ANNUAL REPORT ON RESULTS OF MAMMOTH COMMUNITY WATER DISTRICT GROUNDWATER MONITORING PROGRAM FOR OCTOBER 2000-SEPTEMBER 2001

Prepared for
Mammoth Community Water District
Mammoth Lakes, California

by
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December 11, 2001

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December 11, 2001

Mr. Dennis Erdman, General Manager
Mammoth Community Water District
P.O. Box 597
Mammoth Lakes, CA 93546

Re: Annual Report on Groundwater Monitoring

Dear Dennis:

Submitted herewith is our annual report on the results of the District groundwater monitoring program for the period October 2000-September 2001. I appreciate the cooperation of District personnel in conducting this monitoring and providing data tabulations.

Sincerely yours,

Kenneth D. Schmidt

KDS/jw

cc: Steve Kronick

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INTRODUCTION

In Summer 1992, the Mammoth County Water District contracted for the drilling of five new test wells in Mammoth Lakes. One of these wells (No. 15) was converted to a supply well and pumping began on an emergency basis in Summer 1992. In December 1992, the California Department of Fish and Game filed an action against the District in Superior Court. Concerns were expressed by the Department about the potential impact of pumping of these wells on wildlife, vegetation, and fishery resources of Mammoth Creek and the Hot Creek headsprings, which is located downstream of the District wells. Kenneth D. Schmidt and Associates completed a hydrogeologic evaluation (July 6, 1993) on behalf of the District, to respond to these concerns. In August 1993, a settlement agreement was made between the Department and the District. As part of this agreement, the District was to:

1. Conduct routine monitoring in all District supply and monitor wells.
2. Install a new monitor well tapping consolidated rock at a location south of the District office.
3. Conduct monitoring in the new monitor well.
4. Prepare an annual interpretive report on the results of groundwater monitoring for the water year.

Data available to the District from Wells SC-1 and SC-2 (part of the Long Valley hydrologic monitoring program) were to be included in this evaluation. This report comprises the eighth annual report pursuant to the settlement agreement. The Mammoth County Water District is now the Mammoth Community Water District.

SUMMARY AND CONCLUSIONS

The District pumped 1,943 acre-feet of water from seven of the eight supply wells during the 2001 water year. This was 51 percent more than during the previous water year, and the most pumped by the District since the 1993 water year. A comprehensive water-level monitoring program was conducted for District supply wells and monitor wells. In addition, water-level measurements were available for two other monitor wells east of the District wells. Flow measurements were not provided for the spring at the University of California Valentine Reserve.

Water levels in many shallow wells tapping the uppermost glacial till strata fell during 2001. These declines were associated with less recharge due to low precipitation during Winter 2000-2001. Groundwater is generally present in the uppermost strata only in the westerly part of the area, in the meadow and near Mammoth Creek. Water levels in most of the monitor wells tapping the consolidated rock also fell during the 2001 water year. These declines were due to less recharge and more District pumping during 2001. A water-level elevation contour map was prepared for September 2001. This map and other information indicate that the

extent of the cone of depression due to pumping of District wells was limited in size, and did not extend east of the easterly District monitor well (No. 24).

The results of water quality monitoring indicate no significant changes during the 2001 water year, compared to previously.

The results of the 2000-2001 monitoring indicate that District pumping did not influence Mammoth Creek streamflow. Flow data for the spring at the Valentine Reserve for 2001 were not provided. In addition, water-level declines due to pumping did not extend beyond the vicinity of the well field. Thus there was no influence on the Hot Creek headsprings, which are much more distant from the District water supply wells than the monitor wells utilized for the District monitoring program.

WELL CONSTRUCTION DATA

Figure 1 shows locations of District wells, a private supply well, a subsurface geologic cross section, two other monitor wells to the east (SC-1 and SC-2), and the spring area at the Valentine Reserve. Table 1 summarizes construction data for the District supply wells. All of these wells tap consolidated rock, primarily basalt and scoria layers, and some also tap interbedded glacial till and conglomerate. Well No. 1 has been in service since the 1970's and Wells No. 6 and 10 have been in service since 1988. These three wells are termed the "earlier" District supply wells in this report. Well No. 15 was first put in service in July 1992 on

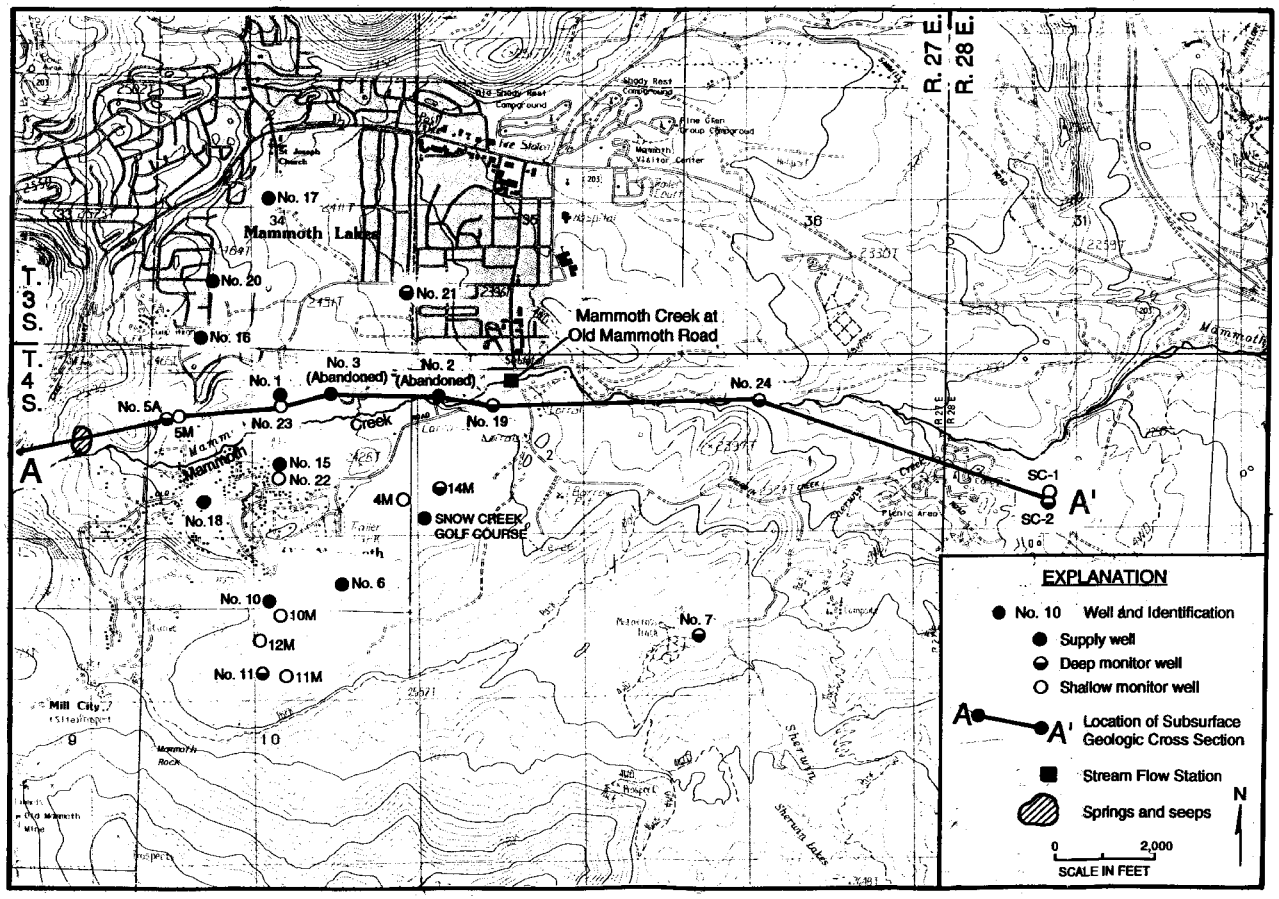

FIGURE 1 - LOCATION OF WELLS AND SUBSURFACE GEOLOGIC CROSS SECTION A-A'

TABLE 1 - CONSTRUCTION DATA FOR DISTRICT SUPPLY WELLS

Well No.	Date Drilled	Drilled Depth (feet)	Cased Depth (feet)	Perforated or Open Interval (feet)	Annular Seal (feet)
1	1976	382	370	200-370	0-90
6	11/87	670	670	146-670	0-52
10	10/87	700	700	136-700	0-52
15	8/92	720	407	407-720	0-135
16	8/92	710	715	420-470 500-680	0-60
17	7/92	710	513	400-710	0-60
18	8/92	710	480	90-150 240-470	0-60
20	9/92	710	420	420-710	0-60

Wells No. 16, 17, 18, and 20 were modified in June 1994 in preparation for being put into service. The test wells that were drilled in 1992 and subsequently converted to production wells are termed herein the "new District supply wells".

an emergency basis. Well No. 18 was put in service in September 1994. Wells No. 16 and 20 were put in service in March 1995; and Well No. 17 was put in service in June 1995. Wells put in service in 1992-95 are termed the "newer" District supply wells in this report. Wells No. 2, 3, 4, 5, and 7 (shown in Figure 1) were not put in service by the District because of low well yields. A small amount of water was pumped from Well No. 7 in Summer 2001 for use at the boys camp. Wells No. 2 and 3 were subsequently destroyed, whereas the other wells were converted to monitor wells.

Table 2 summarizes construction data for District monitor wells. Five of these wells (No. 5A, 14M, 19, 21, and 24) are deep and primarily tap water in fractured volcanic rock. Well No. 7 is a deep well located south of the basalt flow and taps water in a glacial morraine near Sherwin Creek. Well No. 11 is a deep well located south of the basalt flow and taps water in glacial till and granitic rocks. An annular seal was placed in Well No. 21 in July 1997, to preclude surface water and shallow groundwater from entering the well. Well No. 5M taps water in the shallow fractured volcanic rock, just beneath the glacial till. The remaining monitor wells are shallow and tap groundwater in the uppermost glacial till.

SUBSURFACE GEOLOGIC SECTION A-A'

Cross Section A-A' was developed during a previous evaluation, and was updated (Figure 2) by adding more recent water-level data.

TABLE 2 - CONSTRUCTION DATA FOR DISTRICT MONITOR WELLS

Well No.	Date Drilled	Drilled Depth (feet)	Cased Depth (feet)	Perforated or Open Interval (feet)	Annular Seal (feet)
4M	1984	89	89	69-89	0-50
5A	7/82(8/93)	357	357	112-357	0-112
5M	8/93	80	80	20-75	0-20
7	8/87	480	480	290-480	0-50
10M	6/88	27	27	7-27	0-5
11	7/88	600	600	170-360	0-50
11M	6/88	43	43	5-43	0-5
12M	9/88	27	27	7-27	0-5
14M	9/88	520	501	100-310	0-100
19	8/92	700	344	200-700	0-140
21	10/92(7/97)	640	145(157)	145-640(157-640)	(70-157)
22	9/92	85	85	55-85	0-25
23	9/92	65	65	30-65	0-25
24	8/93	450	430	300-450	0-20

Well No. 5 was modified in August 1993, so as to be sealed off opposite the glacial till and be perforated only opposite the volcanic rock, and re-designated Well No. 5A. An annular seal was placed in No. 21 in July 1997, and the values in parentheses are for the modified well.

FIGURE 2

SUBSURFACE GEOLOGIC CROSS SECTION A-A'
(In Pocket)

The locations of wells used for this section are shown in Figure 1. Cross Section A-A' shows that the uppermost till layer and volcanic rocks are continuous along the section. Groundwater has been found in the uppermost glacial till layer only in the vicinity of District Wells No. 1, 4, 6, 10, 11, 12, and 15. Most of these wells are either in the meadow or near Mammoth Creek. Water production in the District supply wells is from highly fractured rock, often scoria layers, and sometimes from interbedded glacial till. The intervening less fractured rock probably acts as local confining layers. At Well No. 24, water was not found in the upper part of the basalt or in either of the till layers. Water in this well is in a fractured scoria layer. A lost circulation zone present in this well may influence the water level. In September 2001, there was a fairly uniform water-level slope (about 250 feet per mile) from Well No. 1 to No. 19 to No. 24. The part of the section east of Well No. 24 is oriented almost perpendicular to the direction of groundwater flow (shown later).

PRECIPITATION

Precipitation (inches of water) is routinely measured at the Lake Mary Store, and is an indication of the potential recharge to groundwater. During water years 1991-94, annual precipitation ranged from about 20 to 29 inches and averaged about 22.5 inches. During water years 1995-2000, annual precipitation ranged from about 30 to 46 inches and averaged about 39 inches. During water

year 2001, the annual precipitation was about 21 inches, or the lowest value since the 1992 water year. These trends in precipitation are useful when evaluating water-level changes in wells that are measured as part of this program.

DISTRICT PUMPAGE

Pumpage records for District supply wells are provided in Appendix A. Table 3 shows monthly pumpage from District wells during the 2001 water year. The total pumpage was 1,943 acre-feet, or 51 percent greater than that for the previous water year. Of this, 536 acre-feet were from Well No. 15, 433 acre-feet were from Well No. 10, 394 acre-feet were from Well No. 17, 242 acre-feet were from Well No. 16, and 180 acre-feet were from Well No. 20. The remaining District pumpage (159 acre-feet) was from Wells No. 1 and 18. Well No. 6 was not used during this water year. About 35 acre-feet of water were pumped during the 2001 water year from the Snow Creek Golf Course Well (in the general vicinity of Well No. 14M). This well is owned by Dempsey Construction. From June to August, 2001, an estimated total of about 90,000 gallons was pumped from Well No. 7 for use at the boys' camp.

WATER LEVELS

District Supply Wells

Water-level measurements (static and pumping) for District supply wells are provided in Appendix A. Water-level hydrographs for the earlier wells (No. 1, 6, and 10) are provided in Appendix B.

TABLE 3- PUMPAGE FROM DISTRICT WELLS (ACRE-FEET)

Well No.	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Total
1	0.586	0.000	0.288	0.184	0.362	0.000	0.080	0.000	3.104	6.347	20.831	19.344	**51.126**
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
10	0.000	10.834	42.169	52.764	50.699	0.000	0.000	0.000	0.000	0.982	130.994	144.196	**432.638**
15	9.031	0.000	1.571	8.736	20.810	40.540	26.699	54.773	100.613	83.141	104.442	85.791	**536.147**
16	10.331	0.000	1.129	0.000	0.000	0.000	0.000	41.963	51.166	42.871	62.479	32.294	**242.233**
17	13.595	0.393	1.718	2.994	2.896	17.031	21.448	35.828	56.834	86.650	93.104	61.350	**393.840**
18	3.724	0.000	0.000	0.018	2.798	0.000	0.031	14.221	20.466	9.380	24.436	32.626	**107.699**
20	5.546	0.098	0.245	1.521	0.491	4.663	4.712	7.853	22.233	40.638	50.307	41.227	**179.534**
Total	**42.813**	**11.325**	**47.120**	**66.218**	**78.055**	**62.233**	**52.969**	**154.638**	**254.417**	**270.009**	**486.592**	**416.828**	**1943.218**

New Wells

Figure 3 is a water-level and pumpage hydrograph for Well No. 15, extending back to when it was initially put in service in July 1992. The static water level fell about 80 feet after several months of pumping, and normally ranged from about 260 to 280 feet during periods when the well was being significantly used through early 1995. During periods when the well had not been used much for supply (i.e., May 1995-June 1998), the water level rose substantially. In June 1998, the depth to water in Well No. 15 was 156 feet, or the shallowest of record. In June 2001, depth to water in this well was 191 feet. The annual shallowest water level in this well fell from 156 feet in 1998 to 183 feet in 2001. Depth to water in Well No. 15 appears to be influenced primarily by the previous pumping history of the well and recharge.

Figure 4 is a water-level and pumpage hydrograph for Well No. 16. The water level in this well changed substantially after the casing was installed (July 1994) and after the pump was installed (February 1995). After the casing was installed and prior to the pump installation, an access tube was not in the well, and the measurements during that period were apparently affected by cascading water. The measurements for July 1994-early February 1995 and for April-May, 1998 appear not to be representative. During heavy pumping periods of Well No. 20, the static level in Well No. 16 has been about 12 feet lower than during periods of lower pumping of Well No. 20. Overall, static levels in Well

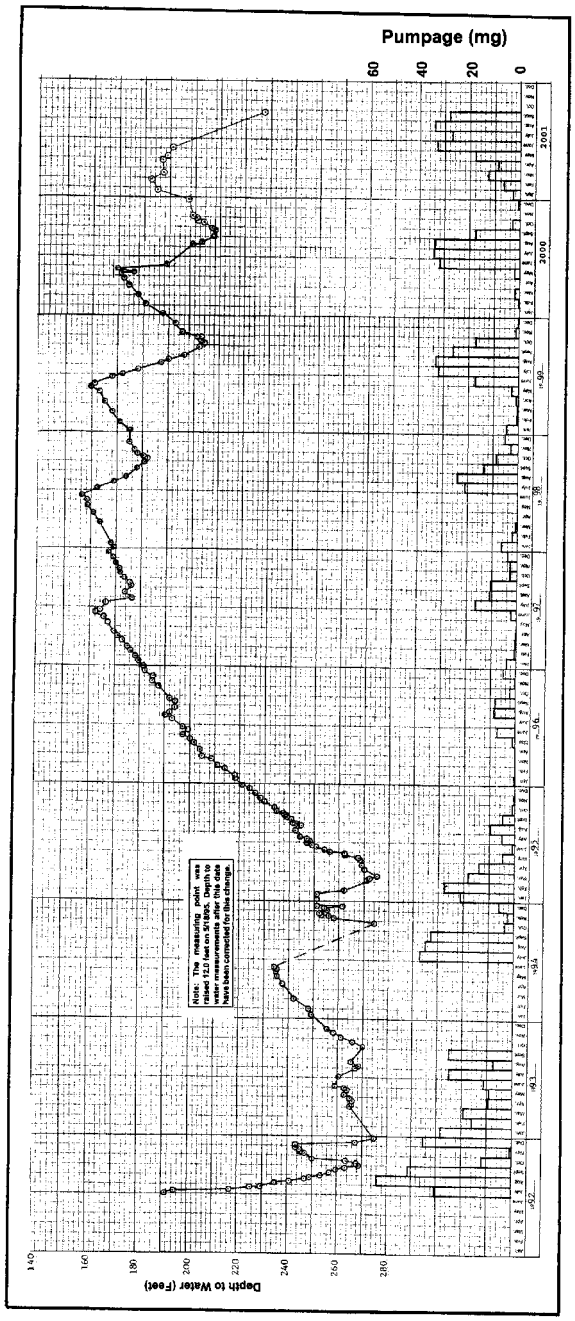

FIGURE 3 - WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 15

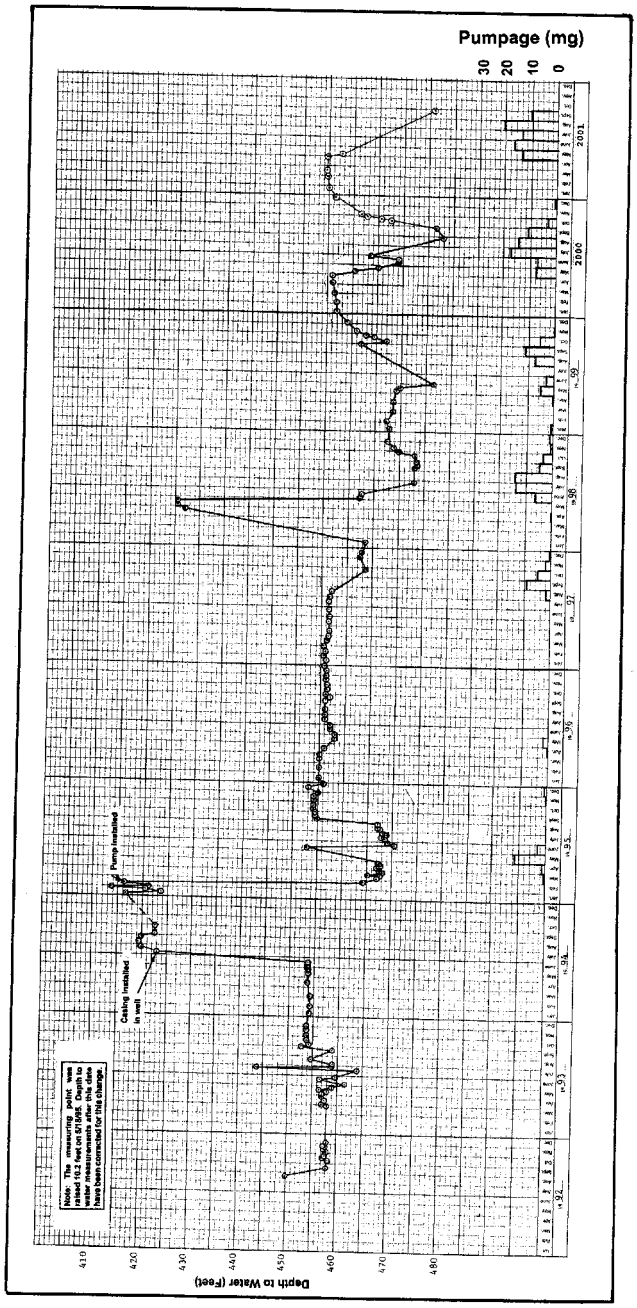

FIGURE 4 - WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 16

No. 16 have been relatively stable since 1992. There were seasonal declines of about 20 to 25 feet during pumping periods of this well in 2000 and 2001.

Figure 5 is a water-level and pumpage hydrograph for Well No. 17. Measurements in early 1995 indicated that the water level apparently rose about eight feet, probably due to recharge. The water level in Well No. 17 appears to be influenced by pumpage of Well No. 20. During operational periods of both of these wells, the static level in Well No. 17 has been about four feet lower than during periods of little pumpage. The water level in Well No. 17 gradually rose during November 1995-August 1999, except during some pumping periods. The shallowest depth to water yet measured in this well was in January 2000. During 2000 and 2001, the water level in this well fell, due to heavier pumping of this well compared to previously and less recharge.

Figure 6 shows water levels and pumpage for Well No. 18. The overall trend for this well during non-operational periods was a slight water-level rise through 1997. The water level was relatively constant during 1998-early 2000. In early June 1998, the water level in Well No. 18 was 30 feet deep, the shallowest yet measured. The water-level decline of about ten feet in this well during July 1998 appears to have been due to pumping of Wells No. 10 and 15. The water level in this well was 97 feet in September 2001, the lowest for the period of record. Seasonal water-level declines during 2000 and 2001 in this well ranged from about 40 to

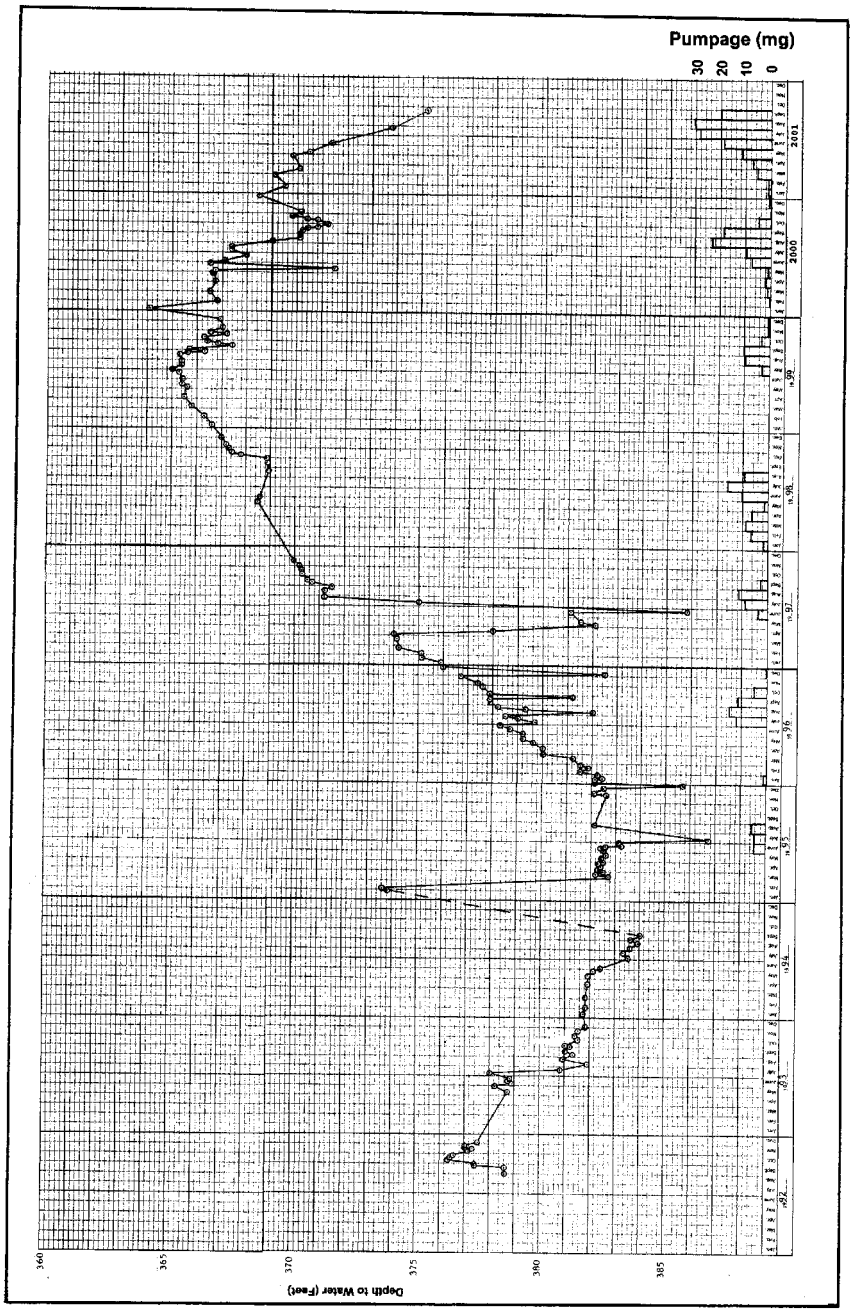

FIGURE 5 - WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 17

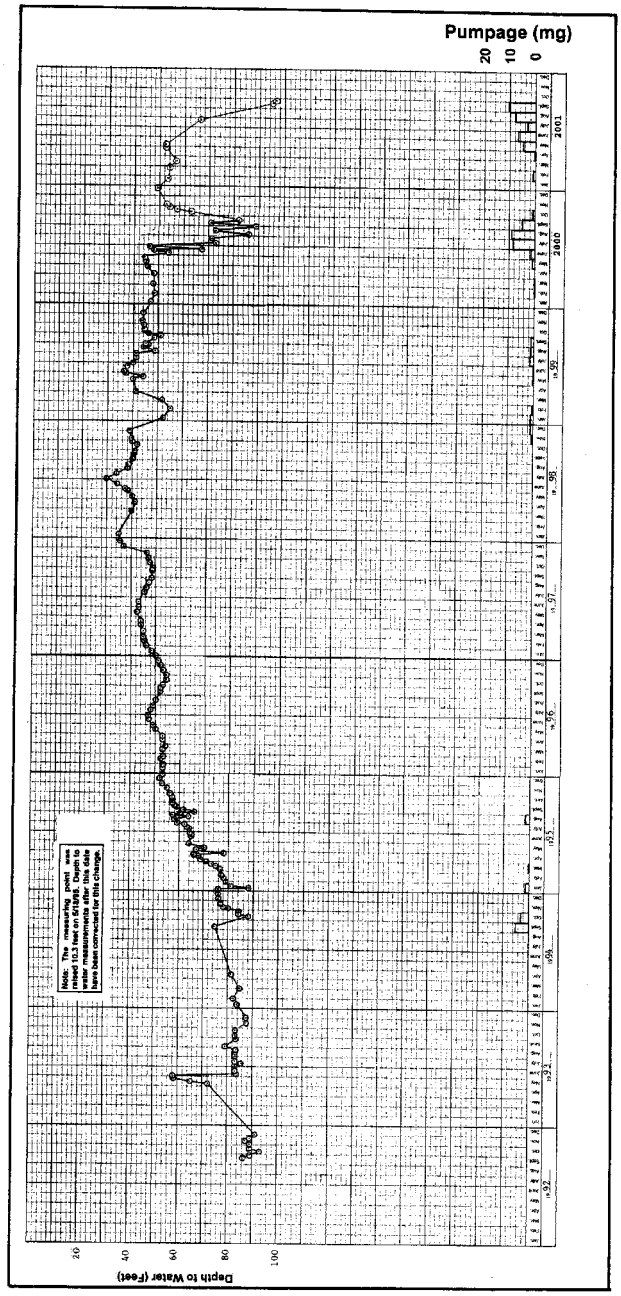

FIGURE 6 - WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 18

50 feet. Previous seasonal water-level declines in this well were normally about 10 feet. The greater seasonal decline during 2000-2001 is attributed to the following:

1. Pumpage from Well No. 18 during 2000 and 2001 was the greatest to date.

2. Well No. 15 was heavily pumped during 2000 and 2001, and previous reports have indicated that pumping of this well draws down the water level in Well No. 18.

3. Well No. 10 was also pumped significantly in 2000 and 2001.

Figure 7 is a water-level and pumpage hydrograph for Well No. 20. From 1994-98, the overall trend was a rising water level. The shallowest levels in Well No. 20 to date were in late 1998 and early 1999. The water-level declines in this well in Summer 1999 and 2000 were mainly due to pumping of the well itself. The water level in this well may be somewhat affected by pumpage of Well No. 17. Static levels were not available for this well after June 2001, because of its pumping.

Earlier Wells

Water-level and pumpage hydrographs for Wells No. 1, 6, and 10 are provided in Appendix B. The static water level in Well No. 1 has ranged from about 160 to 200 feet during low pumping periods to an average of about 270 feet during heavy pumping periods (i.e., August 1994). Overall, the water level in this well rose between 1992 and 1997, and slightly declined after 1997. In June 1998, depth to water in this well was 160 feet, or the shallowest

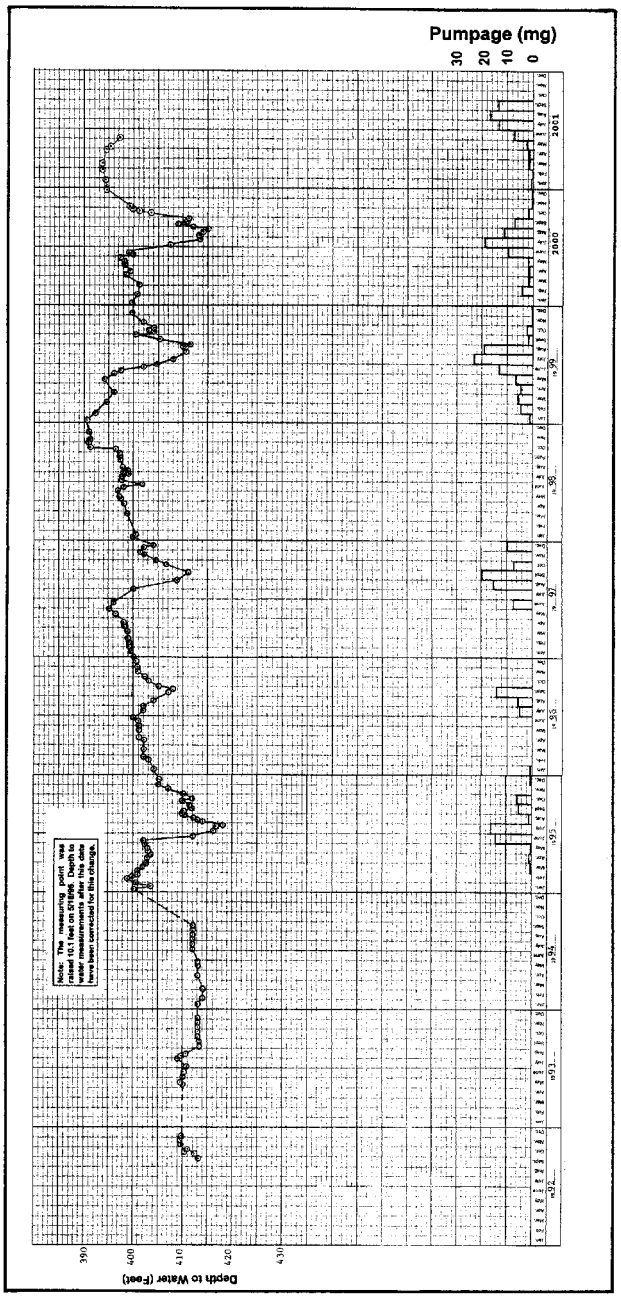

FIGURE 7 - WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 20

measured since 1990. Depth to water in this well was 173 feet in June 2001. The static water level in Well No. 6 has ranged from less than 30 feet during low pumping periods (after September 1995) to more than 160 feet during heavy pumping periods (August-September, 1994). During May-September, 1996, in part of 1997, and in late 1999-2001, the static level in this well was at or above the land surface. Depth to water was less than 15 feet during the past five water years. The static water level in Well No. 10 has ranged from less than 30 feet during low pumping periods (July 1995) to more than 160 feet during heavy pumping periods (Summer 1993). During the past four water years, depth to water has usually been less than 30 feet, except for short periods during 1998, 1999, and 2001. Depth to water in Well No. 10 was near 17 feet in July 2001. Static water-level measurements for this well were not available after July because of the pumping of this well.

Deep Monitor Wells

Water-level measurements for monitor wells are provided in Appendix C, and supplementary water-level hydrographs are provided in Appendix D. Transducers were installed in four of the deep monitor wells (No. 14M, No. 19, No. 21, and No. 24), and continuous water-level measurements commenced in December 1995. Well No. 5A is located between Well No. 1 and the Valentine Reserve North Spring (Figure 1). Measurements for Well No. 5A indicate that

depth to water has ranged from near the land surface to about six feet. From 1995-99, the annual shallowest level was near the land surface, and overall the water level rose. During July-September, 2000, the water level in this well fell about three feet. This is indicated to be due to pumping of Well No. 18, although pumping of Well No. 15 may also have had an influence. After pumping stopped, the water level in Well No. 5A rose about two feet. During 2001, the water level in this well also fell about three feet. The annual shallowest water level fell about two and a half feet between 1999 and 2001. Well No. 7 is located in the Sherwin Creek campground, about one and a third miles east of Well No. 6. Measurements for Well No. 7 indicate that depth to water has ranged from 241 to 288 feet. The water level in this well appears to be primarily influenced by recharge from Sherwin Creek. The influence of recharge during 1995 is apparent. The shallowest water level of record in Well No. 7 was measured in September 1997. Drawdowns of about 10 to 15 feet during Summer 2000 were due to the pumping of the well itself. The annual shallowest level in this well fell about eight feet between 1998 and 2000.

Well No. 11 is located in the meadow area, about one quarter mile south of Well No. 10. The water-level measurements for Well No. 11 indicate that the deepest level (51 feet) was in May 1993, and the shallowest levels were near the land surface during most of the period after July 1995. The water level in this well is influenced by pumping of Wells No. 6 and 10, and surface flow,

particularly in the Bodle Ditch, which passes through the meadow area. The water levels were deepest during drought conditions and heavy pumping of Wells No. 6 and 10. The shallowest water levels occurred during wet years and less pumping of Wells No. 6 and 10.

Well No. 14M is located about two-thirds mile east of Well No. 15. The manual water-level measurements for Well No. 14M (Figure 8) indicate that the depth to water normally ranged from about 350 to 360 feet prior to June 1995. The annual shallowest water level in this well rose between 1994 and 1998. The rise has primarily been associated with recharge and the reduction in pumping of Wells No. 6 and 10. In July 2000, depth to water was 235 feet, or the shallowest of record. The water level in this well fell about 40 to 45 feet between July 2000 and May 2001, primarily due to pumping of Well No. 10. The water level in this well shows the influence of recharge and pumping patterns of Wells No. 6 and 10, and the Snow Creek Golf Course well. Transducer measurements that are considered reliable are available for Well No. 14M for November 1, 1996-September 30, 2001, except for October 1997, June 1998, and March 2001. Between March and December 2000, the transducer measurements for this well averaged about ten feet shallower than the manual measurements. The transducer was re-calibrated on January 1, 2001, and the 2001 measurements agree well with the manual measurements.

Well No. 19 is located about four-fifths of a mile east of Well No. 1. Based on manual measurements (Figure 9), the water level in Well No. 19 has ranged from about 312 to 357 feet deep.

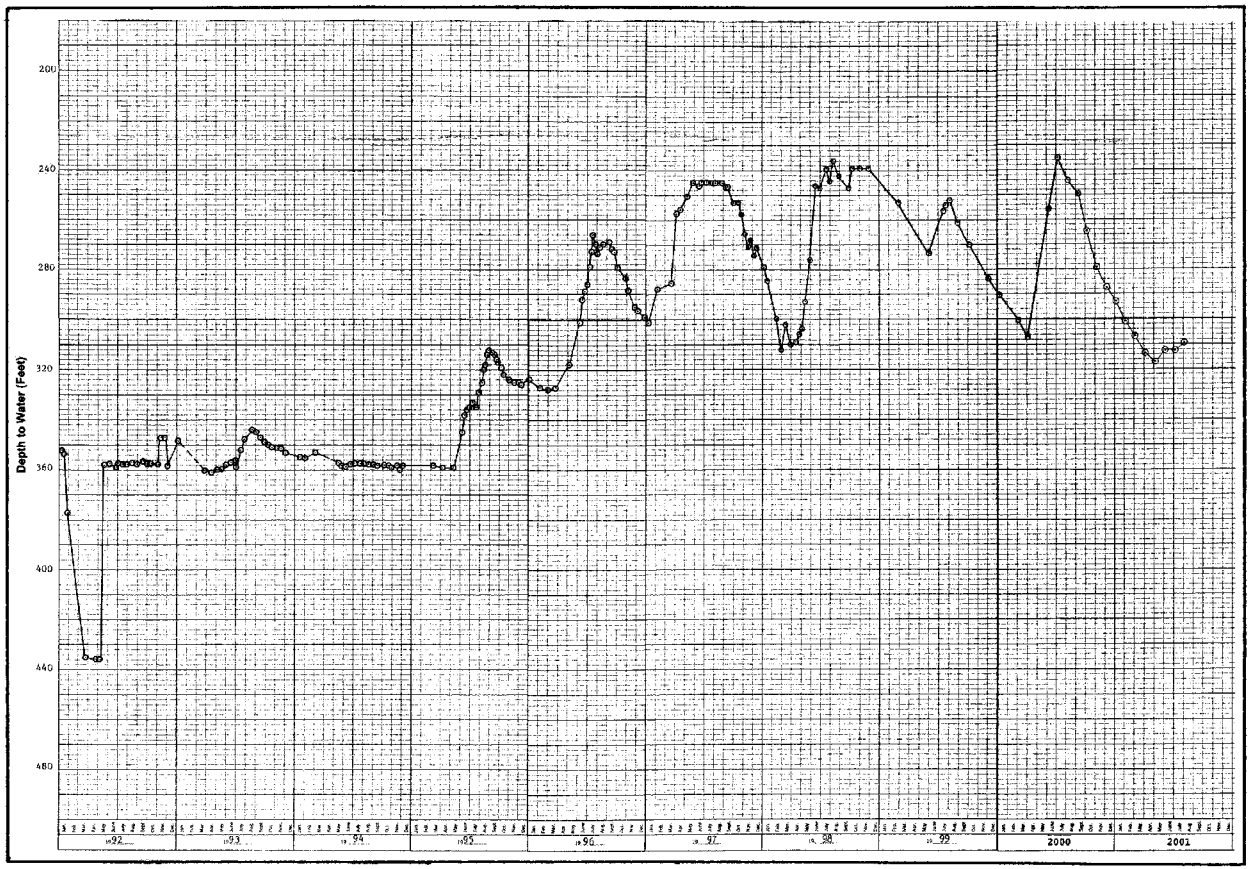

FIGURE 8 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 14M

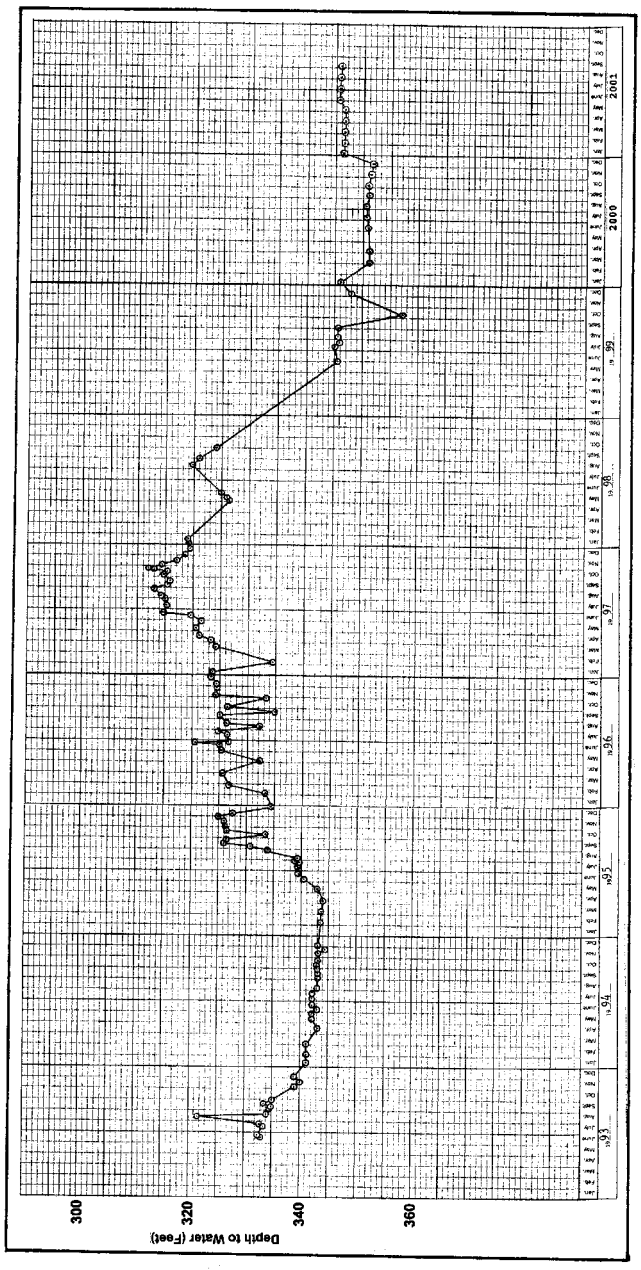

FIGURE 9 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 19

The water level generally rose from 1995-98. In October 1997, depth to water was 312 feet, or the shallowest yet measured. During 1999-2000, the water level in Well No. 19 fell about 30 feet, to below the levels in 1994 and early 1995. However, there was no decline during 2001. During the 2001 water year, depth to water in this well was usually about 345 feet. Transducer readings that are considered fairly reliable are available for this well from November 1, 1996-September 10, 1997, from November 1, 1997-September 30, 1998, except for June 1998, and from May 4-September 30, 2001 (Appendix D).

Well No. 21 is located about three fourths of a mile east of Well No. 20. Based on manual measurements, the water level in Well No. 21 (Figure 10) has ranged from about 231 to 370 feet in depth. The water level in this well rose significantly between early 1995 and late 1996. There was a water-level decline in this well from December 1996-February 1997, and the water level then rose through June 1997. Most of the rise is attributed to recharge, which may have been enhanced due to a lack of an annular seal in the well. An annular seal was placed in this well during July 1997. Since July 1997, the water level in this well has been relatively constant. Transducer measurements that are considered reliable are available for Well No. 21 from November 1, 1996-May 31, 1997, November 1, 1997-September 30, 1998, except for June 1998, and May 4-September 30, 2001 (Appendix D). The manual water-level measurements in this well have indicated no significant response due to pumping of District wells.

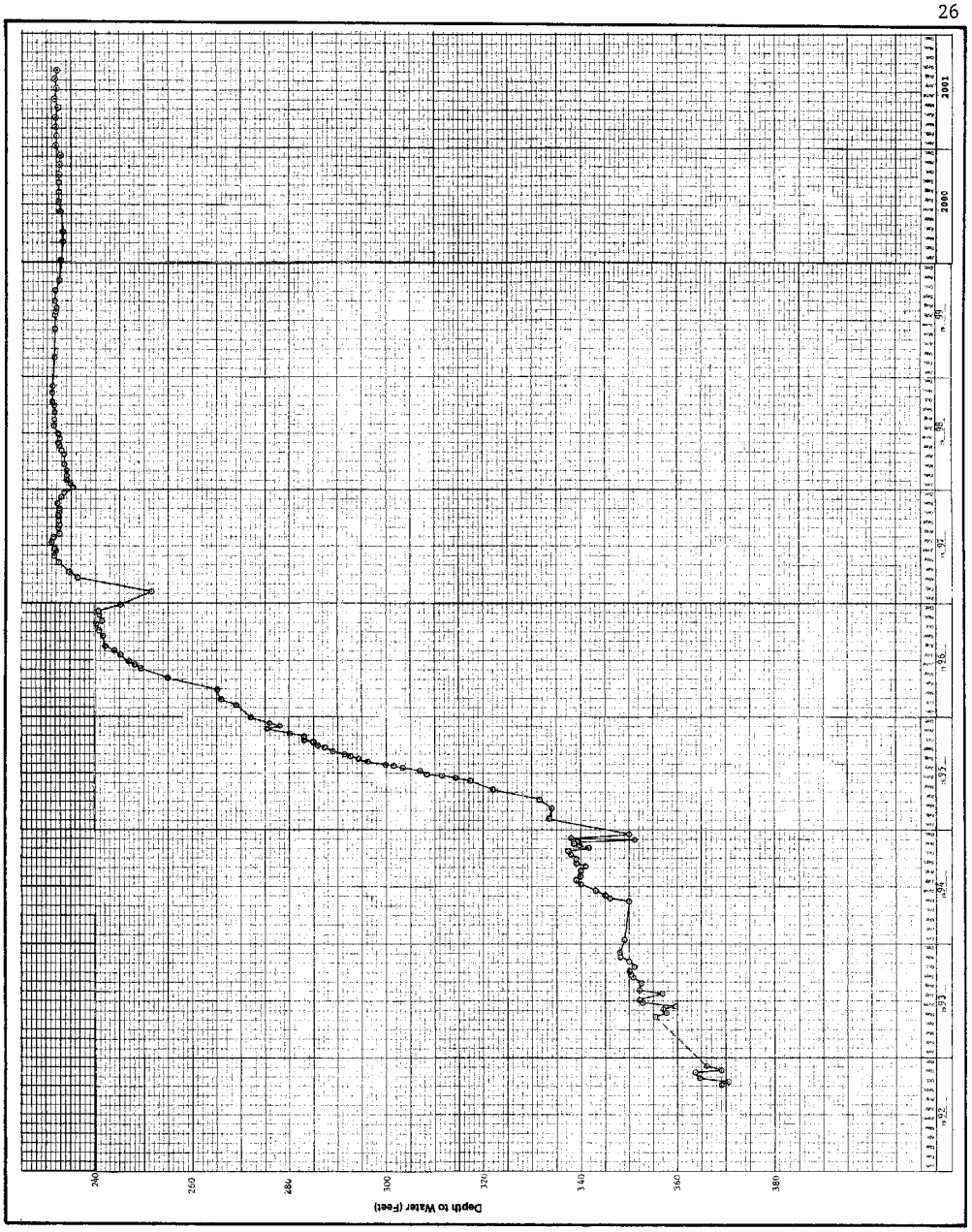

FIGURE 10 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 21

Well No. 24 is located about one mile east of Well No. 19. Figure 11 is a water-level hydrograph for Well No. 24, based on manual measurements. Measurements for this well began in Summer 1993, and depth to water has ranged from 352 to 392 feet. The water level rose after early 1995, to the shallowest depth yet measured in December 1998. During 1999-2000, the water level fell about 25 feet, and this is attributed to less recharge due to the relatively low precipitation during Winter 1998-2000. The water level in Well No. 24 rose between December 2000 and January 2001, fell through April 2001, rose in June 2001, then began to decline. For the entire water year 2001, water levels were shallower than in the 2000 water year. Transducer measurements are not available for this well between April 3, 1997 and April 30, 1998, due to equipment failure. The transducer was recalibrated on January 1, 2001. Transducer measurements for this well after this calibration were generally consistent with manual measurements (Appendix D). The water level in this well obviously responds primarily to recharge, and no influence of District pumping is apparent.

Water levels in Wells No. 19 and 21 were relatively constant during the 2001 water year, whereas the water level in Well No. 24 rose during the 2001 water year compared to the 2000 water levels. The water levels in these wells had not responded to the low precipitation of Winter 2000-01 by the end of the 2001 water year. Wells No. 19 and 24 are relatively close to Mammoth Creek. The best explanation for the historical water-level variations in these wells is due to the amount of recharge, which is primarily

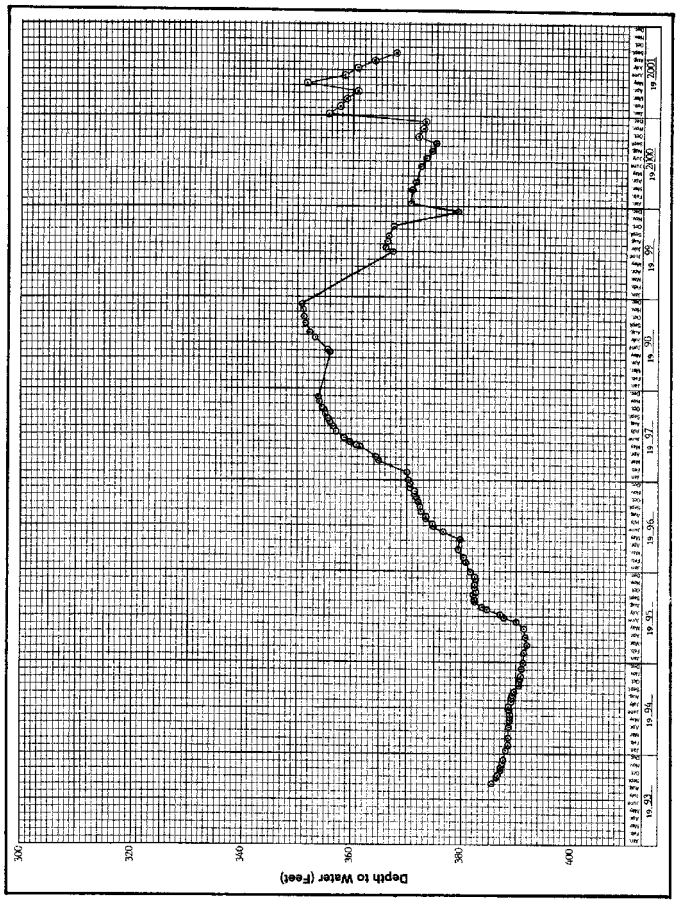

FIGURE 11 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 24

related to climatic patterns. Water levels in these wells rose during and following periods of above average precipitation. In contrast, water levels in these wells temporarily fell or stayed about the same during periods of below normal precipitation (i.e. the 2000 and 2001 water years).

Figure 12 is a water-level hydrograph for SC-1, which taps groundwater in the upper part of the basalt east of the District wells. The water level in this well generally fell from June 1983 through early 1995. However, some water-level rise occurred during this period due to recharge. Significant recharge was evident during 1995, 1996, and 1998. The shallowest water levels measured in SC-1 were in June 1983 and late July 1995. In July 1998, depth to water in SC-1 was near that in August 1983. Overall, the water level in this well was relatively stable during 1996-2001, with a slight decline during the last few years.

Figure 13 is a water-level hydrograph for SC-2, which taps groundwater in the deeper basalt near SC-1. Comparison of the hydrographs for SC-1 and SC-2 indicates that water levels in the two wells fluctuate similarly. However, the water-level rises are less in the deeper monitor well than in the shallower monitor well, as would be expected if the rises are mainly due to recharge, the source of which is from the land surface. The water level in SC-2 was about 138 feet deep in June 2001, or about the same as in June 1997. The water level in SC-2 generally recovered during 1995-98, was relatively stable during 1999-2000, and fell after June 2000.

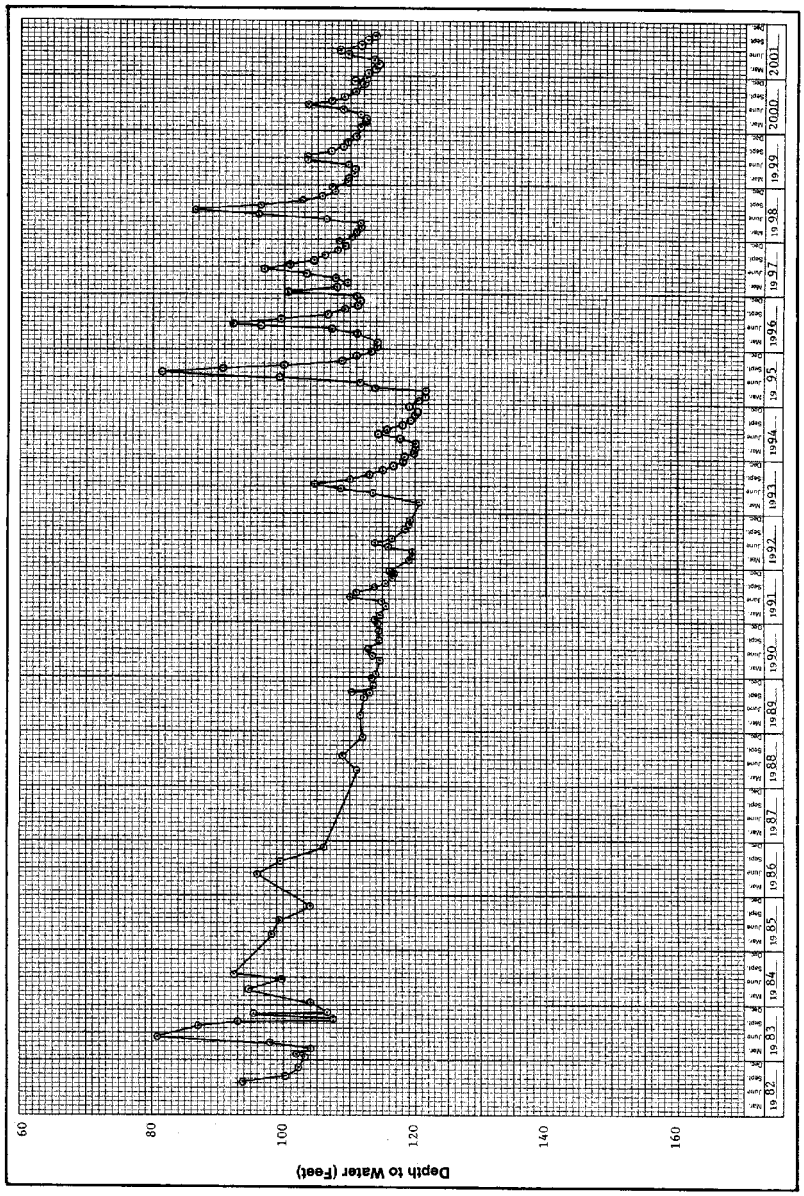

FIGURE 12 - WATER-LEVEL HYDROGRAPH FOR SC-1

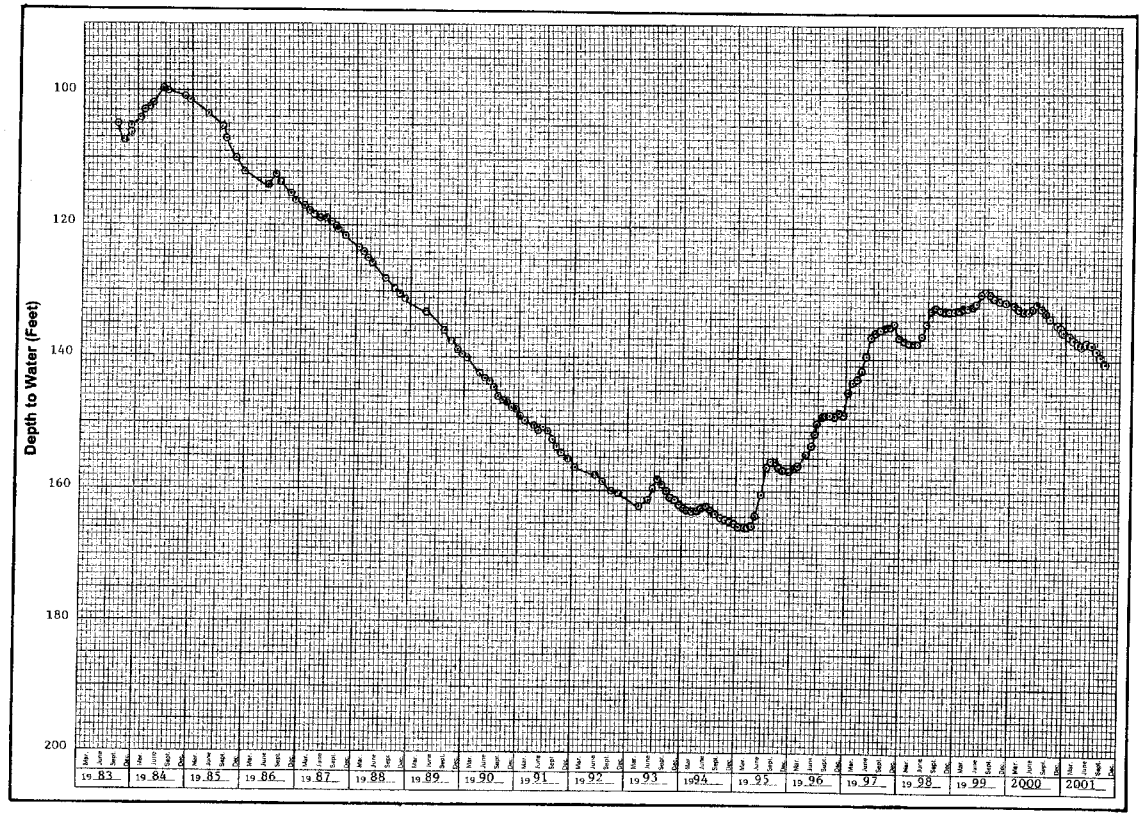

FIGURE 13 - WATER-LEVEL HYDROGRAPH FOR SC-2

Water-level variations in SC-1 and SC-2 are indicated to be due to climatic variations and not due to District well pumpage. This conclusion is based on the water-level hydrographs for Wells No. 19, 21, and 24 and other evidence (Figures 2 and 18).

Shallow Monitor Wells

A water-level hydrograph for Well No. 22 is provided in Figure 14. Pumpage of nearby Well No. 15 is also plotted on this figure. The water level in Well No. 22 is not related to pumpage of Well No. 15, which taps groundwater in the deeper consolidated rock. The water level in this well responds primarily due to recharge from Mammoth Creek streamflow (Figure 15). Well No. 22 was dry until June 17, 1993 and during 1994-early 1995. There has been water in the well continuously since June 1995. The shallowest water level in Well No. 22 was in August 1995. Depth to water in this well rose about 12 feet during May-July, 1995, due to recharge corresponding to high flows (exceeding 40 cfs) in Mammoth Creek. During 1996-2001, the water-level trends in Well No. 22 also followed the pattern of streamflow in Mammoth Creek. The water level in Well No. 22 was the lowest during November 2000-March 2001 since early 1997, associated with low streamflow during that time.

A water-level hydrograph based on manual measurements for Well No. 23 and pumpage for nearby Well No. 1 are shown in Figure 16. Depth to water in Well No. 23 has ranged from about 5 to 16 feet during the period of record. The shallowest water levels were in the spring and early summer of 1993, 1995, and 1996. Depth to

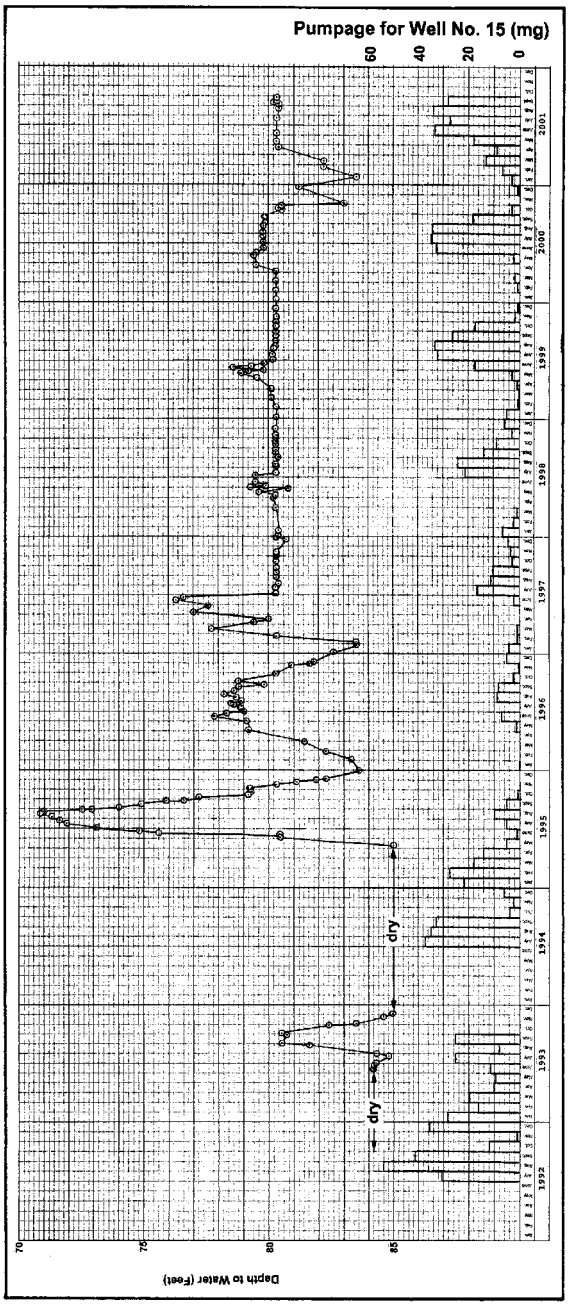

FIGURE 14 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 22 AND PUMPAGE FOR WELL NO.15

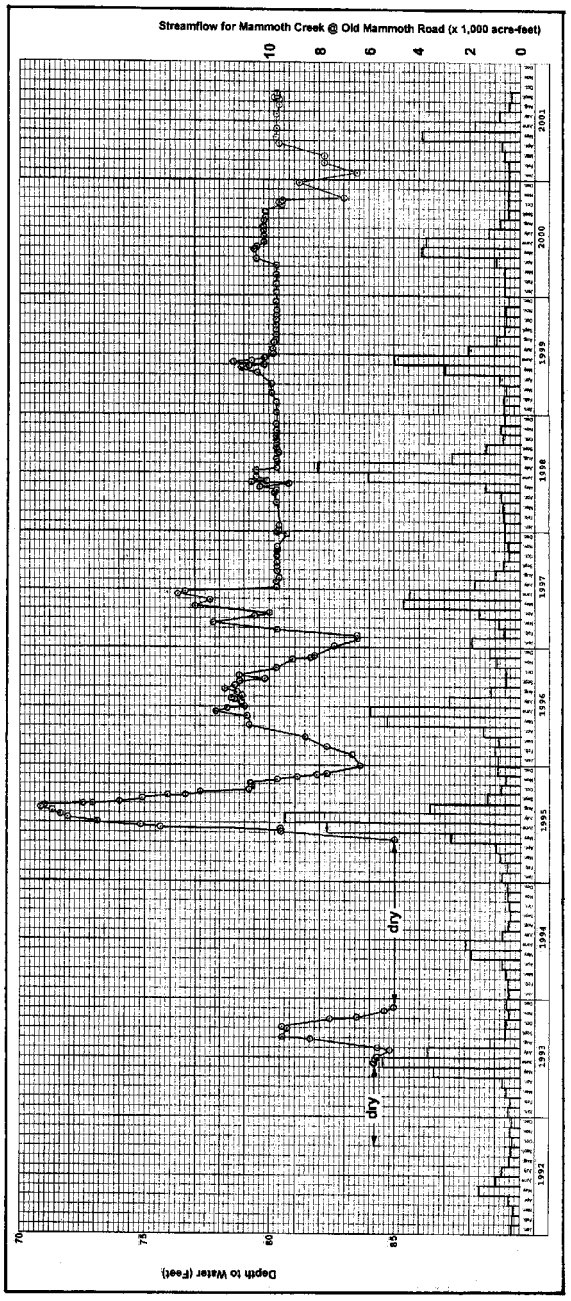

FIGURE 15 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 22 AND MAMMOTH CREEK STREAMFLOW

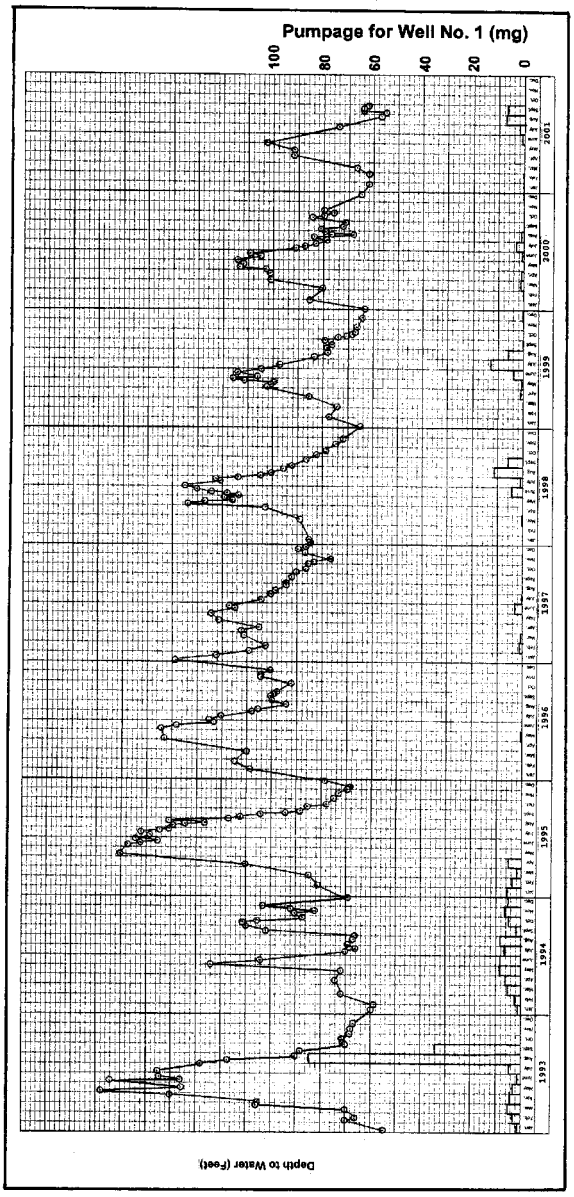

FIGURE 16 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 23 AND PUMPAGE FOR WELL NO. 1

water in this well is not influenced by pumpage of Well No. 1, which taps groundwater in the deeper consolidated rock. Well No. 23 is located relatively close to Mammoth Creek and is clearly influenced by recharge from streamflow (Figure 17), and possibly from other local sources of recharge. On August 1, 1996, a float-type continuous water-level recorder was installed in Well No. 23. Some problems were experienced with this recorder, but reliable measurements were obtained during most of 1997-2001. The water-level recorder charts for Well No. 23 are provided in Appendix D.

Water-level hydrographs for the remaining shallow monitor wells are provided in Appendix D. Well No. 4M is located in the meadow area east of District Wells No. 6 and 10. The water level in this well rose significantly after early 1995 due to significant surface water flow in the meadow. Depth to water fluctuations in this well have followed patterns of Bodle Ditch flows, rising during periods when flows are present in the ditch. In May 1998, the water levels in this well were the shallowest since 1988. The annual shallowest water level in this well fell about nine feet between 1998 and 2001.

Well No. 5M taps the shallow volcanic rock, and no water was observed in the overlying glacial till at the time of drilling of this well. Depth to water in Well No. 5M has ranged from about 2.5 to 9.5 feet. The shallowest levels have been in the spring and early summer, and the deepest in the summer. The annual shallowest water level in this well fell about three feet between 1998 and 2001, due to decreased recharge.

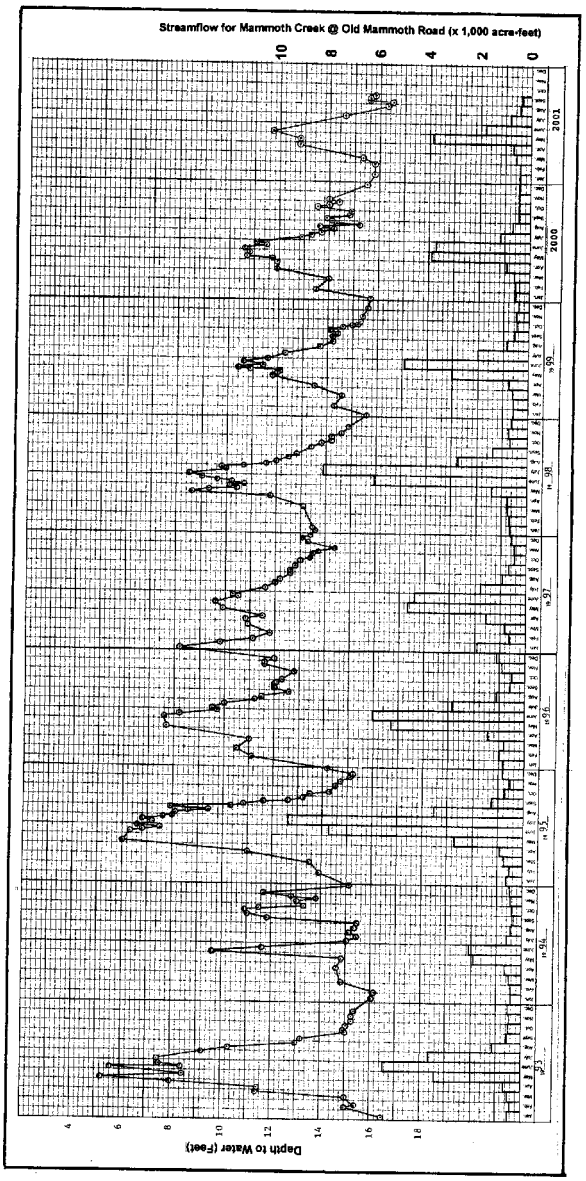

FIGURE 17 - WATER-LEVEL HYDROGRAPH FOR WELL NO. 23 AND MAMMOTH CREEK STREAMFLOW

Well No. 10M was dry from October 1992 through June 10, 1993. Some water appeared in this well during June 17-August 19, 1993, and during June 6-June 20, 1996. The well was otherwise dry from late 1992 through December 4, 1996. During 1998-2001, there was water in Well No. 10M most of the time. This well is adjacent to District Well No. 10, and the water level in Well No. 10M is primarily influenced by pumping of this well and also by local recharge. Between November 2000 and February 2001, the water level in Well No. 10M fell about nine feet due to pumping of Well No. 10. The same decline also occurred between late July and late August of 2001.

Well No. 11M is located in the southwest part of the meadow area near the Bodle Ditch. Water levels in this well have seasonal fluctuations that correspond to flows in the ditch. The shallowest water levels have generally been in June-July. Water levels gradually declined during 1989-92, but rose significantly after 1992. The water level began to rise significantly in April 1996, and the shallowest level yet measured (about four feet deep) was in June 1996. The annual shallowest water level for Well No. 11M fell about nine feet between 1998 and 2001, due to decreased recharge.

Well No. 12M is located in the western part of the meadow area. The water level in this well has responded significantly to a number of recharge events. The water level in this well began to rise significantly in April 1996, and reached the shallowest level of record in June 1996. The annual shallowest water level in Well No. 12M fell about six feet between 1998 and 2001. In summary, the

water levels in all of the shallow monitor wells generally rise during wet periods and fall during dry periods. This is due to varying amounts of recharge during these periods.

Water-Level Elevation Contours

Figure 18 shows water-level elevation contours for late September, 2001. The hydrologic boundary is shown north of Wells No. 1 and 5A and south of Wells No. 16, 17, and 20. This boundary is believed to be present only west of a line connecting Wells No. 14M and 21. A cone of depression was evident due to pumping of District Wells No. 10, 15, and 18. This cone of depression did not extend east of Well No. 19. The overall direction of groundwater flow in late September 2001 was similar to that shown in the previous annual reports. This map shows only the horizontal component of groundwater flow in the basalt and interbedded glacial till. Other evidence (i.e., water levels in SC-1 and SC-2) indicates that there is also significant downward flow of groundwater in most of the area.

CHEMICAL QUALITY AND TEMPERATURE OF GROUNDWATER

The results of chemical analyses and temperatures of water for the supply wells and monitor wells during the 2001 water year are provided in Appendix E. Water samples were collected from the supply wells in July and from the monitor wells that could be sampled in August 2001. Transducers are installed in most of the deep monitor wells to continuously measure water levels. Because of

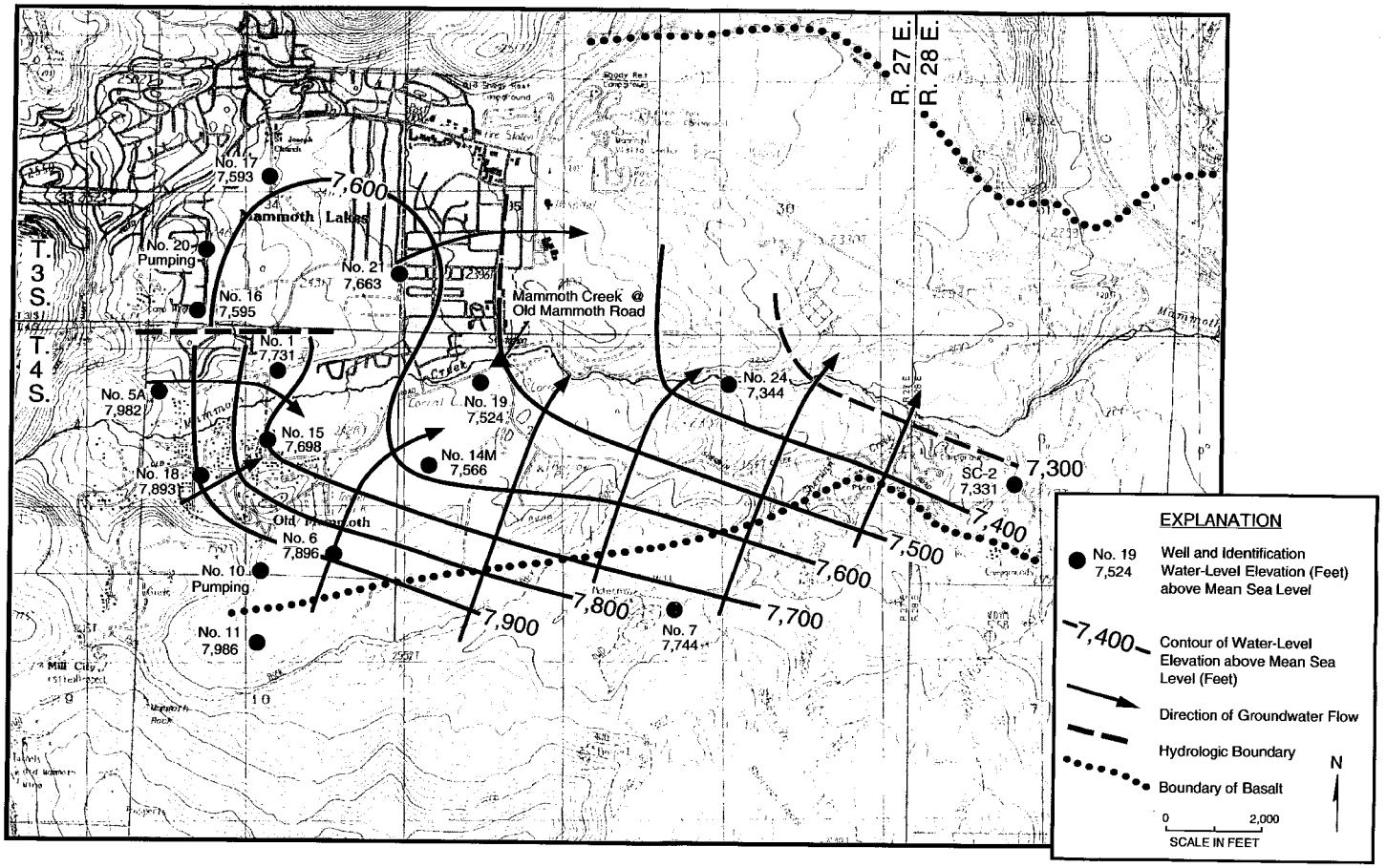

FIGURE 18 - WATER-LEVEL ELEVATIONS IN LATE SEPTEMBER, 2001

these transducers, it was not feasible to collect water samples from these wells during 2001. The coldest water (55°F or less) has normally been from shallow monitor wells in the meadow area and in water from the supply wells tapping consolidated rock, south of the hydrologic boundary. In contrast, the warmest water (60°F or greater) has been from the wells tapping consolidated rock north of the hydrologic boundary, closer to the known area of relatively shallow geothermal water in Mammoth Lakes, and from Well No. 18 (south of this boundary). The lowest electrical conductivity values (less than 200 micromhos per centimeter at 25°C) have normally been for shallow monitor wells and Wells No. 1, 7, and 11. The highest values (greater than 430 micromhos) have been for wells tapping the consolidated rock in the western part of the area. There is no evidence of significant changes in chemical quality or temperature of well water during water year 2001, compared to previous information in the earlier annual reports.

MAMMOTH CREEK STREAMFLOW

Records of streamflow at the outlet from Twin Lakes and the Old Mammoth Road crossing during the 2001 water year are provided in Appendix F. The mean monthly flow at the Old Mammoth Road crossing ranged from 7.1 cfs in September 2001 to 91 cfs in May 2001. In 2001, the flow at the Old Mammoth Road cros-sing began to rise significantly in early May, and the highest flows were between May 10 and June 4.

Average daily flows are plotted in Appendix F for the three stations for each month during the 2001 water year. A comparison of these daily flows indicates that the streamflow at the Old Mammoth Road crossing normally equaled or exceeded that of the Twin Lakes outflow. During most low flow periods the flow was greater at the downstream station by several cfs, or was about the same at the two stations. The downstream increase in flow is attributed to inflow from ungaged tributaries below the Twin Lakes outlet and possibly some groundwater flow. Such groundwater flow could enter Mammoth Creek locally from unconsolidated deposits. In early October 2000, the downstream streamflow was about 2 cfs less than the upstream flow. This trend occurred when flows at the Old Mammoth Road Station were less than 8 cfs. This was during a period of significant pumping from Wells No. 15, 16, and 18. Pumping from these wells averaged about 530 gpm, or 1.2 cfs, during this period. Careful examination of pumping patterns for these wells indicates no relation to the difference in the two stream gauges on Mammoth Creek streamflow at Old Mammoth Road. For example, the difference in streamflow remained relatively constant, even though the District Well pumpage varied substantially during this period. Streamflow records at these two stations for October 2000 indicate that by October 10, the downstream flow was no longer less than the upstream flow. The most likely explanation for this unusual difference in flow is either temporary diversion of water from the creek or that the lower streamgage was temporarily out of

calibration at flows less than 8 cfs. Historical records indicate that during the summers of drought years, there was little difference in streamflow between the two stations. During these drought years, District pumpage is the greatest. The information on streamflow during these years thus provides the best evidence of no impact due to District pumping.

VALENTINE RESERVE SPRINGFLOW

No flow data were provided for 2001 for the spring at Valentine Reserve.

Springflow measurements for the period of record (Figure 19) indicate that the pattern of springflow is related to runoff. For most years, springflow was lowest in July or August, and then increased near the end of the water year. This could have been due to lower air temperatures, which would result in decreased evapotranspiration of water by plants in the area. Another possible factor is increased runoff from higher land on Mammoth Mountain. Monitoring results for the previous years indicate no noticeable impact of District pumping on springflow at the Valentine Reserve.

DATA EVALUATION AND INTERPRETATION

Water-level hydrographs for the monitor wells tapping the uppermost glacial till strata in and near the District well field indicate falling water levels during the 2001 water year. Water-level hydrographs for most of the monitor wells tapping consolidated rock near the District well field indicated falling water

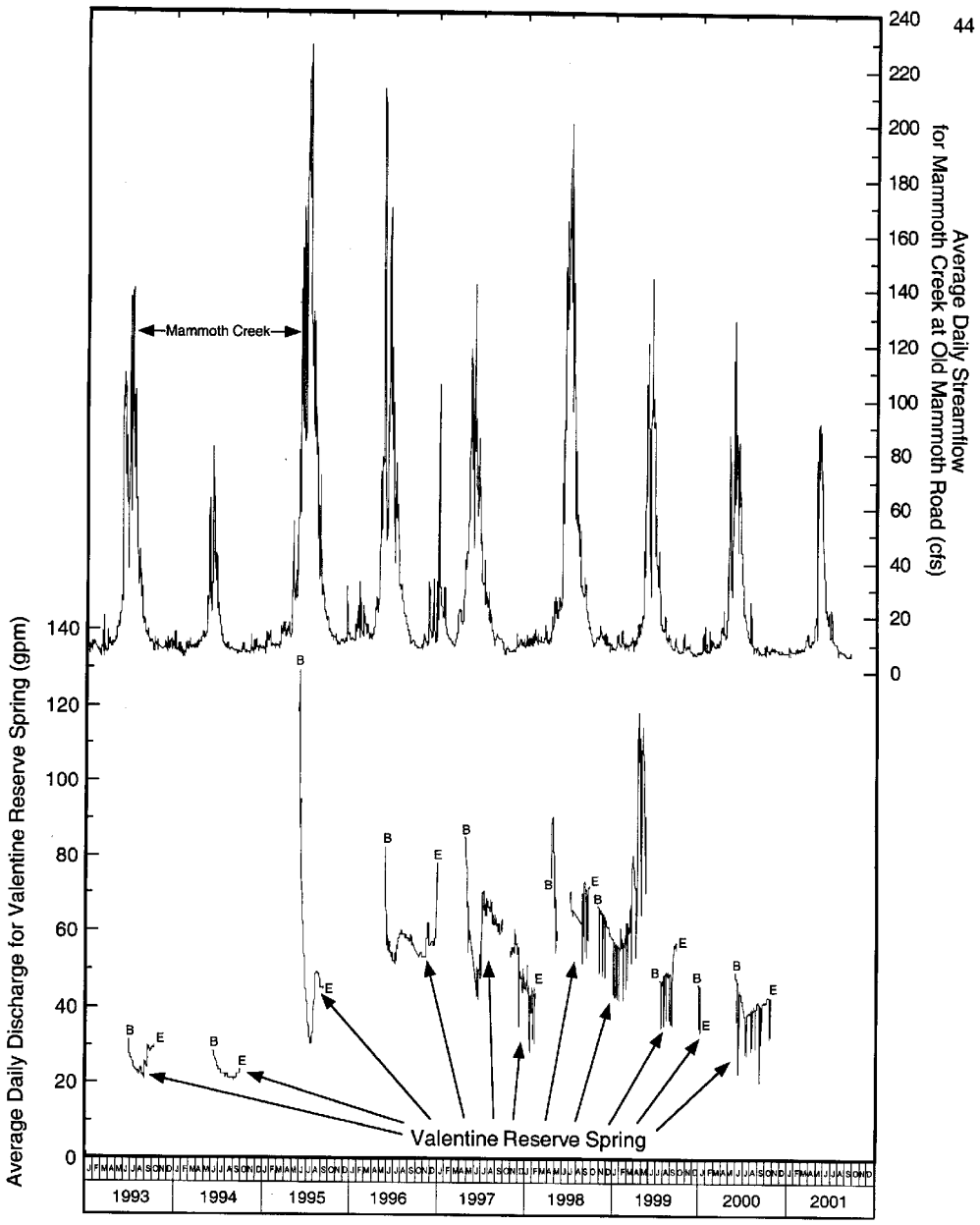

FIGURE 19 - FLOW FOR VALENTINE SPRING (1993-2000) AND MAMMOTH CREEK STREAMFLOW (1993-2001)

levels, due to pumping of District wells. Water-level hydrographs for Wells No. 7, 21, 24, and SC-1, east of the District well field, indicate water-level declines during water year 2001. Recharge was indicated to be the primary factor influencing water-level trends, except for some active District supply wells. Significant water-level declines due to pumping have only been observed in or near the pumped wells themselves.

The water-level elevation contour map for September 2001 confirms that the cone of depression due to pumping of District wells is localized, and does not extend east past Well No. 24. Because the water levels in the consolidated rock in the well field are well below the channel of Mammoth Creek, there is no apparent impact of District pumping on streamflow. There has been no impact on flow of the springs at the Valentine Reserve (for periods when records are available) on streamflow in Mammoth Creek, or on the flow of the Hot Creek headsprings due to pumping of the District supply wells.

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Kenneth D. Schmidt and Associates, "Results of Summer 1993 Aquifer Test, Mammoth County Water District Well No. 15", November 9, 1993, 22 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth County Water District Groundwater Monitoring Program for October 1992-September 1993", December 13, 1993, 30 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1993-September 1994", December 14, 1994, 34 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1994-September 1995", December 11, 1995, 41 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1995-September 1996", December 12, 1996, 43 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1996-September 1997", December 8, 1997, 45 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1997-September 1998", December 9, 1998, 43 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1998-September 1999", December 9, 1999, 45 p.

Kenneth D. Schmidt and Associates, "Annual Report on Results of Mammoth Community Water District Groundwater Monitoring Program for October 1999-September 2000", December 13, 2000, 47 p.

APPENDIX A

PUMPAGE AND WATER-LEVEL DATA FOR DISTRICT SUPPLY WELLS

MAMMOTH COMMUNITY WATER DISTRICT
ANNUAL PRODUCTION WELL PUMPAGE IN ACRE-FEET
OCTOBER THRU SEPTEMBER

Year	Well 1	Well 6	Well 10	Well 15	Well 16	Well 17	Well 18	Well 20	Total
1989-90	365.500	267.900	422.600						1056.000
1990-91	442.900	478.200	340.700						1261.800
1991-92	333.600	546.300	794.900						1674.800
1992-93	222.300	483.300	994.400	606.100					2306.100
1993-94	164.600	256.100	542.600	320.500			14.500		1298.300
1994-95	97.000	224.000	312.000	361.000	51.000	44.000	19.000	115.000	1223.000
1995-96	0.000	19.000	610.000	78.000	8.000	121.000	0.000	91.000	927.000
1996-97	12.900	143.000	476.900	163.300	35.000	97.900	0.300	130.700	1060.000
1997-98	70.592	0.000	193.455	233.547	143.127	183.117	0.030	50.110	873.978
1998-99	70.534	0.000	126.221	408.098	101.239	67.681	20.328	242.589	1036.690
1999-00	19.742	0.000	198.482	417.773	196.123	201.546	74.337	180.957	1288.960
2000-01	51.126	0.000	432.638	536.147	242.233	393.840	107.699	179.534	1943.217
Total	1850.794	2417.800	5444.896	3124.465	776.722	1109.084	236.194	989.890	15950
Mean	154.233	201.483	453.741	347.163	110.960	158.441	29.524	141.413	1329
Max	442.900	546.300	994.400	606.100	242.233	393.840	107.699	242.589	2306
Min	0.000	0.000	126.221	78.000	8.000	44.000	0.000	50.110	874

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 1
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.000	0.000	0.000	0.000	0.037	0.000	0.000	0.000	0.000	0.251	0.000	0.000			
2	0.000	0.000	0.000	0.000	0.000	0.000	0.026	0.000	0.000	0.297	0.000	0.000			
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.196	0.000	0.187			
4	0.000	0.000	0.093	0.001	0.000	0.000	0.000	0.000	0.000	0.126	0.000	0.230			
5	0.000	0.000	0.000	0.000	0.053	0.000	0.000	0.000	0.001	0.143	0.000	0.312			
6	0.000	0.000	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.496	0.000	0.209			
7	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.168	0.000	0.393			
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.140			
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.227	0.000	0.002			
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.151	0.000	0.373			
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.227			
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.227			
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.398			
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.292	0.278			
15	0.000	0.000	0.000	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.244	0.000			
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.228	0.000			
17	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.648	0.224			
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.188	0.000			
19	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.374	0.227			
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.545	0.227			
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.527	0.212			
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.383	0.041			
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.484	0.054			
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.443	0.286			
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.290	0.000	0.196	0.320			
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.204	0.000	0.477	0.176			
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.455	0.196			
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.196	0.000	0.563	0.655			
29	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.316	0.000	0.353	0.406			
30	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.005	0.000	0.199	0.306			
31	0.000		0.000	0.000		0.000		0.000		0.000	0.192				
TOTAL	0.191	0.000	0.094	0.060	0.118	0.000	0.026	0.000	1.012	2.069	6.791	6.306	0.000	0.000	0.000
MEAN	0.006	0.000	0.003	0.002	0.004	0.000	0.001	0.000	0.034	0.067	0.219	0.210	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.136	0.000	0.093	0.059	0.053	0.000	0.026	0.000	0.316	0.496	0.648	0.655	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AC-FT	0.586	0.000	0.288	0.184	0.362	0.000	0.080	0.000	3.104	6.347	20.831	19.344	0.000	0.000	0.000
TOTAL AC-FT OCT THRU SEP:			51.126	TOTAL AC-FT JAN THRU DEC:			50.252								

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 6
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
30	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000			
31	0.000		0.000	0.000		0.000		0.000		0.000	0.000				
TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AC-FT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TOTAL AC-FT OCT THRU SEP: 0.000 TOTAL AC-FT JAN THRU DEC: 0.000

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 10
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.000	0.000	0.000	1.173	0.448	0.000	0.000	0.000	0.000	0.000	0.458	1.880			
2	0.000	0.000	0.000	0.735	0.718	0.000	0.000	0.000	0.000	0.000	0.000	1.864			
3	0.000	0.000	0.000	1.313	1.144	0.000	0.000	0.000	0.000	0.168	0.702	1.860			
4	0.000	0.000	0.000	1.059	0.998	0.000	0.000	0.000	0.000	0.000	0.000	1.392			
5	0.000	0.000	0.000	1.069	0.550	0.000	0.000	0.000	0.000	0.000	0.000	1.516			
6	0.000	0.000	0.000	0.537	0.516	0.000	0.000	0.000	0.000	0.000	0.858	1.512			
7	0.000	0.000	0.000	0.358	0.628	0.000	0.000	0.000	0.000	0.000	0.070	1.516			
8	0.000	0.000	0.000	0.176	0.584	0.000	0.000	0.000	0.000	0.000	0.000	1.816			
9	0.000	0.000	0.000	0.000	0.666	0.000	0.000	0.000	0.000	0.000	1.504	1.844			
10	0.000	0.000	0.000	0.000	1.144	0.000	0.000	0.000	0.000	0.000	1.552	1.500			
11	0.000	0.000	0.000	0.000	1.108	0.000	0.000	0.000	0.000	0.000	1.858	1.500			
12	0.000	0.000	0.000	0.640	0.786	0.000	0.000	0.000	0.000	0.000	1.848	1.380			
13	0.000	0.000	0.000	0.318	0.664	0.000	0.000	0.000	0.000	0.000	1.616	1.464			
14	0.000	0.000	0.000	0.687	0.646	0.000	0.000	0.000	0.000	0.000	1.568	1.472			
15	0.000	0.000	0.000	0.626	0.566	0.000	0.000	0.000	0.000	0.000	1.602	1.840			
16	0.000	0.000	0.000	0.000	0.878	0.000	0.000	0.000	0.000	0.000	1.556	1.776			
17	0.000	0.000	0.000	0.000	1.302	0.000	0.000	0.000	0.000	0.000	1.624	1.440			
18	0.000	0.000	0.000	0.647	1.468	0.000	0.000	0.000	0.000	0.000	1.976	1.436			
19	0.000	0.000	0.658	0.556	1.118	0.000	0.000	0.000	0.000	0.000	1.968	1.488			
20	0.000	0.139	0.494	0.808	0.596	0.000	0.000	0.000	0.000	0.000	1.524	1.440			
21	0.000	0.214	0.578	0.708	0.000	0.000	0.000	0.000	0.000	0.000	1.920	1.476			
22	0.000	0.275	0.761	0.385	0.000	0.000	0.000	0.000	0.000	0.000	1.920	1.772			
23	0.000	0.775	0.883	0.371	0.000	0.000	0.000	0.000	0.000	0.000	1.880	1.744			
24	0.000	0.959	1.245	0.433	0.000	0.000	0.000	0.000	0.000	0.096	1.896	1.416			
25	0.000	0.891	1.134	0.420	0.000	0.000	0.000	0.000	0.000	0.000	1.900	1.296			
26	0.000	0.071	1.237	0.776	0.000	0.000	0.000	0.000	0.000	0.056	1.868	1.280			
27	0.000	0.208	1.307	1.090	0.000	0.000	0.000	0.000	0.000	0.000	1.876	1.384			
28	0.000	0.000	1.406	1.112	0.000	0.000	0.000	0.000	0.000	0.000	1.532	1.240			
29	0.000	0.000	1.381	0.428		0.000	0.000	0.000	0.000	0.000	1.888	1.776			
30	0.000	0.000	1.302	0.388		0.000	0.000	0.000	0.000	0.000	1.852	1.688			
31	0.000		1.361	0.388		0.000		0.000		0.000	1.888				
TOTAL	0.000	3.532	13.747	17.201	16.528	0.000	0.000	0.000	0.000	0.320	42.704	47.008	0.000	0.000	0.000
MEAN	0.000	0.118	0.443	0.555	0.590	0.000	0.000	0.000	0.000	0.010	1.378	1.567	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.000	0.959	1.406	1.313	1.468	0.000	0.000	0.000	0.000	0.168	1.976	1.880	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.240	0.000	0.000	0.000
AC-FT	0.000	10.834	42.169	52.764	50.699	0.000	0.000	0.000	0.000	0.982	130.994	144.196	0.000	0.000	0.000

TOTAL AC-FT OCT THRU SEP: 432.638 TOTAL AC-FT JAN THRU DEC: 379.635

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 15
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.288	0.000	0.000	0.128	0.064	0.288	0.352	0.000	0.800	1.344	1.120	1.344			
2	0.352	0.000	0.000	0.000	0.128	0.704	0.352	0.000	1.056	1.120	1.152	1.344			
3	0.352	0.000	0.000	0.064	0.000	0.704	0.352	0.000	0.864	1.152	1.184	1.472			
4	0.352	0.000	0.000	0.128	0.064	0.608	0.352	0.000	0.576	0.352	1.472	1.152			
5	0.320	0.000	0.000	0.032	0.000	0.320	0.352	0.000	0.768	0.000	1.408	1.184			
6	0.320	0.000	0.000	0.000	0.160	0.352	0.320	0.000	0.928	0.000	1.184	1.152			
7	0.352	0.000	0.000	0.000	0.128	0.288	0.352	0.000	0.928	0.000	1.184	1.152			
8	0.320	0.000	0.000	0.448	0.128	0.288	0.352	0.544	0.928	0.000	1.184	1.280			
9	0.288	0.000	0.000	0.448	0.000	0.704	0.352	0.384	0.928	0.000	1.216	1.216			
10	0.000	0.000	0.000	0.352	0.128	0.672	0.320	0.320	0.960	0.000	0.256	1.088			
11	0.000	0.000	0.000	0.192	0.064	0.544	0.352	0.352	0.960	0.000	0.192	1.024			
12	0.000	0.000	0.000	0.000	0.128	0.352	0.384	0.992	0.864	0.928	0.256	1.024			
13	0.000	0.000	0.000	0.000	0.224	0.288	0.320	0.576	0.928	1.088	0.448	1.056			
14	0.000	0.000	0.000	0.000	0.000	0.384	0.352	0.768	0.960	1.280	0.608	0.864			
15	0.000	0.000	0.000	0.000	0.000	0.320	0.352	0.864	1.024	1.312	0.768	0.800			
16	0.000	0.000	0.000	0.000	0.128	0.672	0.352	0.800	0.992	1.024	0.928	0.896			
17	0.000	0.000	0.000	0.000	0.128	0.640	0.320	0.832	0.992	0.992	1.184	0.864			
18	0.000	0.000	0.000	0.128	0.160	0.512	0.352	0.736	1.088	1.120	1.312	0.416			
19	0.000	0.000	0.032	0.000	0.096	0.384	0.352	0.640	1.312	1.056	1.248	0.640			
20	0.000	0.000	0.000	0.064	0.000	0.032	0.384	0.960	1.376	1.056	0.960	0.736			
21	0.000	0.000	0.000	0.000	0.672	0.384	0.320	0.416	1.376	1.312	1.312	0.768			
22	0.000	0.000	0.096	0.128	0.512	0.224	0.352	0.672	1.344	1.280	1.280	0.928			
23	0.000	0.000	0.000	0.064	0.672	0.608	0.352	0.736	1.376	1.120	1.472	0.864			
24	0.000	0.000	0.000	0.064	0.992	0.448	0.000	1.184	1.312	1.120	1.344	0.896			
25	0.000	0.000	0.000	0.064	0.896	0.384	0.000	0.960	1.312	1.120	1.344	0.544			
26	0.000	0.000	0.000	0.096	0.480	0.352	0.000	0.960	1.376	1.152	1.152	0.576			
27	0.000	0.000	0.000	0.160	0.480	0.352	0.128	0.928	1.340	1.184	1.408	0.608			
28	0.000	0.000	0.000	0.128	0.352	0.384	0.192	0.896	1.412	1.344	1.344	0.736			
29	0.000	0.000	0.000	0.064		0.320	0.160	0.800	1.312	1.376	1.344	0.640			
30	0.000	0.000	0.192	0.032		0.352	0.224	0.800	1.408	1.088	1.408	0.704			
31	0.000		0.192	0.064		0.352		0.736		1.184	1.376				
TOTAL	2.944	0.000	0.512	2.848	6.784	13.216	8.704	17.856	32.800	27.104	34.048	27.968	0.000	0.000	0.000
MEAN	0.095	0.000	0.017	0.092	0.242	0.426	0.290	0.576	1.093	0.874	1.098	0.932	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.352	0.000	0.192	0.448	0.992	0.704	0.384	1.184	1.412	1.376	1.472	1.472	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.032	0.000	0.000	0.576	0.000	0.192	0.416	0.000	0.000	0.000
AC-FT	9.031	0.000	1.571	8.736	20.810	40.540	26.699	54.773	100.613	83.141	104.442	85.791	0.000	0.000	0.000
TOTAL AC-FT OCT THRU SEP:			536.147	TOTAL AC-FT JAN THRU DEC:			525.546								

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 16
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.408	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.584	0.568	0.544	0.568			
2	0.520	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.552	0.576	0.736	0.688			
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.592	0.456	0.536	0.576			
4	0.736	0.000	0.080	0.000	0.000	0.000	0.000	0.000	0.408	0.176	0.720	0.520			
5	0.360	0.000	0.000	0.000	0.000	0.000	0.000	0.432	0.552	0.000	0.520	0.496			
6	0.328	0.000	0.064	0.000	0.000	0.000	0.000	0.504	0.560	0.000	0.736	0.520			
7	0.040	0.000	0.016	0.000	0.000	0.000	0.000	0.536	0.568	0.000	0.600	0.536			
8	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.464	0.576	0.000	0.728	0.560			
9	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.648	0.576	0.000	0.552	0.504			
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.648	0.584	0.000	0.712	0.480			
11	0.000	0.000	0.064	0.000	0.000	0.000	0.000	0.584	0.496	0.016	0.568	0.488			
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.416	0.576	0.016	0.704	0.304			
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.144	0.568	0.752	0.552	0.328			
14	0.000	0.000	0.144	0.000	0.000	0.000	0.000	0.320	0.592	0.736	0.736	0.424			
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.488	0.496	0.592	0.608	0.496			
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.576	0.584	0.672	0.704	0.448			
17	0.264	0.000	0.000	0.000	0.000	0.000	0.000	0.536	0.568	0.600	0.720	0.376			
18	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.528	0.592	0.632	0.704	0.464			
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.608	0.552	0.616	0.600	0.456			
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.496	0.620	0.576	0.712	0.408			
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.576	0.540	0.648	0.616	0.384			
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.584	0.576	0.632	0.696	0.392			
23	0.280	0.000	0.000	0.000	0.000	0.000	0.000	0.584	0.584	0.600	0.648	0.112			
24	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.400	0.560	0.624	0.656	0.000			
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.192	0.560	0.616	0.688	0.000			
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.568	0.552	0.728	0.672	0.000			
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.592	0.568	0.544	0.736	0.000			
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.520	0.560	0.616	0.592	0.000			
29	0.000	0.000	0.000	0.000		0.000	0.000	0.584	0.424	0.744	0.680	0.000			
30	0.000	0.000	0.000	0.000		0.000	0.000	0.576	0.560	0.488	0.696	0.000			
31	0.000		0.000	0.000		0.000		0.576		0.752	0.696				
TOTAL	3.368	0.000	0.368	0.000	0.000	0.000	0.000	13.680	16.680	13.976	20.368	10.528	0.000	0.000	0.000
MEAN	0.109	0.000	0.012	0.000	0.000	0.000	0.000	0.441	0.556	0.451	0.657	0.351	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.736	0.000	0.144	0.000	0.000	0.000	0.000	0.648	0.620	0.752	0.736	0.688	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.408	0.000	0.520	0.000	0.000	0.000	0.000
AC-FT	10.331	0.000	1.129	0.000	0.000	0.000	0.000	41.963	51.166	42.871	62.479	32.294	0.000	0.000	0.000
TOTAL AC-FT OCT THRU SEP:			242.233	TOTAL AC-FT JAN THRU DEC:			230.773								

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 17
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.288	0.000	0.000	0.000	0.000	0.000	0.288	0.304	0.576	1.848	0.864	1.168			
2	0.256	0.000	0.000	0.000	0.000	0.128	0.384	0.208	0.640	0.960	0.896	1.184			
3	0.592	0.000	0.000	0.000	0.000	0.128	0.096	0.240	0.688	0.912	0.928	1.200			
4	0.624	0.000	0.000	0.000	0.000	0.112	0.112	0.240	0.496	1.040	1.120	0.944			
5	0.288	0.000	0.000	0.000	0.000	0.240	0.112	0.544	0.528	0.960	1.104	0.944			
6	0.320	0.000	0.000	0.000	0.000	0.128	0.128	0.320	0.576	0.944	0.944	0.976			
7	0.816	0.000	0.000	0.000	0.000	0.048	0.208	0.256	0.400	1.104	0.944	0.928			
8	0.624	0.000	0.000	0.000	0.000	0.192	0.208	0.560	0.576	0.928	0.928	1.120			
9	0.544	0.000	0.000	0.000	0.000	0.048	0.240	0.480	0.560	0.768	0.960	1.152			
10	0.000	0.000	0.000	0.000	0.000	0.208	0.224	0.448	0.544	0.256	0.896	0.928			
11	0.000	0.000	0.000	0.000	0.000	0.176	0.208	0.592	0.416	0.576	1.136	0.912			
12	0.000	0.000	0.000	0.000	0.000	0.000	0.224	0.768	0.288	0.640	1.056	0.944			
13	0.000	0.000	0.000	0.000	0.000	0.000	0.256	0.304	0.320	0.752	0.848	0.848			
14	0.000	0.000	0.000	0.000	0.000	0.176	0.352	0.224	0.416	1.008	0.880	0.816			
15	0.000	0.000	0.000	0.000	0.000	0.224	0.224	0.336	0.464	1.024	0.944	0.736			
16	0.080	0.000	0.000	0.352	0.000	0.080	0.240	0.208	0.496	0.896	0.960	0.656			
17	0.000	0.000	0.000	0.592	0.000	0.192	0.416	0.320	0.560	0.912	0.912	0.544			
18	0.000	0.000	0.000	0.000	0.000	0.176	0.160	0.432	0.592	0.848	1.216	0.608			
19	0.000	0.000	0.000	0.000	0.000	0.192	0.192	0.384	0.608	0.896	1.200	0.480			
20	0.000	0.000	0.000	0.000	0.000	0.240	0.208	0.560	0.560	0.880	0.848	0.976			
21	0.000	0.128	0.304	0.000	0.000	0.080	0.208	0.288	0.608	0.912	0.832	0.272			
22	0.000	0.000	0.256	0.000	0.240	0.144	0.224	0.208	0.720	0.896	0.960	0.000			
23	0.000	0.000	0.000	0.000	0.064	0.304	0.144	0.480	0.656	0.928	0.960	0.000			
24	0.000	0.000	0.000	0.000	0.176	0.304	0.224	0.224	0.608	0.880	0.960	0.000			
25	0.000	0.000	0.000	0.000	0.160	0.560	0.272	0.128	0.736	0.832	1.200	0.528			
26	0.000	0.000	0.000	0.000	0.288	0.416	0.224	0.464	0.976	0.864	1.088	0.864			
27	0.000	0.000	0.000	0.000	0.016	0.160	0.160	0.432	1.008	0.896	0.976	0.272			
28	0.000	0.000	0.000	0.000	0.000	0.144	0.352	0.384	0.992	1.040	0.960	0.000			
29	0.000	0.000	0.000	0.000		0.192	0.368	0.496	1.024	0.992	0.944	0.000			
30	0.000	0.000	0.000	0.032		0.240	0.336	0.512	0.896	0.912	0.928	0.000			
31	0.000		0.000	0.000		0.320		0.336		0.944	0.960				
TOTAL	4.432	0.128	0.560	0.976	0.944	5.552	6.992	11.680	18.528	28.248	30.352	20.000	0.000	0.000	0.000
MEAN	0.143	0.004	0.018	0.031	0.034	0.179	0.233	0.377	0.618	0.911	0.979	0.667	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.816	0.128	0.304	0.592	0.288	0.560	0.416	0.768	1.024	1.848	1.216	1.200	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.096	0.128	0.288	0.256	0.832	0.000	0.000	0.000	0.000
AC-FT	13.595	0.393	1.718	2.994	2.896	17.031	21.448	35.828	56.834	86.650	93.104	61.350	0.000	0.000	0.000
TOTAL AC-FT OCT THRU SEP:			393.840	TOTAL AC-FT JAN THRU DEC:			378.135								

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 18
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.490	0.000	0.000	0.518			
2	0.404	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.100	0.436	0.000	0.466			
3	0.322	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.536			
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.490	0.000	0.000	0.424			
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.542	0.000	0.000	0.448			
6	0.488	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.106	0.000	0.000	0.420			
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.432			
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.460			
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.422			
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.490	0.000	0.000	0.000	0.404			
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.494	0.486	0.000	0.000	0.324			
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.526	0.000	0.000	0.294			
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048	0.000	0.000	0.338			
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.496	0.606	0.000	0.334			
15	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.346	0.022	0.000	0.215	0.276			
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.604	0.000	0.006	0.387	0.288			
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.000	0.000	0.584	0.292			
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.498	0.464	0.232	0.080			
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.106	0.082	0.000	0.157			
20	0.000	0.000	0.000	0.000	0.900	0.000	0.000	0.000	0.470	0.000	0.382	0.291			
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.498	0.092	0.000	0.634	0.316			
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.642	0.478	0.000	0.648	0.364			
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042	0.000	0.456	0.732	0.292			
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.598	0.356			
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.420	0.000	0.494	0.108			
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.358	0.204	0.018	0.312	0.288			
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.498	0.000	0.434	0.542	0.412			
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.550	0.498	0.064	0.546	0.388			
29	0.000	0.000	0.000	0.000		0.000	0.000	0.034	0.486	0.000	0.546	0.452			
30	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.114	0.432	0.594	0.456			
31	0.000		0.000	0.000		0.000		0.000		0.050	0.516				
TOTAL	1.214	0.000	0.000	0.006	0.912	0.000	0.010	4.636	6.672	3.058	7.966	10.636	0.000	0.000	0.000
MEAN	0.039	0.000	0.000	0.000	0.033	0.000	0.000	0.150	0.222	0.099	0.257	0.355	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.488	0.000	0.000	0.006	0.900	0.000	0.010	0.642	0.542	0.606	0.732	0.536	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.000	0.000	0.000
AC-FT	3.724	0.000	0.000	0.018	2.798	0.000	0.031	14.221	20.466	9.380	24.436	32.626	0.000	0.000	0.000
TOTAL AC-FT OCT THRU SEP:			107.699	TOTAL AC-FT JAN THRU DEC:			103.975								

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL NO. 20
(FLOW IN MILLION GALLONS)

	2000			2001											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.144	0.000	0.000	0.000	0.000	0.000	0.064	0.048	0.128	0.336	0.496	0.800			
2	0.096	0.000	0.000	0.000	0.000	0.032	0.064	0.064	0.016	0.608	0.496	0.800			
3	0.256	0.000	0.000	0.000	0.000	0.064	0.016	0.064	0.000	0.576	0.528	0.656			
4	0.240	0.000	0.000	0.000	0.000	0.032	0.032	0.064	0.368	0.544	0.528	0.608			
5	0.160	0.000	0.000	0.000	0.000	0.032	0.032	0.112	0.112	0.672	0.464	0.496			
6	0.144	0.000	0.000	0.000	0.000	0.032	0.032	0.016	0.096	0.512	0.544	0.544			
7	0.288	0.000	0.000	0.000	0.000	0.032	0.032	0.064	0.112	0.512	0.544	0.592			
8	0.224	0.000	0.000	0.000	0.000	0.016	0.048	0.080	0.128	0.384	0.544	0.576			
9	0.208	0.000	0.000	0.000	0.000	0.016	0.048	0.064	0.096	0.144	0.608	0.304			
10	0.000	0.000	0.000	0.000	0.000	0.064	0.032	0.064	0.112	0.080	0.512	0.544			
11	0.000	0.000	0.000	0.000	0.000	0.032	0.048	0.112	0.512	0.112	0.448	0.512			
12	0.000	0.000	0.000	0.000	0.000	0.224	0.032	0.176	0.064	0.192	0.416	0.704			
13	0.000	0.000	0.000	0.000	0.000	0.160	0.064	0.048	0.128	0.272	0.336	0.704			
14	0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.128	0.080	0.400	0.544	0.624			
15	0.000	0.000	0.000	0.000	0.000	0.000	0.048	0.080	0.432	0.448	0.528	0.624			
16	0.048	0.000	0.000	0.224	0.000	0.032	0.048	0.032	0.128	0.416	0.544	0.608			
17	0.000	0.000	0.000	0.096	0.000	0.032	0.080	0.096	0.112	0.416	0.560	0.480			
18	0.000	0.000	0.000	0.128	0.000	0.016	0.048	0.144	0.112	0.496	0.784	0.432			
19	0.000	0.000	0.000	0.000	0.000	0.064	0.048	0.080	0.144	0.416	0.624	0.576			
20	0.000	0.000	0.000	0.000	0.000	0.032	0.064	0.160	0.448	0.496	0.384	0.016			
21	0.000	0.032	0.080	0.000	0.000	0.032	0.064	0.048	0.144	0.608	0.336	0.176			
22	0.000	0.000	0.000	0.000	0.064	0.032	0.032	0.064	0.176	0.528	0.448	0.000			
23	0.000	0.000	0.000	0.000	0.016	0.064	0.048	0.112	0.144	0.496	0.608	0.000			
24	0.000	0.000	0.000	0.000	0.032	0.064	0.048	0.048	0.144	0.448	0.496	0.352			
25	0.000	0.000	0.000	0.000	0.032	0.128	0.064	0.032	0.688	0.464	0.560	0.304			
26	0.000	0.000	0.000	0.000	0.000	0.080	0.016	0.096	0.400	0.416	0.528	0.160			
27	0.000	0.000	0.000	0.000	0.016	0.032	0.064	0.080	0.416	0.512	0.672	0.352			
28	0.000	0.000	0.000	0.000	0.000	0.032	0.080	0.096	0.640	0.496	0.624	0.064			
29	0.000	0.000	0.000	0.000		0.032	0.064	0.112	0.688	0.352	0.544	0.272			
30	0.000	0.000	0.000	0.048		0.032	0.096	0.112	0.480	0.432	0.544	0.560			
31	0.000		0.000	0.000		0.080		0.064		0.464	0.608				
TOTAL	1.808	0.032	0.080	0.496	0.160	1.520	1.536	2.560	7.248	13.248	16.400	13.440	0.000	0.000	0.000
MEAN	0.058	0.001	0.003	0.016	0.006	0.049	0.051	0.083	0.242	0.427	0.529	0.448	#DIV/0!	#DIV/0!	#DIV/0!
MAX	0.288	0.032	0.080	0.224	0.064	0.224	0.096	0.176	0.688	0.672	0.784	0.800	0.000	0.000	0.000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.016	0.000	0.080	0.336	0.000	0.000	0.000	0.000
AC-FT	5.546	0.098	0.245	1.521	0.491	4.663	4.712	7.853	22.233	40.638	50.307	41.227	0.000	0.000	0.000

TOTAL AC-FT OCT THRU SEP: 179.534 TOTAL AC-FT JAN THRU DEC: 173.644

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL WATER LEVEL DATA
OCTOBER 2000 - SEPTEMBER 2001

WELL NO. 1					WELL NO. 6			
Date	Static	Date	Pumping		Date	Static	Date	Pumping
10/12/00	-181.25	08/21/01	-227.50		9/26/00	0		
10/18/00	-186.86	09/05/01	-214.00		1/24/01	0		
10/26/00	-183.95				2/28/01	0		
11/02/00	-181.56				7/23/01	0		
12/20/00	-176.95				8/22/01	0		
01/24/01	-174.85				9/5/01	0		
02/28/01	-173.66				9/12/01	0		
03/15/01	-174.10				9/19/01	0		
04/26/01	-173.59				9/26/01	0		
05/09/01	-173.00							
06/05/01	-172.50							
07/23/01	-179.50							
09/12/01	-196.90							
09/19/01	-196.00							
09/26/01	-197.30							
Mean	-181.46		-220.75			0.00		#DIV/0!
Max	-197.30		-227.50			0.00		0.00
Min	-172.50		-214.00			0.00		0.00
Historical								
Mean	-197.70		-251.77			-44.26		-147.24
Max	-268.10		-295.00			-160.00		-200.00
Min	-149.75		-191.33			0.00		-77.43

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL WATER LEVEL DATA
OCTOBER 2000 - SEPTEMBER 2001

WELL NO. 10					WELL NO. 15			
Date	Static	Date	Pumping		Date	Static	Date	Pumping
10/12/00	-17.78	08/22/01	-103.70		10/12/00	-215.52	7/23/01	-220.75
10/19/00	-17.88	09/05/01	-118.10		10/18/00	-213.10	08/22/01	-240.25
10/26/00	-17.95	09/12/01	-122.80		10/26/00	-212.25	9/5/01	-250.35
11/02/00	-17.72	09/19/01	-125.70		11/2/00	-210.35	9/12/01	-253.30
12/20/00	-20.40	09/26/01	-128.00		12/20/00	-209.05	9/19/01	-252.70
01/30/01	-33.12				1/24/01	-196.85		
02/28/01	-31.75				2/28/01	-194.25		
03/15/01	-28.55				3/15/01	-199.25		
04/26/01	-21.10				4/26/01	-198.65		
05/09/01	-21.05				5/9/01	-200.50		
06/05/01					6/5/01	-202.65		
07/24/01	-16.40				9/26/01	-239.40		
Mean	-22.15		-119.66			-207.65		-243.47
Max	-33.12		-128.00			-239.40		-253.30
Min	-16.40		-103.70			-194.25		-220.75
Historical								
Mean	-58.66		-121.71			-218.44		-254.05
Max	-164.00		-200.00			-275.07		-297.00
Min	-8.13		-40.92			-168.15		-183.42

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL WATER LEVEL DATA
OCTOBER 2000 - SEPTEMBER 2001

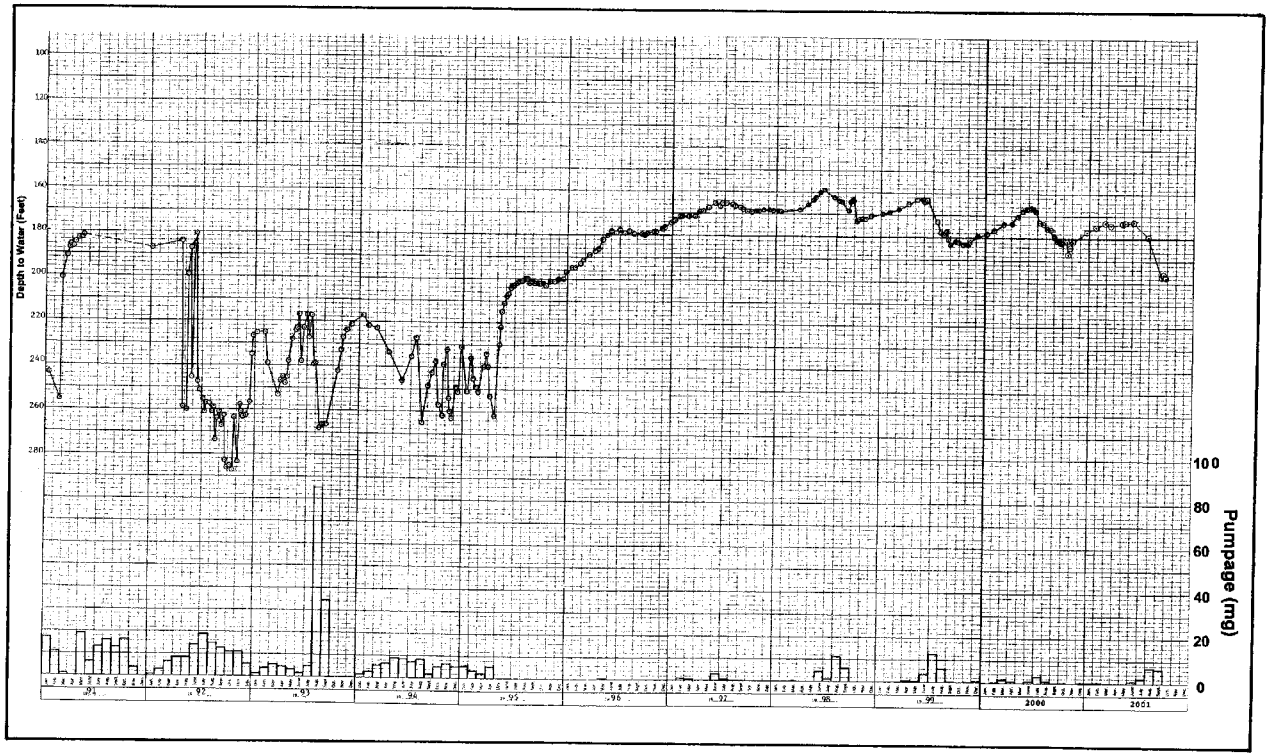
WELL NO. 16					WELL NO. 17			
Date	Static	Date	Pumping		Date	Static	Date	Pumping
10/12/00	-477.68	06/05/01	-485.10		10/12/00	-370.82	8/28/01	-379.20
10/18/00	-475.72	07/23/01	-488.95		10/18/00	-370.35	9/5/01	-377.00
10/26/00	-472.85	08/28/01	-495.20		10/26/00	-369.75	9/12/01	-379.00
11/02/00	-471.65	09/05/01	-495.30		11/2/00	-370.15	9/26/01	-378.80
12/20/00	-466.35	09/12/01	-491.50		12/20/00	-368.52		
01/24/01	-465.15	09/19/01	-493.10		1/24/01	-369.45		
02/28/01	-464.95				2/28/01	-369.05		
03/15/01	-464.65				3/15/01	-370.10		
04/26/01	-464.75				4/26/01	-369.75		
05/09/01	-467.60				5/9/01	-370.50		
09/26/01	-486.10				6/5/01	-371.35		
					7/23/01	-373.80		
					9/19/01	-375.10		
Mean	-470.68		-491.53			-370.67		-378.50
Max	-486.10		-495.30			-375.10		-379.20
Min	-486.10		-495.30			-375.10		-379.20
Historical								
Mean	-465.92		-483.55			-374.45		-375.01
Max	-483.94		-495.30			-386.71		-386.00
Min	-413.65		-471.47			-364.06		-369.52

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL WATER LEVEL DATA
OCTOBER 2000 - SEPTEMBER 2001

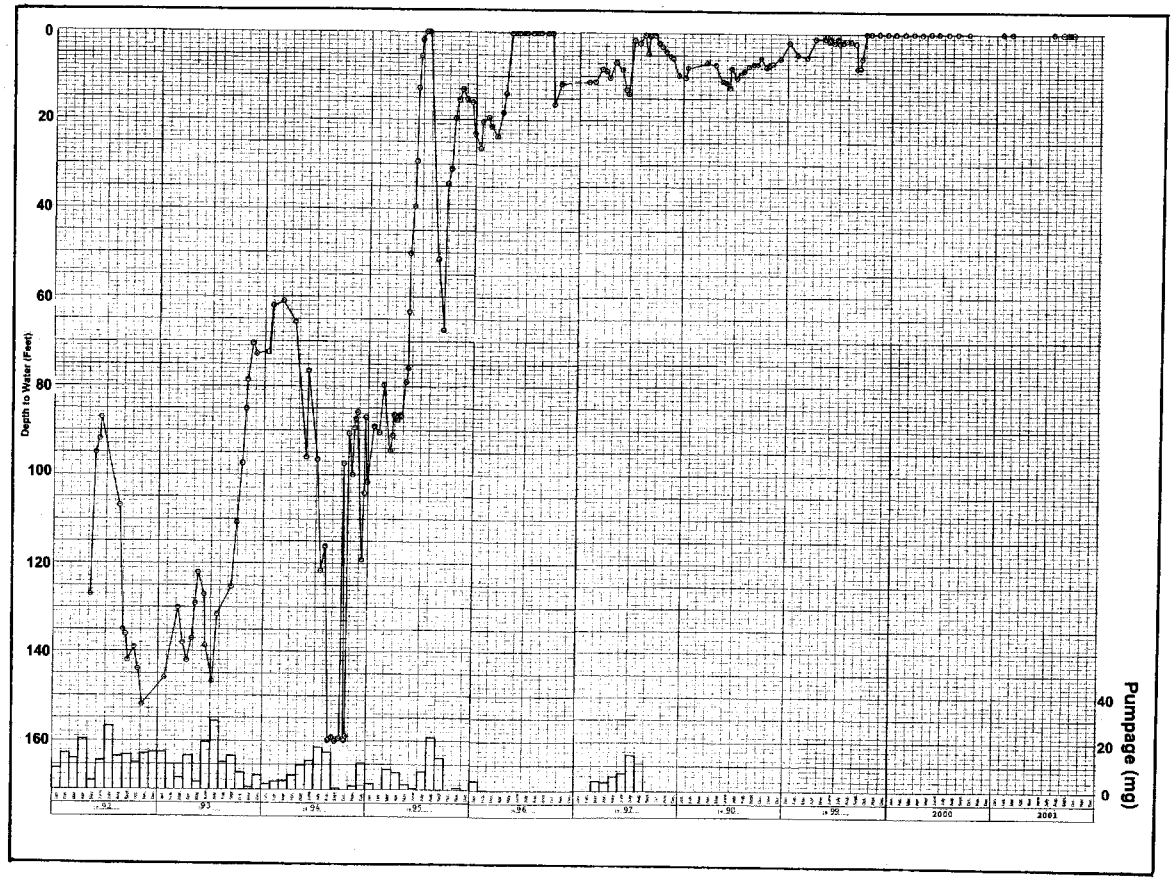
WELL NO. 18					WELL NO. 20			
Date	Static	Date	Pumping		Date	Static	Date	Pumping
10/12/00	-72.65	6/5/01	-87.45		10/12/00	-413.62	7/23/01	-417.80
10/19/00	-67.25	08/22/01	-137.75		10/18/00	-411.20	8/28/01	-481.50
10/26/00	-64.25	09/05/01	-299.05		10/26/00	-409.95	9/5/01	-476.75
11/2/00	-62.98	09/12/01	-282.80		11/2/00	-409.32	9/12/01	-486.20
12/20/00	-59.35				12/20/00	-404.55	9/26/01	-423.30
1/24/01	-63.45				1/24/01	-404.25		
2/28/01	-64.25				2/28/01	-403.65		
3/15/01	-66.65				3/15/01	-403.55		
4/26/01	-62.82				4/26/01	-404.50		
5/9/01	-62.82				5/9/01	-405.25		
7/24/01	-76.40				6/5/01	-407.20		
9/19/01	-105.40							
9/26/01	-106.70							
Mean	-71.92		-201.76			-407.00		-457.11
Max	-106.70		-299.05			-413.62		-486.20
Min	-59.35		-87.45			-403.55		-417.80
Historical								
Mean	-60.65		-143.55			-411.60		-454.63
Max	-87.90		-299.05			-436.52		-489.01
Min	-40.00		-81.91			-398.91		-417.80
*								

APPENDIX B

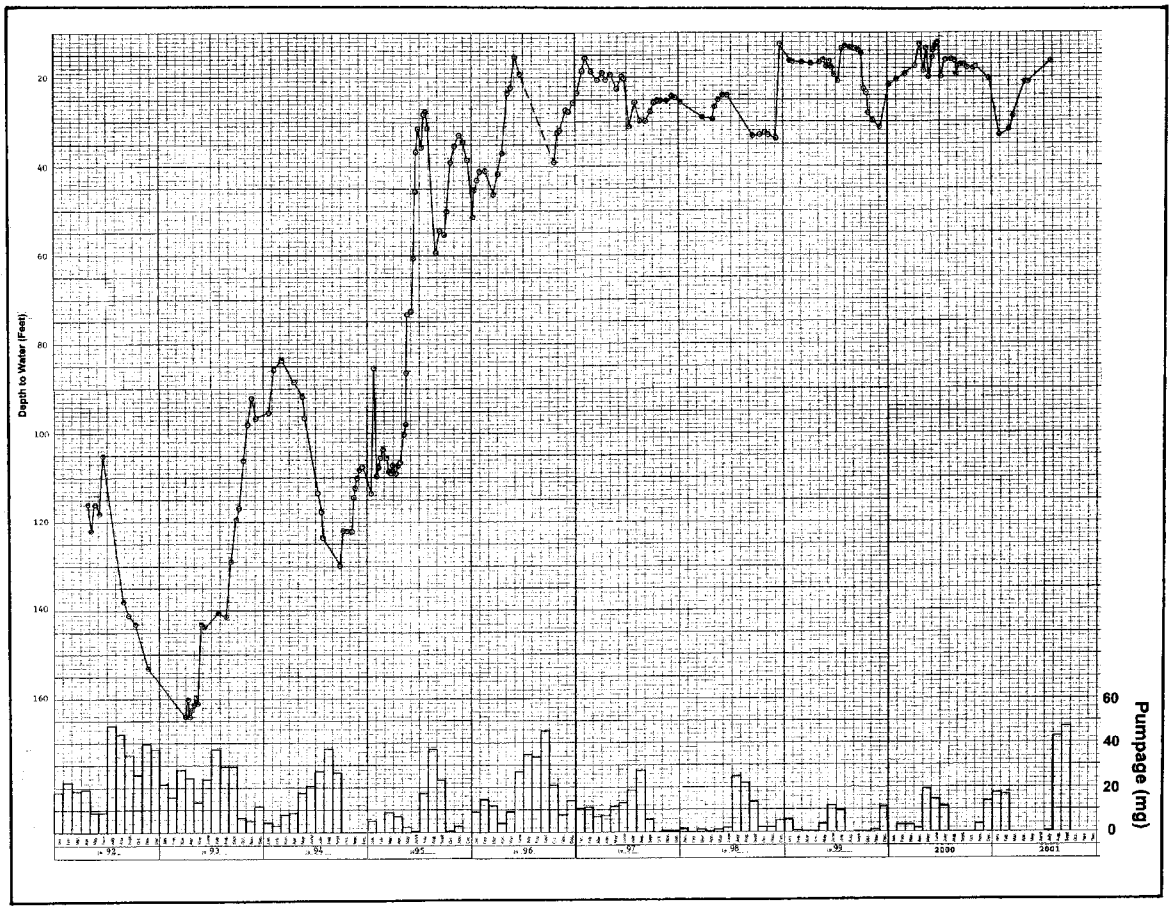
PUMPAGE AND WATER-LEVEL HYDROGRAPHS FOR EARLIER SUPPLY WELLS



WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 1



WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 6



WATER-LEVEL AND PUMPAGE HYDROGRAPH FOR WELL NO. 10

APPENDIX C

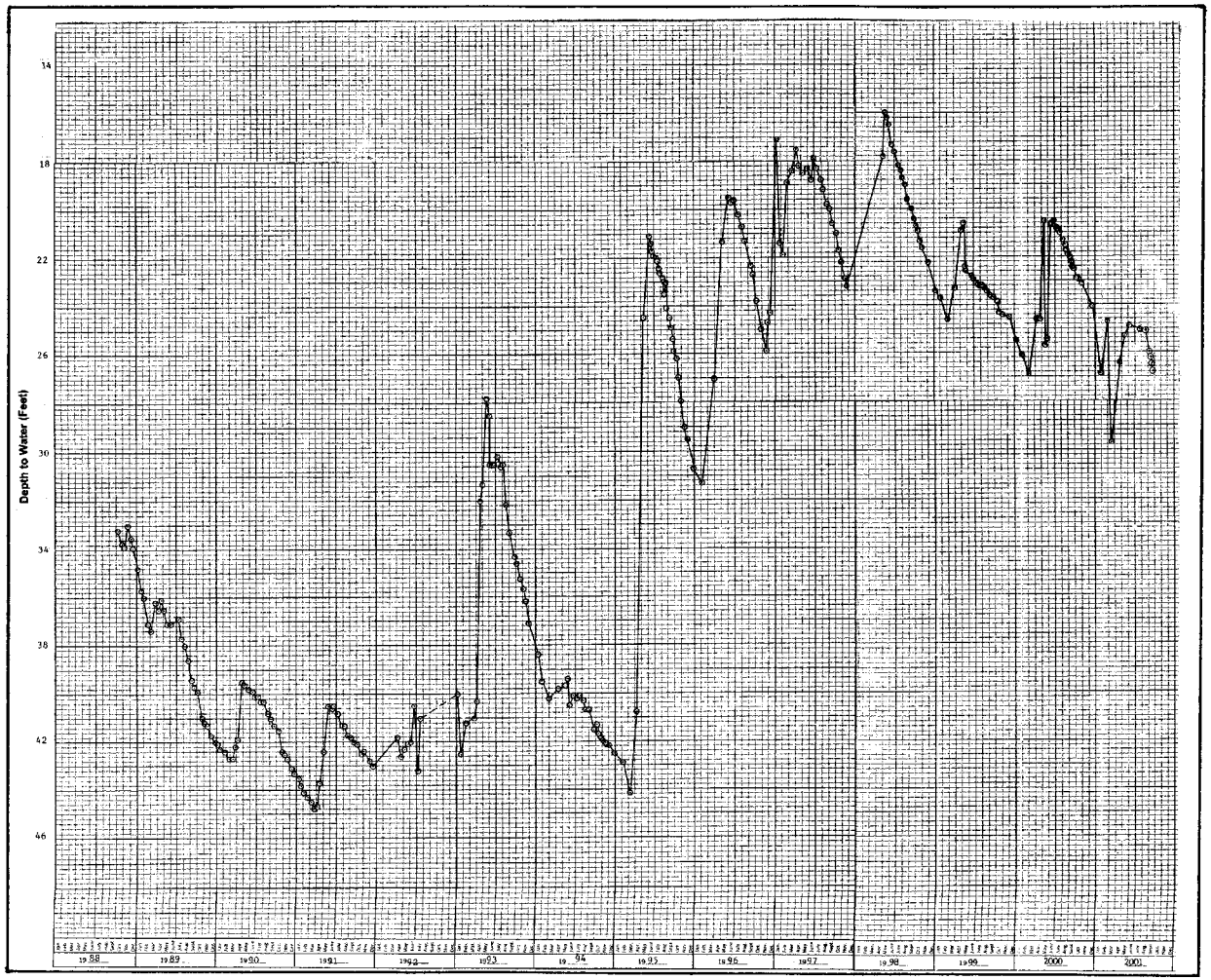
WATER-LEVEL MEASUREMENTS FOR MONITOR WELLS

MAMMOTH COMMUNITY WATER DISTRICT
MONITOR WELL LEVEL DATA
OCTOBER 2000 THRU SEPTEMBER 2001

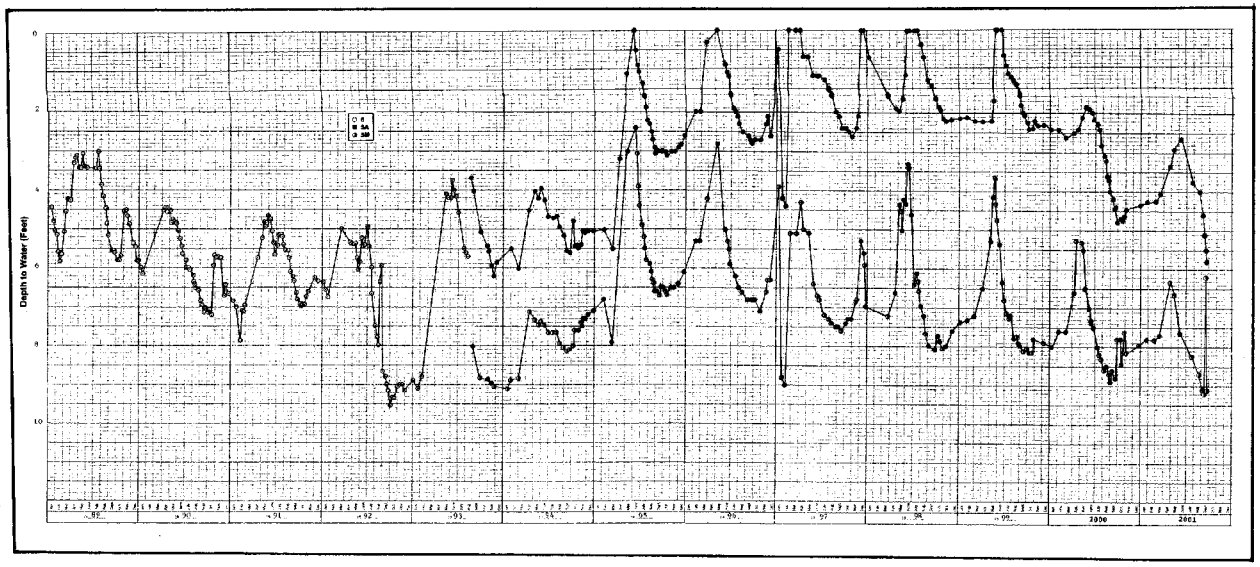
Date	Well 4M	Well 5A	Well 5M	Well 7	Well 10M	Well 11	Well 11M	Well 12M	Well 14M	Well 19	Well 21	Well 22	Well 23	Well 24
10/3/00									264.25	350.94	232.44			371.69
10/12/00	22.92	4.72	7.81	250.85	20.68	0	22.22	19.18				80.45	13.51	
10/19/00	22.98	4.75	8.45	250.60	21.75	0	22.42	19.76				80.42	13.98	
10/26/00	23.12	4.65	7.62	250.35	20.62	0	22.82	19.95				80.45	14.35	
11/2/00	23.14	4.46	8.17	250.51	20.81	0	23.05	20.19				83.03	13.98	
11/7/00									278.62	351.18	232.62			372.56
12/5/00									287.75	351.59	232.81			372.96
12/20/00	24.08	4.35	7.95	250.95	24.65	0	24.95	22.65				81.22	15.46	
1/2/01									292.55	346.1	231.93			355.29
1/24/01	26.87	4.27	7.81	252.15	29.82	0	27.21	22.75				83.51	15.75	
2/2/01									300.36	346.39	231.99			357.48
2/28/01	24.65	4.25	7.82	254.05	29.72	0	28.45	22.65				82.18	15.81	
3/2/01									306.24	346.46	231.93			358.79
3/14/01	29.65	4.05	7.7	256.55	29.85	0	28.65	22.65				82.15	15.29	
4/3/01									313.36	346.6	231.86			360.72
4/26/01	26.42	3.34	6.32	257.1	24.3	0	24.67	22.65				80.35	12.8	
5/7/01									316.91	346.46	232.18			351.35
5/10/01	25.25	2.9	6.65	257.65	22.5	0	21.1	20.3				80.25	12.75	
6/1/01									312.12	345.5	231.79			358.16
6/5/01	24.9	2.65	7.65	258.4	21.2	0	15.4	14.65				80.32	11.71	
7/3/01									312.11	345.61	231.99			360.63
7/23/01	25.18	3.75	8.25	258.1	19.35	0	14.9	11.05				80.25	14.6	
8/2/01									309.51	345.69	231.81			363.82
8/22/01	25.05	4.02	8.65	257.9	29.7	0	18.65	17.45				80.35	16.32	
9/4/01									309.29	345.75	232.12			367.64
9/5/01	26.00	4.6	9.05	257.45	29.7	0	20.8	22.3				80.35	16.45	
9/12/01	26.20	5.1	9.15	257.1	29.7	0	21.5	24.6				80.20	15.60	
9/19/01	26.50	5.5	6.2	257.0	29.7	0	23.3	23.0				80.25	15.60	
9/26/01	26.80	5.8	9.1	256.8	29.7	0	24.7	22.5				80.30	15.80	
Mean	25.28	4.30	7.90	254.91	25.51	0.00	22.63	20.49	300.26	347.36	232.12	80.94	14.69	362.59
Maximum	22.92	2.65	6.20	250.35	19.35	0.00	14.90	11.05	264.25	345.50	231.79	80.20	11.71	351.35
Minimum	29.65	5.80	9.15	258.40	29.85	0.00	28.65	24.60	316.91	351.59	232.81	83.51	16.45	372.96
Historical														
Mean*	27.95	2.91	6.96	254.11	22.91	10.16	20.25	16.62	318.38	334.58	279.63	81.03	12.35	375.29
Maximum*	15.98	0.00	2.41	240.94	9.69	0.00	4.14	4.25	234.88	312.33	230.97	70.79	6.00	350.87
Minimum*	44.16	7.16	9.15	288.07	29.85	50.50	39.17	27.00	360.71	357.25	365.42	86.22	16.45	392.01
NOTE:	*Transducers recalibrated on 1/2/01 for monitor wells 14, 19, 21 & 24*													

APPENDIX D

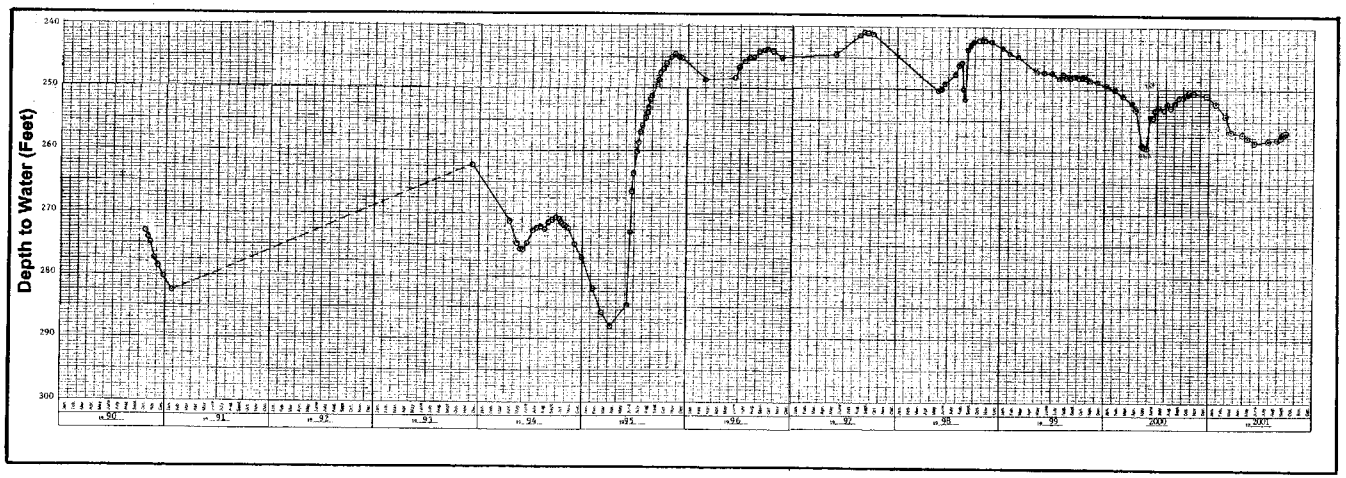
SUPPLEMENTARY WATER-LEVEL HYDROGRAPHS FOR MONITOR WELLS



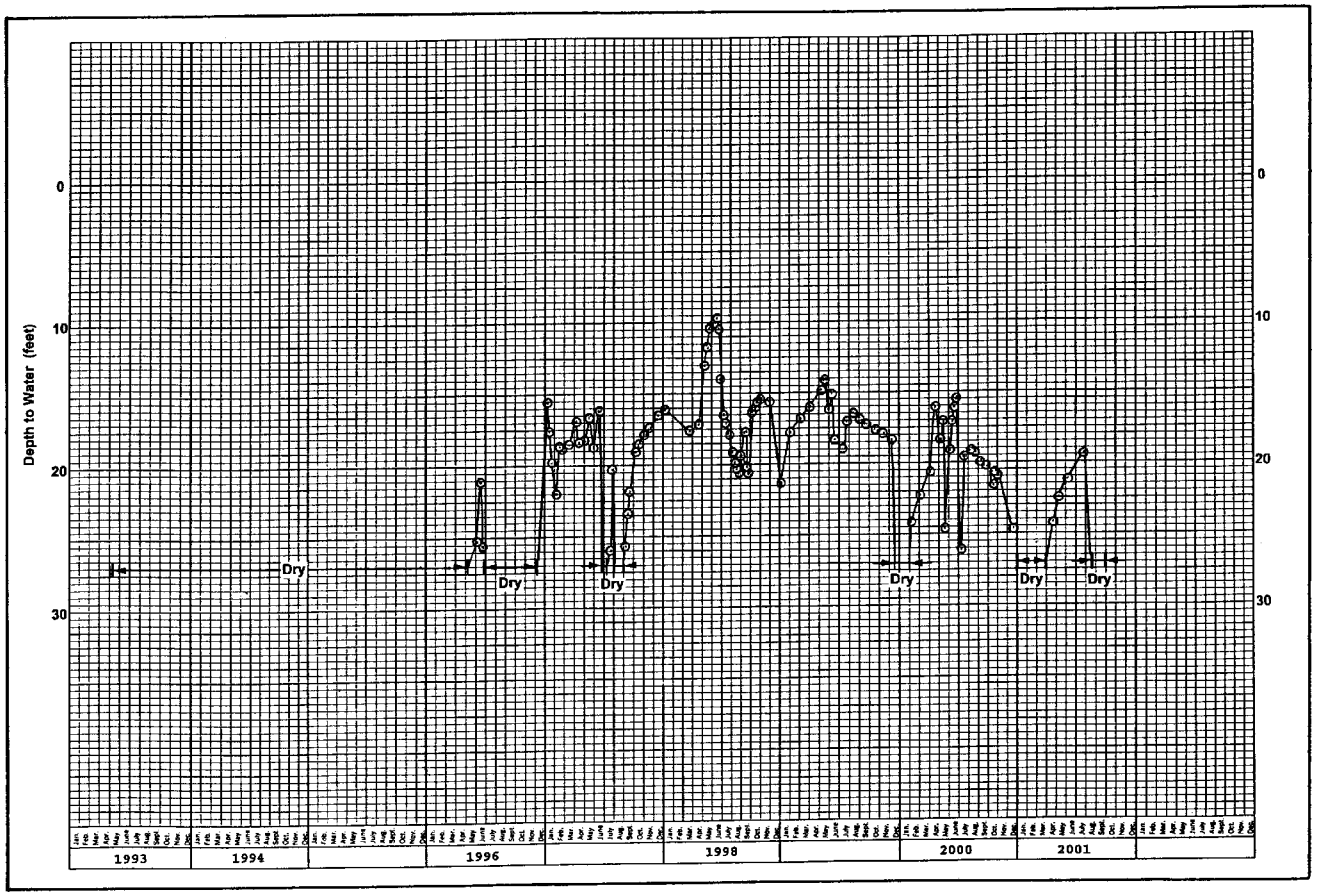
WATER-LEVEL HYDROGRAPH FOR WELL NO. 4M



WATER-LEVEL HYDROGRAPH FOR WELL NO. 5, No. 5A, AND NO. 5M

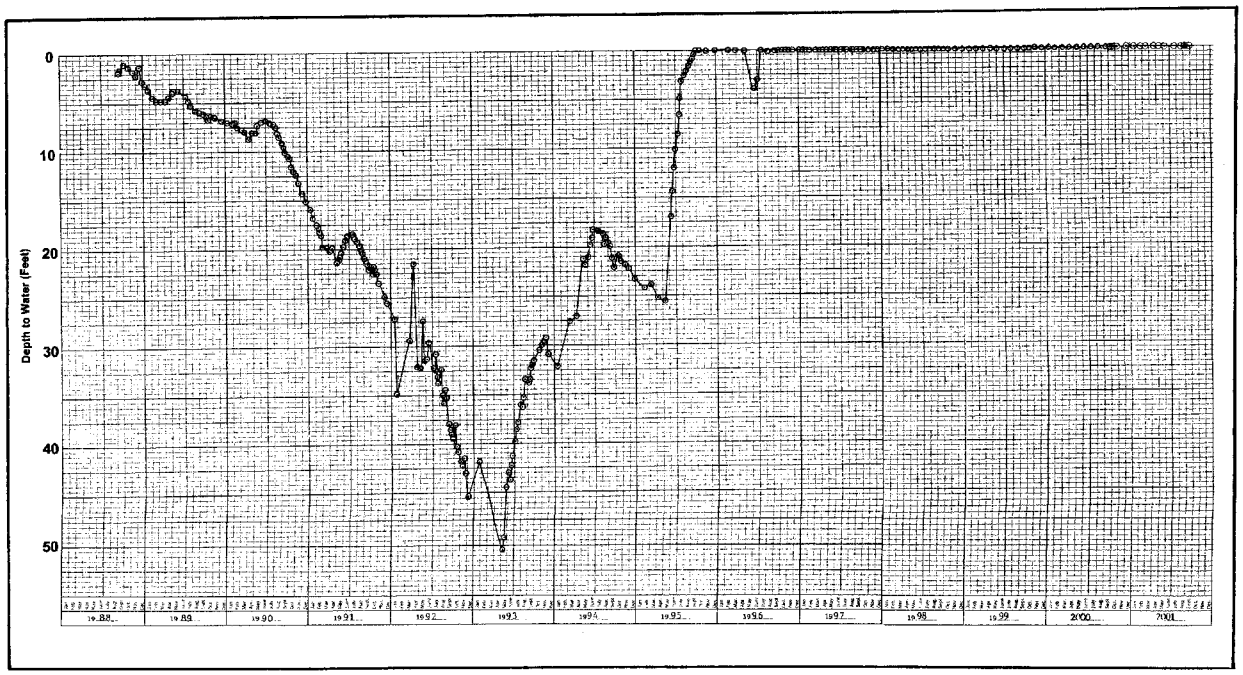


WATER-LEVEL HYDROGRAPH FOR WELL NO. 7

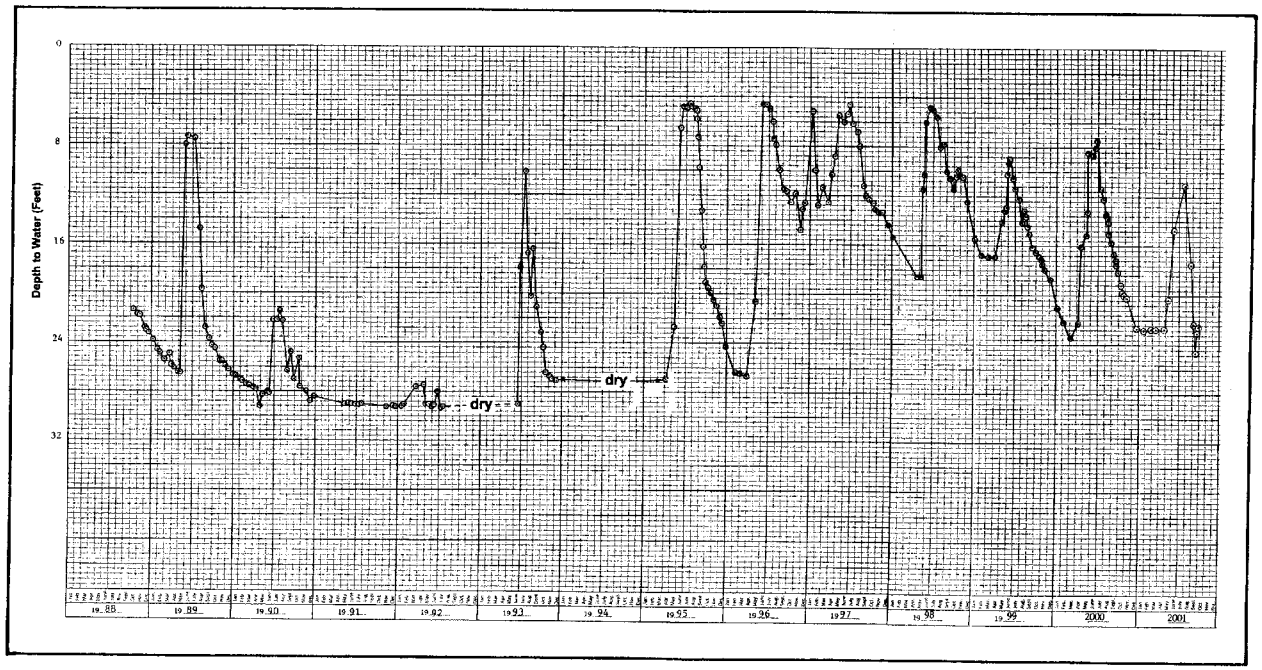


WATER-LEVEL HYDROGRAPH FOR WELL NO. 10M

WATER-LEVEL HYDROGRAPH FOR WELL NO. 11M



WATER-LEVEL HYDROGRAPH FOR WELL NO. 11

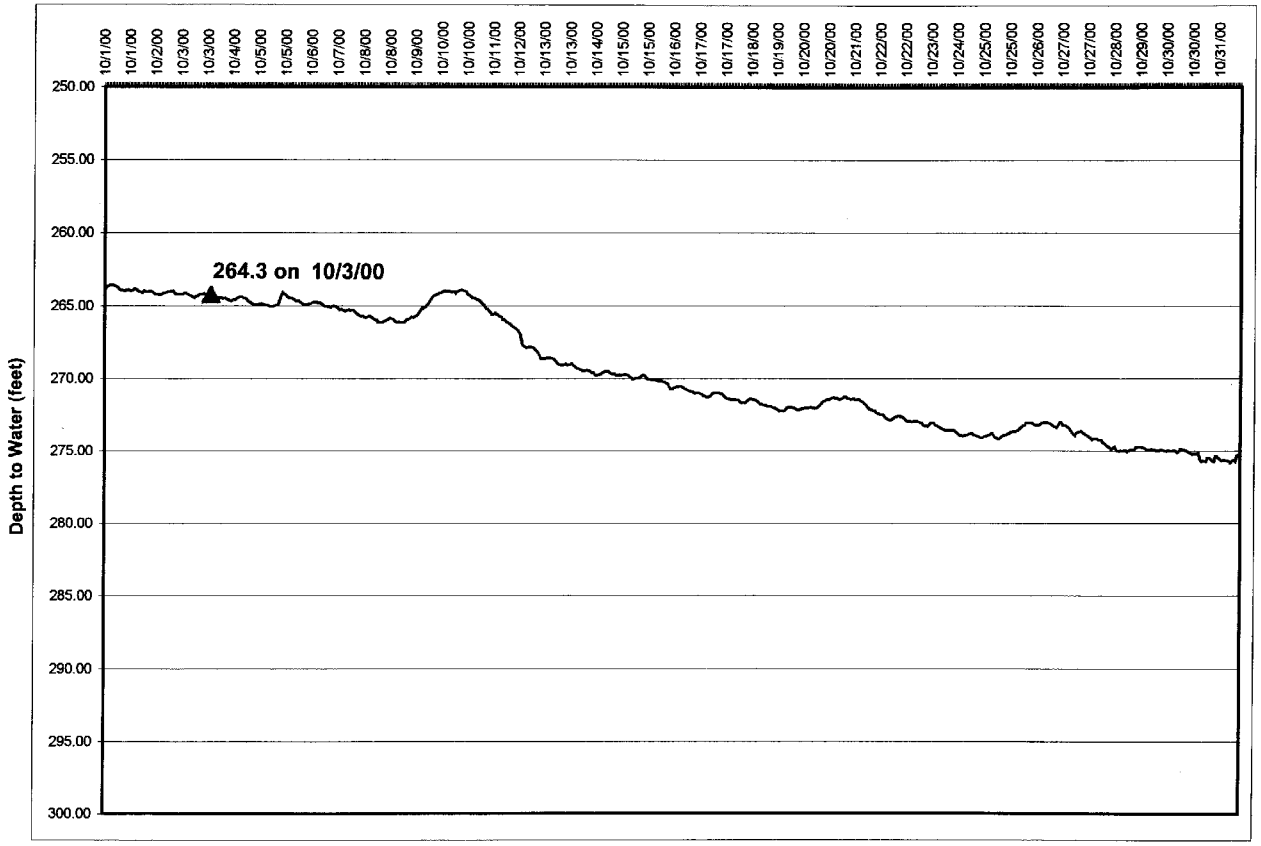


WATER-LEVEL HYDROGRAPH FOR WELL NO. 12M

Water-Level Hydrographs from Transducer Measurements for Well No. 14M

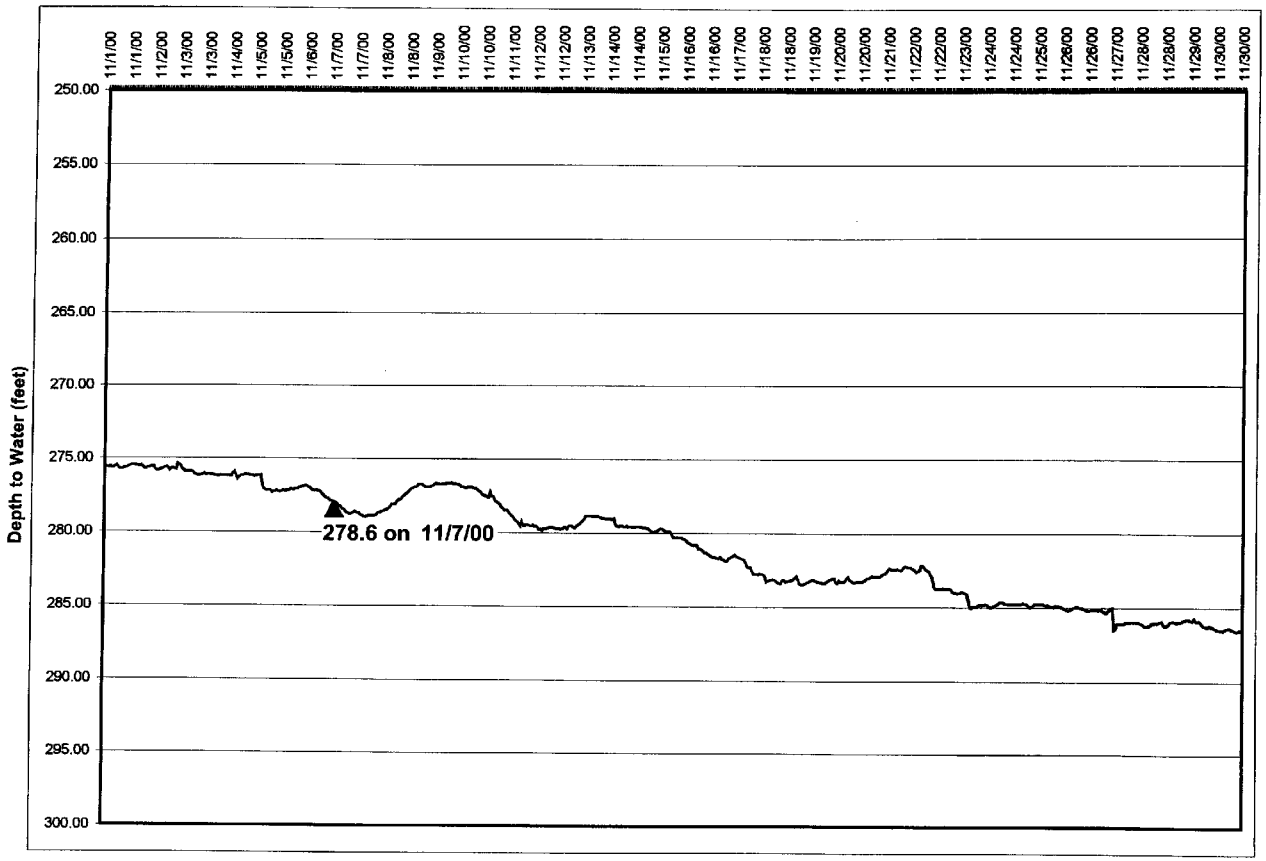
Note: Solid triangle and adjoining depth to water on graph are for measurement with an electric sounder.

Well 14M



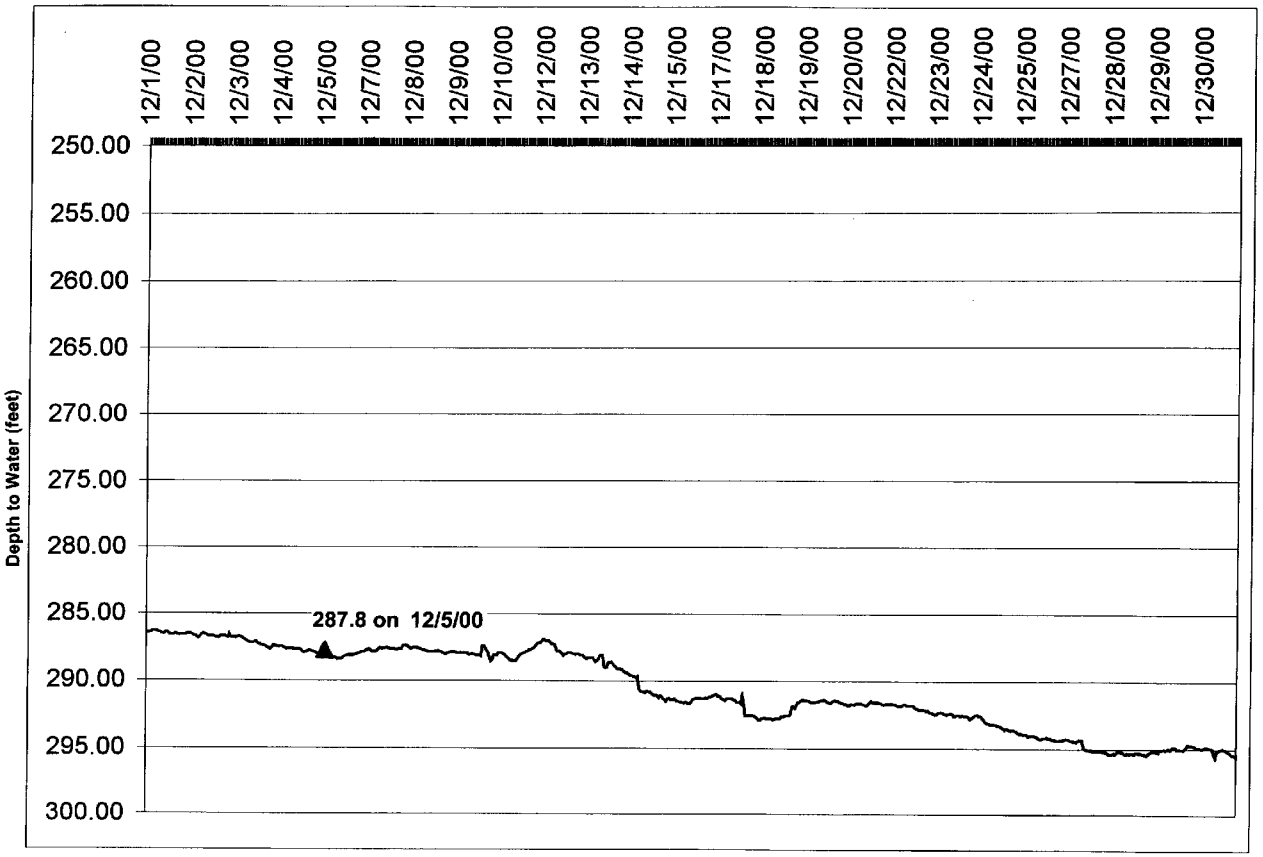
0CT. 00 CHART

Well 14M



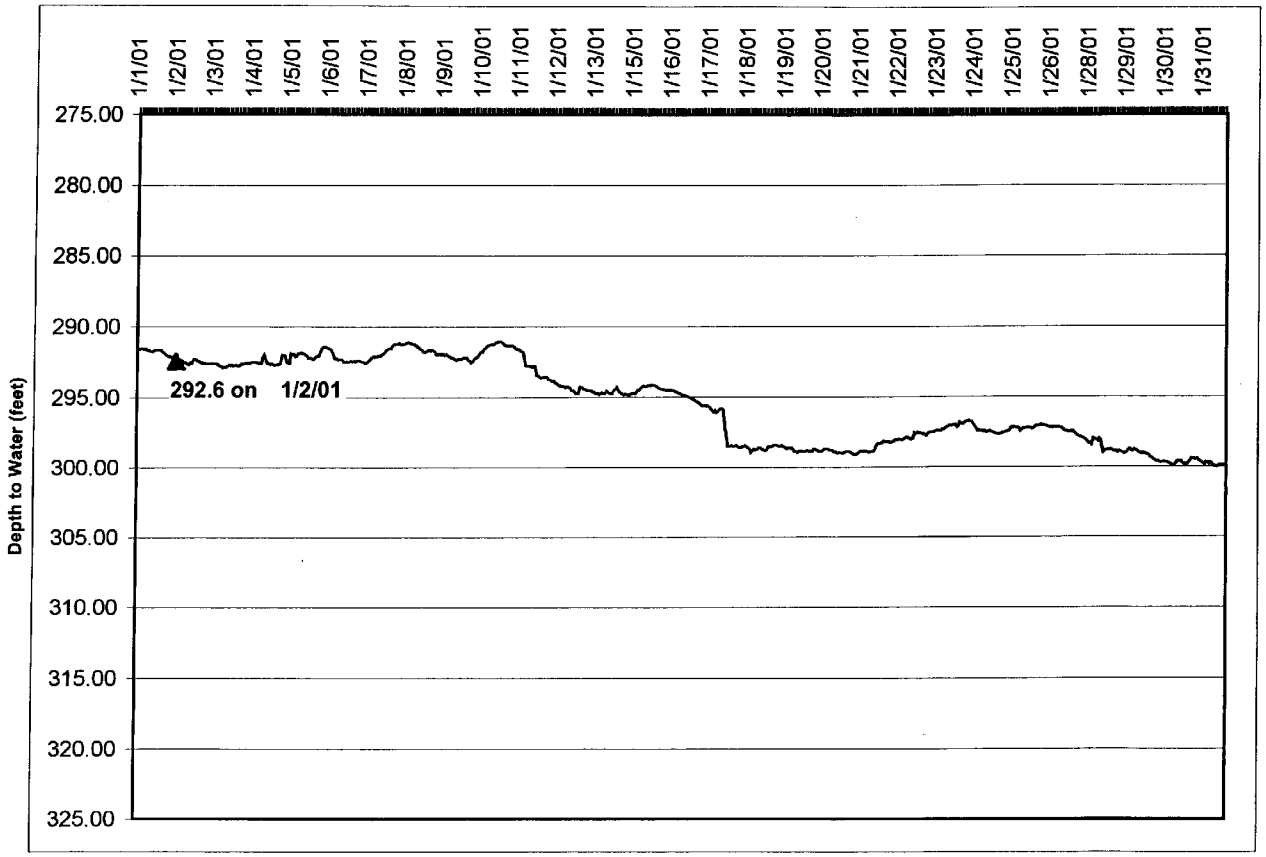
Nov. 00 Chart

Well 14M



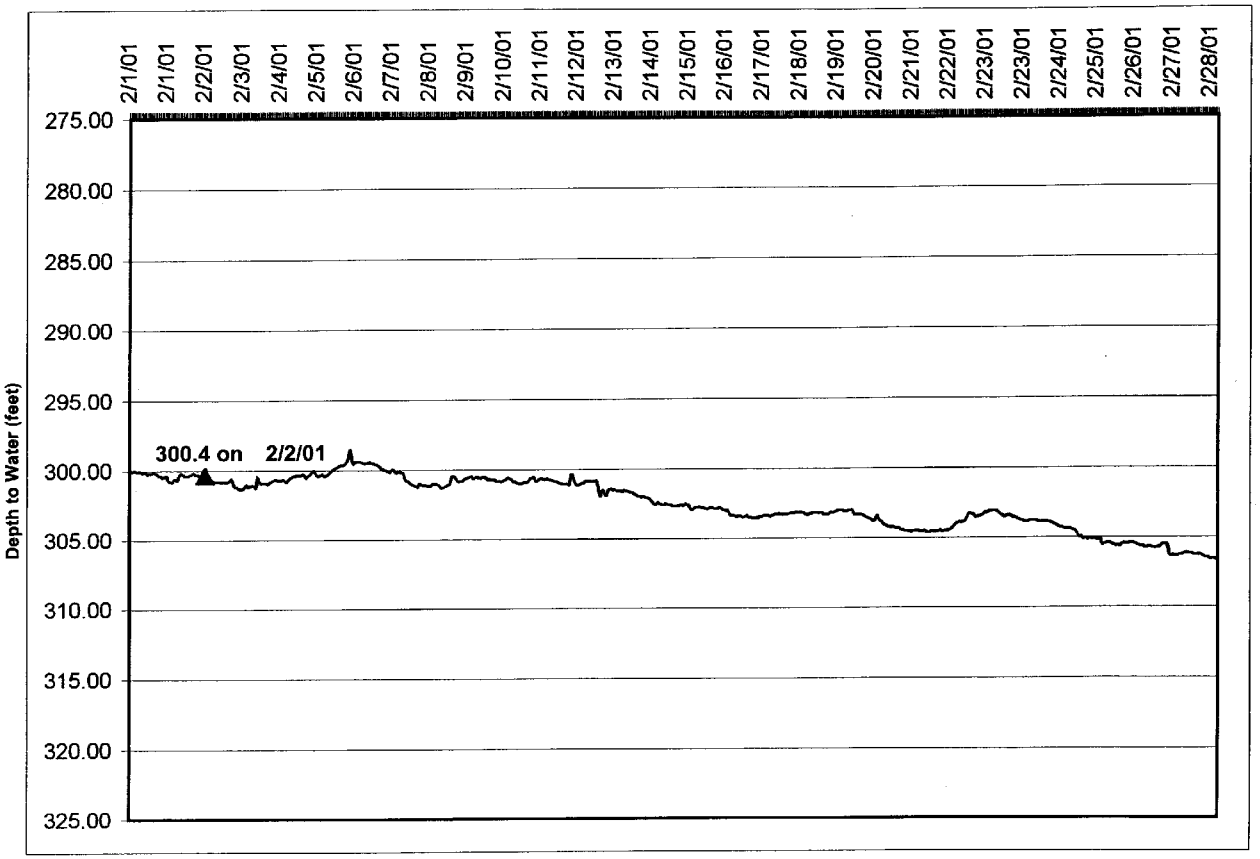
Dec 00 Chart

Well 14M



Jan 01 Chart

Well 14M

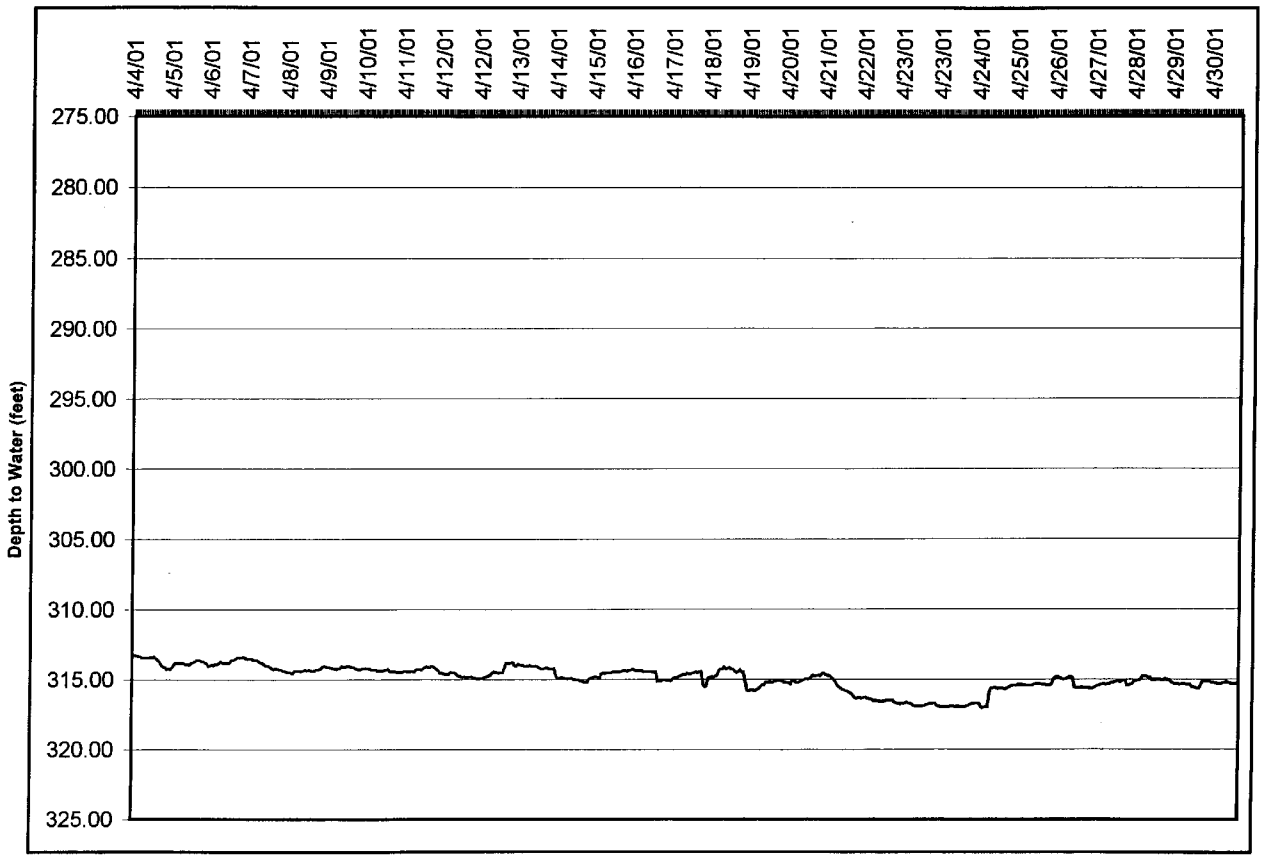


Feb 01 Chart

WELL 14M

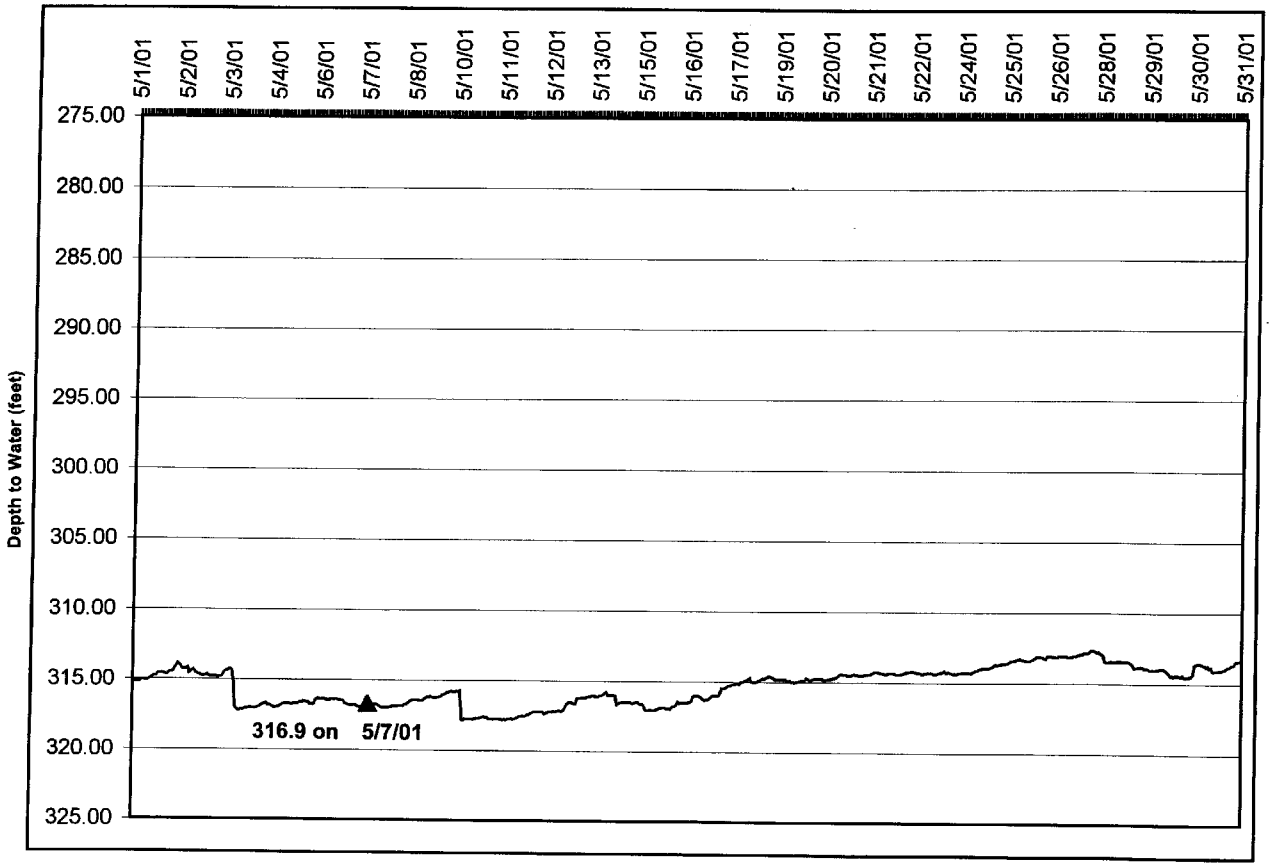
No data for March 2001
because of power failure.

Well 14M



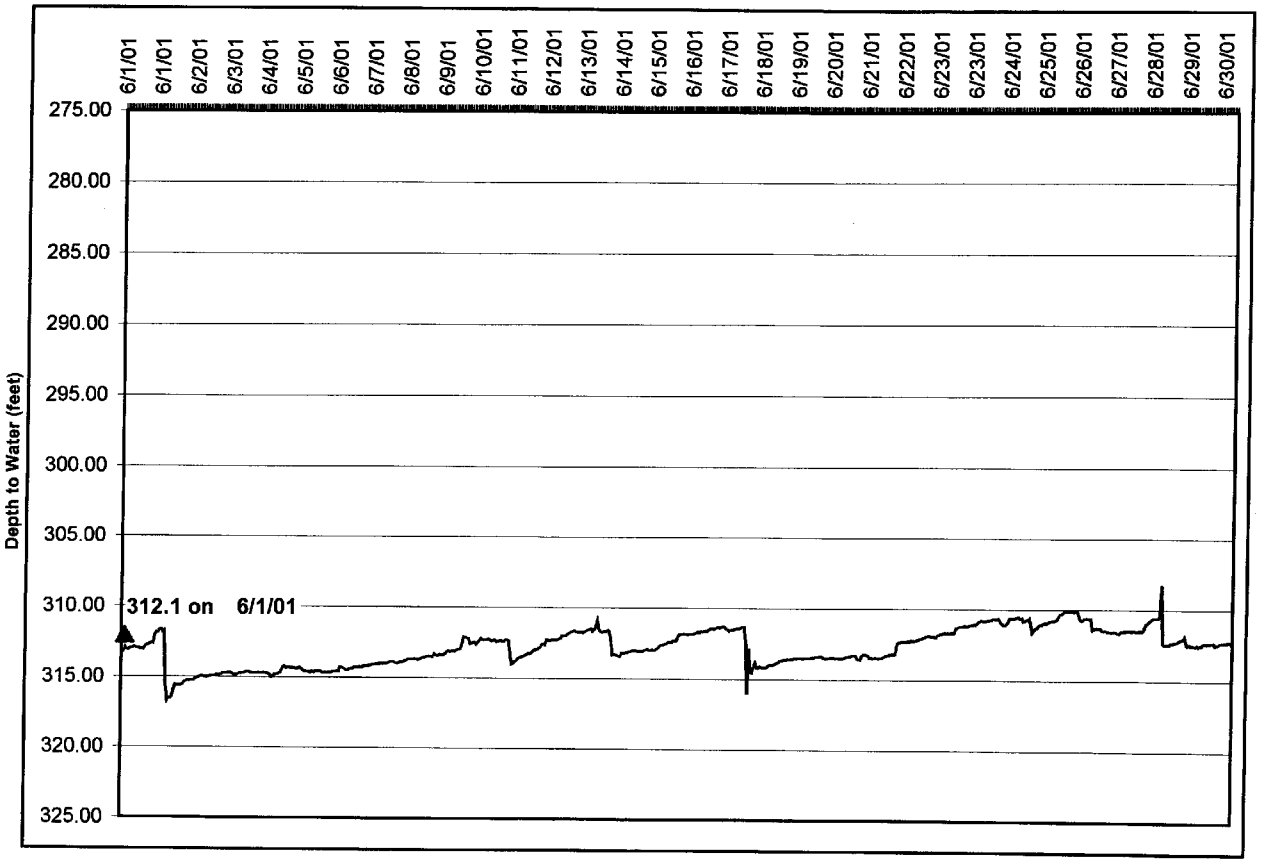
April 01 Chart

Well 14M



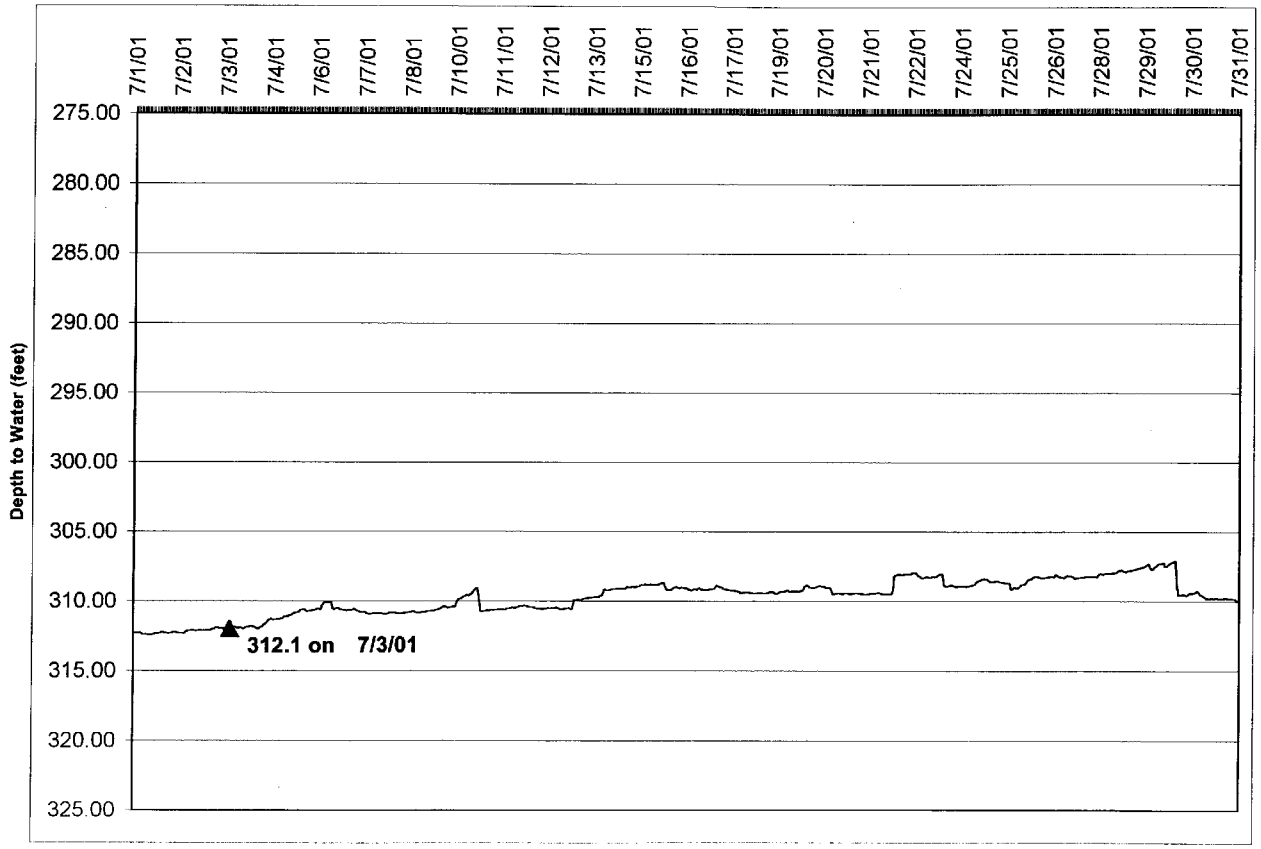
May 01 Chart

Well 14M



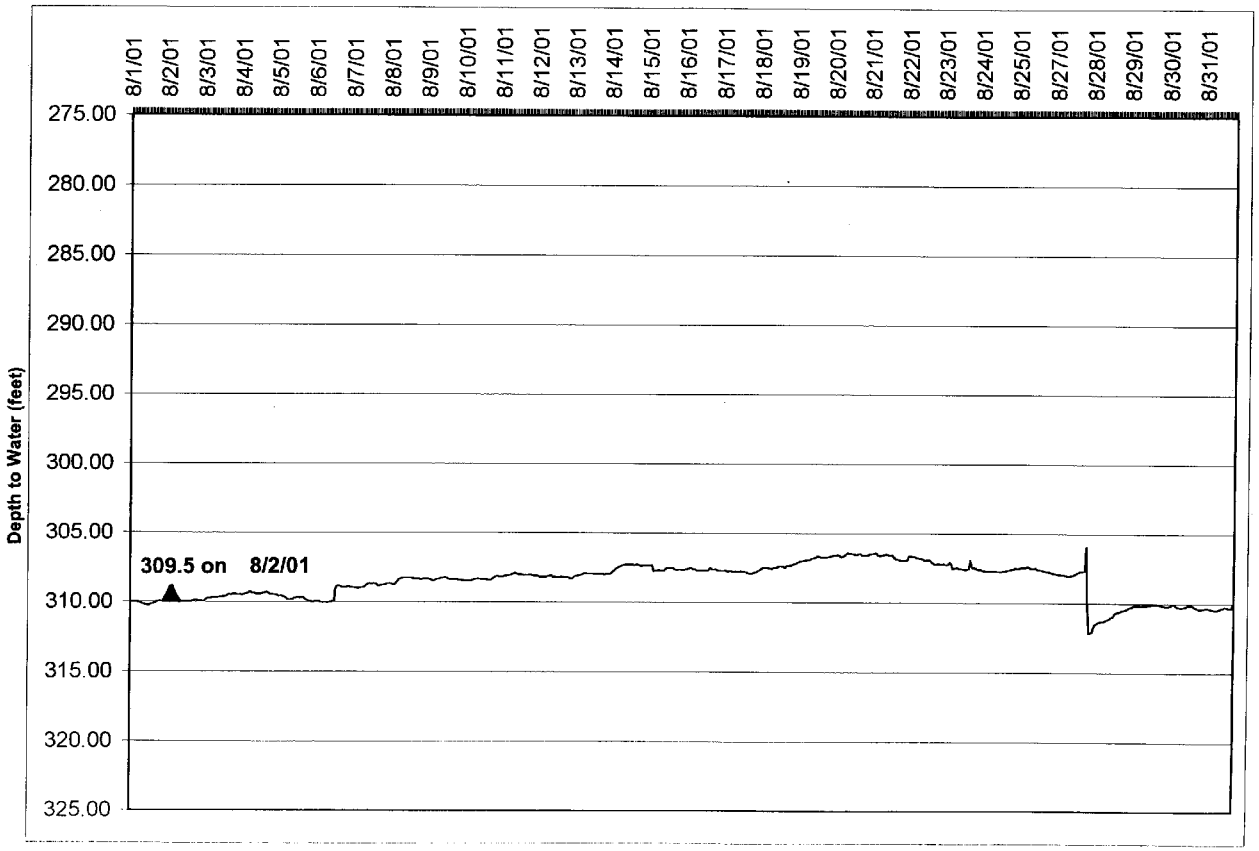
June01 Chart

Well 14M



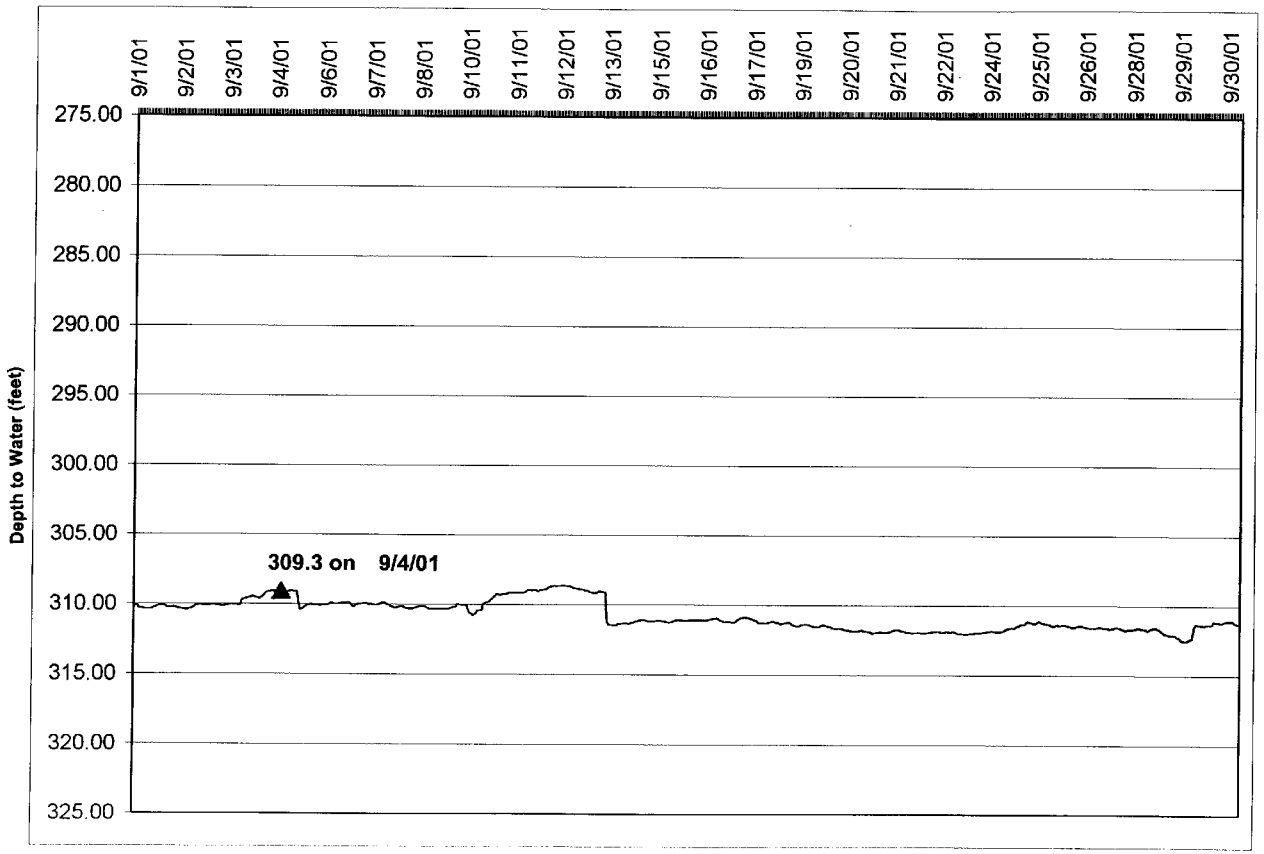
July 01 Chart

Well 14M



Aug. 01 chart

Well 14M

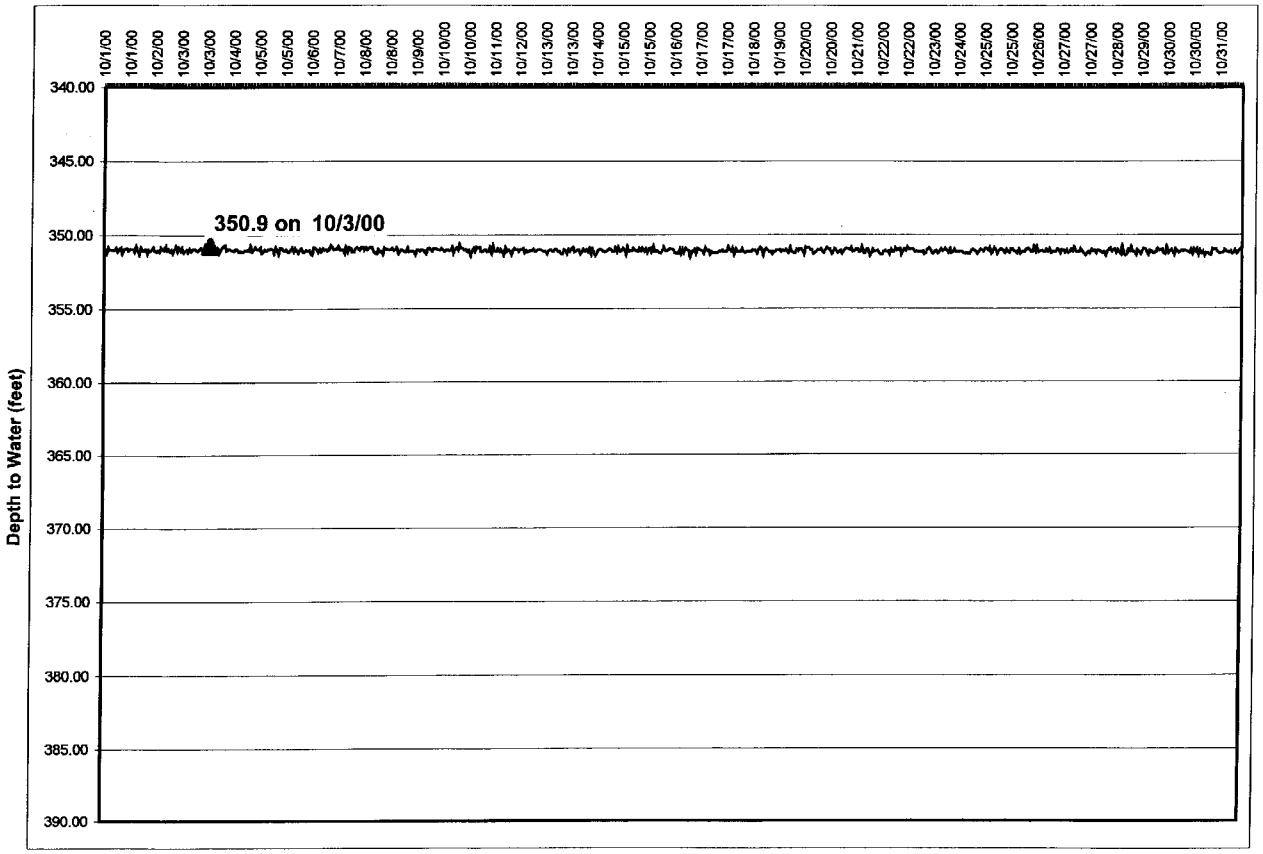


Sept. 01 chart

Water-Level Hydrographs from Transducer Measurements for Well No. 19

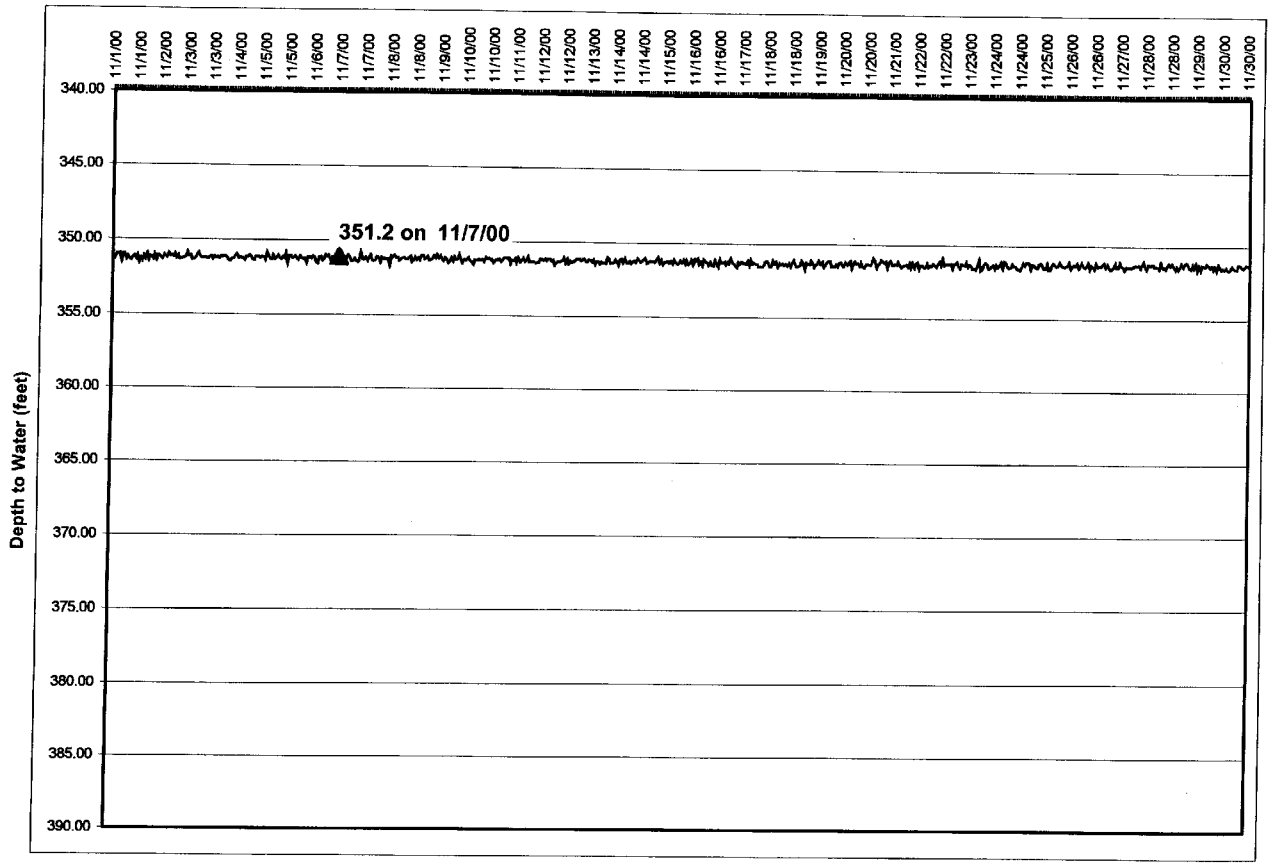
Note: Solid triangle and adjoining depth to water on graph are for measurement with an electric sounder.

Well 19



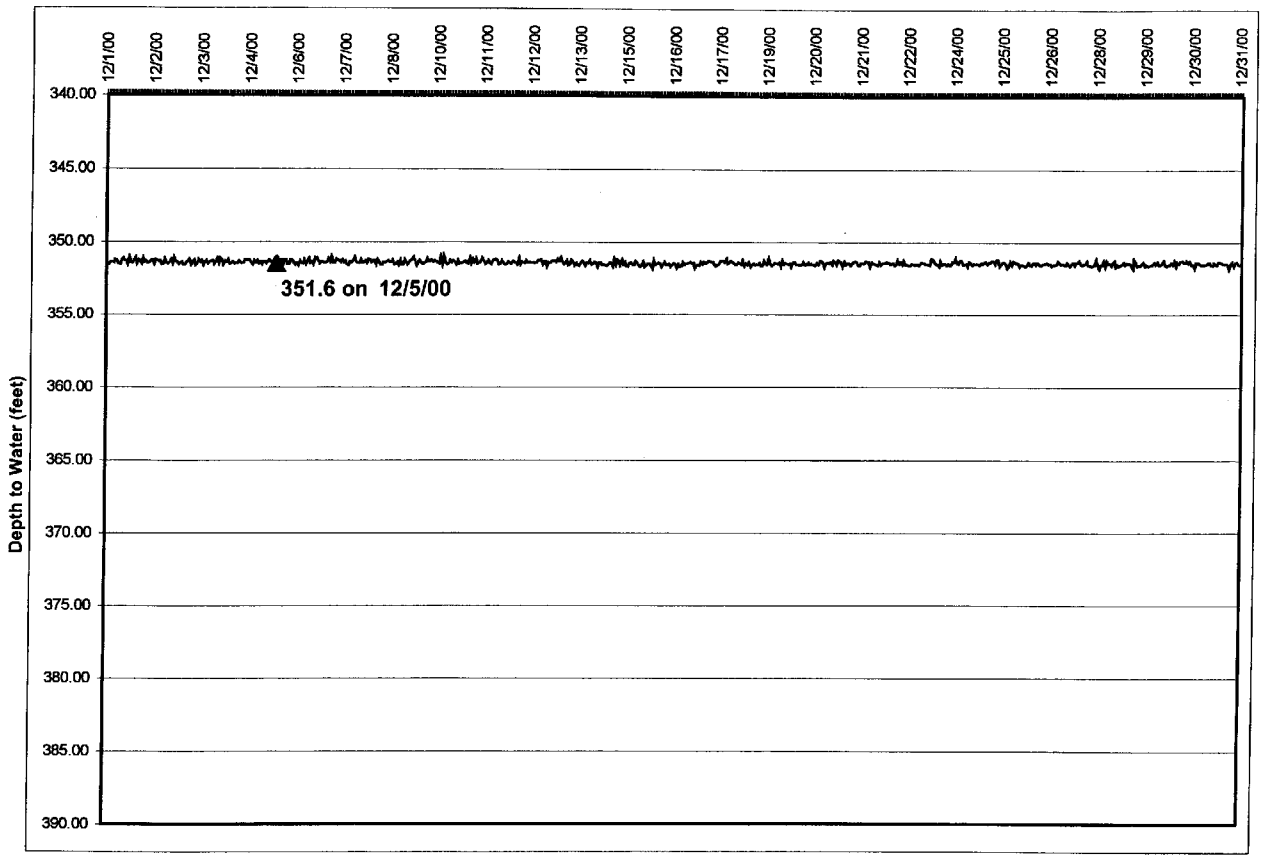
Oct. 00 Chart

Well 19



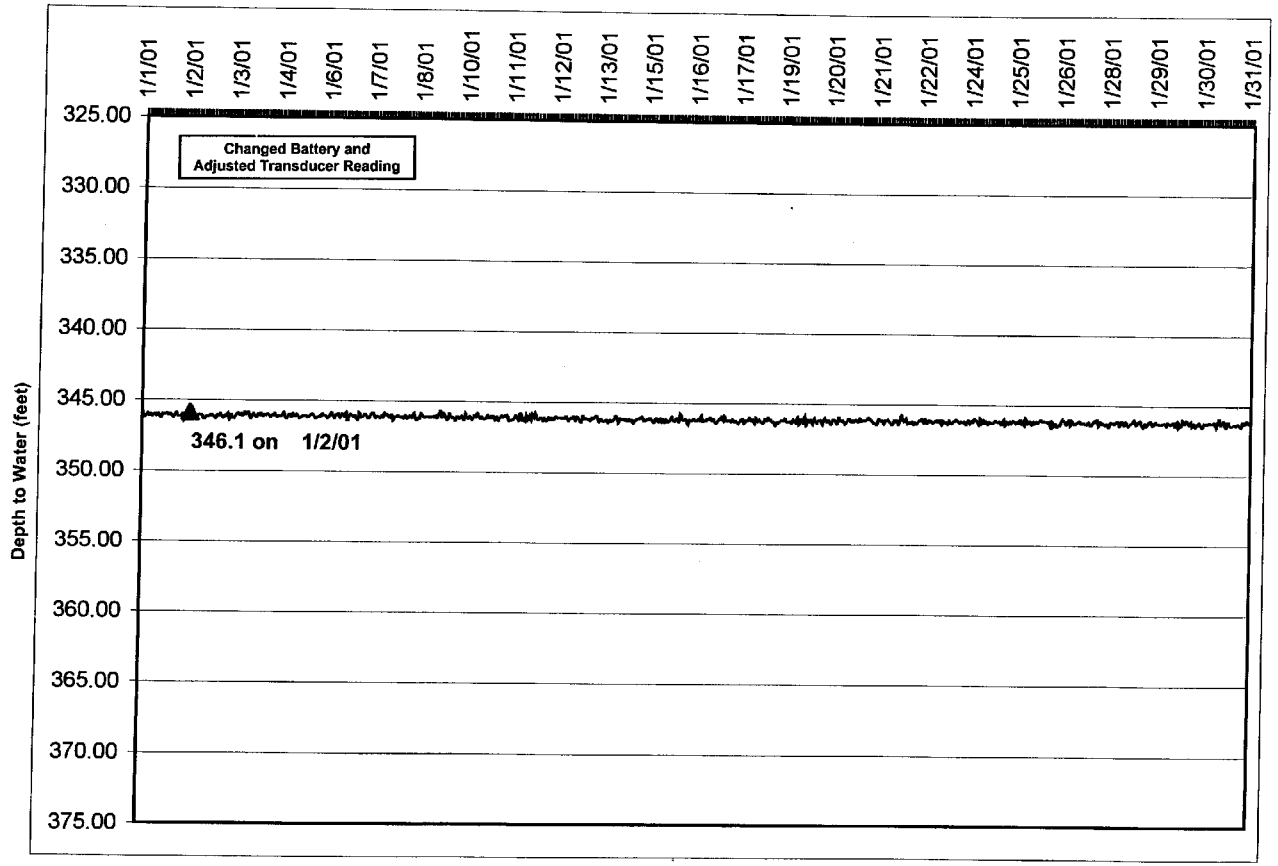
Nov. 00 Chart

Well 19



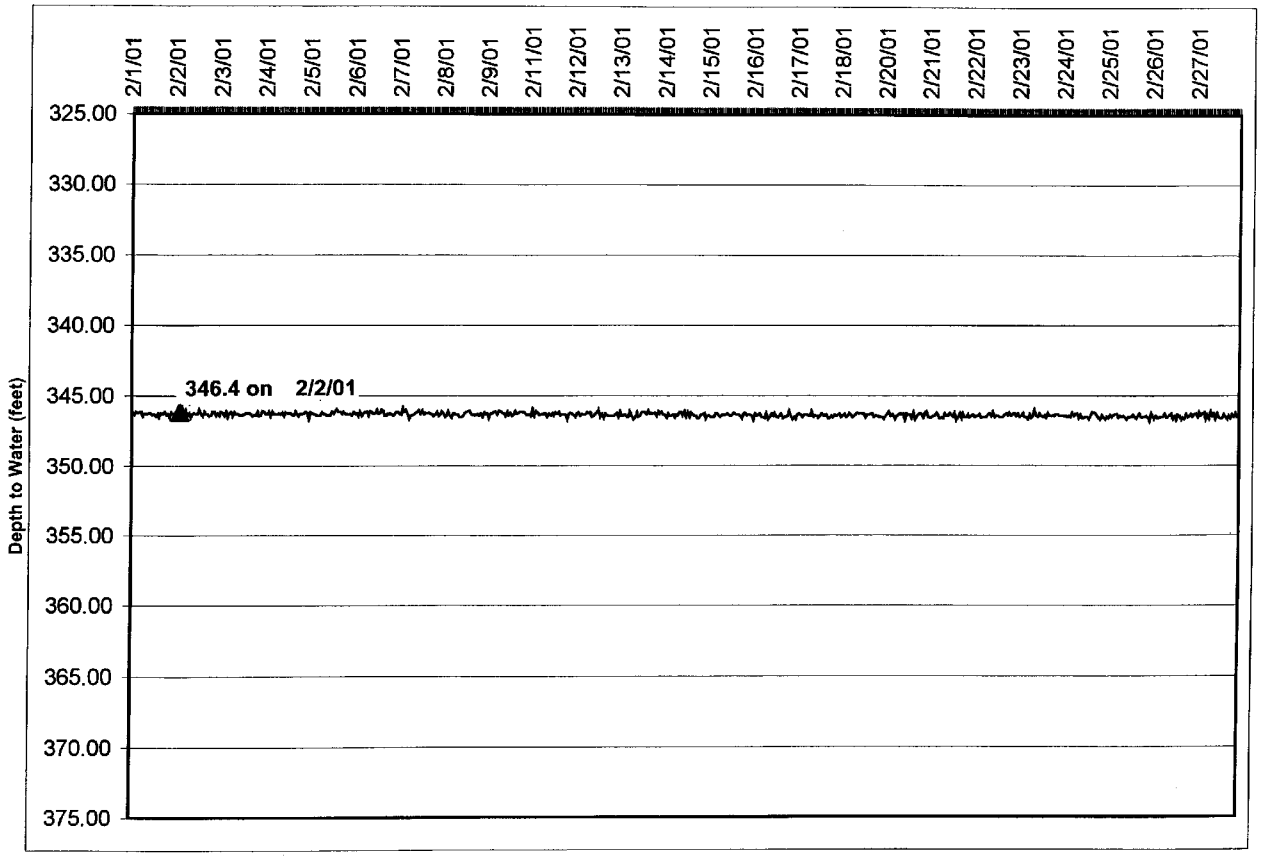
Dec 00 Chart

Well 19



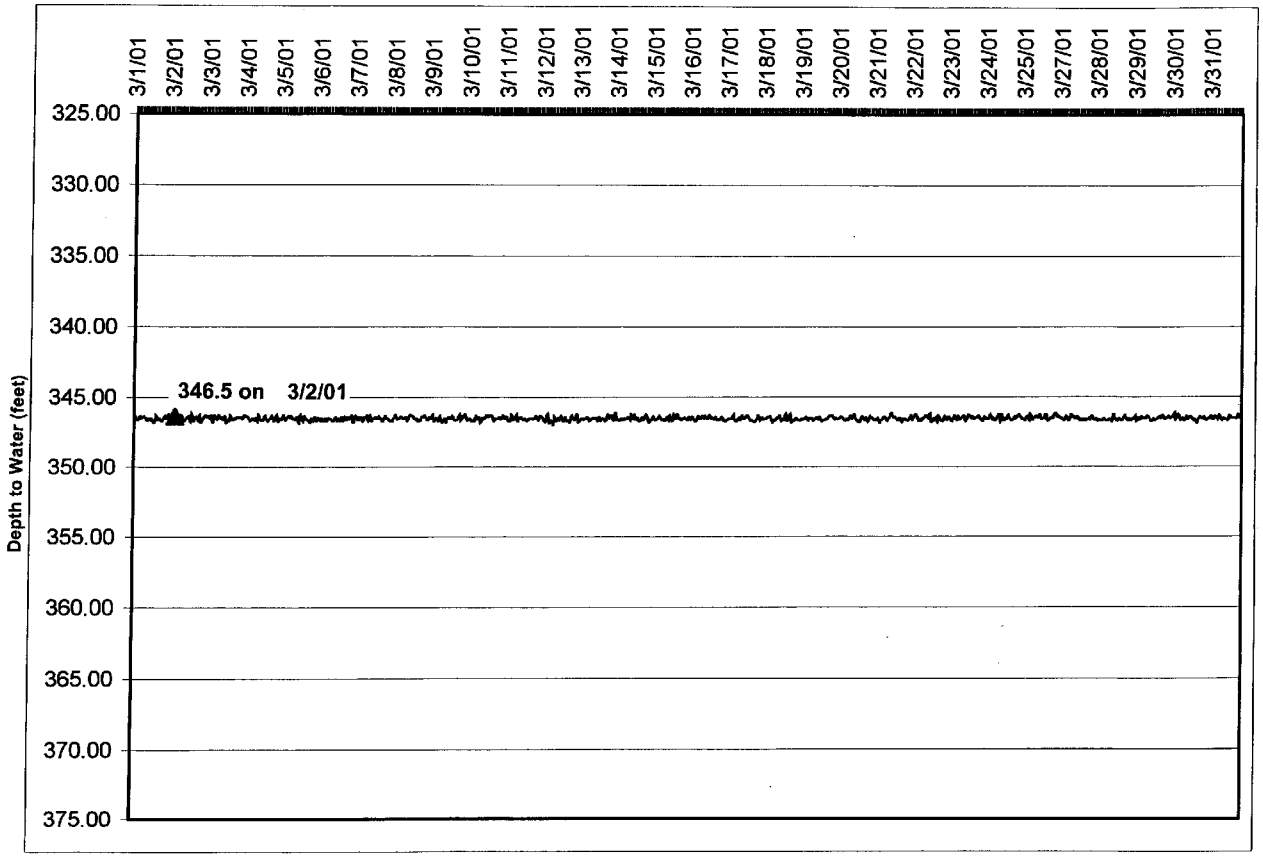
Jan 01 Chart

Well 19



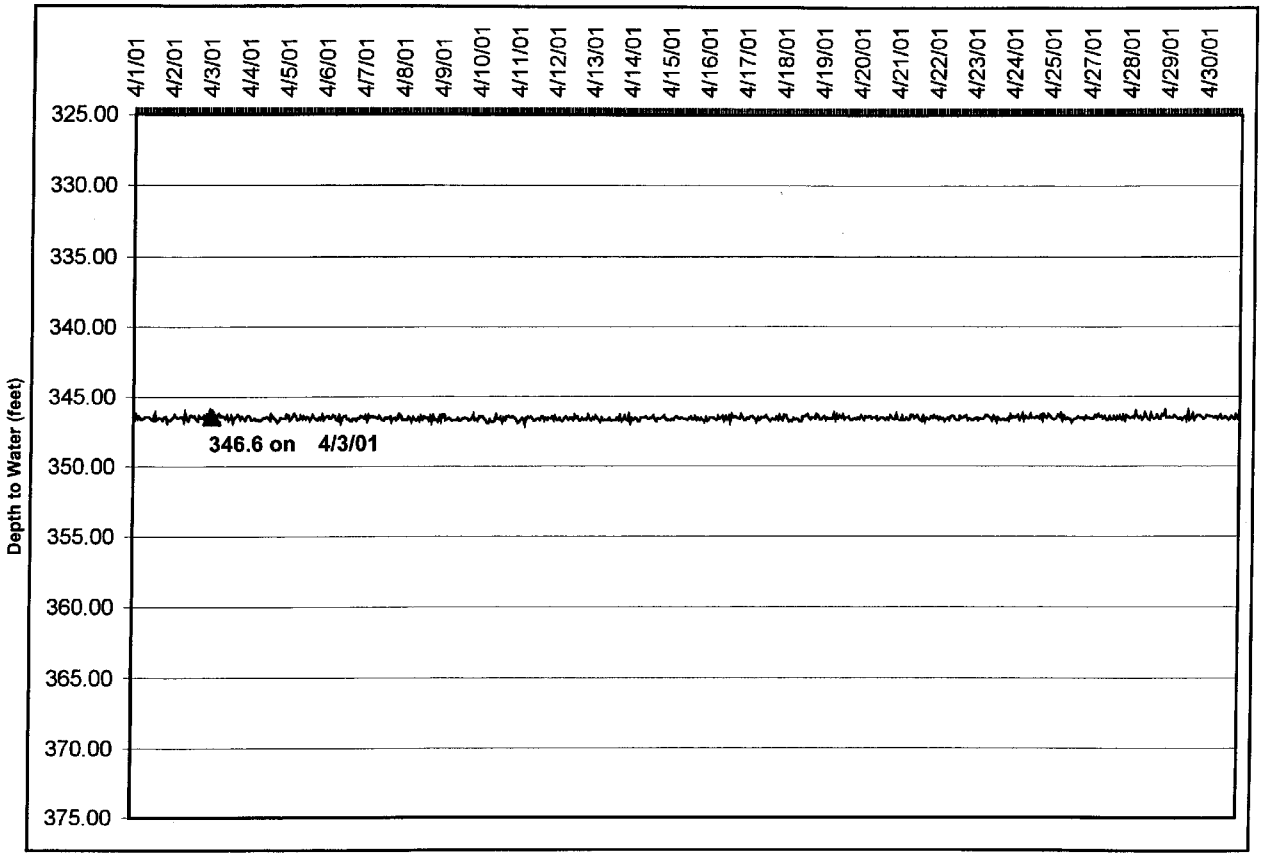
Feb 01 Chart

Well 19



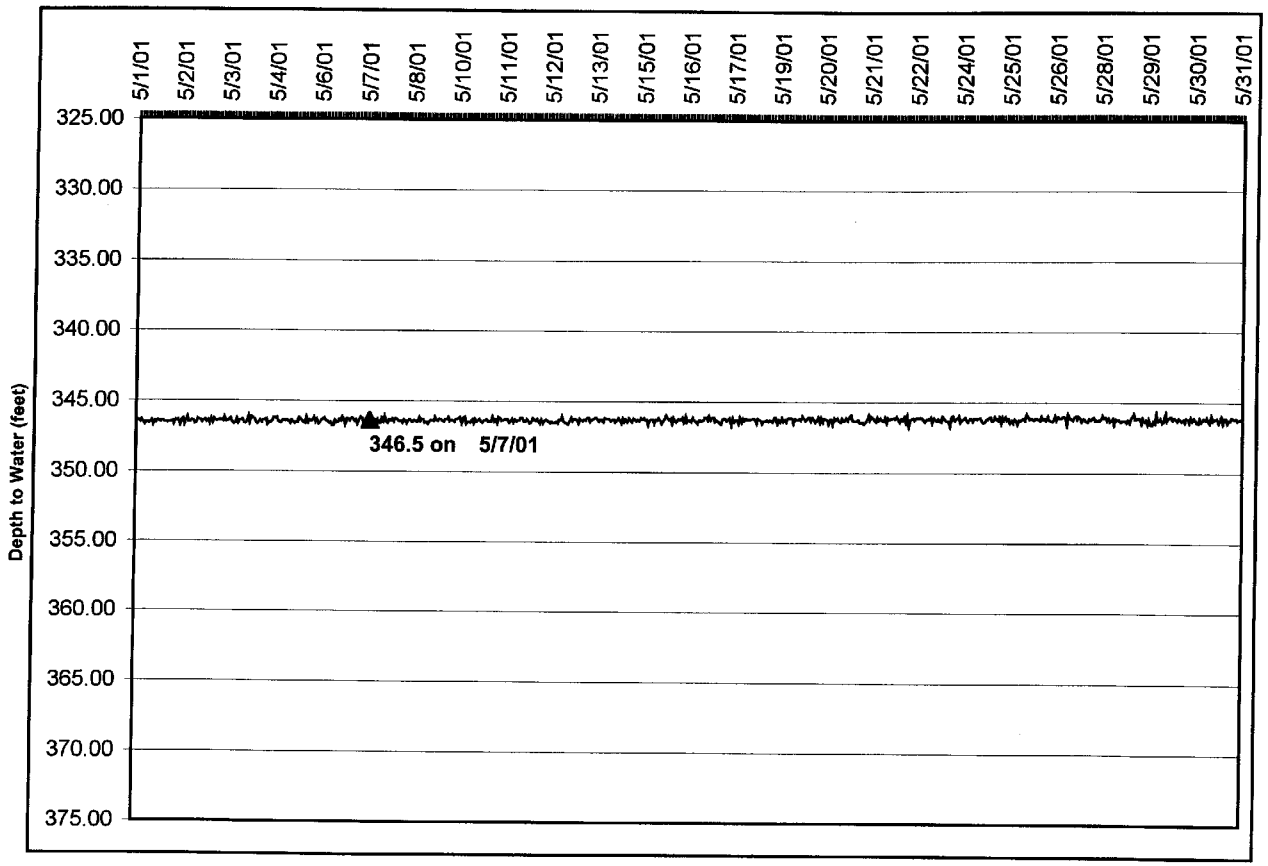
March 01 Chart

Well 19



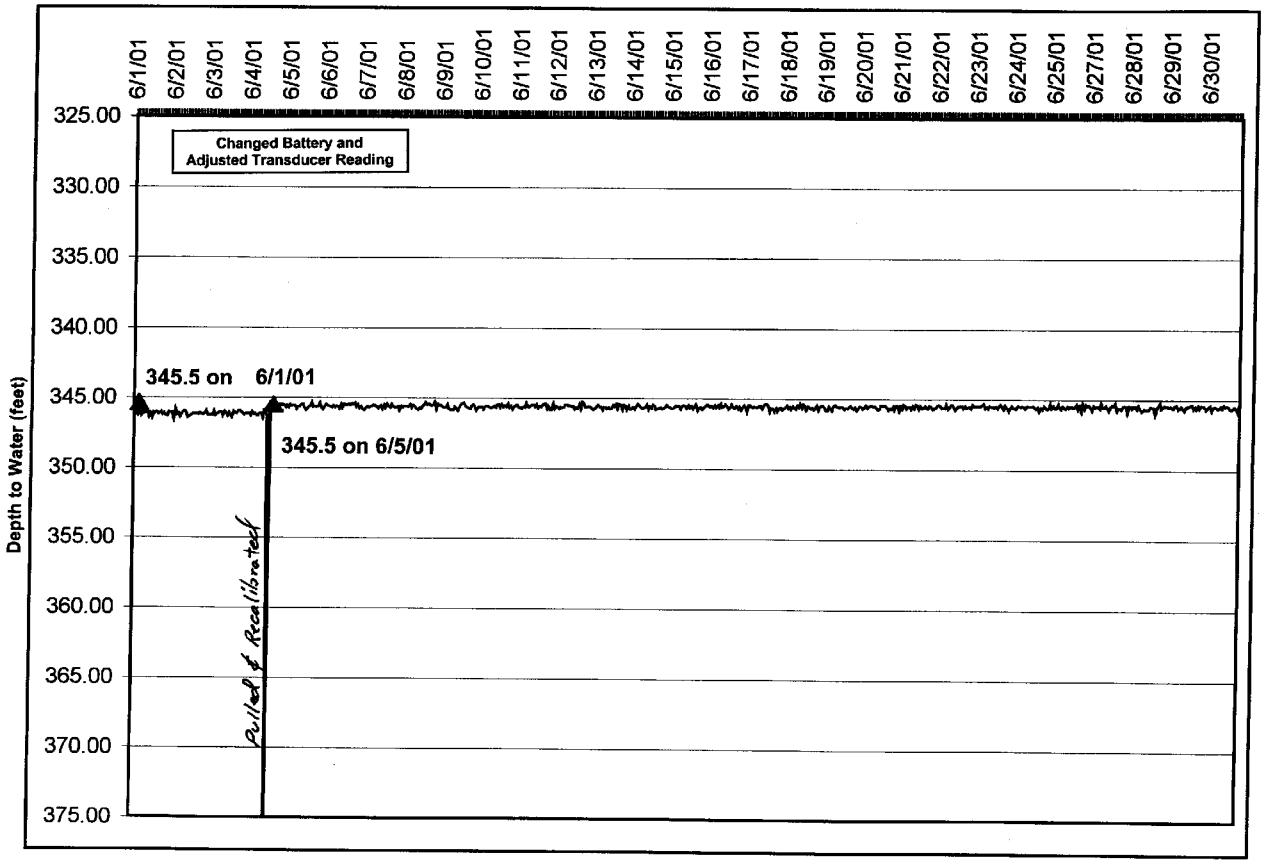
April 01 Chart

Well 19



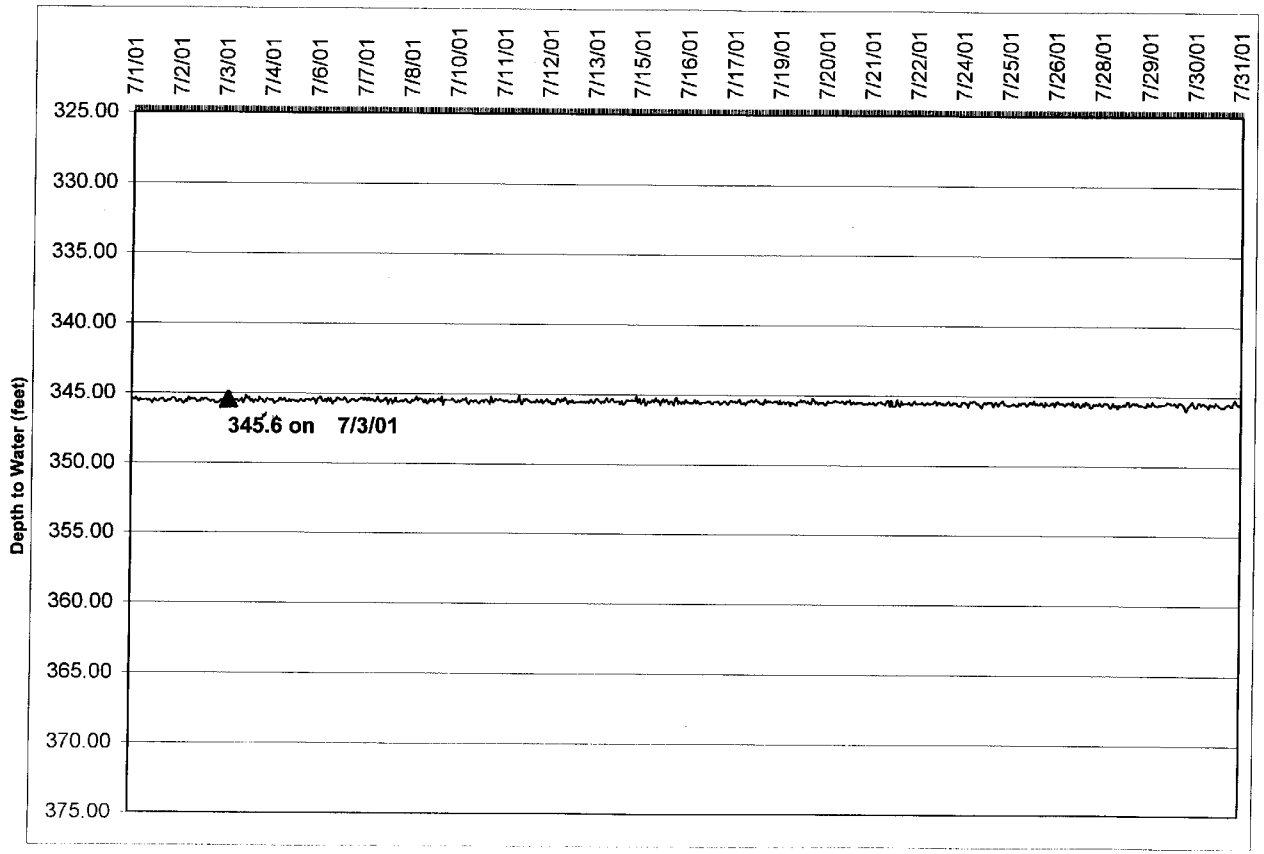
May 01 Chart

well 19



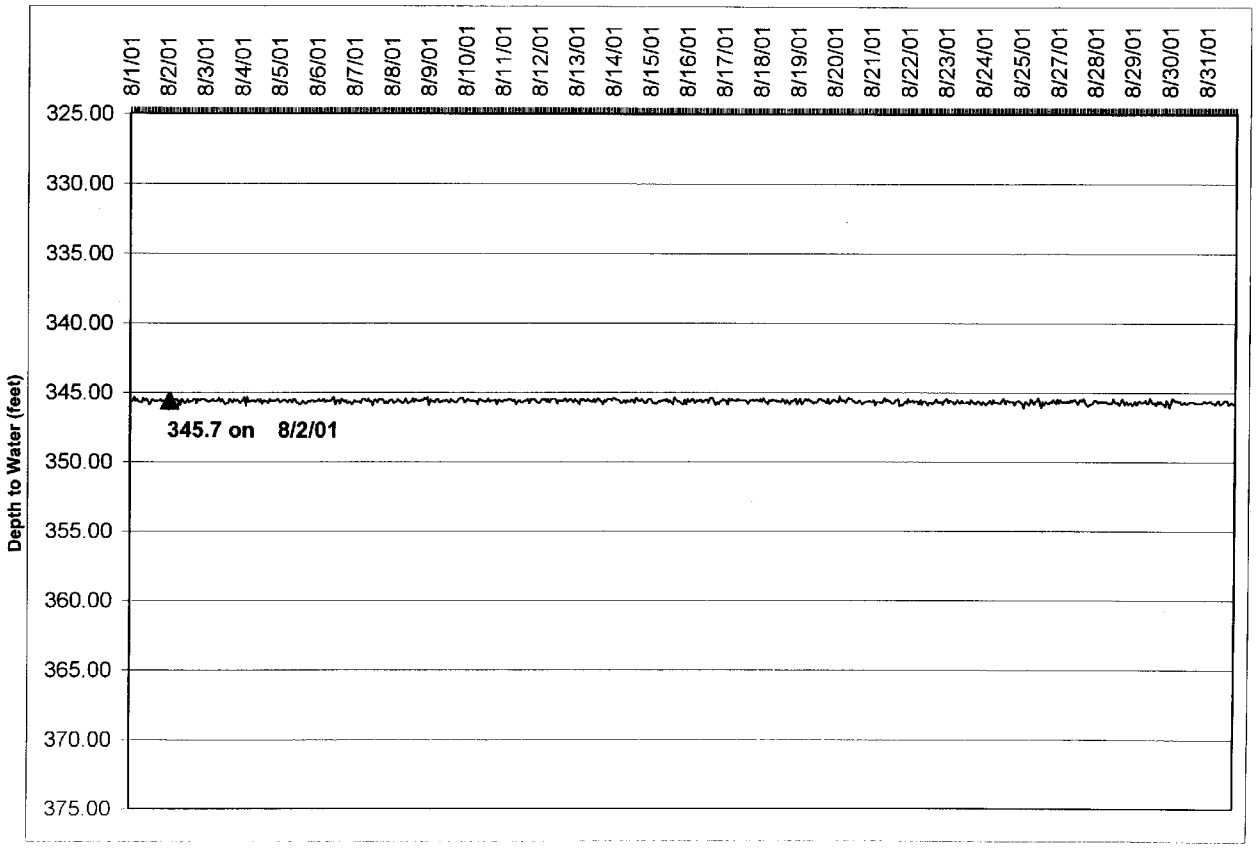
June 01 Chart

Well 19



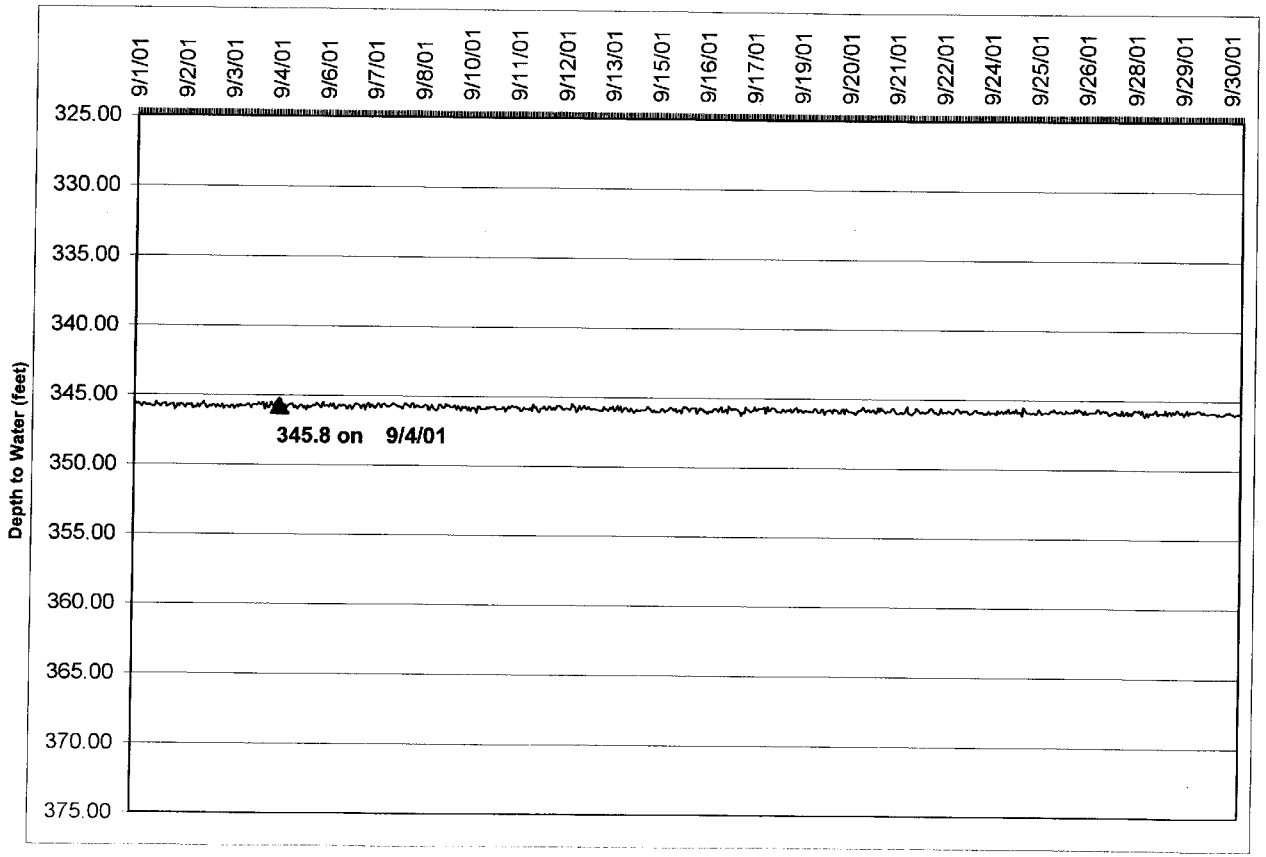
July 01 Chart

Well 19



Aug. 01 chart

Well 19

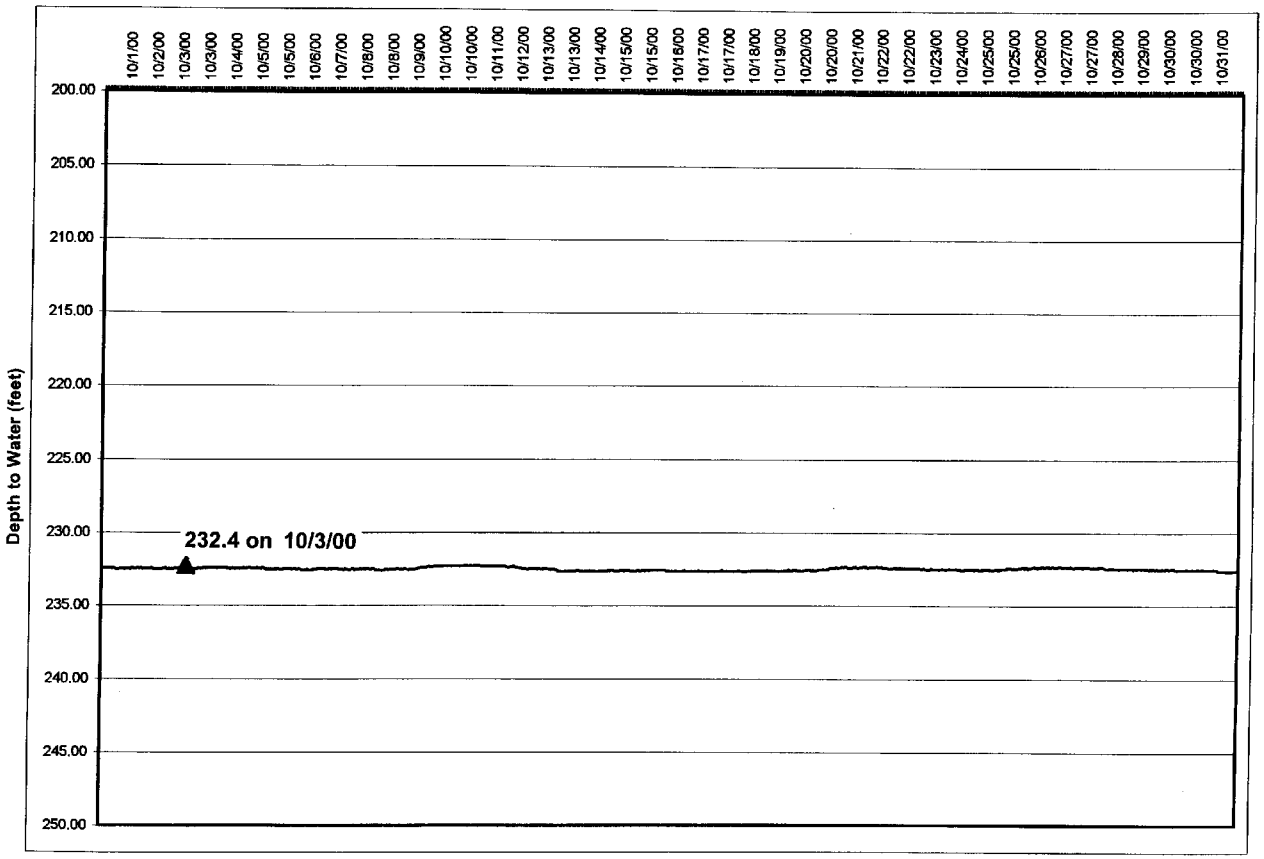


Sept. 01 chart

Water-Level Hydrographs from Transducer Measurements for Well No. 21

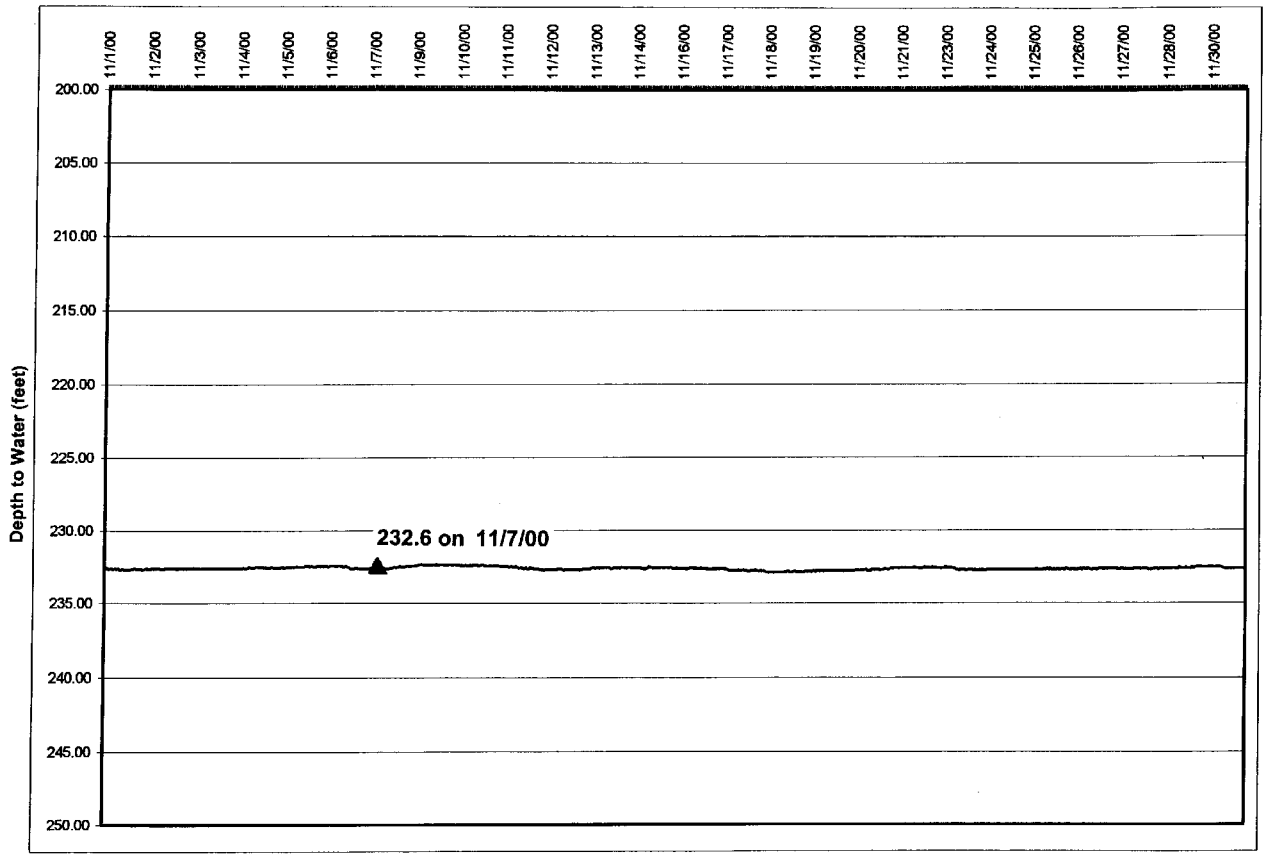
Note: Solid triangle and adjoining depth to water on graph are for measurement with an electric sounder.

Well 21



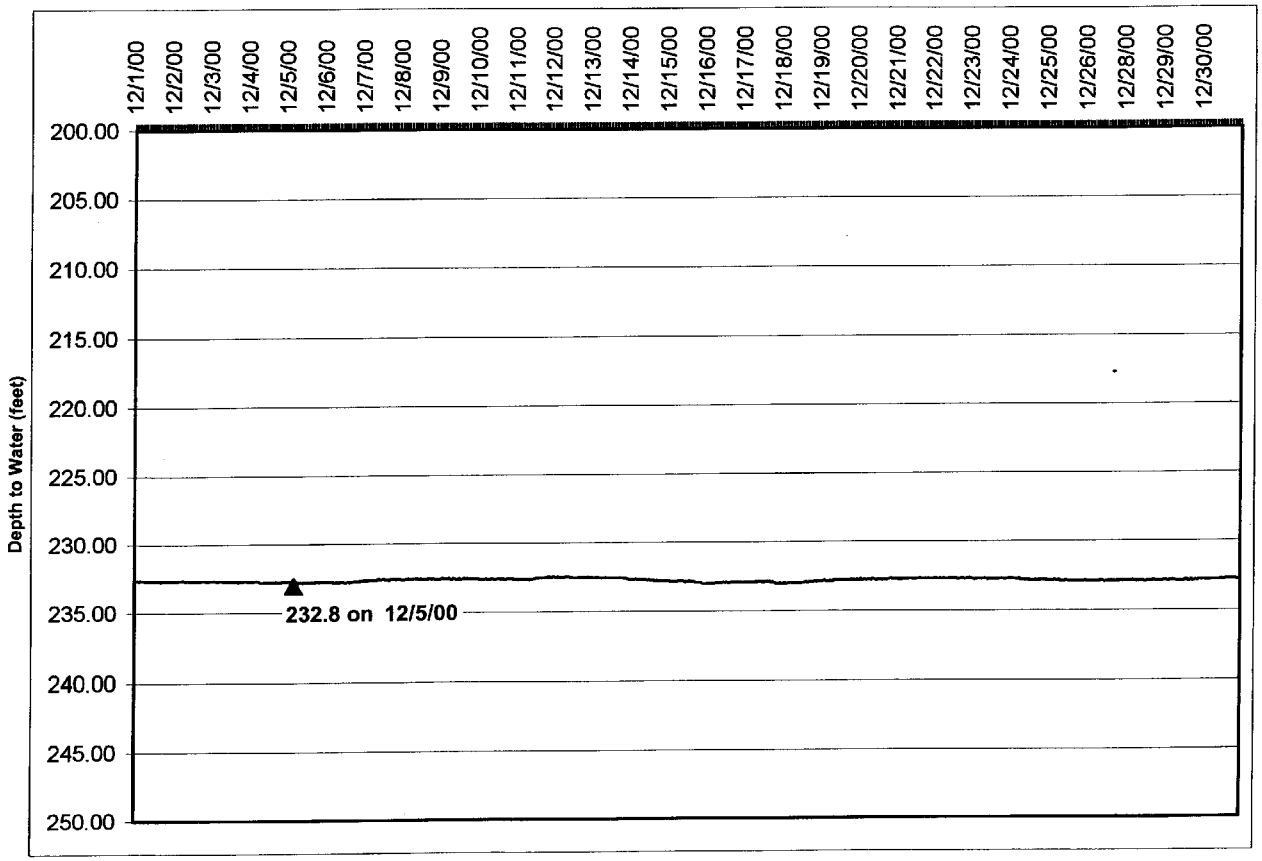
OCT. 00 Chart

Well 21



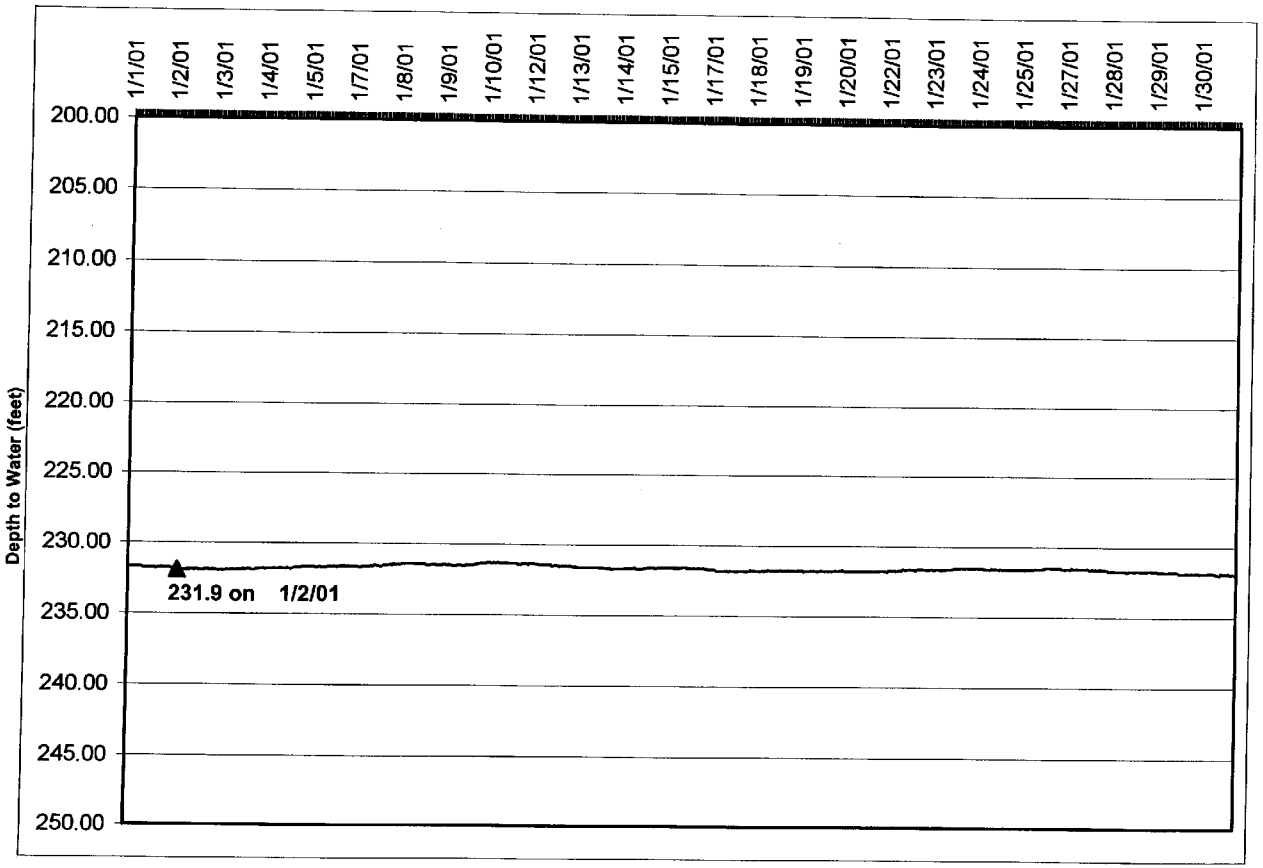
Nov 00 Chart

Well 21



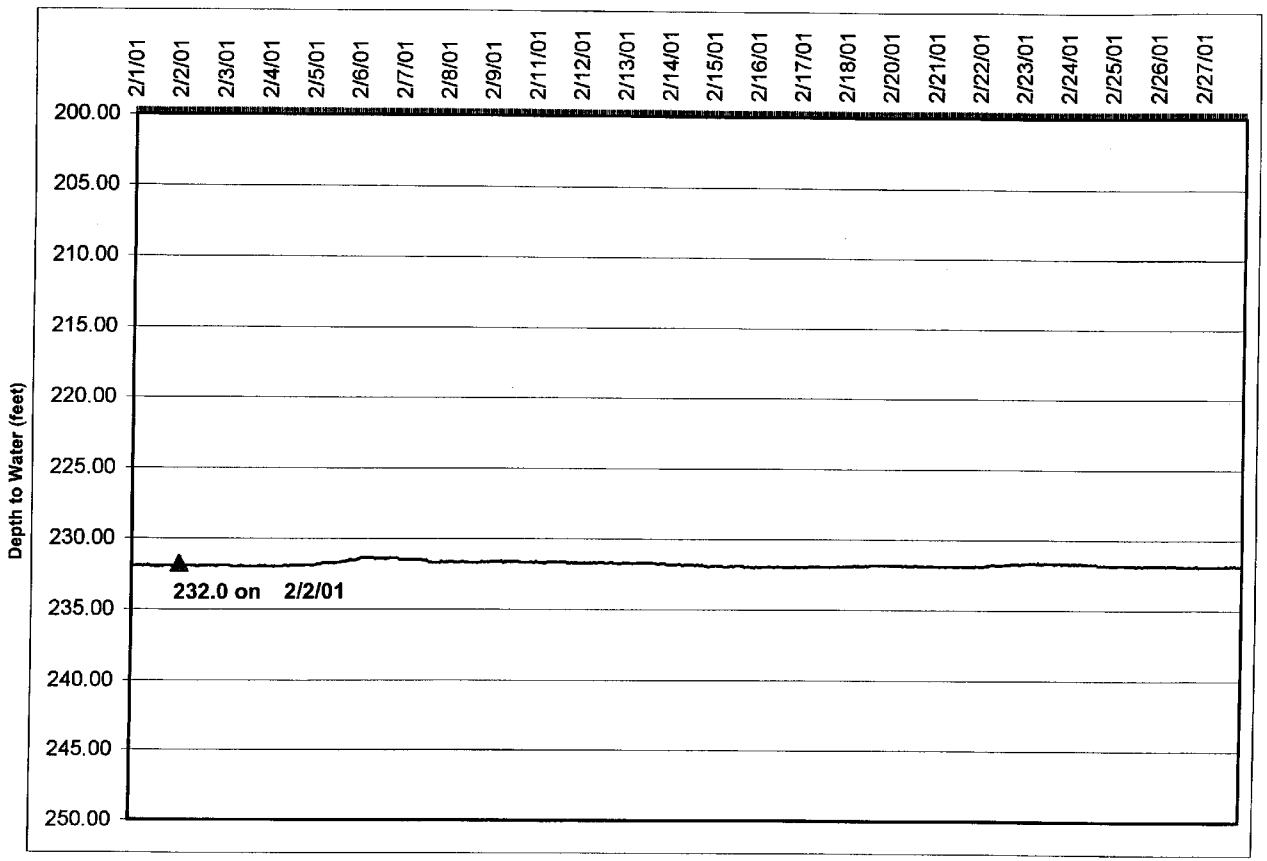
Dec 00 Chart

Well 21



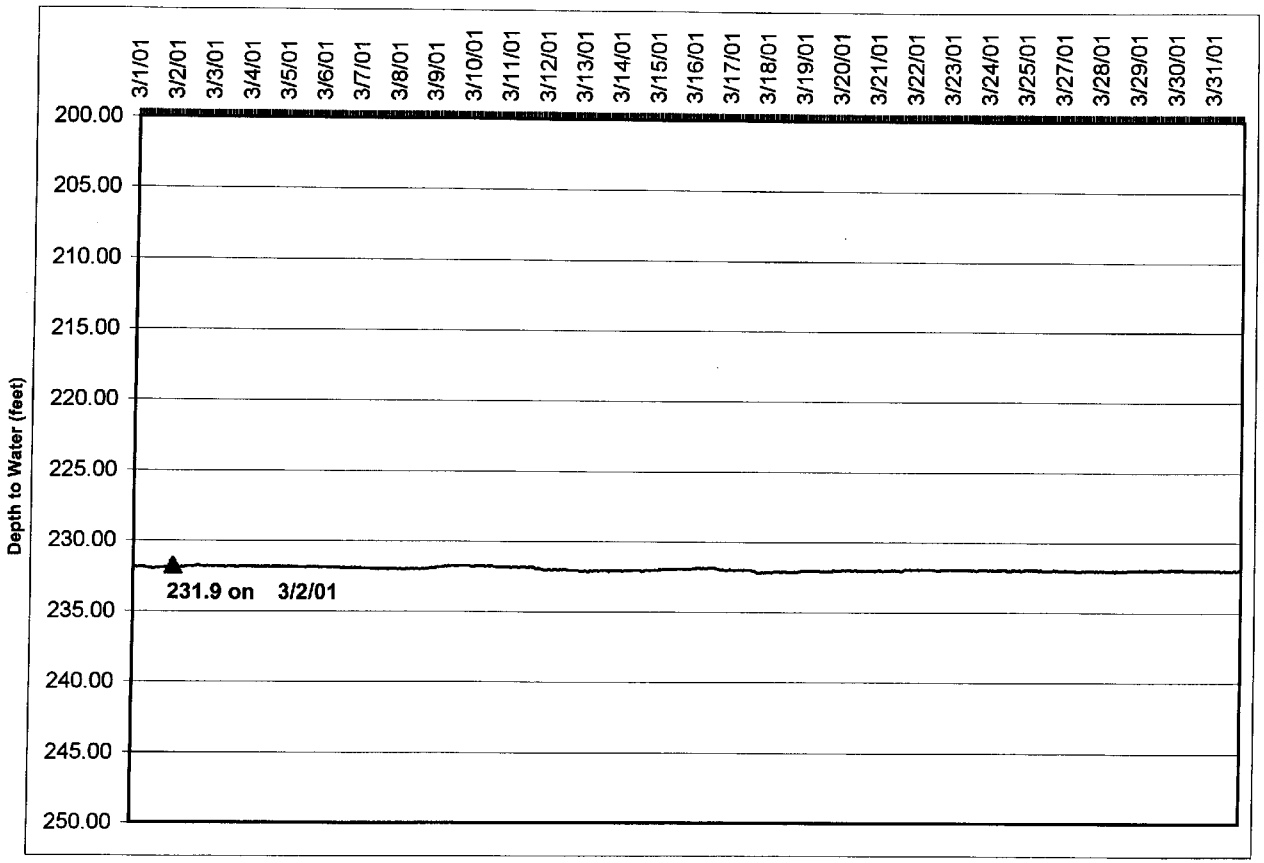
Jan 01 Chart

Well 21



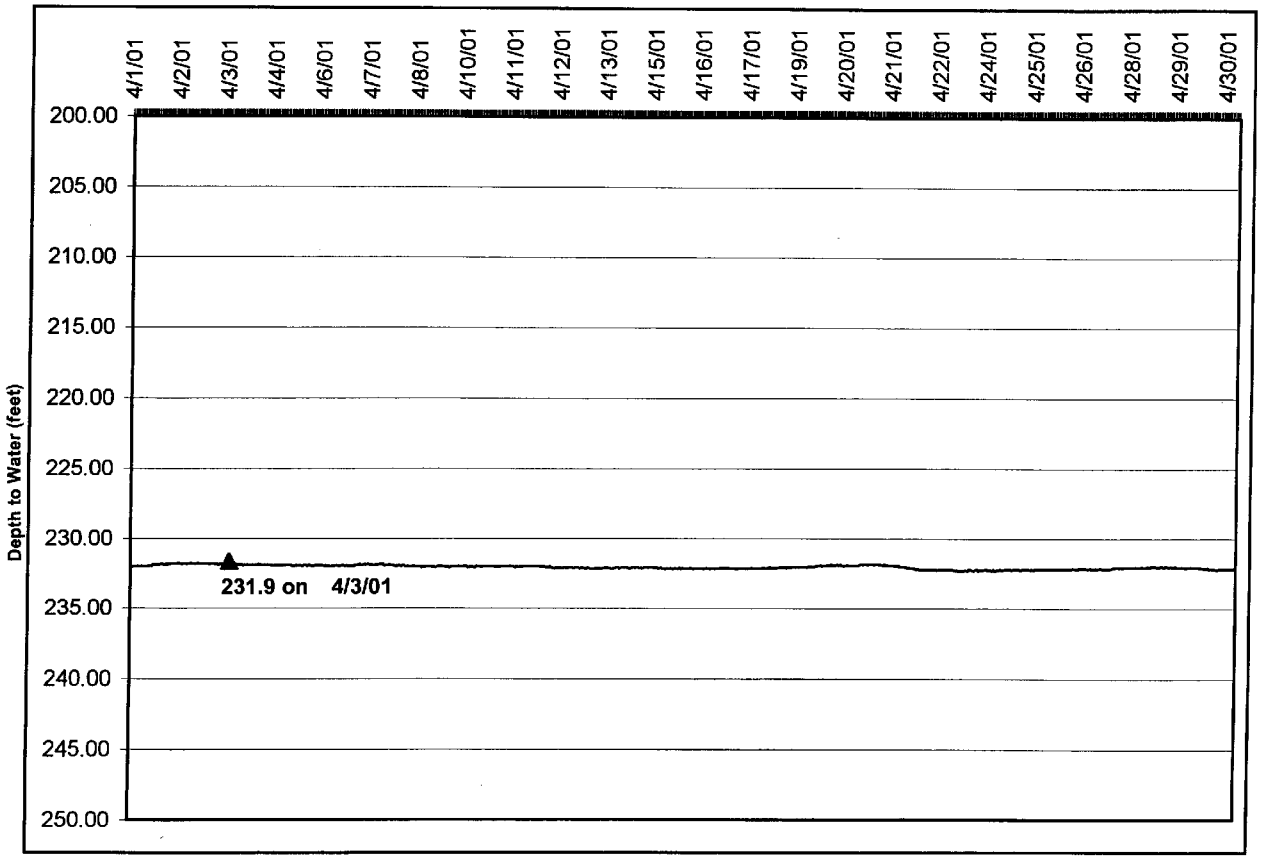
Feb 01 Chart

Well 21



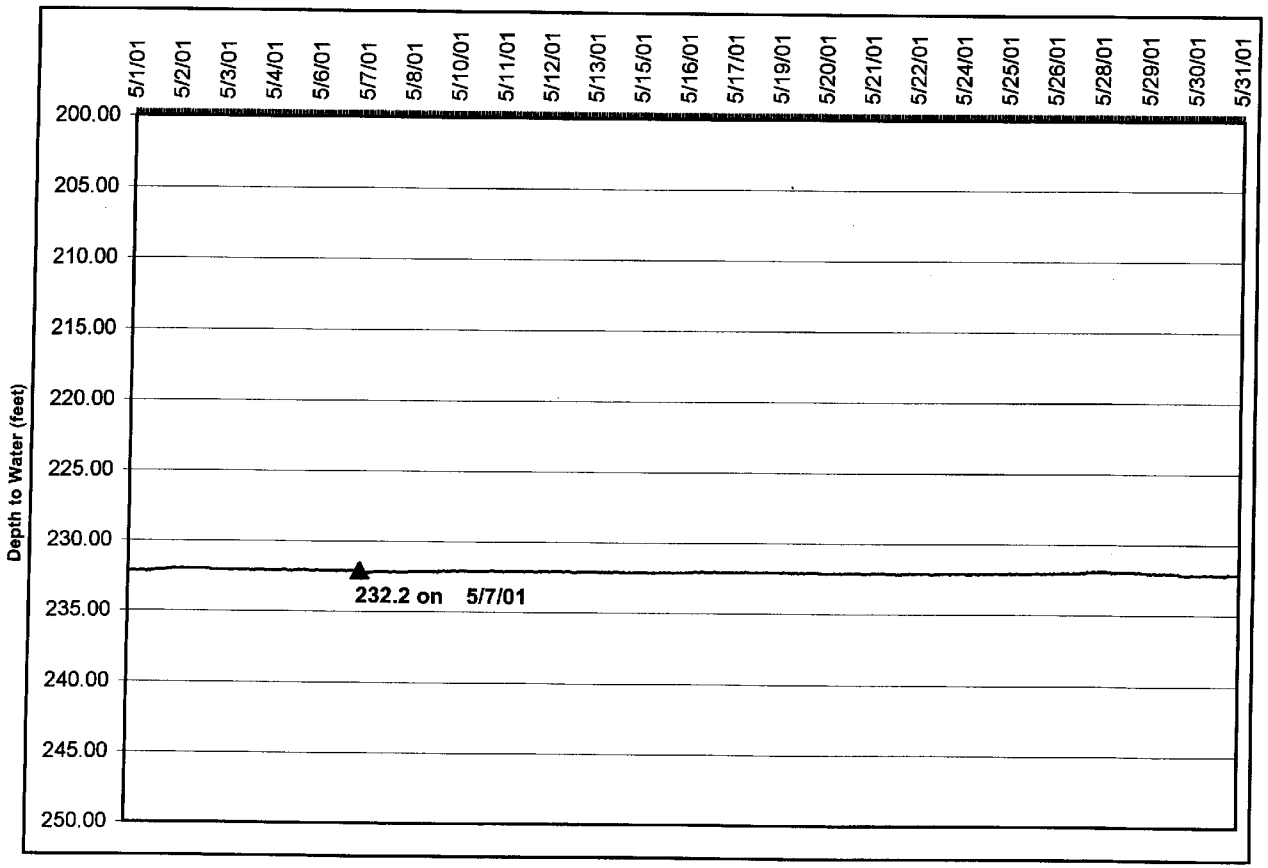
March 01 Chart

Well 21



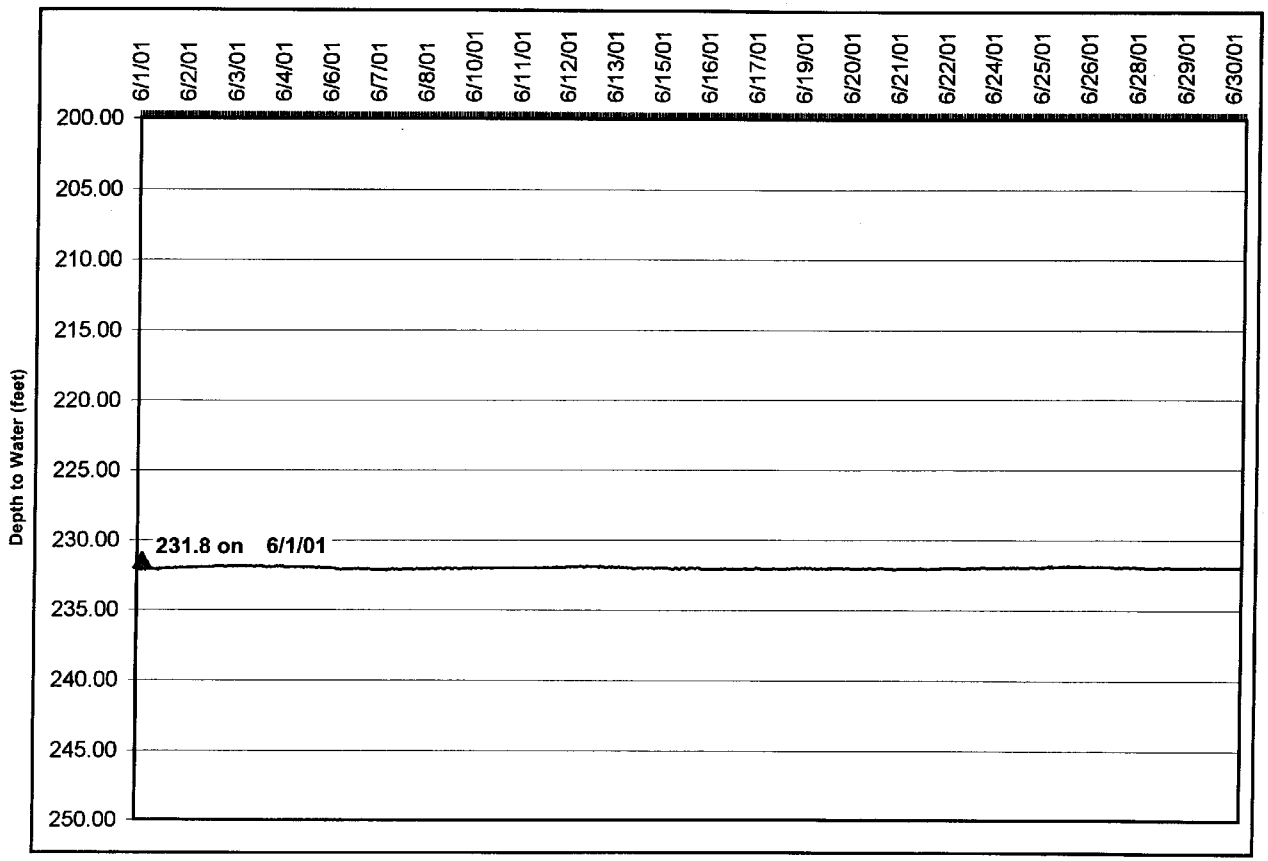
April 01 Chart

Well 21



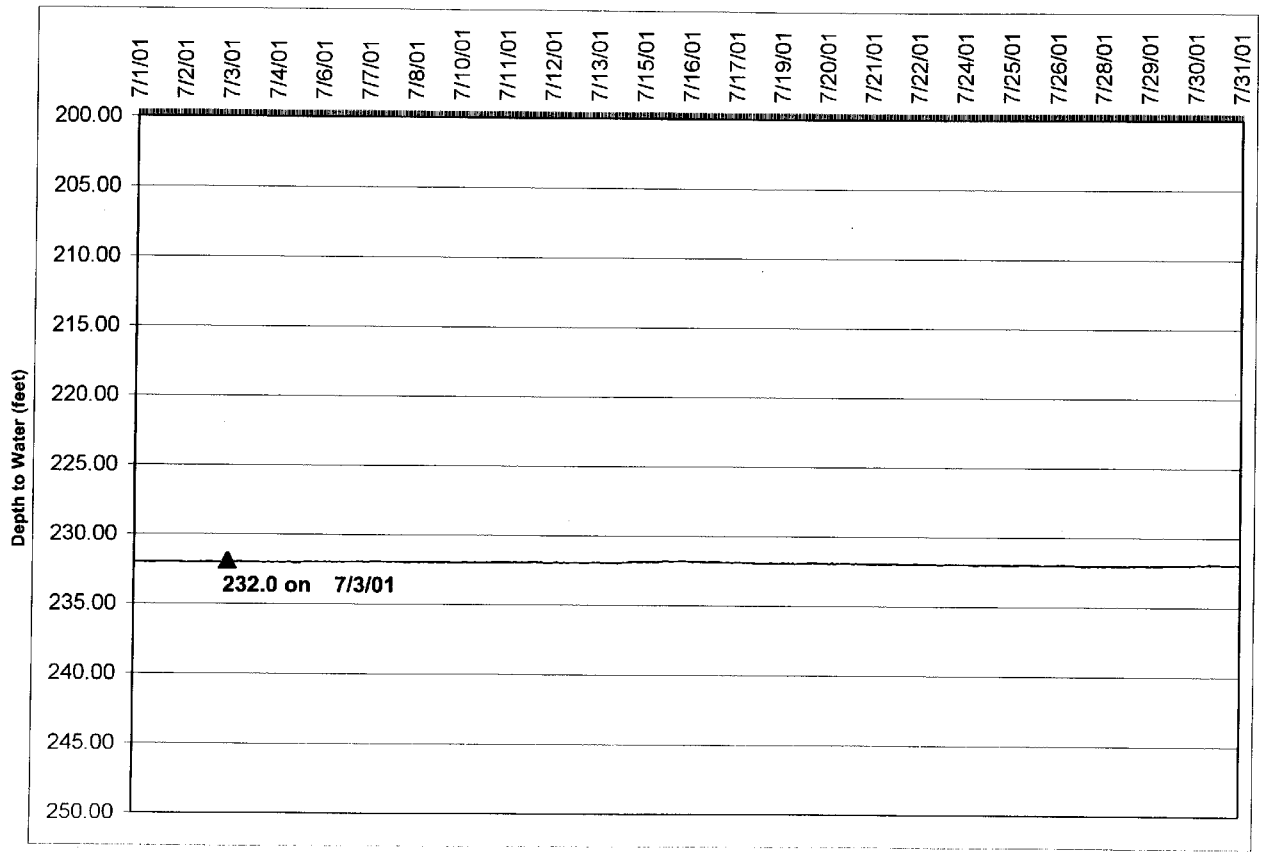
May 01 Chart

Well 21



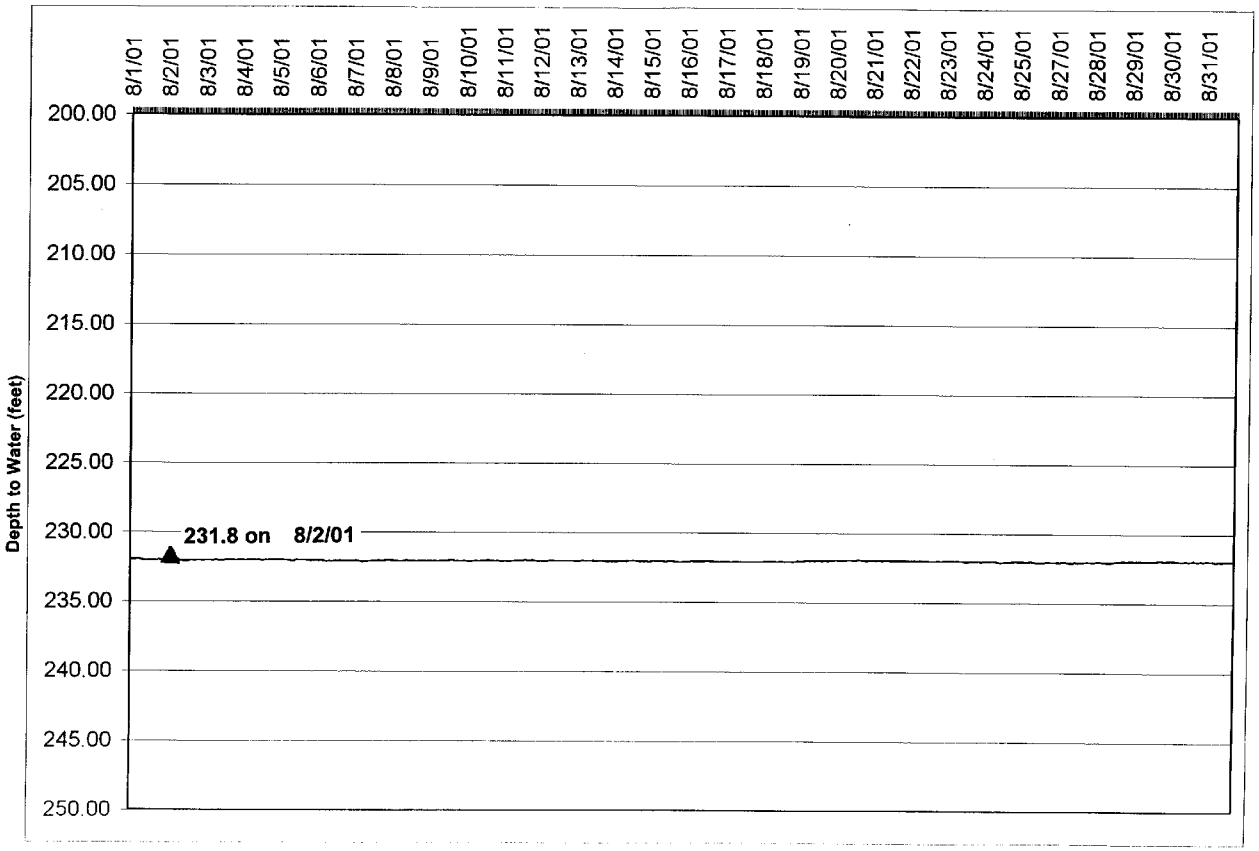
June 01 Chart

Well 21



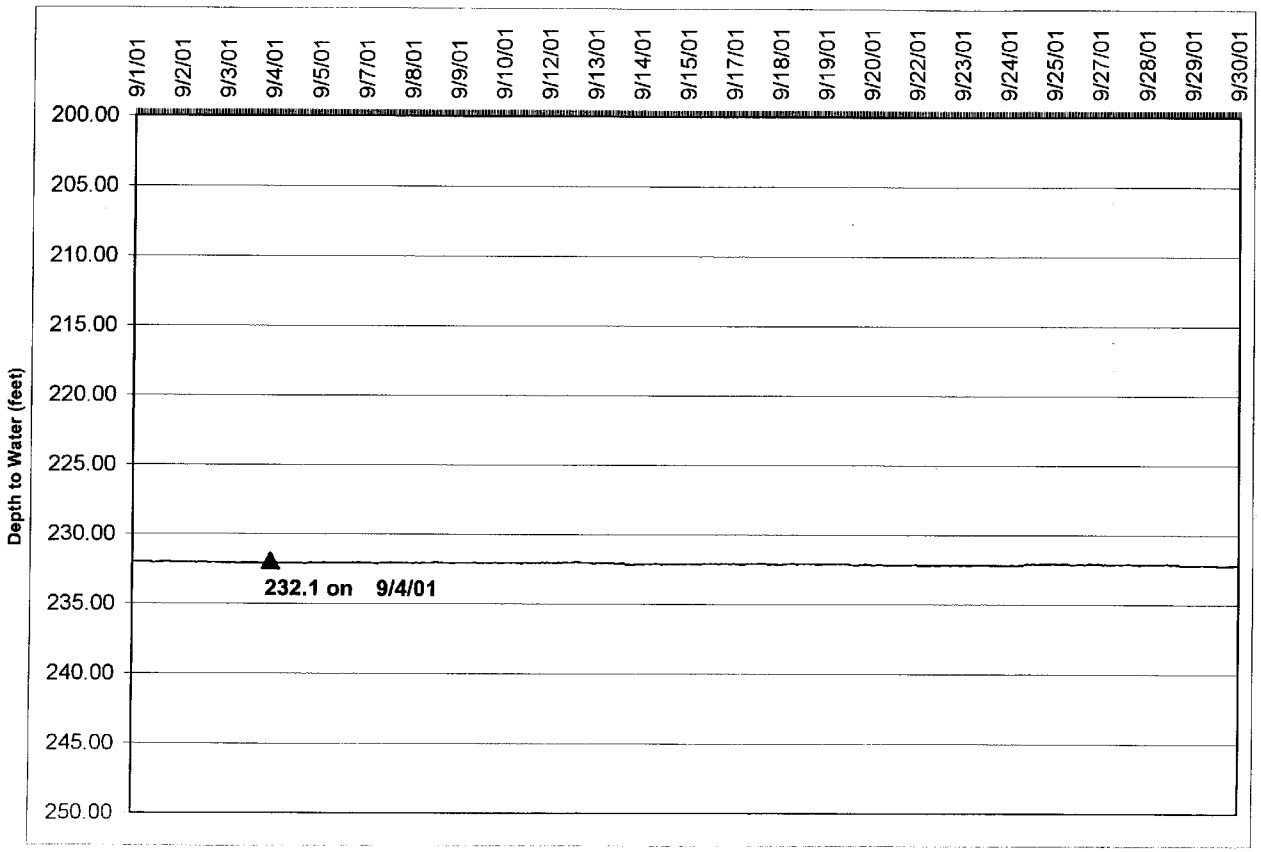
July 01 Chart

Well 21



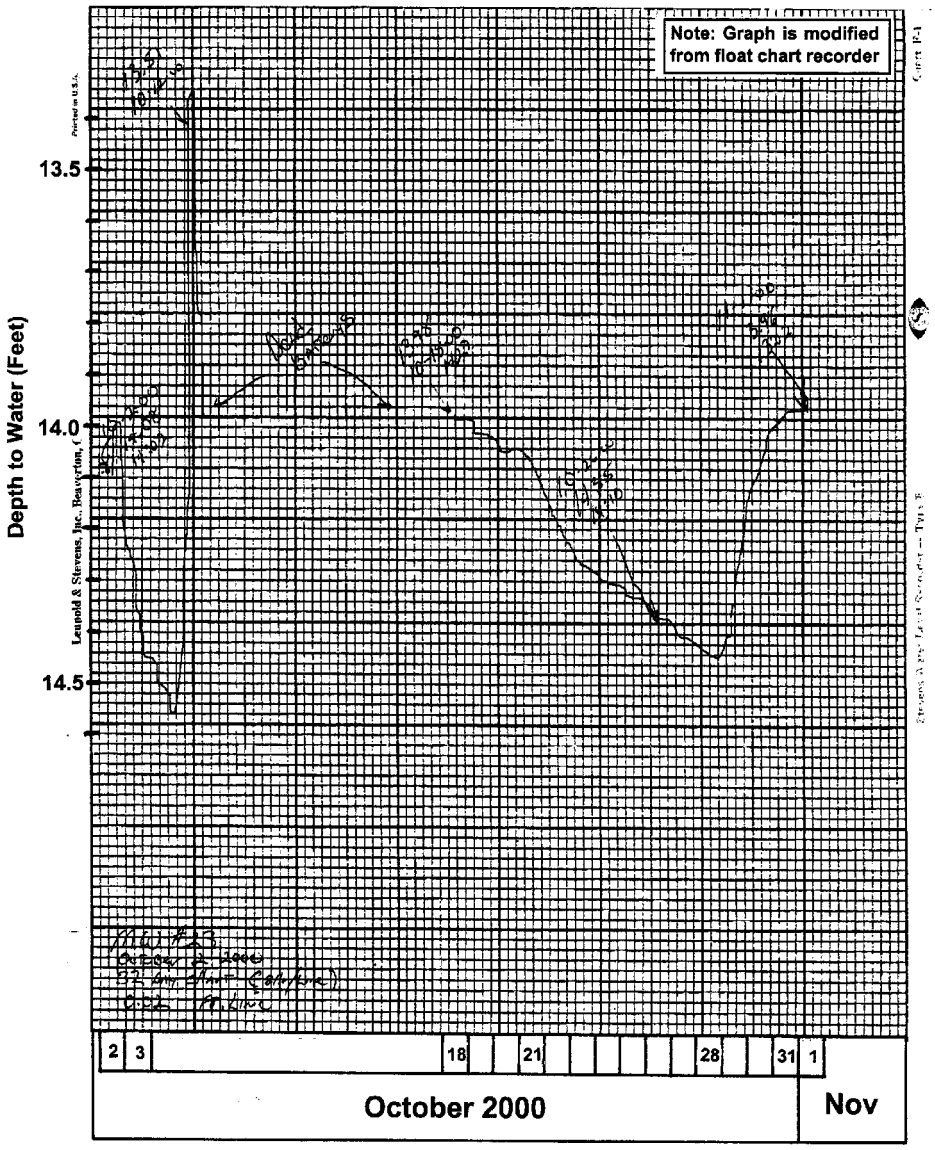
Aug. 01 chart

Well 21

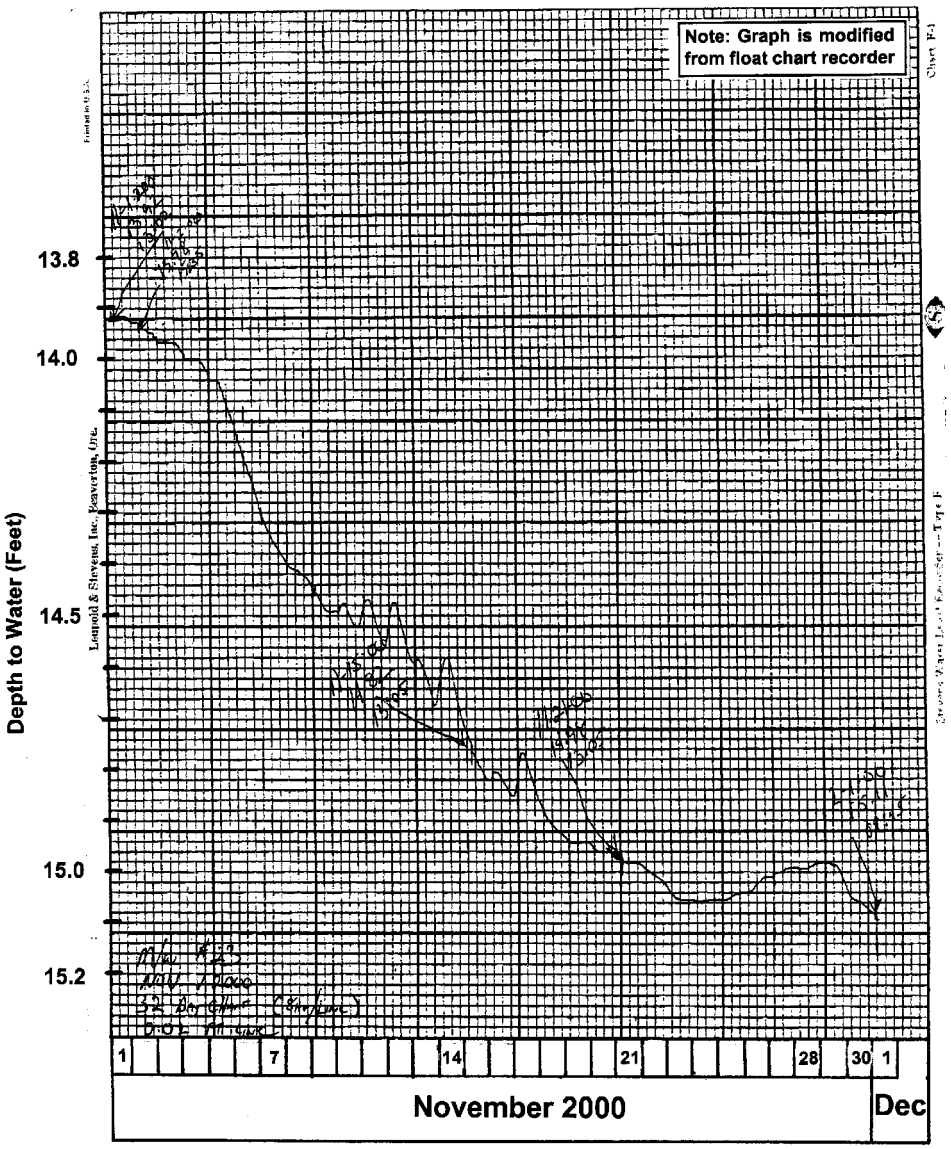


Sept 01 chart

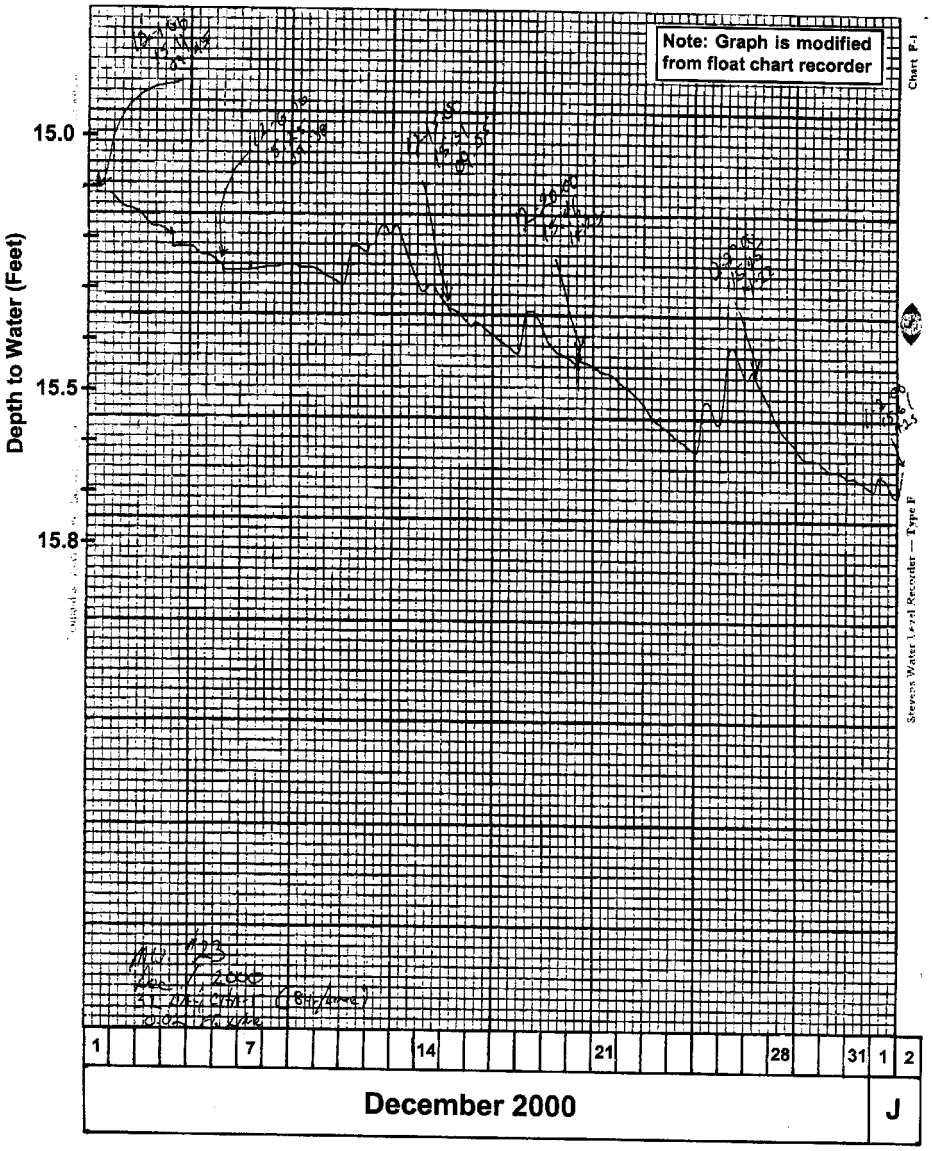
Water-Level Hydrographs from a
Float Chart Recorder for Well No. 23



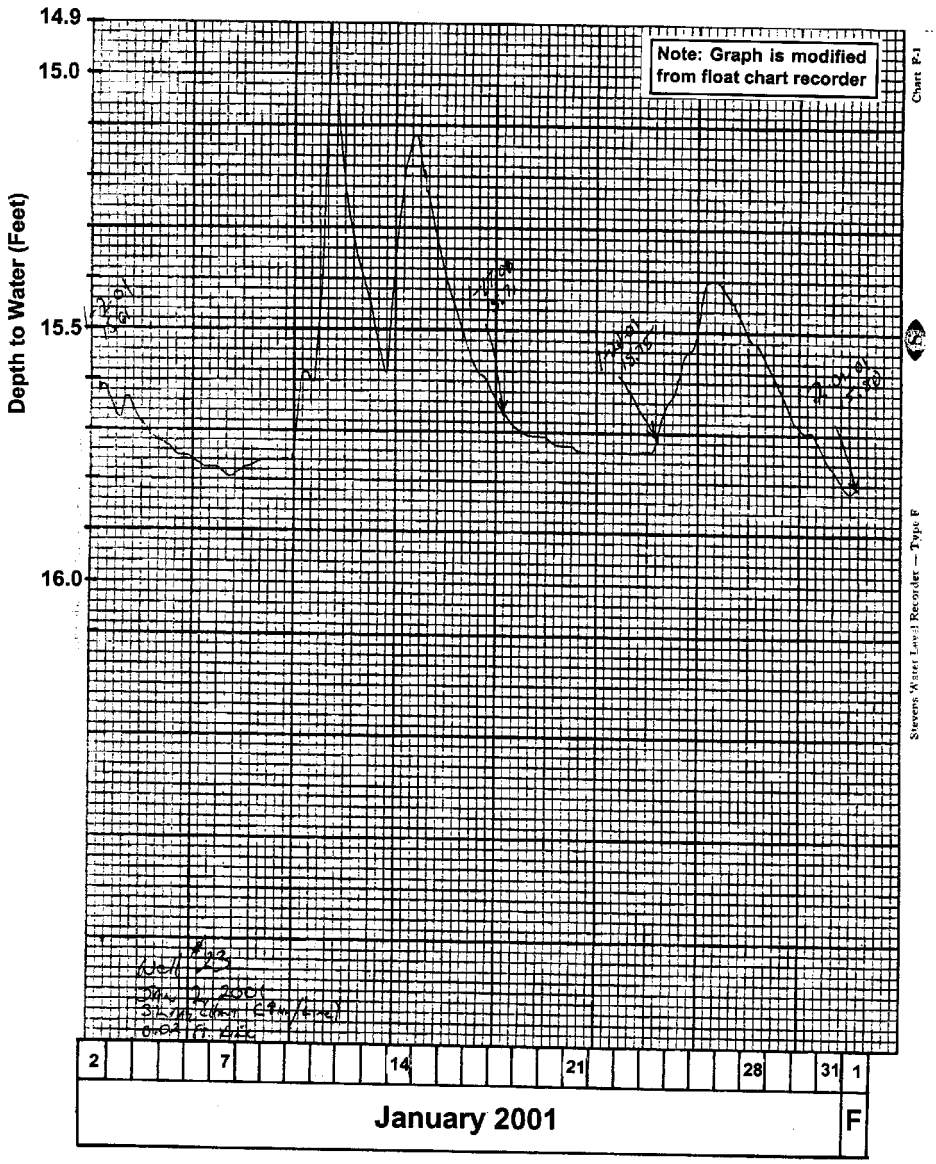
WATER-LEVEL HYDROGRAPH FOR MW-23



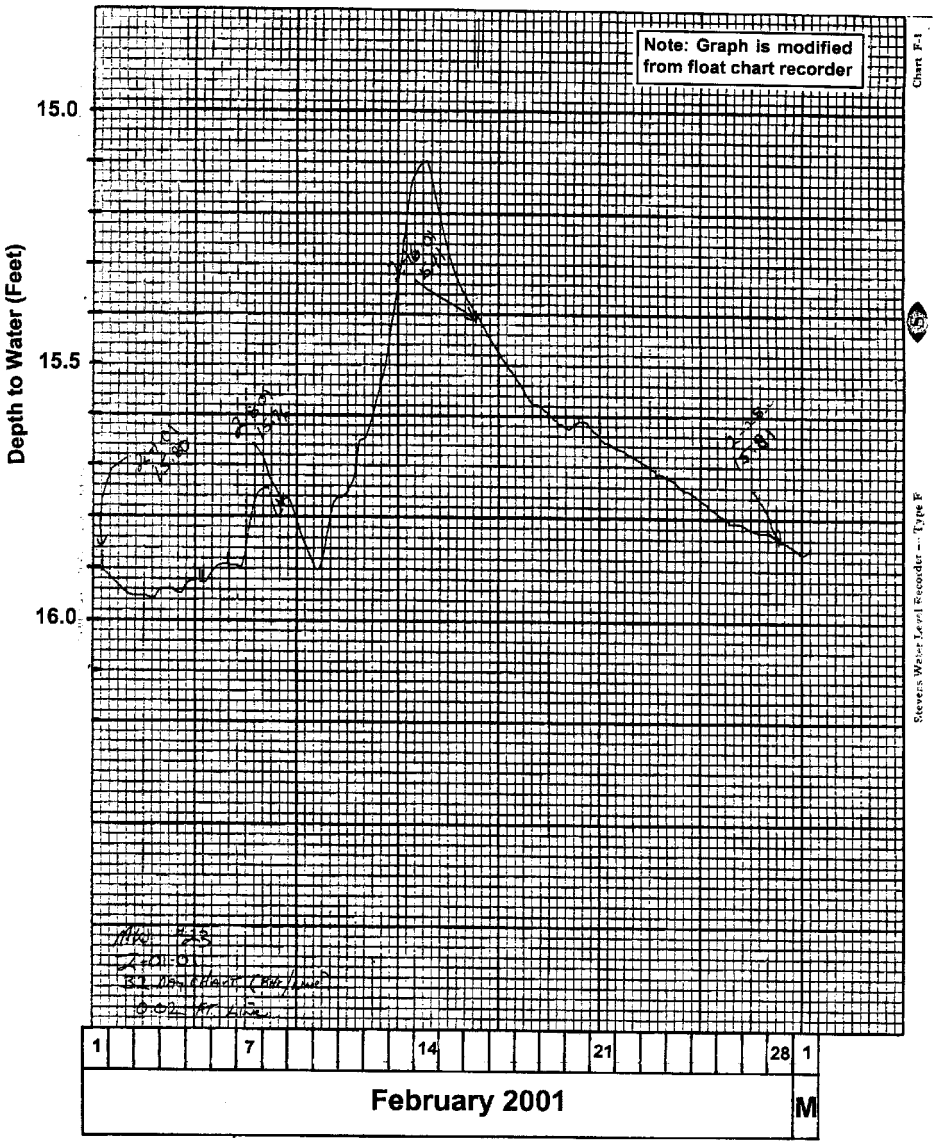
WATER-LEVEL HYDROGRAPH FOR MW-23



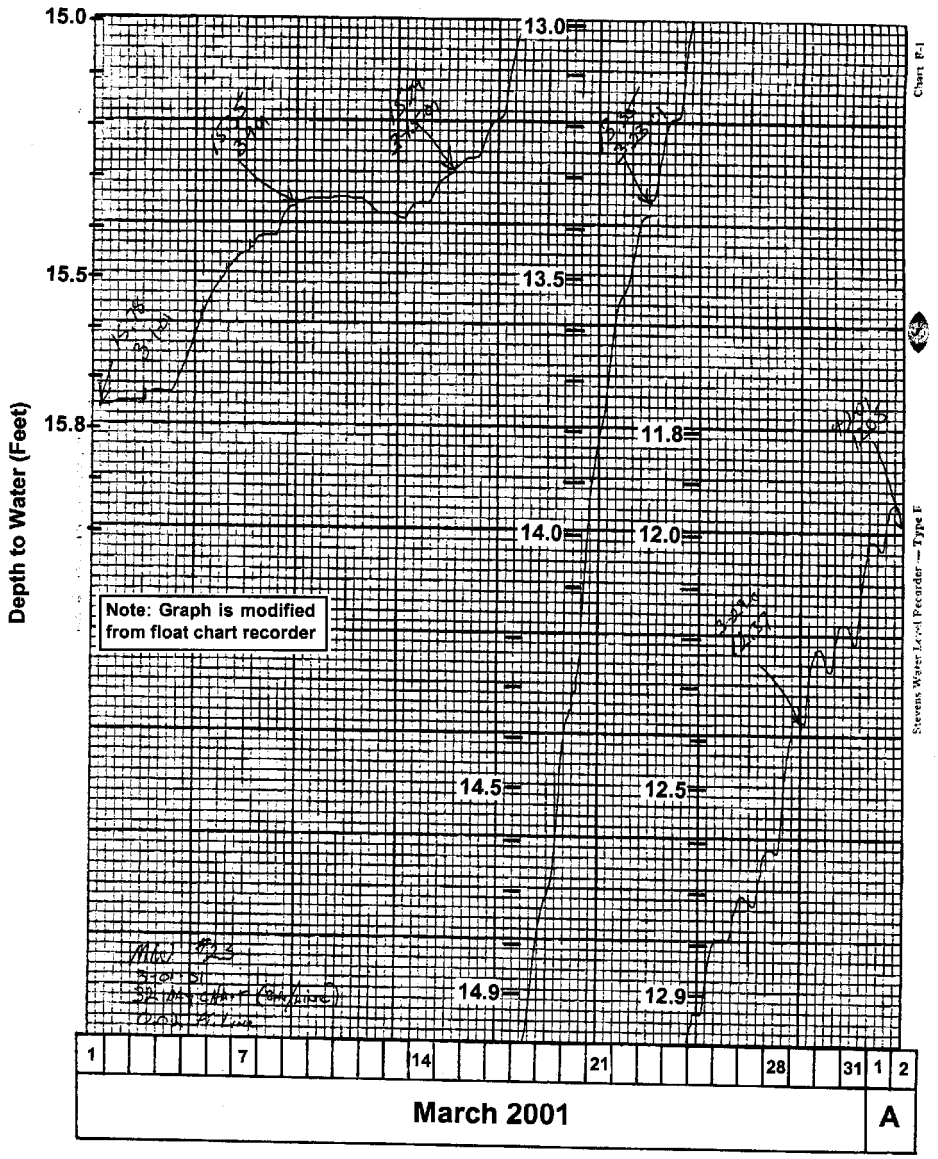
WATER-LEVEL HYDROGRAPH FOR MW-23



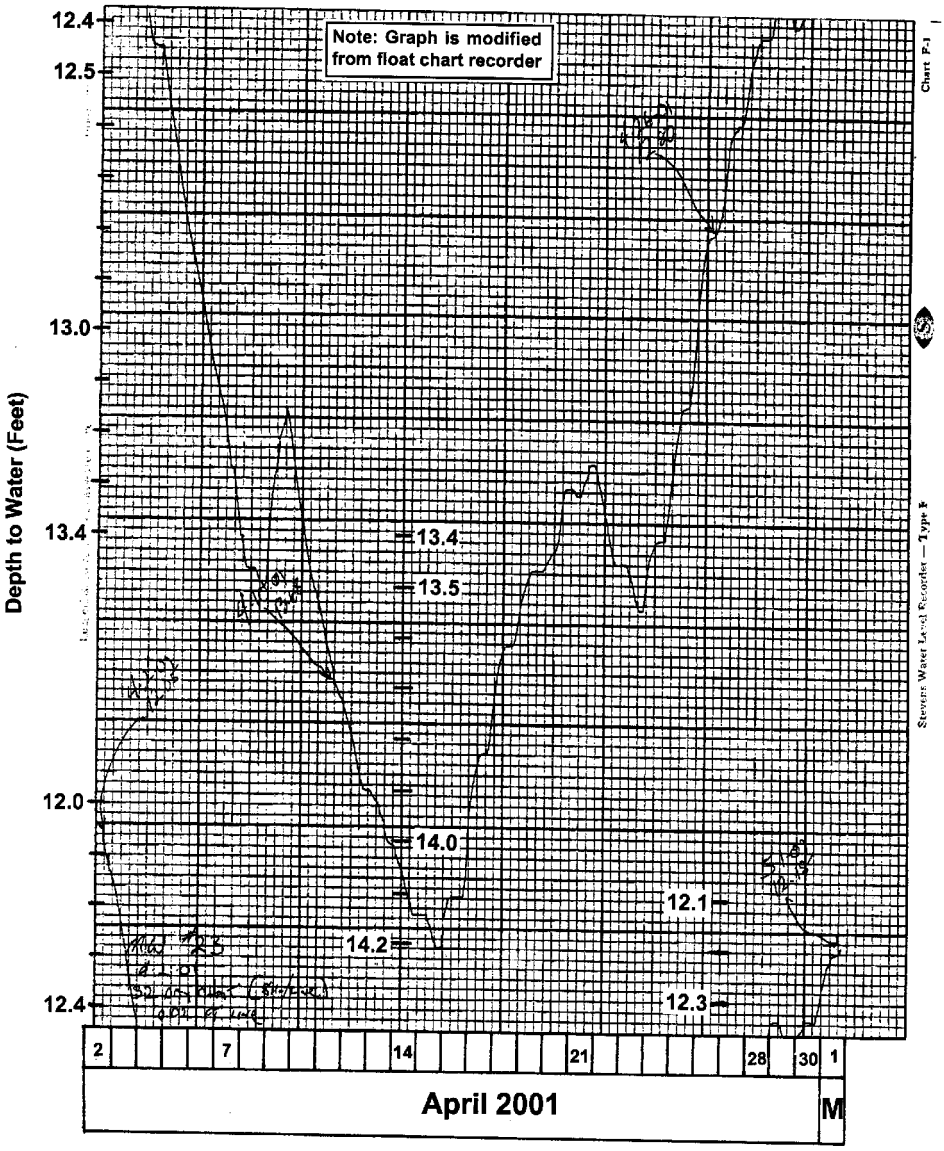
WATER-LEVEL HYDROGRAPH FOR MW-23



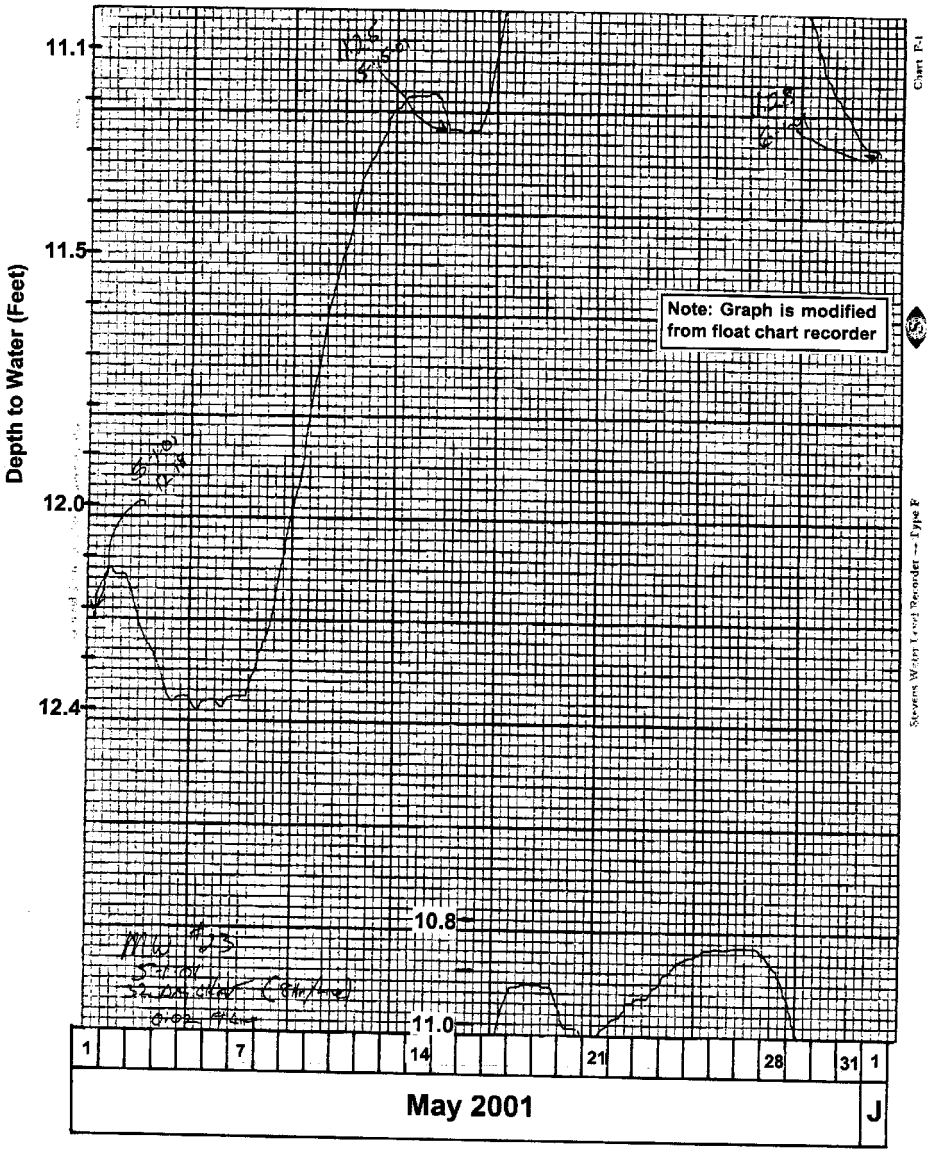
WATER-LEVEL HYDROGRAPH FOR MW-23



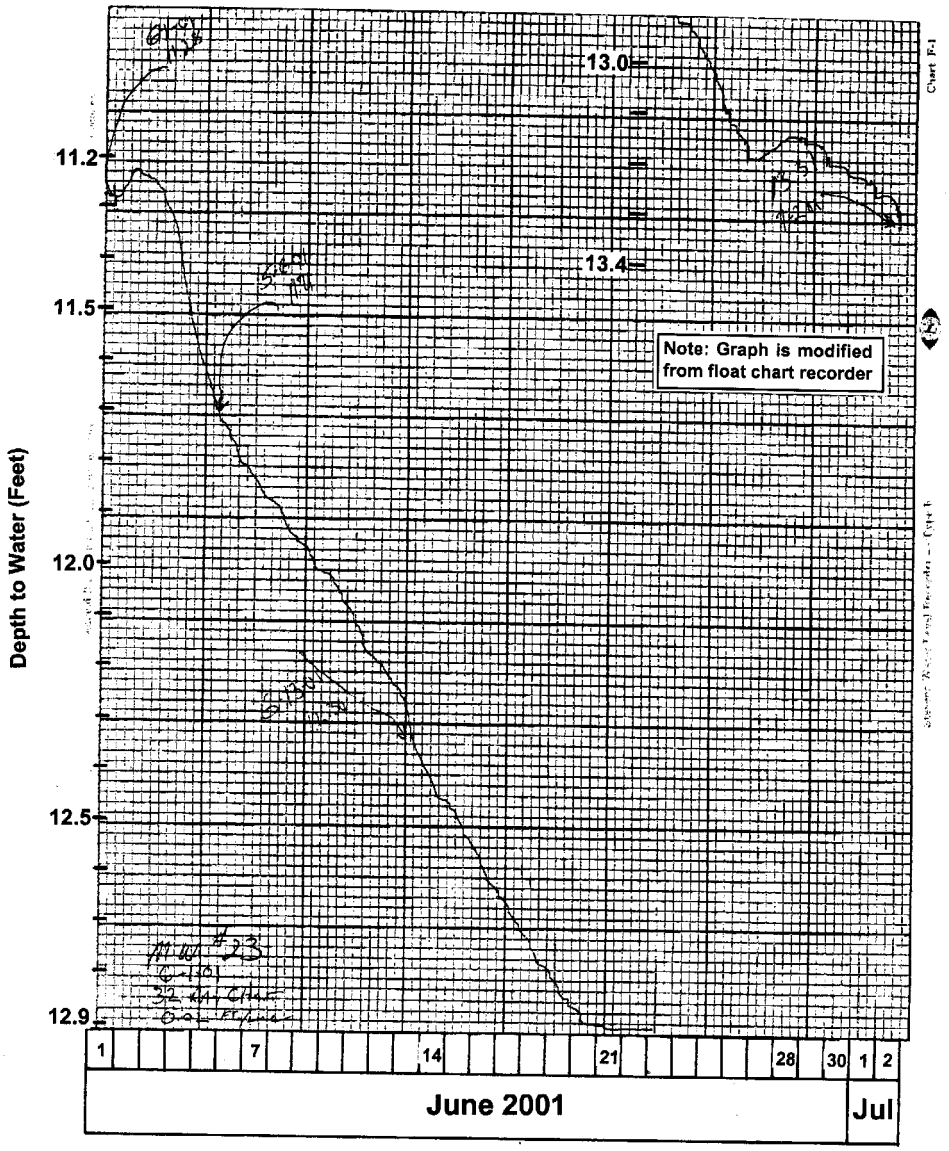
WATER-LEVEL HYDROGRAPH FOR MW-23



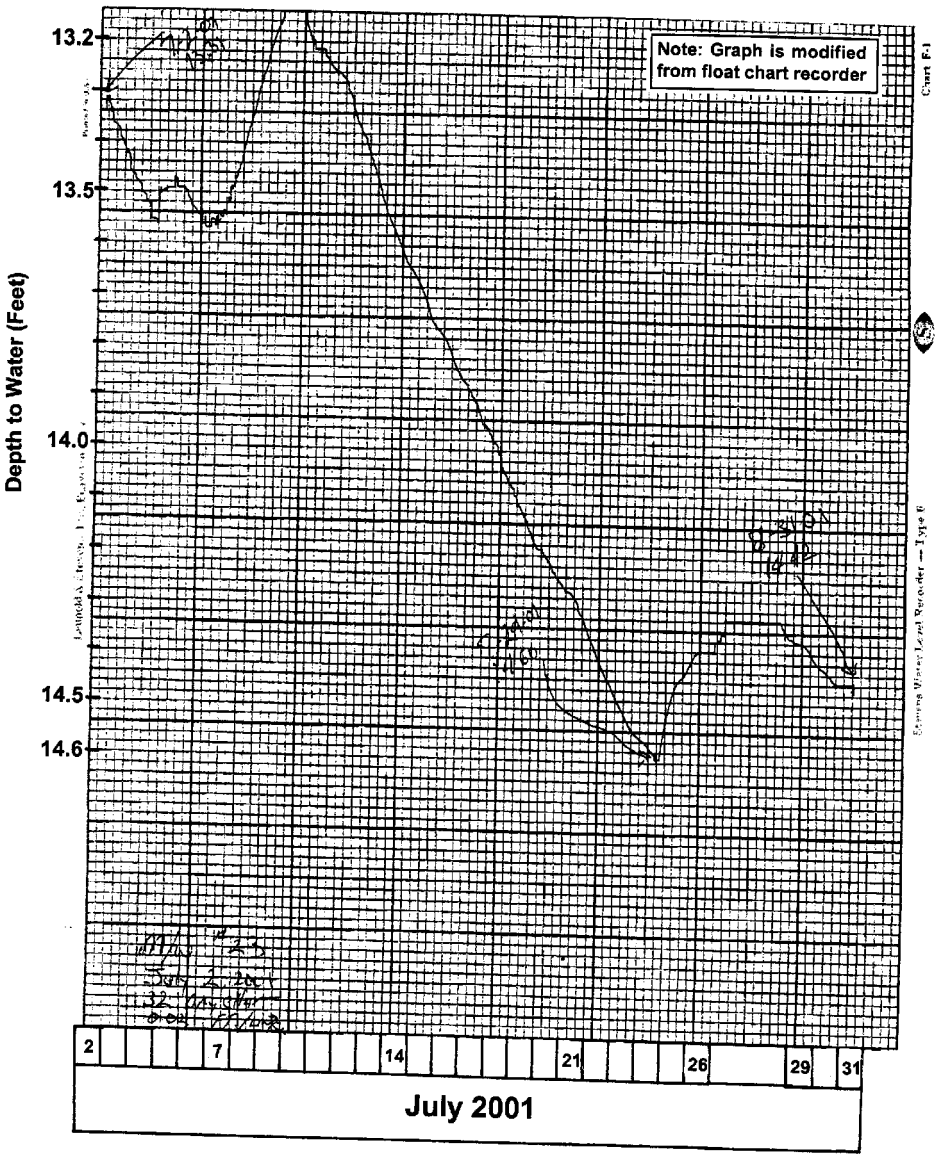
WATER-LEVEL HYDROGRAPH FOR WELL NO. 23



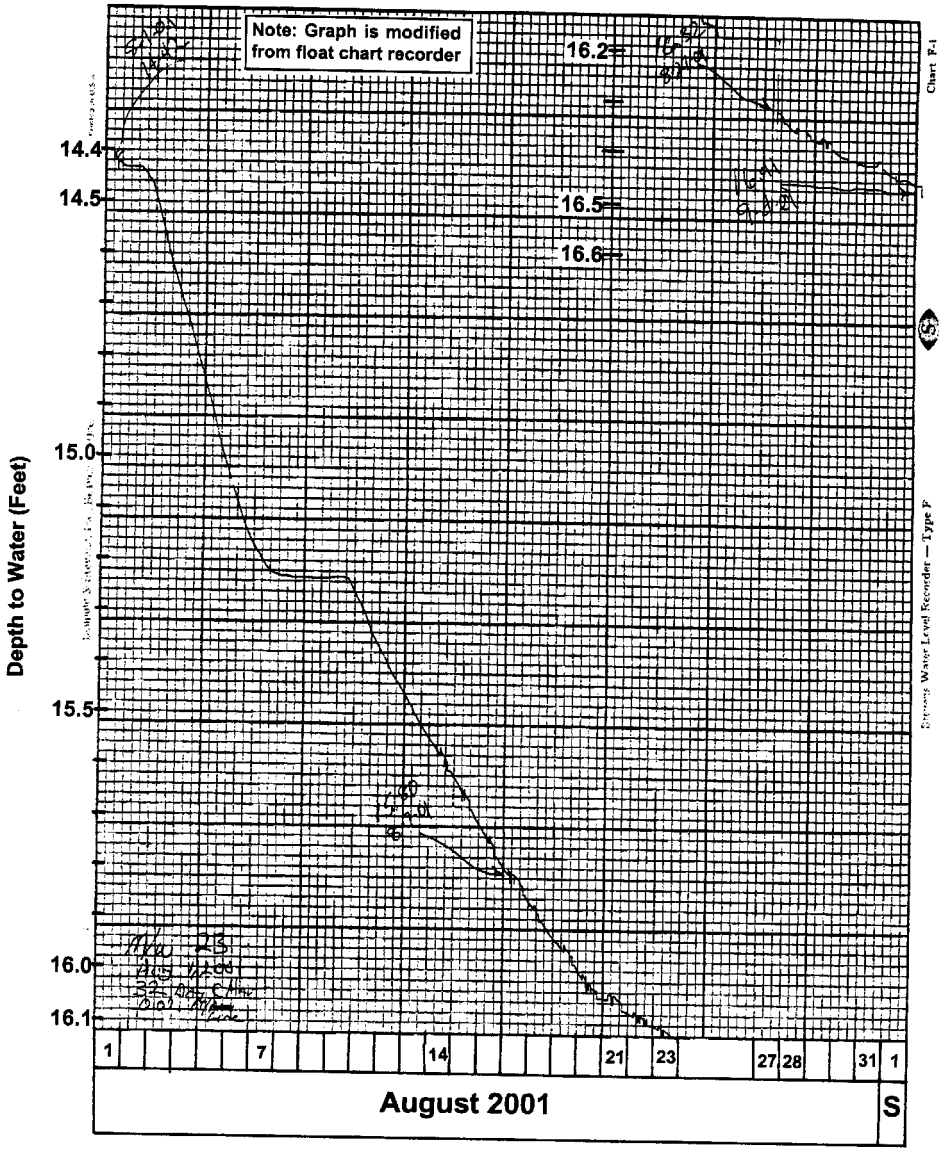
WATER-LEVEL HYDROGRAPH FOR MW-23



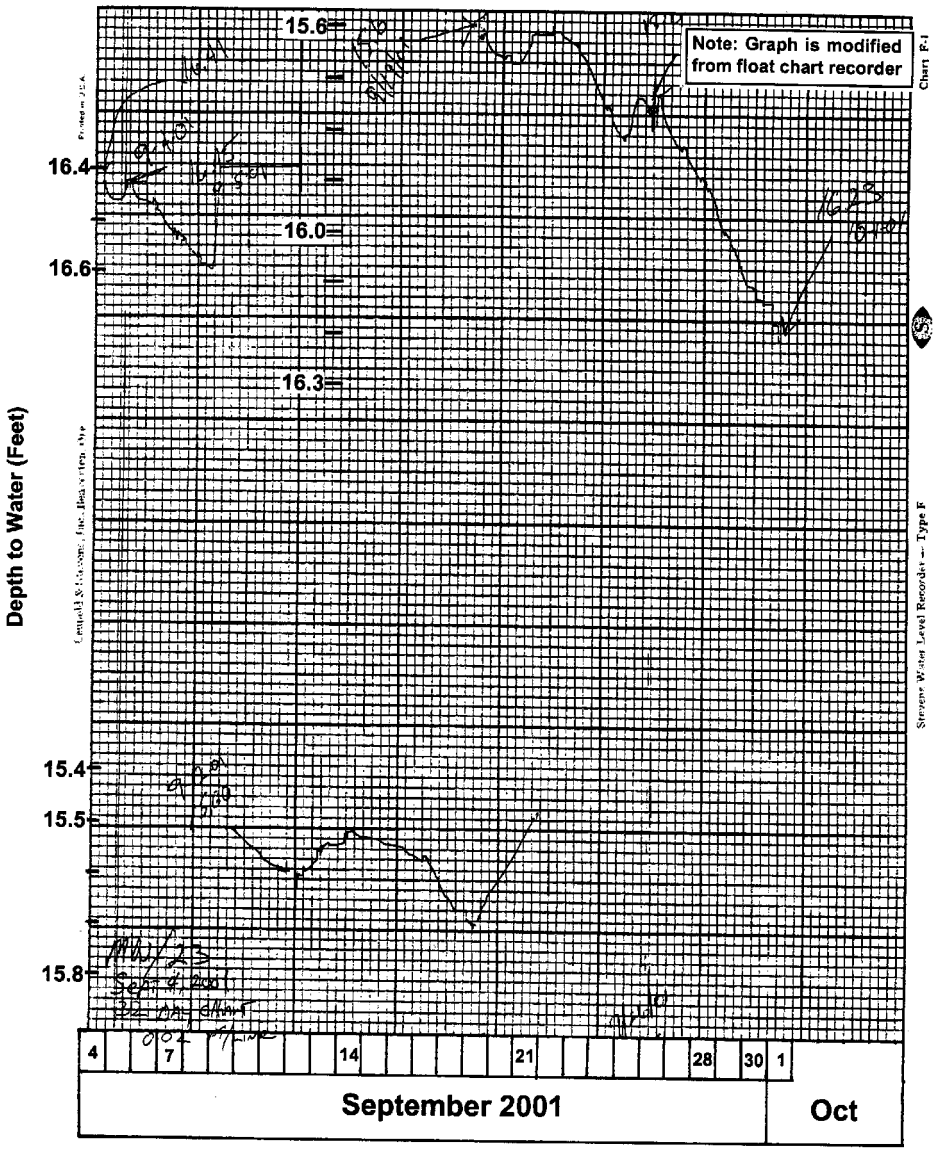
WATER-LEVEL HYDROGRAPH FOR MW-23



WATER-LEVEL HYDROGRAPH FOR MW-23



WATER-LEVEL HYDROGRAPH FOR MW-23

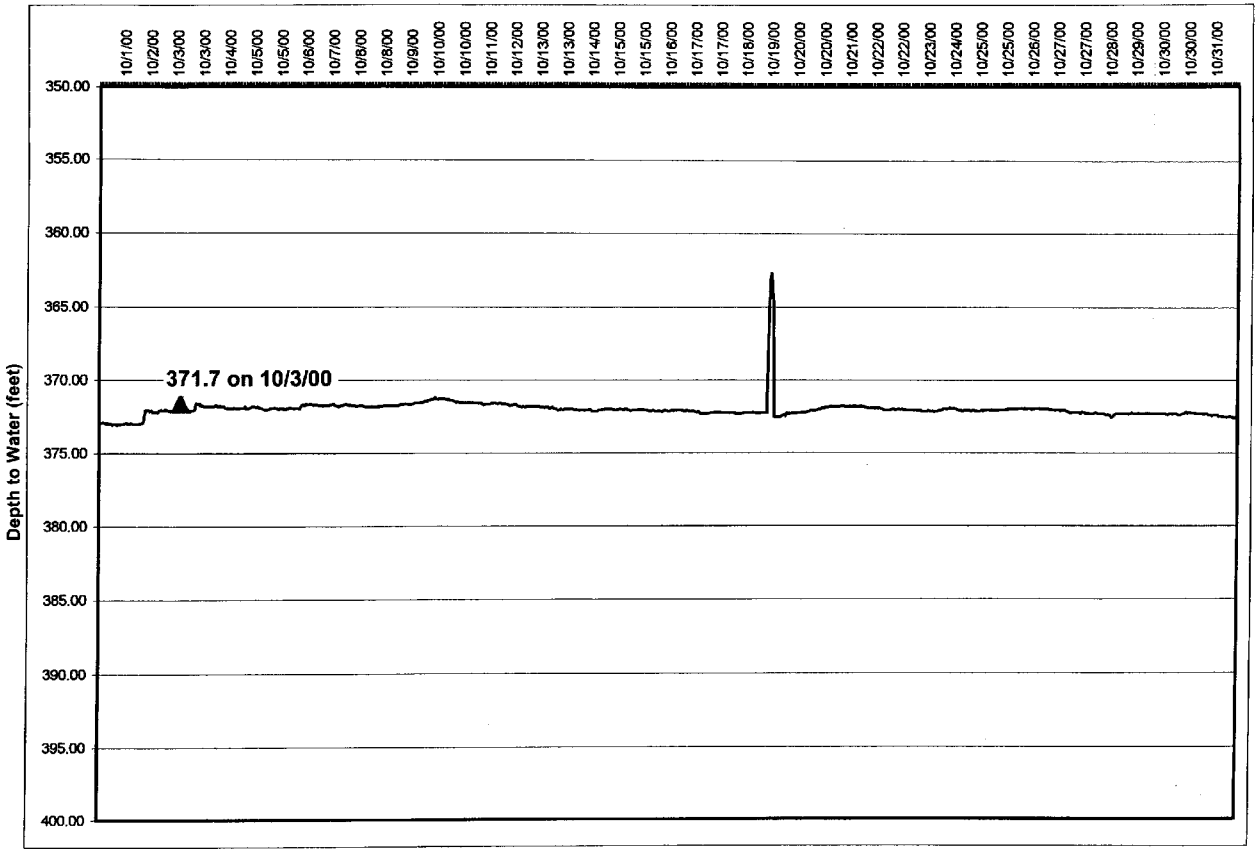


WATER-LEVEL HYDROGRAPH FOR MW-23

Water-Level Hydrographs from Transducer Measurements for Well No. 24

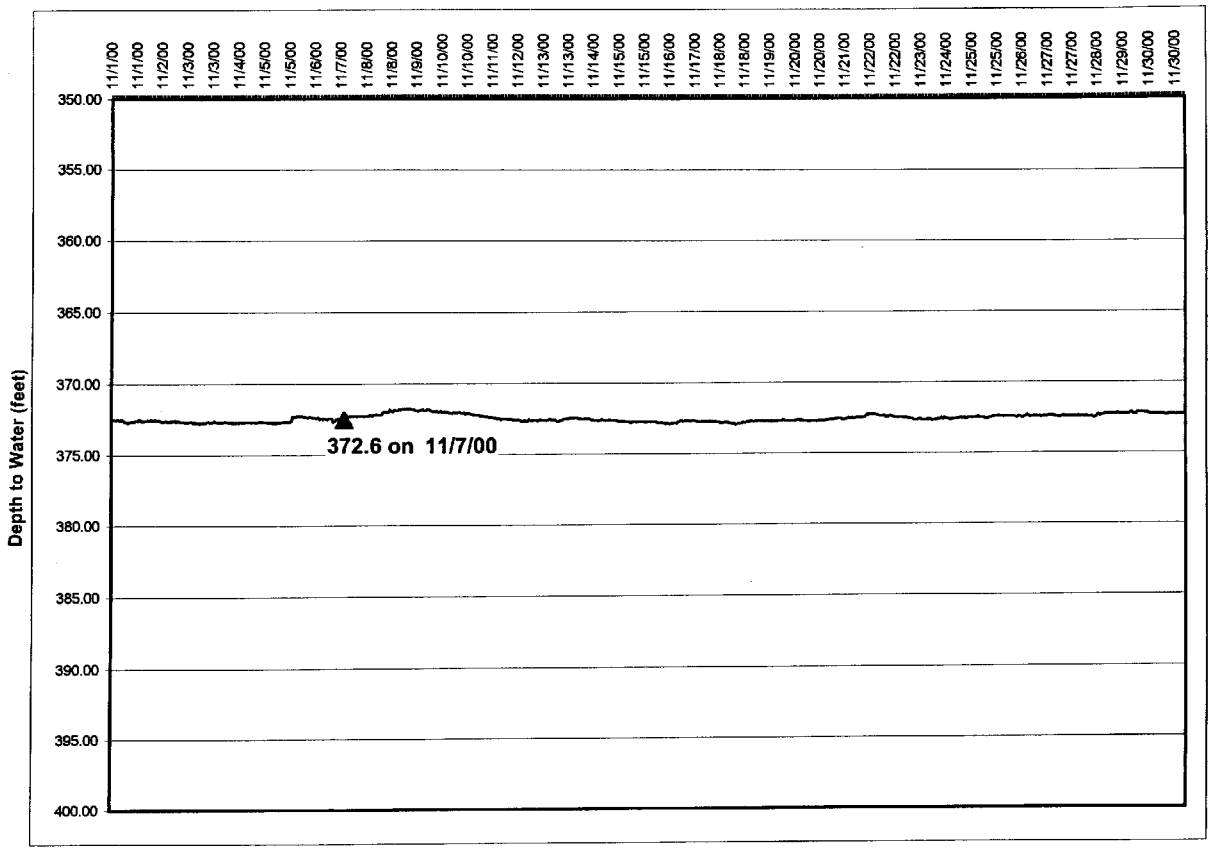
Note: Solid triangle and adjoining depth to water on graph are for measurement with an electric sounder.

Well 24



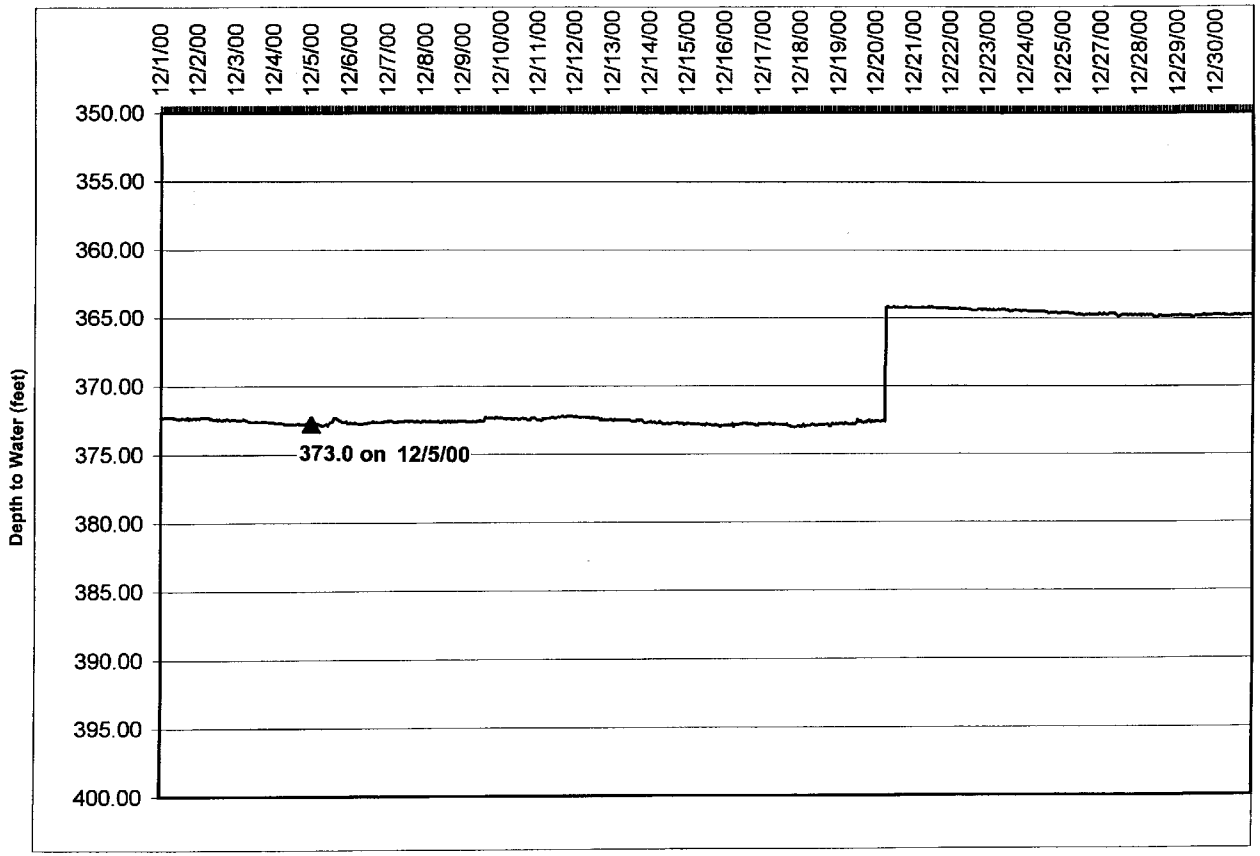
Oct. '00 Chart

Well 24



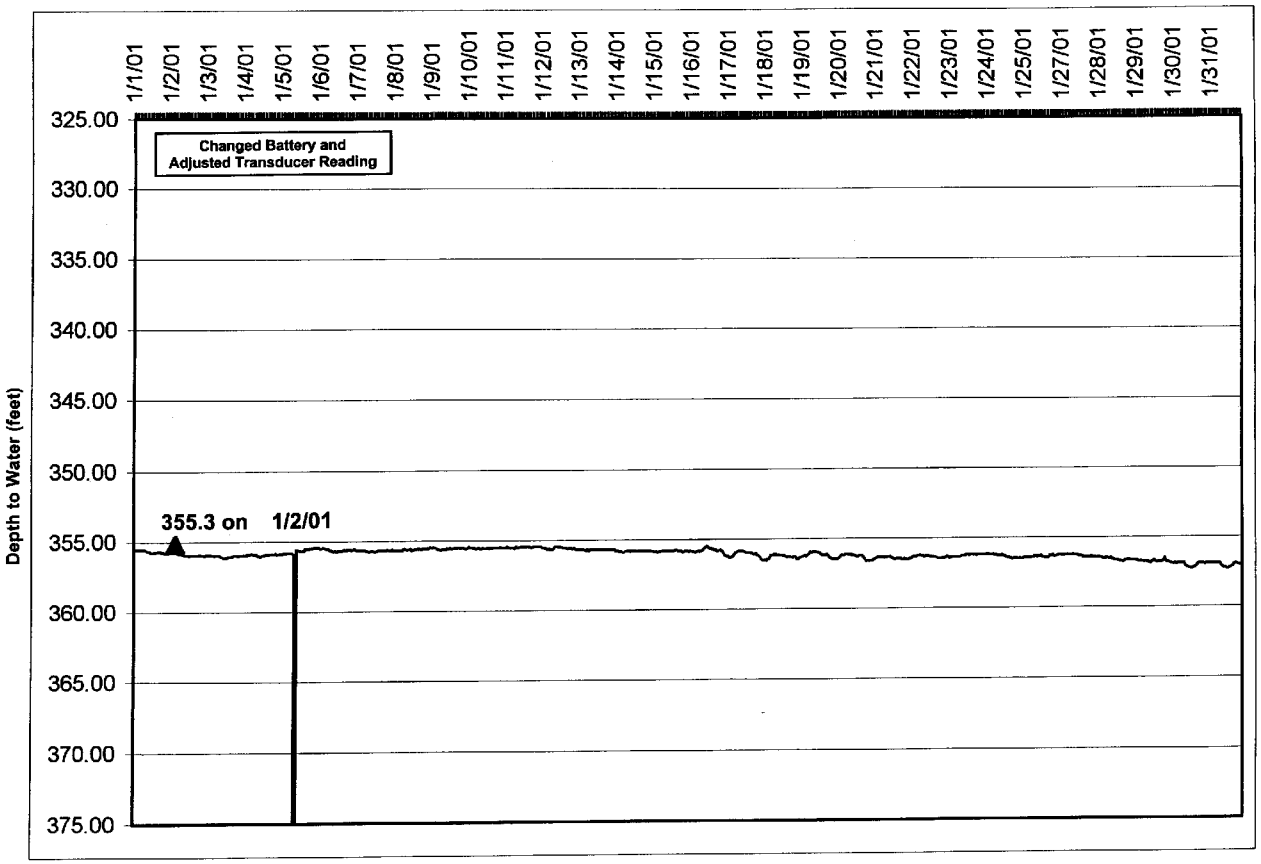
Nov 00 Chart

Well 24



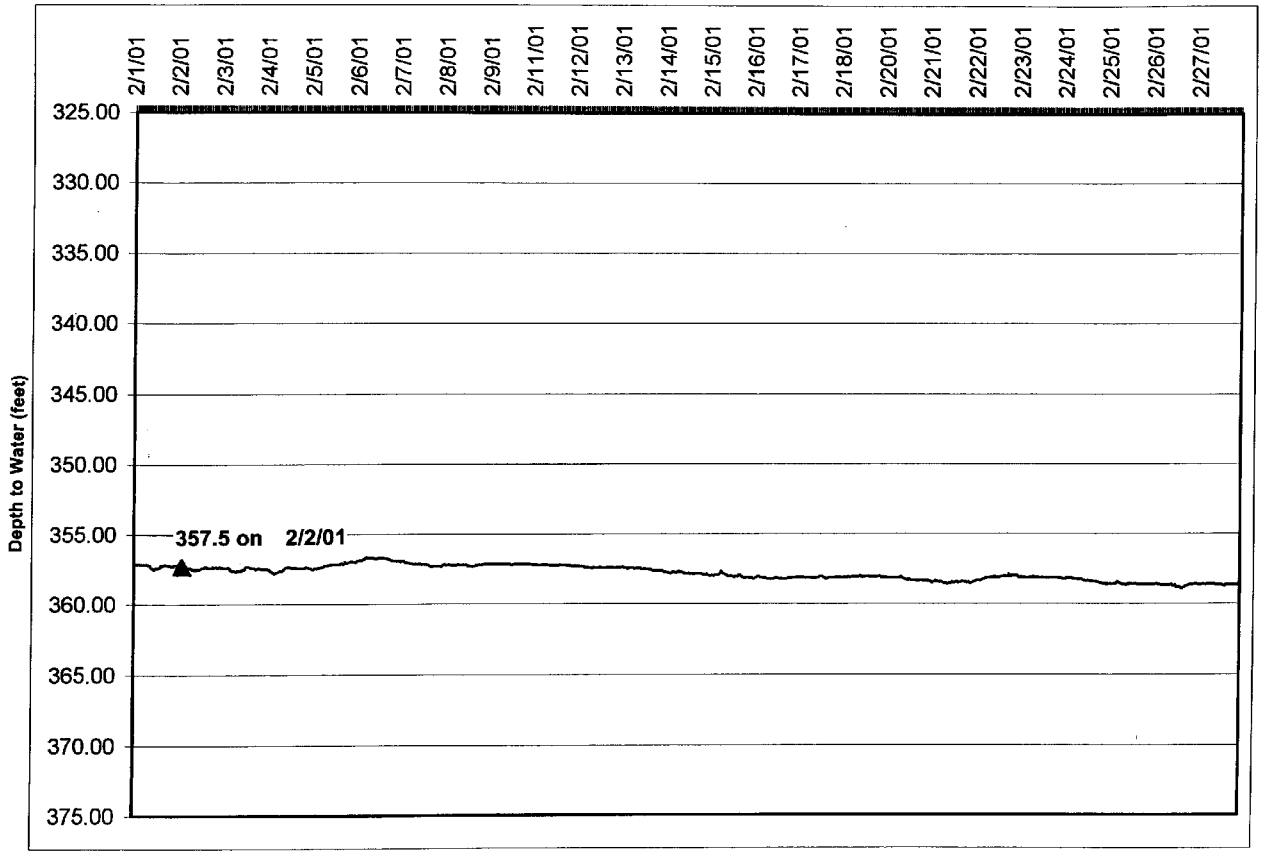
Dec 00 Chart

Well 24



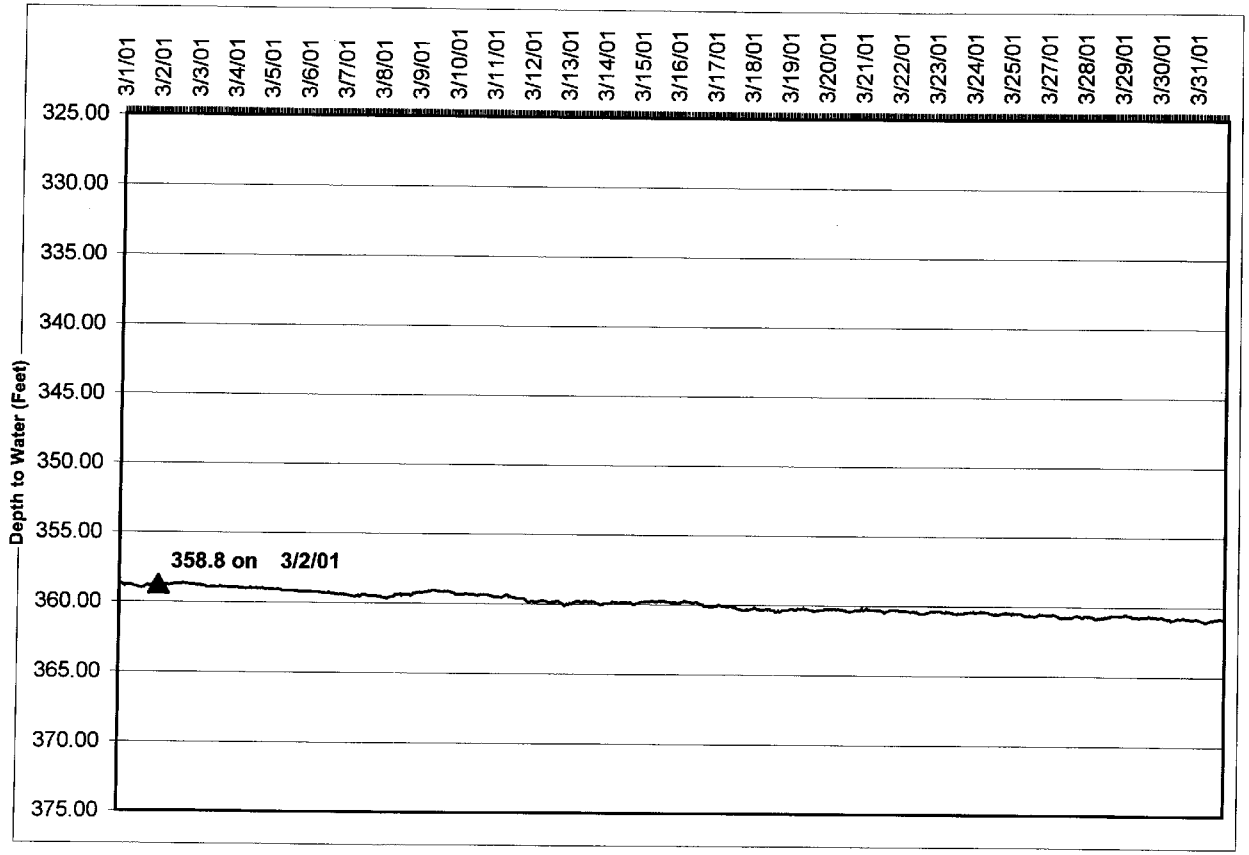
Jan 01 Chart

Well 24



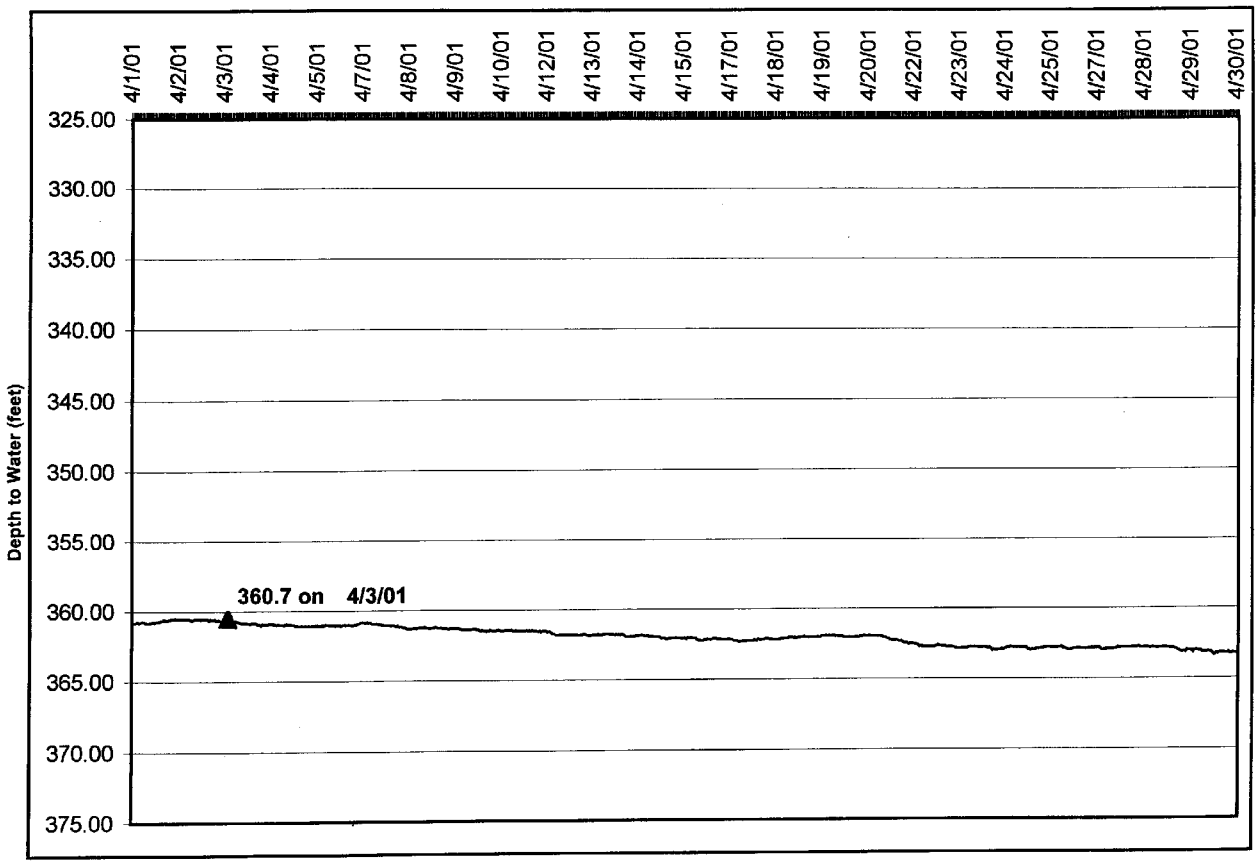
Feb 01 Chart

Well 24



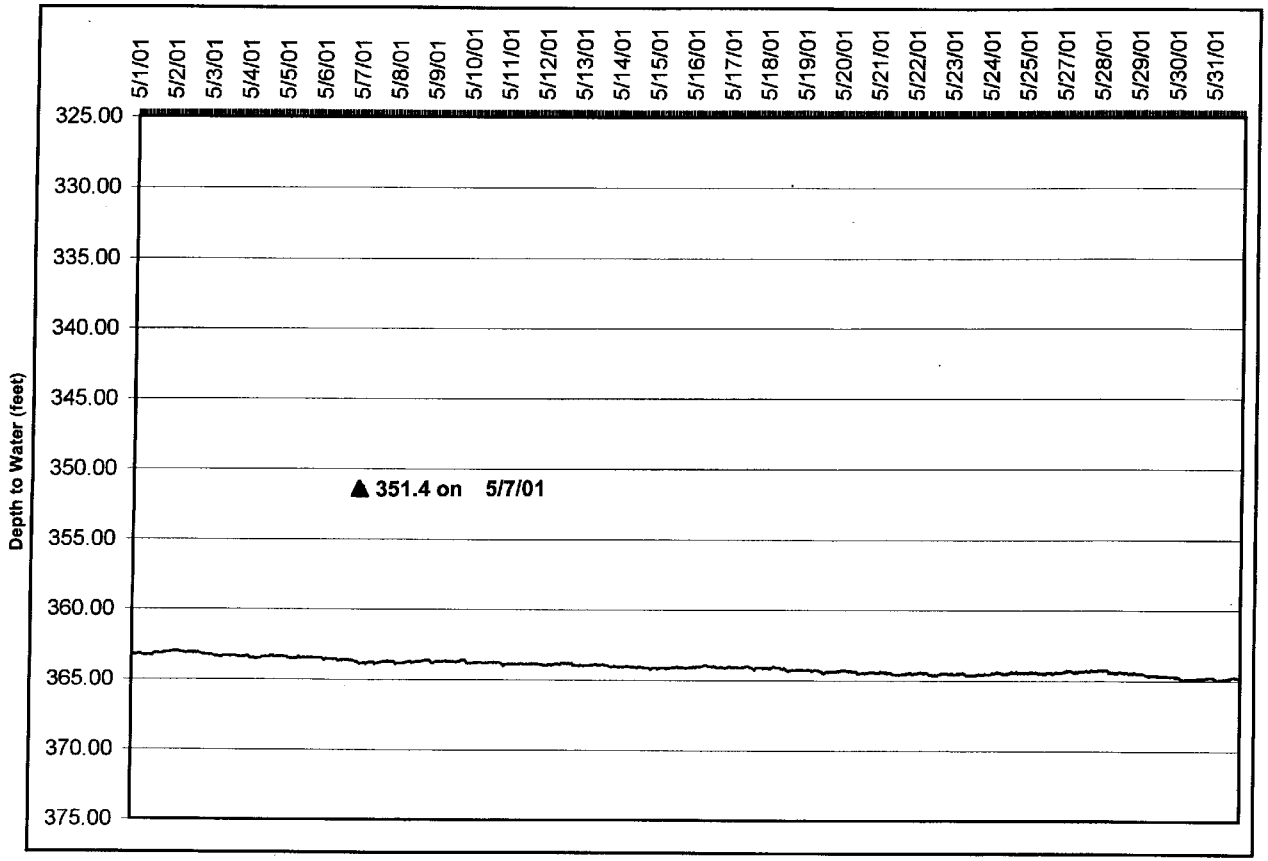
March 01 Chart

Well 24



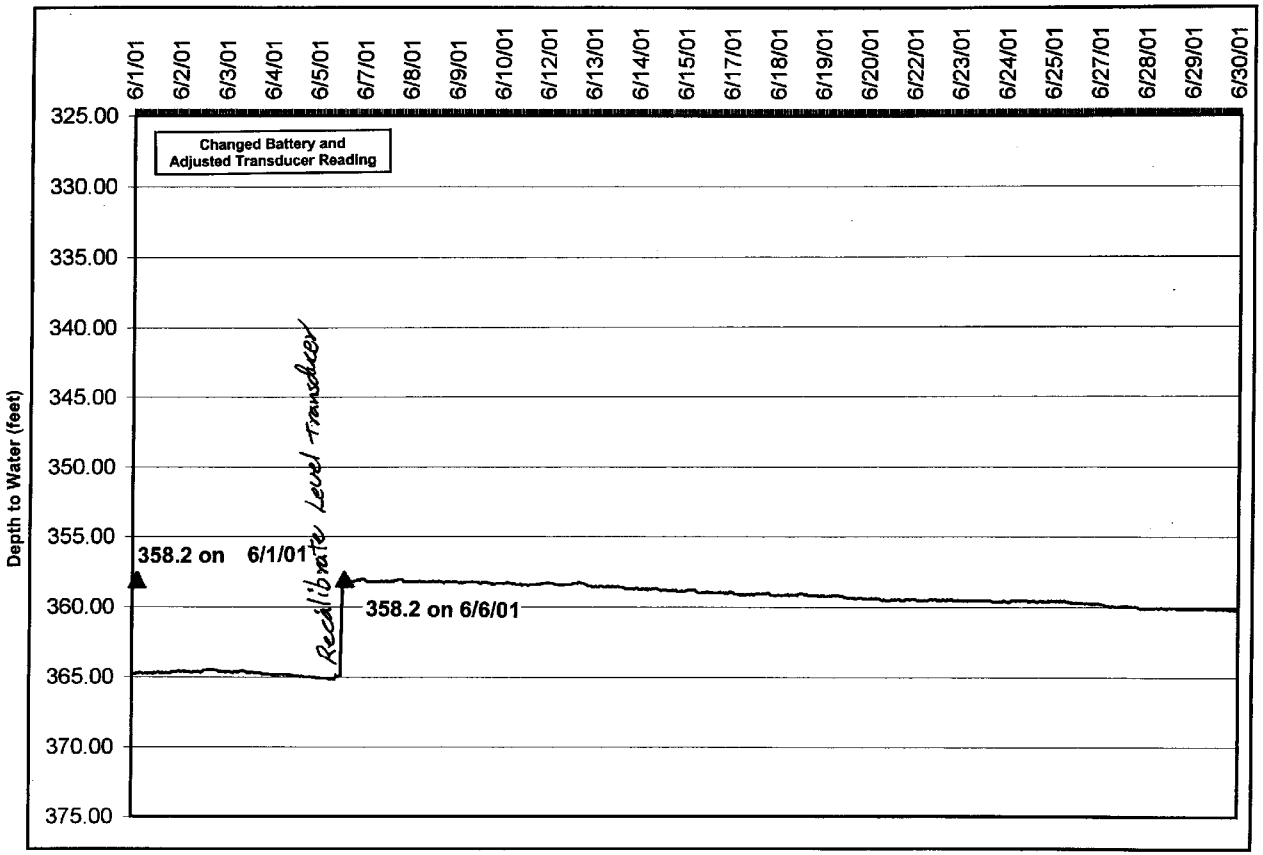
April 01 Chart

Well 24



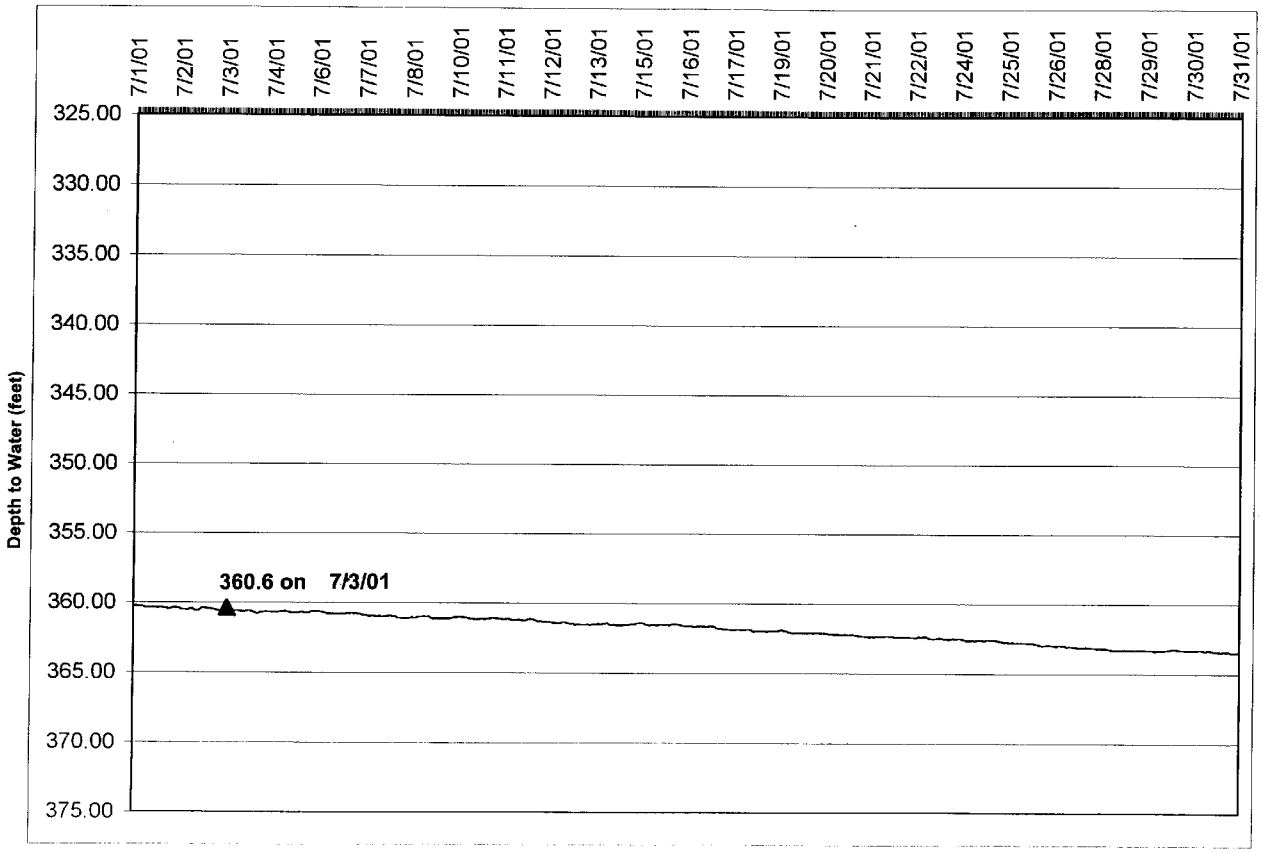
May 01 Chart

Well 24



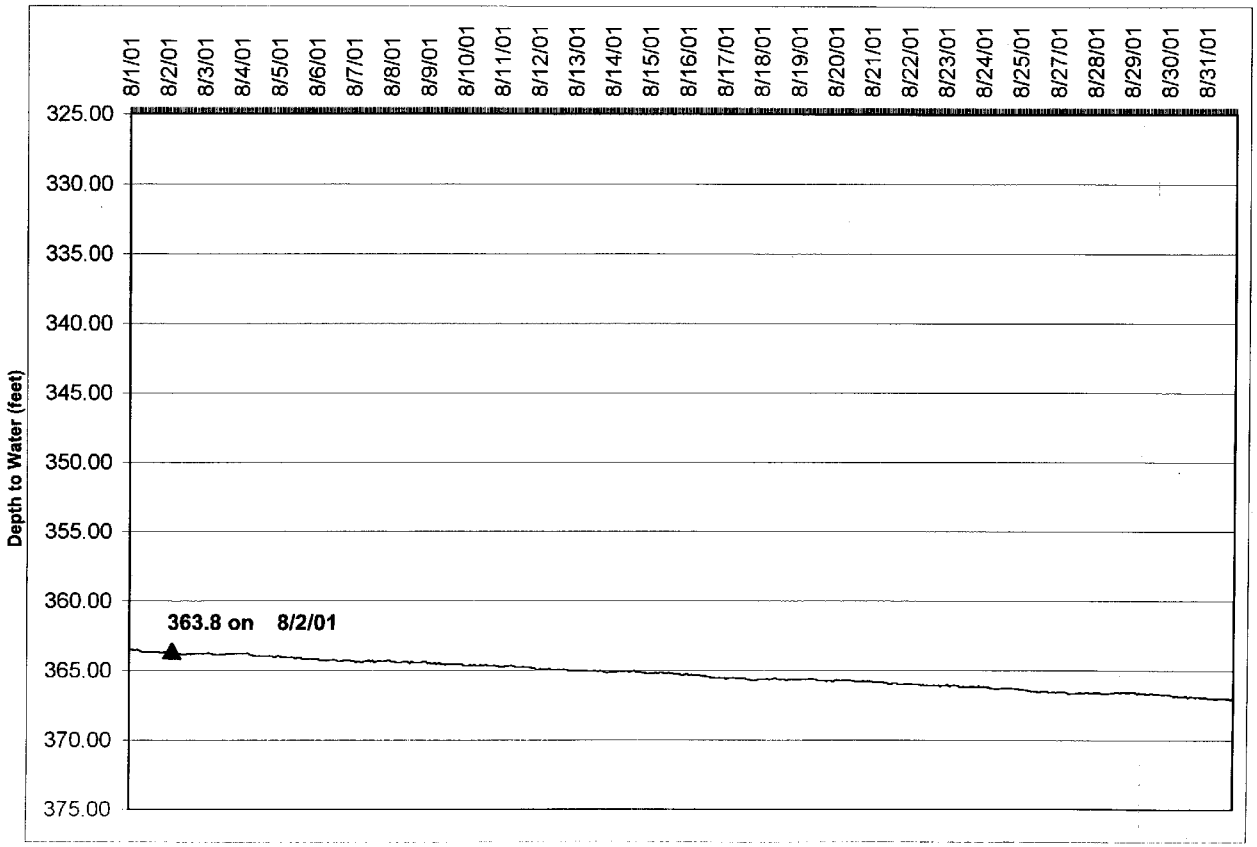
June 01 Chart

Well 24



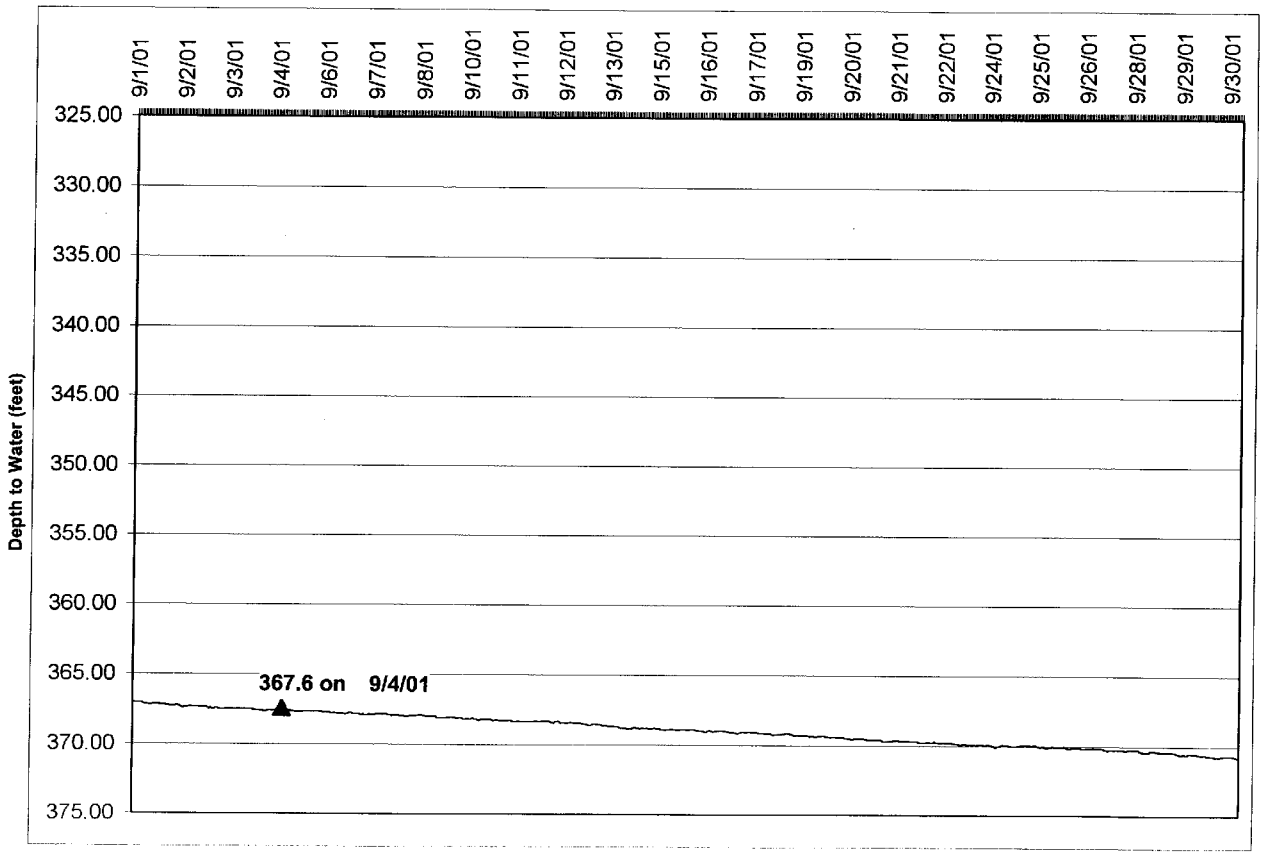
July 01 Chart

Well 24



Aug. 01 chart

Well 24



Sept. 01 Chart

APPENDIX E

CHEMICAL ANALYSES OF WATER FROM DISTRICT WELLS

MAMMOTH COMMUNITY WATER DISTRICT
PRODUCTION WELL WATER QUALITY

Production Well Site	Sample Date	Sample Time	Conductivity umho/cm	TDS mg/L	Temp F	pH
1	06/06/96	8:20	240	168	47	7.4
	09/12/97	10:15	190	96	49	7.2
	07/06/98	14:30	210	120	47	7.4
	07/14/99	9:20	208	165	48	7.6
	08/22/00	7:45	210	156	49	7.2
	07/27/01	8:30	220	140	49	6.5
6	06/06/96	9:05	470	283	49	7.5
	09/12/97	9:25	397	198	53	7.1
	07/07/98	8:20	300	160	51	8.2
	07/14/99	8:45	305	172	50	7.6
	07/28/00	8:15	310	166	50	7.4
	07/26/01	10:00	380	230	51	7.4
10	06/06/96	9:20	465	315	50	7.3
	09/12/97	9:14	359	179	55	7.2
	06/30/98	13:25	350	240	49	7.6
	07/14/99	8:30	353	231	49	7.5
	07/28/00	8:30	360	228	50	7.5
	07/26/01	10:15	470	300	51	6.6
15	06/06/96	9:45	240	152	55	7.4
	09/12/97	9:19	288	144	55	7.2
	06/30/98	13:45	360	210	53	7.5
	07/14/99	9:05	355	190	55	7.6
	08/22/00	8:10	350	187	54	7.3
	07/02/01	10:40	330	220	55	7.4
16	07/11/96	9:00	660	432	70	7.5
	09/11/97	10:11	632	317	73	7.1
	07/06/98	14:35	710	500	70	7.1
	08/20/99	10:30	690	480	70	7.2
	08/22/00	8:25	695	485	74	7.3
	07/02/01	9:30	710	490	70	6.9
17	07/11/96	8:45	360	265	65	7.3
	No sample due to motor/pump failure					
	07/06/98	9:15	350	280	60	7.1
	08/20/99	10:10	350	280	61	7.2
	08/22/00	8:40	355	276	63	7.2
	07/02/01	9:10	410	310	60	6.7
18	07/11/96	8:15	540	332	47	7.1
	09/12/97	13:40	500	251	68	7.1
	07/06/98	14:15	490	350	70	6.9
	08/20/99	11:30	510	355	67	7.1
	08/22/00	8:20	505	346	68	7.1
	07/02/01	10:15	530	370	67	6.4
20	07/11/96	9:20	217	164	59	7.1
	09/11/97	9:57	336	168	61	6.9
	No sample due to motor/pump failure					
	08/20/99	11:00	310	210	60	7.1
	08/22/00	9:00	305	190	61	7.1
	07/27/01	8:45	340	250	60	6.8

MAMMOTH COMMUNITY WATER DISTRICT
MONITOR WELL WATER QUALITY

Monitor Well Site	Sample Date	Sample Time	Conductivity umho/cm	TDS mg/L	Temp F	pH
4M	09/09/96	8:05	162	84	47	7.4
	09/24/97	8:03	93	47	45	7.2
	09/04/98	7:45	99	53	45	7.2
	08/26/99	7:40	103	49	44	7.2
	08/22/00	7:45	101	52	45	7.2
	08/28/01	7:50	120	92	45	7.0
5A	09/09/96	8:30	674	339	60	6.7
	09/24/97	8:35	662	331	58	6.8
	09/04/98	8:20	660	332	58	6.8
	08/26/99	8:10	669	330	58	6.9
	08/22/00	8:15	659	328	59	6.8
	08/28/01	8:20	660	390	60	6.8
5M	09/09/96	8:40	430	217	56	6.4
	No sample due to USGS chart recorder					
	09/04/98	8:30	450	226	56	6.5
	08/26/99	8:15	428	219	55	6.7
	08/22/00	8:20	441	223	55	6.5
	08/28/01	8:25	420	250	57	6.5
7	No sample					
	09/02/97	10:15	101	50	49	7.4
	09/10/98	9:45	110	51	49	7.2
	08/27/99	8:30	104	53	50	7.2
	08/22/00	10:30	108	55	51	7.2
	08/28/01	9:10	105	60	50	7.0
10M	No water in well to sample					
	09/16/97	14:05	358	180	50	7.3
	09/04/98	8:45	349	175	50	7.2
	08/26/99	8:35	333	162	50	7.1
	08/22/00	8:40	340	160	49	7.2
	08/28/01	9:40	No water in well			
11	09/09/96	9:30	96	50	51	7.4
	09/16/97	14:20	106	53	53	7.3
	09/04/98	9:20	104	50	50	7.3
	08/26/99	9:00	101	61	51	7.3
	08/22/00	9:10	105	60	50	7.3
	08/28/01	9:55	100	59	50	7.2
11M	09/09/96	9:40	283	144	52	7.5
	09/16/97	14:30	350	175	51	7.5
	09/04/98	9:25	350	175	50	7.3
	08/26/99	9:10	310	162	51	7.3
	08/22/00	9:20	320	168	52	7.3
	08/28/01	10:10	340	185	51	7.4

MAMMOTH COMMUNITY WATER DISTRICT
MONITOR WELL WATER QUALITY

Monitor Well Site	Sample Date	Sample Time	Conductivity umho/cm	TDS mg/L	Temp F	pH
12M	09/09/96	10:05	267	137	52	7.5
	09/16/97	14:02	364	182	50	7.5
	09/04/98	9:05	359	180	50	7.4
	08/26/99	8:45	370	189	51	7.5
	08/22/00	8:55	368	188	52	7.4
	08/28/01	10:25	350	205	50	7.4
14	09/09/96	No sample due to transducer in well.				
	09/16/97	No sample due to transducer in well.				
	09/04/98	No sample due to transducer in well.				
	08/26/99	No sample due to transducer in well.				
	08/22/00	No sample due to transducer in well.				
	09/04/01	No sample due to transducer in well.				
19	09/09/96	No sample due to transducer in well.				
	09/16/97	No sample due to transducer in well.				
	09/04/98	No sample due to transducer in well.				
	08/26/99	No sample due to transducer in well.				
	08/22/00	No sample due to transducer in well.				
	09/04/01	No sample due to transducer in well.				
21	09/09/96	No sample due to transducer in well.				
	09/16/97	No sample due to transducer in well.				
	09/04/98	No sample due to transducer in well.				
	08/26/99	No sample due to transducer in well.				
	08/22/00	No sample due to transducer in well.				
	09/04/01	No sample due to transducer in well.				
22	09/09/96	No sample				
	09/16/97	No sample				
	09/10/98	8:00	115	57	48	7.1
	08/27/99	9:15	111	61	47	7.1
	08/22/00	9:45	114	64	48	7.1
	08/28/01	13:15	115	71	48	7.2
23	09/09/96	10:50	93	47	52	7.3
	09/16/97	10:05	95	48	50	7.3
	09/04/98	10:00	98	50	50	7.3
	08/27/99	9:45	91	49	50	7.2
	08/22/00	10:00	96	51	50	7.1
	08/28/01	13:30	84	45	48	7.2
24	09/09/96	No sample due to transducer in well.				
	09/16/97	No sample due to transducer in well.				
	09/04/98	No sample due to transducer in well.				
	08/27/99	No sample due to transducer in well.				
	08/22/00	No sample due to transducer in well.				
	09/04/01	No sample due to transducer in well.				

APPENDIX F

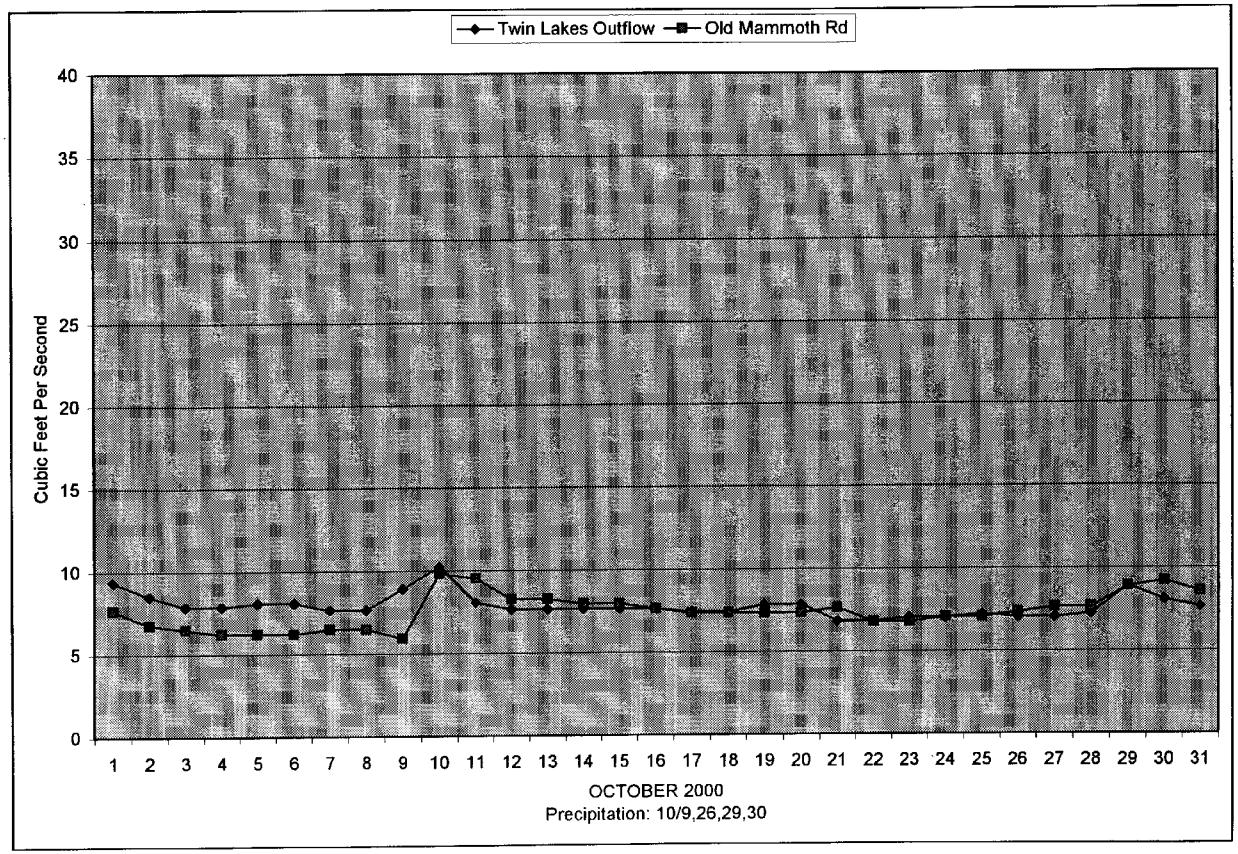
MAMMOTH CREEK STREAMFLOW

TWIN LAKES OUTFLOW

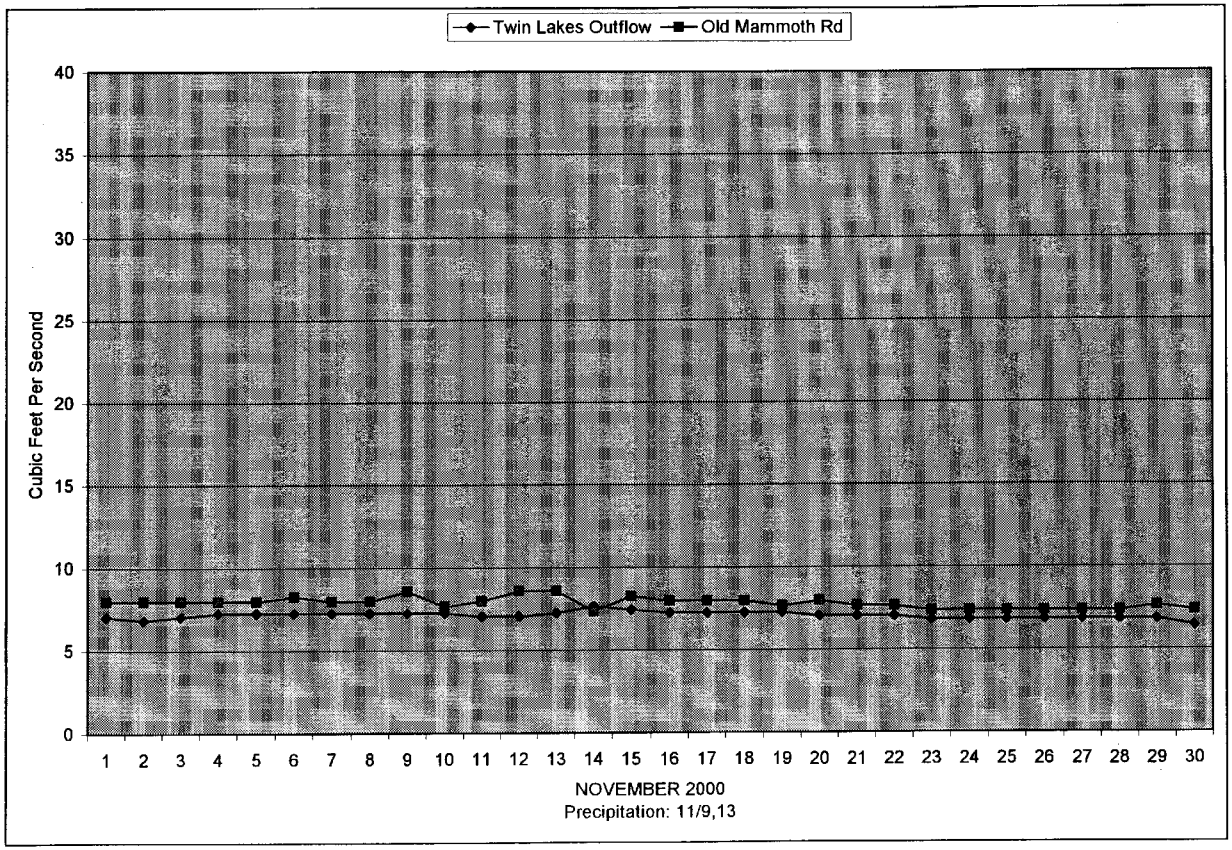
Daily discharge in cubic feet per second					Twin Lakes Outflow							
	2000			2001								
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	7.0	6.4	6.2	6.8	6.2	7.4	14.0	>32.24	17.6	9.8	6.6
2	8.5	6.8	6.4	6.2	6.4	6.2	7.6	14.3	>32.24	15.0	8.9	6.6
3	7.9	7.0	6.4	6.2	6.4	6.2	6.6	14.0	>32.24	13.5	8.1	6.6
4	7.9	7.2	6.4	6.2	6.4	6.2	6.6	15.0	>32.24	13.5	7.0	6.6
5	8.1	7.2	6.4	6.2	6.4	6.2	6.6	15.3	>32.24	14.3	6.2	6.6
6	8.1	7.2	6.4	6.2	6.2	6.4	6.8	15.8	>32.24	14.0	6.2	6.0
7	7.6	7.2	6.4	6.2	6.2	7.2	8.5	20.3	>32.24	16.8	6.6	6.0
8	7.6	7.2	6.6	6.2	6.2	7.2	7.4	30.0	31.22	20.8	7.2	6.0
9	8.9	7.2	6.6	6.4	6.2	7.2	7.2	>32.24	>32.24	22.8	7.6	6.0
10	10.2	7.2	6.6	6.2	6.2	7.2	7.2	>32.24	>32.24	17.3	7.9	5.9
11	8.1	7.0	6.4	8.7	6.2	7.2	7.0	>32.24	29.42	19.0	8.1	5.9
12	7.6	7.0	7.2	7.2	6.2	7.2	6.8	>32.24	29.12	15.3	8.1	5.7
13	7.6	7.2	6.8	6.8	6.2	7.2	6.8	>32.24	25.02	14.0	8.1	5.7
14	7.6	7.6	6.6	6.4	6.2	7.2	6.4	>32.24	25.30	13.4	8.1	5.7
15	7.6	7.4	6.6	6.4	6.2	7.2	6.4	>32.24	23.60	12.6	7.9	5.5
16	7.6	7.2	6.4	6.4	6.2	7.2	6.6	>32.24	21.92	12.3	7.9	5.5
17	7.4	7.2	6.4	6.4	6.2	7.0	6.8	>32.24	21.08	12.1	7.9	5.5
18	7.4	7.2	6.4	6.4	6.2	7.0	7.0	>32.24	20.82	11.4	7.6	5.5
19	7.9	7.2	6.4	6.4	6.2	7.2	7.6	>32.24	20.26	11.4	7.4	5.5
20	7.9	7.0	6.4	6.4	6.2	7.2	8.1	>32.24	20.26	11.2	7.4	5.7
21	6.8	7.0	6.4	6.4	6.2	7.2	8.1	>32.24	20.82	11.2	7.2	6.4
22	6.8	7.0	6.2	6.2	6.2	7.2	7.6	>32.24	20.82	11.2	7.2	6.0
23	7.0	6.8	6.2	6.2	6.2	7.0	7.6	>32.24	19.99	11.6	7.2	6.0
24	7.0	6.8	6.2	6.6	6.2	7.0	7.6	>32.24	18.65	12.1	7.2	5.9
25	7.2	6.8	6.2	6.8	6.2	6.8	8.1	>32.24	16.55	12.1	7.2	6.8
26	7.0	6.8	6.2	6.8	6.2	6.8	8.5	>32.24	18.31	12.1	7.2	5.9
27	7.0	6.8	6.2	6.8	6.2	6.6	9.6	>32.24	23.04	12.1	7.2	5.9
28	7.2	6.8	6.2	6.8	6.2	6.6	10.7	>32.24	21.08	11.6	7.2	5.7
29	8.9	6.8	6.2	6.8		6.8	10.9	>32.24	19.18	11.2	7.0	5.7
30	8.1	6.4	6.2	6.8		7.0	12.3	>32.24	18.38	10.5	6.8	5.7
31	7.6		6.2	6.8		7.0		>32.24		9.8	6.8	
Mean	7.8	7.1	6.4	6.6	6.3	6.9	7.8	>32.24	22.1	13.7	7.5	6.0
Maximum	10.2	7.6	7.2	8.7	6.8	7.2	12.3	>32.24	>32.24	22.8	9.8	6.8
Minimum	6.8	6.4	6.2	6.2	6.2	6.2	6.4	14.0	16.6	9.8	6.2	5.5

MAMMOTH CREEK AT OLD MAMMOTH ROAD

Daily discharge in cubic feet per second					Mammoth Creek at Old Mammoth Road								
	2000			2001									
Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	7.9	7.1	6.8	7.1	7.9	14.1	20.2	56.2	16.4	10.2	6.5
2	6.8	7.9	6.8	6.8	7.1	7.9	14.1	20.2	69.5	15.6	9.2	6.5
3	6.5	7.9	6.8	6.8	7.1	7.9	11.9	18.9	68.1	12.6	8.3	6.5
4	6.2	7.9	6.8	6.8	7.1	7.9	10.2	18.9	51.8	12.6	7.3	6.5
5	6.2	7.9	6.8	6.8	7.3	8.9	10.5	18.9	37.3	14.1	7.1	6.2
6	6.2	8.2	6.8	6.8	7.3	8.9	10.2	19.7	39.5	13.3	5.9	6.2
7	6.5	7.9	6.8	6.8	6.5	8.6	9.2	21.9	38.9	15.6	6.8	5.7
8	6.5	7.9	6.8	6.8	7.3	8.3	9.2	32.5	36.2	20.2	7.3	5.7
9	5.9	8.6	6.8	7.1	7.9	8.3	10.5	59.4	34.6	22.8	7.3	5.7
10	9.8	7.6	6.8	6.8	6.8	8.3	10.2	77.9	35.1	19.3	7.6	5.7
11	9.5	7.9	6.8	5.7	7.9	7.9	9.8	77.9	33.0	17.2	7.9	5.7
12	8.3	8.6	6.8	5.7	8.6	7.6	9.8	79.4	31.5	15.6	7.6	5.7
13	8.3	8.6	7.6	9.2	8.3	7.6	9.8	78.7	29.0	13.3	7.6	5.7
14	7.9	7.3	7.1	7.9	8.3	7.9	9.2	73.7	26.1	12.2	7.6	5.7
15	7.9	8.3	7.3	7.3	7.9	7.9	9.5	66.7	25.1	11.5	7.6	5.5
16	7.6	7.9	6.8	5.9	7.3	7.9	9.8	60.7	22.4	11.2	7.6	5.5
17	7.3	7.9	6.8	5.7	7.3	8.2	11.2	89.8	21.5	10.5	7.6	5.5
18	7.3	7.9	6.5	8.9	7.3	8.6	11.2	91.3	22.8	10.2	7.6	5.5
19	7.3	7.6	6.8	8.3	7.9	8.9	11.5	85.3	20.2	10.2	7.3	5.5
20	7.3	7.9	6.8	7.1	7.9	9.8	10.5	70.9	20.6	10.2	7.3	5.5
21	7.6	7.6	6.8	7.1	8.2	11.2	11.2	73.7	19.7	10.2	7.1	6.2
22	6.8	7.6	6.8	7.1	8.2	11.2	11.2	83.0	20.6	10.2	7.1	6.2
23	6.8	7.3	6.5	7.1	8.2	10.9	10.9	80.8	19.7	10.2	7.1	5.9
24	7.1	7.3	6.5	7.1	7.9	11.5	11.9	86.8	18.9	10.2	7.1	5.7
25	7.1	7.3	6.8	7.3	8.2	11.9	12.6	88.3	17.2	10.2	7.1	5.5
26	7.3	7.3	6.8	7.1	8.2	11.9	14.1	86.8	17.2	10.2	7.1	7.1
27	7.6	7.3	6.8	7.1	7.9	11.5	15.2	86.8	20.6	10.2	7.1	6.8
28	7.6	7.3	6.8	7.1	7.3	11.9	16.8	83.8	21.9	10.2	6.8	6.8
29	8.9	7.6	6.5	7.1		13.3	16.8	77.9	19.7	10.2	6.8	6.5
30	9.2	7.3	6.8	7.1		13.3	17.6	62.7	17.2	10.2	6.5	6.5
31	8.6		6.8	7.1		13.3		55.0		10.2	6.5	
Mean	7.5	7.8	6.8	7.0	7.7	9.6	11.7	62.8	30.4	12.8	7.4	6.0
Maximum	9.8	8.6	7.6	9.2	8.6	13.3	17.6	91.3	69.5	22.8	10.2	7.1
Minimum	5.9	7.3	6.5	5.7	6.5	7.6	9.2	18.9	17.2	10.2	5.9	5.5



MAMMOTH CREEK STREAMFLOW COMPARISON



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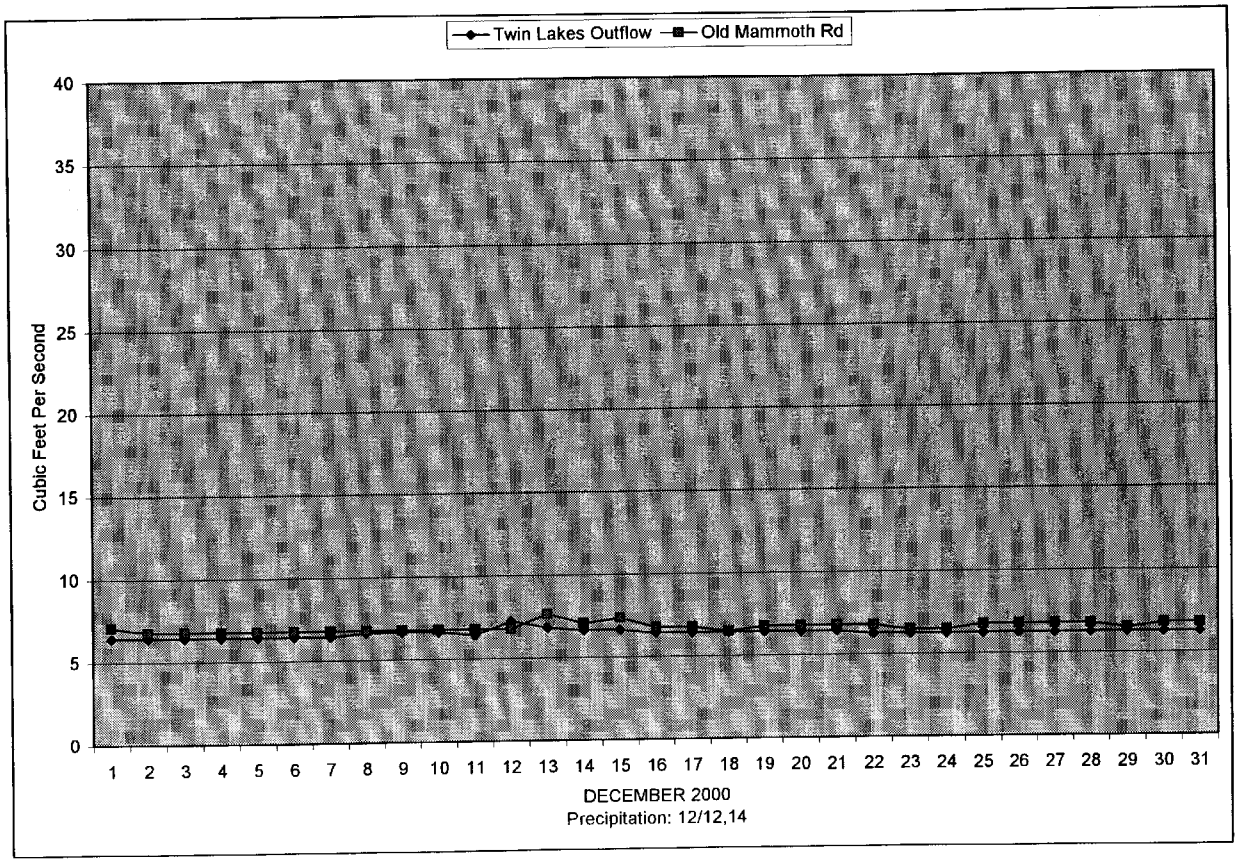

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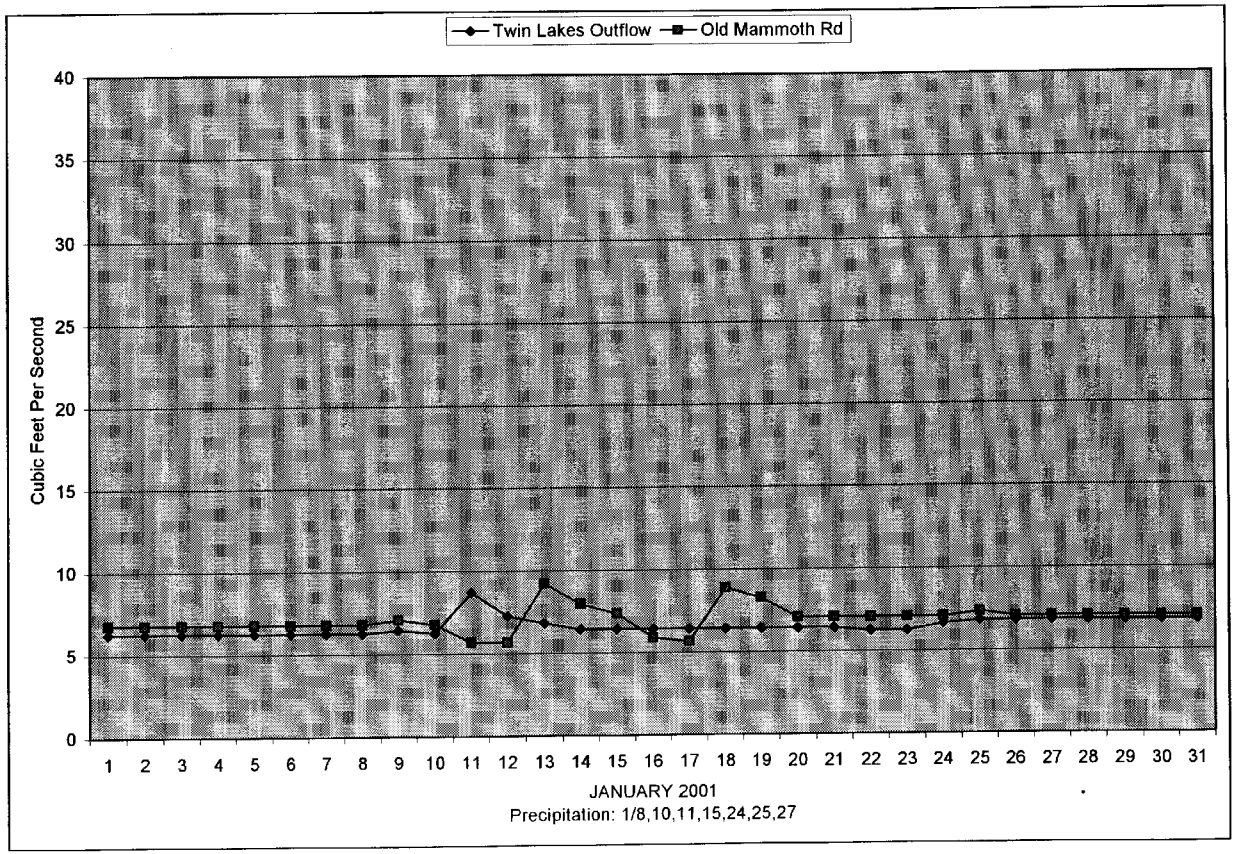

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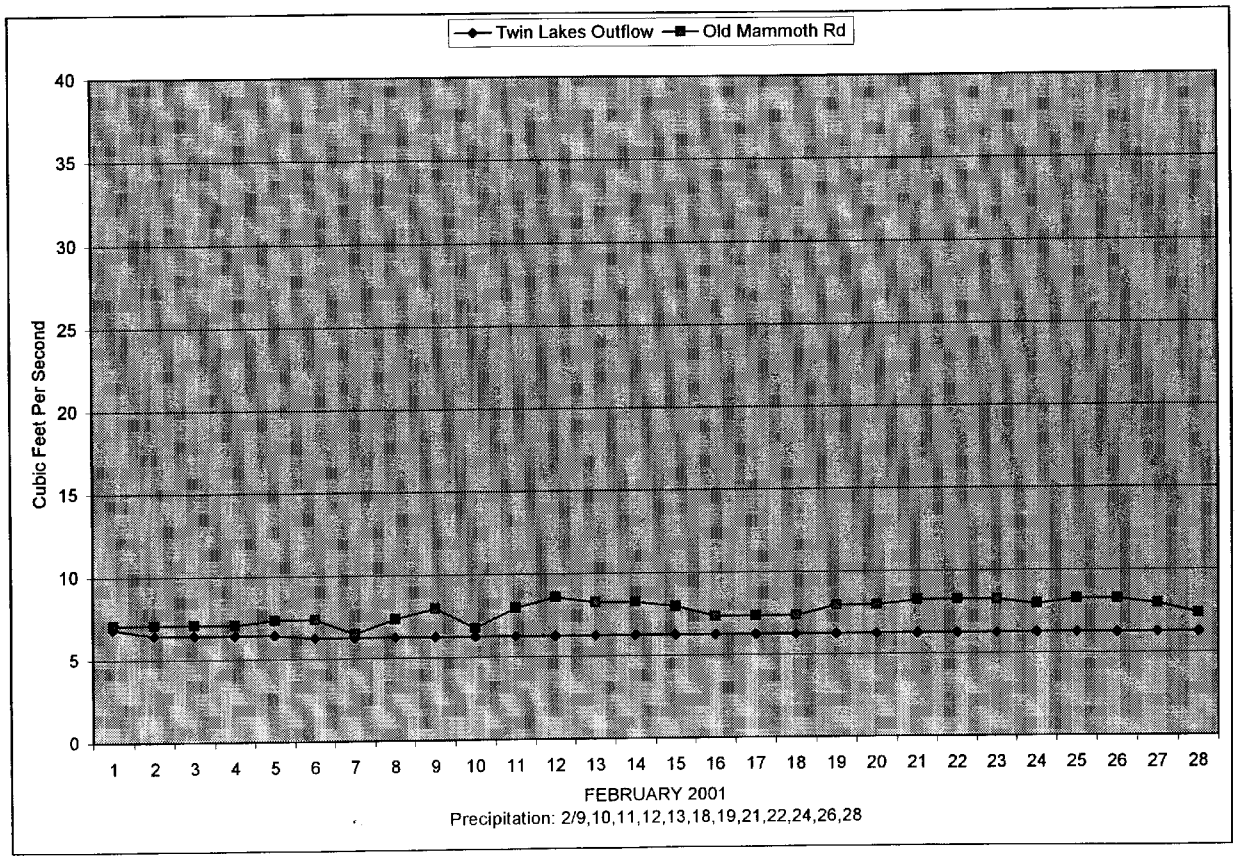

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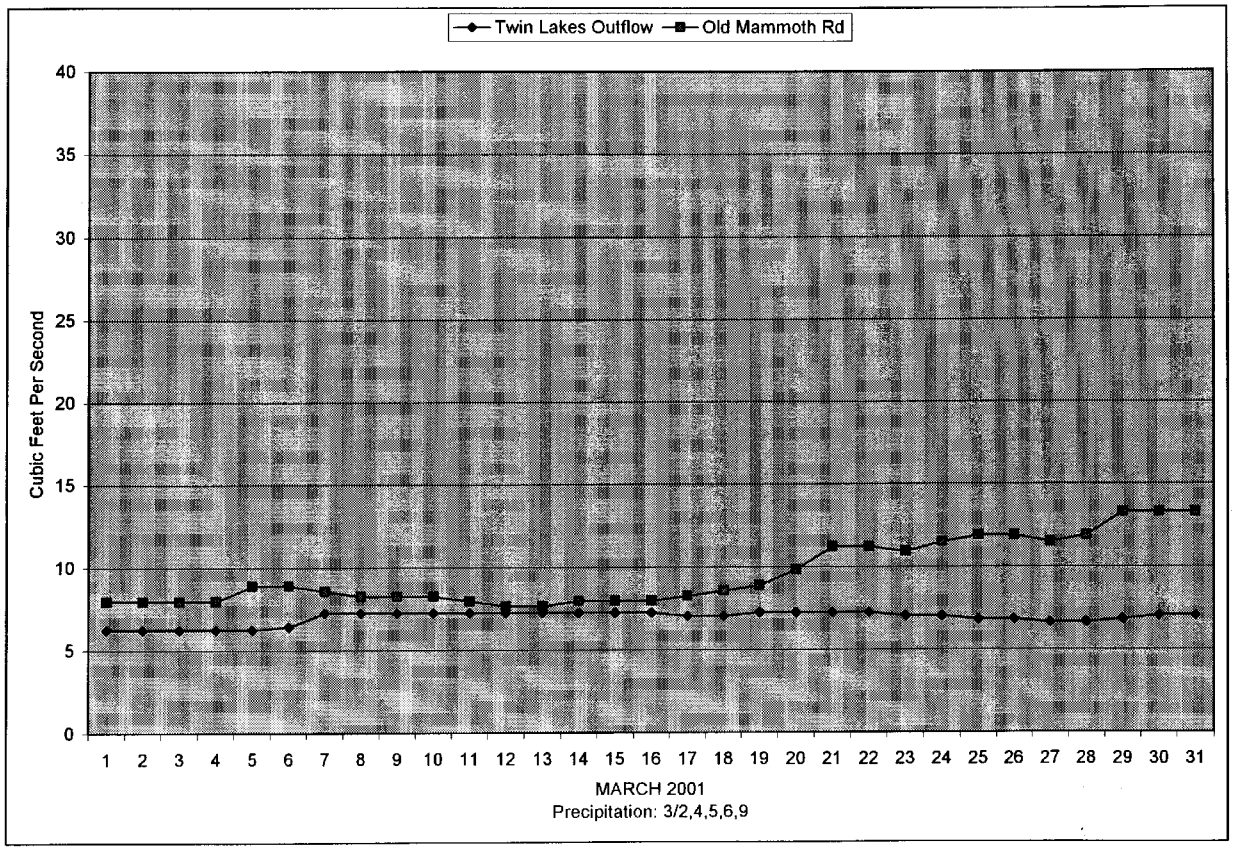

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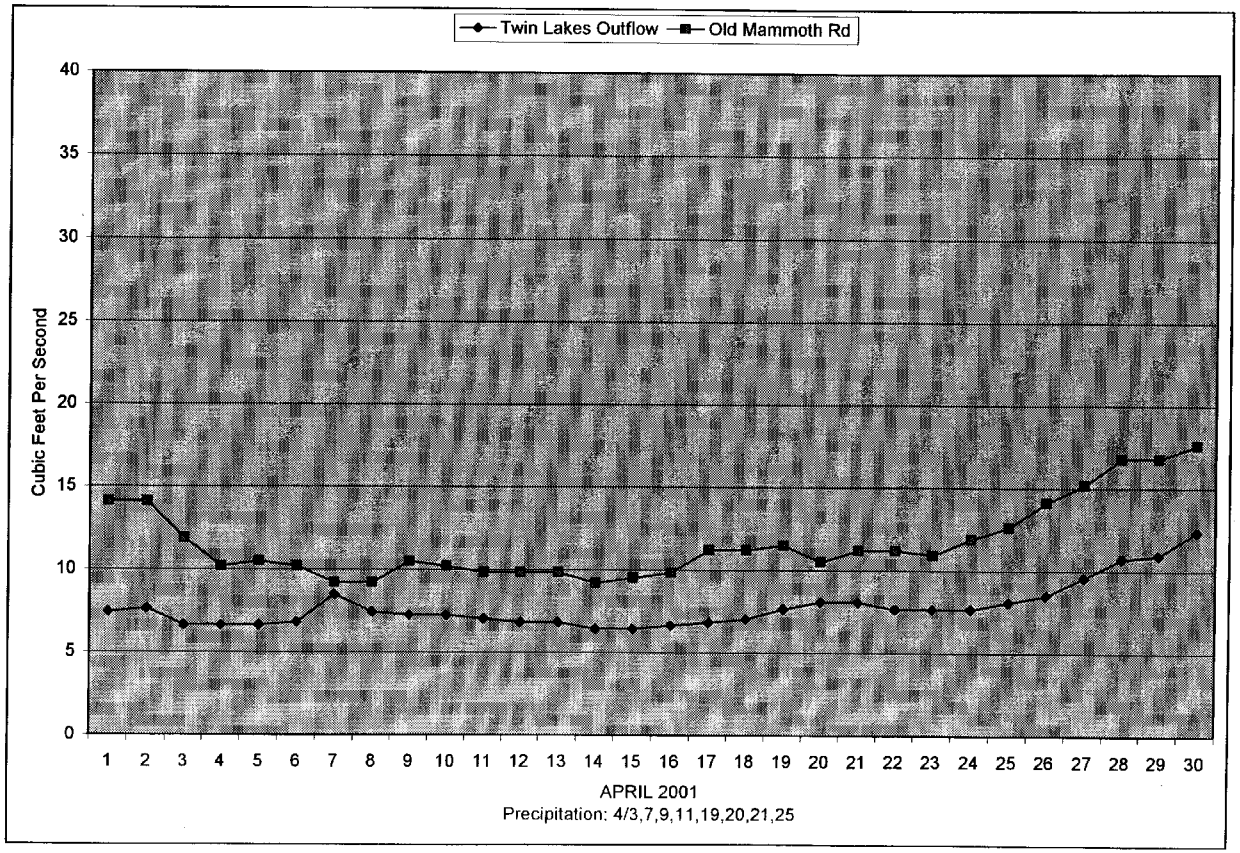

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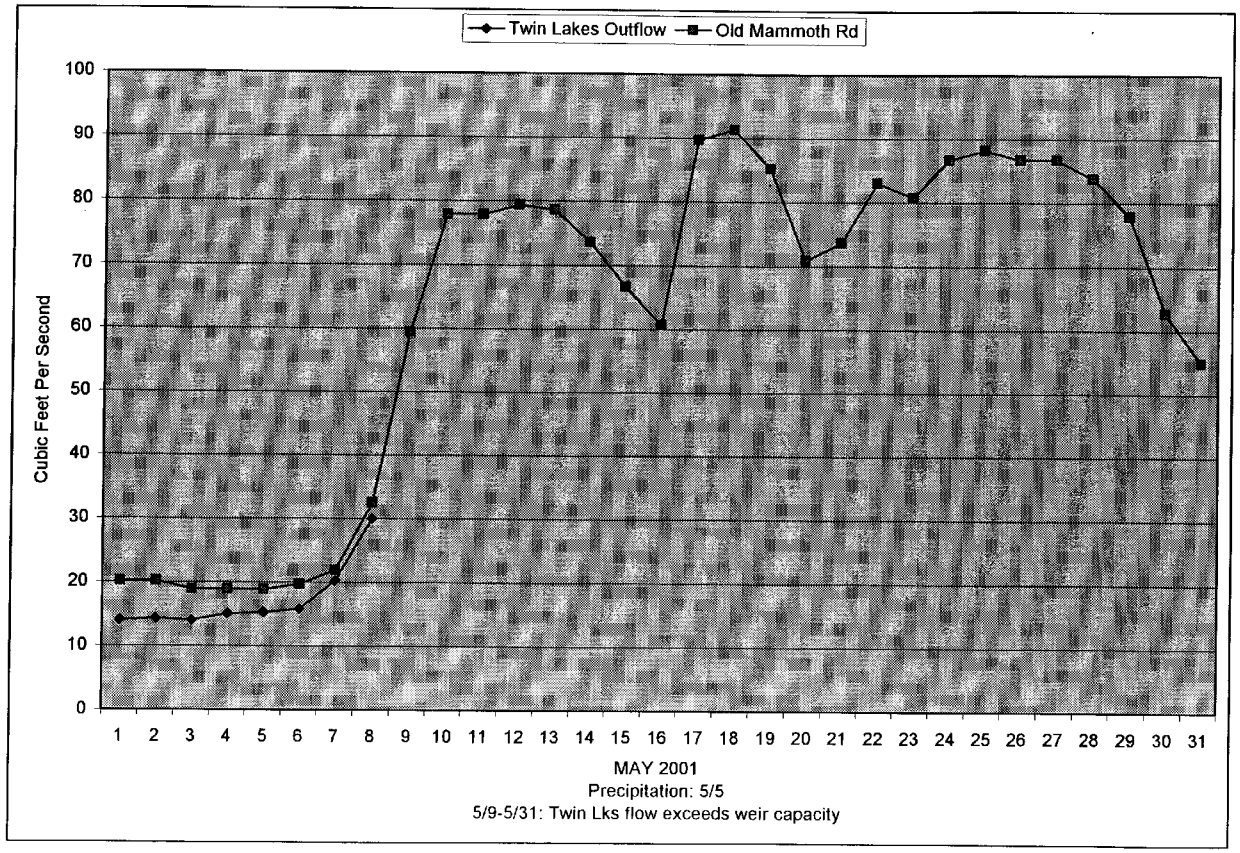

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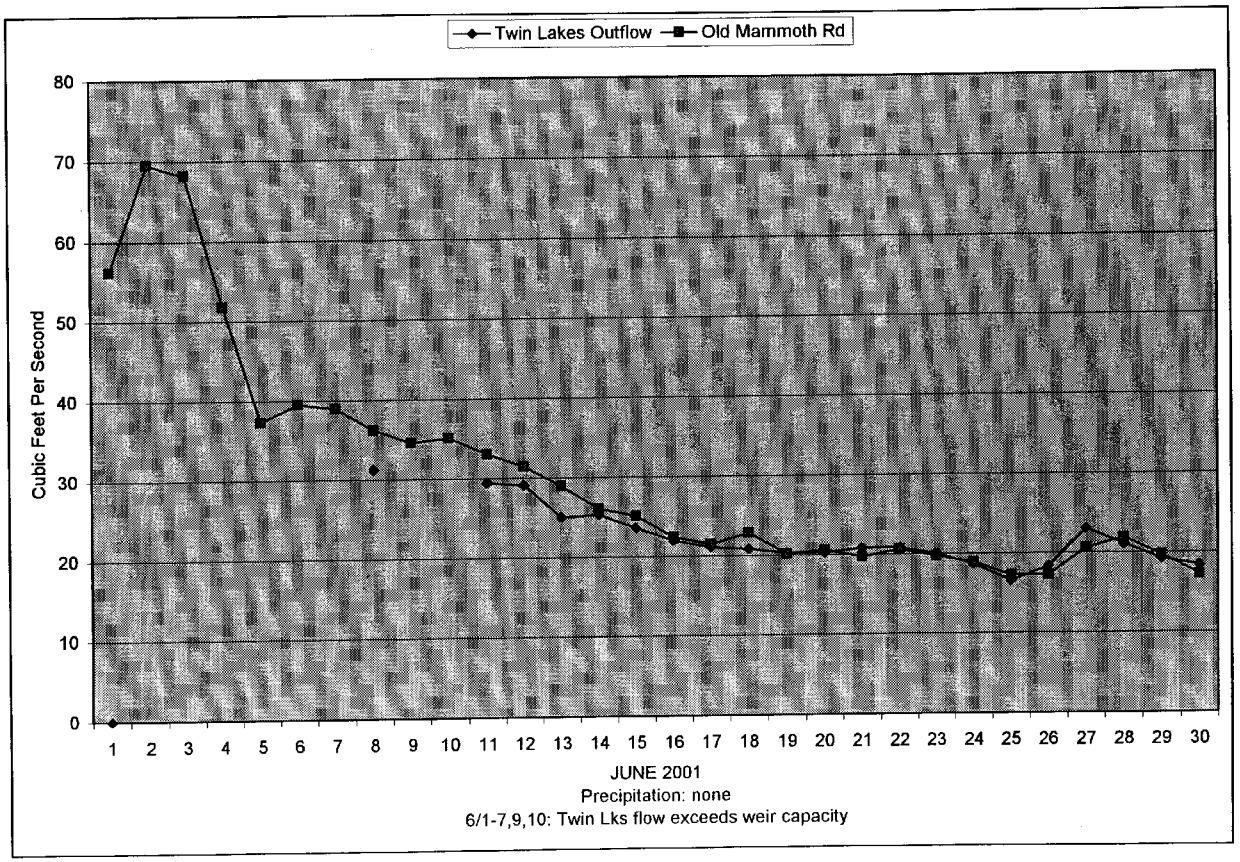

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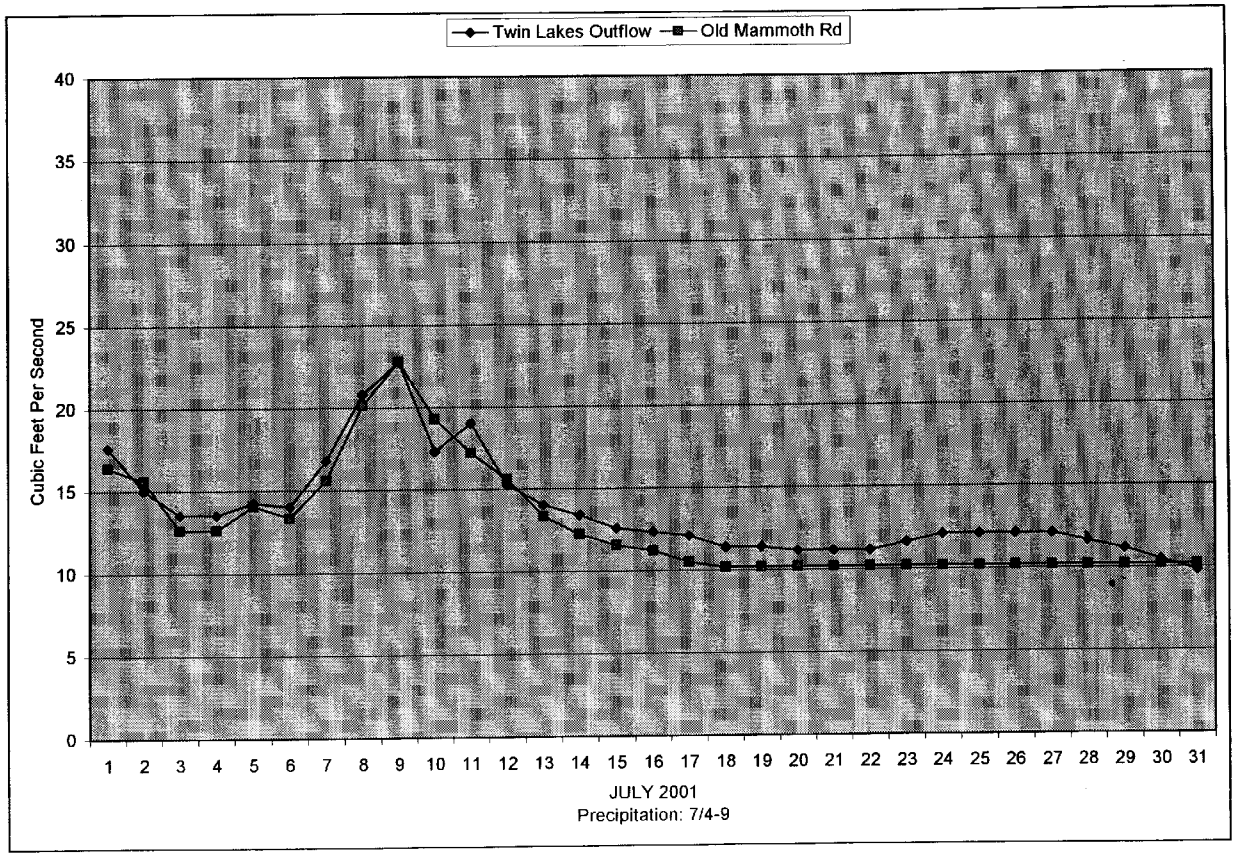

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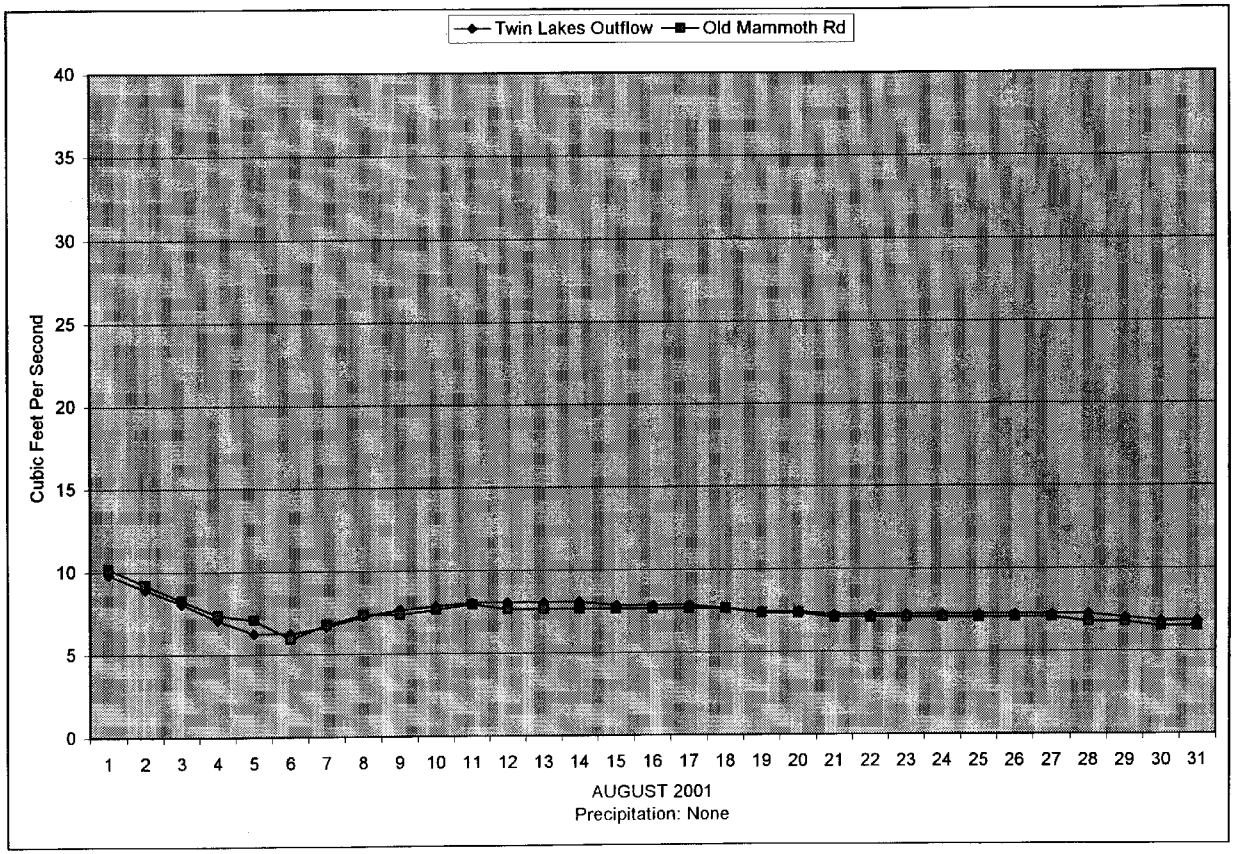

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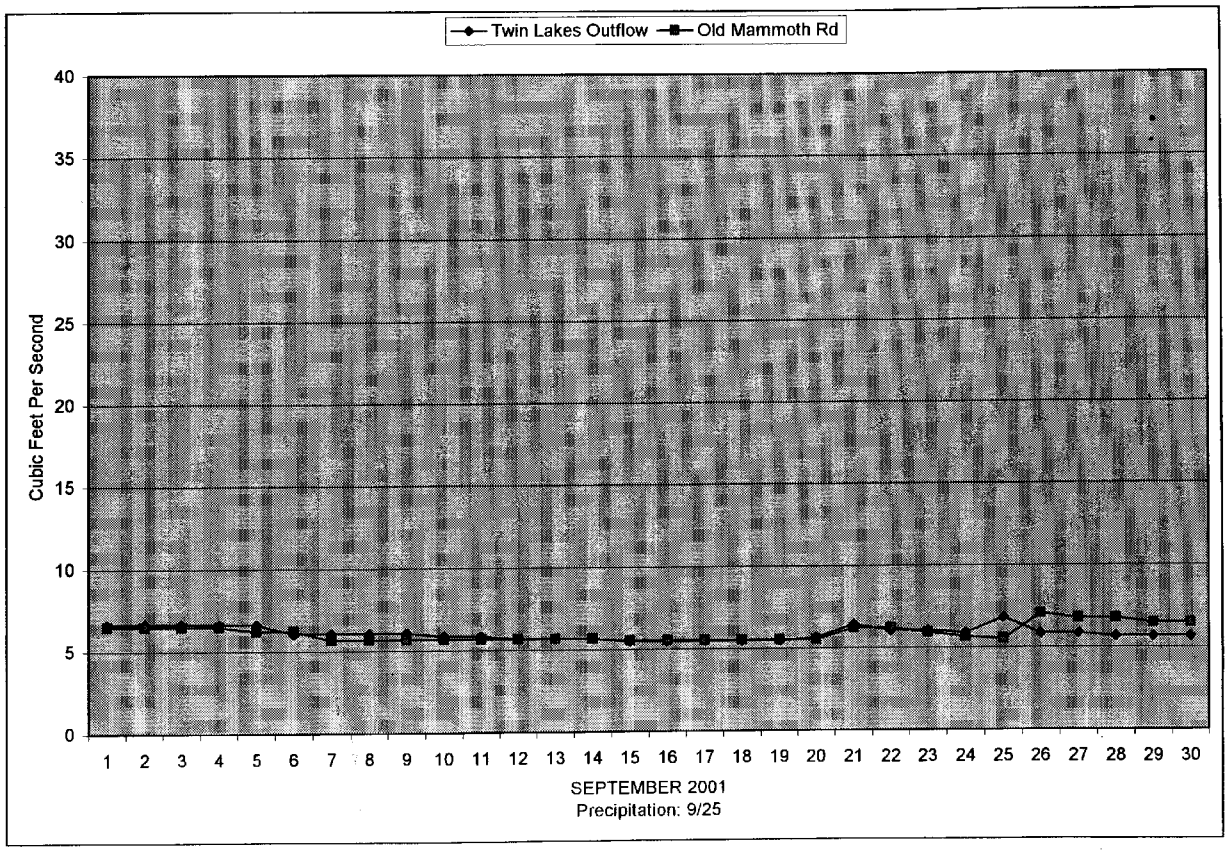

MAMMOTH CREEK STREAMFLOW COMPARISON