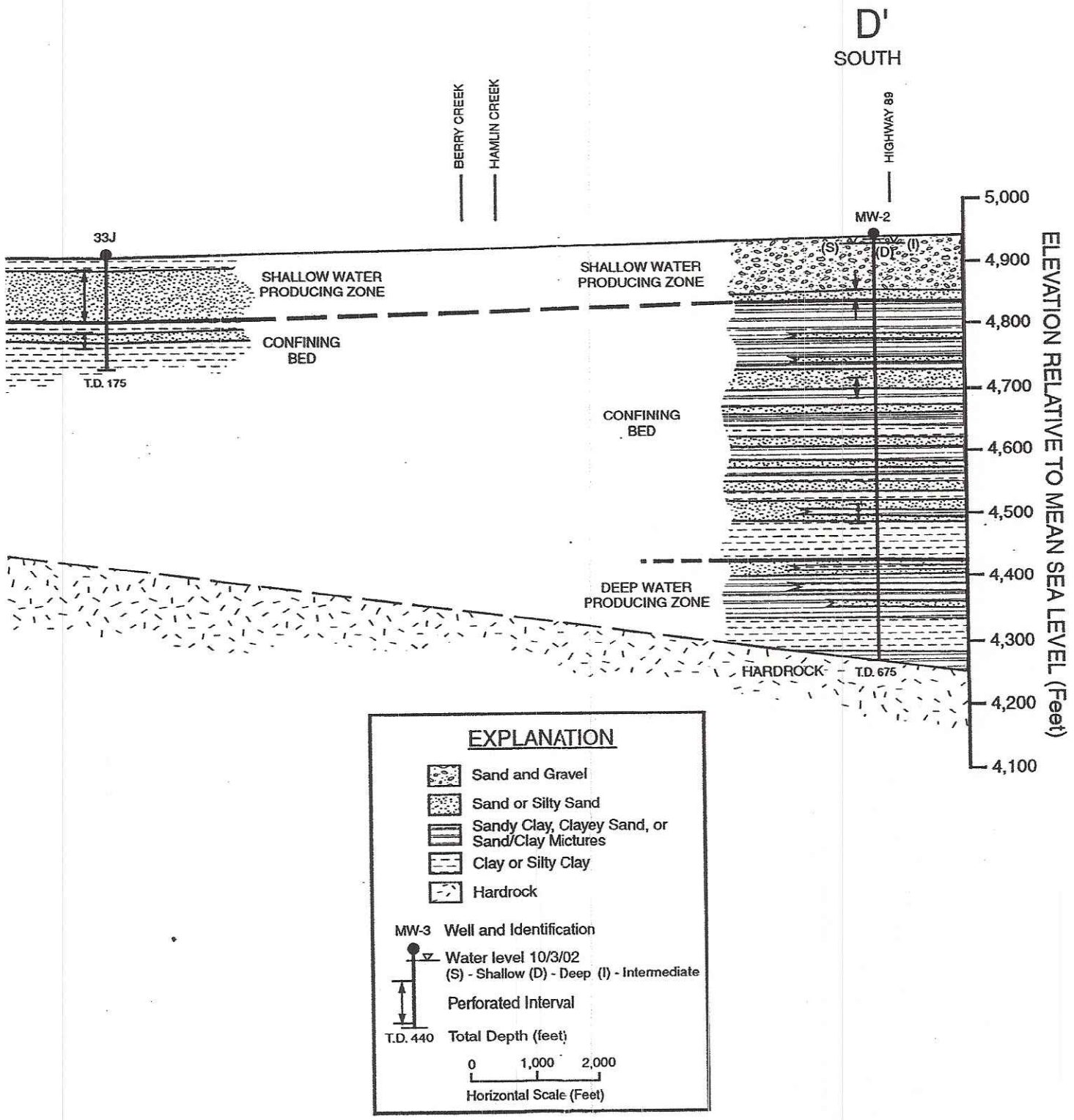


FIGURE 6 - SUBSURFACE GEOL



GIC CROSS SECTION D - D'

parameters were measured several times during pumping, prior to collecting samples for laboratory analyses. The samples were preserved and shipped by overnight delivery to FGL Environmental in Santa Paula for analyses. The samples were analyzed for irrigation suitability and iron, manganese, and fluoride. One of the samples (T22N/R15E-32F1) was from a thermal well (temperature 154°F). Most of the remaining samples were collected from private domestic wells and some from irrigation wells.

Shallow Zone

Table 6 shows the results of chemical analyses of water from five wells tapping the shallow producing zone. Two of the wells (T21N/R14E-22L1 and T22N/R15E-21L4) are dug wells less than 25 feet deep. Temperatures of water from these wells ranged from 52 to 62°F. TDS concentrations in water from most of these wells ranged from about 180 to 400 mg/l. Water from Well 21L4 had a TDS concentration of 981 mg/l, with abnormally high sodium (189 mg/l) and bicarbonate (620 mg/l) concentrations. pH values for these wells ranged from 6.9 to 7.8. Nitrate concentrations ranged from less than 0.4 to 21 mg/l. Sodium and chloride concentrations were highest in water from the two shallow dug wells. Boron concentrations ranged from less than 0.05 to 1.3 mg/l. Concentrations of fluoride and iron were low. Manganese concentrations

TABLE 6-CHEMICAL QUALITY OF WATER
FROM SHALLOW ZONE WELLS

	T21N/R14E		T21N/R16E	T22N/R15E	T23N/R14E
Constituent (mg/l)	22L1	32G1	18L1	21L4	25G2
Calcium	11	21	20	38	41
Magnesium	7	12	10	26	16
Sodium	100	10	9	189	22
Potassium	10	1	3	3	<1
Carbonate	<10	<10	<10	<10	<10
Bicarbonate	150	170	120	620	210
Sulfate	8	<1	2	<1	11
Chloride	1	<1	3	105	9
Nitrate	0.5	<0.4	16	<0.4	21
Boron	0.92	<0.05	<0.05	<0.05	1.31
Fluoride	0.2	<0.1	<0.1	0.1	<0.1
pH	7.6	7.8	7.2	7.4	6.9
Electrical Conductivity (micromhos/cm @ 25°C)	633	247	237	1,210	429
Total Dissolved Solids	399	214	183	981	330
Iron	0.09	<0.05	<0.05	<0.05	<0.05
Manganese	0.18	<0.01	<0.01	0.60	<0.01
Temperature (°F)	52	56	59	58	57
Date	9/30/02	9/30/02	10/8/02	10/8/02	10/8/02
Perforated Interval (ft)	T.D. 16	80-103	118 O.B.	T.D. 24	T.D. 100

Samples were analyzed by FGL Environmental of Santa Paula. T.D. is total depth and O. B. is open-bottomed.

were low in water from the three deeper wells, but exceeded the recommended MCL in water from the two shallow dug wells. There is a trend for lower TDS wells to be near the edge of the valley (T21N/R16E-18L1 east of Loyalton and T21N/R14E-32G1 near Sattley). Appendix E contains the results of analyses for these wells.

Deep Zone

Table 7 shows the results of analyses of non-thermal water from wells tapping the deep zone. Water temperatures usually ranged from about 75 to 85°F. pH values ranged from 7.5 to 8.4, somewhat elevated and typical of deep groundwater in alluvial deposits. The waters were usually of the sodium bicarbonate type. Nitrate concentrations were less than 0.4 mg/l, indicative of reduced conditions in the deep zone. Sodium concentrations ranged from about 30 to 140 mg/l. Boron concentrations ranged from 0.1 to 2.2 mg/l. Iron concentrations ranged from 0.1 to 1.1 mg/l, and exceeded the recommended MCL for drinking water of 0.3 mg/l in water from two of the five wells. Manganese concentrations ranged from 0.04 to 0.27 mg/l, and exceeded the recommended MCL of 0.05 mg/l for drinking water in water from four of the five wells.

The lowest TDS concentrations (130 to 200 mg/l) were found in water from deep zone wells near the edge of the valley. Wells T23N/R15E-36G1 and 36N1 are near the north edge of the valley.

TABLE 7-CHEMICAL QUALITY OF WATER
FROM DEEP ZONE WELLS

Constituent (mg/l)	T22N/R16E 32Q1	T22N/R15E 10B1	T20N/R15E 17C	T23N/R15E 36G1	T23N/R15E 36N1
Calcium	3	4	5	4	13
Magnesium	2	3	4	5	7
Sodium	30	139	82	30	14
Potassium	1	4	4	6	4
Carbonate	<10	<10	<10	<10	<10
Bicarbonate	90	200	270	150	120
Sulfate	<1	28	<1	<1	4
Chloride	2	100	6	7	2
Nitrate	<0.4	<0.4	<0.4	<0.4	<0.4
Boron	0.11	2.21	1.00	0.43	<0.05
Fluoride	2.4	0.2	<0.1	0.5	<0.1
pH	7.8	8.4	7.5	7.7	8.1
Electrical Conductivity (micromhos/cm @ 25°C)	165	769	493	288	202
Total Dissolved Solids	130	478	371	202	164
Iron	0.12	0.16	0.74	1.14	0.16
Manganese	0.04	0.05	0.17	0.11	0.27
Temperature (°F)	77	85	77	77	68
Date	9/17/02	9/17/02	9/30/02	9/17/02	9/16/02
Perforated Interval (ft)	524-820	475-940	957-1,100	393-817	268-792

Samples were collected on August 14, 2002 and analyzed by FGL Environmental of Santa Paula.

Previous studies by the CDWR indicated that water temperatures increase and groundwater quality deteriorates as groundwater flows downgradient toward the central part of the valley.

Hot Water

Table 8 shows a comparison of chemical analyses of water samples collected in 1980 and 2002 from Well T22N/R15E-32F1. The chemical composition was essentially the same at both times. The TDS concentrations were about 1,330 to 1,340 mg/. The water was of the sodium chloride type. The sodium concentration was 450 mg/l for both samples and chloride concentrations ranged from about 510 to 540 mg/l. Boron concentrations ranged from 7.9 to 8.5 and fluoride concentrations from 2.3 to 2.7 mg/l.

1998-2003 SIERRA VALLEY GROUNDWATER UPDATE

Introduction

The California Department of Water Resources (DWR), Northern District, prepared eight annual updates on groundwater conditions in the Sierra Valley Basin, extending through Spring 1991. Kenneth D. Schmidt and Associates (1994) prepared a triennial update extending through Spring 1994, and a quadrennial update extending through Spring 1998. As of 2002, Pumpage from 43 active wells was measured with flowmeters by the Sierra Valley Groundwater Manage-

TABLE 8 - SAMPLING RESULTS FOR WELL T22N/R15E-32F1

Constituent (mg/l)	9/11/80	10/8/02
Calcium	40	38
Manganese	<1	<1
Sodium	450	450
Potassium	-	16
Carbonate	<1	<10
Bicarbonate	48	50
Sulfate	-	260
Chloride	542	510
Nitrate	-	<0.4
Boron	8.5	7.9
Fluoride	2.7	2.3
pH	7.9	8.3
Electrical Conductivity (micromhos/cm @ 25°C)	2,450	2,500
Total Dissolved Solids	1,343	1,330
Temperature (°F)	168	154
Laboratory	CDWR	FGL

The difference in the temperature is probably due to a difference in where the temperature of the water was measured.

ment District. As of 2002, water levels were measured in 44 wells in the main part of Sierra Valley and in 13 wells in the Chilcoot sub-basin, in the northeast part of the valley, by the California Department of Water Resources. This update covers the period from Spring 1998 to Spring 2003. Appendix F contains water-level data for Fall 1998-Spring 2003.

Water-Level Elevation Contours

Figure 7 shows water-level elevation contours and the direction of groundwater flow for Spring 2000. Water-level elevations at that time ranged from about 5,080 feet above mean sea level southeast of Loyalton in Sierra Brooks, to less that 4,860 feet in a large pumping depression located in the Vinton area. In Spring 2000, there appeared to be little groundwater outflow from Sierra Valley because of this depression. A smaller cone of depression was present northwest of Loyalton.

Figure 8 shows water-level elevation contours and the direction of groundwater flow for Spring 2002. Water-level elevations ranged from about 5,060 feet above mean sea level in Sierra Brooks to less than 4,860 feet in a pumping depression located in the Vinton sub-area. The water-level elevation map for Spring 2002 is similar to the one for Spring 2000. The direction of groundwater flow in most of the valley was generally the same during the spring of both years.

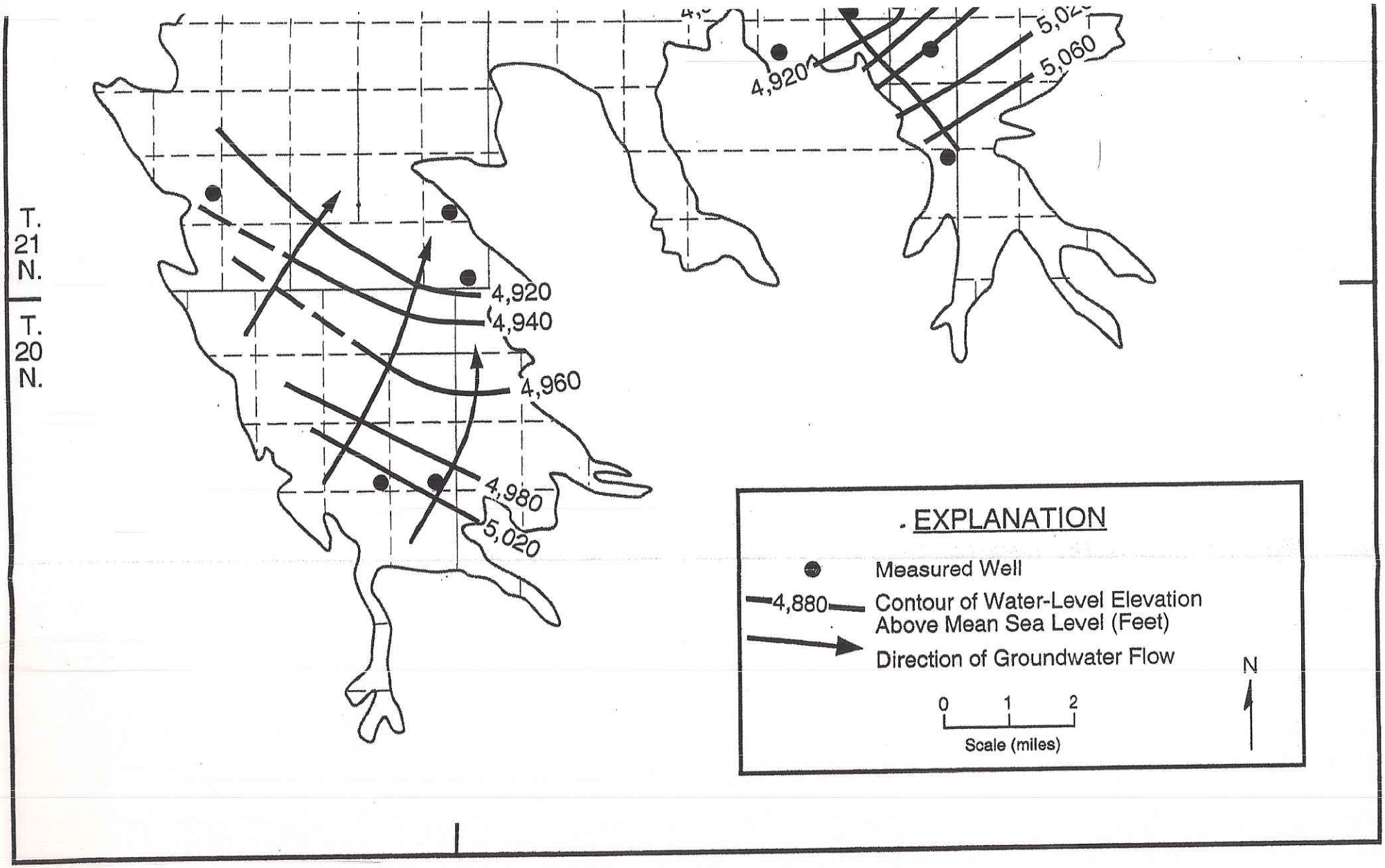
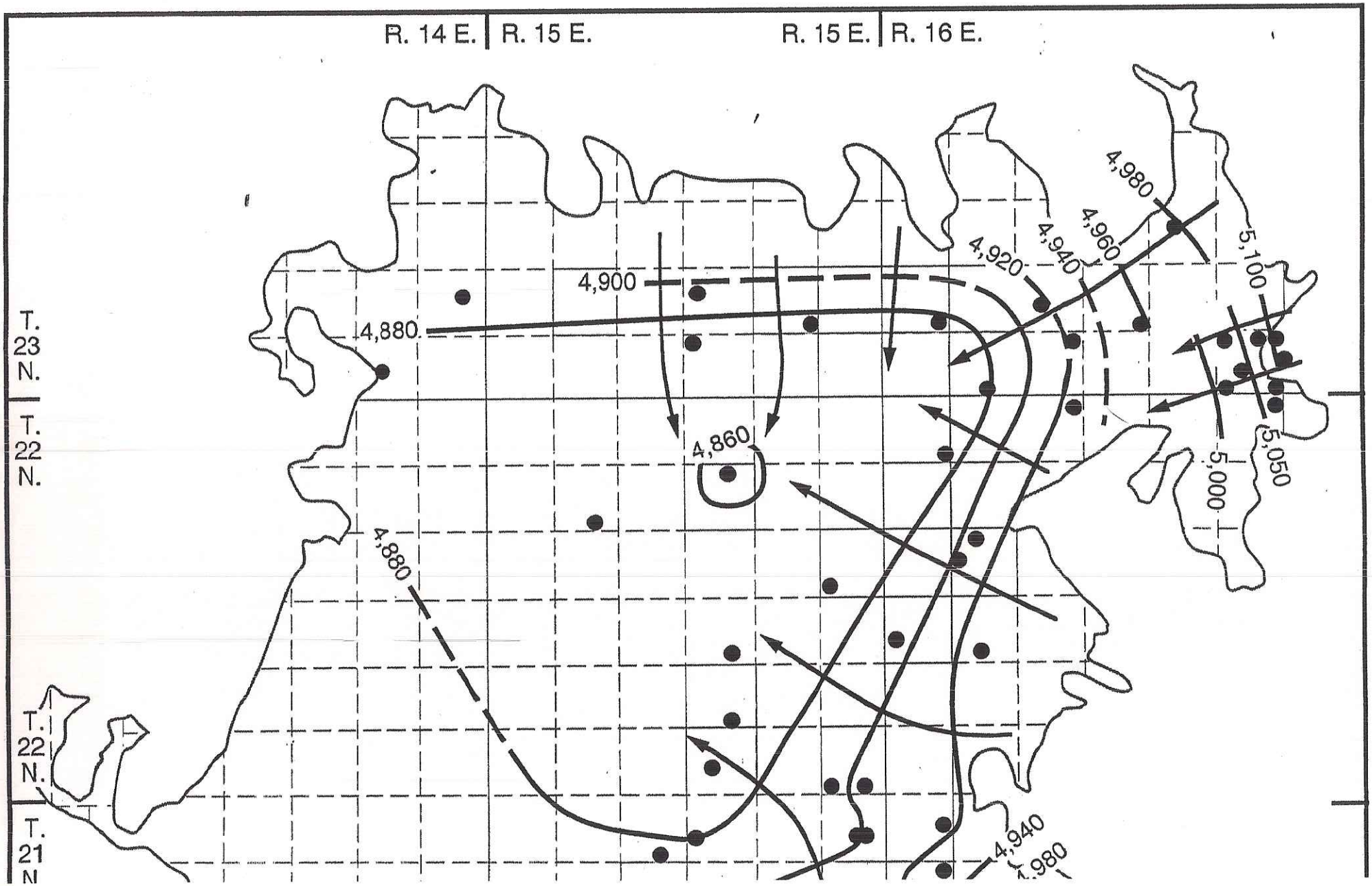


FIGURE 7 - WATER-LEVEL ELEVATIONS AND DIRECTION OF GROUNDWATER FLOW IN SPRING 2000


R. 14 E.
R. 15 E.
R. 15 E.
R. 16 E.
T. 23 N.
T. 22 N.
T. 22 N.
T. 21 N.
4,980
4,960
4,940
4,920
4,900
4,880
4,860
4,880
5,100
5,050
5,000
4,940
4,980

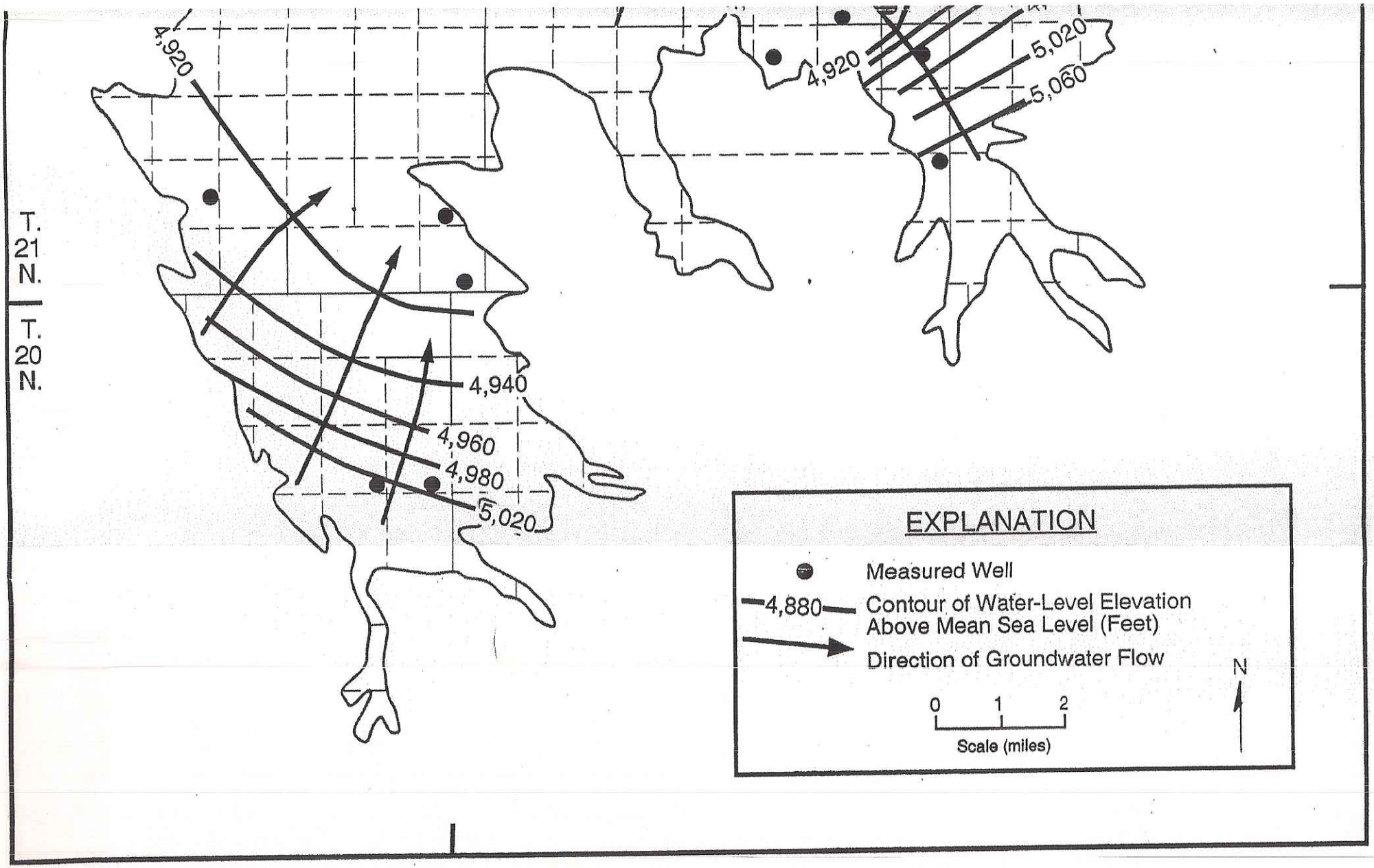
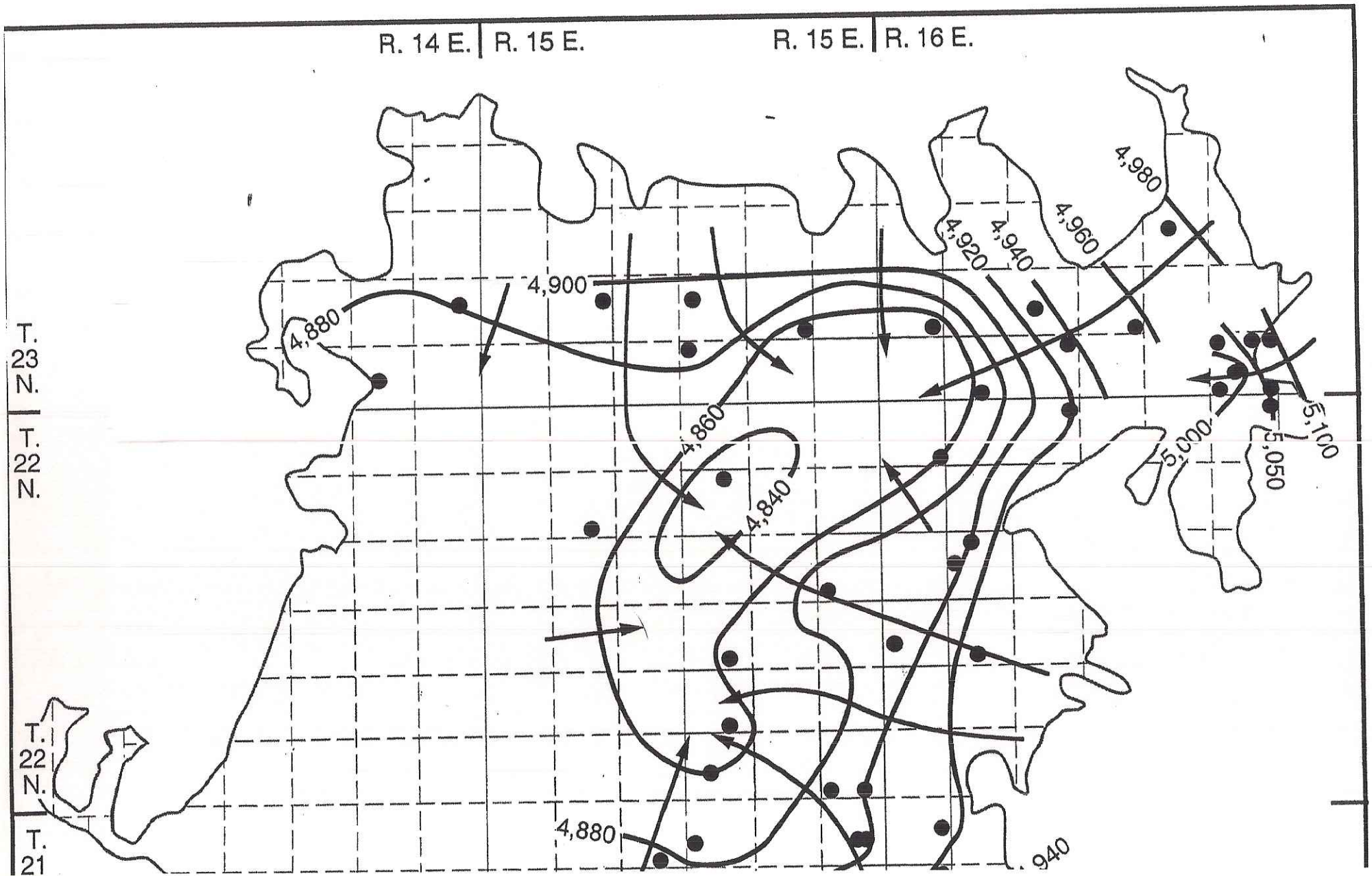


FIGURE 8 - WATER-LEVEL ELEVATIONS AND DIRECTION OF GROUNDWATER FLOW IN SPRING 2002


R. 14 E.
R. 15 E.
R. 15 E.
R. 16 E.
T. 23 N.
T. 22 N.
T. 22 N.
T. 21
4,880
4,900
4,860
4,840
4,880
4,920
4,940
4,960
4,980
5,000
5,050
5,100
940

Water-Level Changes

Figure 9 shows changes in water levels from Spring 1998 to Spring 2003. Water levels in most wells were lower in Spring 2002 than in Spring 1998, because of low precipitation and greater pumpage during this period. Water levels fell more than five feet in most of the Vinton, Loyalton, and Chilcoot sub-basins. In the Vinton sub-area, water levels fell more than 20 feet over a fairly large area during this period

Water-Level Hydrographs

In previous groundwater updates, water-level hydrographs were discussed for three wells in the main part of the valley and two wells in the Chilcoot Sub-basin. The wells in the main part of the valley were:

T22N/R15E-22Q1 (Loyalton)
T22N/R16E-17E2 (between Vinton and Loyalton)
T23N/R14E-25K1 (Beckwourth)

Records for these wells extended back to 1960. Records are also available back to 1966 for one additional well:

T22N/R16E-4A1 (Vinton)

Fairly continuous water-level records are available for 19 other wells in the valley, extending from about 1980 to 1999. This group of wells began to be measured by CDWR as part of Sierra Valley Groundwater Management District activities. In this report update,

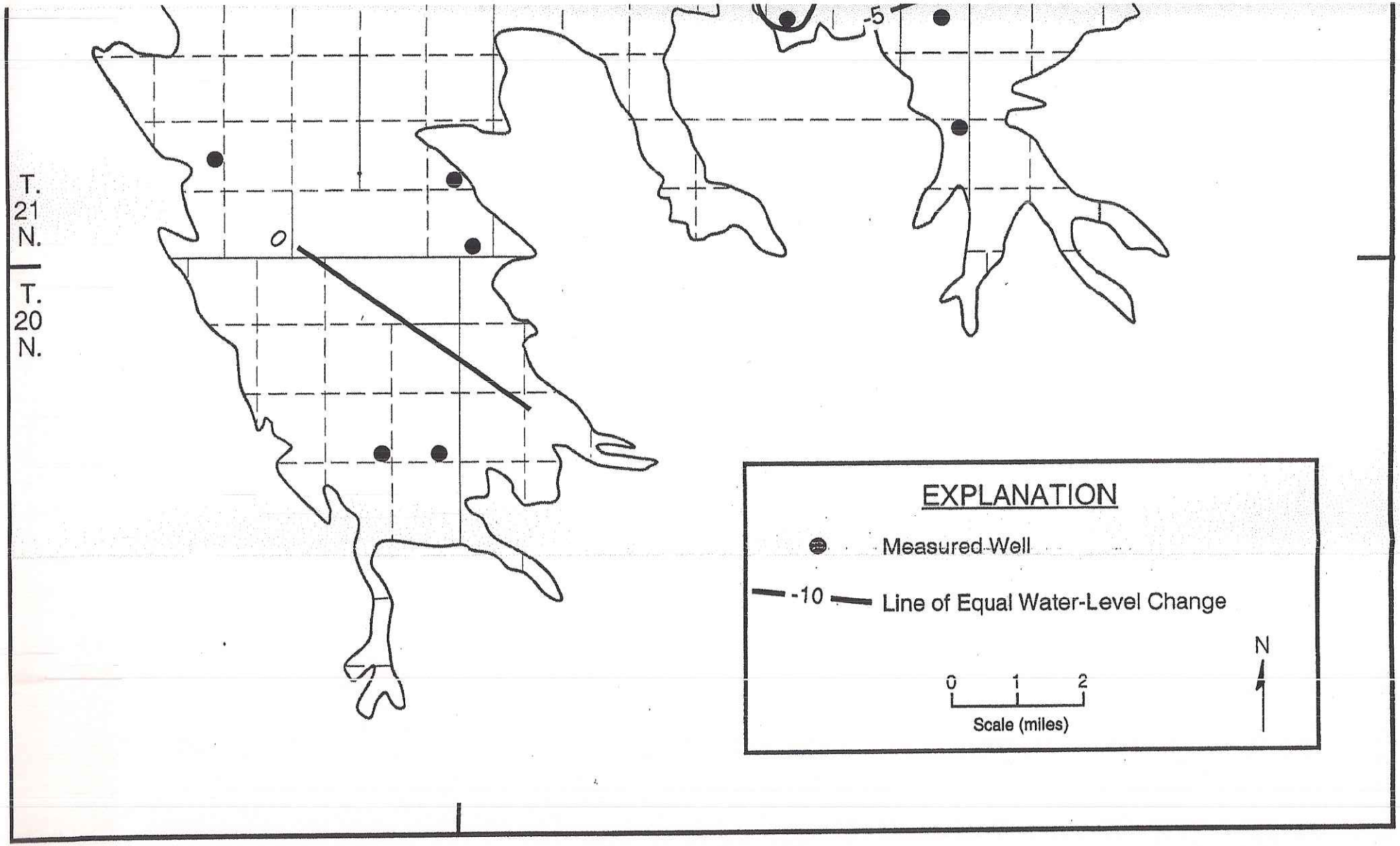
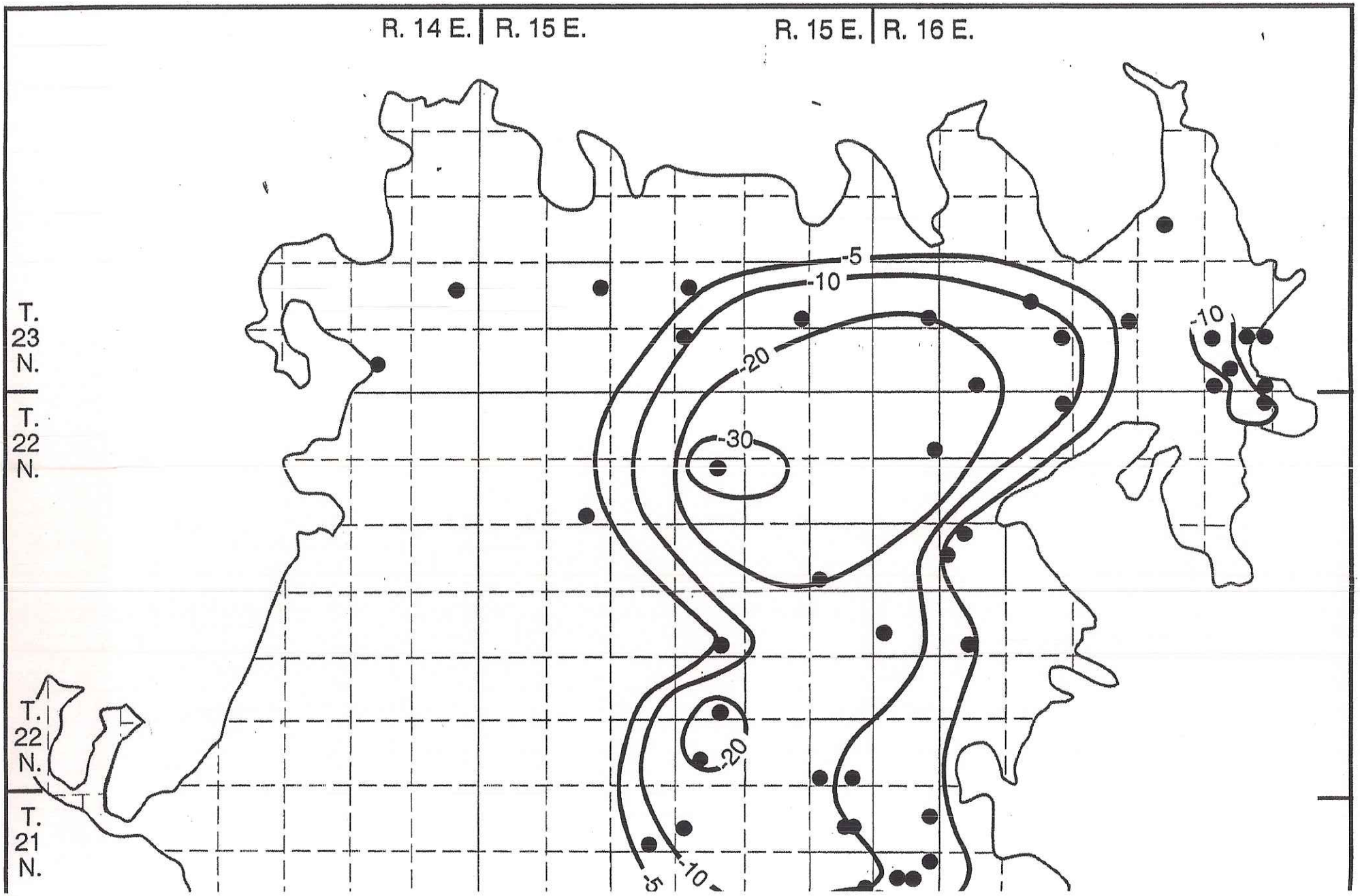


FIGURE 9 - WATER-LEVEL CHANGE MAP FOR SPRING 1998 TO SPRING 2003


R. 14 E.
R. 15 E.
R. 15 E.
R. 16 E.
T. 23 N.
T. 22 N.
T. 22 N.
T. 21 N.
-5
-10
-20
-30
-20
-10
-5
-10

more attention is focused on long-term water-level hydrographs, and less on water-level contour maps, than for the previous report updates. This is because adequate records are now available to prepare long-term water-level hydrographs for many wells (Appendix G). Selected representative water-level hydrographs are provided in the text of this report.

Figure 10 shows long-term water-level hydrographs for two wells in the Vinton area: T22N/R16E-4A1 and 17C1. Well No. 4A1 is reportedly 251 feet deep. The well was flowing prior to 1979. The water level in this well was relatively stable and showed small seasonal fluctuations prior to 1979. The water level then began to decline after 1978, and reached the lowest level in Fall 1991-92 (about 25 feet). After 1992, the water level recovered through Spring 1999 (to about 5 feet deep). After Spring 1999, the water level fell to about 22.5 feet by Fall 2002. These water-level trends are directly related to pumping patterns during this period. By the end of 2002, depth to water in well 4A1 was almost as great as during 1991-92.

Well 17C1 is also termed the Dyson Lane recorder, as it has been equipped with a continuous water-level recorder since 1981. This well is indicated to be about 100 feet deep. The well was originally perforated from 73 to 184 feet, but was sanded in to a depth of about 100 feet as of Fall 1980. The water level in this

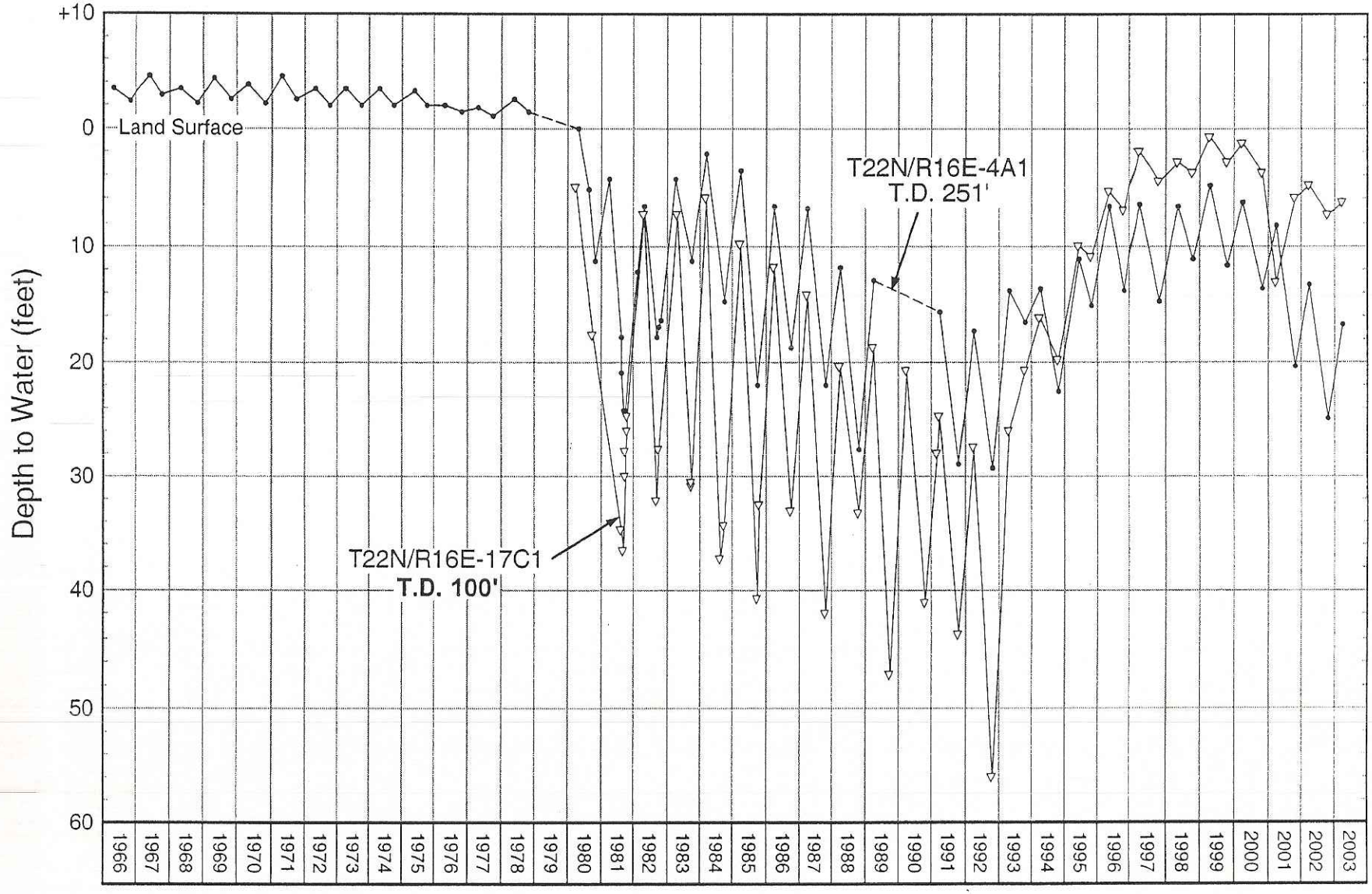


FIGURE 10 - WATER-LEVEL HYDROGRAPHS FOR VINTON AREA

well has also responded highly to pumping of nearby irrigation wells, primarily to the north. Water-level records Figure 10 started in 1980, when depth to water was about 5 feet. Water levels fell from 1980 through 1993. The deepest water level in this well was about 56 feet in Fall 1992. By April 1999, the water level in well 17C1 had recovered to a depth of about one foot. By Spring of 2003, the depth to water was about six feet.

Figure 11 shows long-term water-level hydrographs for two wells in the Loyalton area: T22N/R15E-22Q1 and 36N1. Well 22Q1 is reportedly about 600 feet deep, and was flowing prior to 1966. The water level then declined slightly through 1981, and more sharply through Fall 1992 (23 feet deep). The water level in this well then recovered to 10 feet deep by Spring 1996. The water level in Well 22Q1 was relatively stable through early 2000, then fell to a depth of 21 feet by Fall 2002. The water-level trend in this well is related to pumping patterns of wells in the Loyalton sub-area. The small seasonal fluctuations in this well are more typical of the shadow zone.

Well 36N1 is perforated from 268 to 792 feet in depth. The water level in Well 36N1 was near the land surface prior to 1986, then gradually declined to a depth of 62 feet in Fall 1992. From Fall 1992 through Spring 1996, the water level in this well rose to a depth of 7 feet in Spring 1996. The water level in this well was relatively stable from Spring 1991 through Spring 2000, then fell

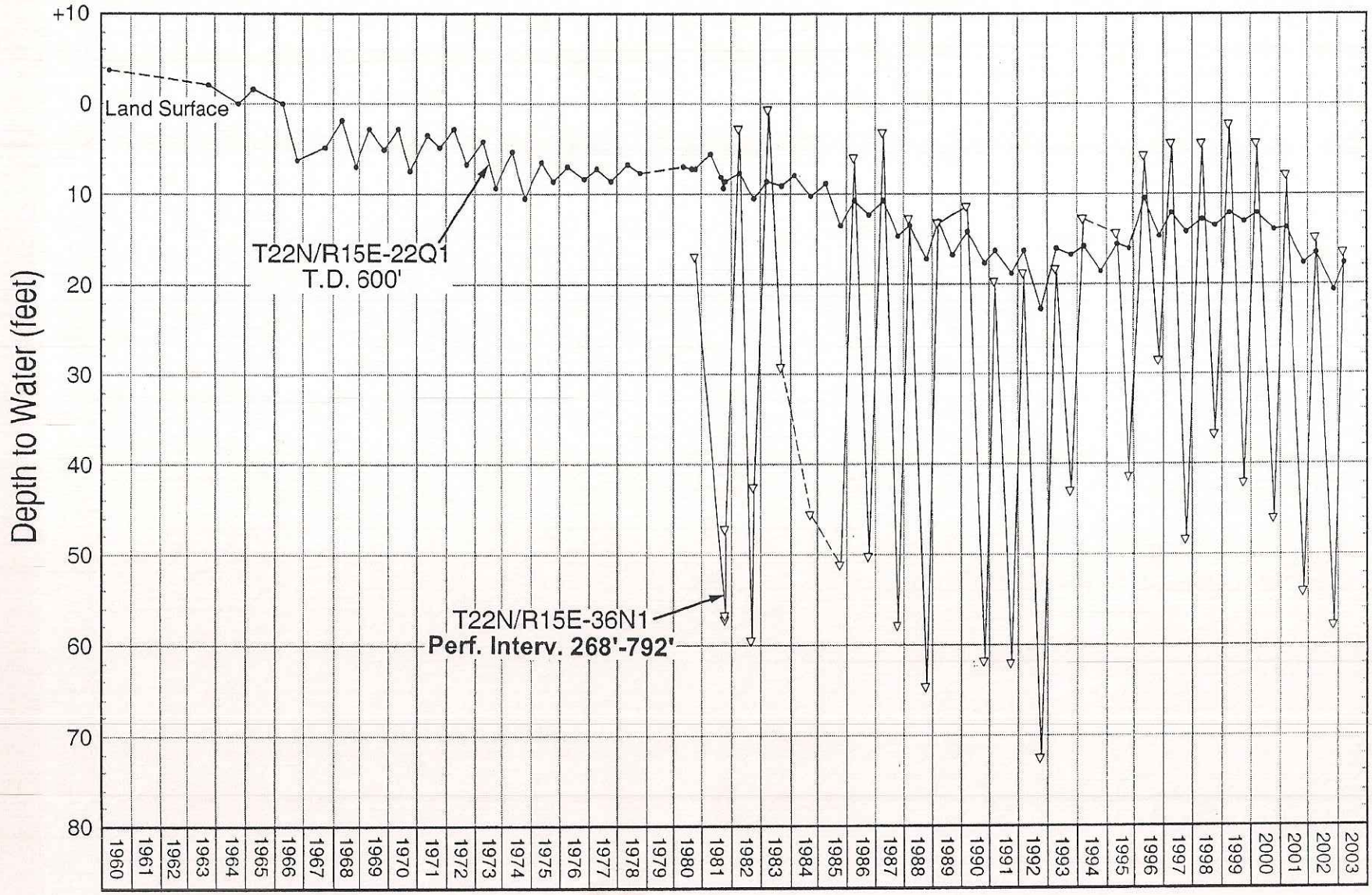


FIGURE 11 - WATER-LEVEL HYDROGRAPHS FOR LOYALTON AREA

to a depth of 58 feet in Fall 2002. The water level in this well also responded primarily to pumping in the sub-area. Seasonal fluctuations in water level are representative of the deep zone.

Figure 12 shows water-level hydrographs for two wells in the Chilcoot sub-basin: T22N/R16E-1A2 and T23N/R16E-36N2. Both of these are shallow wells. Water-levels were the shallowest in the mid 1980's, during and following years of high precipitation, and were lowest in later 1992, following years of very low precipitation. Water levels in these wells respond primarily to precipitation patterns and recharge, as there are no large-capacity wells in the sub-area.

Pumpage

Pumpage records are considered to be approximate, because of possible inaccuracies in flowmeter recordings. However, they are accurate enough for use in this evaluation.

Figure 13 shows the distribution of metered pumpage for 1998. The total metered pumpage was about 3,470 acre-feet, or 1,850 feet less than in 1997 (Kenneth D. Schmidt and Associates, 1999). This decreased pumping was responsible for water-level rises that occurred. The metered pumpage in the valley in 1998 was the lowest since records began in 1989.

Figure 14 shows the distribution of metered pumpage for 1999. the total metered pumpage was 4,870 acre-feet, or about 1,400 acre-feet more than in 1998. This increase in pumpage was responsible

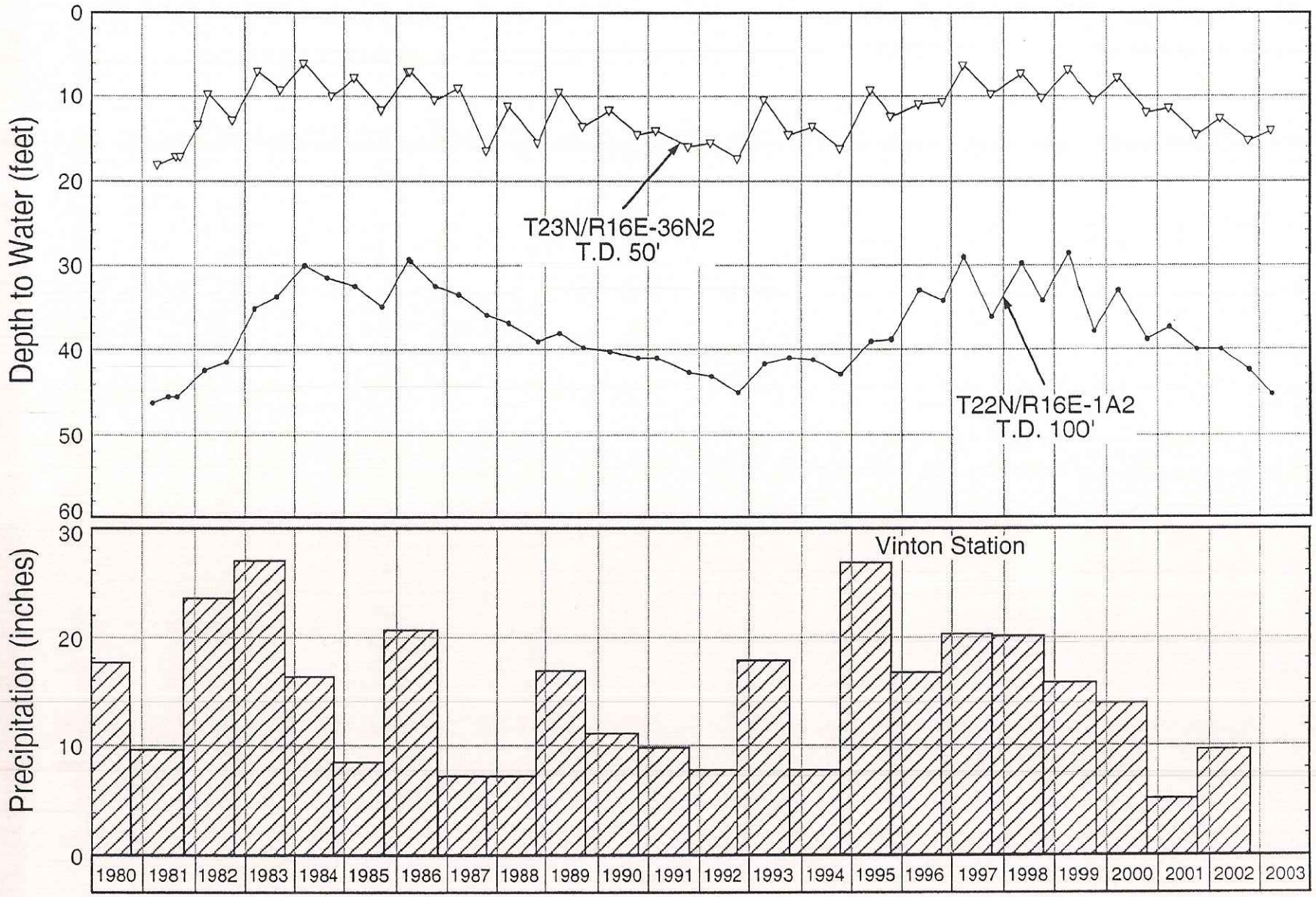


FIGURE 12 - WATER-LEVEL HYDROGRAPHS AND PRECIPITATION FOR CHILCOOT SUB-BASIN

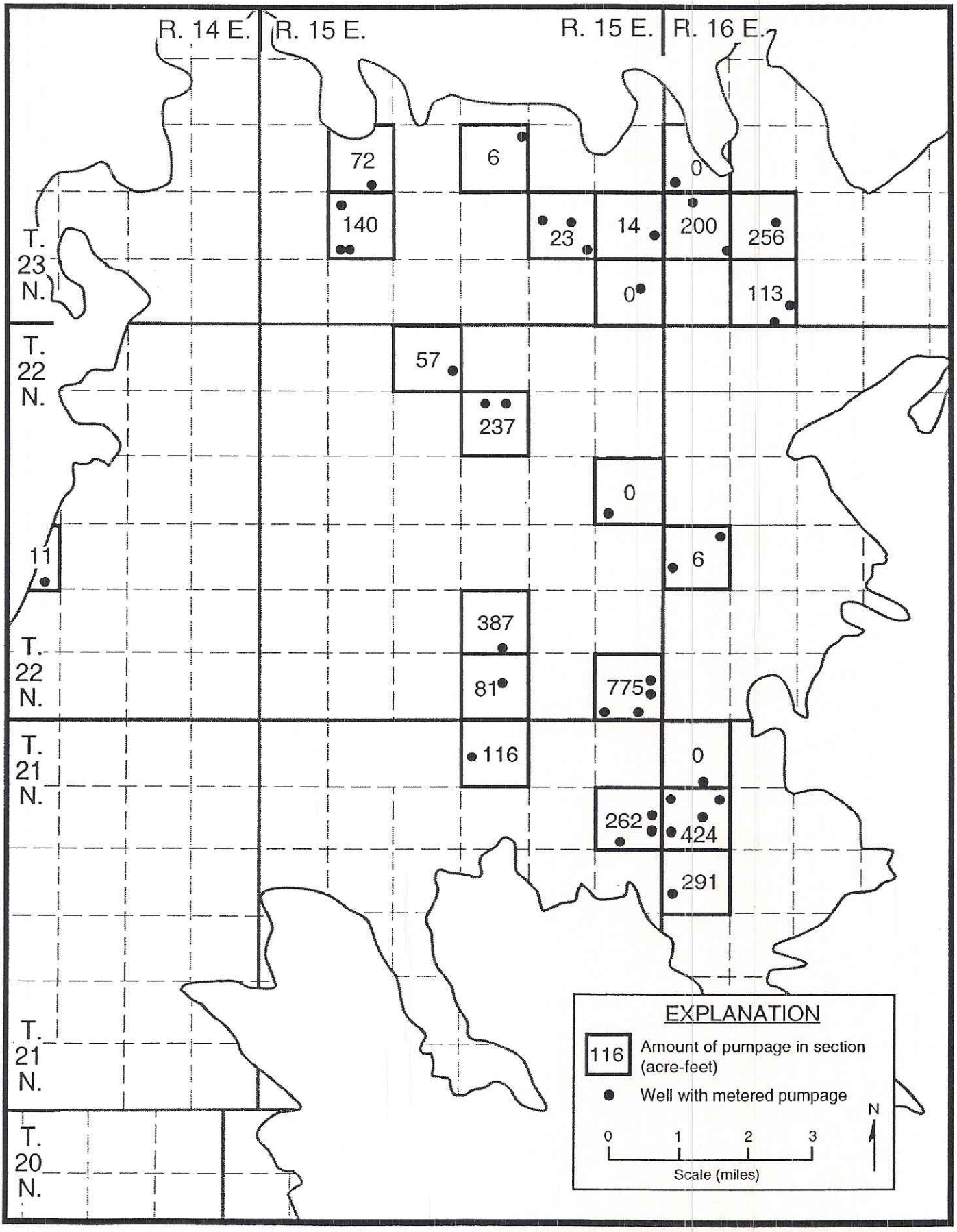


FIGURE 13 - METERED GROUNDWATER PUMPAGE FOR 1998

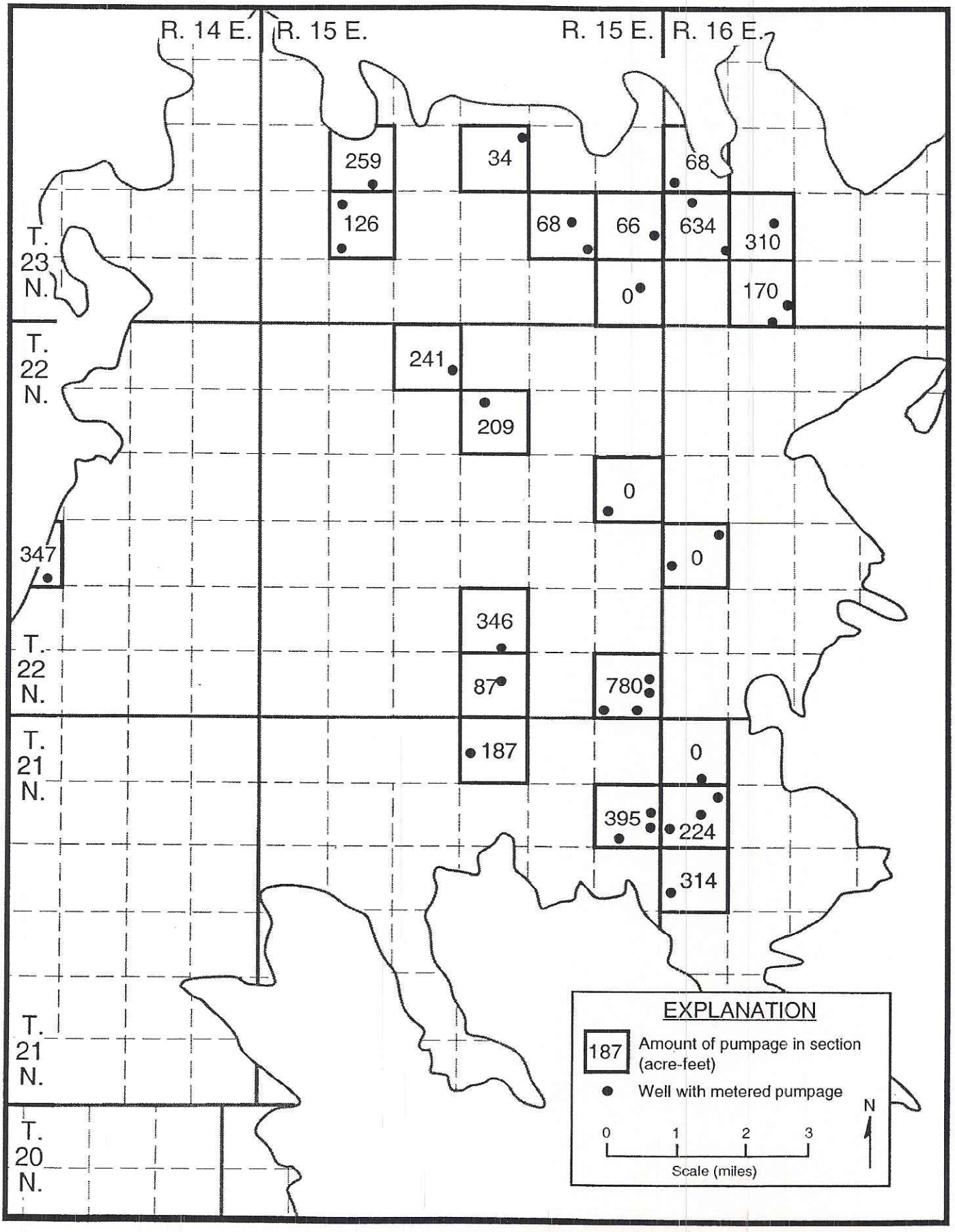


FIGURE 14 - METERED GROUNDWATER PUMPAGE FOR 1999

for the water-level declines in many wells between Spring 1999 and Spring 2000.

Figure 15 shows the distribution of metered pumpage for 2000. The total metered pumpage was about 5,970 acre-feet, or about 1,100 acre-feet greater than in 1999. The increased pumpage resulted in water-level declines in most wells between Spring 2000 and Spring 2001.

Figure 16 shows the distribution of metered pumpage for 2001. The total metered pumpage was about 7,490 acre-feet, or 1,520 acre-feet more than in 2000. This was the third consecutive year of increased metered pumping since 1998, and water levels continued to decline.

Figure 17 shows the distribution of metered pumpage for 2002. The total metered pumpage was about 8,310 acre-feet, or about 820 acre-feet greater than in 2001. This was the fourth year of increased pumpage since 1998. Water levels continued to fall because of the drought conditions over the past few years.

Table 9 indicates the distribution of the metered pumpage in the valley sub-areas during 1998-2002. This table indicates that the pumpage in all sub-areas increased after 1998.

Table 10 summarizes metered pumpage for Sierra Valley since 1989. Annual metered pumpage ranged from a low of 3,470 acre-feet in 1988, to a high of 10,130 acre-feet in 1990. The period 1989-1994 was one of relatively high metered pumpage (average of about

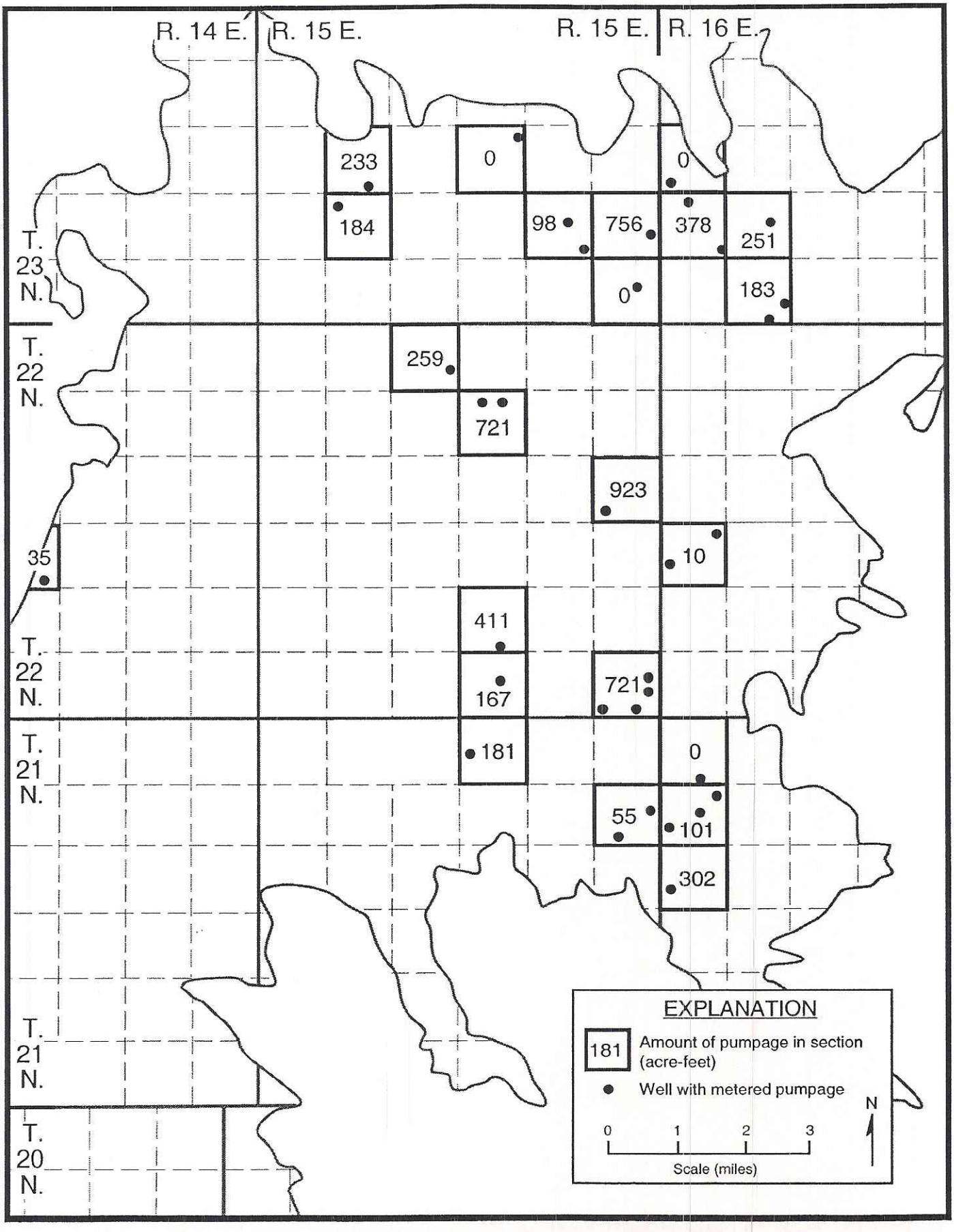


FIGURE 15 - METERED GROUNDWATER PUMPAGE FOR 2000

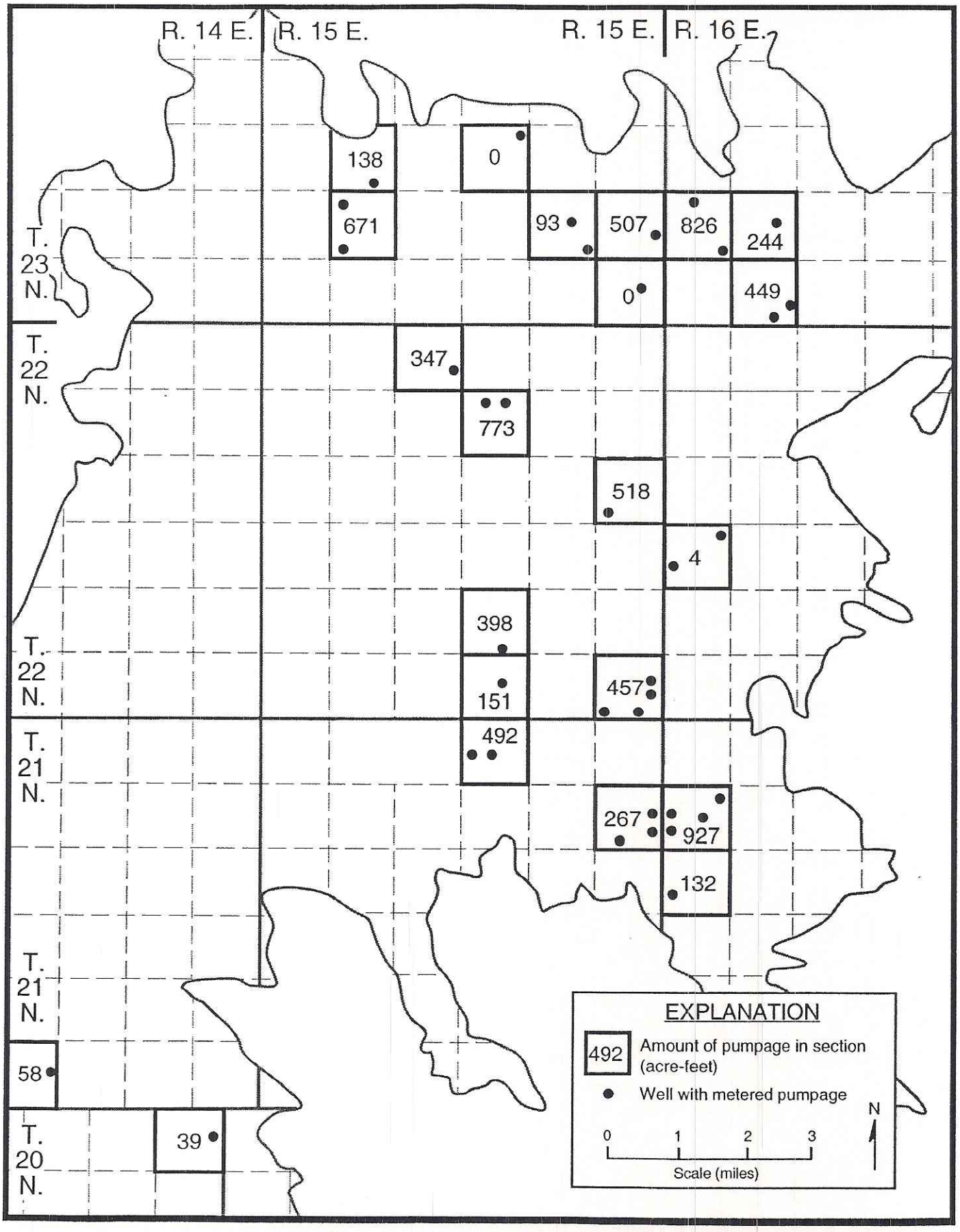


FIGURE 16 - METERED GROUNDWATER PUMPAGE FOR 2001

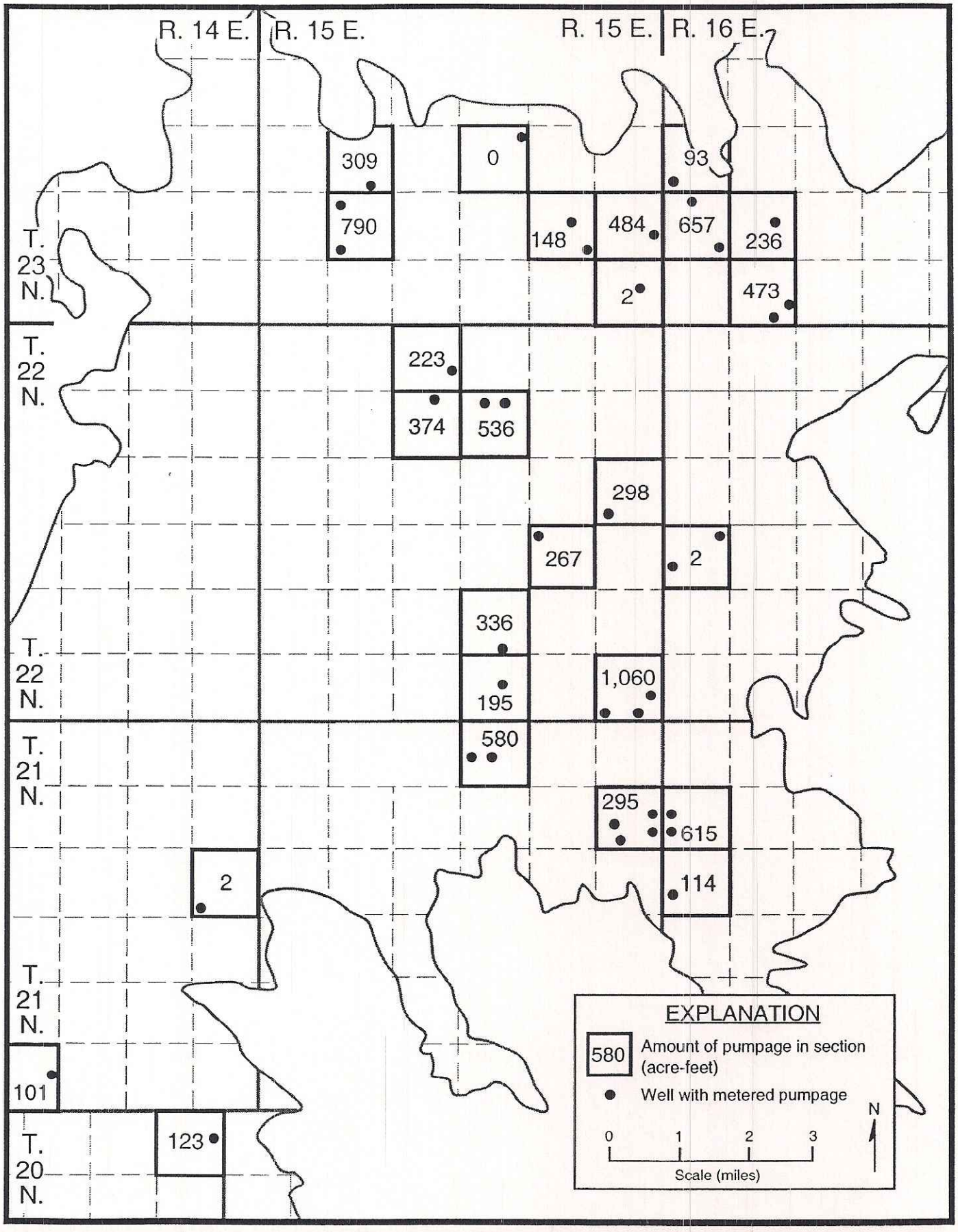


FIGURE 17 - METERED GROUNDWATER PUMPAGE FOR 2002

TABLE 9-DISTRIBUTION OF METERED PUMPAGE BY SUB-AREA FOR 1998-2002 (ACRE-FEET)

Sub-Area	1998	% of Total	1999	% of Total	2000	% of Total	2001	% of Total	2002	% of Total
Near Beckwourth	212	6	385	8	417	7	809	11	1,099	13
Vinton	606	17	1,350	28	2,599	44	2,641	35	2,393	29
Loyalton	2,336	68	2,333	48	1,938	32	2,824	38	3,225	39
Other	311	9	797	16	1,015	16	1,217	16	1,596	19
Total	3,465		4,865		5,969		7,491		8,313	

TABLE 10-SUMMARY OF METERED PUMPAGE FOR 1989-2002

	Beckwourth	Vinton	Loyalton	Other	Total
1989	668	3,574	2,798	616	7,656
1990	489	5,139	3,875	628	10,131
1991	289	3,607	3,486	935	8,317
1992	120	3,326	4,548	1,119	9,113
1993	83	1,226	2,066	719	4,094
1994	388	1,558	3,831	1,552	7,329
1995	533	973	1,964	630	4,100
1996	778	1,692	2,457	892	5,819
1997	932	1,685	2,242	457	5,316
1998	212	606	2,336	311	3,465
1999	385	1,350	2,333	797	4,865
2000	417	2,599	1,938	1,015	5,969
2001	809	2,641	2,824	1,217	7,491
2002	1,099	2,393	3,225	1,596	8,313

The "other" sub-area for 2000-2002 includes areas adjacent to the Loyalton or Vinton sub-areas that were previously delineated.

7,800 acre-feet per year), whereas the period 1995-1999 was one of much lower pumpage (average of about 4,700 acre-feet per year). Metered pumpage during 2001-2002 averaged about 7,900 acre-feet per year, or close to the average during 1988-94. Metered pumpage in the Beckwourth sub-area in 2002 (1,100 acre-feet) was the greatest since records have been kept. The previous high was in 1987 (930 acre-feet). Metered pumpage in the Vinton sub-area averaged about 2,540 acre-feet per year during 2000-2002, but this was still much less than during 1990-1992 (average of about 4,020 acre-feet per year). Metered pumpage in the Loyalton sub-area averaged about 3,020 acre-feet per year, however, this was less than the average for 1990-92 (about 3,970 acre-feet per year). Metered pumpage in the remaining sub-area was 1,600 acre-feet in 2002, or the highest since records began. The previous high was in 1994 (1,550 acre-feet).

SUMMARY AND CONCLUSIONS

In 2002, three new cluster monitor well sites were installed in the District. These provided important data on subsurface geologic conditions, water levels, and groundwater quality. In addition, a water sampling program was undertaken to provide more up to date information on groundwater quality for private wells. As part of this evaluation, a number of new subsurface geologic cross sections were developed. Groundwater level and quality data

were interpreted. In addition, a five-year updated report on metered district pumpage and water levels was prepared.

Records of metered pumpage and water levels in Sierra Valley for the period 1998-2003 were reviewed and trends interpreted. In addition, long-term pumpage records extending back to 1989 and long-term water-level records extending back to the 1960's were reviewed. The primary influences on water-level changes from year to year are 1) pumping amounts, and 2) recharge from winter precipitation. There was a significant reduction in metered pumpage in the valley during 1993-97. Metered pumpage during 1993-1997 averaged about 5,300 acre-feet per year, compared to an average of about 9,200 acre-feet per year during 1990-92. Because of the reductions in pumpage, water levels in many wells in the valley recovered in the late 1990's to near levels prior to the onset of heavy pumping in the late 1970's. Precipitation during 1993-97 was above average except for one year, and the increased recharge also caused the water levels to rise. The lowest metered pumpage since 1989 was in 1998. Metered pumpage increased each year after 1998, and by 2002 was nearly in the range of that for 1991-92. This increased pumpage, along with below average precipitation and less recharge, caused water levels in most wells to fall after 1998.

Metered pumpage records indicate that the "safe yield" (the amount of groundwater that can be pumped without overdraft) is

about 6,000 acre-feet per year in the part of the valley now tapped by large-capacity supply wells. Metered pumpage of 8,000 to 10,000 acre-feet per year during dry years has resulted in water-level declines. However, metered pumpage of about 3,500 to 5,000 acre-feet per year during wet years was associated with water-level rises. A metered pumpage of about 6,000 acre-feet per year resulted in near stable water levels.

Groundwater monitoring in the District provides a valuable data base for future groundwater management activities. Historical records provide a good indiction of water-level declines that can occur due to increases in pumpage. Also, the influence of changes in precipitation on recharge and water levels have been determined.

REFERENCES

California Department of Water Resources, 1983, "Sierra Valley Ground Water Study", Northern District memorandum report, 79 p.

California Department of Water Resources, 1963, "Northeastern Counties Ground Water Investigation", Bulletin 98, 224 p.

California Department of Water Resources, 1983, "Sierra Valley Water Quality", Northern District preliminary report, 10 p.

Kenneth D. Schmidt and Associates, 1994, "1991-94 Sierra Valley Groundwater Update", prepared for Sierra Valley Groundwater Management District, Loyalton, California, 23 p.

Kenneth D. Schmidt and Associates, 1998, "1994-1998 Sierra Valley Groundwater Update", prepared for Sierra Valley Groundwater management District, Loyalton, California, 24 p.

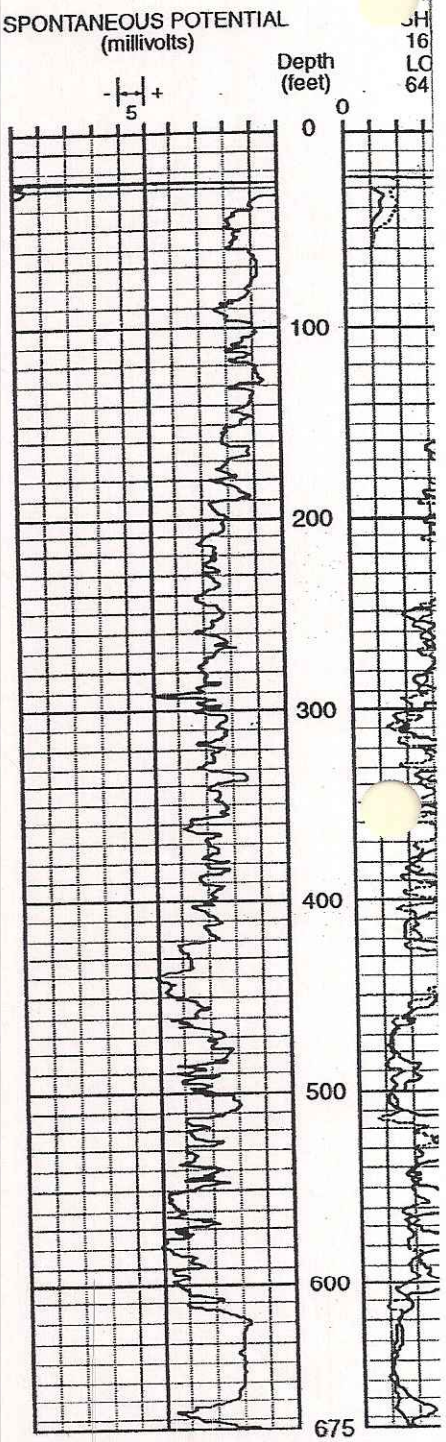
APPENDIX A

ELECTRIC LOGS, AND GEOLOGIC LOGS FOR NESTED MONITOR WELLS

LITHOLOGY
TH-2

Depth (feet)	Description
0	Silty sand, gravel and cobbles - fine to coarse, gray-brown
58	Silty sand and gravel - medium to very coarse, dark gray-brown
74	Silty sand, gravel and cobbles - medium to very coarse, dark gray-brown
80	Clayey sand, gravel and cobbles - medium to very coarse, dark gray-brown
86	Sand - medium to very coarse, dark gray-brown
101	Sandy clay - dark gray-brown
110	Clayey sand and gravel - medium to very coarse, dark gray-brown
156	Clay - dark gray-brown
160	Sand, clay layers - fine, dark gray-brown
170	Sandy clay - dark gray-brown
185	Sand, clay layers - fine, dark gray-brown
190	Silty sand - fine, silty
199	Silty clay - dark gray-brown
210	Silty sand - medium,dark gray-brown
238	Sand - fine to medium, dark gray-brown
249	Sandy clay - dark gray-brown
270	Sand - fine to medium, dark gray-brown
282	Sandy clay - dark gray-brown
302	Clay - dark gray-brown
322	Sand - medium, dark gray-brown
332	Sandy clay - dark gray-brown
357	Sand - fine to medium, dark gray-brown
366	Sandy clay - dark gray-brown
377	Clay - dark gray-brown
388	Sand - fine to medium, dark gray-brown
408	Clay - dark gray-brown
422	Sand - medium to coarse, dark gray-brown
	Clayey sand
450	Sand - medium to coarse, dark gray-brown
	Clay - dark gray-brown
512	Sand - fine to medium, dark gray-brown
522	Silty clay - fine to very coarse, dark gray brown
530	Sand - fine to medium, dark gray-brown
537	Sandy clay - dark gray-brown
550	Sand - coarse, dark gray-brown
564	Clayey sand - coarse to very coarse, dark gray-brown
575	Sand - fine to medium sand
584	Clayey sand - coarse to very coarse, dark gray-brown
607	Clay - dark gray-brown
660	Sandy clay - dark gray-brown
675	Hardrock

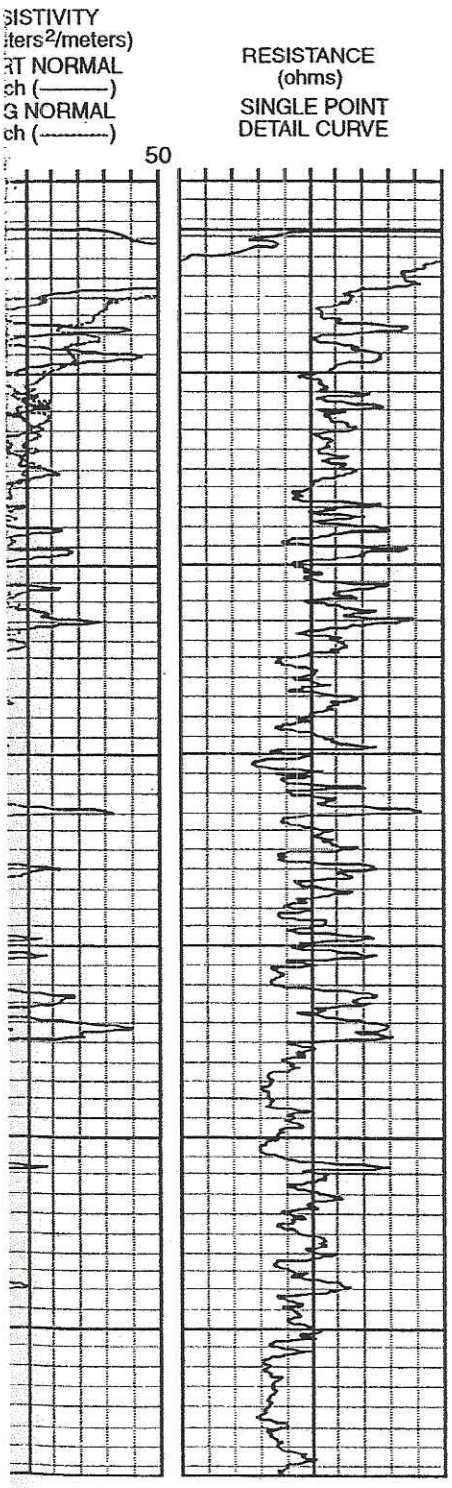
ELEC



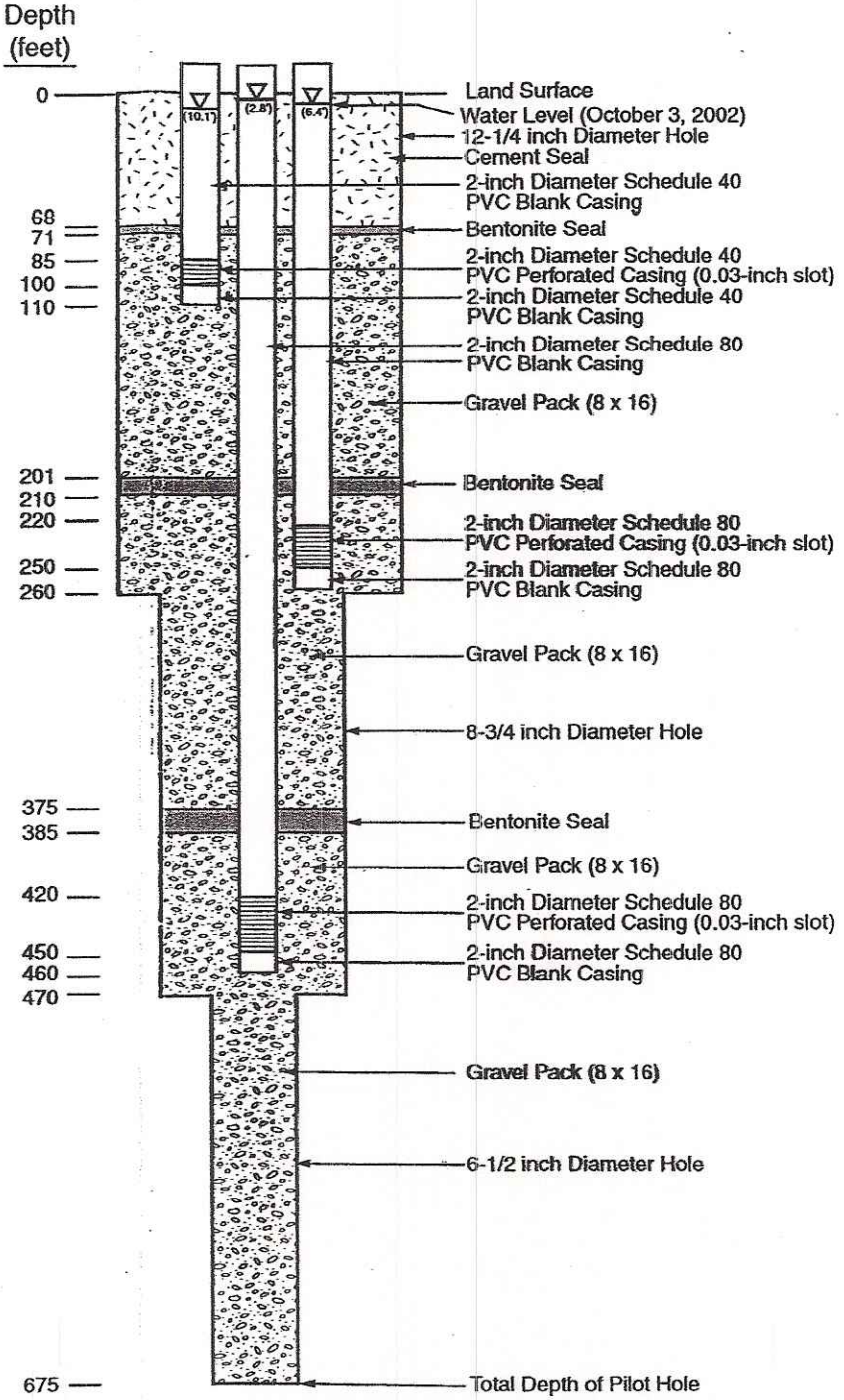
Logged by Welen c.

SIERRA VALLEY GROUNDWATER MANAG

RIC LOG



AS-BUILT WELL



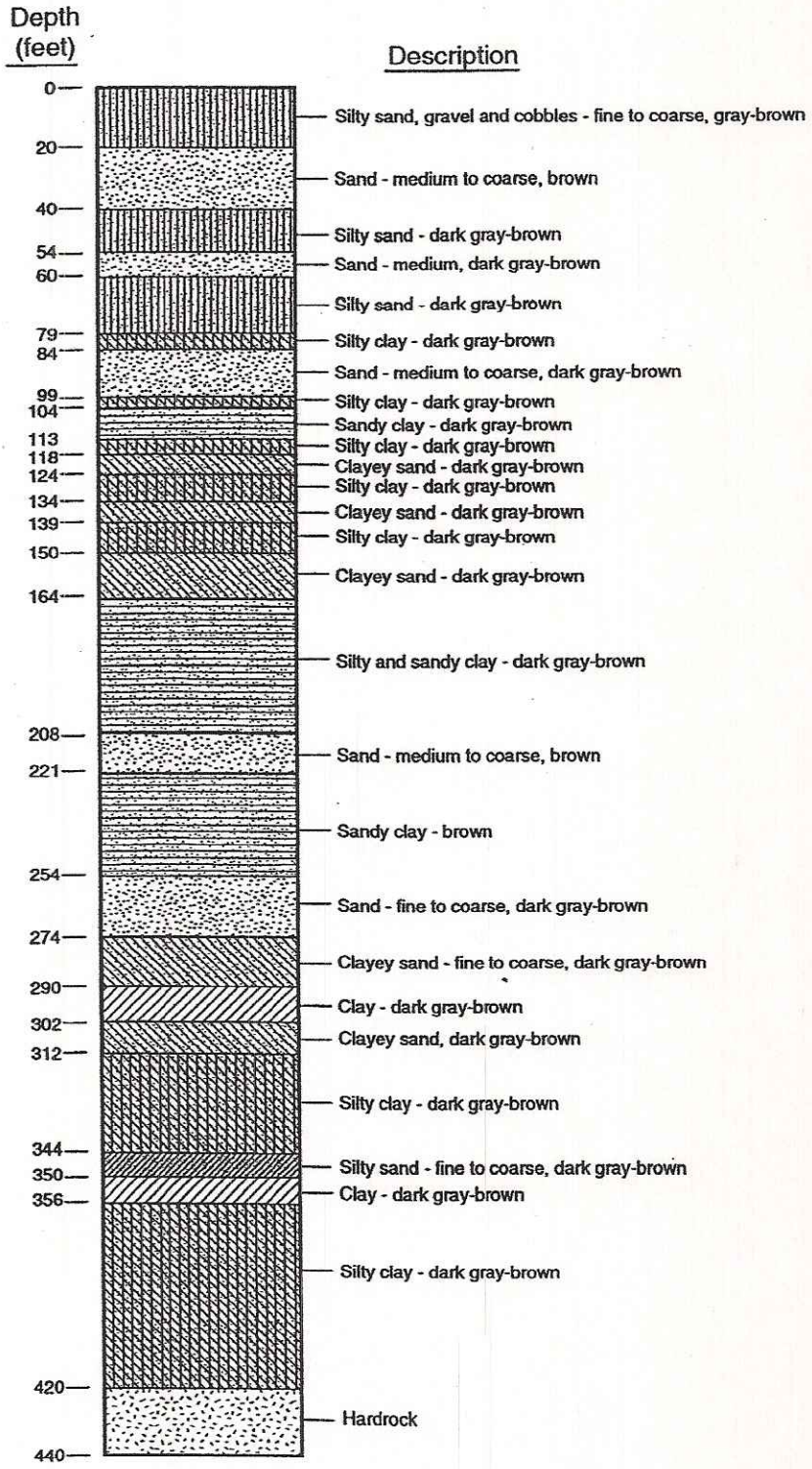
akersfield (June 26, 2002)

Constructed by Bradley & Sons of Madera

Kenneth D. Schmidt and Associates
September 2002

MENT DISTRICT MONITOR WELL NO. 2

LITHOLOGY - TH-3



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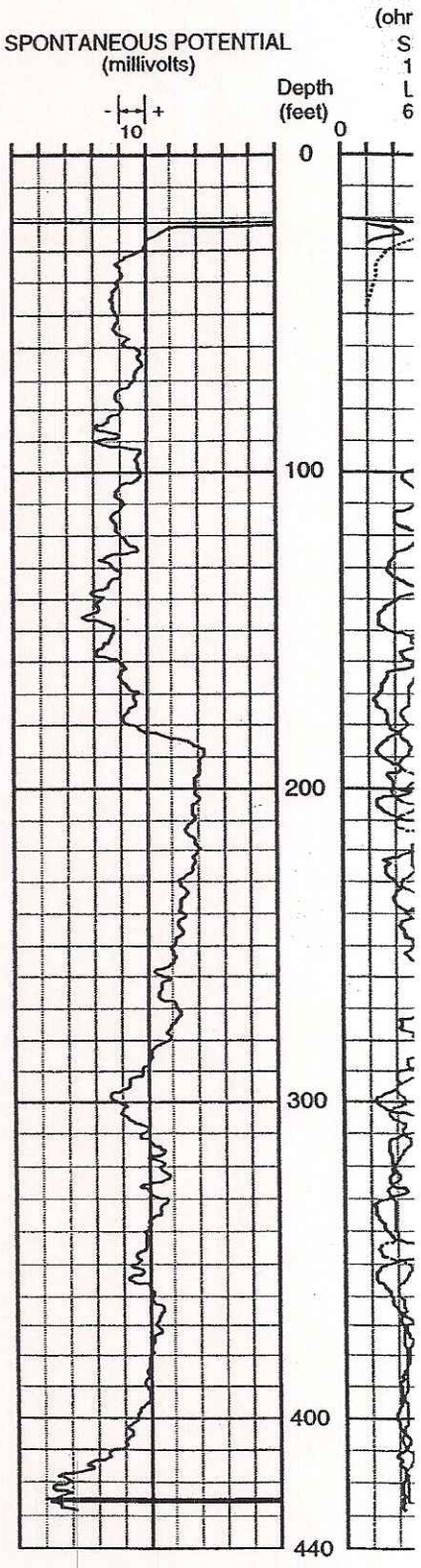


Logged by Welenco, Inc

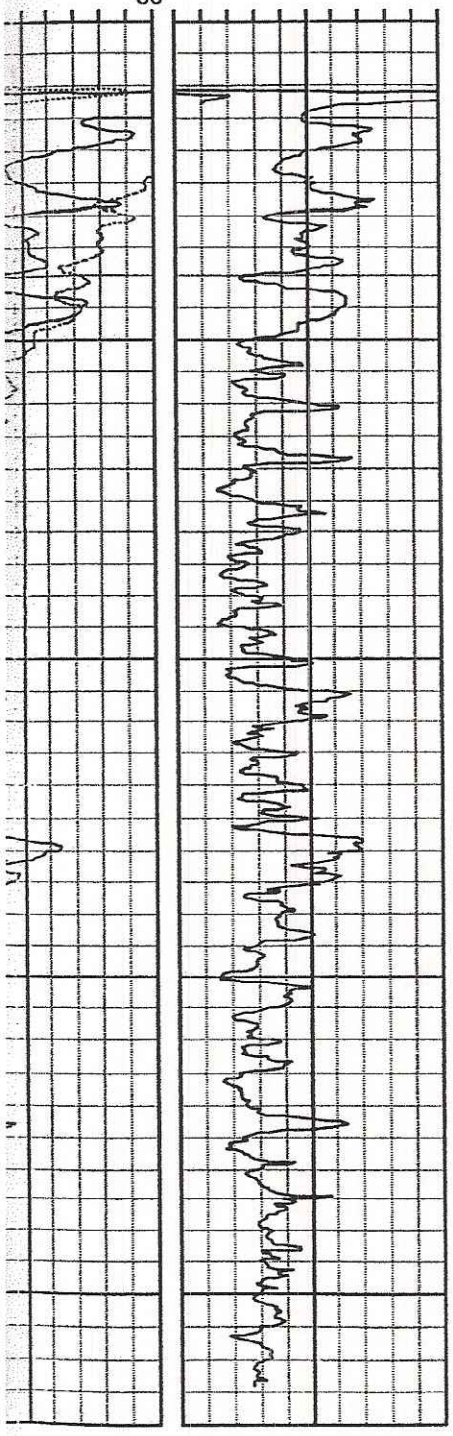
SIERRA VALLEY GROUNDWATER MANA

TRIC LOG

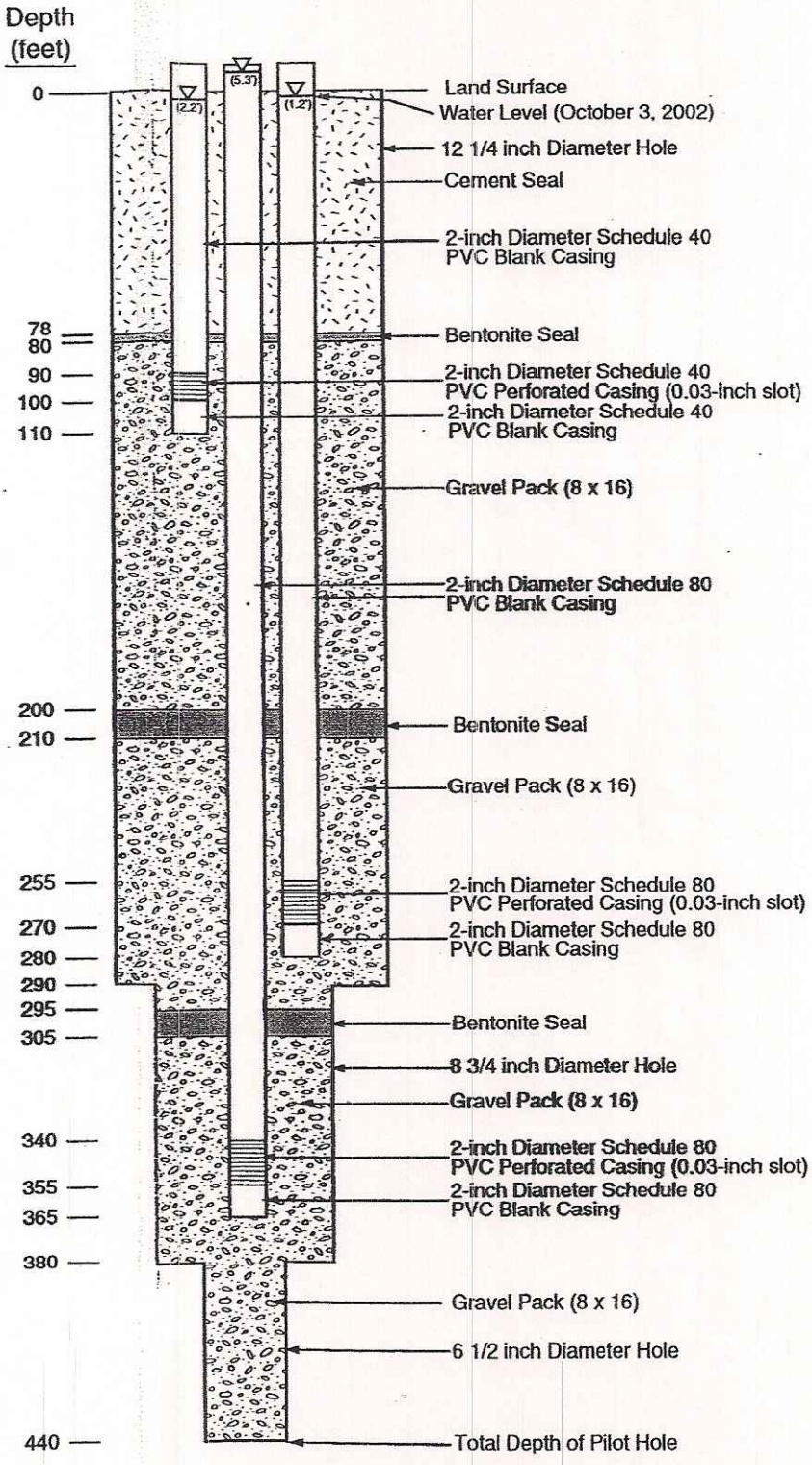
STIVITY
ters 2/meters)
T NORMAL
(———)
NORMAL
(———)

RESISTANCE
(ohms)
SINGLE POINT
DETAIL CURVE

50



AS-BUILT WELL



Bakersfield (July 9, 2002)

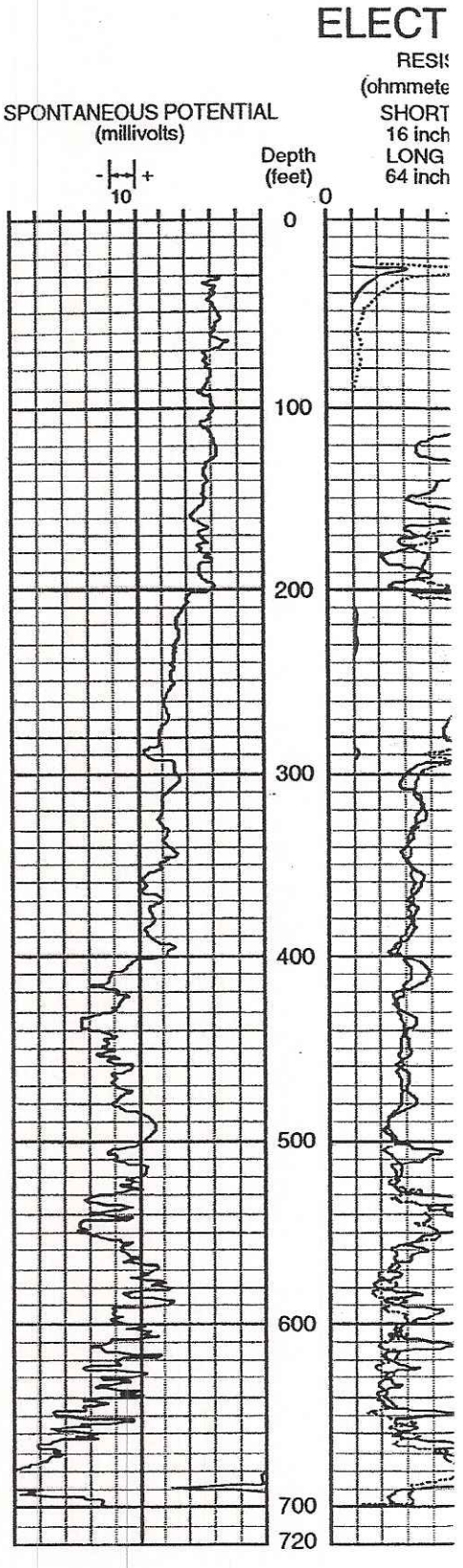
Constructed by Bradley & Sons of Madera

Kenneth D. Schmidt and Associates
September 2002

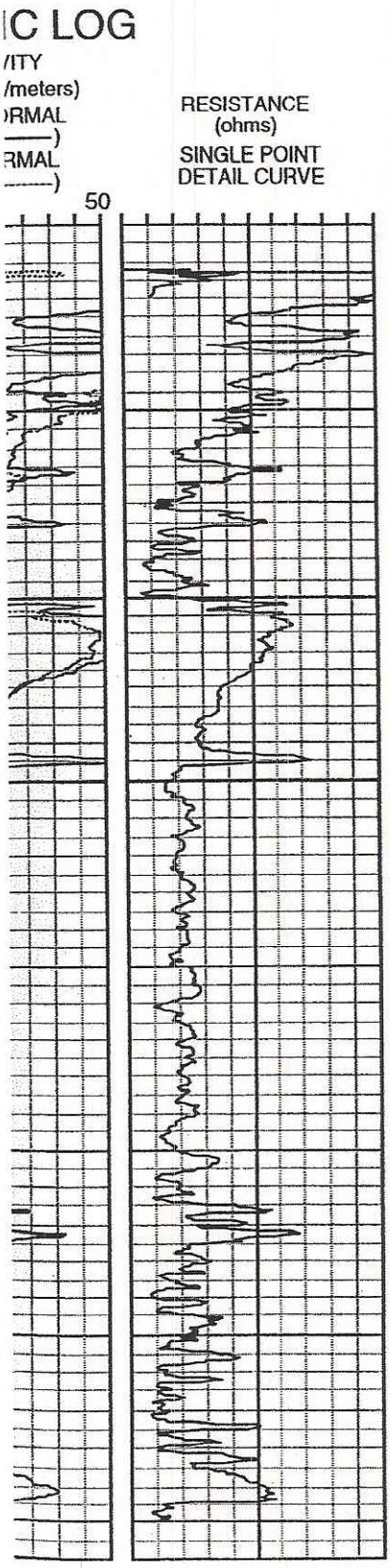
EMENT DISTRICT MONITOR WELL NO. 3

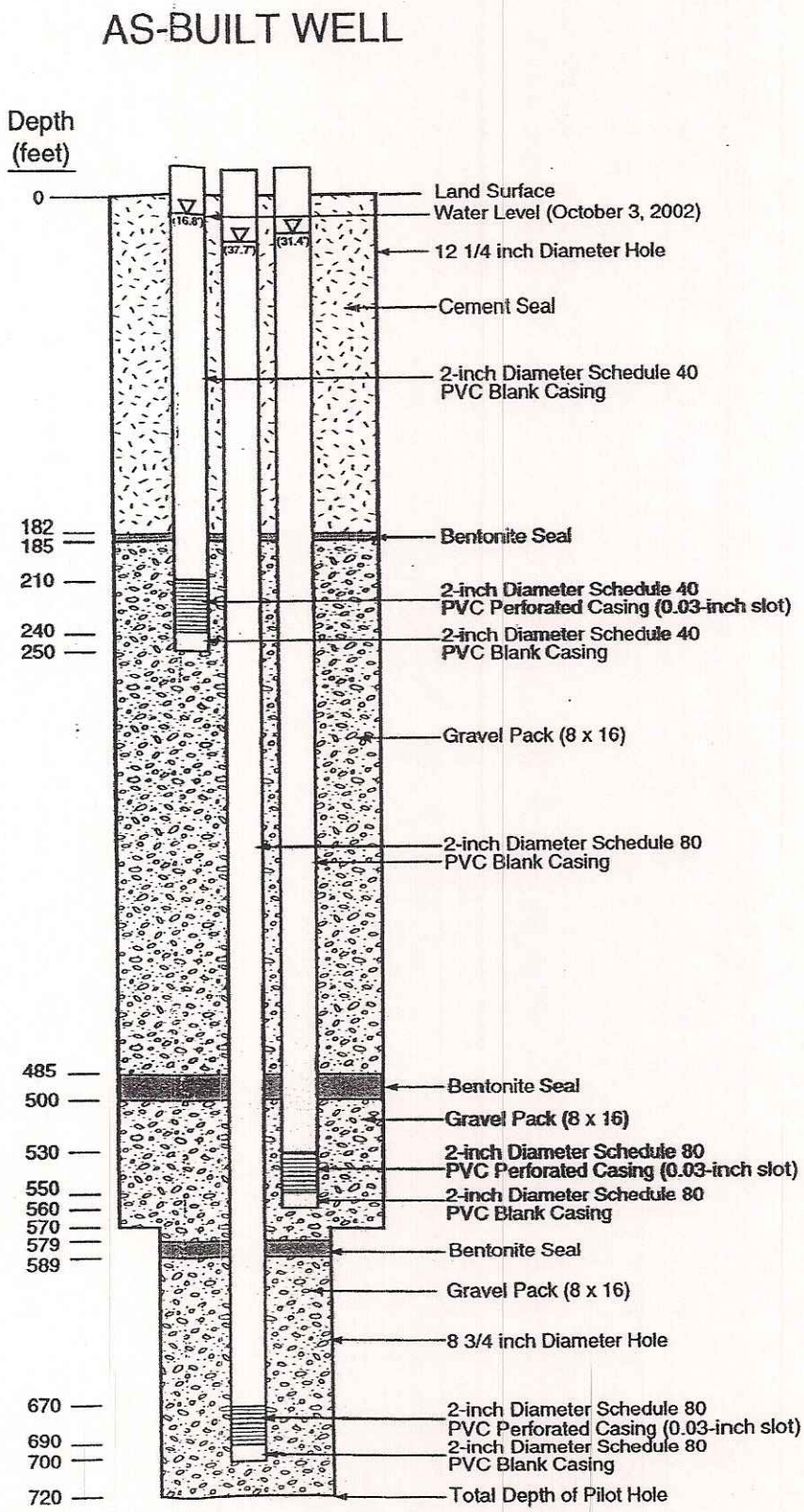
LITHOLOGY
TH-4

Depth (feet)	Description
0	Silty sand - fine to medium, gray-brown and dark gray-brown
56	Sand - fine to medium, dark gray-brown
82	Silty sand - fine to medium, dark gray-brown
90	Sand - fine to medium, dark gray-brown
114	Silty sand - fine to medium, dark gray-brown
128	Sand - medium, dark gray-brown
139	Silty sand - medium, dark gray-brown
154	Silty clay - medium dark gray-brown
157	Sand - dark gray-brown
166	Silty clay with lenses of sand - medium, dark gray-brown
200	Sand - coarse, dark gray-brown
266	Silty sand - dark gray-brown
284	Sand - medium, dark gray-brown
292	Silty and sandy clay - dark gray-brown
502	Silty sand - dark gray-brown
513	Silty clay - dark gray-brown
528	Sand, medium, - dark gray-brown
550	Silty clay with lenses of sand - medium, dark gray-brown
589	Silty sand - dark gray-brown
600	Silty clay with lenses of sand - medium, dark gray-brown
607	Silty sand - dark gray-brown
612	Silty clay with lenses of sand - medium, dark gray-brown
642	Silty sand - dark gray-brown
650	Silty clay - dark gray-brown
662	Sand, coarse, - dark gray-brown
690	Silty clay - dark gray-brown
720	



Logged by Welenco, Inc. of Ba





rsfield (July 16, 2002)

Constructed by Bradley & Sons of Madera

Kenneth D. Schmidt and Associates
September 2002

EMENT DISTRICT MONITOR WELL NO. 4

APPENDIX B

DRILLERS REPORTS FOR NESTED MONITOR WELLS

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 788365

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. #2

Date Work Began 6/25/02, Ended 7/7/02

Local Permit Agency COUNTY OF SIERRA

Permit No. 02074 Permit Date 6/20/02

GEOLOGIC LOG

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

DRILLING METHOD ROTARY FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	20	SURFACE DIRT, COARSE SAND, COBBLES
20	40	MEDIUM TO COARSE COBBLES
40	80	MEDIUM TO COARSE COBBLES
80	120	MEDIUM TO COARSE CLAY STREAK
120	160	MEDIUM TO COARSE, GRAVEL, CLAY
160	180	MEDIUM TO COARSE CLAY STREAKS
180	200	MEDIUM TO COARSE, SOME FINE
200	220	MEDIUM SAND, SOME CLAY, SILTS
220	240	FINE TO COARSE CLAY, SILTS
240	300	FINE TO COARSE, SOME CLAY
300	360	COARSE SAND, LITTLE FINE
360	400	FINE TO COARSE, CLAY STREAKS
400	420	FINE TO COARSE
420	480	MEDIUM TO COARSE, WOOD CHIPS
480	500	FINE TO MEDIUM SILTS, BLUE GREEN CLAY
500	520	FINE TO COARSE, CLAY STREAKS
520	600	MEDIUM TO COARSE CLAY
600	620	MEDIUM TO COARSE SAND, LITTLE CLAY
620	640	MEDIUM TO COARSE, SOME VERY COARSE
640	660	MEDIUM TO FINE (CLAY)
660	670	MEDIUM TO FINE (CONSOLIDATED)

TOTAL DEPTH OF BORING 670 (Feet)

TOTAL DEPTH OF COMPLETED WELL ___ (Feet)

WELL OWNER

Name MGMT. DIVISION SIERRA VALLE

Mailing Address P.O. BOX 312

SIERRAVILLE (CITY) CA (STATE) 96126 (ZIP)

WELL LOCATION

Address SIERRAVILLE

City CA

County SIERRA

APN Book 013 Page 090 Parcel 0110

Township 20 Range 14 Section 03

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

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 (✓)

✓ 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	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	85	12 1/4	✓				PVC	2	SCH 40	
85	100	12 1/4		✓			PVC	2	SCH 40	0.030
100	110	12 1/4	✓				PVC	2	SCH 40	
110	220	12 1/4	✓				PVC	2	SCH 40	
220	250	12 1/4		✓			PVC	2	SCH 40	0.030
250	260	12 1/4	✓				PVC	2	SCH 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	68	✓			
68	70		✓		
70	200			✓	GRAVEL
200	210		✓		
210	275			✓	GRAVEL
275	285		✓		

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ 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 BRADLEY & SONS
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 17702 BALDWIN CITY MADERA STATE CA ZIP 93638

Signed Rebecca L. Dunn
WELL DRILLER/AUTHORIZED REPRESENTATIVE

DATE SIGNED 07/24/02

C-57 LICENSE NUMBER 414178

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 788365

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. #2

Date Work Began 6/25/02, Ended 7/7/02

Local Permit Agency COUNTY OF SIERRA

Permit No. 02074 Permit Date 6/20/02

GEOLOGIC LOG

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

DRILLING METHOD ROTARY FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	20	SURFACE DIRT, COARSE SAND, COBBLES
20	40	MEDIUM TO COARSE COBBLES
40	80	MEDIUM TO COARSE COBBLES
80	120	MEDIUM TO COARSE CLAY STREAK
120	160	MEDIUM TO COARSE, GRAVEL, CLAY
160	180	MEDIUM TO COARSE CLAY STREAKS
180	200	MEDIUM TO COARSE, SOME FINE
200	220	MEDIUM SAND, SOME CLAY, SILTS
220	240	FINE TO COARSE CLAY, SILTS
240	300	FINE TO COARSE, SOME CLAY
300	360	COARSE SAND, LITTLE FINE
360	400	FINE TO COARSE, CLAY STREAKS
400	420	FINE TO COARSE
420	480	MEDIUM TO COARSE, WOOD CHIPS
480	500	FINE TO MEDIUM SILTS, BLUE GREEN CLAY
500	520	FINE TO COARSE, CLAY STREAKS
520	600	MEDIUM TO COARSE CLAY
600	620	MEDIUM TO COARSE SAND, LITTLE CLAY
620	640	MEDIUM TO COARSE, SOME VERY COARSE
640	660	MEDIUM TO FINE (CLAY)
660	670	MEDIUM TO FINE (CONSOLIDATED)

TOTAL DEPTH OF BORING 670 (Feet)

TOTAL DEPTH OF COMPLETED WELL _____ (Feet)

WELL OWNER

Name MGMT. DIVISION SIERRA VALLE

Mailing Address P.O. BOX 312

SIERRAVILLE (CITY) CA (STATE) 96126 (ZIP)

WELL LOCATION

Address SIERRAVILLE

City CA

County SIERRA

APN Book 013 Page 090 Parcel 0110

Township 20 Range 14 Section 03

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

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 (✓)

✓ 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	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
260	420	8 3/4	✓				PVC	2	SCH 40	
420	450	8 3/4		✓			PVC	2	SCH 40	0.030
450	460	8 3/4	✓				PVC	2	SCH 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
285	670			✓	GRAVEL

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ 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 BRADLEY & SONS
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

17702 BALDWIN (ADDRESS) MADERA (CITY) CA (STATE) 93638 (ZIP)

Signed Rebecca L. Dunn (WELL DRILLER/AUTHORIZED REPRESENTATIVE) 07/24/02 (DATE SIGNED) 414178 (C-57 LICENSE NUMBER)

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 788366

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. #3

Date Work Began 7/7/02, Ended 7/21/02

Local Permit Agency COUNTY OF SIERRA

Permit No. 02074 Permit Date 6/13/02

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL — HORIZONTAL — ANGLE — (SPECIFY)

DRILLING METHOD ROTARY FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	20	SURFACE DIRT, CLAY FINE SAND
20	40	BLUE CLAY, SOME MEDIUM SAND
40	60	CLAY STREAKS, MEDIUM SAND
60	80	CLAY STREAKS, MEDIUM TO COARSE
80	120	CLAY, MEDIUM TO COARSE
120	140	HEAVY CLAY, FINE SAND
140	160	CLAY MOSTLY, SOME FINE SAND
160	200	CLAY STREAKS, MEDIUM SAND
200	240	MEDIUM TO COARSE SAND W/SOME CLAY
240	260	FINE TO COARSE SAND W/SOME CLAY
260	280	FINE TO COARSE W/CLAY STREAKS
280	300	MOSTLY CLAY, SOME FINE SAND
300	320	SILTY SANDS, CLAY STREAKS, WOOD CHIPS
320	340	CLAY
340	420	SILTY SANDS & CLAY, HARD STREAKS
420	440	CONSOLIDATED

TOTAL DEPTH OF BORING 440 (Feet)

TOTAL DEPTH OF COMPLETED WELL _____ (Feet)

WELL OWNER

Name MGMT. DIVISION SIERRA VALLE

Mailing Address P.O. BOX 312

SIERRAVILLE (CITY) CA (STATE) 96126 (ZIP)

WELL LOCATION

Address SIERRAVILLE

City CA

County SIERRA

APN Book 012 Page 150 Parcel 0010

Township 21 Range 14 Section 27

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

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 (✓)

✓ 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)
0	90	12 1/4	✓				PVC	2	SCH 40	
90	100	12 1/4		✓			PVC	2	SCH 40	0.030
100	110	12 1/4	✓				PVC	2	SCH 40	
0	255	12 1/4	✓				PVC	2	SCH 40	
255	270	12 1/4		✓			PVC	2	SCH 40	0.030
270	280	12 1/4	✓				PVC	2	SCH 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	80	✓			
80	200			✓	GRAVEL
200	210		✓		
210	295			✓	GRAVEL
295	305		✓		
305	440			✓	GRAVEL

ATTACHMENTS (✓)

— Geologic Log
— Well Construction Diagram
— Geophysical Log(s)
— Soil/Water Chemical Analysis
— 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.

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Signed Rebecca L Dunn
WELL DRILLER/AUTHORIZED REPRESENTATIVE

DATE SIGNED 07/24/02

C-57 LICENSE NUMBER 414178

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 788366

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. #3

Date Work Began 7/7/02, Ended 7/21/02

Local Permit Agency COUNTY OF SIERRA

Permit No. 02074 Permit Date 6/13/02

GEOLOGIC LOG

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

DRILLING METHOD ROTARY FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	20	SURFACE DIRT, CLAY FINE SAND
20	40	BLUE CLAY, SOME MEDIUM SAND
40	60	CLAY STREAKS, MEDIUM SAND
60	80	CLAY STREAKS, MEDIUM TO COARSE
80	120	CLAY, MEDIUM TO COARSE
120	140	HEAVY CLAY, FINE SAND
140	160	CLAY MOSTLY, SOME FINE SAND
160	200	CLAY STREAKS, MEDIUM SAND
200	240	MEDIUM TO COARSE SAND W/SOME CLAY
240	260	FINE TO COARSE SAND W/SOME CLAY
260	280	FINE TO COARSE W/CLAY STREAKS
280	300	MOSTLY CLAY, SOME FINE SAND
300	320	SILTY SANDS, CLAY STREAKS, WOOD CHIPS
320	340	CLAY
340	420	SILTY SANDS & CLAY, HARD STREAKS
420	440	CONSOLIDATED

TOTAL DEPTH OF BORING 440 (Feet)

TOTAL DEPTH OF COMPLETED WELL ___ (Feet)

WELL OWNER

Name MGMT. DIVISION SIERRA VALLE

Mailing Address P.O. BOX 312

SIERRAVILLE (CITY) CA (STATE) 96126 (ZIP)

WELL LOCATION

Address SIERRAVILLE

City CA

County SIERRA

APN Book 012 Page 150 Parcel 0010

Township 21 Range 14 Section 27

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

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 (✓)

✓ 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	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	340	8 3/4	✓				PVC	2	SCH 40	
340	355	8 3/4		✓			PVC	2	SCH 40	0.030
355	365	8 3/4	✓				PVC	2	SCH 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	80	✓			
80	200			✓	GRAVEL
200	210		✓		
210	295			✓	GRAVEL
295	305		✓		
305	440			✓	GRAVEL

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ 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 BRADLEY & SONS
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

17702 BALDWIN (ADDRESS) MADERA (CITY) CA (STATE) 93638 (ZIP)

Signed Rebecca L Dunn
WELL DRILLER/AUTHORIZED REPRESENTATIVE

07/24/02 (DATE SIGNED) 414178 (C-57 LICENSE NUMBER)

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 788361

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. #4

Date Work Began _____, Ended _____

Local Permit Agency SIERRA COUNTY HEALTH DEPT

Permit No. 02082 Permit Date 6/13/02

GEOLOGIC LOG

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

DRILLING METHOD ROTARY FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	20	SURFACE DIRT, CLAY
20	40	CLAY W/FINE SAND, WOOD CHIPS
40	60	CLAY W/FINE TO MEDIUM
60	80	CLAY W/SILTY SAND FINE
80	100	CLAY STREAKS, FINE TO MEDIUM
100	120	CLAY STREAKS, MEDIUM SAND
120	140	CLAY W/SILTY SAND, MEDIUM SAND
140	220	CLAY STREAKS W/MEDIUM SAND
220	260	CLAY STREAKS, FINE TO MEDIUM
260	300	CLAY W/SOME MEDIUM SAND
300	320	MOSTLY CLAY W/SOME FINE
320	400	CLAY & SILTY SAND
400	420	MOSTLY CLAY, MEDIUM SAND
420	500	CLAY STREAKS, SILT
500	560	CLAY, SOME FINE SILTY SAND
560	580	CLAY, SILTS, MEDIUM SAND
580	620	CLAY STREAKS MEDIUM SAND
620	640	MOSTLY CLAY, SOME FINE
640	700	CLAY STREAKS SOME FINE, MEDIUM
700	720	SOME CLAY MEDIUM SAND

TOTAL DEPTH OF BORING 720 (Feet)

TOTAL DEPTH OF COMPLETED WELL _____ (Feet)

WELL OWNER

Name MGMT. DIVISION SIERRA VALLE

Mailing Address P.O. BOX 312

SIERRAVILLE (CITY) CA (STATE) 96126 (ZIP)

WELL LOCATION

Address SIERRAVILLE

City CA

County SIERRA

APN Book 021 Page 090 Parcel 1040

Township 21 Range 14 Section 16

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

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 (✓)

✓ 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	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	210	12 1/4	✓				PVC	2	SCH 40	
210	240	12 1/4		✓			PVC	2	SCH 40	0.030
240	250	12 1/4	✓				PVC	2	SCH 40	
0	530	8 3/4	✓				PVC	2	SCH 40	
530	550	8 3/4		✓			PVC	2	SCH 40	0.030
550	560	8 3/4	✓				PVC	2	SCH 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	185	✓			
185	485			✓	GRAVEL
485	500		✓		
500	580			✓	GRAVEL
580 79	590 89		✓		
590	720			✓	GRAVEL

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ 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 BRADLEY & SONS
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

17702 BALDWIN (ADDRESS) MADERA (CITY) CA (STATE) 93638 (ZIP)

Signed Rebecca L. Dunn
WELL DRILLER/AUTHORIZED REPRESENTATIVE

07/23/02 DATE SIGNED

414178 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 788361

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./ STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Owner's Well No. #4

Date Work Began _____, Ended _____

Local Permit Agency SIERRA COUNTY HEALTH DEPT.

Permit No. 02082 Permit Date 6/13/02

GEOLOGIC LOG

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

DRILLING METHOD ROTARY FLUID WATER

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	20	SURFACE DIRT, CLAY
20	40	CLAY W/FINE SAND, WOOD CHIPS
40	60	CLAY W/FINE TO MEDIUM
60	80	CLAY W/SILTY SAND FINE
80	100	CLAY STREAKS, FINE TO MEDIUM
100	120	CLAY STREAKS, MEDIUM SAND
120	140	CLAY W/SILTY SAND, MEDIUM SAND
140	220	CLAY STREAKS W/MEDIUM SAND
220	260	CLAY STREAKS, FINE TO MEDIUM
260	300	CLAY W/SOME MEDIUM SAND
300	320	MOSTLY CLAY W/SOME FINE
320	400	CLAY & SILTY SAND
400	420	MOSTLY CLAY, MEDIUM SAND
420	500	CLAY STREAKS, SILT
500	560	CLAY, SOME FINE SILTY SAND
560	580	CLAY, SILTS, MEDIUM SAND
580	620	CLAY STREAKS MEDIUM SAND
620	640	MOSTLY CLAY, SOME FINE
640	700	CLAY STREAKS SOME FINE, MEDIUM
700	720	SOME CLAY MEDIUM SAND

TOTAL DEPTH OF BORING 720 (Feet)

TOTAL DEPTH OF COMPLETED WELL _____ (Feet)

WELL OWNER

Name MGMT. DIVISION SIERRA VALLE

Mailing Address P.O. BOX 312

SIERRAVILLE (CITY) CA (STATE) 96126 (ZIP)

WELL LOCATION

Address SIERRAVILLE

City CA

County SIERRA

APN Book 021 Page 090 Parcel 1040

Township 21 Range 14 Section 16

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

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 (✓)

✓ 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	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	670	8 3/4	✓				PVC	2	SCH 40	
670	690	8 3/4		✓			PVC	2	SCH 40	0.030
690	700	8 3/4	✓				PVC	2	SCH 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	185	✓			
185	485			✓	GRAVEL
485	500		✓		
500	580			✓	GRAVEL
580	590		✓		
590	720			✓	GRAVEL

ATTACHMENTS (✓)

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

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

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17702 BALDWIN MADERA CA 93638
ADDRESS CITY STATE ZIP

Signed [signature] 07/23/02 414178
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

APPENDIX C

WATER-LEVEL HYDROGRAPHS FOR NESTED MONITOR WELLS

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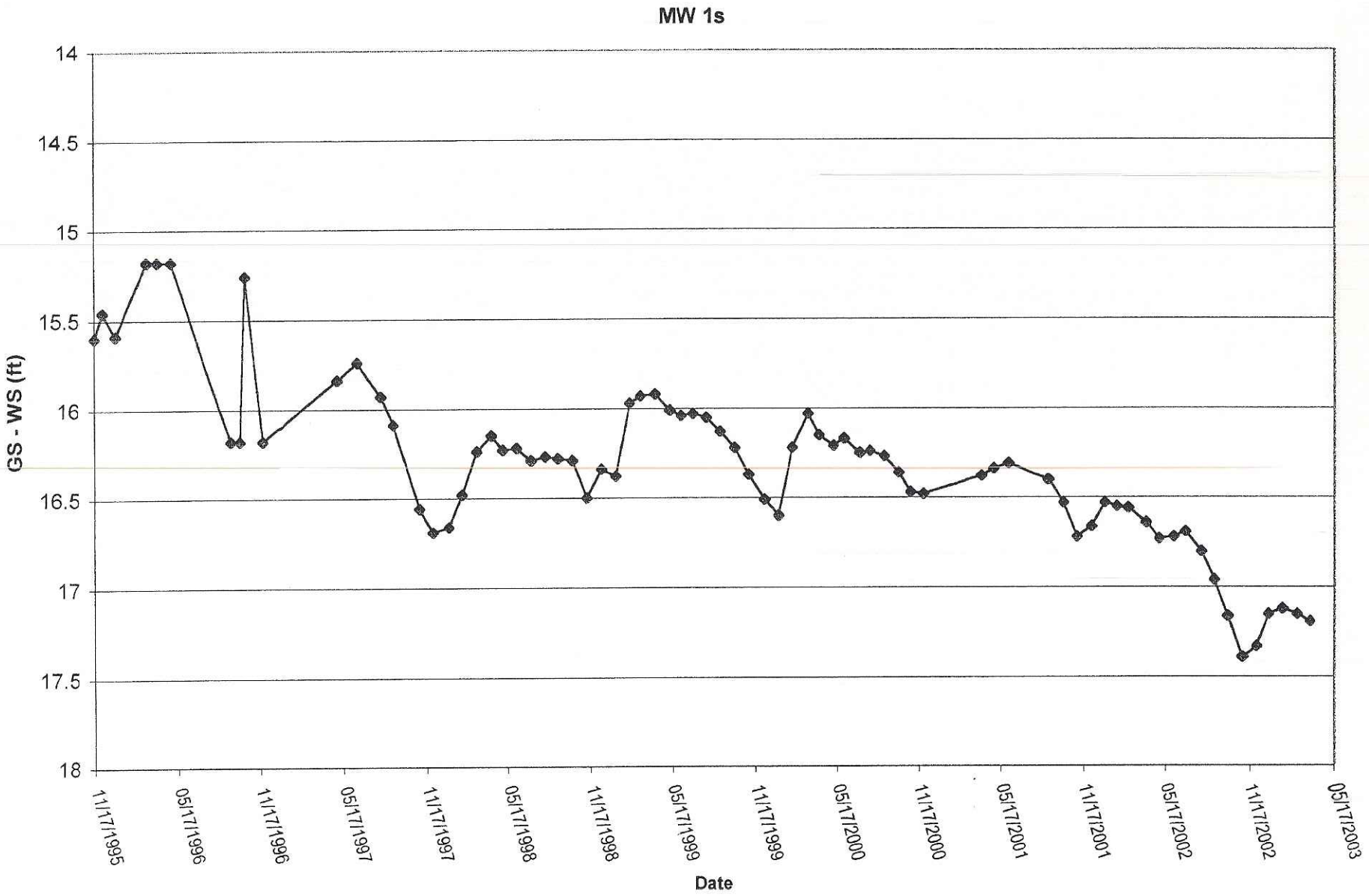

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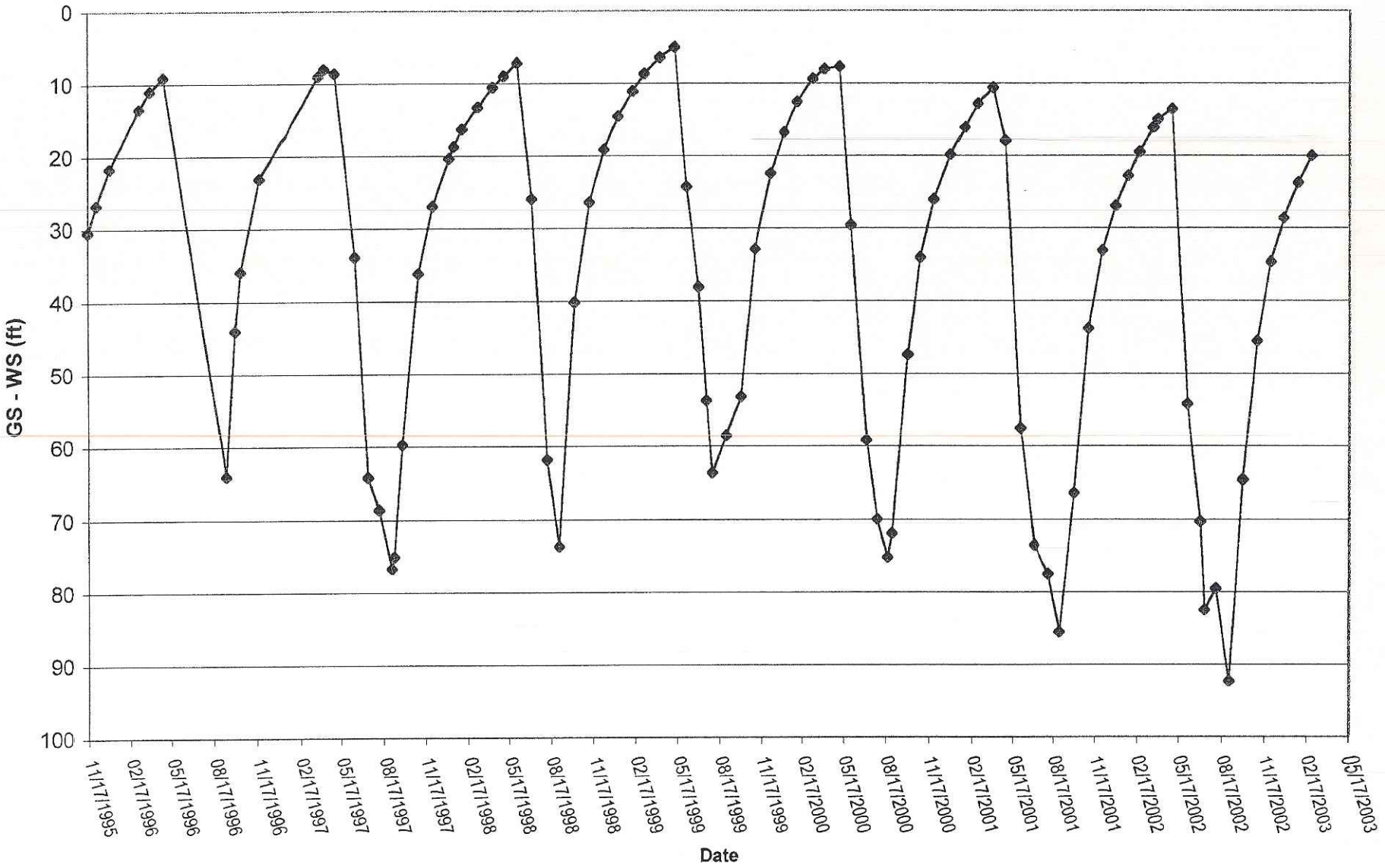
MW 1d



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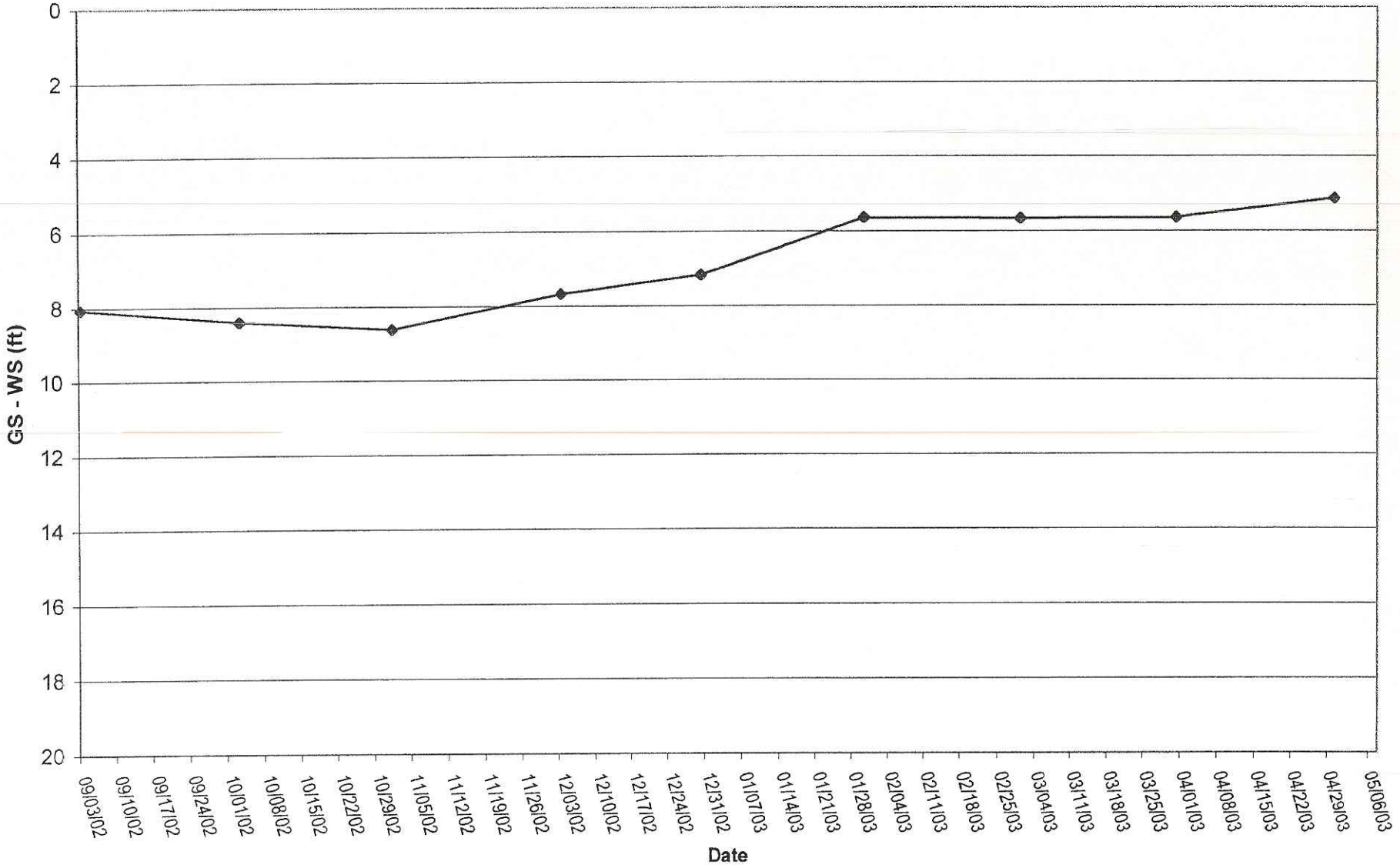

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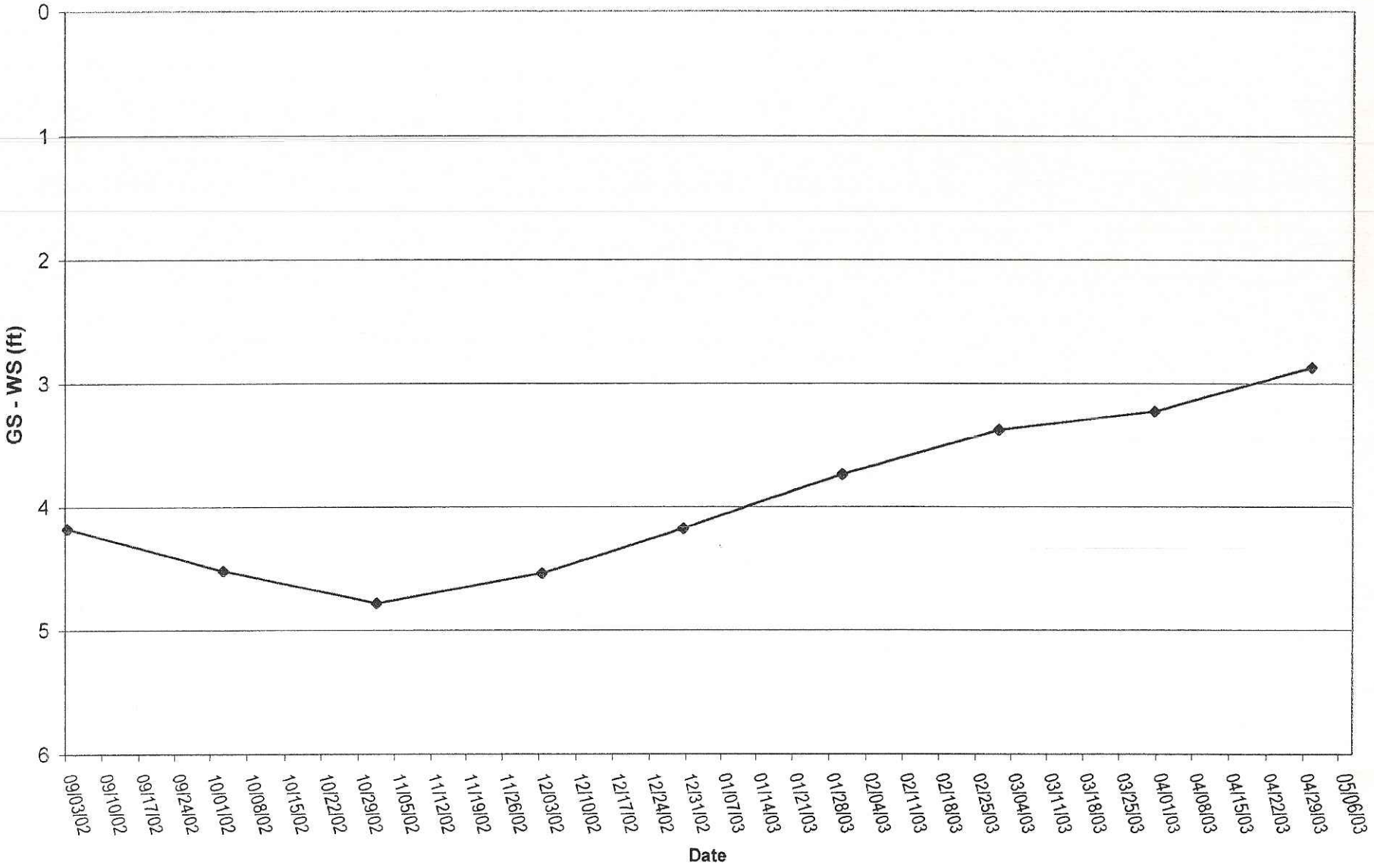

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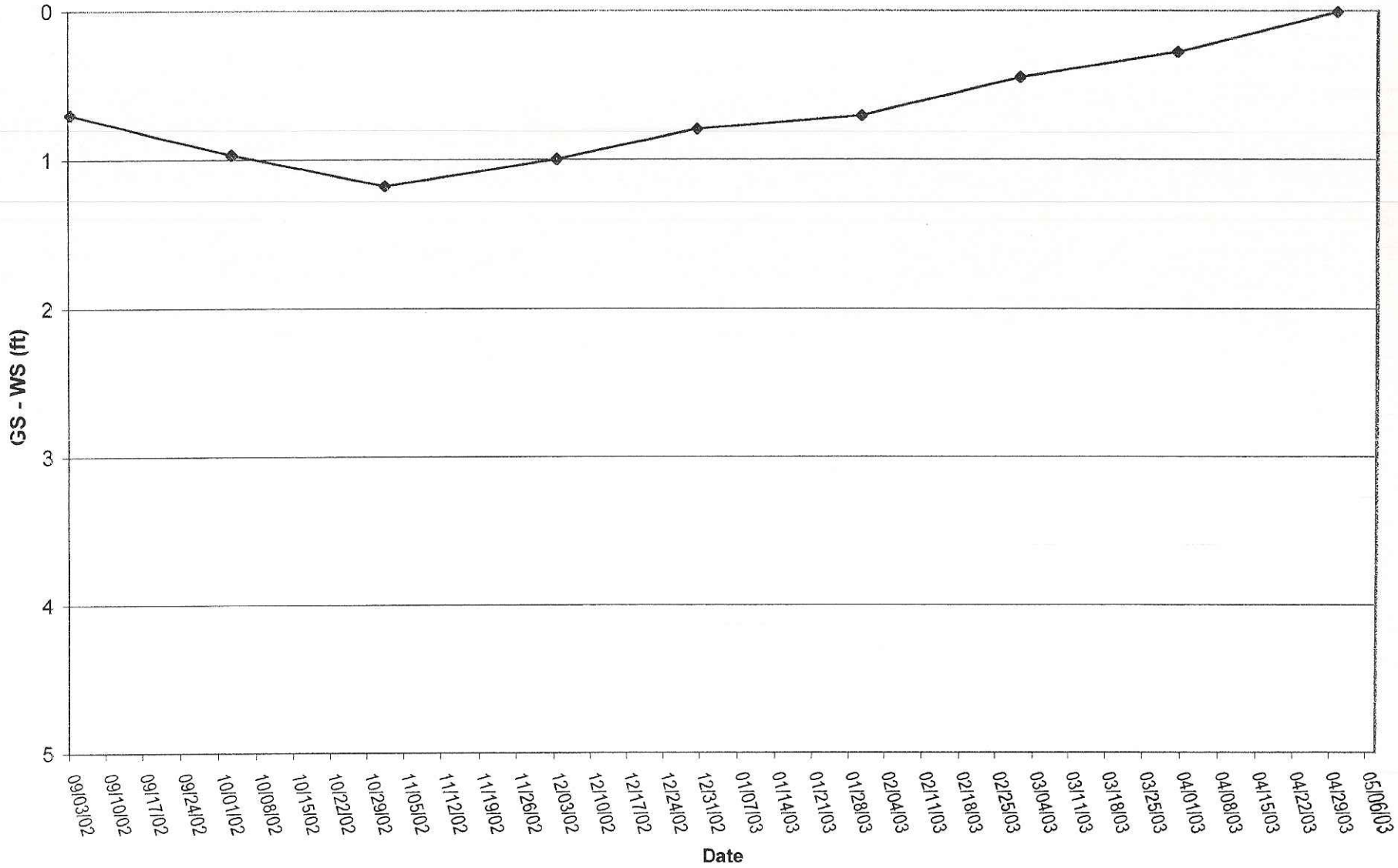

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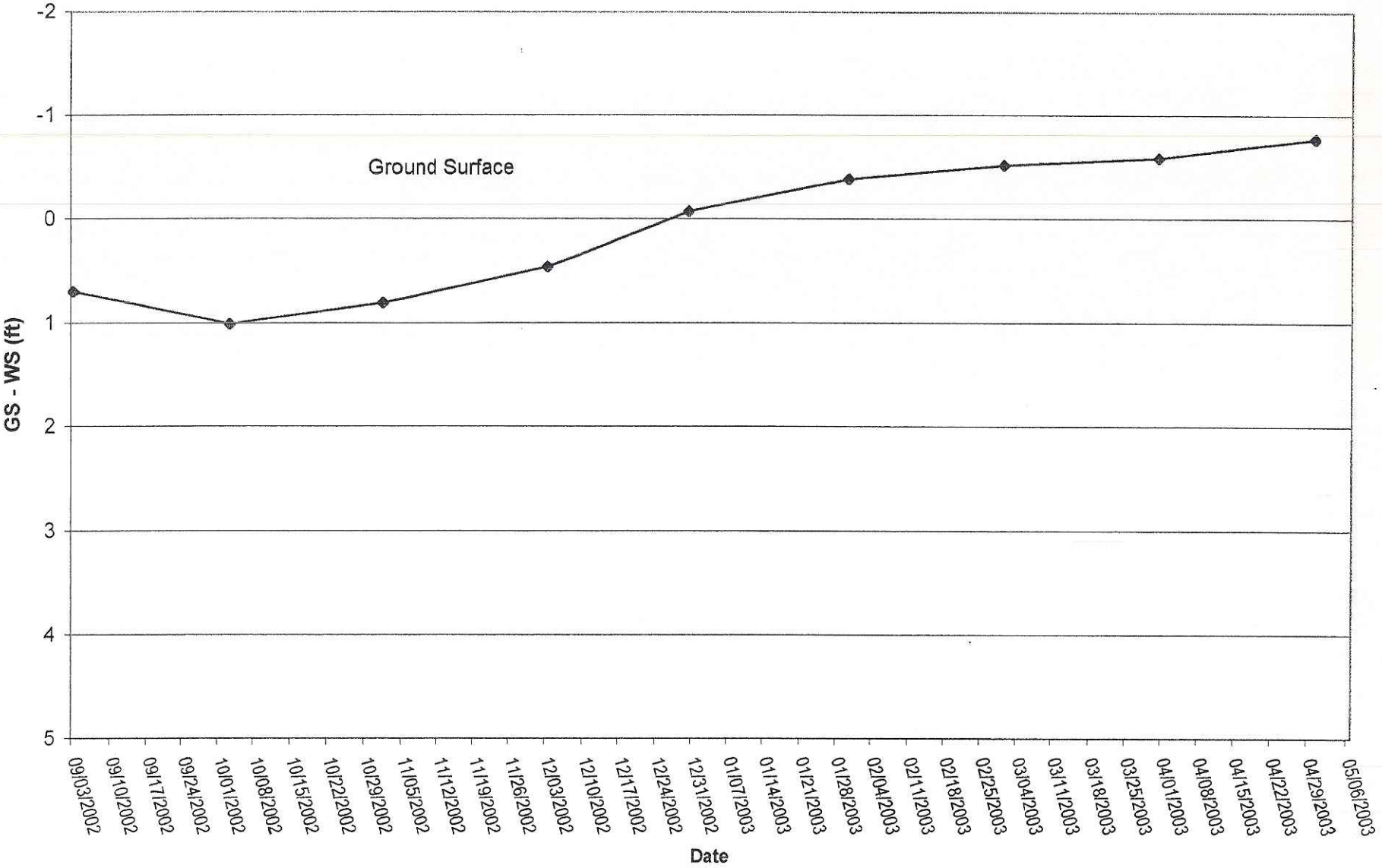

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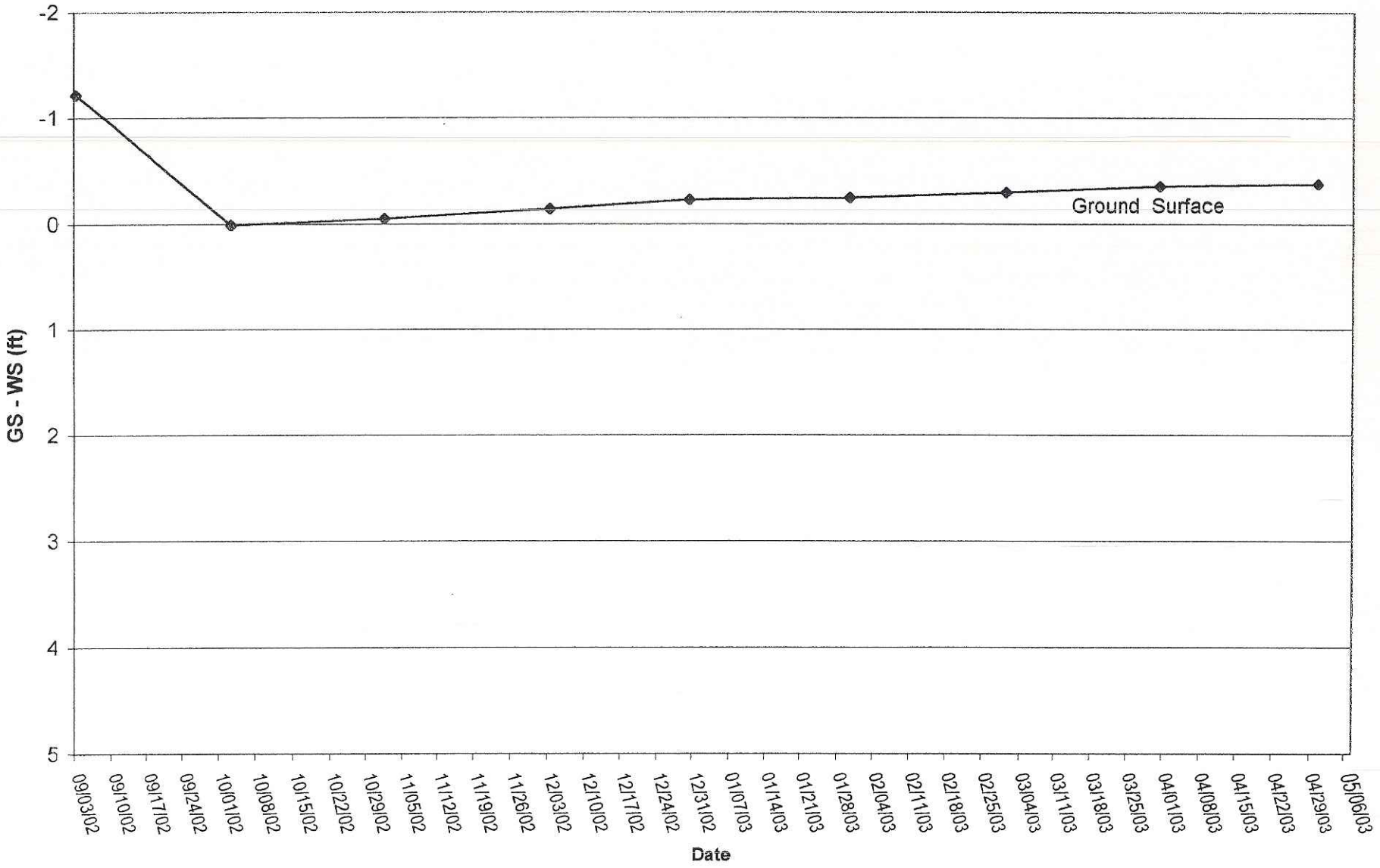

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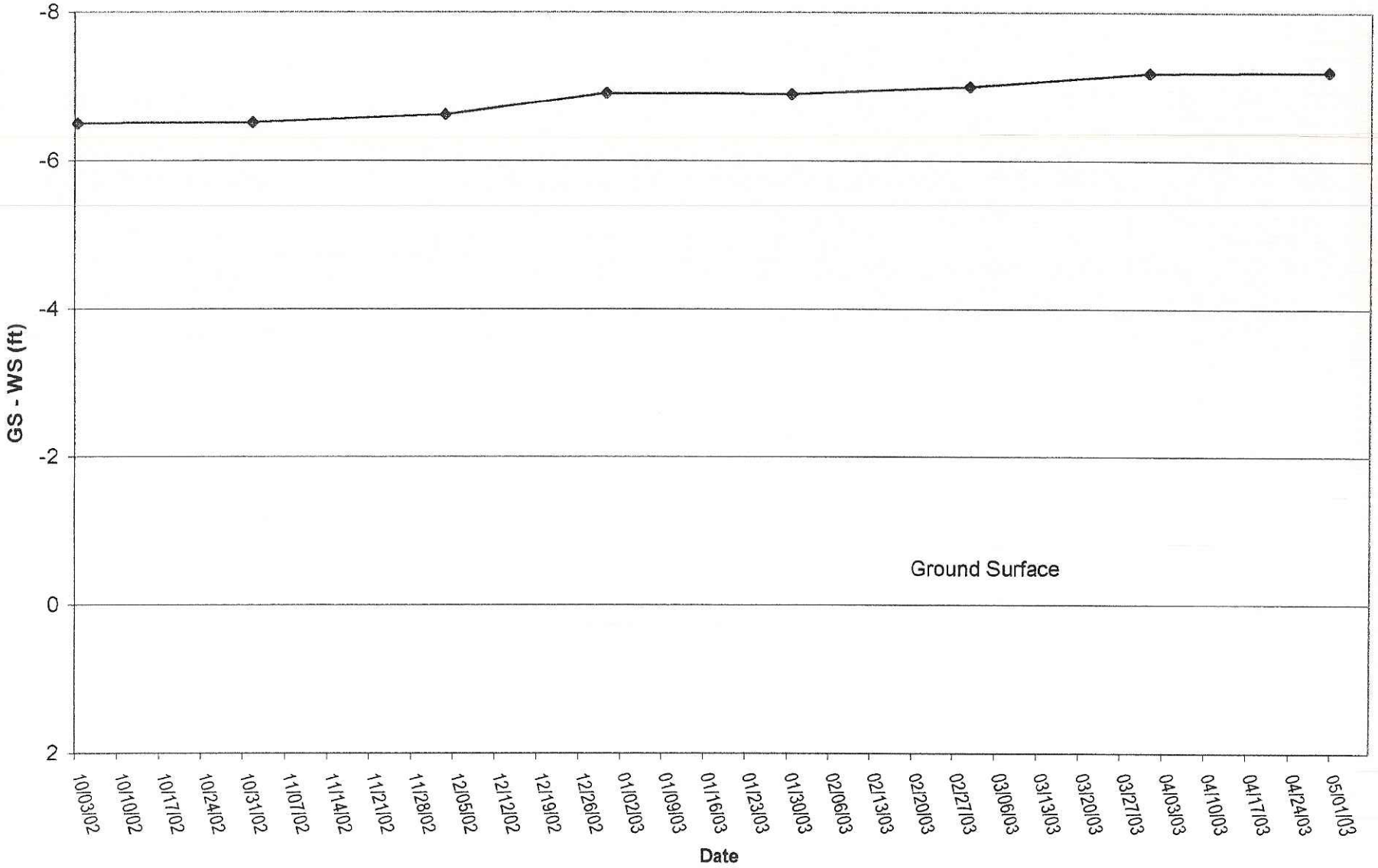

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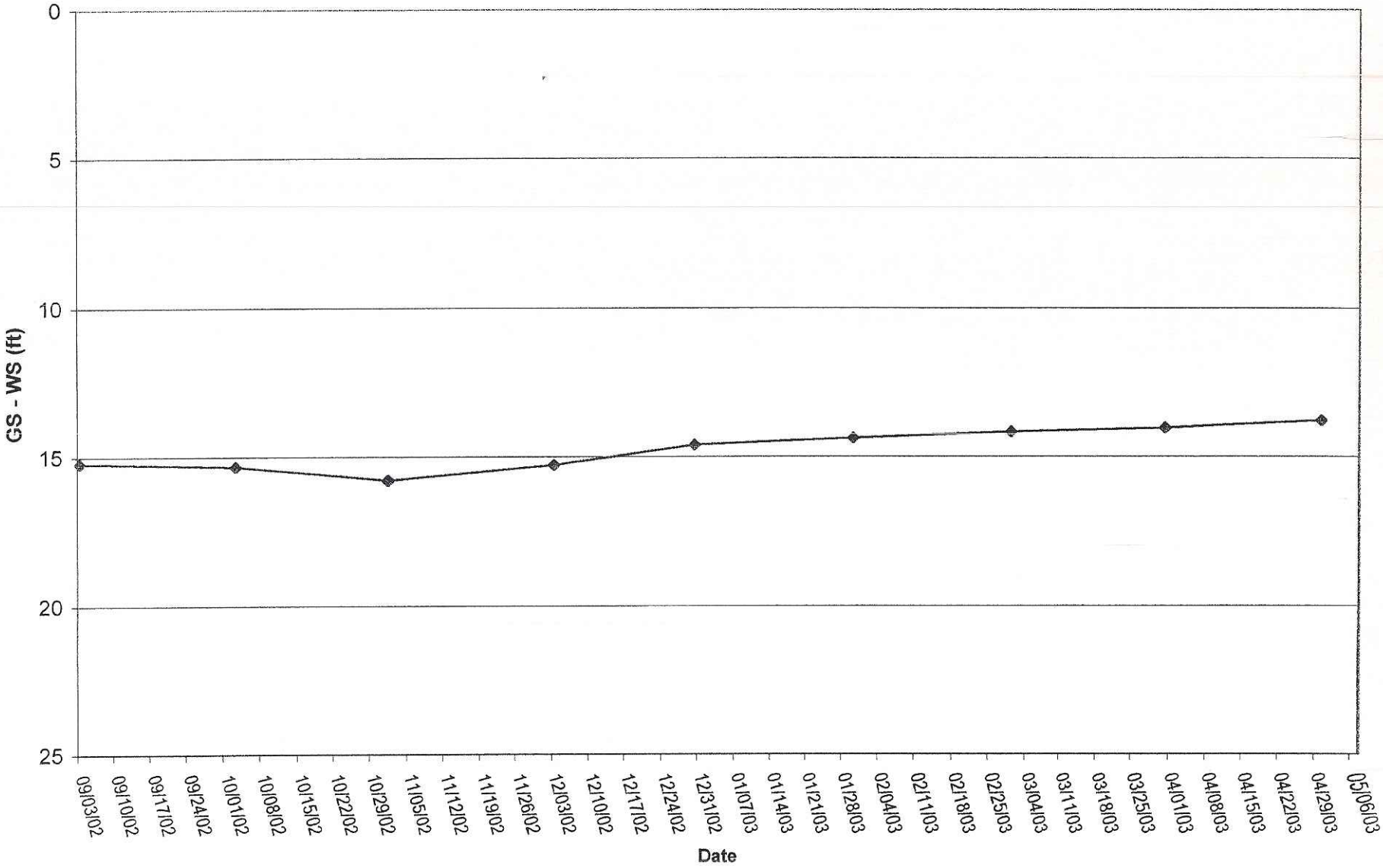

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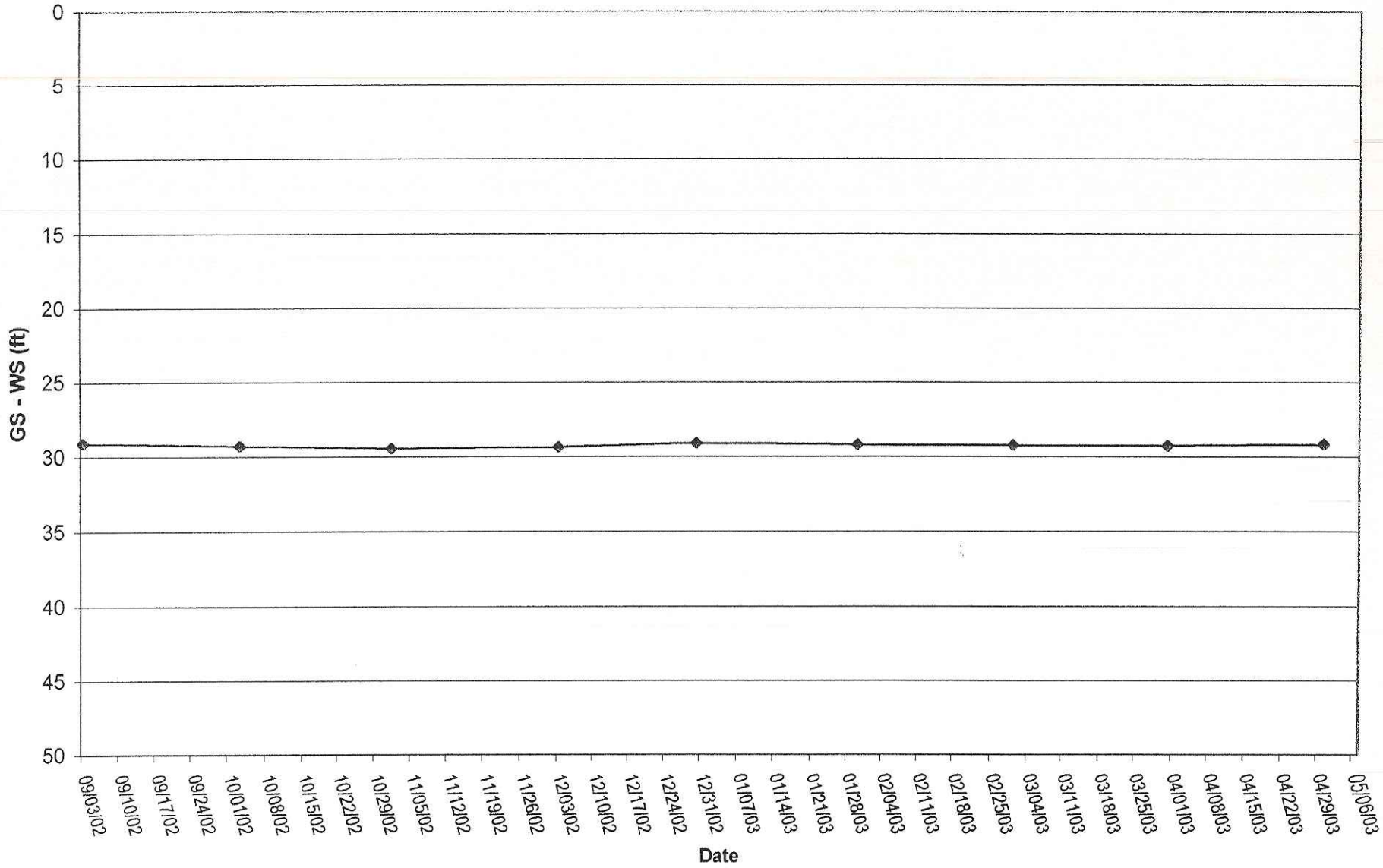

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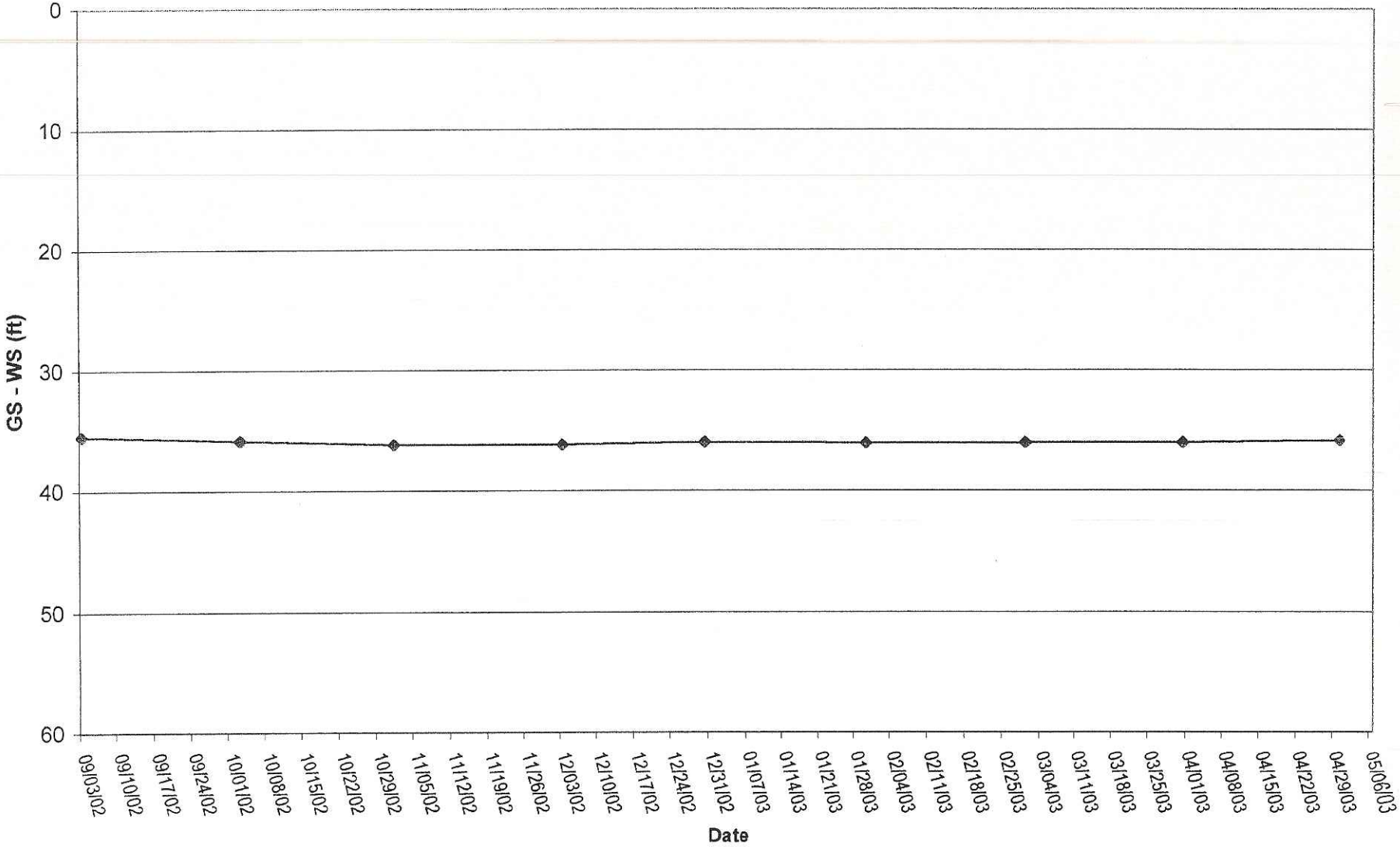

APPENDIX D

CHEMICAL ANALYSES FOR WATER FROM NESTED MONITOR WELLS

ENVIRONMENTAL

ANALYTICAL CHEMISTS

August 27, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208282-03
Customer ID: 2-20359

Sampled On : August 14, 2002-11:20
Sampled By : Pat Flynn
Received On: August 15, 2002-12:00
Matrix : Monitoring Well

Description : MW-2 Shallow
Project : Sierra Valley GW Mgmt Dist (Grant)

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	60.4	2.5	mg/L		Calculation		Calculation	
Calcium	11	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Magnesium	8	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Potassium	5	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Sodium	10	1	mg/L		200.7	08/16/02:A203	200.7	08/16/2002:N01
Total Cations	1.8	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Copper	ND	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Iron	70	50	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Manganese	210	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Zinc	ND	20	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	90	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Carbonate	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Bicarbonate	110	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Sulfate	ND	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Chloride	ND	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Nitrate	ND	0.4	mg/L		300.0	08/15/02:A215 17:00	300.0	08/15/2002:A02 22:13
Fluoride	ND	0.1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Total Anions	1.8	--	meq/L		Calculation		Calculation	
pH	7.4	--	units		4500-H B	08/15/02:A246	4500-H B	08/15/2002:A01 15:23
E. C.	170	1	umhos/cm		2510B	08/16/02:A212	2510B	08/16/2002:A01
TDS by Summation	144	--	mg/L		Calculation		Calculation	

ND=Non-Detect. PQL=Practical Quantitation Limit. ♦ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
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) 659-0910
FAX: (805) 525-4172

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209) 942-0181
FAX: (209) 942-0423

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

ENVIRONMENTAL

ANALYTICAL CHEMISTS

August 27, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208282-02
Customer ID: 2-20359

Sampled On : August 14, 2002-09:50
Sampled By : Pat Flynn
Received On: August 15, 2002-12:00
Matrix : Monitoring Well

Description : MW-2 Intermediate
Project : Sierra Valley GW Mgmt Dist (Grant)

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	31.4	2.5	mg/L		Calculation		Calculation	
Calcium	6	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Magnesium	4	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Potassium	9	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Sodium	23	1	mg/L		200.7	08/16/02:A203	200.7	08/16/2002:N01
Total Cations	1.9	--	meq/L		Calculation		Calculation	
Boron	0.06	0.05	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Copper	ND	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Iron	80	50	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Manganese	160	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Zinc	ND	20	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Gypsum Requirement	0.3	--	mg/L		Calculation		Calculation	
SAR	1.8	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	80	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Carbonate	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Bicarbonate	100	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Sulfate	7	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Chloride	4	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Nitrate	ND	0.4	mg/L		300.0	08/15/02:A215 17:00	300.0	08/15/2002:A02 21:59
Fluoride	ND	0.1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Total Anions	1.9	--	meq/L		Calculation		Calculation	
pH	7.5	--	units		4500-H B	08/15/02:A246	4500-H B	08/15/2002:A01 15:22
E. C.	193	1	umhos/cm		2510B	08/16/02:A212	2510B	08/16/2002:A01
TDS by Summation	153	--	mg/L		Calculation		Calculation	

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

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FAX: (209) 942-0423

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

ENVIRONMENTAL

ANALYTICAL CHEMISTS

August 27, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208282-01
Customer ID: 2-20359

Sampled On : August 14, 2002-08:38
Sampled By : Pat Flynn
Received On: August 15, 2002-12:00
Matrix : Monitoring Well

Description : MW-2 Deep
Project : Sierra Valley GW Mgmt Dist (Grant)

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	22.3	2.5	mg/L		Calculation		Calculation	
Calcium	4	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Magnesium	3	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Potassium	9	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Sodium	31	1	mg/L		200.7	08/16/02:A203	200.7	08/16/2002:N01
Total Cations	2.0	--	meq/L		Calculation		Calculation	
Boron	0.10	0.05	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Copper	ND	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Iron	260	50	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Manganese	110	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Zinc	ND	20	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C02
Gypsum Requirement	0.3	--	mg/L		Calculation		Calculation	
SAR	2.9	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	80	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Carbonate	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Bicarbonate	90	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Sulfate	14	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Chloride	5	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Nitrate	ND	0.4	mg/L		300.0	08/15/02:A215 17:00	300.0	08/15/2002:A02 21:46
Fluoride	0.1	0.1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A02
Total Anions	1.9	--	meq/L		Calculation		Calculation	
pH	7.8	--	units		4500-H B	08/15/02:A246	4500-H B	08/15/2002:A01 15:21
E. C.	216	1	umhos/cm		2510B	08/16/02:A212	2510B	08/16/2002:A01
TDS by Summation	156	--	mg/L		Calculation		Calculation	

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

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

August 27, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208282-06
Customer ID: 2-20359

Sampled On : August 14, 2002-14:50
Sampled By : Pat Flynn
Received On: August 15, 2002-12:00
Matrix : Monitoring Well

Description : MW-3 Shallow
Project : Sierra Valley GW Mgmt Dist (Grant)

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	18.2	2.5	mg/L		Calculation		Calculation	
Calcium	4	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Magnesium	2	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Potassium	6	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Sodium	38	1	mg/L		200.7	08/16/02:A203	200.7	08/16/2002:N02
Total Cations	2.2	--	meq/L		Calculation		Calculation	
Boron	0.35	0.05	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Copper	ND	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Iron	370	50	ug/L		200.7	08/16/02:A203	200.7	08/22/2002:B01
Manganese	80	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Zinc	ND	20	ug/L		200.7	08/16/02:A203	200.7	08/22/2002:B01
Gypsum Requirement	0.4	--	mg/L		Calculation		Calculation	
SAR	3.9	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	110	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Carbonate	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Bicarbonate	130	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Sulfate	ND	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Chloride	2	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Nitrate	ND	0.4	mg/L		300.0	08/15/02:A215 17:00	300.0	08/15/2002:A03 23:21
Fluoride	0.4	0.1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Total Anions	2.2	--	meq/L		Calculation		Calculation	
pH	7.8	--	units		4500-H B	08/15/02:A246	4500-H B	08/15/2002:A01 15:26
E. C.	214	1	umhos/cm		2510B	08/16/02:A212	2510B	08/16/2002:A01
TDS by Summation	182	--	mg/L		Calculation		Calculation	

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

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

August 27, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208282-05
Customer ID: 2-20359

Sampled On : August 14, 2002-13:38
Sampled By : Pat Flynn
Received On: August 15, 2002-12:00
Matrix : Monitoring Well

Description : MW-3 Intermediate
Project : Sierra Valley GW Mgmt Dist (Grant)

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	11.6	2.5	mg/L		Calculation		Calculation	
Calcium	3	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Magnesium	1	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Potassium	8	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Sodium	41	1	mg/L		200.7	08/16/02:A203	200.7	08/16/2002:N01
Total Cations	2.2	--	meq/L		Calculation		Calculation	
Boron	0.36	0.05	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Copper	ND	10	ug/L		200.7	08/16/02:A203	200.7	08/22/2002:B01
Iron	ND	50	ug/L		200.7	08/16/02:A203	200.7	08/22/2002:B01
Manganese	10	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Zinc	ND	20	ug/L		200.7	08/16/02:A203	200.7	08/22/2002:B01
Gypsum Requirement	0.5	--	mg/L		Calculation		Calculation	
SAR	5.2	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Carbonate	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Bicarbonate	130	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Sulfate	1	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Chloride	6	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Nitrate	ND	0.4	mg/L		300.0	08/15/02:A215 17:00	300.0	08/15/2002:A03 23:07
Fluoride	0.3	0.1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Total Anions	2.3	--	meq/L		Calculation		Calculation	
pH	7.9	--	units		4500-H B	08/15/02:A246	4500-H B	08/15/2002:A01 15:25
E. C.	231	1	umhos/cm		2510B	08/16/02:A212	2510B	08/16/2002:A01
TDS by Summation	190	--	mg/L		Calculation		Calculation	

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

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

August 27, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208282-04
Customer ID: 2-20359

Sampled On : August 14, 2002-13:30
Sampled By : Pat Flynn
Received On: August 15, 2002-12:00
Matrix : Monitoring Well

Description : MW-3 Deep
Project : Sierra Valley GW Mgmt Dist (Grant)

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	11.6	2.5	mg/L		Calculation		Calculation	
Calcium	3	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Magnesium	1	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Potassium	8	1	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Sodium	51	1	mg/L		200.7	08/16/02:A203	200.7	08/16/2002:N01
Total Cations	2.7	--	meq/L		Calculation		Calculation	
Boron	0.35	0.05	mg/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Copper	ND	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Iron	120	50	ug/L		200.7	08/16/02:A203	200.7	08/22/2002:B01
Manganese	30	10	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Zinc	ND	20	ug/L		200.7	08/16/02:A203	200.7	08/20/2002:C03
Gypsum Requirement	0.5	--	mg/L		Calculation		Calculation	
SAR	6.5	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Carbonate	ND	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Bicarbonate	120	10	mg/L		2320B	08/15/02:A202	2320B	08/15/2002:A01
Sulfate	12	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Chloride	15	1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Nitrate	ND	0.4	mg/L		300.0	08/15/02:A215 17:00	300.0	08/15/2002:A03 22:53
Fluoride	0.2	0.1	mg/L		300.0	08/15/02:A215	300.0	08/15/2002:A03
Total Anions	2.7	--	meq/L		Calculation		Calculation	
pH	7.9	--	units		4500-H B	08/15/02:A246	4500-H B	08/15/2002:A01 15:24
E. C.	286	1	umhos/cm		2510B	08/16/02:A212	2510B	08/16/2002:A01
TDS by Summation	210	--	mg/L		Calculation		Calculation	

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

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

September 13, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208332-03
Customer ID: 2-20359

Sampled On : August 15, 2002-11:42
Sampled By : Pat Flynn
Received On: August 16, 2002-12:00
Matrix : Monitoring Well

Description : MW-4 Shallow
Project : Sierra Valley GW Mgmt. Dist. Grant

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:4								
Total Hardness	43.8	2.5	mg/L		Calculation		Calculation	
Calcium	6	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Magnesium	7	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Potassium	4	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Sodium	40	1	mg/L		200.7	08/20/02:D203	200.7	08/20/2002:N02
Total Cations	2.7	--	meq/L		Calculation		Calculation	
Boron	0.12	0.05	mg/L		200.7	08/20/02:D203	200.7	08/22/2002:B04
Copper	ND	10	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Iron	460	50	ug/L		200.7	08/20/02:D203	200.7	09/04/2002:B01
Manganese	100	10	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Zinc	ND	20	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Gypsum Requirement	0.4	--	mg/L		Calculation		Calculation	
SAR	2.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	120	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Carbonate	ND	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Bicarbonate	140	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Sulfate	ND	1	mg/L		300.0	08/16/02:A215	300.0	08/17/2002:A03
Chloride	27	1	mg/L		300.0	08/16/02:A215	300.0	08/17/2002:A03
Nitrate	ND	0.4	mg/L		300.0	08/16/02:A215 19:30	300.0	08/17/2002:A03 02:11
Fluoride	ND	0.1	mg/L		300.0	08/16/02:A215	300.0	08/17/2002:A03
Total Anions	3.1	--	meq/L		Calculation		Calculation	
pH	7.5	--	units		4500-H B	08/16/02:P246	4500-H B	08/16/2002:P01 16:03
E. C.	329	1	umhos/cm		2510B	08/19/02:A212	2510B	08/19/2002:A01
TDS by Summation	224	--	mg/L		Calculation		Calculation	

ND=Non-Detect. PQL=Practical Quantitation Limit. ♦ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
Containers: (P) Plastic Preservatives: (4) H2SO4 pH < 2

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

September 13, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208332-02
Customer ID: 2-20359

Sampled On : August 15, 2002-10:30
Sampled By : Pat Flynn
Received On: August 16, 2002-12:00
Matrix : Monitoring Well

Description : MW-4 Intermediate
Project : Sierra Valley GW Mgmt. Dist. Grant

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:4								
Total Hardness	55.4	2.5	mg/L		Calculation		Calculation	
Calcium	9	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Magnesium	8	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Potassium	8	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Sodium	78	1	mg/L		200.7	08/20/02:D203	200.7	08/20/2002:N02
Total Cations	4.7	--	meq/L		Calculation		Calculation	
Boron	0.41	0.05	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Copper	ND	10	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Iron	520	50	ug/L		200.7	08/20/02:D203	200.7	09/04/2002:B01
Manganese	190	10	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Zinc	ND	20	ug/L		200.7	08/20/02:D203	200.7	09/04/2002:B01
Gypsum Requirement	0.6	--	mg/L		Calculation		Calculation	
SAR	4.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	130	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Carbonate	ND	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Bicarbonate	160	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Sulfate	ND	2♦	mg/L		300.0	08/27/02:A215	300.0	08/28/2002:A03
Chloride	91	1	mg/L		300.0	08/16/02:A215	300.0	08/17/2002:A03
Nitrate	ND	0.4	mg/L		300.0	08/16/02:A215 19:30	300.0	08/17/2002:A03 01:58
Fluoride	ND	0.1	mg/L		300.0	08/16/02:A215	300.0	08/17/2002:A03
Total Anions	5.2	--♦	meq/L		Calculation		Calculation	
pH	7.2	--	units		4500-H B	08/16/02:P246	4500-H B	08/16/2002:P01 16:02
E. C.	578	1	umhos/cm		2510B	08/19/02:A212	2510B	08/19/2002:A01
TDS by Summation	354	--♦	mg/L		Calculation		Calculation	

ND=Non-Detect. PQL=Practical Quantitation Limit. ♦ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
Containers: (P) Plastic Preservatives: (4) H_2SO_4 pH < 2

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

September 13, 2002

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 208332-01
Customer ID: 2-20359

Sampled On : August 15, 2002-08:57
Sampled By : Pat Flynn
Received On: August 16, 2002-12:00
Matrix : Monitoring Well

Description : MW-4 Deep
Project : Sierra Valley GW Mgmt. Dist. Grant

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:4								
Total Hardness	44.6	2.5	mg/L		Calculation		Calculation	
Calcium	8	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Magnesium	6	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Potassium	8	1	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Sodium	96	1	mg/L		200.7	08/20/02:D203	200.7	08/20/2002:N02
Total Cations	5.3	--	meq/L		Calculation		Calculation	
Boron	0.83	0.05	mg/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Copper	ND	10	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Iron	60	50	ug/L		200.7	08/20/02:D203	200.7	09/04/2002:B01
Manganese	130	10	ug/L		200.7	08/20/02:D203	200.7	08/21/2002:C05
Zinc	ND	20	ug/L		200.7	08/20/02:D203	200.7	08/22/2002:B04
Gypsum Requirement	0.7	--	mg/L		Calculation		Calculation	
SAR	6.2	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	110	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Hydroxide	ND	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Carbonate	ND	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Bicarbonate	140	10	mg/L		2320B	08/20/02:A202	2320B	08/20/2002:A01
Sulfate	ND	2♦	mg/L		300.0	09/06/02:C215	300.0	09/07/2002:B09
Chloride	125	2♦	mg/L		300.0	09/06/02:C215	300.0	09/07/2002:B09
Nitrate	ND	0.4	mg/L		300.0	08/16/02:A215 19:30	300.0	08/17/2002:A03 01:44
Fluoride	ND	0.1	mg/L		300.0	08/16/02:A215	300.0	08/17/2002:A03
Total Anions	5.8	--♦	meq/L		Calculation		Calculation	
pH	7.7	--	units		4500-H B	08/16/02:P246	4500-H B	08/16/2002:P01 16:01
E. C.	637	1	umhos/cm		2510B	08/19/02:A212	2510B	08/19/2002:A01
TDS by Summation	383	--♦	mg/L		Calculation		Calculation	

ND=Non-Detect. PQL=Practical Quantitation Limit. ♦ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
Containers: (P) Plastic Preservatives: (4) H2SO4 pH < 2

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APPENDIX E

CHEMICAL ANALYSES OF WATER FROM SUPPLY WELLS SAMPLED IN 2002

ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210027-01
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 30, 2002-08:54
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T20N/R14E-04G02M
Project : SVGMD Grant 190' O.B. 53.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	72.8	2.5	mg/L		Calculation		Calculation	
Calcium	16	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	8	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	4	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	13	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	2.1	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	ND	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	170	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.2	--	mg/L		Calculation		Calculation	
SAR	0.7	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	110	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	140	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Chloride	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A01 20:09
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Total Anions	2.3	--	meq/L		Calculation		Calculation	
pH	7.8	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:15
E. C.	210	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	181	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	140	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-01	DOMESTIC WELL	T20N/R14E-04GO2M
		190' O.B.
		T: 53.6 DEGREES F

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ENVIRONMENTAL

AMENDED

ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210027-02
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 30, 2002-09:30
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T21N/R14E-32G01M
Project : SVGMD Grant Perf 80'-103' 55.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	102	2.5	mg/L		Calculation		Calculation	
Calcium	21	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	12	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	1	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	10	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	2.5	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	ND	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	140	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	170	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Chloride	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A01 20:23
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Total Anions	2.8	--	meq/L		Calculation		Calculation	
pH	7.8	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:16
E. C.	247	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	214	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	140	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-02	DOMESTIC WELL	T21N/R14E-32G01M
		PERF 80'-103'
		T: 55.6 DEGREES F

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ENVIRONMENTAL

AMENDED

ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210027-06
Customer ID: 2-20359

Sampled On : September 30, 2002-13:30
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T21N/R14E-36K01M
Project : SVGMD Grant T.D. 280' 53.1°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Date/ID	Sample Analysis Method	Date/ID
Irrigation Suit P:1,4								
Total Hardness	78.6	2.5	mg/L		Calculation		Calculation	
Calcium	15	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	10	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	2	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	9	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	2.0	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	20	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	ND	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	120	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Chloride	1	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Nitrate	2.2	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A02 22:25
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Total Anions	2.0	--	meq/L		Calculation		Calculation	
pH	7.3	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:20
E. C.	196	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	159	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	150	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-06	DOMESTIC WELL	T21N/R14E-36K01M
		T.D. 280'
		T: 53.1 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210027-03
Customer ID: 2-20359

Sampled On : September 30, 2002-09:50
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T21N/R14E-23R01M
Project : SVGMD Grant 185' O.B. 54.3°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Date/ID	Sample Analysis Method	Date/ID
Irrigation Suit P:1,4								
Total Hardness	132	2.5	mg/L		Calculation		Calculation	
Calcium	28	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	15	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	6	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	16	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	3.5	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	ND	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	480	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.2	--	mg/L		Calculation		Calculation	
SAR	0.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	190	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	230	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Chloride	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A01 20:36
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Total Anions	3.8	--	meq/L		Calculation		Calculation	
pH	7.6	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:17
E. C.	337	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	295	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	210	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-03	DOMESTIC WELL	T21N/R14E-23R01M
		185' O.B.
		T: 54.3 DEGREES F

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ENVIRONMENTAL

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AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210027-04
Customer ID: 2-20359

Sampled On : September 30, 2002-10:45
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T21N/R14E-22L01M
Project : SVGMD Grant 16' T.D. 51.8°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	56.2	2.5	mg/L		Calculation		Calculation	
Calcium	11	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	7	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	10	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	100	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	5.7	--	meq/L		Calculation		Calculation	
Boron	0.92	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	90	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	180	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	30	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.7	--	mg/L		Calculation		Calculation	
SAR	5.8	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	130	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	150	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	8	2♦	mg/L		300.0	10/03/02:B215	300.0	10/04/2002:A07
Chloride	112	2♦	mg/L		300.0	10/03/02:B215	300.0	10/04/2002:A07
Nitrate	0.5	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A01 20:50
Fluoride	0.2	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Total Anions	5.8	--	meq/L		Calculation		Calculation	
pH	7.6	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:18
E. C.	633	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	399	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	370	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-04	DOMESTIC WELL	T21N/R14E-22L01M
		16' T.D.
		T: 51.8 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210027-08
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 30, 2002-15:40
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T22N/R15E-21D02M
Project : SVGMD Grant Depth Unkown 71.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	38.8	2.5	mg/L		Calculation		Calculation	
Calcium	4	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Magnesium	7	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Potassium	8	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Sodium	77	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N04
Total Cations	4.3	--	meq/L		Calculation		Calculation	
Boron	0.84	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Iron	900	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Manganese	80	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Gypsum Requirement	0.9	--	mg/L		Calculation		Calculation	
SAR	5.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	260	10	mg/L		2320B	10/11/02:A202	2320B	10/11/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/11/02:A202	2320B	10/11/2002:A01
Carbonate	ND	10	mg/L		2320B	10/11/02:A202	2320B	10/11/2002:A01
Bicarbonate	310	10	mg/L		2320B	10/11/02:A202	2320B	10/11/2002:A01
Sulfate	ND	1	mg/L		300.0	10/22/02:A215	300.0	10/22/2002:A02
Chloride	3	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A02 23:05
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Total Anions	5.2	--	meq/L		Calculation		Calculation	
pH	7.0	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:22
E. C.	575	1	umhos/cm		2510B	10/07/02:B212	2510B	10/07/2002:B01
TDS by Summation	409	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	350	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

ND=Non-Detect. PQL=Practical Quantitation Limit. ♦ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
Containers: (P) Plastic Preservatives: (1) Cool 4°C, (4) H_2SO_4 pH < 2

SP 210027-08	DOMESTIC WELL	T22N/R15E-21D02M
		DEPTH UNKNOWN
		T: 71.6 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210027-09
Customer ID: 2-20359

Sampled On : September 30, 2002-16:14
Sampled By : Pat Flynn
Received On: October 2. 2002-11:30
Matrix : DOMESTIC WELL

Description : T20N/R15E-17C04M
Project : SVGMD Grant Perf 957'-1100' 77.4°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	28.9	2.5	mg/L		Calculation		Calculation	
Calcium	5	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Magnesium	4	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Potassium	4	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Sodium	82	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N04
Total Cations	4.2	--	meq/L		Calculation		Calculation	
Boron	1.00	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Iron	740	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Manganese	170	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A03
Gypsum Requirement	0.9	--	mg/L		Calculation		Calculation	
SAR	6.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	220	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	270	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Chloride	6	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A02 23:46
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Total Anions	4.6	--	meq/L		Calculation		Calculation	
pH	7.5	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:23
E. C.	493	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	371	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	360	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-09	DOMESTIC WELL	T20N/R15E-17C04M
		PERF 957'-1,100'
		T: 77.4 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210027-05
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 30, 2002-11:10
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T21N/R14E-15J01M
Project : SVGMD Grant T.D. 164' 55.0°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	50.4	2.5	mg/L		Calculation		Calculation	
Calcium	7	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	8	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	5	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	54	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	3.5	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	240	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	140	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.5	--	mg/L		Calculation		Calculation	
SAR	3.3	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	150	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	180	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	ND	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Chloride	25	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A01 21:04
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A01
Total Anions	3.7	--	meq/L		Calculation		Calculation	
pH	7.4	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:19
E. C.	397	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	279	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	220	40	mg/L		2540C	10/08/02:A235	2540 C,E	10/09/2002:A00

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

SP 210027-05	DOMESTIC WELL	T21N/R14E-15J01M
		T.D. 164'
		T: 55.0 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210281-03
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : October 8, 2002-11:40
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T21N/R15E-05P01M
Project : SVGMD Grant 400' O.B. 75.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	ND	2.5	mg/L		Calculation		Calculation	
Calcium	ND	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Magnesium	ND	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Potassium	2	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Sodium	56	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	2.5	--	meq/L		Calculation		Calculation	
Boron	0.95	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Iron	90	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Manganese	40	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Gypsum Requirement	0.6	--	mg/L		Calculation		Calculation	
SAR	N/A	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	120	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	140	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	5	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	6	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 02:05
Fluoride	0.3	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	2.6	--	meq/L		Calculation		Calculation	
pH	8.5	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 16:58
E. C.	256	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	209	--	mg/L		Calculation		Calculation	

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

SP 210281-03	DOMESTIC WELL	T21N/R15E-05P01M
		400' O.B.
		T: 75.6 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 209554-03
Customer ID: 2-20359

Sampled On : September 16, 2002-13:18
Sampled By : Pat Flynn
Received On : September 18 2002-12:00
Matrix : IRRIGATION WELL

Description : T21/R15E-07E01M
Project : SVGMD Grant Perf 145'-490' 57.9°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	77.8	2.5	mg/L		Calculation		Calculation	
Calcium	18	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	8	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	13	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	2.2	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	ND	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	40	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	110	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	130	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	6	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Chloride	2	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Nitrate	1.9	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/18/2002:A04 21:56
Fluoride	ND	0.1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Total Anions	2.3	--	meq/L		Calculation		Calculation	
pH	8.0	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:39
E. C.	224	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	183	--	mg/L		Calculation		Calculation	

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

SP 209554-03	IRRIGATION WELL	T21/R15E-07E01M
		PERF 145'-490'
		T: 57.9 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 209554-04
Customer ID: 2-20359

Sampled On : September 16, 2002-14:05
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : IRRIGATION WELL

Description : T21N/R15E-12H01M
Project : SVGMD Grant Perf 150'-460' 60.8°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	81.9	2.5	mg/L		Calculation		Calculation	
Calcium	18	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Magnesium	9	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Potassium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	12	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	2.3	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	60	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	80	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.6	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	110	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	140	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	3	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Chloride	2	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Nitrate	1.0	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/18/2002:A04 22:10
Fluoride	ND	0.1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Total Anions	2.4	--	meq/L		Calculation		Calculation	
pH	8.2	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:40
E. C.	229	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	189	--	mg/L		Calculation		Calculation	

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

SP209554-04	IRRIGATION WELL	T21N/R15E-12H01M
		PERF 150'-460'
		T: 60.8 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210281-01
Customer ID: 2-20359

Sampled On : October 8, 2002-09:52
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T21N/R16E-18H01M
Project : SVGMD Grant 116' O.B. 58.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	91.0	2.5	mg/L		Calculation		Calculation	
Calcium	20	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Magnesium	10	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Potassium	3	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Sodium	9	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N01
Total Cations	2.3	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Iron	ND	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Manganese	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Zinc	50	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	120	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	2	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A02
Chloride	3	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A02
Nitrate	16.0	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A02 00:57
Fluoride	ND	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A02
Total Anions	2.4	--	meq/L		Calculation		Calculation	
pH	7.2	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 16:56
E. C.	237	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	183	--	mg/L		Calculation		Calculation	

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

SP 210281-01	DOMESTIC WELL	T21N/R16E-18H01M
		116' O.B.
		T: 58.6 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210281-06
Customer ID: 2-20359

Sampled On : October 8, 2002-15:20
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T22N/R14E-14F02M
Project : SVGMD Grant 200' T.D. 56.8°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	62.9	2.5	mg/L		Calculation		Calculation	
Calcium	12	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Magnesium	8	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Potassium	1	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Sodium	8	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	1.6	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Iron	80	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Manganese	40	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	90	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	110	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	ND	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	ND	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 03:13
Fluoride	ND	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	1.8	--	meq/L		Calculation		Calculation	
pH	7.5	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 17:01
E. C.	159	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	139	--	mg/L		Calculation		Calculation	

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

SP 210281-06	DOMESTIC WELL	T22N/R14E-14F02M
		T.D. 200'
		T: 56.8 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 209552-04
Customer ID: 2-20359

Sampled On : September 17, 2002-18:25
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : IRRIGATION WELL

Description : T22N/R15E-10B01M
Project : SVGMD Grant Perf 475'-940' 85.1°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	22.3	2.5	mg/L		Calculation		Calculation	
Calcium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	3	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	139	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	6.6	--	meq/L		Calculation		Calculation	
Boron	2.21	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	160	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	50	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	1.1	--	mg/L		Calculation		Calculation	
SAR	12.8	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	170	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Carbonate	ND	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Bicarbonate	200	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Sulfate	28	1	mg/L		300.0	10/01/02:B215	300.0	10/02/2002:A06
Chloride	100	1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/19/2002:A06 02:54
Fluoride	0.2	0.1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Total Anions	6.7	--	meq/L		Calculation		Calculation	
pH	8.4	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:36
E. C.	769	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	478	--	mg/L		Calculation		Calculation	

ND=Non-Detect. PQL=Practical Quantitation Limit. ◆ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
Containers: (P) Plastic Preservatives: (1) Cool 4°C, (4) H2SO4 pH < 2

SP 209552-04	IRRIGATION WELL	T22N/R15E-10B01M
		PERF 475'-940'
		T: 85.1 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210027-07
Customer ID: 2-20359

Sampled On : September 30, 2002-15:15
Sampled By : Pat Flynn
Received On: October 2, 2002-11:30
Matrix : DOMESTIC WELL

Description : T22N/R15E-10J01M
Project : SVGMD Grant Perf 525'-545' 78.1°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1.4								
Total Hardness	28.9	2.5	mg/L		Calculation		Calculation	
Calcium	5	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Magnesium	4	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Potassium	8	1	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Sodium	91	1	mg/L		200.7	10/03/02:B203	200.7	10/08/2002:N03
Total Cations	4.7	--	meq/L		Calculation		Calculation	
Boron	0.95	0.05	mg/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Copper	ND	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Iron	130	50	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Manganese	60	10	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Zinc	ND	20	ug/L		200.7	10/03/02:B203	200.7	10/03/2002:A02
Gypsum Requirement	0.8	--	mg/L		Calculation		Calculation	
SAR	7.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	170	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Carbonate	ND	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Bicarbonate	210	10	mg/L		2320B	10/04/02:B202	2320B	10/04/2002:A01
Sulfate	2	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Chloride	56	1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Nitrate	ND	0.4	mg/L		300.0	10/02/02:A215 17:35	300.0	10/02/2002:A02 22:11
Fluoride	ND	0.1	mg/L		300.0	10/02/02:A215	300.0	10/02/2002:A02
Total Anions	5.1	--	meq/L		Calculation		Calculation	
pH	8.1	--	units		4500-H B	10/02/02:A246	4500-H B	10/02/2002:B01 16:21
E. C.	525	1	umhos/cm		2510B	10/04/02:B212	2510B	10/04/2002:B01
TDS by Summation	376	--	mg/L		Calculation		Calculation	
Wet Chemistry P:1								
Solids, Total Dissolved (TDS)	320	40	mg/L		2540C	10/07/02:A235	2540 C,E	10/08/2002:A00

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

SP 210027-07	DOMESTIC WELL	T22N/R15E-10J01M
		PERF 525'-545'
		T: 78.1 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210281-04
Customer ID: 2-20359

Sampled On : October 8, 2002-13:50
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T22N/R15E-21K01M
Project : SVGMD Grant 200' T.D. 55.9°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	226	2.5	mg/L		Calculation		Calculation	
Calcium	39	1	mg/L		200.7	10/29/02:A203	200.7	10/29/2002:A01
Magnesium	33	1	mg/L		200.7	10/29/02:A203	200.7	10/29/2002:A01
Potassium	5	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Sodium	73	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	8.0	--	meq/L		Calculation		Calculation	
Boron	0.10	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Iron	70	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Manganese	640	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Gypsum Requirement	0.9	--	mg/L		Calculation		Calculation	
SAR	2.1	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	440	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	540	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	3	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	30	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 02:19
Fluoride	ND	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	9.8	--	meq/L		Calculation		Calculation	
pH	7.4	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 16:59
E. C	927	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	723	--	mg/L		Calculation		Calculation	

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

SP 210281-04	DOMESTIC WELL	T22N/R15E-21K01M
		200' T.D.
		T: 55.9 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210281-05
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : October 8, 2002-14:42
Sampled By : Pat Flynn
Received On : October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T22N/R15E-21L04M
Project : SVGMD Grant 24' T.D. 58.3°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	202	2.5	mg/L		Calculation		Calculation	
Calcium	38	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Magnesium	26	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Potassium	3	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Sodium	189	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	12.3	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Iron	ND	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Manganese	600	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Gypsum Requirement	1.7	--	mg/L		Calculation		Calculation	
SAR	5.8	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	510	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	620	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	ND	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	105	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 02:46
Fluoride	0.1	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	13.1	--	meq/L		Calculation		Calculation	
pH	7.4	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 17:00
E. C.	1210	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	981	--	mg/L		Calculation		Calculation	

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

SP 210281-05	DOMESTIC WELL	T22N/R15E-21L04M
		24' T.D.
		T: 58.3 DEGREES F

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ENVIRONMENTAL

ANALYTICAL CHEMISTS

AMENDED

May 7, 2003

Lab ID : SP 210281-02
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : October 8, 2002-10:45
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : THERMAL WELL

Description : T22N/R15E-32F01M
Project : SVGMD Grant 1,100 O.B. 154°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	94.8	2.5	mg/L		Calculation		Calculation	
Calcium	38	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Magnesium	ND	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Potassium	16	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Sodium	450	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	21.9	--	meq/L		Calculation		Calculation	
Boron	7.91	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Iron	ND	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Manganese	10	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A01
Gypsum Requirement	2.2	--	mg/L		Calculation		Calculation	
SAR	20.1	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	40	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	50	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	260	10♦	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A02
Chloride	510	10♦	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A02
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A02 01:11
Fluoride	2.3	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A02
Total Anions	20.7	--	meq/L		Calculation		Calculation	
pH	8.3	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 16:57
E. C.	2500	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	1330	--	mg/L		Calculation		Calculation	

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

SP 210281-02	THERMAL WELL	T22N/R15E-32F01M
		1,100 O.B.
		T: 154 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 209554-02
Customer ID: 2-20359

Sampled On : September 16, 2002-12:20
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : IRRIGATION WELL

Description : T22N/R15E-36H01M
Project : SVGMD Grant Perf 301'-462' 66.9°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	60.4	2.5	mg/L		Calculation		Calculation	
Calcium	11	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	8	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	5	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	16	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	2.0	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	290	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	290	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Gypsum Requirement	0.2	--	mg/L		Calculation		Calculation	
SAR	0.9	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	120	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	7	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Chloride	3	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/18/2002:A04 21:43
Fluoride	ND	0.1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Total Anions	2.2	--	meq/L		Calculation		Calculation	
pH	7.9	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:38
E. C.	211	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	170	--	mg/L		Calculation		Calculation	

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

SP 209554-02	IRRIGATION WELL	T22N/R15E-36H01M
		PERF 301'-462'
		T: 66.9 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 209554-05
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 16, 2002-15:10
Sampled By : Pat Flynn
Received On: September 18. 2002-12:00
Matrix : IRRIGATION WELL

Description : T22N/R15E-36N01M
Project : SVGMD Grant Perf 268'-792' 67.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	61.2	2.5	mg/L		Calculation		Calculation	
Calcium	13	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Magnesium	7	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Potassium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	14	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	1.9	--	meq/L		Calculation		Calculation	
Boron	ND	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	160	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	270	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A06
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Gypsum Requirement	0.2	--	mg/L		Calculation		Calculation	
SAR	0.8	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	120	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	4	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Chloride	2	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/18/2002:A04 22:23
Fluoride	ND	0.1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Total Anions	2.1	--	meq/L		Calculation		Calculation	
pH	8.1	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:41
E. C.	202	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	164	--	mg/L		Calculation		Calculation	

ND=Non-Detect. PQL=Practical Quantitation Limit. ◆ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
Containers: (P) Plastic Preservatives: (1) Cool 4°C, (4) H2SO4 pH < 2

SP 209554-05	IRRIGATION WELL	T22N/R15E-36N01M
		PERF 268'-792'
		T: 67.6 DEGREES F

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ENVIRONMENTAL

ACCREDITED IN ACCORDANCE WITH nelac

AMENDEDANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210281-08
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : October 8, 2002-16:30
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T23N/R14E-25G02M
Project : SVGMD Grant 57.0°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1.4								
Total Hardness	168	2.5	mg/L		Calculation		Calculation	
Calcium	41	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Magnesium	16	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Potassium	ND	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Sodium	22	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	4.3	--	meq/L		Calculation		Calculation	
Boron	1.31	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Iron	ND	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Manganese	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Gypsum Requirement	0.1	--	mg/L		Calculation		Calculation	
SAR	0.7	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	180	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	210	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	11	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	9	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	20.8	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 03:40
Fluoride	ND	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	4.3	--	meq/L		Calculation		Calculation	
pH	6.9	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 17:03
E. C.	429	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	330	--	mg/L		Calculation		Calculation	

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

SP 210281-08	DOMESTIC WELL	T23N/R14E-25G02M
		100' T.D.
		T: 57.0 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 210281-09
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : October 8, 2002-17:00
Sampled By : Pat Flynn
Received On: October 9, 2002-11:45
Matrix : DOMESTIC WELL

Description : T23N/R14E-25K01M
Project : SVGMD Grant 167' T.D. 55.8°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	83.8	2.5	mg/L		Calculation		Calculation	
Calcium	27	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Magnesium	4	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Potassium	2	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Sodium	204	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N04
Total Cations	10.6	--	meq/L		Calculation		Calculation	
Boron	3.34	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Iron	70	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Manganese	160	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Gypsum Requirement	1.1	--	mg/L		Calculation		Calculation	
SAR	9.7	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	120	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	171	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	188	5♦	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 03:53
Fluoride	ND	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	10.8	--	meq/L		Calculation		Calculation	
pH	8.1	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 17:04
E. C.	1210	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	716	--	mg/L		Calculation		Calculation	

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

SP 210281-09	DOMESTIC WELL	T23N/R14E-25K01M
		167' T.D.
		T: 55.8 DEGREES F

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ENVIRONMENTAL

AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 210281-07
Customer ID: 2-20359

Sampled On : October 8, 2002-15:50
Sampled By : Pat Flynn
Received On: October 9. 2002-11:45
Matrix : DOMESTIC WELL

Description : T23N/R14E-35L02M
Project : SVGMD Grant 130' T.D. 62.1°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	12.5	2.5	mg/L		Calculation		Calculation	
Calcium	5	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Magnesium	ND	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Potassium	ND	1	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Sodium	59	1	mg/L		200.7	10/10/02:B203	200.7	10/13/2002:N03
Total Cations	2.8	--	meq/L		Calculation		Calculation	
Boron	0.30	0.05	mg/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Copper	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Iron	ND	50	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Manganese	ND	10	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Zinc	ND	20	ug/L		200.7	10/10/02:B203	200.7	10/10/2002:A02
Gypsum Requirement	0.4	--	mg/L		Calculation		Calculation	
SAR	7.3	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	50	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Carbonate	ND	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Bicarbonate	70	10	mg/L		2320B	10/17/02:A202	2320B	10/17/2002:A01
Sulfate	37	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Chloride	35	1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Nitrate	ND	0.4	mg/L		300.0	10/09/02:A215 18:00	300.0	10/10/2002:A03 03:26
Fluoride	ND	0.1	mg/L		300.0	10/09/02:A215	300.0	10/10/2002:A03
Total Anions	2.9	--	meq/L		Calculation		Calculation	
pH	9.2	--	units		4500-H B	10/09/02:D246	4500-H B	10/09/2002:D01 17:02
E. C.	332	1	umhos/cm		2510B	10/14/02:C212	2510B	10/14/2002:C01
TDS by Summation	206	--	mg/L		Calculation		Calculation	

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

SP 210281-07	DOMESTIC WELL	T23N/R14E-35L02M
		130' T.D.
		T: 62.1 DEGREES F

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AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 209554-01
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 16, 2002-09:45
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : IRRIGATION WELL

Description : T23N/R15E-29N02M
Project : SVGMD Grant Perf 32'-292' 58.8°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	123	2.5	mg/L		Calculation		Calculation	
Calcium	41	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	5	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	166	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	9.8	--	meq/L		Calculation		Calculation	
Boron	2.34	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	ND	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	130	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Gypsum Requirement	0.8	--	mg/L		Calculation		Calculation	
SAR	6.5	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	100	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	130	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	121	1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Chloride	198	5♦	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/18/2002:A04 21:15
Fluoride	0.3	0.1	mg/L		300.0	09/18/02:B215	300.0	09/18/2002:A04
Total Anions	10.3	--	meq/L		Calculation		Calculation	
pH	8.2	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:37
E. C.	1150	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	665	--	mg/L		Calculation		Calculation	

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

SP 209554-01	IRRIGATION WELL	T23N/R15E-29N02M
		PERF 32'-292'
		T: 58.8 DEGREES F

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ENVIRONMENTAL

AMENDEDANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 209552-01
Customer ID: 2-20359

Sampled On : September 17, 2002-16:20
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : IRRIGATION WELL

Description : T23N/R15E-36G01M
Project : SVGMD Grant Perf 393'-817' 76.6 °F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	30.6	2.5	mg/L		Calculation		Calculation	
Calcium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	5	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	6	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A01
Sodium	30	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N01
Total Cations	2.1	--	meq/L		Calculation		Calculation	
Boron	0.43	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A01
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A01
Iron	1140	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A01
Manganese	110	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Gypsum Requirement	0.4	--	mg/L		Calculation		Calculation	
SAR	2.4	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	130	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Hydroxide	ND	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Carbonate	ND	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Bicarbonate	150	10	mg/L		2320B	10/02/02:A202	2320B	10/02/2002:A01
Sulfate	ND	1	mg/L		300.0	10/01/02:B215	300.0	10/02/2002:A06
Chloride	7	1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/19/2002:A06 02:00
Fluoride	0.5	0.1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Total Anions	2.7	--	meq/L		Calculation		Calculation	
pH	7.7	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:33
E. C	288	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	202	--	mg/L		Calculation		Calculation	

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

SP 209552-01	IRRIGATION WELL	T23N/R15E-36G01M
		PERF 393'-817'
		T: 76.6 DEGREES F

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ENVIRONMENTAL

AMENDEANALYTICAL CHEMISTS

May 7, 2003

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Lab ID : SP 209552-02
Customer ID: 2-20359

Sampled On : September 17, 2002-16:45
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : STOCK WELL

Description : T23N/R15E-36H02M
Project : SVGMD Grant 688 T.D. 66.9°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Date/ID	Sample Analysis Method	Date/ID
Irrigation Suit P:1,4								
Total Hardness	30.6	2.5	mg/L		Calculation		Calculation	
Calcium	4	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	5	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	5	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	36	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	2.3	--	meq/L		Calculation		Calculation	
Boron	0.60	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	4350	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	140	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Gypsum Requirement	0.4	--	mg/L		Calculation		Calculation	
SAR	2.8	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	120	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	150	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	ND	1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Chloride	9	1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/19/2002:A06 02:27
Fluoride	0.5	0.1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Total Anions	2.7	--	meq/L		Calculation		Calculation	
pH	7.5	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:34
E. C.	273	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	210	--	mg/L		Calculation		Calculation	

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

SP 209552-02	STOCK WELL	T23N/R15E-36H02M
		688' T.D.
		T: 66.9 DEGREES F

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ENVIRONMENTAL

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AMENDED ANALYTICAL CHEMISTS

May 7, 2003

Lab ID : SP 209552-03
Customer ID: 2-20359

Sierra Valley G.W. Mgmt. Dist.
Post Office Box 312
Sierraville, CA 96126

Sampled On : September 17, 2002-17:30
Sampled By : Pat Flynn
Received On: September 18, 2002-12:00
Matrix : IRRIGATION WELL

Description : T23N/R16E-32Q01M
Project : SVGMD Grant Perf 524'-820' 76.6°F

Sample Results - Inorganic

Constituent	Results	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Irrigation Suit P:1,4								
Total Hardness	15.7	2.5	mg/L		Calculation		Calculation	
Calcium	3	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Magnesium	2	1	mg/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Potassium	1	1	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Sodium	30	1	mg/L		200.7	09/19/02:A203	200.7	09/22/2002:N02
Total Cations	1.6	--	meq/L		Calculation		Calculation	
Boron	0.11	0.05	mg/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Copper	ND	10	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Iron	120	50	ug/L		200.7	09/19/02:A203	200.7	09/27/2002:A02
Manganese	40	10	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Zinc	ND	20	ug/L		200.7	09/19/02:A203	200.7	09/20/2002:A05
Gypsum Requirement	0.3	--	mg/L		Calculation		Calculation	
SAR	3.3	0.1	mg/L		Calculation		Calculation	
Total Alkalinity	80	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Hydroxide	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Carbonate	ND	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Bicarbonate	90	10	mg/L		2320B	09/23/02:A202	2320B	09/23/2002:A01
Sulfate	ND	1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Chloride	2	1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Nitrate	ND	0.4	mg/L		300.0	09/18/02:B215 16:25	300.0	09/19/2002:A06 02:40
Fluoride	2.4	0.1	mg/L		300.0	09/18/02:B215	300.0	09/19/2002:A06
Total Anions	1.7	--	meq/L		Calculation		Calculation	
pH	8.2	--	units		4500-H B	09/18/02:A246	4500-H B	09/18/2002:A01 15:35
E. C.	165	1	umhos/cm		2510B	09/19/02:B212	2510B	09/19/2002:B01
TDS by Summation	130	--	mg/L		Calculation		Calculation	

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

SP 209552-03	IRRIGATION WELL	T23N/R16E-32QO1M
		PERF 524'-820'
		T: 76.6 DEGREES F

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APPENDIX F

WATER-LEVEL MEASUREMENTS FOR FALL 1998, SPRING AND FALL 1999, SPRING AND FALL 2000, SPRING AND FALL 2001, SPRING AND FALL 2002, AND SPRING 2003

DWR
California Department of Water Resources

Data Retrieval by Season

DPLA Home
WDL Home
- Water Quality
- Groundwater

The period of retrieval is from **FALL1998** to **SPRING 2003.** Wells in the Department of Water Resources monitoring network are identified by State Well Number, which is based on the Public Land Grid System. The table headings and records contain several codes and abbreviations.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E01H001M	10/13/1998			0		5050
20N14E13Q002M	10/13/1998	4,981.2	4.4			5050
20N14E14R001M	10/13/1998	5,032.4	2.6			5050
21N14E25P003M	10/13/1998	4,913.8	21.2			5050
21N14E29J001M	10/13/1998	4,923.6	9.0			5050
21N14E36Q002M	10/13/1998	4,917.5	2.5			5050
21N15E01K001M	10/14/1998	4,876.7	36.3			5050
21N15E01K002M	10/14/1998	4,896.6	16.4			5050
21N15E03L001M	10/13/1998	4,854.6	35.4			5050
21N15E03M003M	10/13/1998	4,852.2	39.8		8	5050
21N15E04Q001M	10/13/1998	4,886.8	6.2			5050
21N15E07R001M	10/13/1998			7		5050
21N15E09N006M	10/13/1998			7		5050
21N15E10C001M	10/13/1998	4,884.5	9.5			5050
21N15E11M003M	10/14/1998	4,874.4	27.6			5050
21N15E12H001M	10/14/1998	4,888.4	41.6			5050
21N15E12J001M	10/14/1998	4,898.9	43.1			5050
21N15E12P003M	10/14/1998	4,894.0	33.0			5050
21N15E14D002M	10/13/1998	4,901.0	14.0		1	5050
21N15E14L001M	10/13/1998	4,916.0	84.0			5050
21N15E18F002M	10/13/1998			7		5050

21N16E06H003M	10/14/1998	4,906.2	43.8			5050
21N16E06Q002M	10/14/1998	4,903.4	42.6			5050
21N16E07A001M	10/14/1998	4,926.2	39.8			5050
21N16E07D002M	10/14/1998			4		5050
21N16E07F004M	10/14/1998	4,944.7	16.3			5050
21N16E07G001M	10/14/1998	4,905.2	54.8			5050
21N16E07M001M	10/14/1998	4,890.6	47.4			5050
21N16E18G002M	10/14/1998	4,977.6	17.4			5050
21N16E30A001M	10/14/1998			9		5050
21N16E30J001M	10/14/1998	5,075.6	44.4			5050
22N14E21Q001M	10/13/1998	5,039.2	5.8			5050
22N14E21Q002M	10/13/1998	5,037.1	7.9			5050
22N14E26L001M	10/13/1998	4,894.6	-0.1			5050
22N14E35C002M	10/13/1998			7		5050
22N15E08Q001M	10/13/1998	4,871.3	5.7			5050
22N15E10B001M	10/13/1998	4,843.7	47.3			5050
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22N15E13N001M	10/14/1998	4,856.8	36.2			5050
22N15E15Q001M	10/13/1998	4,882.2	6.8			5050
22N15E16L001M	10/13/1998	4,847.7	33.3		1	5050
22N15E17H001M	10/13/1998	4,873.3	6.7			5050
22N15E22Q001M	10/13/1998	4,867.4	13.5			5050
22N15E26K001M	10/14/1998	4,864.3	21.9			5050
22N15E26K003M	10/14/1998	4,854.5	31.5			5050
22N15E27Q001M	10/14/1998	4,846.9	35.1			5050
22N15E28L001M	10/13/1998	4,855.4	26.1			5050
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22N15E34L005M	10/13/1998	4,851.1	39.1			5050
22N15E34L006M	10/13/1998	4,845.4	39.6			5050
22N15E36H001M	10/14/1998	4,865.1	34.9			5050
22N15E36J001M	10/14/1998	4,881.8	28.2		8	5050
22N15E36N001M	10/14/1998	4,860.3	36.7		8	5050
22N15E36Q001M	10/14/1998	4,880.2	27.8			5050
22N16E04A001M	10/14/1998	4,920.8	11.2			5050
22N16E06R002M	10/13/1998	4,847.1	60.9			5050
22N16E07G001M	10/13/1998	4,871.4	34.6			5050
22N16E08P001M	10/13/1998	4,903.1	6.9			5050

22N16E17C001M	10/13/1998	4,903.2	3.8			5050
22N16E17D001M	10/13/1998	4,908.8	1.2			5050
22N16E17E002M	10/14/1998	4,900.8	0.5			5050
22N16E18R001M	10/14/1998	4,898.5	1.5		8	5050
22N16E19A001M	10/14/1998	4,898.0	2.0			5050
22N16E19K001M	10/14/1998	4,897.0	15.6		4	5050
22N16E19M001M	10/14/1998	4,883.6	9.5			5050
22N16E20G002M	10/14/1998			7		5050
22N16E20P002M	10/14/1998	4,933.7	0.9			5050
22N16E30Q001M	10/14/1998	4,895.0	20.0			5050
23N14E25G001M	10/13/1998	4,882.3	9.4			5050
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23N14E25K004M	10/13/1998			0		5050
23N14E35L001M	10/13/1998	4,866.7	10.8			5050
23N15E20Q001M	10/15/1998			9		5050
23N15E25J001M	10/15/1998	4,862.2	42.8		8	5050
23N15E26G001M	10/15/1998	4,841.2	56.8			5050
23N15E26R001M	10/15/1998	4,847.1	49.9			5050
23N15E27E001M	10/15/1998	4,894.1	5.9			5050
23N15E29D001M	10/15/1998			7		5050
23N15E29H001M	10/15/1998			7		5050
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23N15E34D001M	10/15/1998	4,889.5	-1.2			5050
23N15E36G001M	10/15/1998	4,845.8	55.2		8	5050
23N16E17M001M	10/14/1998			9		5050
23N16E19N001M	10/15/1998	4,925.5	4.5			5050
23N16E23F001M	10/14/1998	4,976.3	13.7			5050
23N16E27R001M	10/14/1998	4,956.7	6.5			5050
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23N16E29G001M	10/15/1998			9		5050
23N16E30C001M	10/15/1998	4,917.6	0.4		8	5050
23N16E30R001M	10/15/1998	4,846.1	68.9		8	5050
23N16E32J001M	10/15/1998	4,857.1	67.9		8	5050
23N16E32Q001M	10/15/1998	4,851.7	68.3		8	5050
23N16E34G003M	10/14/1998	4,945.3	9.7		4	5050

Your selection returned a total of **93** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E01H001M	04/15/1999			0		5050
20N14E13Q002M	04/15/1999	4,983.6	2.0			5050
20N14E14R001M	04/15/1999	5,031.6	3.4			5050
21N14E25P003M	04/15/1999	4,919.6	15.4			5050
21N14E29J001M	04/15/1999	4,930.0	2.6			5050
21N14E36Q002M	04/15/1999	4,918.8	1.2			5050
21N15E01K001M	04/15/1999	4,906.5	6.5			5050
21N15E01K002M	04/15/1999	4,896.7	16.3			5050
21N15E03L001M	04/14/1999	4,878.6	11.4			5050
21N15E03M003M	04/14/1999	4,882.5	9.5			5050
21N15E04Q001M	04/14/1999	4,892.2	0.8			5050
21N15E07R001M	04/15/1999			7		5050
21N15E09N006M	04/14/1999			7		5050
21N15E10C001M	04/14/1999	4,887.9	6.1			5050
21N15E11M003M	04/14/1999	4,897.3	4.7			5050
21N15E12H001M	04/15/1999	4,913.7	16.3			5050
21N15E12J001M	04/15/1999	4,920.2	21.8			5050
21N15E12P003M	04/14/1999	4,918.6	8.4			5050
21N15E14D002M	04/14/1999	4,909.7	5.3			5050
21N15E14L001M	04/14/1999	4,916.7	83.3			5050
21N15E18F002M	04/15/1999			7		5050
21N16E06H003M	04/15/1999	4,914.0	36.0			5050
21N16E06Q002M	04/15/1999	4,923.7	22.3			5050
21N16E07A001M	04/15/1999	4,934.6	31.4			5050
21N16E07D002M	04/15/1999			4		5050
21N16E07F004M	04/15/1999	4,954.2	6.8			5050
21N16E07G001M	04/15/1999	4,925.7	34.3			5050
21N16E07M001M	04/15/1999	4,915.3	22.7			5050
21N16E18G002M	04/15/1999	4,983.3	11.7			5050
21N16E30A001M	04/15/1999	5,070.3	19.7		4	5050
21N16E30J001M	04/15/1999	5,079.1	40.9			5050

22N14E21Q001M	04/15/1999			9		5050
22N14E21Q002M	04/15/1999			9		5050
22N14E26L001M	04/15/1999	4,894.5	0.0			5050
22N14E35C002M	04/15/1999			7		5050
22N15E08Q001M	04/13/1999	4,876.1	0.9			5050
22N15E10B001M	04/13/1999	4,861.4	29.6			5050
22N15E10C001M	04/13/1999	4,859.5	31.5		8	5050
22N15E13N001M	04/14/1999	4,873.4	19.6			5050
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22N15E16L001M	04/13/1999			9		5050
22N15E17H001M	04/13/1999			9		5050
22N15E22Q001M	04/14/1999	4,868.7	12.2			5050
22N15E26K001M	04/14/1999	4,882.6	3.6			5050
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22N15E27Q001M	04/14/1999	4,874.8	7.2			5050
22N15E28L001M	04/14/1999	4,863.6	17.9			5050
22N15E34G001M	04/14/1999			9		5050
22N15E34L005M	04/14/1999	4,881.1	9.1			5050
22N15E34L006M	04/14/1999	4,875.8	9.2			5050
22N15E36H001M	04/14/1999			7		5050
22N15E36J001M	04/14/1999	4,907.9	2.1		8	5050
22N15E36N001M	04/14/1999	4,894.7	2.3		8	5050
22N15E36Q001M	04/14/1999	4,907.1	0.9			5050
22N16E04A001M	04/14/1999	4,927.1	4.9			5050
22N16E06R002M	04/14/1999	4,878.7	29.3			5050
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22N16E08P001M	04/14/1999	4,905.7	4.3			5050
22N16E17C001M	04/14/1999	4,906.3	0.7			5050
22N16E17D001M	04/14/1999	4,910.8	-0.8		8	5050
22N16E17E002M	04/14/1999			7		5050
22N16E18R001M	04/14/1999			7		5050
22N16E19A001M	04/14/1999			7		5050
22N16E19K001M	04/14/1999	4,906.4	6.2			5050
22N16E19M001M	04/14/1999	4,891.5	1.6			5050
22N16E20G002M	04/15/1999			7		5050
22N16E20P002M	04/15/1999	4,934.3	0.3			5050
22N16E30Q001M	04/15/1999			9		5050

23N14E25G001M	04/13/1999	4,889.1	2.6			5050
23N14E25K001M	04/13/1999	4,889.9	1.2			5050
23N14E25K004M	04/13/1999			0		5050
23N14E35L001M	04/15/1999	4,873.7	3.8			5050
23N15E20Q001M	04/13/1999			9		5050
23N15E25J001M	04/13/1999	4,876.6	28.4			5050
23N15E26G001M	04/13/1999	4,879.9	18.1		8	5050
23N15E26R001M	04/13/1999	4,878.4	18.6			5050
23N15E27E001M	04/13/1999	4,897.9	2.1			5050
23N15E29D001M	04/13/1999			7		5050
23N15E29H001M	04/13/1999			7		5050
23N15E29N001M	04/13/1999			7		5050
23N15E34D001M	04/13/1999			7		5050
23N15E36G001M	04/13/1999	4,881.6	19.4		8	5050
23N16E17M001M	04/13/1999	4,980.6	10.4			5050
23N16E19N001M	04/13/1999			7		5050
23N16E23F001M	04/13/1999	4,978.0	12.0			5050
23N16E27R001M	04/13/1999	4,958.6	4.6			5050
23N16E28L001M	04/13/1999			7		5050
23N16E29G001M	04/13/1999	4,907.4	32.6			5050
23N16E30C001M	04/13/1999			7		5050
23N16E30R001M	04/13/1999	4,875.9	39.1		8	5050
23N16E32J001M	04/15/1999	4,884.1	40.9		8	5050
23N16E32Q001M	04/14/1999	4,881.3	38.7		8	5050
23N16E34G003M	04/13/1999	4,949.4	5.6		4	5050

Your selection returned a total of **93** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E01H001M	10/11/1999			0		5050
20N14E13Q002M	10/12/1999	4,981.1	4.5			5050
20N14E14R001M	10/12/1999	5,028.8	6.2			5050
21N14E25P003M	10/12/1999	4,913.6	21.4			5050
21N14E29J001M	10/12/1999	4,920.7	11.9		4	5050
21N14E36Q002M	10/12/1999	4,917.3	2.7			5050

21N15E01K001M	10/12/1999	4,866.1	46.9			5050
21N15E01K002M	10/12/1999	4,896.4	16.6			5050
21N15E03L001M	10/12/1999			0		5050
21N15E03M003M	10/12/1999	4,849.3	42.7			5050
21N15E04Q001M	10/12/1999	4,886.7	6.3			5050
21N15E07R001M	10/12/1999			0		5050
21N15E09N006M	10/12/1999			7		5050
21N15E10C001M	10/12/1999			0		5050
21N15E11M003M	10/12/1999			0		5050
21N15E12H001M	10/12/1999			0		5050
21N15E12J001M	10/12/1999	4,887.4	54.6			5050
21N15E12P003M	10/12/1999	4,882.2	44.8			5050
21N15E14D002M	10/12/1999			0		5050
21N15E14L001M	10/12/1999	4,915.6	84.4			5050
21N15E18F002M	10/12/1999			0		5050
21N16E06H003M	10/13/1999	4,896.6	53.4		4	5050
21N16E06Q002M	10/13/1999			0		5050
21N16E07A001M	10/13/1999	4,923.7	42.3			5050
21N16E07D002M	10/13/1999			0		5050
21N16E07F004M	10/13/1999	4,945.6	15.4			5050
21N16E07G001M	10/13/1999	4,894.6	65.4			5050
21N16E07M001M	10/13/1999	4,875.4	62.6			5050
21N16E18G002M	10/13/1999	4,978.5	16.5			5050
21N16E30A001M	10/13/1999	5,067.3	22.7			5050
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22N14E21Q002M	10/12/1999			0		5050
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22N15E15Q001M	10/12/1999			0		5050
22N15E16L001M	10/12/1999			0		5050
22N15E17H001M	10/12/1999			0		5050
22N15E22Q001M	10/12/1999	4,867.8	13.1			5050

22N15E26K001M	10/12/1999			0		5050
22N15E26K003M	10/12/1999	4,853.3	32.7			5050
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22N15E28L001M	10/12/1999			3		5050
22N15E34G001M	10/12/1999			0		5050
22N15E34L005M	10/12/1999			0		5050
22N15E34L006M	10/12/1999	4,843.9	41.1			5050
22N15E36H001M	10/12/1999			0		5050
22N15E36J001M	10/12/1999			0		5050
22N15E36N001M	10/12/1999	4,854.9	42.1		8	5050
22N15E36Q001M	10/12/1999	4,844.6	63.4			5050
22N16E04A001M	10/13/1999	4,920.3	11.7			5050
22N16E06R002M	10/13/1999	4,841.3	66.7			5050
22N16E07G001M	10/13/1999			0		5050
22N16E08P001M	10/13/1999			0		5050
22N16E17C001M	10/13/1999	4,904.1	2.9			5050
22N16E17D001M	10/13/1999			0		5050
22N16E17E002M	10/13/1999	4,902.2	-0.9			5050
22N16E18R001M	10/13/1999			0		5050
22N16E19A001M	10/13/1999			0		5050
22N16E19K001M	10/13/1999			0		5050
22N16E19M001M	10/13/1999	4,883.2	9.9			5050
22N16E20G002M	10/13/1999			0		5050
22N16E20P002M	10/13/1999	4,932.3	2.3			5050
22N16E30Q001M	10/13/1999			0		5050
23N14E25G001M	10/11/1999	4,880.2	11.5			5050
23N14E25K001M	10/11/1999			0		5050
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23N14E35L001M	10/12/1999	4,869.3	8.2			5050
23N15E20Q001M	10/11/1999			0		5050
23N15E25J001M	10/11/1999			0		5050
23N15E26G001M	10/11/1999			0		5050
23N15E26R001M	10/11/1999	4,842.6	54.4			5050
23N15E27E001M	10/11/1999	4,893.4	6.6			5050
23N15E29D001M	10/11/1999			0		5050
23N15E29H001M	10/11/1999	4,894.5	1.9			5050
23N15E29N001M	10/11/1999			0		5050

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23N16E17M001M	10/11/1999			0		5050
23N16E19N001M	10/11/1999			0		5050
23N16E23F001M	10/11/1999	4,975.9	14.1			5050
23N16E27R001M	10/12/1999	4,956.4	6.8			5050
23N16E28L001M	10/11/1999	4,936.9	1.6			5050
23N16E29G001M	10/11/1999			0		5050
23N16E30C001M	10/11/1999			0		5050
23N16E30R001M	10/11/1999	4,791.0	124.0		1	5050
23N16E32J001M	10/11/1999			0		5050
23N16E32Q001M	10/13/1999	4,829.5	90.5		8	5050
23N16E34G003M	10/11/1999			0		5050

Your selection returned a total of **93** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
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20N14E13Q002M	03/26/2000	4,983.2	2.4			5050
20N14E14R001M	03/26/2000	5,030.0	5.0			5050
21N14E25P003M	03/26/2000	4,920.0	15.0			5050
21N14E29J001M	03/26/2000	4,928.5	4.1			5050
21N14E36Q002M	03/26/2000	4,918.4	1.6			5050
21N15E01K001M	03/26/2000	4,904.7	8.3			5050
21N15E01K002M	03/26/2000	4,896.4	16.6			5050
21N15E03L001M	03/26/2000			0		5050
21N15E03M003M	03/26/2000	4,879.8	12.2			5050
21N15E04Q001M	03/26/2000	4,890.7	2.3			5050
21N15E07R001M	03/26/2000			0		5050
21N15E09N006M	03/26/2000			7		5050
21N15E10C001M	03/26/2000			0		5050
21N15E11M003M	03/26/2000			0		5050
21N15E12H001M	03/26/2000			0		5050
21N15E12J001M	03/26/2000	4,918.1	23.9			5050
21N15E12P003M	03/26/2000	4,916.4	10.6			5050

21N15E14D002M	03/26/2000			0		5050
21N15E14L001M	03/26/2000	4,919.3	80.7			5050
21N15E18F002M	03/26/2000			0		5050
21N16E06H003M	03/26/2000	4,914.1	35.9			5050
21N16E06Q002M	03/26/2000			0		5050
21N16E07A001M	03/26/2000	4,935.9	30.1			5050
21N16E07D002M	03/26/2000			0		5050
21N16E07F004M	03/26/2000	4,953.1	7.9			5050
21N16E07G001M	03/26/2000	4,924.6	35.4			5050
21N16E07M001M	03/26/2000	4,913.5	24.5			5050
21N16E18G002M	03/26/2000	4,982.2	12.8			5050
21N16E30A001M	03/26/2000	5,073.8	16.2			5050
21N16E30J001M	03/26/2000			0		5050
22N14E21Q001M	03/26/2000			0		5050
22N14E21Q002M	03/26/2000			0		5050
22N14E26L001M	03/26/2000			0		5050
22N14E35C002M	03/26/2000			0		5050
22N15E08Q001M	03/26/2000	4,874.9	2.1			5050
22N15E10B001M	03/26/2000	4,856.8	34.2			5050
22N15E10C001M	03/26/2000			0		5050
22N15E13N001M	03/26/2000	4,871.3	21.7			5050
22N15E15Q001M	03/26/2000			0		5050
22N15E16L001M	03/26/2000			0		5050
22N15E17H001M	03/26/2000			0		5050
22N15E22Q001M	03/26/2000	4,868.7	12.2			5050
22N15E26K001M	03/26/2000			0		5050
22N15E26K003M	03/26/2000			7		5050
22N15E27Q001M	03/26/2000	4,872.1	9.9			5050
22N15E28L001M	03/26/2000			0		5050
22N15E34G001M	03/26/2000			0		5050
22N15E34L005M	03/26/2000			0		5050
22N15E34L006M	03/26/2000	4,870.6	14.4			5050
22N15E36H001M	03/26/2000			0		5050
22N15E36J001M	03/26/2000			0		5050
22N15E36N001M	03/26/2000	4,892.6	4.4		8	5050
22N15E36Q001M	03/26/2000	4,906.3	1.7			5050
22N16E04A001M	03/26/2000	4,925.7	6.3			5050

22N16E06R002M	03/26/2000	4,874.6	33.4			5050
22N16E07G001M	03/26/2000			0		5050
22N16E08P001M	03/26/2000			0		5050
22N16E17C001M	03/26/2000	4,905.8	1.2			5050
22N16E17D001M	03/26/2000			0		5050
22N16E17E002M	03/26/2000			1		5050
22N16E18R001M	03/26/2000			0		5050
22N16E19A001M	03/26/2000			0		5050
22N16E19K001M	03/26/2000			0		5050
22N16E19M001M	03/26/2000	4,891.8	1.3			5050
22N16E20G002M	03/26/2000			0		5050
22N16E20P002M	03/26/2000	4,932.7	1.9			5050
22N16E30Q001M	03/26/2000			0		5050
23N14E25G001M	03/26/2000	4,888.0	3.7			5050
23N14E25K001M	03/26/2000			0		5050
23N14E25K004M	03/26/2000			0		5050
23N14E35L001M	03/26/2000	4,870.2	7.3			5050
23N15E20Q001M	03/26/2000			0		5050
23N15E25J001M	03/26/2000			0		5050
23N15E26G001M	03/26/2000			0		5050
23N15E26R001M	03/26/2000	4,874.5	22.5			5050
23N15E27E001M	03/26/2000	4,897.0	3.0			5050
23N15E29D001M	03/26/2000			0		5050
23N15E29H001M	03/26/2000			8		5050
23N15E29N001M	03/26/2000			0		5050
23N15E34D001M	03/26/2000			7		5050
23N15E36G001M	03/26/2000			0		5050
23N16E17M001M	03/26/2000			0		5050
23N16E19N001M	03/26/2000			0		5050
23N16E23F001M	03/26/2000	4,977.1	12.9			5050
23N16E27R001M	03/26/2000	4,957.8	5.4			5050
23N16E28L001M	03/26/2000			7		5050
23N16E29G001M	03/26/2000			0		5050
23N16E30C001M	03/26/2000			0		5050
23N16E30R001M	03/26/2000	4,871.9	43.1		8	5050
23N16E32J001M	03/26/2000			0		5050
23N16E32Q001M	03/26/2000	4,874.8	45.2			5050

23N16E34G003M	03/26/2000			0		5050

Your selection returned a total of **93** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E13Q002M	10/19/2000	4,983.7	1.9			5050
20N14E14R001M	10/19/2000	5,030.7	4.3			5050
21N14E25P003M	10/19/2000	4,912.4	22.6			5050
21N14E29J001M	10/19/2000	4,922.8	9.8			5050
21N14E36Q002M	10/19/2000	4,917.5	2.5			5050
21N15E01K001M	10/19/2000	4,874.4	38.6			5050
21N15E01K002M	10/19/2000	4,896.3	16.7			5050
21N15E03M003M	10/18/2000	4,843.9	48.1			5050
21N15E04Q001M	10/19/2000	4,885.2	7.8			5050
21N15E09N006M	10/19/2000			7		5050
21N15E12J001M	10/18/2000	4,895.1	46.9			5050
21N15E12P003M	10/18/2000	4,889.8	37.2			5050
21N15E14L001M	10/19/2000	4,914.8	85.2			5050
21N16E06H003M	10/18/2000	4,903.9	46.1			5050
21N16E07A001M	10/18/2000	4,924.4	41.6			5050
21N16E07F004M	10/18/2000	4,943.8	17.2			5050
21N16E07G001M	10/18/2000	4,903.1	56.9			5050
21N16E07M001M	10/18/2000	4,885.9	52.1			5050
21N16E18G002M	10/18/2000	4,977.1	17.9			5050
21N16E30A001M	10/18/2000	5,066.0	24.0			5050
22N15E08Q001M	10/18/2000	4,870.3	6.7			5050
22N15E10B001M	10/18/2000	4,820.6	70.4			5050
22N15E13N001M	10/18/2000	4,842.2	50.8		8	5050
22N15E22Q001M	10/18/2000	4,867.0	13.9			5050
22N15E26K003M	10/19/2000			7		5050
22N15E27Q001M	10/19/2000	4,835.2	46.8			5050
22N15E34L006M	10/18/2000	4,846.1	38.9			5050
22N15E36N001M	10/19/2000	4,851.0	46.0		8	5050
22N15E36Q001M	10/19/2000	4,879.7	28.3			5050
22N16E04A001M	10/18/2000	4,918.3	13.7			5050

22N16E06R002M	10/18/2000	4,839.8	68.2			5050
22N16E17C001M	10/18/2000	4,903.3	3.7			5050
22N16E17E002M	10/18/2000	4,901.1	0.2			5050
22N16E19M001M	10/19/2000	4,879.2	13.9			5050
23N14E25G001M	10/19/2000	4,878.4	13.3			5050
23N14E35L001M	10/19/2000	4,865.3	12.2			5050
23N15E26R001M	10/18/2000	4,839.6	57.4			5050
23N15E27E001M	10/18/2000	4,892.8	7.2			5050
23N15E29H001M	10/18/2000	4,894.1	2.3			5050
23N15E34D001M	10/18/2000	4,891.3	-3.0			5050
23N16E23F001M	10/18/2000	4,974.7	15.3			5050
23N16E27R001M	10/18/2000	4,955.4	7.8			5050
23N16E28L001M	10/18/2000	4,936.7	1.8			5050
23N16E30R001M	10/18/2000	4,828.7	86.3		8	5050
23N16E32Q001M	10/18/2000	4,837.0	83.0		8	5050

Your selection returned a total of **45** records.

Sierra Valley Groundwater Basin
Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E13Q002M	03/26/2001	4,970.5	15.1		6	5050
20N14E14R001M	03/27/2001	5,030.0	5.0			5050
21N14E25P003M	03/27/2001	4,912.3	22.7			5050
21N14E29J001M	03/27/2001	4,926.6	6.0			5050
21N14E36Q002M	03/27/2001	4,917.4	2.6			5050
21N15E01K001M	03/26/2001	4,901.7	11.3			5050
21N15E01K002M	03/26/2001	4,896.3	16.7			5050
21N15E03M003M	03/27/2001	4,874.1	17.9			5050
21N15E04Q001M	03/27/2001	4,885.4	7.6			5050
21N15E09N006M	03/27/2001	4,911.3	-0.3	7		5050
21N15E12J001M	03/27/2001	4,916.2	25.8			5050
21N15E12P003M	03/27/2001	4,914.4	12.6			5050
21N15E14L001M	03/27/2001	4,917.3	82.7			5050
21N16E06H003M	03/26/2001	4,912.7	37.3			5050
21N16E07A001M	03/26/2001	4,933.6	32.4			5050
21N16E07F004M	03/27/2001	4,943.4	17.6			5050

21N16E07G001M	03/26/2001	4,913.2	46.8			5050
21N16E07M001M	06/17/2001	4,911.1	26.9			5050
21N16E18G002M	03/26/2001	4,984.7	10.3			5050
21N16E30A001M	03/26/2001	5,067.5	22.5			5050
22N15E08Q001M	03/27/2001	4,870.7	6.3			5050
22N15E10B001M	03/27/2001	4,845.3	45.7			5050
22N15E13N001M	03/26/2001	4,863.7	29.3		8	5050
22N15E22Q001M	03/27/2001	4,867.1	13.8			5050
22N15E26K003M	03/26/2001			7		5050
22N15E27Q001M	03/26/2001			7		5050
22N15E34L006M	03/27/2001	4,855.9	29.1			5050
22N15E36N001M	03/27/2001	4,889.0	8.0		8	5050
22N15E36Q001M	03/27/2001	4,904.3	3.7		8	5050
22N16E04A001M	03/26/2001	4,923.7	8.3			5050
22N16E06R002M	03/26/2001	4,868.6	39.4			5050
22N16E17C001M	03/26/2001	4,893.9	13.1			5050
22N16E17E002M	03/27/2001	4,901.7	-0.4			5050
22N16E19M001M	03/27/2001	4,888.1	5.0			5050
23N14E25G001M	03/26/2001	4,881.7	10.0			5050
23N14E35L001M	03/26/2001	4,865.3	12.2			5050
23N15E26R001M	03/26/2001	4,869.2	27.8			5050
23N15E27E001M	03/26/2001	4,892.7	7.3			5050
23N15E29H001M	03/26/2001	4,898.1	-1.7			5050
23N15E34D001M	03/26/2001	4,892.2	-3.9			5050
23N16E23F001M	03/26/2001	4,975.9	14.1			5050
23N16E27R001M	03/26/2001	4,956.5	6.7			5050
23N16E28L001M	03/26/2001	4,939.7	-1.2	7		5050
23N16E30R001M	03/26/2001	4,861.8	53.2			5050
23N16E32Q001M	03/26/2001			5		5050

Your selection returned a total of **45** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E13Q002M	10/18/2001	4,981.3	4.3			5050
20N14E14R001M	10/18/2001	5,005.8	29.2		6	5050

21N14E25P003M	10/18/2001	4,910.1	24.9			5050
21N14E29J001M	10/18/2001	4,927.0	5.6			5050
21N14E36Q002M	10/18/2001	4,916.5	3.5			5050
21N15E01K001M	10/18/2001	4,861.2	51.8			5050
21N15E01K002M	10/18/2001	4,896.1	16.9			5050
21N15E03M003M	10/18/2001	4,829.9	62.1			5050
21N15E04Q001M	10/18/2001	4,884.0	9.0			5050
21N15E09N006M	10/18/2001			4		5050
21N15E12J001M	10/17/2001	4,884.7	57.3			5050
21N15E12P003M	10/18/2001	4,878.2	48.8			5050
21N15E14L001M	10/18/2001	4,911.4	88.6			5050
21N16E06H003M	10/18/2001	4,899.1	50.9			5050
21N16E07A001M	10/18/2001	4,917.0	49.0			5050
21N16E07F004M	10/17/2001	4,936.3	24.7			5050
21N16E07G001M	10/18/2001	4,893.2	66.8			5050
21N16E07M001M	10/17/2001			3		5050
21N16E18G002M	10/17/2001	4,973.3	21.7			5050
21N16E30A001M	10/17/2001	5,064.7	25.3			5050
22N15E08Q001M	10/18/2001	4,867.3	9.7			5050
22N15E10B001M	10/18/2001	4,788.7	102.3			5050
22N15E13N001M	10/17/2001	4,825.3	67.7		8	5050
22N15E22Q001M	10/17/2001	4,863.3	17.6			5050
22N15E26K003M	10/18/2001			5		5050
22N15E34L006M	10/18/2001	4,838.1	46.9			5050
22N15E36N001M	10/18/2001	4,842.9	54.1		8	5050
22N15E36Q001M	10/18/2001	4,870.2	37.8		8	5050
22N16E04A001M	10/17/2001	4,911.6	20.4			5050
22N16E06R002M	10/17/2001	4,812.2	95.8			5050
22N16E17C001M	10/17/2001	4,901.1	5.9			5050
22N16E17E002M	10/17/2001	4,898.0	3.3			5050
22N16E19M001M	10/18/2001	4,873.3	19.8			5050
22N16E20P002M	10/18/2001	4,934.0	0.6			5050
23N14E25G001M	10/18/2001	4,871.3	20.4			5050
23N14E35L001M	10/18/2001	4,864.1	13.4		6	5050
23N15E26R001M	10/17/2001	4,819.2	77.8			5050
23N15E27E001M	10/17/2001	4,890.8	9.2			5050
23N15E29H001M	10/17/2001	4,887.1	9.3			5050

23N15E34D001M	10/17/2001	4,885.4	2.9			5050
23N16E23F001M	10/17/2001	4,972.9	17.1			5050
23N16E27R001M	10/17/2001	4,954.1	9.1			5050
23N16E28L001M	10/17/2001	4,931.6	6.9			5050
23N16E30R001M	10/17/2001	4,815.8	99.2			5050
23N16E32Q001M	10/24/2001	4,819.6	100.4		8	5050

Your selection returned a total of **45** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E13Q002M	03/26/2002	4,983.7	1.9			5050
20N14E14R001M	03/26/2002	5,034.1	0.9			5050
21N14E25P003M	03/26/2002	4,909.8	25.2			5050
21N14E29J001M	03/26/2002	4,929.6	3.0			5050
21N14E36Q002M	03/26/2002	4,917.0	3.0			5050
21N15E01K001M	03/26/2002	4,896.8	16.2			5050
21N15E01K002M	03/26/2002	4,896.1	16.9			5050
21N15E03M003M	03/26/2002	4,867.7	24.3			5050
21N15E04Q001M	03/26/2002	4,884.6	8.4			5050
21N15E09N006M	03/26/2002			7		5050
21N15E12J001M	03/26/2002	4,913.4	28.6			5050
21N15E12P003M	03/26/2002	4,910.9	16.1			5050
21N15E14L001M	03/26/2002	4,916.4	83.6			5050
21N16E06H003M	03/26/2002	4,908.4	41.6			5050
21N16E06H003M	03/27/2002	4,908.4	41.6			5050
21N16E07A001M	03/26/2002	4,928.6	37.4			5050
21N16E07A001M	03/27/2002	4,928.6	37.4			5050
21N16E07F004M	03/26/2002	4,937.8	23.2			5050
21N16E07F004M	03/27/2002	4,937.8	23.2			5050
21N16E07G001M	03/26/2002	4,918.5	41.5			5050
21N16E07G001M	03/27/2002	4,918.5	41.5			5050
21N16E07M001M	03/26/2002	4,906.5	31.5			5050
21N16E07M001M	03/27/2002	4,906.5	31.5			5050
21N16E18G002M	03/26/2002	4,976.7	18.3			5050
21N16E18G002M	03/27/2002	4,976.7	18.3			5050

21N16E30A001M	03/26/2002	5,069.9	20.1			5050
21N16E30A001M	03/27/2002	5,069.9	20.1			5050
22N15E08Q001M	03/26/2002	4,871.7	5.3			5050
22N15E10B001M	03/26/2002	4,834.0	57.0			5050
22N15E13N001M	03/26/2002	4,855.1	37.9		8	5050
22N15E22Q001M	03/26/2002	4,864.3	16.6			5050
22N15E26K003M	03/26/2002			7		5050
22N15E27Q001M	03/26/2002	4,857.6	24.4		8	5050
22N15E34L006M	03/26/2002	4,860.4	24.6			5050
22N15E36N001M	03/26/2002	4,882.2	14.8		8	5050
22N15E36Q001M	03/26/2002	4,899.7	8.3		8	5050
22N16E04A001M	03/26/2002	4,918.6	13.4			5050
22N16E04A001M	03/27/2002	4,918.6	13.4			5050
22N16E06R002M	03/26/2002	4,859.8	48.2			5050
22N16E06R002M	03/27/2002	4,859.8	48.2			5050
22N16E17C001M	03/26/2002	4,902.1	4.9			5050
22N16E17C001M	03/27/2002	4,902.1	4.9			5050
22N16E17E002M	03/26/2002	4,899.1	2.2			5050
22N16E17E002M	03/27/2002	4,899.1	2.2			5050
22N16E19M001M	03/26/2002	4,882.9	10.2			5050
22N16E19M001M	03/27/2002	4,882.9	10.2			5050
22N16E20P002M	03/27/2002	4,934.2	0.4			5050
23N14E25G001M	03/26/2002	4,880.1	11.6			5050
23N14E35L001M	03/26/2002	4,866.5	11.0			5050
23N15E26R001M	03/27/2002	4,859.4	37.6			5050
23N15E27E001M	03/27/2002	4,893.5	6.5			5050
23N15E29H001M	03/27/2002	4,893.9	2.5			5050
23N15E34D001M	03/27/2002	4,887.9	0.4			5050
23N16E23F001M	03/27/2002	4,975.9	14.1			5050
23N16E27R001M	03/27/2002	4,955.9	7.3			5050
23N16E28L001M	03/27/2002	4,937.7	0.8			5050
23N16E30R001M	03/27/2002	4,856.6	58.4		8	5050
23N16E32Q001M	03/27/2002	4,861.2	58.8			5050

Your selection returned a total of **58** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E13Q002M	10/23/2002	4,980.9	4.7			5050
20N14E14R001M	10/23/2002	5,011.4	23.6			5050
21N14E25P003M	10/23/2002	4,910.6	24.4			5050
21N14E29J001M	10/23/2002			7		5050
21N14E36Q002M	10/23/2002	4,916.3	3.7			5050
21N15E01K001M	10/24/2002			2		5050
21N15E01K002M	10/24/2002	4,895.2	17.8			5050
21N15E03M003M	10/23/2002	4,829.2	62.8			5050
21N15E04Q001M	10/24/2002			9		5050
21N15E09N006M	10/24/2002			0		5050
21N15E09N006M	12/05/2002			0		5050
21N15E12J001M	10/24/2002	4,887.9	54.1			5050
21N15E12P003M	10/24/2002	4,882.9	44.1			5050
21N15E14L001M	10/23/2002	4,910.2	89.8			5050
21N16E06H003M	10/24/2002	4,897.3	52.7			5050
21N16E07A001M	10/23/2002	4,915.7	50.3			5050
21N16E07F004M	10/23/2002	4,933.1	27.9			5050
21N16E07G001M	10/23/2002	4,885.3	74.7			5050
21N16E07M001M	10/24/2002	4,878.4	59.6			5050
21N16E18G002M	10/23/2002	4,973.8	21.2			5050
21N16E30A001M	10/23/2002	5,063.7	26.3			5050
22N15E08Q001M	10/24/2002	4,867.6	9.4			5050
22N15E10B001M	10/23/2002			7		5050
22N15E13N001M	10/23/2002	4,823.9	69.1		8	5050
22N15E22Q001M	10/23/2002	4,860.1	20.8			5050
22N15E26K003M	10/24/2002			5		5050
22N15E26K003M	12/05/2002			0		5050
22N15E27Q001M	10/23/2002	4,832.1	49.9		8	5050
22N15E34L006M	10/23/2002	4,833.6	51.4		2	5050
22N15E36N001M	10/24/2002	4,839.0	58.0		8	5050
22N15E36Q001M	10/24/2002	4,870.4	37.6			5050
22N16E04A001M	10/22/2002	4,907.1	24.9			5050
22N16E06R002M	10/22/2002	4,796.6	111.4		6	5050
22N16E17C001M	10/23/2002	4,899.7	7.3			5050
22N16E17E002M	10/23/2002	4,896.3	5.0			5050

22N16E19M001M	10/23/2002			9		5050
22N16E20P002M	10/24/2002	4,930.0	4.6			5050
23N14E25G001M	10/22/2002			6		5050
23N14E25G001M	12/05/2002			0		5050
23N14E35L001M	10/22/2002			7		5050
23N15E26R001M	10/22/2002	4,809.2	87.8			5050
23N15E27E001M	10/22/2002	4,891.1	8.9			5050
23N15E29H001M	10/22/2002	4,887.4	9.0			5050
23N15E34D001M	10/22/2002	4,882.5	5.8			5050
23N16E23F001M	10/22/2002	4,974.0	16.0			5050
23N16E27R001M	10/24/2002	4,953.6	9.6			5050
23N16E28L001M	10/22/2002	4,929.9	8.6			5050
23N16E30R001M	10/22/2002	4,789.3	125.7			5050
23N16E32Q001M	10/22/2002			1		5050

Your selection returned a total of **49** records.

Sierra Valley Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
20N14E13Q002M	03/29/2003	4,983.8	1.8			5050
20N14E14R001M	03/27/2003	5,034.2	0.8			5050
21N14E25P003M	03/27/2003	4,914.5	20.5			5050
21N14E29J001M	03/27/2003			7		5050
21N14E36Q002M	03/27/2003	4,917.7	2.3			5050
21N15E01K001M	03/28/2003	4,895.4	17.6			5050
21N15E01K002M	03/28/2003	4,895.5	17.5			5050
21N15E03M003M	03/27/2003	4,866.2	25.8			5050
21N15E04Q001M	03/27/2003	4,885.0	8.0			5050
21N15E09N006M	03/28/2003			0		5050
21N15E12J001M	03/28/2003	4,907.6	34.4			5050
21N15E12P003M	03/28/2003	4,909.8	17.2			5050
21N15E14L001M	03/28/2003	4,907.4	92.6			5050
21N16E06H003M	03/28/2003			9		5050
21N16E07A001M	03/28/2003	4,918.1	47.9			5050
21N16E07F004M	03/28/2003	4,940.6	20.4			5050
21N16E07G001M	03/28/2003	4,916.4	43.6			5050

21N16E07M001M	03/28/2003	4,905.1	32.9			5050
21N16E18G002M	03/28/2003	4,975.2	19.8			5050
21N16E30A001M	03/28/2003	5,067.3	22.7			5050
22N15E08Q001M	03/28/2003	4,873.1	3.9			5050
22N15E10B001M	03/28/2003	4,827.2	63.8			5050
22N15E13N001M	03/28/2003	4,850.6	42.4		8	5050
22N15E22Q001M	03/28/2003	4,863.3	17.6			5050
22N15E26K003M	03/28/2003			0		5050
22N15E27Q001M	03/28/2003	4,851.9	30.1		8	5050
22N15E34L006M	03/28/2003	4,854.0	31.0		2	5050
22N15E36N001M	03/28/2003	4,880.4	16.6		8	5050
22N15E36Q001M	03/28/2003	4,898.3	9.7			5050
22N16E04A001M	03/28/2003	4,915.2	16.8			5050
22N16E06R002M	03/28/2003	4,847.9	60.1			5050
22N16E17C001M	03/28/2003	4,900.7	6.3			5050
22N16E17E002M	03/28/2003	4,897.7	3.6			5050
22N16E19M001M	03/28/2003			9		5050
22N16E20P002M	03/28/2003	4,927.3	7.3			5050
23N14E25G001M	03/27/2003			0		5050
23N14E35L001M	03/27/2003	4,868.3	9.2			5050
23N15E26R001M	03/29/2003	4,854.4	42.6			5050
23N15E27E001M	03/29/2003	4,894.5	5.5			5050
23N15E29H001M	03/29/2003	4,893.1	3.3			5050
23N15E34D001M	03/29/2003	4,884.7	3.6			5050
23N16E23F001M	03/28/2003	4,974.3	15.7			5050
23N16E27R001M	03/28/2003	4,955.1	8.1			5050
23N16E28L001M	03/28/2003	4,931.1	7.4			5050
23N16E30R001M	03/27/2003	4,852.9	62.1			5050
23N16E32Q001M	03/28/2003	4,854.0	66.0			5050

Your selection returned a total of **46** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	10/14/1998	5,056.0	34.0			5050
23N16E25J001M	10/14/1998			7		5050

23N16E33A002M	10/14/1998	4,937.2	2.8			5050
23N16E36A001M	10/14/1998	5,099.8	55.2			5050
23N16E36B001M	10/14/1998	5,074.0	51.0			5050
23N16E36D002M	10/14/1998			9		5050
23N16E36H001M	10/14/1998	5,092.2	26.8			5050
23N16E36K001M	10/14/1998			7		5050
23N16E36L003M	10/14/1998	5,000.3	9.7			5050
23N16E36L004M	10/14/1998	4,993.4	36.6			5050
23N16E36N002M	10/14/1998	4,999.9	10.1			5050
23N16E36R001M	10/14/1998	5,024.0	11.0			5050
23N17E30M001M	10/14/1998	5,084.7	0.3		6	5050
23N17E31P001M	10/14/1998	5,078.7	91.3			5050
23N17E31Q001M	10/14/1998	5,096.8	142.3			5050
23N17E31Q002M	10/14/1998	5,085.3	124.7			5050

Your selection returned a total of **16** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	04/13/1999	5,061.4	28.6			5050
23N16E25J001M	04/13/1999			7		5050
23N16E33A002M	04/13/1999	4,941.0	-1.0			5050
23N16E36A001M	04/13/1999	5,105.3	49.7			5050
23N16E36B001M	04/13/1999	5,076.8	48.2			5050
23N16E36D002M	04/13/1999	5,051.4	60.6			5050
23N16E36H001M	04/13/1999	5,110.6	8.4			5050
23N16E36K001M	04/13/1999			7		5050
23N16E36L003M	04/13/1999	5,007.9	2.1			5050
23N16E36L004M	04/13/1999	5,005.9	24.1			5050
23N16E36N002M	04/13/1999	5,003.2	6.8			5050
23N16E36R001M	04/13/1999	5,031.1	3.9			5050
23N17E30M001M	04/13/1999			7		5050
23N17E31P001M	04/13/1999	5,074.9	95.1			5050
23N17E31Q001M	04/13/1999	5,097.6	141.5			5050
23N17E31Q002M	04/13/1999	5,083.4	126.6			5050

Your selection returned a total of **16** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin
Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	10/11/1999	5,052.3	37.7			5050
23N16E25J001M	10/11/1999			7		5050
23N16E33A002M	10/12/1999	4,933.5	6.5			5050
23N16E36A001M	10/11/1999	5,102.3	52.7			5050
23N16E36B001M	10/11/1999	5,074.3	50.7			5050
23N16E36D002M	10/12/1999	5,038.5	73.5			5050
23N16E36H001M	10/11/1999	5,093.7	25.3			5050
23N16E36K001M	10/11/1999			0		5050
23N16E36L003M	10/11/1999	5,000.3	9.7			5050
23N16E36L004M	10/11/1999	4,993.5	36.5			5050
23N16E36N002M	10/11/1999	4,999.7	10.3			5050
23N16E36R001M	10/11/1999	5,034.3	0.7			5050
23N17E30M001M	10/11/1999			0		5050
23N17E31P001M	10/11/1999	5,072.3	97.7			5050
23N17E31Q001M	10/11/1999	5,097.5	141.6			5050
23N17E31Q002M	10/11/1999	5,083.5	126.5			5050

Your selection returned a total of **16** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin
Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	03/26/2000	5,057.1	32.9			5050
23N16E25J001M	03/28/2000			7		5050
23N16E33A002M	03/26/2000			7		5050
23N16E36A001M	03/28/2000	5,100.9	54.1			5050
23N16E36B001M	03/28/2000	5,075.5	49.5			5050
23N16E36D002M	03/28/2000	5,042.4	69.6			5050
23N16E36H001M	03/28/2000	5,093.1	25.9			5050
23N16E36K001M	03/26/2000			0		5050
23N16E36L003M	03/28/2000	5,005.8	4.2			5050

23N16E36L004M	03/28/2000	4,998.0	32.0			5050
23N16E36N002M	03/27/2000	5,002.2	7.8			5050
23N16E36R001M	03/27/2000	5,024.3	10.7			5050
23N17E30M001M	03/26/2000			0		5050
23N17E31P001M	03/28/2000	5,073.7	96.3			5050
23N17E31Q001M	03/28/2000	5,101.6	137.5			5050
23N17E31Q002M	03/28/2000	5,088.2	121.8			5050

Your selection returned a total of **16** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	10/18/2000	5,051.3	38.7			5050
23N16E25J001M	10/19/2000			7		5050
23N16E33A002M	10/18/2000	4,936.0	4.0			5050
23N16E36A001M	10/19/2000	5,097.2	57.8			5050
23N16E36B001M	10/19/2000	5,072.5	52.5			5050
23N16E36D002M	10/19/2000	5,033.0	79.0			5050
23N16E36H001M	10/19/2000	5,089.5	29.5			5050
23N16E36L003M	10/19/2000	4,998.0	12.0			5050
23N16E36L004M	10/19/2000	4,989.7	40.3			5050
23N16E36N002M	10/18/2000	4,998.1	11.9			5050
23N16E36R001M	10/19/2000	5,021.5	13.5			5050
23N17E31P001M	10/18/2000	5,016.0	154.0		1	5050
23N17E31Q001M	10/18/2000	5,094.8	145.2			5050
23N17E31Q002M	10/18/2000	5,081.6	128.4			5050

Your selection returned a total of **14** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	03/28/2001	5,052.8	37.2			5050
23N16E25J001M	03/29/2001	5,081.2	-1.2	7		5050
23N16E33A002M	03/26/2001	4,940.1	-0.1			5050
23N16E36A001M	03/29/2001	5,098.0	57.0			5050

23N16E36B001M	03/29/2001	5,072.8	52.2			5050
23N16E36D002M	03/29/2001	5,060.2	51.8			5050
23N16E36H001M	03/28/2001	5,086.5	32.5			5050
23N16E36L003M	03/28/2001	5,001.9	8.1			5050
23N16E36L004M	03/28/2001	4,992.7	37.3			5050
23N16E36N002M	03/28/2001	4,998.6	11.4			5050
23N16E36R001M	03/28/2001	5,021.5	13.5			5050
23N17E31P001M	03/28/2001	5,072.9	97.1			5050
23N17E31Q001M	03/28/2001	5,100.2	139.8			5050
23N17E31Q002M	03/28/2001	5,079.2	130.8			5050

Your selection returned a total of **14** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	10/17/2001	5,050.1	39.9			5050
23N16E25J001M	10/17/2001	5,079.7	0.3			5050
23N16E33A002M	10/17/2001	4,930.9	9.1		8	5050
23N16E36A001M	10/17/2001			9		5050
23N16E36B001M	10/17/2001	5,071.0	54.0			5050
23N16E36D002M	10/17/2001	5,026.6	85.4			5050
23N16E36H001M	10/17/2001	5,083.8	35.2			5050
23N16E36L003M	10/17/2001	4,994.4	15.6			5050
23N16E36L004M	10/17/2001	4,985.9	44.1			5050
23N16E36N002M	10/17/2001	4,995.4	14.6			5050
23N16E36R001M	10/17/2001	5,018.9	16.1			5050
23N17E31P001M	10/17/2001	5,076.2	93.8			5050
23N17E31Q001M	10/17/2001	5,097.8	142.2			5050
23N17E31Q002M	10/17/2001	5,084.9	125.1	6		5050

Your selection returned a total of **14** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	03/28/2002	5,050.2	39.8			5050

23N16E25J001M	03/28/2002			7		5050
23N16E33A002M	03/27/2002	4,937.6	2.4			5050
23N16E36A001M	03/28/2002	5,094.4	60.6			5050
23N16E36B001M	03/28/2002	5,071.1	53.9			5050
23N16E36D002M	03/28/2002	5,028.2	83.8			5050
23N16E36H001M	03/28/2002			9		5050
23N16E36L003M	03/28/2002	4,997.3	12.7			5050
23N16E36L004M	03/28/2002	4,990.2	39.8			5050
23N16E36N002M	03/28/2002	4,997.3	12.7			5050
23N16E36R001M	03/28/2002	5,018.9	16.1			5050
23N17E31P001M	03/28/2002	5,074.4	95.6			5050
23N17E31Q001M	03/28/2002	5,090.7	149.3			5050
23N17E31Q002M	03/28/2002	5,084.1	125.9			5050

Your selection returned a total of **14** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

Seasonal Data Retrieval

SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	10/24/2002	5,047.6	42.4			5050
23N16E25J001M	10/24/2002	5,079.0	1.0			5050
23N16E33A002M	10/22/2002	4,929.2	10.8			5050
23N16E36A001M	10/24/2002	5,092.7	62.3			5050
23N16E36B001M	10/24/2002	5,069.3	55.7			5050
23N16E36D002M	10/24/2002	5,024.3	87.7			5050
23N16E36H001M	10/24/2002			4		5050
23N16E36L003M	10/24/2002	4,990.8	19.2			5050
23N16E36L004M	10/24/2002	4,980.6	49.4			5050
23N16E36N002M	10/24/2002	4,994.7	15.3			5050
23N16E36R001M	10/24/2002	5,016.8	18.2			5050
23N17E31P001M	10/24/2002	5,070.9	99.1			5050
23N17E31Q001M	10/24/2002	5,091.8	148.2			5050
23N17E31Q002M	10/24/2002	5,081.1	128.9			5050

Your selection returned a total of **14** records.

Chilcoot Sub-bas of Sierra Vly Groundwater Basin

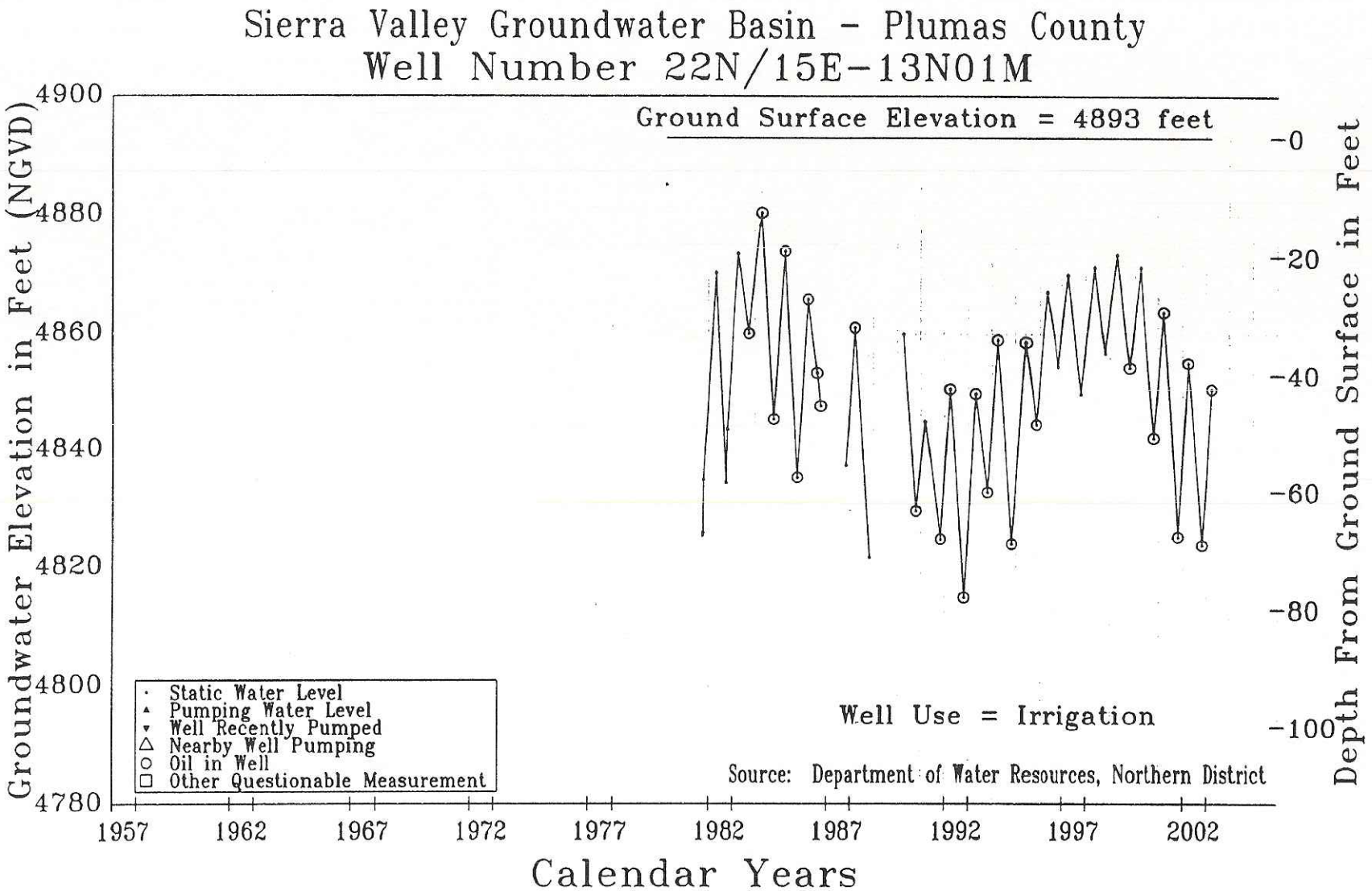
Seasonal Data Retrieval

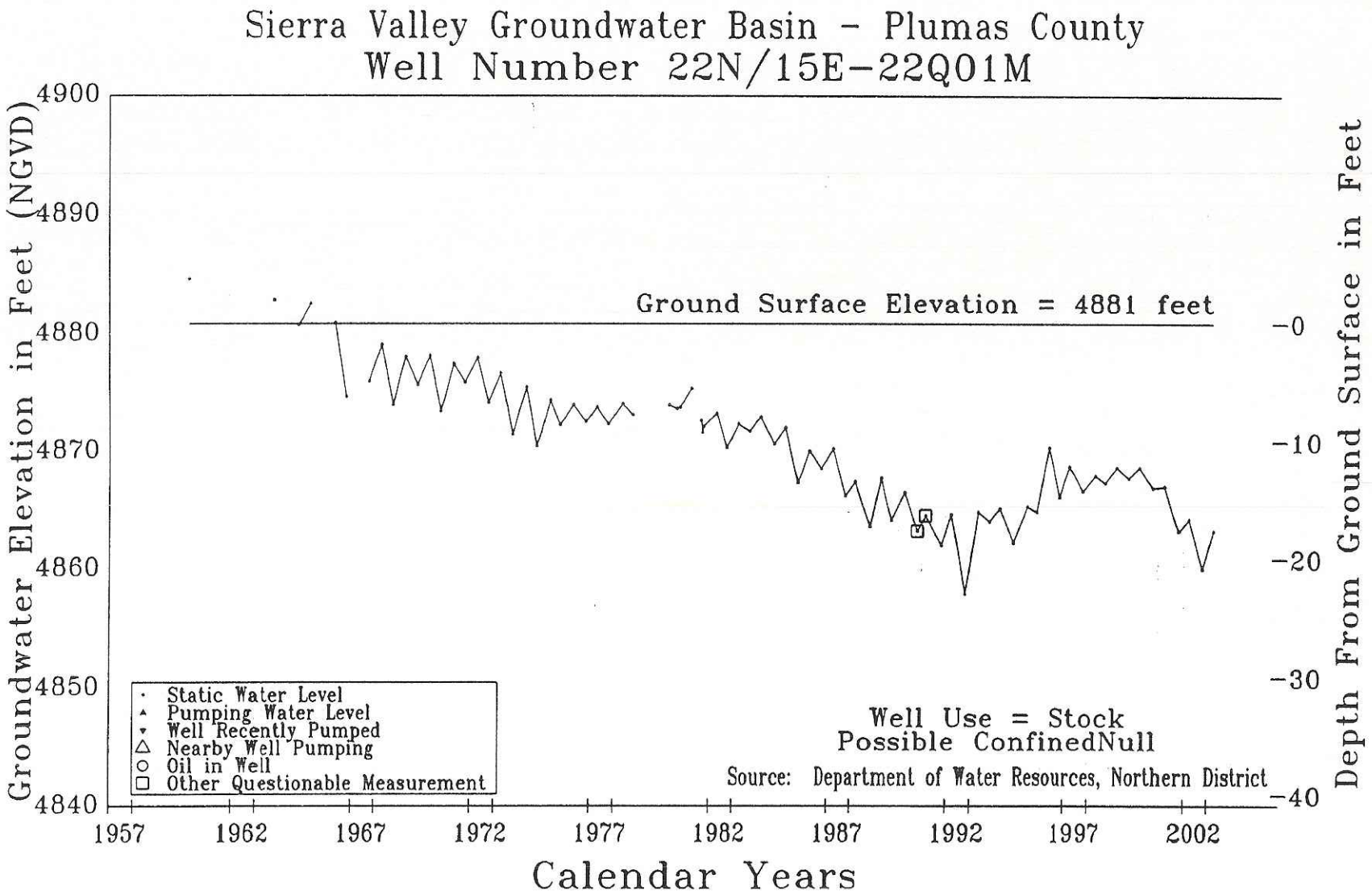
SWN	Meas. Date	WSE	GSWS	NM Code	QM Code	Agency
22N16E01A002M	03/29/2003	5,044.8	45.2			5050
23N16E25J001M	03/29/2003			7		5050
23N16E33A002M	03/27/2003	4,931.2	8.8			5050
23N16E36A001M	03/29/2003	5,092.9	62.1			5050
23N16E36B001M	03/29/2003	5,067.0	58.0			5050
23N16E36D002M	03/29/2003	5,027.1	84.9			5050
23N16E36H001M	03/29/2003			4		5050
23N16E36L003M	03/29/2003	4,995.5	14.5			5050
23N16E36L004M	03/29/2003	4,986.2	43.8			5050
23N16E36N002M	03/29/2003	4,995.9	14.1			5050
23N16E36R001M	03/29/2003	5,017.8	17.2			5050
23N17E31P001M	03/29/2003	5,061.0	109.0			5050
23N17E31Q001M	03/29/2003	5,089.3	150.7			5050
23N17E31Q002M	03/29/2003	5,079.0	131.0			5050

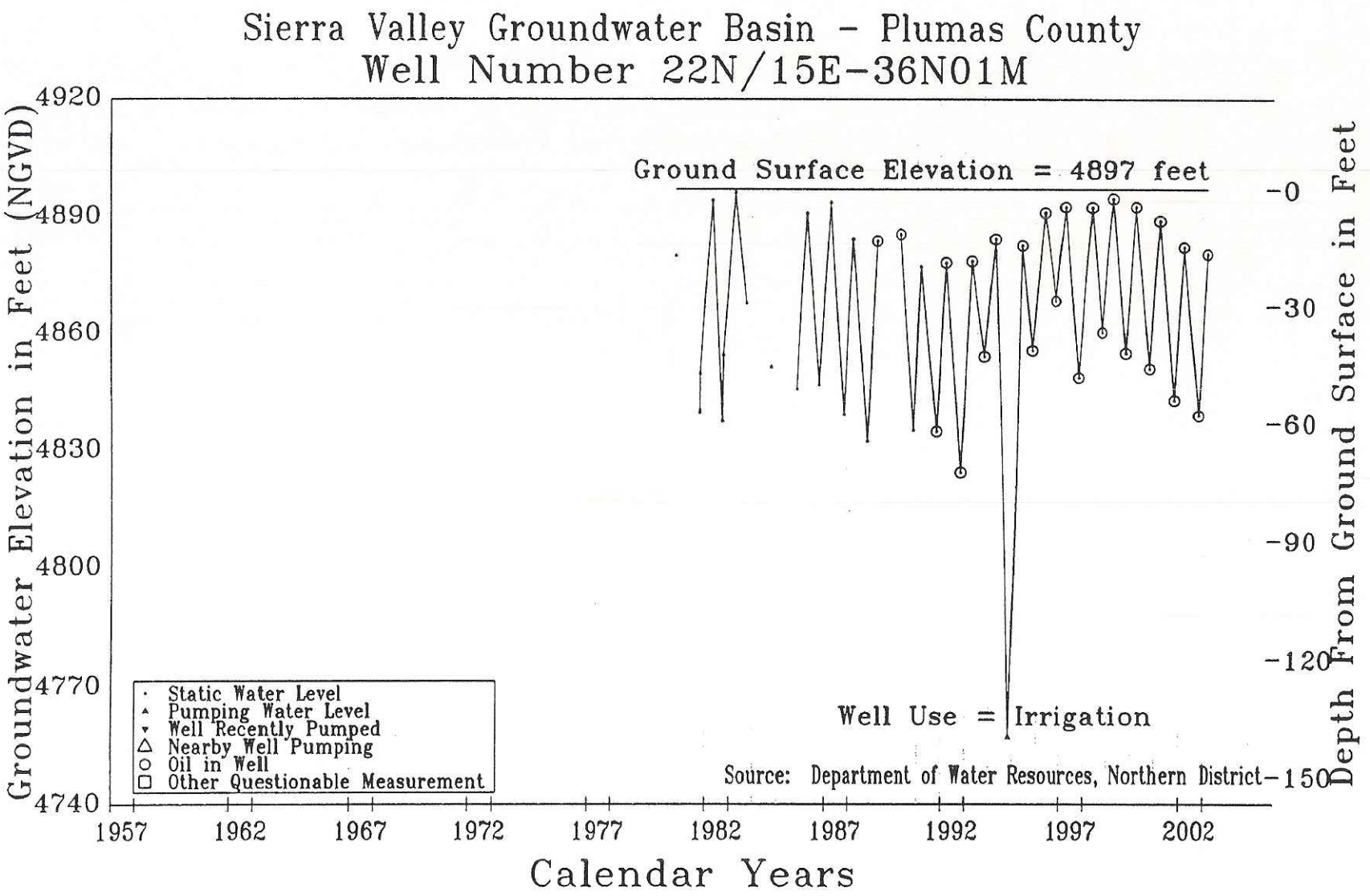
Your selection returned a total of **14** records.

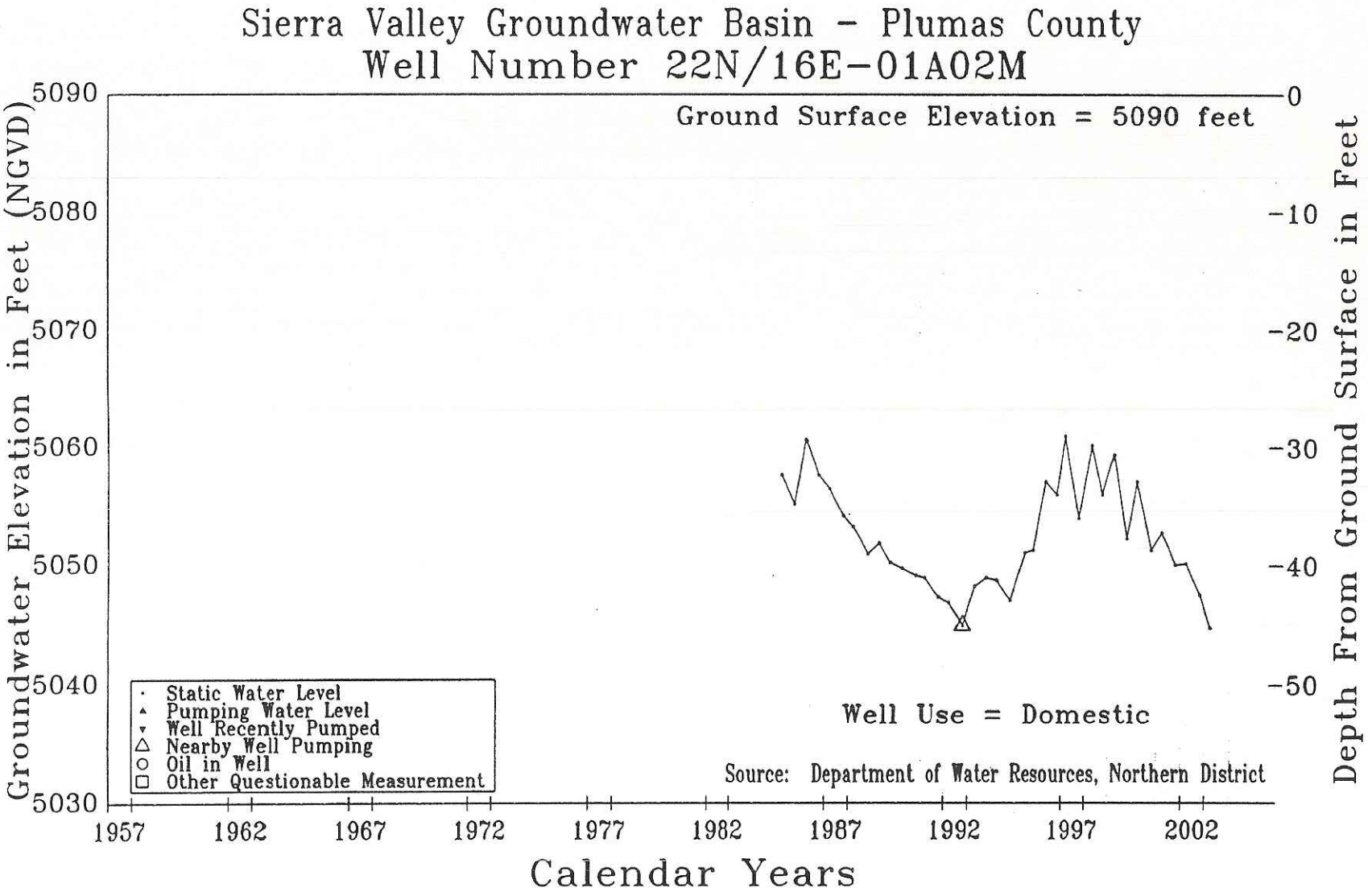
APPENDIX G

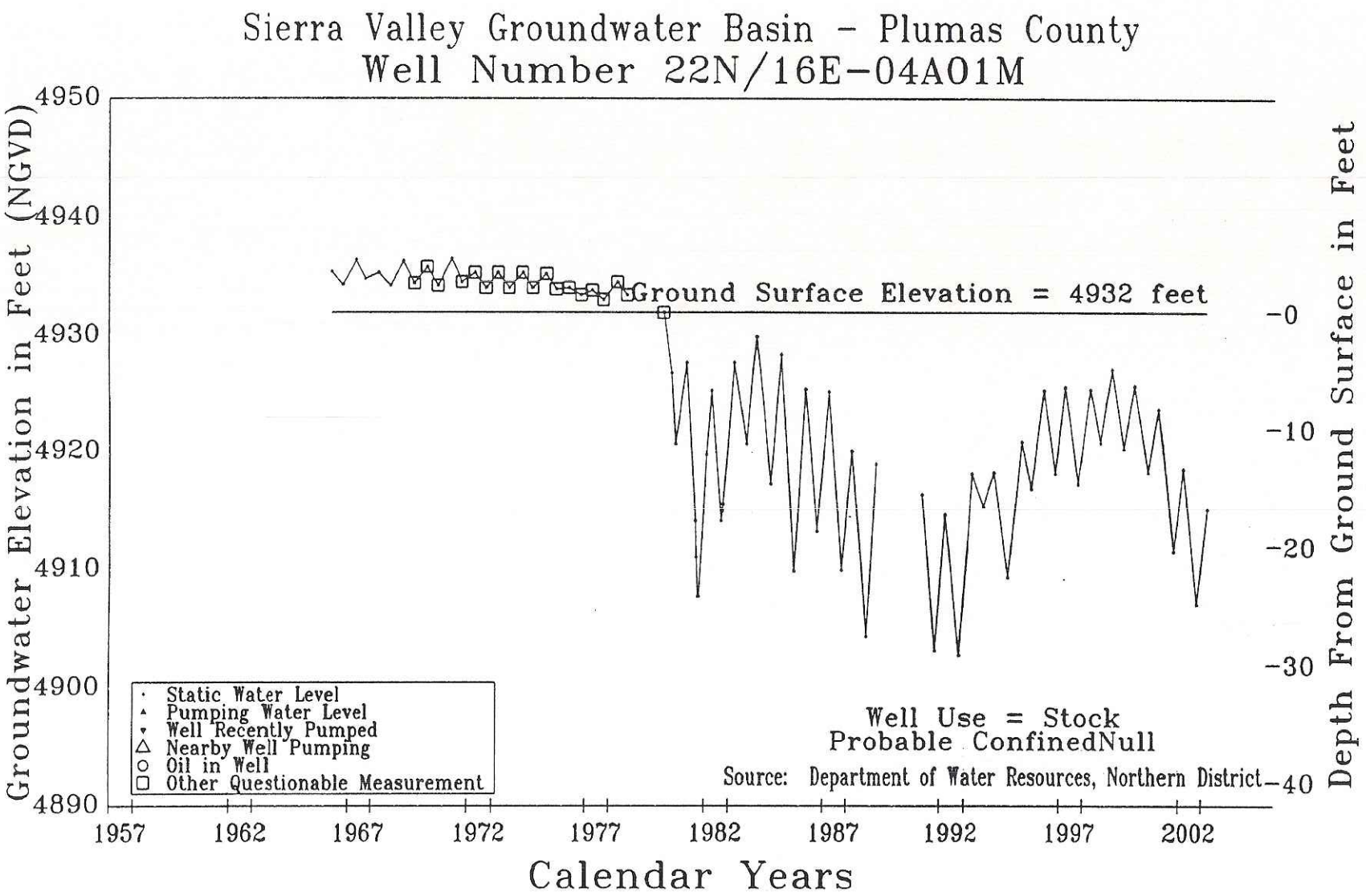
LONG-TERM WATER-LEVEL HYDROGRAPHS


Sierra Valley Groundwater Basin - Plumas County
Well Number 22N/15E-13N01M
Ground Surface Elevation = 4893 feet
Groundwater Elevation in Feet (NGVD)
4900
4880
4860
4840
4820
4800
4780
Depth From Ground Surface in Feet
-0
-20
-40
-60
-80
-100
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Well Use = Irrigation
Source: Department of Water Resources, Northern District
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years

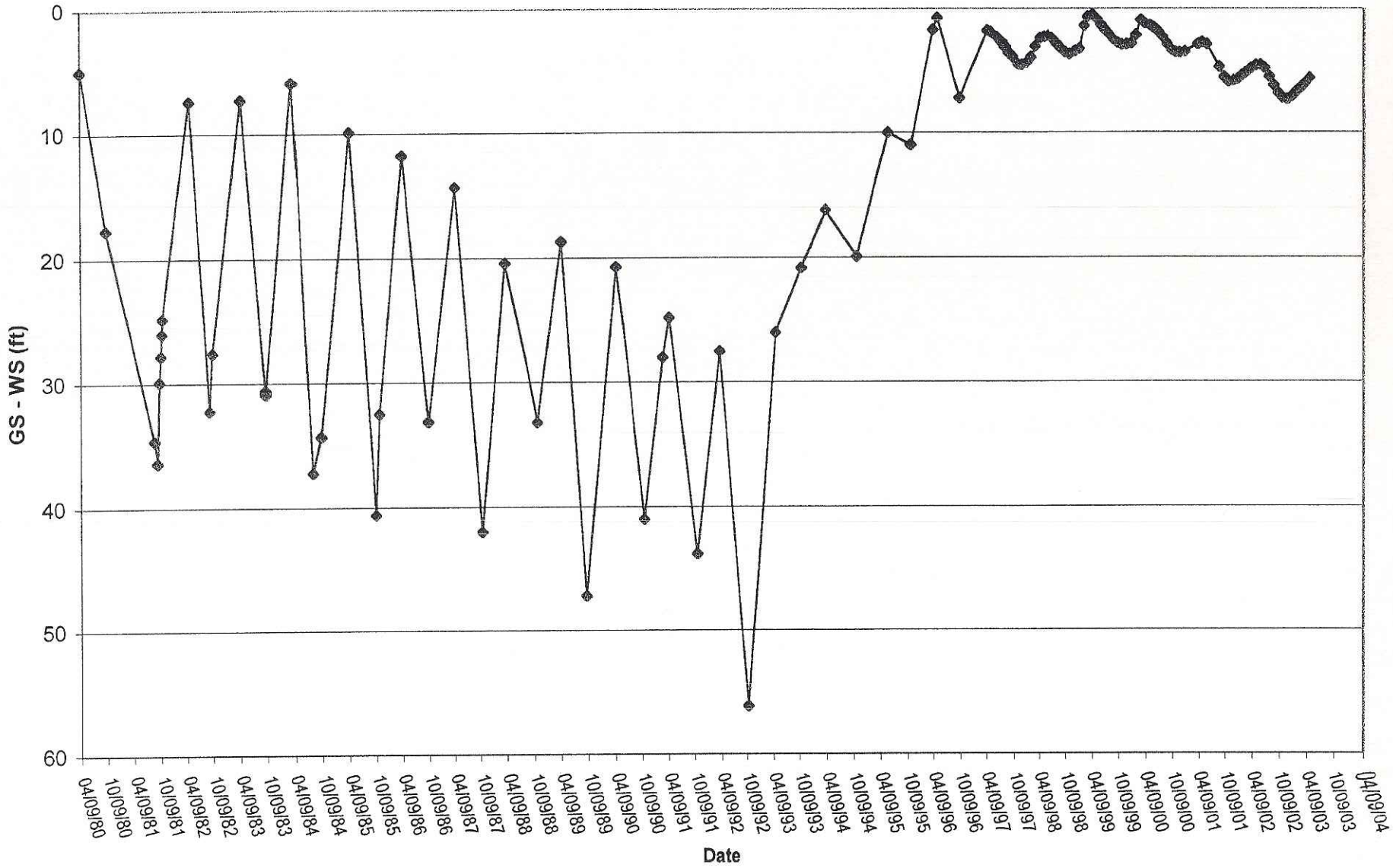

Sierra Valley Groundwater Basin - Plumas County
Well Number 22N/15E-22Q01M
Groundwater Elevation in Feet (NGVD)
4900
4890
4880
4870
4860
4850
4840
Depth From Ground Surface in Feet
-0
-10
-20
-30
-40
Ground Surface Elevation = 4881 feet
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Well Use = Stock
Possible ConfinedNull
Source: Department of Water Resources, Northern District
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years

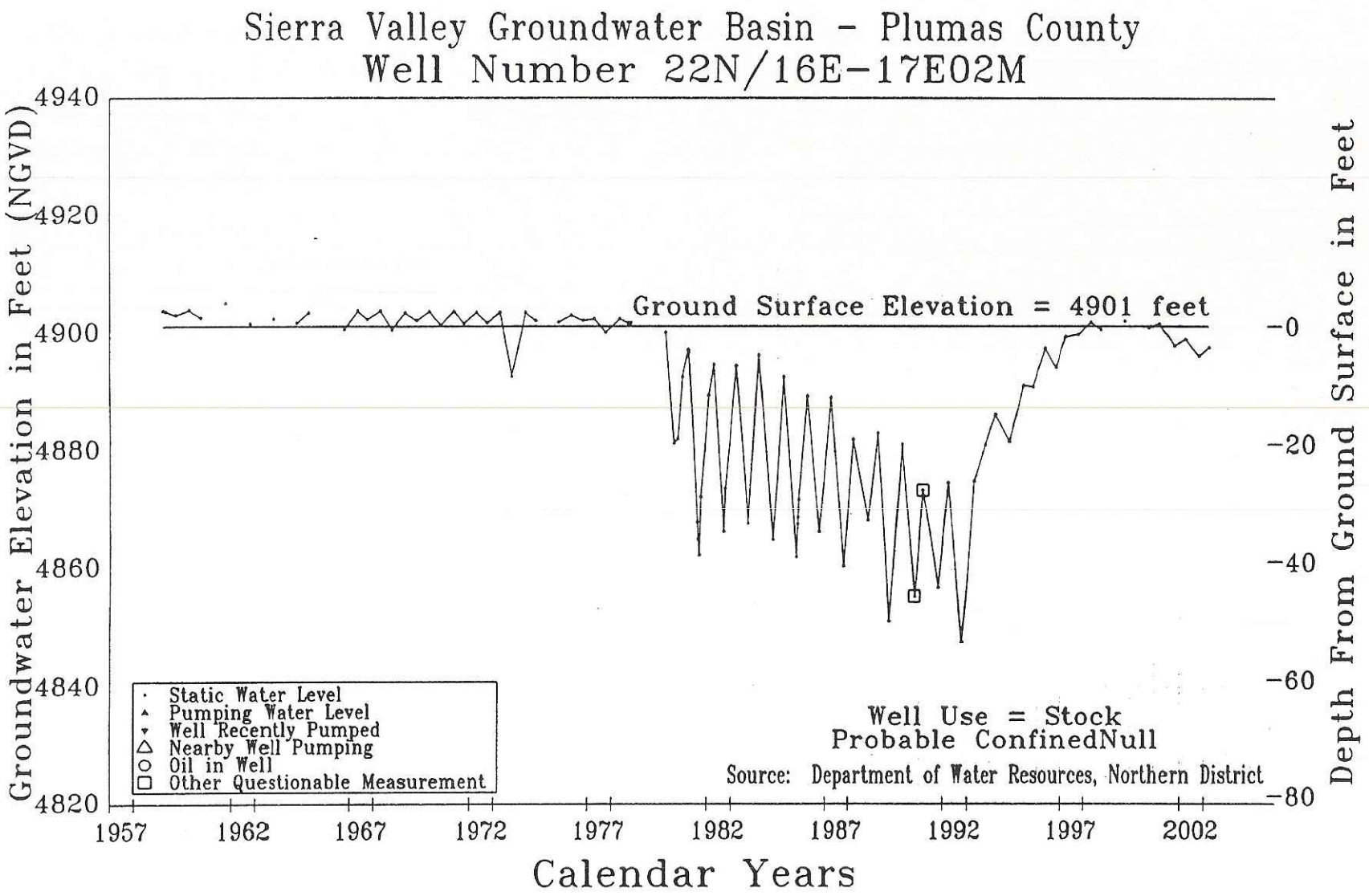

Sierra Valley Groundwater Basin - Plumas County
Well Number 22N/15E-36N01M
Ground Surface Elevation = 4897 feet
Well Use = Irrigation
Source: Department of Water Resources, Northern District
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Groundwater Elevation in Feet (NGVD)
4920
4890
4860
4830
4800
4770
4740
Depth From Ground Surface in Feet
-0
-30
-60
-90
-120
-150
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years

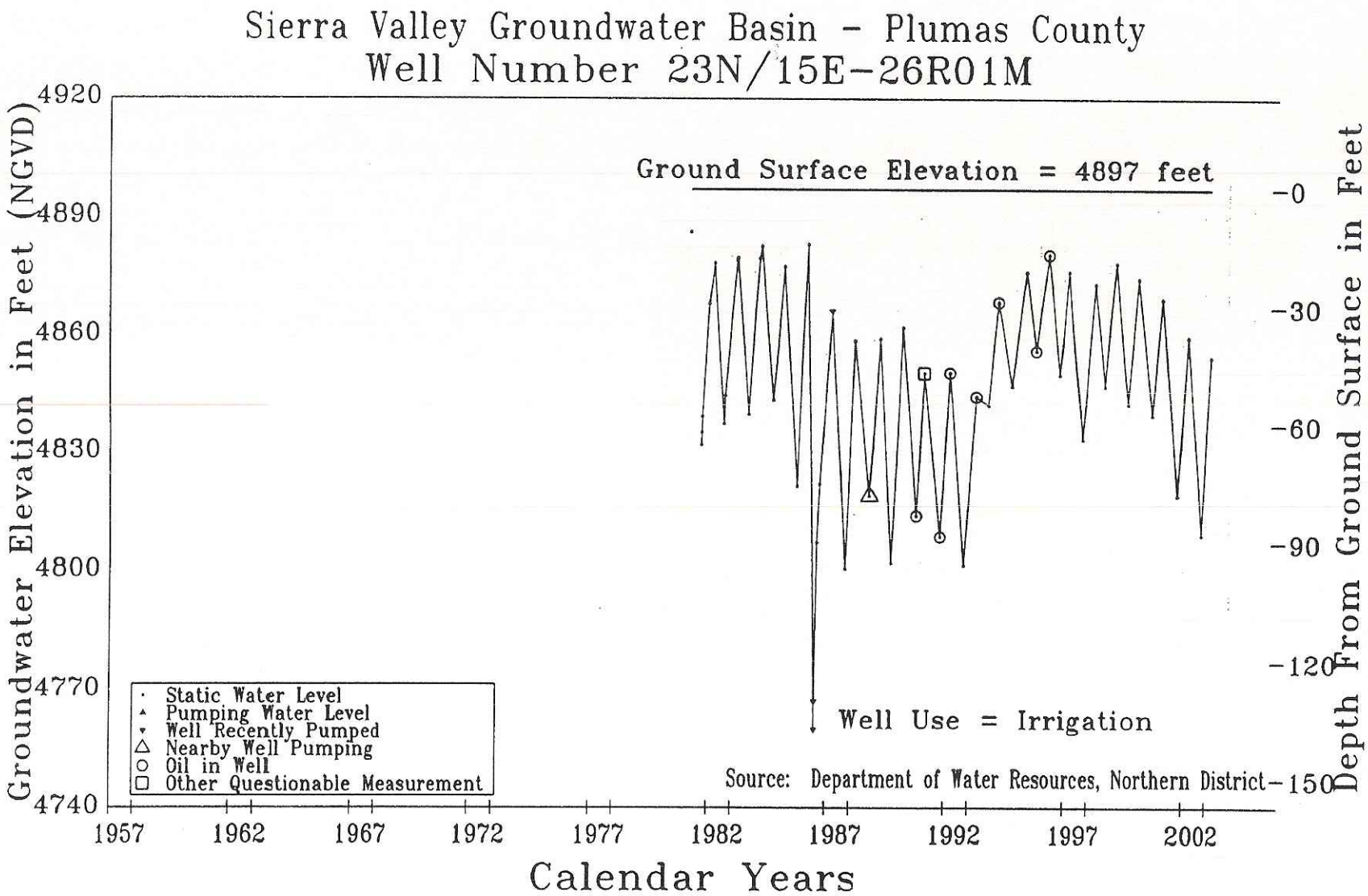

Sierra Valley Groundwater Basin - Plumas County
Well Number 22N/16E-01A02M
Ground Surface Elevation = 5090 feet
Groundwater Elevation in Feet (NGVD)
5090
5080
5070
5060
5050
5040
5030
Depth From Ground Surface in Feet
0
-10
-20
-30
-40
-50
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Well Use = Domestic
Source: Department of Water Resources, Northern District

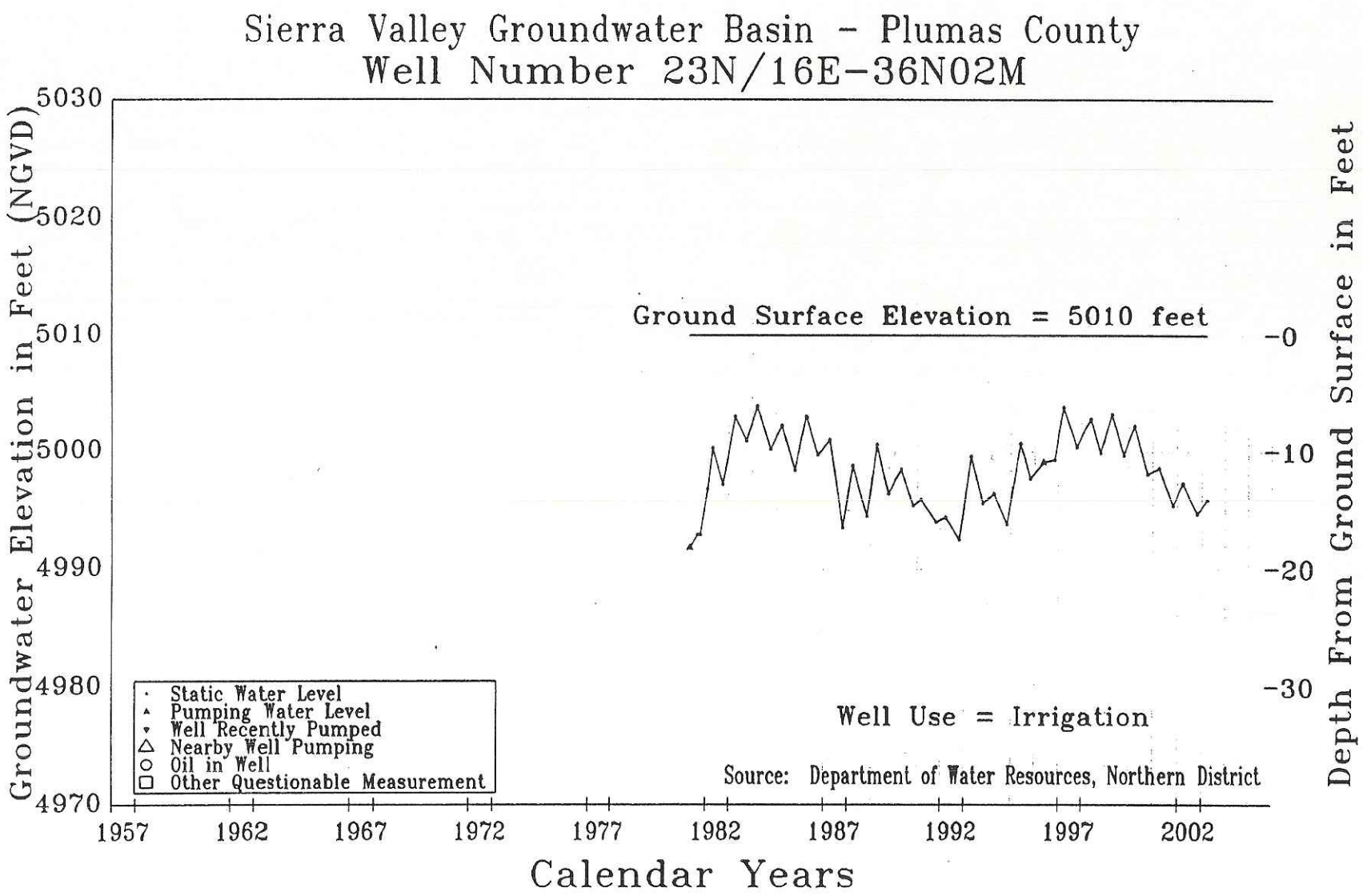

Sierra Valley Groundwater Basin - Plumas County
Well Number 22N/16E-04A01M
Groundwater Elevation in Feet (NGVD)
4950
4940
4930
4920
4910
4900
4890
Ground Surface Elevation = 4932 feet
Depth From Ground Surface in Feet
-0
-10
-20
-30
-40
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Well Use = Stock
Probable ConfinedNull
Source: Department of Water Resources, Northern District
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years

22N16E17C01M




Sierra Valley Groundwater Basin - Plumas County
Well Number 22N/16E-17E02M
Groundwater Elevation in Feet (NGVD)
4940
4920
4900
4880
4860
4840
4820
Depth From Ground Surface in Feet
-0
-20
-40
-60
-80
Ground Surface Elevation = 4901 feet
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Well Use = Stock
Probable ConfinedNull
Source: Department of Water Resources, Northern District
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years


Sierra Valley Groundwater Basin - Plumas County
Well Number 23N/15E-26R01M
Ground Surface Elevation = 4897 feet
Well Use = Irrigation
Source: Department of Water Resources, Northern District
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Groundwater Elevation in Feet (NGVD)
4920
4890
4860
4830
4800
4770
4740
Depth From Ground Surface in Feet
-0
-30
-60
-90
-120
-150
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years


Sierra Valley Groundwater Basin - Plumas County
Well Number 23N/16E-36N02M
Groundwater Elevation in Feet (NGVD)
5030
5020
5010
5000
4990
4980
4970
Depth From Ground Surface in Feet
-0
-10
-20
-30
Ground Surface Elevation = 5010 feet
Static Water Level
Pumping Water Level
Well Recently Pumped
Nearby Well Pumping
Oil in Well
Other Questionable Measurement
Well Use = Irrigation
Source: Department of Water Resources, Northern District
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
Calendar Years

ADDENDUM

Submitted by:
The Sierra Valley Groundwater Management District
May, 2003

ADDENDUM TABLE OF CONTENTS

EXHIBITS

SCOPE OF WORK

Because the budget proposal for the construction of four nested monitoring wells was less than the bids received to execute the project, the number of nested monitoring wells was reduced by one well. This reduction and an overage in the estimated costs of hydro-geologic assistance related to the cluster monitor well project, resulted in a budget surplus.

A proposal was submitted to the grant administrator to utilize authorized funding to expand project activities within the scope of the original grant application. Administrative approval was received to complete the following projects

- ✓ GIS Mapping of the District to include the District boundary and GPS locating of various sites within the District for creation of shape files to begin base map theme building; futhermore, utilizing the base map in the later development of existing and future data set displays as tools for the effective management of the groundwater resource
- ✓ GIS Software and Workstation for District use of GIS Mapping
- ✓ GPS Locator to enable site locating for future mapping
- ✓ Water-level Measuring Devices for nested monitoring wells
- ✓ Calibration of 23 District flow meters to ensure the accuracy of agricultural-use well pumping data

FROM GRANT APPLICATION
TABLE 2
PROJECT SCHEDULE

Elements of the project were initiated and completed on schedule. Report preparation was extended to 56 weeks to include the Spring 2003 water-level measurements in the final report, as well as the elements included in the expanded scope of work.

Element	Week 0	5	10	15	20	25	30	35	40	45
Cluster Monitor Wells										
Secure Well Sites	↔									
Prepare Specifications	↔									
Advertise for Bids		↔								
Select Driller			↔							
Drill & Develop Wells				↔						
Prepare Logs & Construction Diagrams					↔					
Survey Wells					↔					
Measure Water Levels						↔				
Subsurface Cross Sections										
Obtain & Organize Logs	↔									
Plot Locations of Wells with Logs		↔								
Prepare Cross Sections				↔						
Draft Cross Sections					↔					
Water-Level Recorders										
Compile Recorder Charts	↔									
Prepare Charts for Interpretation		↔								
Prepare Water-Level Hydrographs				↔						
Water Sampling										
Select Wells to Sample & Contact Landowners		↔								
Sample Wells			↔							
Review & Plot Analyses				↔						
Report Preparation										
Draft Report & Final Report									↔	

GRANT AGREEMENT NO. 4600001830 DISTRIBUTION OF FUNDS

FUNCTION	PAYMENT
Legal Counsel	2,649.00
Survey	3,500.00
Chemical Analyses	3,618.00
Well Construction	119,531.25
Consultant	22,264.00
Consultant Expenses	5,348.65
Contract Labor	19,165.56
District Labor	22,600.00
District Expenses	4,650.91
Equipment Purchase	30,217.62
Electric Logs	4,512.50
Flow Meter Calibration	11,942.51
TOTAL	**$250,000.00**

GRANT AGREEMENT NO. 4600001830 BILLING AND PAYMENT SUMMARY

					GRANT
					$250,000.00
SVGMD BILLING	**DATED**	**CHECK NO.**	**DATED**	**PAID**	**BALANCE**
$2,418.00	05/13/2002				
1,572.76	05/13/2002				
1,209.05	05/13/2002				
2,130.00	05/13/2002				
T 7,329.81					
		7496934	06/19/2002	$7,329.81	$242,670.19
53,757.50	07/04/2002				
231.00	08/02/2002				
6,538.85	08/02/2002				
70,286.25	08/02/2002				
T 130,813.60					
		08299516	09/17/2002	$130,813.60	$111,856.59
3,898.04	08/27/2002				
4,655.69	09/16/2002				
T 8,553.73					
		08355439	09/25/2002	$8,553.73	$103,302.86
446.76	01/08/2003				
2,334.64	01/08/2002				
1,189.60	01/08/2003				
3,618.00	01/08/2003				
3,500.00	01/08/2003				
4,985.29	01/08/2003				
1,823.38	01/08/2003				
3,811.69	01/08/2003				
T 21,709.36					
		08964126	02/05/2003	$21,709.36	$81,593.50
6,110.69	04/28/03				
258.87	04/28/03				
T 6,369.56					
				Payment Pending	$75,223.94

SVGMD BILLING	DATED	CHECK NO.	DATED	PAID	BALANCE
					Page A5
				Balance Forward	$75,223.94
7,467.11	04/29/03				
T 7,467.11					
				Payment Pending	$67,756.83
4,426.13	05/06/03				
T 4,426.13					
				Payment Pending	$63,330.70
19,268.07	05/07/03				
T 19,268.07					
				Payment Pending	$44,062.63
7,951.43	05/12/03				
5,779.56	05/12/03				
14,782.83	05/12/03				
T 28,512.62					
				Payment Pending	$15,548.81
15,548.81	05/13/03				
				Payment Pending	BALANCE -0-