GROUND-WATER MONITORING AND PERFORMANCE REVIEW
FOR
HOMESTAKE'S GRANTS PROJECT

NRC LICENSE SUA-1471 AND DISCHARGE PLAN DP-200, 1999

FOR:

HOMESTAKE MINING COMPANY OF CALIFORNIA

BY:

HYDRO-ENGINEERING, LLC
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Timothy V. Holzer
TIMOTHY V. HOLZER
TECHNICIAN

George L. Hoffman
GEORGE L. HOFFMAN, P.E.
5831 N.M.
HYDROLOGIST

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GROUND-WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

FIGURES

1.0 EXECUTIVE SUMMARY AND INTRODUCTION

1.1 EXECUTIVE SUMMARY

Homestake Mining Company manages a groundwater restoration program as defined by Nuclear Regulatory Commission (NRC) License SUA-1471, and New Mexico Environmental Division (ED), DP-200 permit. The current operating program is a dynamic on-going strategy based on a restoration plan, which began in 1977, and is scheduled to be completed in 2010.

Homestake's long-term goal is to restore the ground-water aquifer to levels as close as possible with respect to the up-stream background levels. A ground-water collection area (see shaded area on Figure 2.1-1, Page 2.1-9) has been established between the northern most line of injection wells and the collection wells. Ground-water flow that enters this area from the tailings areas are within the collection area. All ground water in the alluvial aquifer that is within the collection area is moving to the collection wells and will eventually be collected. Once restoration within the zone is complete and approved by the agencies, the site is to be transferred to the Department of Energy who has the responsibility for long term care and maintenance.

The data reported within this document represents the results of the monitoring program for 1999. This is a yearly reporting requirement. A similar report has been submitted to the agencies for each year since 1983 (see list in Section 1.2).

The restoration program is designed to remove the contaminants from the ground water by flushing the alluvial aquifer with the fresh water from the fresh water deep wells or water produced from the reverse osmosis (R.O.) plant. A line of upstream collection wells is used to collect the contaminated water, which is pumped to the R.O. plant or the evaporation ponds.

Historically, the contaminants are found in two different aquifer systems. The primary aquifer is the alluvial system, which averages approximately 100 foot in depth, and extends generally north to south encompassing both the Lobo Creek and San Mateo alluvial aquifers. In addition, the second aquifer system is in the Chinle formation. It is comprised of three separate aquifers, the Upper, Middle and Lower Chinle aquifers. The Upper and Middle Chinle sub-crop to the alluvial system near the project site. Low-level concentrations have been observed in the Upper and Middle Chinle aquifers north of the subcrops.

The restoration program, as described above, is made up of injection and collection well systems. R.O. product water or fresh water pumped from deep wells is injected in two separate lines across the site, one line is located at the site boundary, the second is located approximately 1000 feet up-stream from the first. The injection lines form a water barrier that contains the contaminants to the collection area. The contaminated ground water is pumped and collected from a series of wells from within the collection area. The collected aquifer water is pumped to the R.O. plant or to two large lined evaporation ponds for solar evaporation.

In the years from 1977 to the present, the combination of injection wells and the up-stream collection system has gradually moved the contaminated ground-water plume up-stream leaving the restored portions of the aquifer at or below background levels.

An average of 655 gpm was pumped into the alluvial fresh-water injection systems in 1999. An additional 91 gpm of fresh water was injected into the Upper and Middle Chinle aquifer systems. An average rate of 52 gpm R.O. product water is included in the average fresh-water injection rate for the alluvial aquifer. Significant production of R.O. product started in July of 1999 with a typical average weekly rate of 110 gpm, which was increased in December to near 200 gpm.

In 1999, an average collection rate was maintained at 209 gpm for the alluvial aquifer. An additional 83 gpm was pumped from the aquifer and re-injected within the collection area. The Upper Chinle collection averaged 19 gpm in 1999, which consisted of pumping wells CE2 and CW4R from July through December at a total rate between 20 and 50 gpm. The upgradient collection averaged 104 gpm in 1999, while an average of 17 gpm was pumped from the toe drains.

The continuing evaluation of the performance of the Grants restoration system, including the 1999 results, show that sulfate, uranium, selenium and molybdenum are still the key parameters at this site. During the restoration of the key parameters, the restoration of other parameters with low levels of concentrations is also completed at the same time. The monitoring program has shown that any low levels of nitrate, radium-226, radium-228, vanadium and thorium-230 are also restored when the key parameters are restored in the area.

Sulfate concentrations exceed the background only near the large and small tailings in the Grants Project area.

Uranium concentrations exceed the significant level of 0.43 mg/l, within the collection area, near the tailings. There are also five wells in Felice Acres and one well in Murray Acres that contain concentrations of uranium exceeding the background levels. Irrigation is being used to further reduce the low levels of uranium that exceed background levels in a small area southwest of Felice Acres in Section 3.

Selenium concentrations also exceed the background levels in the collection area near the large tailing pile and in portions of Section 3 as mentioned above. None of the subdivision wells contained selenium concentrations above background.

Molybdenum concentrations exist in only one subdivision well in central Felice Acres above 0.1 mg/l. All remaining elevated molybdenum concentrations are near the large and small tailings. Migration of this constituent has been limited due to natural retardation by the alluvial aquifer.

All radium concentrations in the alluvial aquifer were less than the NRC site standard except for one outlier. This shows that this parameter should be removed as a site standard for this site.

Vanadium concentrations only exceed the site standard in one well close to the tailings pile. Additional monitoring of this constituent will continue. This parameter is expected to continue to decline to below background levels and should be removed as a site standard in the near future.

The average thorium concentration in each of the POC wells in 1999 was below the site standard. The site records for thorium indicate that thorium is a minor parameter at this site and that it should be removed as a site standard.

Observed background concentrations at this site were similar to those in previous years with significant selenium concentrations of 0.63 mg/l and uranium concentrations of 0.24 mg/l. Background sulfate concentrations also range over similar amounts as in previous years up to 1540 mg/l. No significant molybdenum concentrations were observed in the background concentrations in 1999.

Nitrate background concentrations varied up to 15.2 mg/l in 1999 showing that natural levels exist upgradient from this site above the State site standard. An area between the large and small tailings contains higher nitrate concentrations than the background levels and this small area needs additional restoration. Nitrate concentrations are not important beyond the Homestake Grants Project area and, therefore, this constituent will be easily remediated with the restoration of the remaining parameters.

Fresh-water injection into Upper Chinle well CW13, east of the East Fault, continued in 1999. This injection has resulted in the water-level elevation in the Upper Chinle aquifer, east of the East Fault to be higher than the water-level elevation in the alluvial aquifer, which, therefore, prevents recharge from the alluvial aquifer into the Upper Chinle aquifer.

Fresh-water injection continued in 1999 in Upper Chinle well CW5 just north of Broadview Acres. This injection has resulted in reversal of the Upper Chinle water flowing back to the north toward the tailings piles from this area. Collection from Upper Chinle well CE2 was initiated in 1999 and will be used in conjunction with the CW5 injection to restore this area.

All sulfate concentrations in the Upper Chinle aquifer are below background concentrations and, therefore, no restoration of this constituent is needed in the Upper Chinle aquifer.

Four Upper Chinle uranium concentrations exceeded the background concentrations in 1999. Restoration of these elevated values should result from the CE2 collection and the CW5 injection.

The selenium concentrations in the Upper Chinle aquifer do not exceed the range in background concentrations. Two selenium values in 1999 exceed the NRC and State standards for selenium in the Upper Chinle aquifer near the tailings. The site standard for selenium is considered by HMC to be too low since the background values continue to be higher.

The concentrations for molybdenum exceeded the site standard in six wells in the Upper Chinle aquifer during 1999. Restoration for these locations should occur from the CE2 collection and CW5 injection.

The nitrate standard for this site is significantly greater than any of the concentrations observed in 1999 in the Upper Chinle aquifer showing that this parameter is not significant in this aquifer.

None of the radium, vanadium or thorium-230 concentrations exceed the NRC site standards for these parameters in the Upper Chinle aquifer wells in 1999 showing that these parameters are not important in this aquifer as expected due to their very limited concentrations in the alluvial aquifer.

The ground-water flow in the Middle Chinle aquifer in 1999 is very similar to that observed previously. Fresh-water injection started in December of 1997 into well CW14. The fresh water is building up a mound of ground water in this area, which will result in reversing the flow of Middle Chinle water back toward the alluvial subcrop. Well CW44 is being used for irrigation supply, which will increase the flow from Broadview Acres in the Middle Chinle aquifer to the south.

Water quality in the Middle Chinle aquifer is generally good with all concentrations meeting the background sulfate concentrations. Uranium and selenium concentrations in the western portion of Felice Acres are only slightly above significant levels due to the alluvial recharge to the Middle Chinle aquifer just south of Felice Acres. Irrigation of this water is being used to reduce these slightly elevated concentrations in western Felice Acres. In the Middle Chinle formation both uranium and selenium are naturally occurring elements so it is difficult to evaluate the total impact on the aquifer.

Molybdenum, nitrate, radium, vanadium and thorium-230 concentrations in the Middle Chinle aquifer all meet the site standards for these constituents and show that only uranium and selenium are the important parameters relative to this aquifer system.

1.2 INTRODUCTION

This report, as required by the New Mexico Environmental Division (ED) discharge plan DP-200 and the Nuclear Regulatory Commission (NRC) License SUA-1471, presents results of the 1999 annual ground-water monitoring program at Homestake's Grants Project. Homestake Mining Company (HMC) conducted uranium milling operations five miles northeast of Milan, New Mexico from 1958 to 1990 (see Figure 1.2-1). Referred to as the Grants Project, HMC deposited uranium tailings from the alkaline (high pH) Grants mills into two unlined piles (large and small tailings) that overlie San Mateo alluvium. The San Mateo alluvium is simply referred to as the alluvium or alluvial aquifer in this report. In 1977, due to concerns about ground-water selenium levels, HMC installed a system of wells and pumps in order to inject fresh water into the alluvium at the property boundary and to withdraw contaminated water from the alluvium near the tailings.

Previous monitoring reports have been published in quarterly, semi-annual and annual reports[1], which were presented to the ED and the NRC.

Four subdivisions, Broadview, Murray and Felice Acres and Pleasant Valley Estates, are adjacent to the HMC site. These subdivisions are shown on the various figures of the Grants Project area.

Monitoring data for the ground water west of the project site was included in the 1995 through 1999 reports. This area has been designated the "West Area" and it is so labeled on the figures of this report.

The following information outlines the format of this report. The table of contents next to the cover page contains only the major section numbers and titles. A complete table of contents is presented behind the tabs of all of the individual sections which also includes the list of figures and tables for the section. Figures and tables are numbered by sub-sections and, therefore, located after the text of each sub-section with figures being presented before tables. The "West Area" figures have been printed on the back of the page to enable the west and project areas to be viewed simultaneously.

[1] See Hydro-Engineering 1983b, 1983c, 1984a, 1984b, 1984c, 1985a, 1985b, 1985c, 1985d, 1986a, 1986b, 1986c, 1987a, 1987b, 1988a, 1988b, 1990, 1991, 1992, 1993a, 1994, 1995, 1996, 1997, 1998 and 1999.

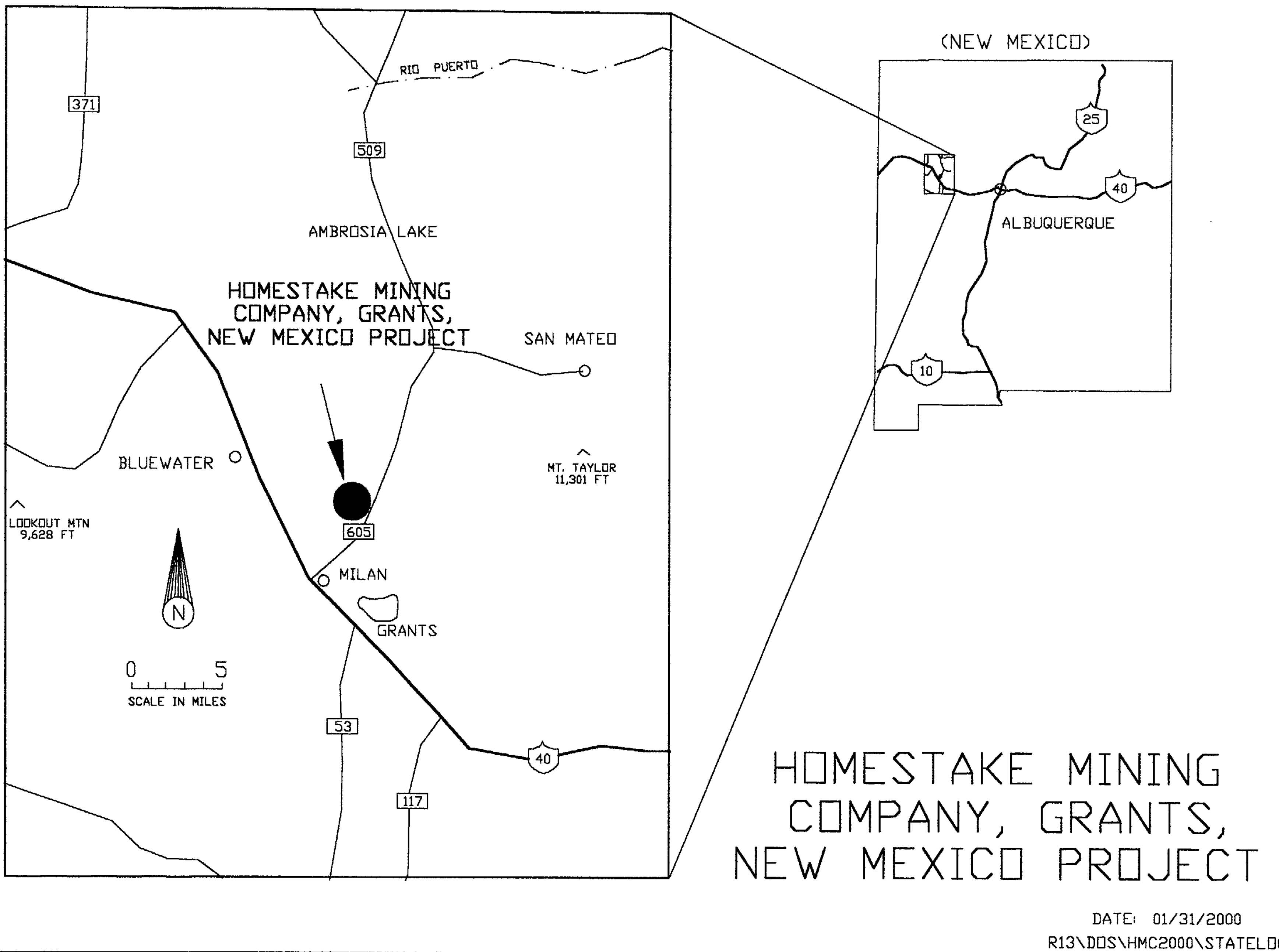

FIGURE 1.2-1. LOCATION OF THE GRANTS PROJECT

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2.0 OPERATIONS

2.1 CURRENT OPERATIONS SUMMARY

The Grants Project ground-water remediation system consists of collection of contaminated ground water near the tailings and injection of fresh water and R.O. product water downgradient. These collection and injection systems continued to operate in 1999 with the addition of a reverse osmosis (R.O.) plant to treat the majority of collection. The R.O. produces an R.O. product that is much better quality than the natural alluvial water and it is used for injection in place of some of the fresh water to aid the restoration program. Figure 2.1-1 on page 2.1-9 shows the location of the present (end of 1999) injection and collection systems along with their starting dates of operation. This figure shows the location of the R.O. plant. The pink areas on Figure 2.1-1 show where the tailings piles have been re-contoured to drain and have interim cover or final reclamation barrier. The red "X" symbols show the location of alluvial collection wells. The green dots depict locations of dewatering wells in the large tailings. The green line around the large tailings indicates the location of the toe drain, which intercepts seepage from the tailings and prevents it from moving into the uppermost part of the alluvial aquifer. The open blue and cyan circles on Figure 2.1-1 show the locations where fresh water or R.O. product is presently being injected, and the solid blue circles show where re-injection is occurring. Collection wells used for re-injection are shown in magenta. The cyan circles are fresh-water injection into the Upper (CW5 and CW13) or Middle (CW14) Chinle aquifers. The eight points of compliance (POC) are also shown on this figure as black boxes. Water collected from the site is discharged into lined collection ponds or one of two lined evaporation ponds (light blue areas).

The area where the ground-water flow is controlled by the fresh-water injection and collection system is called the "Collection Area" and is shown by the yellow cross-hatched pattern on Figure 2.1-1. All of the alluvial ground water within the collection area converges to the collection wells.

2.1.1 R.O. PLANT

The R.O. plant consists of a pre-treatment unit, which has a discharge to the evaporation ponds and feeds the 300 gpm low-pressure R.O. unit. The R.O. product from the low-pressure unit is discharged to the injection wells, while the brine from the low-pressure unit feeds a 75 gpm high-pressure R.O. unit. The R.O. product from the high-pressure unit also goes to the injection wells, while the brine from the high-pressure R.O. unit is discharged to the evaporation ponds. In the initial operation of the R.O. unit, some of the C1 through C4 wells and Upper Chinle well CW4R have been used as feed to the R.O. plant. The R.O. product injection piping has the capability of being discharged to the J and WR injection wells. Through the end of 1999 R.O. product water was discharged into the J line at well J3 and east. This does not include injection well J12. The eastern end of the J line extends through wells X1 through X4.

Some R.O. product water has also been injected into wells KM and SE for tests of restoration of R.O. product water in the K and S areas. The initial results show that the R.O. product water is much more efficient at reducing the uranium and molybdenum concentrations than the fresh water. The restoration of these two parameters has been very slow after concentrations are reduced to below a few mg/l with the fresh water. The R.O. product water reduces these two constituents to lower levels much faster.

2.1.2 COLLECTION

Collection from the alluvial aquifer continued in 1999 with some increase due to the initial use and testing of the R.O. product. Upgradient collection continues north of County Road 53, collecting background alluvial aquifer water for transfer to the drainage system further west (triangle symbols on Figure 2.1-1). This collection reduces the amount of alluvial water flow into the tailings area. Upper Chinle collection was re-initiated in well CW4R as preliminary feed to the R.O. plant and the use of new Upper Chinle well CE2.

2.1.2.1 ALLUVIAL

The red X's on Figure 2.1-1 show the location of five lines of collection wells. The S and D-lines are adjacent to the large tailings, and the K and C-lines are adjacent to the small tailings. The L-line is south of the small tailings. Alluvial water is pumped from these lines of collection wells to the R.O. plant or directly to the lined ponds, or it is pumped to the re-injection wells. Figure 2.1-2 on page 2.1-10 presents collection rates for the last five years at the Grants Project. The alluvial collection system rates are shown on this figure as red squares, which was increased in 1999 due to the addition of the R.O. plant. Alluvial collection averaged 209 gpm in 1999. The collection rate should still increase in 2000, due to full operation of the R.O. plant. An additional average rate of 83 gpm was also pumped from the alluvium for re-injection in 1999 (magenta stars).

2.1.2.2 UPGRADIENT

Collection of alluvial water upgradient of the tailings piles started in January, 1993 and continued through 1999. Water was pumped from well P1 only early in January 1999 and wells P2, P3 and P4 for the majority of the year (triangle symbols on Figure 2.1-1). This upgradient water is transferred to the next drainage channel to the west. This transfer is intended to prevent this alluvial water from entering the Grants Project area at the north side of the large tailings. The upgradient collection rate for this effort averaged 104 gpm during 1999 (see green triangles on Figure 2.1-2).

2.1.2.3 UPPER CHINLE

Figure 2.1-2 also shows the collection rate for Upper Chinle collection well CW4R (see Figure 5.1-1B for location), which is on the west side of the small tailings. Collection from this well stopped in May, 1996 due to low levels of concentrations in this aquifer but was used in 1999 during the initial operation of the R.O. plant. Upper Chinle collection was started in new well CE2 in 1999 and is expected to continue for several years. The yearly average collection rate from the Upper Chinle was 19 gpm, which was mainly produced from July through December of 1999.

2.1.2.4 QUANTITY OF CONSTITUENTS COLLECTED FROM THE ALLUVIAL AQUIFER

Table 2.1-1 (page 2.1-14) presents the quantities of chemical constituents collected from the ground-water system, the tailings and the toe drains. The ground-water collection system has produced an average pumping rate of 246 gpm between 1978 and 1999. The collection rate that has been re-injected into the alluvial aquifer is not included in values for Table 2.1-1. The quantity of constituents removed in 1999 was computed by multiplying the average concentration of a particular constituent for each collection well by the volume of water pumped from each well for that year. The average concentration was computed by dividing the total gallons of water pumped from the collection system in the year into the total number of pounds and converting to mg/l.

2.1.3 INJECTION

The fresh-water and R.O. injection system, which aids in the reversal of the piezometric surface back toward the collection wells, consists of a line of injection wells on the north side of Broadview Acres and a line of injection wells which is oriented generally west-northwest from the south side of the small tailings to the north side of Murray Acres and the east side of Pleasant Valley Estates (Figure 2.1-1). A third fresh-water injection line consists of four wells called the X-line. The X-line also includes re-injection wells (solid blue dots on Figure 2.1-1) north of the fourth fresh-water injection well. The R.O. product water was injected into the eastern portion of the J-line fresh-water injection system during 1999. The R.O. product water has been injected in the J-line wells starting at well J3 and continuing to the east through well X4. R.O. product water was also injected into wells KM and SE in late 1999 to test R.O. product restoration in these two areas. Fresh-water injection into alluvial wells in Sections 28 and 29 was initiated in 1999.

2.1.3.1 BROADVIEW ACRES

The Broadview Acres injection system started in 1977 with the G line on the north side of this subdivision. The J-line and wells X1 through X4 are also considered part of the Broadview Acres injection system. Well KM was added to the Broadview injection system in 1999 to test the effectiveness of the R.O. product water in restoration. Figure 2.1-3 (page 2.1-11) presents injection rates for the last five years for the Broadview Acres injection system, which averaged 268 gpm during 1999. This figure also shows the rates of R.O. product water injection (see brown diamonds) that are included in the total Broadview Acres rates.

2.1.3.2 MURRAY ACRES

The M line injection system was initially used in 1983. All wells adjacent to the northeast corner and to the west of Murray Acres are included in the Murray Acres injection system. This system includes all of the M and WR injection wells. The Murray Acres injection system averaged 388 gpm in 1999.

2.1.3.3 UPPER CHINLE

From 1984 through early 1995 the Upper Chinle injection system consisted of injecting fresh water into Upper Chinle well CW5 located on the north side of Broadview Acres. This effort restored most of the area in the Upper Chinle aquifer between the two faults. Injection into well CW5 was resumed in April of 1997 to further restore this aquifer.

Restoration of the Upper Chinle east of the East Fault started in 1996 by developing a head in the Upper Chinle aquifer that was greater than the alluvial head. Injection of fresh water into well CW13, an Upper Chinle well, started in June, 1996 and has prevented alluvial water from entering the Upper Chinle east of the East Fault. Figure 2.1-3 presents the weekly average injection rates for 1999 into Upper Chinle wells CW5 and CW13, which averaged 59 gpm in 1999. A green diamond on Figure 2.1-3 shows the injection rate for both wells CW5 and CW13.

2.1.3.4 MIDDLE CHINLE

Injection of fresh water into Middle Chinle well CW14 was started in December of 1997. This injection was started to prevent the alluvial water that recharges the Middle Chinle on the south side of Felice Acres from moving north of Broadview Acres. The injection rate averaged 32 gpm in 1999.

2.1.3.5 SECTIONS 28 AND 29

Fresh-water injection was initiated in 1999 by pumping San Andres well 951, which is located in Section 20, (see Figure 8.0-1A for location of supply well 951) and injection was plumbed to alluvial wells 682, 656, 894, 633 and 655. This fresh-water injection in Sections 28 and 29 was established to block the low concentrations in Section 28 until irrigation can be used to reduce these low concentrations. Figure 2.1-3 shows the injection rate that was discharged into the Sections 28 and 29 wells. No water is thought to have extended down to wells 633 and 655 during 1999 due to the large injectivity available in the three western wells. The yearly average injection rate into Sections 28 and 29 was 100 gpm in 1999 but was generally near 280 gpm after starting in late August.

2.1.4 RE-INJECTION

Alluvial water containing low concentrations of contaminants is being collected and is then re-injected into higher concentration alluvial areas in the collection area in order to effect initial restoration of those areas. This lower concentration water will be as effective (see sulfate, uranium, selenium and molybdenum concentrations in plots for wells T and TA) as fresh water during the initial stages of restoration and, therefore, this is a beneficial use of this slightly contaminated ground water. Water collected from the K and L-lines and selected S wells was re-injected into alluvial wells X5 through X27, 1A, D2, D3, D4, DAA, DAB, DL, DW and DY. Three S collection wells were also used for collection for re-injection. The re-injection rate averaged 88 gpm for 1999.

2.1.5 TAILINGS CONDITIONS

Tailings wells have been installed from 1994 through 1998. Data collected from these wells has been used to determine the amount of water in the re-contoured, stabilized tailings that is drainable. The tailings wells have also been useful in the evaluation of the tailings dewatering program. No dewatering of the tailings occurred in 1998 and 1999 due to limited capacity in the evaporation ponds except for a small rate in late 1999 for some testing. The complete dewatering program is planned to be started in 2000.

Figure 2.1-4 presents the locations of tailings wells scheduled for pumping in 2000. The cumulative volume of tailings water pumped from 1995 through 1999 is presented on Figure 2.1-5. A total volume of greater than 36 million gallons of water had been removed from the tailings by the end of 1997. The cumulative volume was not significantly increased in 1999 due to the evaporation ponds being full. A total of 122,000 gallons was pumped from the tailings in 1999. The yearly average collection rate, including down periods, from the tailings is expected to be greater than 60 gpm in 2000.

Tables B.1-1 and B.1-2 of Appendix B present chemical analyses of tailings well water for 1999.

2.1.6 TOE DRAIN CONDITIONS

A series of toe drains has been installed around the large tailings pile to intercept perched ground water seeping from the tailings into the alluvium. The locations of the toe drains and their associated sumps are also shown on Figure 2.1-4. Ten sumps are located around the perimeter of the large tailings pile with two of these sumps tied to the old tailings decant towers (reclaim sumps). Eight of these sumps are connected to the toe drain systems, which are situated around the perimeter of the tailings. Figure 2.1-5 also shows that greater than 110 million gallons of water has been pumped from the toe drains. Approximately 17 gpm of water was collected in 1999 from the toe drains, which is a 3 gpm decline from the 1998 value.

Table 2.1-1 also presents the 1999 quantity of constituents collected from the toe drains. Samples from the toe drains for 1999 are presented in Tables B.2-1 and B.2-2 of Appendix B.

2.1.7 LINED EVAPORATION PONDS

The use of lined evaporation collection ponds began in October, 1986 when the two small collection ponds were constructed. The large evaporation pond, No. 1, on the small tailings began receiving water in November, 1990. The usage of the second large evaporation pond began in March, 1996. The majority of the water from the collection system, and the water from the tailings dewatering wells and toe drains is pumped to the collection pond to allow mixing of these waters and precipitation of constituents. Some collection water is pumped directly to the No. 2 evaporation pond from wells located close to this lined pond. Excess water is transferred from the East Collection pond to the No. 2 evaporation pond. When necessary, water is transferred from the No. 2 evaporation pond to the No. 1 evaporation pond. Both ponds use spray systems to enhance evaporation.

A few water samples have been collected from the No. 1 and No. 2 large evaporation ponds, discharge to the evaporation ponds from the East Collection pond (E COLL POND), and the West Collection pond (W COLL POND) are presented in Tables B.3-1 and B.3-2 of Appendix B.

2.1.8 IRRIGATION

Two irrigation systems were constructed and tested in 1999. A 150-acre center pivot was installed in the southwest quarter of Section 33 and 120 acres of flood irrigation in the eastern half of Section 34 were developed. Figures 4.1-4A and 4.1-4B show the supply wells for these two irrigation areas. Wells 631, 632, 648, 649, 657, 658 and CW44 were used to test the irrigation area in 1999. These supply wells are piped together and are used on only one irrigation area at a time. Irrigation of these areas is expected to be used during the entire 2000 growing season.

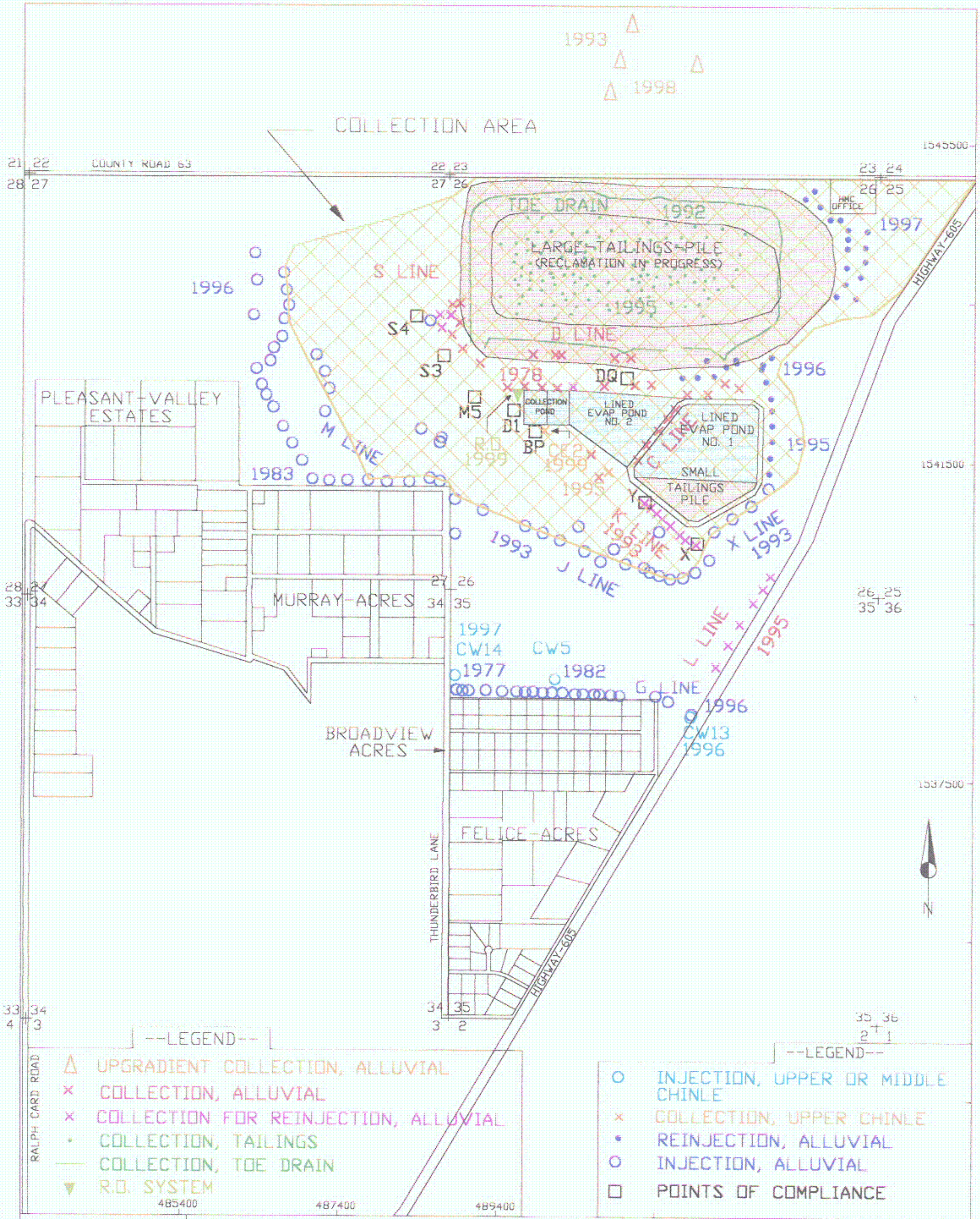

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FIGURE 2.1-1. LOCATIONS OF PRESENT INJECTION AND COLLECTION SYSTEMS WITH START OF OPERATION DATES

R13\DOS
HMC2000\2000FIGS

C1

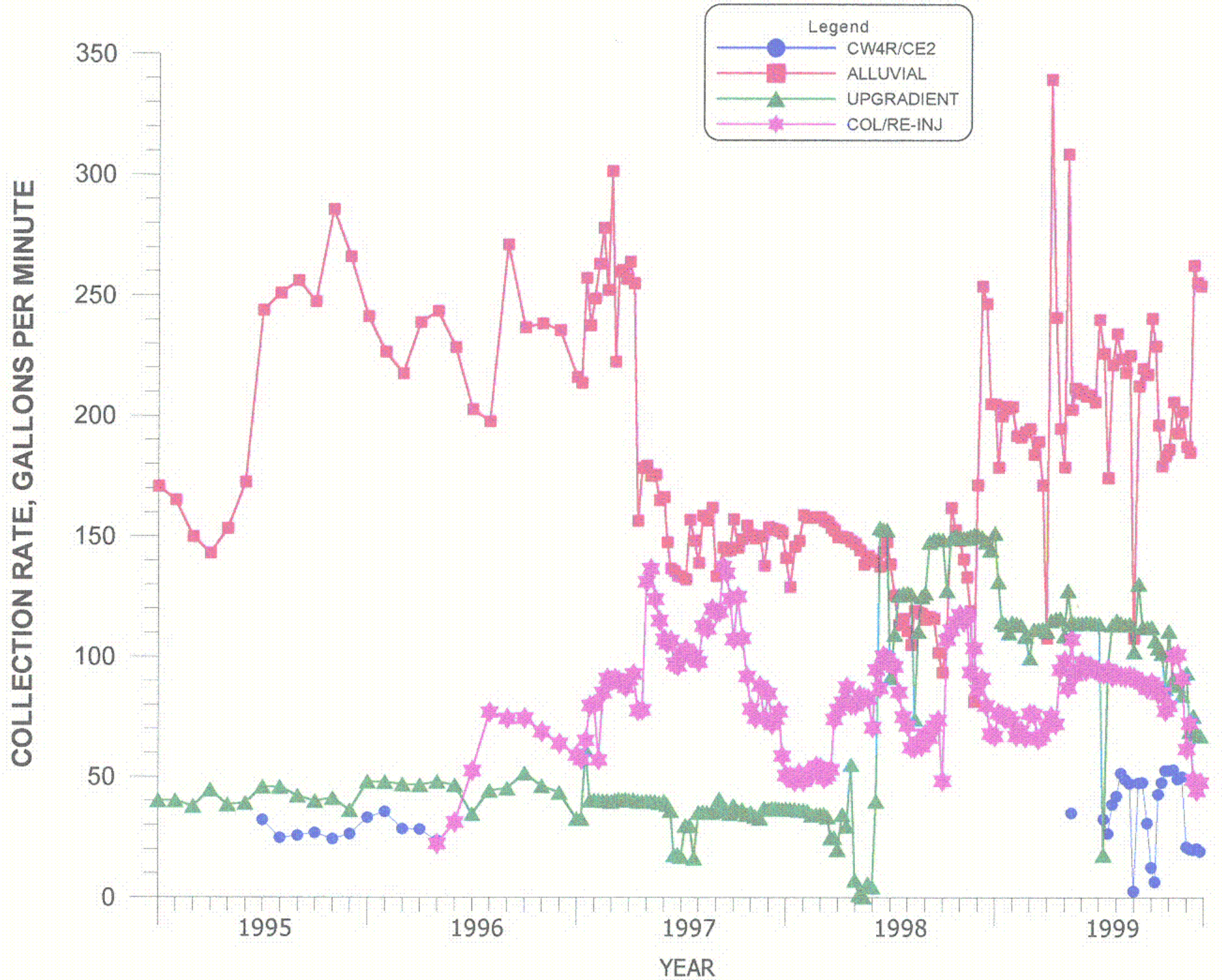

FIGURE 2.1-2. AVERAGE MONTHLY COLLECTION RATES FOR THE ALLUVIAL AND UPPER CHINLE AQUIFERS.

C2

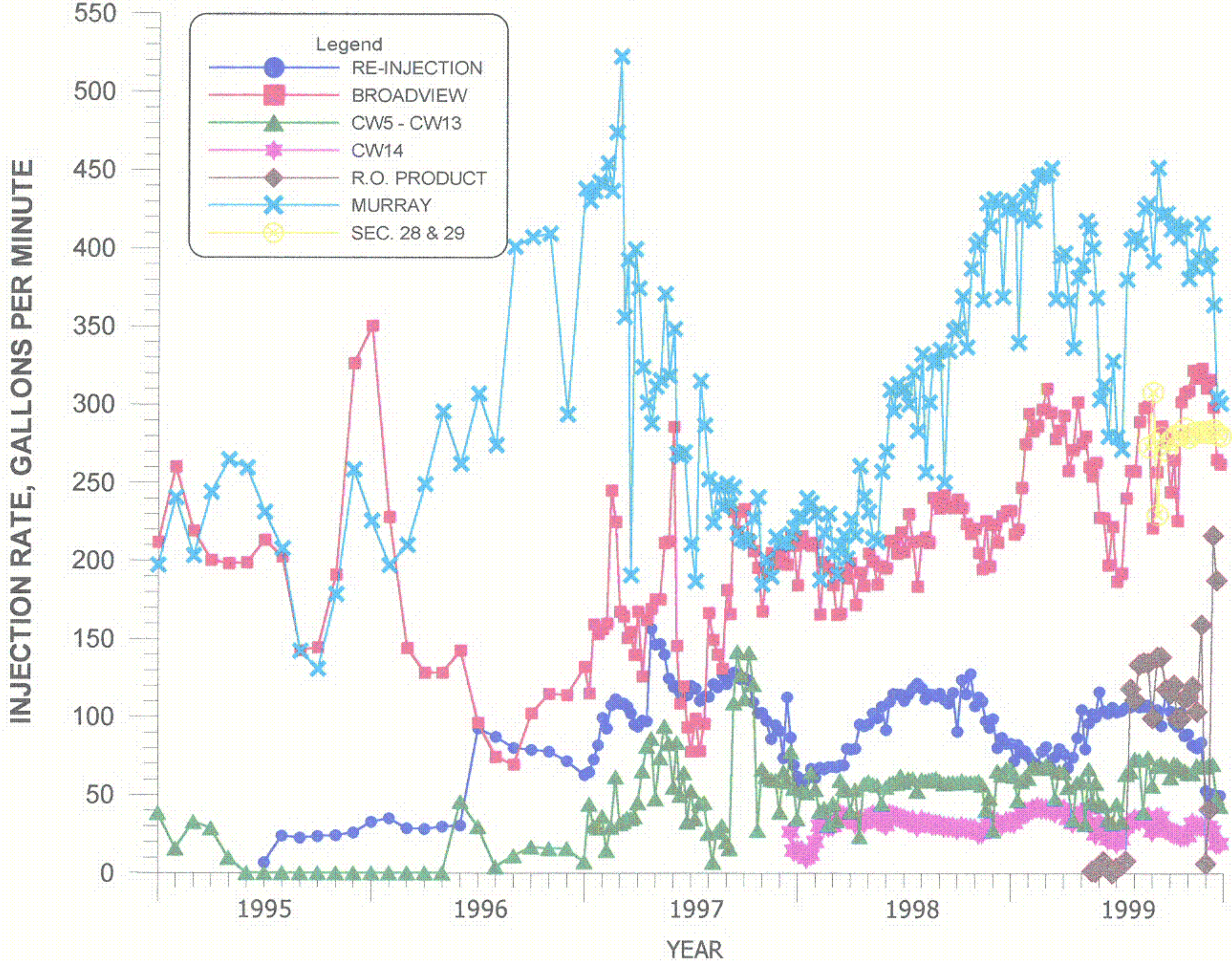

FIGURE 2.1-3. AVERAGE MONTHLY INJECTION RATES FOR THE ALLUVIAL AND UPPER CHINLE AQUIFERS.

C3

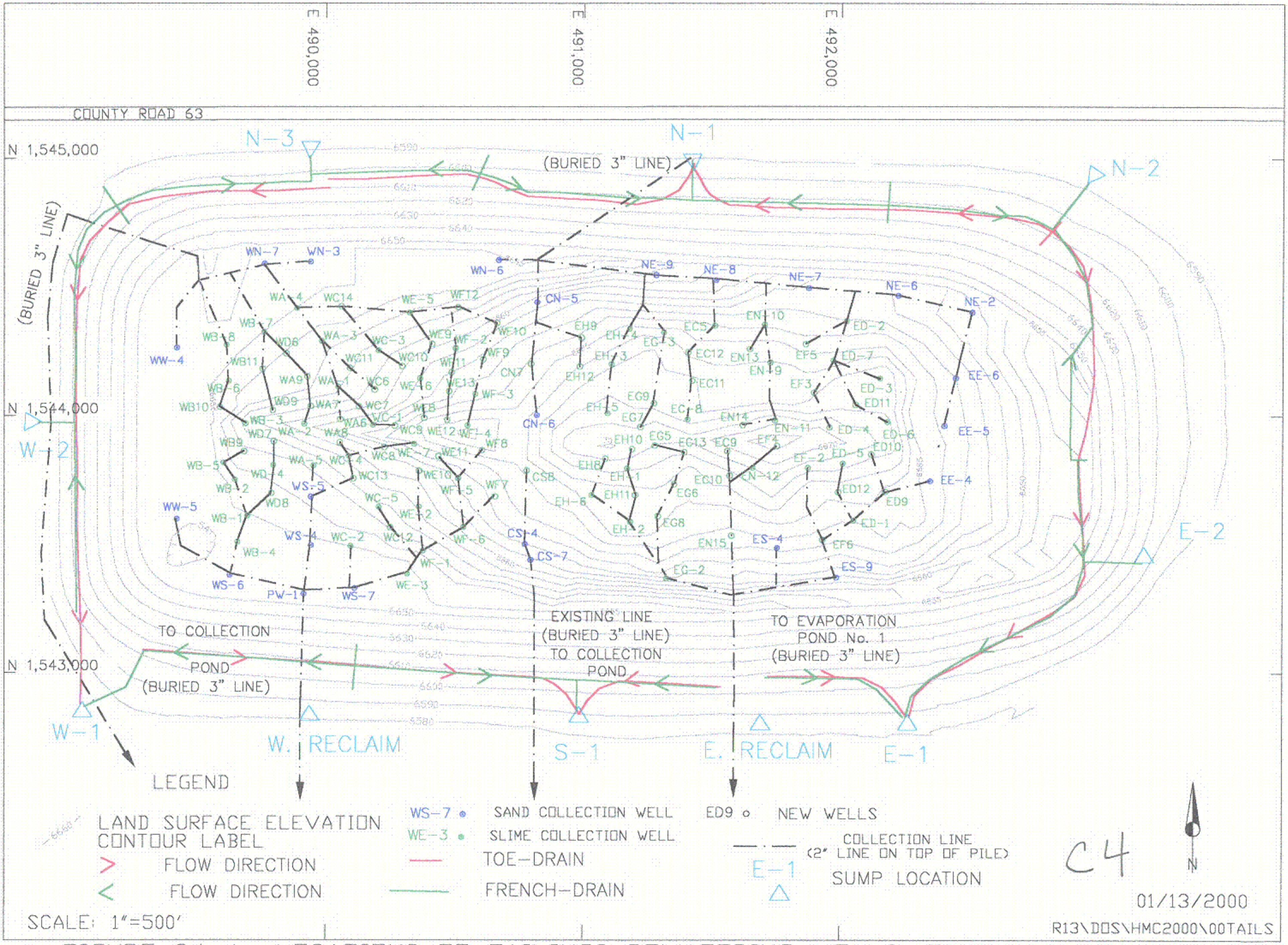

FIGURE 2.1-4 LOCATIONS OF TAILINGS DEWATERING WELLS, TOE DRAINS AND SUMPS

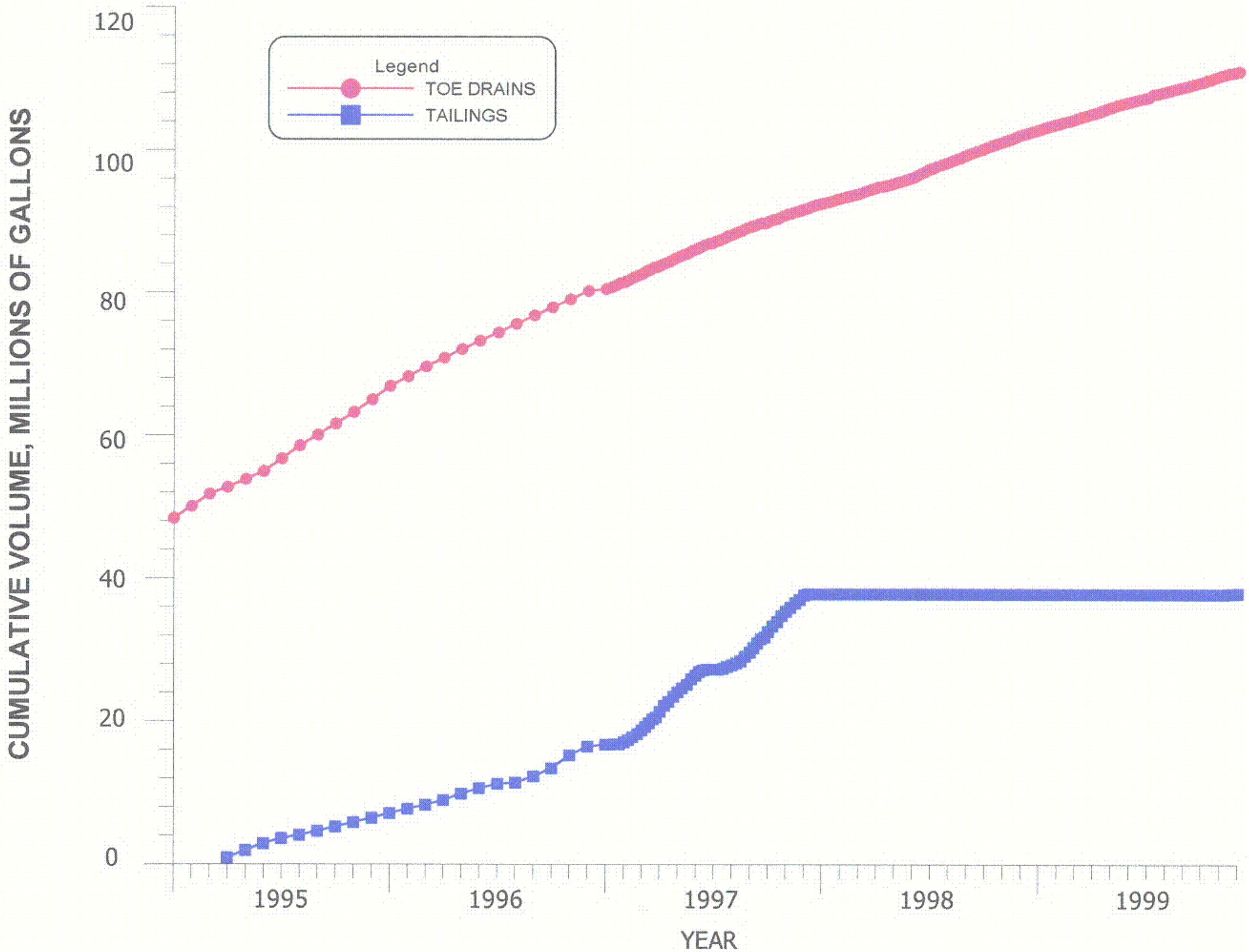

FIGURE 2.1-5. CUMULATIVE VOLUME OF COLLECTION FROM TAILINGS DEWATERING WELLS AND TOE DRAINS.

C5

TABLE 2.1-1. QUANTITIES OF CONSTITUENTS COLLECTED.

YEAR	SOURCE	TOTAL VOLUME PUMPED (GAL)	SULFATE (SO4) CONC. (MG/L)	SULFATE (SO4) AMT. (LB)	URANIUM (U) CONC. (MG/L)	URANIUM (U) AMT. (LB)	MOLYBDENUM (MO) CONC. (MG/L)	MOLYBDENUM (MO) AMT. (LB)	SELENIUM (SE) CONC. (MG/L)	SELENIUM (SE) AMT. (LB)
1978	G.W.	27670033	5200	1200620	35	8081	40	9236	2	462
1979	G.W.	46371629	5200	2012095	35	13543	40	15478	2	774
1980	G.W.	39385860	5200	1708978	35	11503	40	13146	2	657
1981	G.W.	91613183	5200	3975155	35	26756	40	30578	2	1529
1982	G.W.	159848025	5200	6935910	35	46684	40	53353	2	2668
1983	G.W.	167018540	5200	7247043	35	48778	40	55746	2	2787
1984	G.W.	203258522	5200	8819519	35	59362	40	67842	2	3392
1985	G.W.	194074421	5200	8421015	35	56680	40	64777	2	3239
1986	G.W.	199326030	5200	8648886	35	58214	40	66530	2	3326
1987	G.W.	180881740	5200	7848576	35	52827	40	60374	2	3019
1988	G.W.	166460826	5200	7222843	35	48615	40	55560	2	2778
1989	G.W.	175780800	5200	7627243	35	51337	40	58671	2	2934
1990	G.W.	164378919	5200	7132508	35	48007	40	54865	2	2743
1991	G.W.	171497720	5200	7441397	35	50086	40	57242	2	2862
1992	G.W.	128398849	4925	5276234	27.2	29134	35.9	38419	1.60	1718
1992	TOE	8544670	12117	864006	53.2	3793	106.5	7595	1.73	123
1993	G.W.	115795020	5011	4841203	28.1	27130	45.4	43885	1.47	1425
1993	TOE	18357680	12117	1856262	53.2	8150	106.5	16315	1.73	265
1994	G.W.	98294087	4423	3624762	26.0	21146	27.3	22349	1.42	1162
1994	TOE	18337680	12117	1854240	53.2	8141	106.5	16299	1.73	264
1995	G.W.	108306398	3256	2942827	16.1	14553	19.2	17355	1.65	1491
1995	TOE	17711370	11370	1680500	54.6	8069	94.4	13952	2.25	332
1995	TAILS	5905740	8191	403680	36.1	1778	89.7	4420	0.15	7
1996	G.W.	122064160	3899	3967919	20.9	21225	26.8	27259	1.92	1950
1996	TOE	15431810	11537	1484295	46.4	5970	105.0	13509	1.29	166
1996	TAILS	9181390	9434	722129	40.2	3077	108.0	8236	0.18	14
1997	G.W.	94465562	4955	3836678	26.9	20892	33.4	25887	3.17	2456
1997	TOE	12029390	11094	1113808	41.8	419	100.0	10040	0.81	81
1997	TAILS	21292900	10284	1827575	45.8	8139	92.4	16420	0.14	25
1998	G.W.	74459130	5088	3161866	29.6	18385	34.8	21625	1.85	1151
1998	TOE	10321780	9870	850257	42.5	3665	95.2	8203	0.73	63
1999	G.W.	117752408	3363	3305027	16.6	16314	14.8	14545	2.06	2024
1999	TOE	8809890	11560	849976	54.3	3993	106.0	7794	0.46	34
1999	TAILS	120550	9420	9478	40.9	41	111.5	112	0.19	0
SUM G.W.		2,847,101,862		117,198,304		749,252		874,722		46,548
SUM TOE		109,544,270		10,553,343		42,200		93,706		1,328
SUM TAILS		36,500,580		2,962,862		13,035		29,188		46
COMBINED SUM		2,993,146,712		130,714,509		804,487		997,616		47,922

NOTE: Average concentrations for 1978 to 1991 were used in calculating the quantities of constituents removed.
Concentrations from the collection wells have gradually decreased from 1978 through 1991.
G.W. = Ground water
TOE = Toe drains on edge of tailings
TAILS = Large tailings collection wells

2.2 FUTURE OPERATION

Restoration in 2000 is to continue as a combination of fresh-water and R.O. product injection and contaminated water collection to maintain the overall piezometric gradient reversal between the lines of injection (M Line and J Line) and collection near the tailings piles. The reverse osmosis (R.O.) plant should be fully operation in 2000. This plant processes 300 gpm of the alluvial collection water and result in a discharge to the lined evaporation pond of approximately 70 gpm and approximately 230 gpm used for R.O. product injection into the alluvium. The larger collection rate and use of the very good quality R.O. product for injection will continue to increase the progress in restoration, as it did in the K-line area in late 1999.

Water collected from the alluvial and Chinle aquifers, where there are relatively low levels of selenium and uranium, will continue to be used for collection for re-injection in the initial phase of restoration. This re-injection will occur in the alluvium where concentrations are greater than those of the injection water until such time as injection with fresh water or R.O. product water will better complete the restoration. The low concentration re-injection water will be limited to areas within the reversal zone upgradient of the J and M injection lines. For the purpose of this document, the reversal zone is called the collection area. To date, re-injection has occurred in wells X5 through X27, 1A, D2 through D4 and DAA, DAB, DL, DW and DY.

Collection from Upper Chinle well CE2 will continue to intercept concentrations in this aquifer but additional collection from well CW4R may not be required to restore the already relatively low concentrations in this area of the Upper Chinle aquifer. Injection into Upper Chinle wells CW5 and CW13 is planned to continue to control flow in these areas of the Upper Chinle aquifer. The injection into well CW14 will be continued to build the head in this area of the Middle Chinle aquifer to prevent alluvial water from flowing in this portion of the Middle Chinle aquifer.

Irrigation with water from Sections 3 and 33 and southern Felice Acres is planned for the entire growing season in 2000. A third irrigation area is planned for Section 28, which, used along with the Sections 28 and Section 29 fresh-water injection, should start restoration of these slightly elevated concentrations.

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3.0 SITE STANDARDS AND BACKGROUND CONCENTRATIONS

3.1 SITE STANDARDS

Six water-quality site standards (U, Se, Mo, Ra226 + Ra228, Th230 and V) have been set for the Homestake site by the United States Nuclear Regulatory Commission (NRC). These site standards are applicable at eight points of compliance. Points of compliance wells are BP, S3, S4, M5, D1, DQ, Y, and X (see Figure 2.1-1 for locations). Table 3.1-1 presents the six site standards (see Table 3.3-1 for comparison with background). The established site standards are presently exceeded by the average background values, therefore, naturally occurring concentrations will cause compliance issues at this site. The New Mexico standards for uranium, selenium, molybdenum, radium-226 plus radium-228, sulfate, chloride, TDS and nitrate for this site are also presented in Table 3.1-1.

TABLE 3.1-1. GRANTS PROJECT WATER QUALITY STANDARDS

CONSTITUENTS	HOMESTAKE STANDARDS	
	NRC	NEW MEXICO
URANIUM	0.04	5
SELENIUM	0.1	0.12
MOLYBDENUM	0.03	1.0@
VANADIUM	0.02	-----
RA-226 + RA-228	5	30
THORIUM-230	0.3	-----
SULFATE	-----	976
CHLORIDE	-----	250
TDS	-----	1770
NITRATE	-----	12.4

NOTE: All concentrations are in mg/l except: Ra-226 + Ra-228 and TH-230 are in pCi/l.
@ = Irrigation Standard

3.2 GROUND-WATER BACKGROUND WATER QUALITY

The hydrologic background conditions at the Grants site are those that exist upgradient or north of the large tailings pile, and these conditions have been monitored since 1976. Ground-water flow in the San Mateo alluvial system is generally from the northeast to the southwest (see Figure 3.2-1). Lobo Creek joins San Mateo Creek at the Homestake site, although neither creek has a well-defined channel at the site. Surface-water flow exists only after extreme precipitation and then generally only within some reaches of the channel.

Hydrographs for four of the upgradient wells (P, Q, R and DD) that have been used to define the background hydrologic conditions of the alluvial aquifer are presented in Section 4 of this report. Wells DD, P, P1, P2, P3, P4, Q, R and ND, all on the Homestake property, have been used for monitoring alluvial background water quality, and they are located just north of the large tailings.

Additional alluvial background wells located further north were sampled in 1999 (wells 920 and 921, see Figure 3.2-1 for locations). Information gathered from these wells has been used to further define the piezometric surface and water-quality conditions in the upgradient alluvial aquifer.

Figure 3.2-1 presents the latest 1999 water-quality data for the background wells[2] for four parameters, sulfate, uranium, selenium and chloride. All molybdenum concentrations in these upgradient wells are less than 0.03 mg/l. The sulfate concentrations for these wells upgradient of the large tailings vary from 440 to 1540 mg/l and averaged 1160 in 1999. Uranium concentrations also vary over a large range, from 0.03 to 0.24 mg/l with an average of 0.09 mg/l. Three natural uranium concentrations are four times the NRC site standard of 0.04 mg/l. Selenium concentrations vary over an even larger range, from 0.03 to 0.63 mg/l, with an average value of 0.27 mg/l.

[2] Wells DD, ND, P, P1, P2, P3, P4, Q, R, 920 and 921.

The largest 1999 background for selenium is six times the NRC site standard. Chloride concentrations in water sampled from the upgradient wells averaged 65 mg/l in 1999. The range was from a low of 48 mg/l to a high of 86 mg/l. Time versus concentration plots for upgradient wells DD, P, Q and R are presented in Section 4.3 of this report.

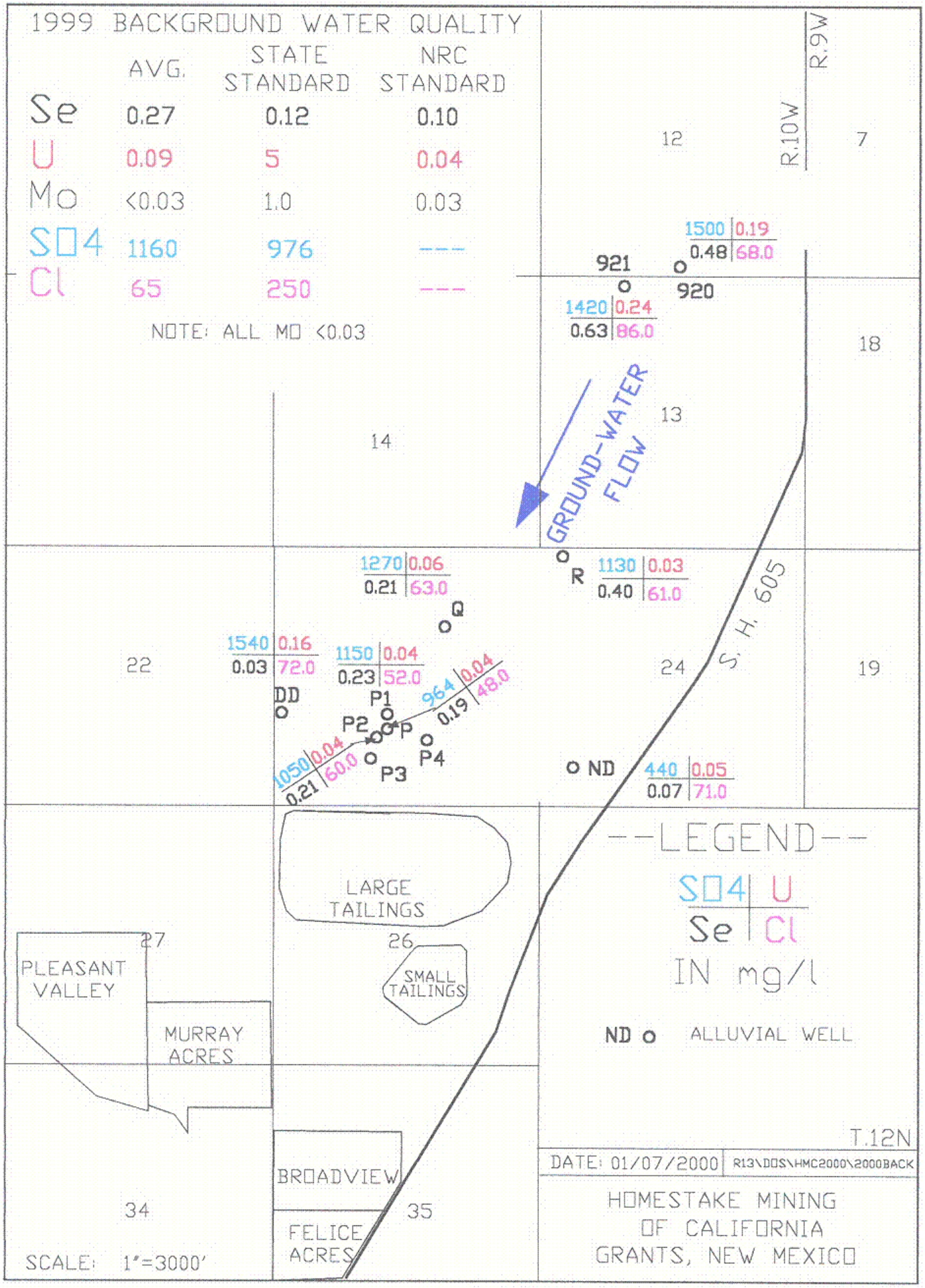

FIGURE 3.2-1. BACKGROUND GROUND-WATER QUALITY

C.6

3.3 COMPARISON OF SITE STANDARDS TO BACKGROUND

The range in concentrations (see Section 3.2) in the upgradient wells during 1999 was such that water in 7 out of 9 concentrations in background wells[2] were equal to, or exceeded, the NRC site standards for selenium. Additionally, 8 out of 9 uranium values were equal to, or exceeded, the NRC site standard. These site standards were set based on concentrations in three samples[3] collected from December 1988, January 1989 and February 1989 from upgradient well P. As shown by the present data, there is a large natural areal variability in the background water quality. Therefore, the historical database for all of the background wells more adequately defines background concentrations. Naturally occurring background variation is demonstrated by the uranium concentrations, where concentrations in the Fall of 1999 varied from 0.03 to 0.24 mg/l (see red values on Figure 3.2-1). The higher values are four to six times the site standard of 0.04 mg/l.

Table 3.3-1 presents the average of the 1999 background concentrations for selenium, uranium, molybdenum, sulfate and chloride along with the State and NRC standards. Even the 1999 average values for selenium and uranium are significantly greater than the NRC standards.

TABLE 3.3-1. COMPARISON OF 1999 BACKGROUND WATER QUALITY AND SITE STANDARDS

CONSTITUENTS	1999 AVERAGE BACKGROUND	STATE STANDARD	NRC STANDARD
SELENIUM	0.27	0.12	0.1
URANIUM	0.09	5	0.04
MOLYBDENUM	<0.03	1.0@	0.03
SULFATE	1160	976	-----
CHLORIDE	65	250	-----

NOTE: **All values are in mg/l.**
@ = Irrigation Standard

[2] Wells DD, ND, P, P1, P2, P3, P4, Q, R, 920 and 921.
[3] Average of 3 samples from well P in 1988 and 1989.

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4.0 ALLUVIAL AQUIFER MONITORING

This section presents 1999 monitoring results for the alluvial aquifer, the most important ground-water system at the Grants site. Well completions are presented first with the water levels and water-quality results following.

4.1 ALLUVIAL WELL COMPLETIONS

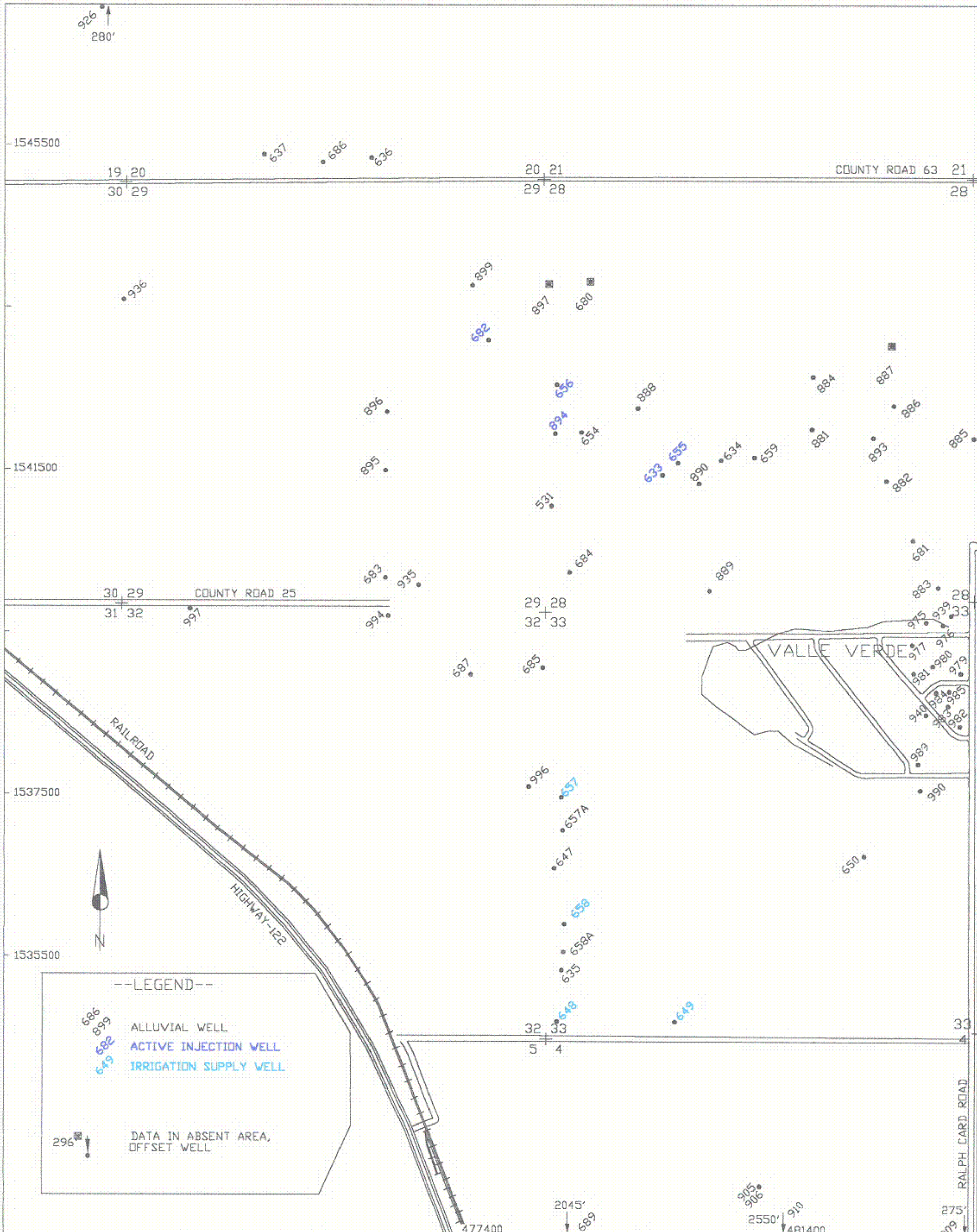
New alluvial wells drilled in 1999 are S12, 631, 632, 633, 634, 635, 636, 637, 654, 655, 656, 657, 657A, 658, 659 and 659A. Discussion of the new and previously installed alluvial wells is presented in this section. Figures 4.1-1A and 4.1-1B show locations of the alluvial wells west of and near the Homestake Grants Project, respectively. These figures are plotted at a scale of 1" = 1600'. Wells S12, 631 and 632 are located on Figure 4.1-1B, while the remainder are on Figure 4.1-1A. All of these wells were drilled as part of the irrigation and Sections 28 and 29 injection, except well S12, which is located in the S collection area.

Alluvial wells 532, 914, 916, 917, 920, 921, 922 and 999 contain data but exist outside of Figures 4.1-1A and 4.1-1B. Drawing 1.1-1 of Hydro-Engineering, 1996 shows the wells that exist outside of the figures in this report.

The currently active injection and collection wells are labeled with different colors on Figures 4.1-1A and 4.1-1B so that they can be distinguished from monitoring wells. These figures also show the wells used for irrigation water supply during the testing in 1999. Table 4.1-1 presents basic well data for alluvial wells located on the Homestake property that have been used to define the alluvial ground-water hydrology. Many additional alluvial wells outside of the Homestake property have also been used for that purpose. The basic well data table presents the location, well depth, casing diameter, water-level information, depth to the base of the alluvium and casing perforation intervals for each well.

Table 4.1-2 presents the same type of basic well data for alluvial wells in Broadview and Felice Acres. These two subdivisions are just south of the Homestake property. Figure 4.1-1B also shows the locations of the subdivision wells. Table 4.1-3 presents similar basic data for alluvial wells located in Murray Acres and Pleasant Valley Estates.

Table 4.1-4 presents data for regional wells located outside of the subdivisions and the Homestake property. The limits of the Grants Project site boundary are delineated with a heavy line on Figure 4.1-1B. Wells outside this area are considered to be regional, and data for them are included in the regional water-quality and basic well data tables. The project site boundary includes Broadview, Felice and Murray Acres and Pleasant Valley Estates subdivisions. Slightly greater than 100 alluvial wells have been included on the regional table, which brings the total number of alluvial wells used to characterize this site to greater than 400. The wells are listed in numerical or alphabetic order based on their well names.

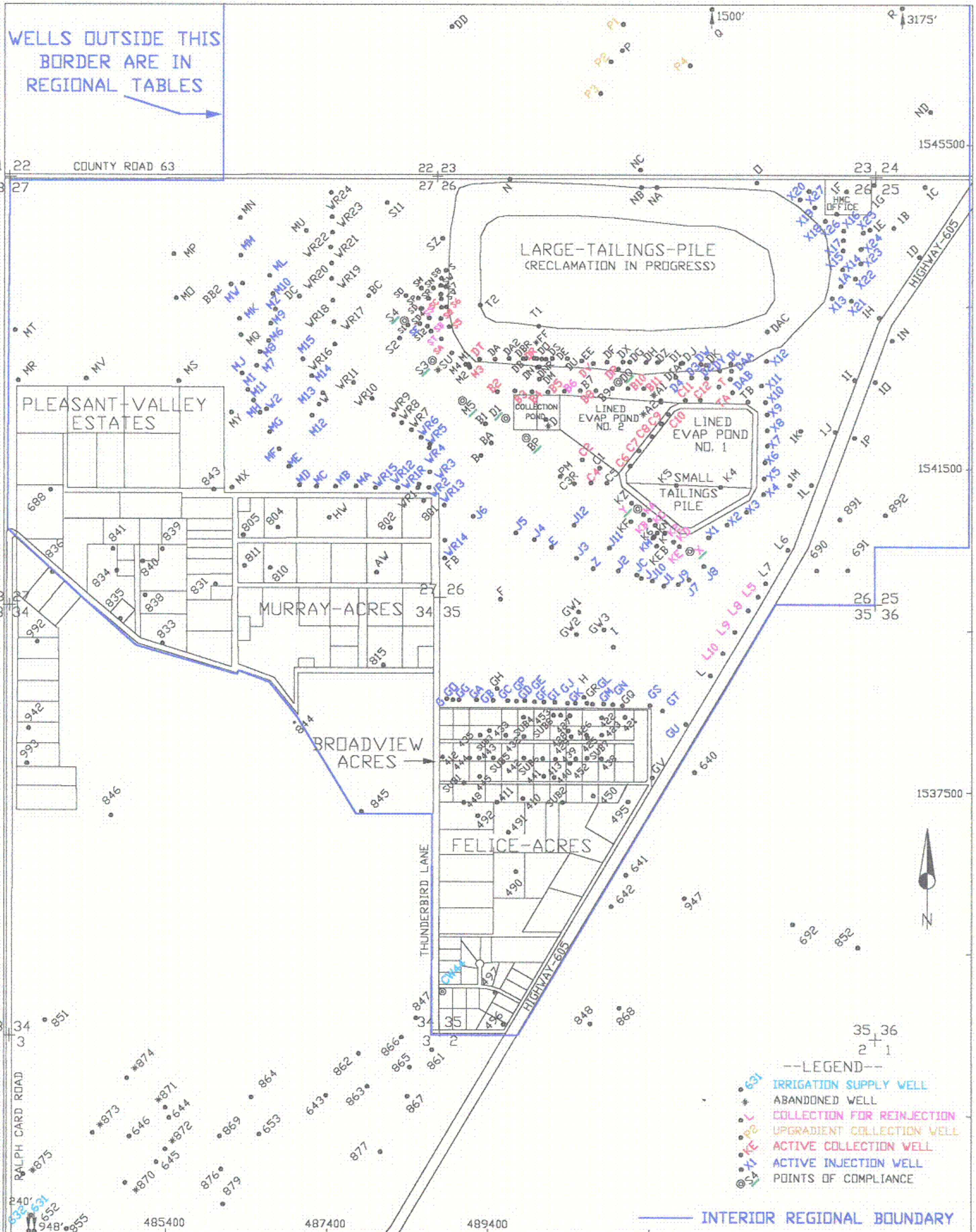


SCALE: 1"=1000' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.1-1A. ALLUVIAL WELL LOCATIONS (WEST AREA)

R13\DOS\HMC2000\2000WQAL

C7



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/31/2000

FIGURE 4.1-1B. ALLUVIAL WELL LOCATIONS

R13\DDS
HMC2000\2000EQAL

C 8

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
0690	1540279	493465	65.0	5.0	09/16/1998	62.50	6519.56	2.5	6582.06	55	6524.6 A	25-65	0.0
0691	1540276	493860	66.0	5.0	09/16/1998	57.36	6531.45	2.9	6588.81	55	6530.9 A	26-66	0.5
0891	1540904	493751	54.0	5.0	09/16/1998	54.30	6526.82	2.1	6581.12	50	6529.0 A	24-54	0.0
0892	1540954	494317	50.0	5.0	09/16/1998	51.00	6536.21	2.0	6587.21	42	6543.2 A	30-50	0.0
1A	1543790	493768	64.6	5.0	11/29/1999	36.79	6548.64	2.6	6585.43	47	6535.8 A	39-51	12.8
1B	1544502	494412	51.8	5.0	10/07/1999	37.03	6547.39	1.5	6584.42	50	6532.9 A	20-50	14.5
1C	1545018	494799	52.9	5.0	10/07/1999	43.50	6544.49	2.5	6587.99	43	6542.5 A	34-54	2.0
1D	1544142	494752	42.9	5.0	10/07/1999	29.20	6556.77	2.2	6585.97	40	6543.8 A	22-42	13.0
1E	1544481	494116	51.4	5.0	10/07/1999	36.82	6547.49	2.1	6584.31	43	6539.2 A	34-54	8.3
1F	1544952	493831	61.8	5.0	10/07/1999	43.54	6543.84	1.8	6587.38	54	6531.6 A	30-60	12.3
1G	1545034	494170	57.5	5.0	10/07/1999	42.11	6544.96	2.3	6587.07	48	6536.8 A	35-55	8.2
1H	1543363	494266	55.4	5.0	10/07/1999	30.86	6555.53	1.8	6586.39	43	6541.6 A	25-55	13.9
1I	1542627	493928	49.8	5.0	10/07/1999	34.38	6563.97	1.3	6598.35	35	6562.1 A	27-47	1.9
1J	1541986	493695	50.3	5.0	10/11/1999	38.00	6547.40	2.0	6585.40	40	6543.4 A	30-50	4.0
1K	1541992	493275	55.6	5.0	10/11/1999	35.64	6548.49	1.8	6584.13	47	6535.3 A	30-55	13.2
1L	1541256	493416	53.4	5.0	10/12/1999	38.31	6540.30	3.1	6578.61	40	6535.5 A	35-55	4.8
1M	1541327	493133	43.1	5.0	09/16/1998	42.90	6532.63	1.3	6575.53	33	6541.2 A	25-54	0.0
1N	1543100	494396	45.6	5.0	09/30/1999	32.11	6558.74	2.4	6590.85	25	6563.5 A	15-44	0.0
1O	1542592	494175	44.0	5.0	09/30/1999	44.00	6550.94	0.8	6594.94	29	6565.1 A	14-34	0.0
1P	1541902	493924	52.8	5.0	09/30/1999	38.70	6546.54	2.6	6585.24	35	6547.6 A	20-40	0.0
* A1	1542365	491539	55.6	4.0	01/12/1994	45.29	6527.86	1.1	6573.15	55	6517.0 A	37-57	10.8
* A2	1542356	491539	46.4	4.0	12/23/1991	47.98	6525.42	1.1	6573.40	---	--- A	27-47	---
B	1541684	489311	68.6	4.0	12/28/1999	42.15	6528.75	2.4	6570.90	60	6508.5 A	49-69	20.2
B1	1542071	489370	90.9	5.0	11/29/1999	45.21	6526.44	0.6	6571.65	82	6489.0 A	62-82	37.4
B2	1542475	489515	83.0	5.0	11/29/1999	49.95	6524.30	2.0	6574.25	72	6500.3 A	55-75	24.0
B3	1542480	489731	87.0	5.0	11/29/1999	63.77	6510.52	2.6	6574.29	77	6494.7 A	58-78	15.8
B4	1542471	489942	88.8	5.0	11/29/1999	50.95	6523.71	7.4	6574.66	82	6485.3 A	63-83	38.4
B5	1542474	490141	91.0	5.0	11/29/1999	59.95	6513.51	1.4	6573.46	81	6491.1 A	62-82	22.4
B6	1542478	490341	90.0	5.0	12/08/1999	53.95	6523.74	2.0	6577.69	80	6495.7 A	63-83	28.0
B7	1542488	490540	87.0	5.0	09/22/1995	43.82	6530.58	2.2	6574.40	77	6495.2 A	53-78	35.4
B8	1542488	490734	87.0	5.0	11/29/1999	47.74	6528.01	2.3	6575.75	77	6496.4 A	53-78	31.6
B9	1542514	490935	86.0	5.0	11/29/1999	48.14	6528.03	2.2	6576.17	76	6498.0 A	51-78	30.1
B10	1542517	491133	84.8	5.0	11/29/1999	47.65	6529.12	2.3	6576.77	75	6499.5 A	51-78	29.6
B11	1542517	491329	84.9	5.0	11/29/1999	47.11	6530.28	2.2	6577.39	77	6498.2 A	42-80	32.1
BA	1541835	489440	86.0	5.0	12/28/1999	44.24	6527.34	1.7	6571.58	76	6493.9 A	64-78	33.5
BB2	1543791	486213	56.6	4.0	11/19/1998	43.56	6530.24	0.6	6573.80	---	--- A	42-62	---

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
BC	1543655	487910	82.8	4.0	11/29/1999	50.40	6524.21	2.6	6574.61	75	6497.0 A	63-83	27.2
BP	1541882	489841	85.4	4.0	08/17/1999	45.70	6526.60	3.0	6572.30	75	6494.3 A	40-85	32.3
* C	1541762	490854	79.7	4.0	05/16/1994	41.50	6529.34	0.3	6570.84	75	6495.5 A	59-79	33.8
C1	1541533	490780	76.0	5.0	12/05/1996	43.60	6521.52	0.8	6565.12	67	6497.3 A	41-68	24.2
C2	1541630	490566	76.0	5.0	11/29/1999	56.05	6509.07	0.9	6565.12	66	6498.2 A	42-67	10.9
* C3	1541344	490481	75.0	5.0	06/20/1994	36.20	6532.33	0.9	6568.53	65	6502.6 A	45-67	29.7
C3R	1541338	490472	75.0	5.0	11/29/1999	54.62	6514.76	2.0	6569.38	66	6501.4 A	43-68	13.4
C4	1541348	490675	75.0	5.0	11/29/1999	62.44	6508.46	1.3	6570.90	66	6503.6 A	46-66	4.9
C5	1541344	490869	72.0	5.0	10/20/1999	41.61	6528.21	0.8	6569.82	62	6507.0 A	43-63	21.2
C6	1541533	491142	80.8	5.0	11/29/1999	57.00	6527.89	1.6	6584.89	72	6511.3 A	34-74	16.6
C7	1541734	491280	72.4	5.0	11/29/1999	69.30	6515.14	1.5	6584.44	61	6521.9 A	25-65	0.0
C8	1541906	491415	78.1	5.0	11/29/1999	71.55	6512.94	1.6	6584.49	67	6515.9 A	31-71	0.0
C9	1542075	491545	77.0	5.0	11/29/1999	59.15	6525.40	1.5	6584.55	65	6518.1 A	27-67	7.3
C10	1542182	491629	71.6	5.0	11/29/1999	52.64	6532.62	2.7	6585.26	65	6517.6 A	30-70	15.1
C11	1542376	491844	68.2	5.0	11/29/1999	42.30	6539.08	2.4	6581.38	60	6519.0 A	35-65	20.1
C12	1542375	492029	63.5	5.0	11/29/1999	38.35	6542.20	2.6	6580.55	55	6522.9 A	34-64	19.3
* D	1542127	490118	89.7	4.0	07/28/1986	48.04	6524.85	0.8	6572.89	90	6482.1 A	71-91	42.8
D1	1542140	489615	89.4	4.0	11/29/1999	46.62	6524.28	1.0	6570.90	80	6489.9 A	58-90	34.4
D2	1542641	492107	70.0	5.0	11/29/1999	0.50	6579.67	3.0	6580.17	62	6515.2 A	40-70	64.5
D3	1542646	491917	80.0	5.0	11/29/1999	0.50	6579.63	2.5	6580.13	72	6505.6 A	40-80	74.0
D4	1542652	491724	78.0	5.0	11/29/1999	0.50	6578.93	2.5	6579.43	70	6506.9 A	48-78	72.0
DA	1542864	489488	99.1	5.0	12/04/1997	61.40	6524.15	3.0	6585.55	90	6492.6 A	50-100	31.6
DA2	1542881	489656	82.1	5.0	01/13/1995	51.11	6536.18	2.8	6587.29	83	6501.5 A	64-74	34.7
DAA	1542733	492411	62.7	5.0	11/29/1999	3.50	6577.10	2.2	6580.60	54	6524.4 A	30-60	52.7
DAB	1542633	492399	65.1	5.0	11/29/1999	0.50	6579.38	2.3	6579.88	56	6521.6 A	30-60	57.8
DAC	1543218	492851	67.7	5.0	---	---	---	4.1	6620.36	45	6571.3 A	20-30	---
DB	1542874	489842	73.2	5.0	09/08/1998	66.15	6523.33	0.5	6589.48	---	--- A	55-85	---
DBR	1542877	489855	55.6	5.0	01/25/1995	52.19	6536.97	4.8	6589.16	---	--- A	-	---
DC	1543646	487060	64.1	4.0	11/29/1999	45.63	6525.68	2.7	6571.31	---	--- A	45-65	---
DD	1546989	488943	78.5	4.0	04/20/1999	57.68	6534.91	1.9	6592.59	83	6507.7 A	40-80	27.2
DE	1542877	490193	70.2	5.0	10/05/1998	63.70	6527.65	0.8	6591.35	80	6510.6 A	60-90	17.1
DF	1542839	490869	88.5	5.0	11/02/1998	60.75	6529.84	0.6	6590.59	---	--- A	65-95	---
DG	1542839	491157	88.9	5.0	02/14/1996	61.80	6529.98	0.4	6591.78	---	--- A	65-95	---
DH	1542835	491365	61.7	5.0	12/24/1991	52.65	6538.69	4.8	6591.34	---	--- A	65-95	---
DI	1542821	491788	86.1	5.0	12/09/1997	57.87	6531.75	2.3	6589.62	75	6512.3 A	35-85	19.4
DIA	1542821	491793	---	4.0	12/23/1991	50.41	6543.22	1.4	6593.63	---	--- A	-	---

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
DJ	1542821	491793	85.7	5.0	08/24/1988	46.87	6542.69	0.7	6589.56	75	6513.9 A	35-85	28.8
DK	1542799	492094	65.4	5.0	12/23/1991	43.58	6542.33	0.7	6585.91	55	6530.2 A	35-55	12.1
DL	1542813	492398	64.4	5.0	11/29/1999	6.20	6578.67	2.9	6584.87	55	6527.0 A	35-55	51.7
DM	1542628	490035	62.8	5.0	11/29/1999	51.56	6523.52	3.0	6575.08	—	— A	-	—
DN	1542776	490020	66.7	4.0	11/29/1999	50.75	6525.91	3.7	6576.66	—	— A	-	—
DNR	1542779	490031	79.7	4.0	11/29/1999	51.55	6525.51	3.3	6577.06	—	— A	-	—
DO	1542874	490049	75.8	5.0	11/29/1999	65.33	6525.00	1.6	6590.33	75	6513.7 A	65-75	11.3
DP	1542754	491012	79.8	5.0	12/07/1998	51.42	6528.29	3.5	6579.71	—	— A	-	—
DQ	1542592	491006	85.3	5.0	11/29/1999	47.92	6528.51	2.2	6576.43	—	— A	-	—
DR	1542884	489966	87.8	5.0	11/29/1999	65.85	6524.98	2.7	6590.83	85	6503.1 A	65-85	21.9
DS	1542876	490118	—	5.0	08/02/1999	65.22	6523.59	0.9	6588.81	77	6510.9 A	62-77	12.7
DT	1542871	489293	72.3	5.0	11/29/1999	60.98	6522.83	2.7	6583.81	99	6482.1 A	59-99	40.7
DU	1542879	490380	84.6	5.0	07/06/1988	51.56	6539.51	1.8	6591.07	81	6508.3 A	61-81	31.2
DV	1542826	490702	80.0	5.0	11/29/1999	57.32	6528.28	2.9	6585.60	77	6505.7 A	60-80	22.6
DW	1542818	492029	73.4	5.0	11/29/1999	10.84	6577.82	3.6	6588.66	59	6526.1 A	45-60	51.8
DX	1542838	491074	—	6.0	08/02/1999	61.80	6530.18	1.0	6591.98	80	6511.0 A	60-90	19.2
DY	1542737	492271	65.7	5.0	11/29/1999	6.20	6574.41	2.3	6580.61	56	6522.3 A	15-65	52.1
DZ	1542834	491501	81.8	5.0	11/29/1999	57.29	6533.24	2.2	6590.53	—	— A	-	—
E	1540553	490187	61.7	4.0	11/29/1999	4.00	6564.94	1.7	6568.94	60	6507.2 A	44-64	57.7
EE	1542853	490523	91.2	5.0	01/31/1995	45.26	6542.85	0.6	6588.11	80	6507.5 A	50-90	35.3
F	1539908	489554	63.8	4.0	07/07/1999	32.86	6531.96	1.2	6564.82	62	6501.6 A	45-65	30.3
FB	1540417	488857	62.0	4.0	10/14/1999	33.60	6532.06	2.0	6565.66	58	6505.7 A	43-58	26.4
* FF	1542878	490017	—	4.0	06/21/1983	41.08	6535.46	0.2	6576.54	124	6452.3 A	52-132	83.1
G	1538672	488890	78.3	4.0	11/29/1999	4.00	6559.09	2.0	6563.09	75	6486.1 A	50-80	73.0
GA	1538657	489255	—	4.0	11/29/1999	5.40	6557.39	1.8	6562.79	62	6499.0 A	45-65	58.4
GB	1538654	489456	65.2	4.0	11/29/1999	4.00	6558.99	1.9	6562.99	64	6497.1 A	45-65	61.9
GC	1538650	489654	—	4.0	11/29/1999	4.00	6561.17	2.5	6565.17	78	6484.7 A	60-80	76.5
GD	1538646	489855	—	4.0	12/04/1995	0.50	6565.12	1.8	6565.62	72	6491.8 A	55-75	73.3
GE	1538637	489972	117.0	4.0	11/29/1999	4.00	6562.27	2.4	6566.27	65	6498.9 A	50-120	63.4
GF	1538632	490097	119.2	4.0	11/29/1999	4.00	6562.01	1.8	6566.01	67	6497.2 A	50-120	64.8
GG	1538662	489055	58.7	4.0	11/29/1999	4.00	6559.13	1.8	6563.13	57	6504.3 A	48-68	54.8
GH	1538807	489509	69.2	4.0	06/01/1999	30.92	6531.84	1.3	6562.76	67	6494.5 A	55-65	37.4
GI	1538631	490218	119.0	4.0	11/29/1999	4.00	6561.85	1.5	6565.85	67	6497.4 A	50-120	64.5
GJ	1538629	490382	119.2	4.0	11/29/1999	4.00	6562.15	2.0	6566.15	65	6499.1 A	50-120	63.0
GK	1538622	490482	115.7	4.0	11/29/1999	4.00	6562.76	2.4	6566.76	67	6497.4 A	50-120	65.4
GL	1538614	490701	119.3	4.0	11/29/1999	4.00	6563.15	2.1	6567.15	71	6494.0 A	50-120	69.1

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
GM	1538605	490824	118.2	4.0	11/29/1999	4.00	6563.65	2.1	6567.65	69	6496.5 A	50-120	67.1
GN	1538602	490944	116.5	4.0	11/29/1999	4.00	6563.97	1.8	6567.97	70	6496.2 A	50-120	67.8
GO	1538663	488973	122.3	4.0	11/29/1999	5.00	6558.00	1.6	6563.00	75	6486.4 A	50-120	71.6
GP	1538649	489752	121.4	4.0	11/29/1999	4.00	6560.87	2.1	6564.87	68	6494.8 A	50-120	66.1
GQ	1538599	491067	70.0	4.0	12/23/1991	41.17	6526.99	0.9	6568.16	71	6496.3 A	50-70	30.7
GR	1538619	490619	---	4.0	12/23/1991	36.55	6528.66	1.0	6565.21	75	6489.2 A	50-85	39.5
GS	1538597	491408	86.4	5.0	11/29/1999	35.60	6538.71	2.0	6574.31	80	6492.3 A	50-85	46.4
GT	1538534	491565	84.0	5.0	11/29/1999	4.30	6571.87	2.1	6576.17	76	6498.1 A	60-84	73.8
GU	1538367	491854	80.0	5.0	11/29/1999	4.00	6571.65	2.0	6575.65	73	6500.6 A	60-80	71.0
GV	1537701	491428	83.0	5.0	10/12/1999	43.49	6533.89	2.5	6577.38	74	6500.9 A	62-82	33.0
GW1	1539755	490530	73.0	5.0	05/04/1993	34.17	6531.10	1.0	6565.27	65	6499.3 A	48-73	31.8
GW2	1539471	490497	75.0	5.0	05/04/1993	34.47	6531.61	1.0	6566.08	68	6497.1 A	47-75	34.5
GW3	1539532	490835	72.0	5.0	05/04/1993	34.42	6531.86	1.0	6566.28	62	6503.3 A	45-72	28.6
H	1538703	490582	69.3	4.0	12/23/1991	37.93	6528.65	1.8	6566.58	69	6495.8 A	50-70	32.9
I	1539319	490954	70.0	4.0	07/07/1999	35.09	6532.11	1.6	6567.20	68	6497.6 A	52-72	34.5
J	1540174	491302	65.6	4.0	11/29/1999	5.00	6565.19	3.4	6570.19	56	6510.8 A	46-68	54.4
J1	1540082	491585	57.0	6.0	11/29/1999	17.00	6554.85	3.8	6571.85	55	6513.1 A	50-57	41.8
J2	1540271	491013	58.0	6.0	11/29/1999	29.00	6541.19	2.9	6570.19	55	6512.3 A	50-58	28.9
J3	1540414	490499	70.0	6.0	11/29/1999	13.20	6555.94	2.6	6569.14	66	6500.5 A	43-70	55.4
J4	1540643	489974	80.0	6.0	11/29/1999	31.80	6537.72	3.9	6569.52	68	6497.6 A	40-70	40.1
J5	1540728	489747	65.0	6.0	11/29/1999	8.00	6561.79	2.8	6569.79	61	6506.0 A	50-65	55.8
J6	1540919	489221	67.0	6.0	11/29/1999	7.00	6563.10	3.7	6570.10	65	6501.4 A	48-67	61.7
J7	1540168	491892	61.9	5.0	11/29/1999	33.30	6537.08	2.1	6570.38	53	6515.3 A	40-60	21.8
J8	1540318	492064	63.2	5.0	11/29/1999	35.60	6535.19	2.4	6570.79	52	6516.4 A	35-61	18.8
J9	1540101	491759	68.0	5.0	11/29/1999	26.00	6545.20	2.0	6571.20	58	6511.2 A	38-68	34.0
J10	1540138	491436	66.0	5.0	11/29/1999	26.00	6544.91	3.5	6570.91	54	6513.4 A	36-66	31.5
J11	1540545	490909	66.0	5.0	11/29/1999	7.20	6562.66	2.0	6569.86	55	6512.9 A	36-66	49.8
J12	1540827	490466	70.0	5.0	11/29/1999	8.00	6562.30	3.0	6570.30	60	6507.3 A	40-70	55.0
JC	1540215	491240	60.0	5.0	11/29/1999	23.60	6544.84	1.8	6568.44	50	6516.6 A	35-55	28.2
K	1540730	491590	61.7	4.0	10/31/1997	45.96	6527.55	3.8	6573.51	60	6509.7 A	44-64	17.8
K2	1540736	491587	58.9	4.0	11/29/1999	36.70	6535.51	2.5	6572.21	58	6511.7 A	46-56	23.8
K3	1540744	491571	56.7	2.0	10/31/1997	43.44	6527.23	1.3	6570.67	---	--- A	53-58	---
K4	1541211	492371	86.2	5.0	10/20/1999	63.16	6538.86	2.5	6602.02	80	6519.5 A	65-85	19.3
K5	1541269	491935	86.4	5.0	10/20/1999	65.77	6535.96	2.7	6601.73	80	6519.0 A	55-85	16.9
K6	1540689	491459	58.0	5.0	12/02/1999	32.18	6537.89	2.0	6570.07	---	--- A	33-58	---
KA	1540959	491331	67.8	5.0	11/29/1999	43.98	6528.21	1.9	6572.19	65	6505.3 A	42-72	22.9

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
KB	1540893	491406	61.8	5.0	11/29/1999	37.80	6533.85	0.8	6571.65	60	6510.8 A	40-70	23.0
KC	1540826	491477	68.6	5.0	11/29/1999	46.52	6523.79	0.7	6570.31	59	6510.6 A	42-72	13.2
KD	1540627	491701	62.1	5.0	11/29/1999	39.65	6530.57	0.6	6570.22	—	— A	40-70	—
KE	1540566	491776	60.8	5.0	11/29/1999	38.15	6534.13	2.5	6572.28	—	— A	40-70	—
KEB	1540570	491487	59.9	5.0	09/30/1999	33.10	6536.63	1.5	6569.73	50	6518.2 A	40-60	18.4
KF	1540870	491169	63.5	5.0	12/28/1999	36.76	6533.45	2.2	6570.21	50	6518.0 A	30-60	15.4
KM	1540671	491444	52.4	5.0	11/29/1999	9.00	6560.77	2.2	6569.77	—	— A	-	—
KN	1540734	491492	50.1	5.0	12/02/1999	33.12	6536.47	2.3	6569.59	—	— A	-	—
KZ	1541100	491183	58.4	5.0	12/28/1999	40.58	6531.14	1.2	6571.72	—	— A	-	—
L	1538970	492150	67.0	4.0	11/29/1999	44.85	6530.12	0.8	6574.97	59	6515.2 A	46-66	15.0
L5	1539946	492730	60.2	5.0	11/29/1999	50.17	6525.90	1.3	6576.07	50	6524.8 A	25-55	1.1
L6	1540526	493110	51.1	5.0	10/12/1999	38.81	6535.83	2.1	6574.64	50	6522.5 A	25-55	13.3
L7	1540113	492842	67.8	5.0	10/05/1998	49.92	6526.69	2.3	6576.61	62	6512.3 A	36-66	14.4
L8	1539773	492621	73.9	5.0	11/29/1999	50.15	6526.34	2.1	6576.49	65	6509.4 A	32-72	16.9
L9	1539509	492463	74.9	5.0	11/29/1999	49.27	6527.96	2.2	6577.23	64	6511.0 A	43-73	16.9
L10	1539250	492310	74.2	5.0	11/29/1999	48.19	6528.64	2.0	6576.83	63	6511.8 A	53-73	16.8
M1	1542797	489157	103.4	4.0	01/03/1989	79.80	6505.17	1.5	6584.97	120	6463.5 A	66-106	41.7
M2	1542785	489159	40.4	4.0	01/20/1995	34.85	6541.41	1.4	6576.26	—	— A	-	—
M3	1542805	489151	105.3	4.0	11/29/1999	66.30	6509.80	1.0	6576.10	—	— A	79-99	—
M4	1542804	489134	81.8	5.0	10/13/1999	58.16	6520.10	3.7	6578.26	—	— A	78-82	—
M5	1542360	489080	92.3	5.0	11/29/1999	49.97	6525.37	3.2	6575.34	84	6488.1 A	60-90	37.2
M6	1543097	486674	110.0	5.0	11/29/1999	2.26	6572.78	2.2	6575.04	65	6507.9 A	60-110	64.9
M7	1542790	486523	83.0	5.0	11/29/1999	3.28	6569.57	2.4	6572.85	71	6499.4 A	63-83	70.1
M8	1542960	486567	83.0	5.0	11/29/1999	4.69	6570.54	2.4	6575.23	57	6515.8 A	53-83	54.7
M9	1543310	486699	103.0	5.0	11/29/1999	32.86	6543.95	3.2	6576.81	78	6495.6 A	63-103	48.3
M10	1543677	486723	88.0	5.0	11/29/1999	55.26	6518.10	2.4	6573.36	86	6485.0 A	58-88	33.1
M11	1542358	486486	118.0	5.0	11/29/1999	9.36	6563.86	3.0	6573.22	109	6461.2 A	58-118	102.7
M12	1542174	487209	124.0	5.0	11/29/1999	4.35	6569.16	2.5	6573.51	118	6453.0 A	57-124	116.2
M13	1542450	487336	117.0	5.0	11/29/1999	26.21	6549.95	3.0	6576.16	108	6465.2 A	57-117	84.8
M14	1542661	487216	117.0	5.0	11/29/1999	24.56	6552.61	2.7	6577.17	109	6465.5 A	57-117	87.2
M15	1542872	487094	102.0	5.0	11/29/1999	3.71	6575.37	3.5	6579.08	93	6482.6 A	52-102	92.7
MA	1541290	487767	85.0	4.0	11/29/1999	21.73	6550.49	1.0	6572.22	85	6486.2 A	70-85	64.3
MB	1541296	487512	90.0	4.0	11/29/1999	2.05	6570.01	1.0	6572.06	85	6486.1 A	60-90	84.0
MC	1541304	487264	100.0	4.0	11/29/1999	2.12	6569.94	1.0	6572.06	95	6476.1 A	70-100	93.9
MD	1541311	487050	105.0	4.0	11/29/1999	2.00	6569.46	1.0	6571.46	105	6465.5 A	75-105	104.0
ME	1541537	486934	105.0	4.0	11/29/1999	1.61	6569.31	1.0	6570.92	105	6464.9 A	75-105	104.4

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
MF	1541757	486808	110.0	4.0	11/29/1999	2.22	6570.06	1.0	6572.28	110	6461.3 A	90-110	108.8
MG	1541972	486694	110.0	4.0	11/29/1999	1.72	6571.36	1.0	6573.08	110	6462.1 A	90-110	109.3
MH	1542208	486569	110.0	4.0	11/29/1999	2.13	6571.79	1.0	6573.92	110	6462.9 A	90-110	108.9
MI	1542486	486413	110.0	4.0	11/29/1999	2.24	6574.03	1.0	6576.27	110	6465.3 A	90-110	108.8
MJ	1542682	486350	60.0	4.0	11/29/1999	48.20	6524.74	1.8	6572.94	60	6511.1 A	40-60	13.6
MK	1543373	486324	57.0	4.5	11/29/1999	11.36	6562.43	1.5	6573.79	92	6480.3 A	-	82.1
ML	1543902	486691	76.0	5.0	11/29/1999	3.46	6569.24	2.3	6572.70	80	6490.4 A	56-76	78.9
MM	1544154	486324	63.0	5.0	11/29/1999	3.48	6573.97	2.4	6577.45	50	6525.1 A	33-63	48.9
MN	1544613	486325	63.0	5.0	12/18/1996	64.15	6513.41	1.9	6577.56	42	6533.7 A	23-63	0.0
MO	1543620	485518	88.0	4.5	07/21/1999	60.39	6512.50	2.0	6572.89	80	6490.9 A	45-85	21.6
MP	1544164	485492	80.0	5.0	12/18/1996	62.66	6511.82	2.1	6574.48	50	6522.4 A	33-63	0.0
MQ	1543173	486326	98.0	5.0	10/20/1999	59.36	6514.94	1.6	6574.30	88	6484.7 A	58-98	30.2
MR	1542609	483574	100.0	5.0	10/20/1999	65.72	6500.54	1.8	6566.26	100	6464.5 A	54-94	36.1
MS	1542607	485570	82.0	5.0	10/20/1999	57.21	6513.46	1.5	6570.67	89	6480.2 A	52-82	33.3
MT	1543221	483531	98.0	4.5	11/02/1999	66.24	6501.19	2.3	6567.43	87	6478.1 A	34-94	23.1
MU	1544461	487143	80.0	5.0	10/20/1999	52.63	6521.56	1.5	6574.19	72	6500.7 A	50-80	20.9
MV	1542618	484418	105.0	4.5	10/22/1998	65.97	6503.81	1.3	6569.78	95	6473.5 A	75-105	30.3
MW	1543802	486346	85.0	5.0	11/29/1999	3.17	6571.74	1.9	6574.91	83	6490.0 A	35-85	81.7
MX	1541287	486244	103.0	5.0	11/02/1999	49.67	6518.94	1.7	6568.61	94	6472.9 A	63-103	46.0
MY	1542200	486213	112.0	5.0	11/02/1999	54.06	6519.50	3.0	6573.56	102	6468.6 A	72-112	50.9
MZ	1543485	486757	92.0	5.0	11/29/1999	22.71	6553.93	0.0	6576.64	84	6492.6 A	60-92	61.3
N	1545101	489665	92.0	4.0	10/19/1999	52.68	6531.29	0.9	6583.97	80	6503.1 A	54-94	28.2
NA	1545000	491488	91.4	5.0	04/18/1996	55.24	6535.74	1.1	6590.98	80	6509.9 A	50-90	25.9
NB	1545000	491296	96.4	5.0	04/18/1996	50.11	6543.19	2.1	6593.30	80	6511.2 A	50-90	32.0
NC	1545220	491282	95.0	4.0	10/19/1999	52.54	6533.29	0.8	6585.83	85	6500.0 A	65-95	33.3
ND	1545927	494872	70.0	4.0	08/18/1999	47.78	6545.11	1.1	6592.89	65	6526.8 A	50-70	18.3
NE5	1544279	492332	156.8	5.0	04/29/1999	74.63	6592.37	4.0	6667.00	150	— T	50-110	—
										150	6513.0 A	135-155	79.4
NW5	1544408	489433	149.8	5.0	05/12/1999	128.69	6528.89	3.6	6657.58	155	— T	39-79	—
										155	6498.9 A	119-159	29.9
O	1545060	492725	69.9	4.0	10/19/1999	48.32	6539.51	1.3	6587.83	77	6509.5 A	40-70	30.0
P	1546691	491058	109.1	4.0	11/04/1999	53.13	6534.13	1.7	6587.26	107	6478.6 A	82-112	55.6
P1	1547017	491060	105.0	6.0	11/29/1999	55.83	6536.64	0.8	6592.47	105	6486.7 A	60-105	50.0
P2	1546555	490912	105.0	6.0	11/29/1999	58.53	6531.26	0.9	6589.79	105	6483.9 A	60-105	47.4
P3	1546159	490785	95.0	5.0	11/29/1999	63.36	6526.59	2.2	6589.95	85	6502.8 A	55-95	23.8
P4	1546504	491899	92.0	5.0	11/29/1999	74.95	6514.57	3.6	6589.52	84	6501.9 A	52-92	12.7

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
PM	1541426	490292	81.9	4.0	11/29/1999	41.38	6526.04	1.8	6567.42	—	— A	-	—
Q	1548693	492153	98.3	4.0	03/02/1999	50.08	6543.74	2.3	6593.82	100	6491.5 A	72-102	52.2
R	1550372	494514	86.3	4.0	05/20/1999	43.76	6560.27	0.3	6604.03	95	6508.7 A	60-90	51.5
S	1543871	488816	72.2	4.0	11/29/1999	56.28	6524.89	2.0	6581.17	75	6504.2 A	52-72	20.7
S1	1543288	488401	85.0	2.0	12/28/1999	50.67	6524.52	5.3	6575.19	85	6484.9 A	60-85	39.6
S2	1543127	488299	100.0	3.0	12/28/1999	49.17	6524.55	2.0	6573.72	100	6471.7 A	90-100	52.8
S3	1542857	488714	122.6	5.0	11/29/1999	51.78	6523.00	6.2	6574.78	116	6452.6 A	80-120	70.4
S4	1543344	488359	112.4	5.0	11/29/1999	52.23	6523.06	2.3	6575.29	108	6465.0 A	50-110	58.1
S5	1543269	488923	115.0	5.0	11/29/1999	62.00	6512.69	1.0	6574.69	105	6468.7 A	54-106	44.0
S6	1543515	488874	113.2	5.0	11/29/1999	57.31	6522.76	1.3	6580.07	105	6473.8 A	55-105	49.0
S7	1543763	488874	97.0	5.0	01/04/1999	57.38	6522.51	1.0	6579.89	82	6496.9 A	40-84	25.6
S8	1543968	488879	43.8	5.0	08/22/1995	43.28	6537.06	1.0	6580.34	40	6539.3 A	12-42	0.0
S11	1544793	488150	76.2	5.0	10/27/1999	55.79	6522.60	1.9	6578.39	70	6506.5 A	48-78	16.1
S12	1543300	488640	93.0	5.0	12/09/1999	59.79	6519.21	2.1	6579.00	—	— A	53-93	—
SA	1543122	488811	123.7	5.0	11/29/1999	69.87	6510.44	1.0	6580.31	—	— A	100-130	—
SB	1543371	488811	125.0	5.0	08/02/1999	61.99	6519.10	0.9	6581.09	—	— A	100-130	—
SC	1543617	488815	105.4	5.0	11/29/1999	61.84	6516.96	1.2	6578.80	103	6474.6 A	55-105	42.4
SD	1543490	488564	90.1	5.0	12/23/1991	63.14	6515.17	0.6	6578.31	107	6470.7 A	50-110	44.5
SD4	1543497	488556	95.0	5.0	06/01/1993	61.44	6517.33	1.1	6578.77	95	6482.7 A	45-95	34.7
SE	1543301	488550	111.8	5.0	11/29/1999	54.67	6523.32	0.5	6577.99	88	6489.5 A	50-90	33.8
SE4	1543308	488560	105.3	2.0	12/09/1999	53.00	6525.00	0.8	6578.00	—	— A	-	—
SM	1543748	488566	86.0	5.0	11/29/1999	56.93	6521.81	0.7	6578.74	—	— A	-	—
SN	1543752	488716	67.5	4.0	11/29/1999	57.22	6522.04	1.1	6579.26	—	— A	-	—
SO	1543652	488381	92.3	5.0	12/28/1999	55.15	6523.64	0.6	6578.79	—	— A	-	—
SP	1543630	488531	94.4	4.0	12/28/1999	55.20	6523.46	2.0	6578.66	—	— A	-	—
SQ	1543507	488814	95.0	5.0	11/29/1999	57.20	6522.00	0.9	6579.20	95	6483.3 A	55-95	38.7
SR	1543611	488669	95.0	5.0	11/02/1998	58.25	6520.94	0.8	6579.19	95	6483.4 A	50-90	37.5
SS	1543374	488666	101.0	5.0	11/29/1999	66.98	6511.40	1.2	6578.38	90	6487.2 A	51-101	24.2
ST	1543215	488688	97.0	5.0	11/29/1999	59.60	6519.71	2.2	6579.31	96	6481.1 A	55-97	38.6
* SU	1542946	488953	110.0	5.0	09/05/1995	35.60	6542.50	0.7	6578.10	110	6467.4 A	50-110	75.1
SV	1543676	488813	78.2	6.0	07/08/1999	56.56	6522.69	1.7	6579.25	100	6477.6 A	55-105	45.1
SW	1543783	488812	81.9	6.0	07/03/1994	60.70	6520.59	2.9	6581.29	75	6503.4 A	35-80	17.2
SX	1544510	489025	45.0	5.0	—	—	—	1.0	6581.49	40	6540.5 A	20-40	—
SZ	1544367	488833	62.6	5.0	11/29/1999	49.54	6531.93	0.4	6581.47	—	— A	40-70	—
T	1542536	492260	70.2	4.0	03/01/1999	61.95	6517.28	2.4	6579.23	68	6508.8 A	61-71	8.4
T1	1543285	490027	—	5.0	12/12/1986	146.13	6517.78	1.0	6663.91	161	6501.9 A	121-171	15.9

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.) /11/2000

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
T2	1543538	489303	186.0	5.0	12/16/1996	136.64	6528.18	1.0	6664.82	180	6483.8 A	100-186	44.4
TA	1542471	492426	62.4	5.0	11/29/1999	33.75	6546.55	2.4	6580.30	55	6522.9 A	35-65	23.6
TB	1542351	492616	64.4	5.0	10/05/1998	37.96	6545.61	1.9	6583.57	55	6526.7 A	35-65	18.9
W	1542302	487297	99.3	4.0	09/15/1999	45.60	6526.54	0.3	6572.14	117	6454.8 A	58-118	71.7
W2	1542251	486654	79.1	4.0	03/02/1998	56.21	6515.29	0.9	6571.50	---	--- A	-	---
WN4	1543958	489961	142.4	5.0	09/20/1999	24.00	6638.78	2.5	6662.78	165	--- T	40-100	---
										165	6495.3 A	50-190	143.5
WR1	1541280	488529	---	5.0	06/27/1989	46.54	6521.86	0.8	6568.40	---	--- A	-	---
WR1R	1541302	488536	85.0	5.0	11/29/1999	9.00	6559.47	0.0	6568.47	85	6483.5 A	-	76.0
WR2	1541290	488678	94.1	5.0	11/29/1999	2.52	6566.07	0.9	6568.59	85	6482.7 A	65-95	83.4
WR3	1541490	488671	82.3	5.0	11/29/1999	26.63	6542.91	2.7	6569.54	83	6483.8 A	63-93	59.1
WR4	1541788	488678	62.0	5.0	11/29/1999	1.86	6570.95	0.0	6572.81	---	--- A	-	---
WR5	1541813	488683	72.4	5.0	11/29/1999	34.82	6536.41	0.6	6571.23	80	6490.6 A	60-80	45.8
WR6	1541902	488566	96.8	5.0	11/29/1999	3.04	6569.99	1.3	6573.03	84	6487.7 A	55-85	82.3
WR7	1541997	488456	97.3	5.0	10/19/1999	45.72	6528.01	2.0	6573.73	84	6487.8 A	55-85	40.2
WR8	1542095	488328	110.2	5.0	12/24/1991	52.34	6520.26	0.4	6572.60	100	6472.2 A	50-100	48.1
WR9	1542185	488217	111.3	5.0	11/29/1999	46.14	6526.91	0.8	6573.05	100	6472.3 A	50-100	54.7
WR10	1542389	487961	120.6	5.0	11/19/1998	48.44	6524.75	0.7	6573.19	110	6462.5 A	60-110	62.3
WR11	1542586	487728	120.5	5.0	11/29/1999	48.45	6526.04	0.3	6574.49	110	6464.2 A	60-110	61.8
WR12	1541280	488277	96.7	4.0	11/29/1999	2.47	6565.72	1.1	6568.19	85	6482.1 A	55-85	83.6
WR13	1541068	488861	70.0	5.0	11/29/1999	23.76	6545.41	3.2	6569.17	60	6506.0 A	50-60	39.4
WR14	1540638	488863	70.0	5.0	11/29/1999	16.96	6549.95	2.3	6566.91	61	6503.6 A	50-60	46.3
WR15	1541280	488016	70.0	4.0	11/29/1999	20.99	6550.20	0.0	6571.19	75	6496.2 A	60-75	54.0
WR16	1543051	487495	122.3	5.0	10/27/1999	47.48	6525.30	1.9	6572.78	100	6470.9 A	40-120	54.4
WR17	1543328	487485	124.4	5.0	10/27/1999	47.59	6525.50	2.2	6573.09	75	6495.9 A	40-120	29.6
WR18	1543597	487465	73.6	5.0	10/27/1999	48.97	6523.94	2.2	6572.91	70	6500.7 A	20-70	23.2
WR19	1543873	487458	87.8	5.0	10/27/1999	52.61	6522.32	2.2	6574.93	74	6498.7 A	25-85	23.6
WR20	1544059	487449	102.3	5.0	10/27/1999	52.60	6521.87	2.1	6574.47	80	6492.4 A	42-102	29.5
WR21	1544241	487449	88.9	5.0	10/27/1999	54.48	6521.57	2.1	6576.05	77	6496.9 A	28-88	24.6
WR22	1544434	487462	91.5	5.0	10/27/1999	56.08	6521.81	2.4	6577.89	86	6489.5 A	30-90	32.3
WR23	1544632	487445	94.3	5.0	10/27/1999	54.40	6522.07	2.2	6576.47	77	6497.3 A	32-92	24.8
WR24	1544938	487438	89.2	5.0	10/21/1999	56.67	6532.00	3.0	6588.67	82	6503.7 A	50-90	28.3
X	1540512	491892	50.7	4.0	11/29/1999	37.00	6534.61	1.7	6571.61	---	--- A	-	---
X1	1540671	492129	54.0	5.0	01/05/1998	1.00	6572.54	3.9	6573.54	47	6522.6 A	37-47	49.9
X2	1540836	492363	53.0	6.0	---	---	---	1.9	6571.93	45	6525.0 A	40-45	---
X3	1540992	492599	52.0	5.0	---	---	---	2.0	6573.28	42	6529.3 A	32-42	---

TABLE 4.1-1. BASIC WELL DATA FOR THE ALLUVIAL HOMESTAKE WELLS. (cont'd.) /11/2000

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
X4	1541210	492814	54.0	5.0	---	---	---	3.2	6576.94	45	6528.7 A	37-45	---
X5	1541408	492821	44.0	6.0	11/29/1999	2.75	6574.86	3.6	6577.61	35	6539.0 A	24-36	35.9
X6	1541609	492828	46.0	6.0	11/29/1999	6.68	6572.04	3.5	6578.72	35	6540.2 A	22-37	31.8
X7	1541808	492851	56.0	6.0	11/29/1999	3.60	6576.83	3.4	6580.43	45	6532.0 A	32-46	44.8
X8	1542007	492852	61.0	5.0	11/29/1999	4.50	6577.26	3.4	6581.76	51	6527.4 A	32-52	49.9
X9	1542194	492852	61.0	5.0	11/29/1999	10.45	6572.47	3.6	6582.92	51	6528.3 A	24-52	44.2
X10	1542352	492835	61.0	5.0	11/29/1999	29.75	6552.68	3.6	6582.43	53	6525.8 A	30-55	26.9
X11	1542553	492782	57.0	5.0	11/29/1999	2.50	6579.50	3.0	6582.00	53	6526.0 A	17-57	53.5
X12	1542861	492852	57.0	5.0	11/29/1999	1.30	6582.03	3.0	6583.33	53	6527.3 A	17-57	54.7
X13	1543640	493665	56.0	5.0	11/29/1999	32.66	6554.28	2.5	6586.94	51	6533.4 A	16-56	20.8
X14	1544002	493777	56.0	5.0	11/29/1999	37.05	6549.15	2.1	6586.20	49	6535.1 A	16-56	14.1
X15	1544222	493800	57.0	5.0	11/29/1999	37.40	6545.51	2.3	6582.91	51	6529.6 A	17-57	15.9
X16	1544473	493795	47.0	5.0	11/29/1999	36.00	6548.79	2.3	6584.79	47	6535.5 A	22-47	13.3
X17	1544356	493793	55.0	5.0	11/29/1999	24.45	6561.39	3.3	6585.84	48	6534.6 A	35-55	26.8
X18	1544593	493569	57.0	5.0	11/29/1999	24.64	6561.44	3.8	6586.08	49	6533.3 A	37-57	28.2
X19	1544753	493437	63.0	5.0	11/29/1999	29.95	6555.25	4.5	6585.20	56	6524.8 A	33-63	30.5
X20	1544855	493256	71.0	5.0	11/29/1999	45.20	6540.53	3.5	6585.73	64	6518.2 A	31-71	22.3
X21	1543606	493894	55.0	5.0	11/29/1999	36.81	6549.52	2.7	6586.33	51	6532.6 A	35-55	16.9
X22	1543874	493946	56.0	5.0	11/29/1999	36.94	6548.76	2.6	6585.70	50	6533.1 A	36-56	15.7
X23	1544064	494012	56.0	5.0	11/29/1999	15.65	6570.29	2.8	6585.94	47	6536.1 A	36-56	34.2
X24	1544244	494011	56.0	5.0	11/29/1999	35.29	6550.43	2.6	6585.72	46	6537.1 A	36-56	13.3
X25	1544445	494042	53.0	5.0	11/29/1999	38.44	6547.19	2.8	6585.63	46	6536.9 A	33-53	10.3
X26	1544693	493702	53.0	5.0	11/29/1999	27.14	6560.50	2.8	6587.64	43	6541.8 A	33-53	18.7
X27	1544953	493374	71.0	5.0	11/29/1999	45.12	6540.18	5.1	6585.30	64	6516.2 A	31-71	24.0
Y	1541025	491256	60.8	4.0	11/29/1999	44.28	6528.60	2.4	6572.88	57	6513.5 A	54-59	15.1
Z	1540290	490701	73.9	4.0	11/29/1999	4.00	6565.22	0.6	6569.22	68	6500.6 A	60-70	64.6

Note: A = Alluvial Aquifer
M = Middle Chinle Aquifer
T = Tailings Aquifer
* = Well Abandoned
? = Uncertain Identity

TABLE 4.1-2. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER BROADVIEW AND FELICE ACRES WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
						Broadview							
0410	1537440	489840	105.0	6.0	12/06/1994	33.36	6526.30	1.0	6559.66	75	6483.7 A	90-105	42.6
0411	1537400	489510	70.0	6.0	08/07/1996	35.10	6524.90	0.0	6560.00	70	6490.0 A	65-70	34.9
0412	1537940	488830	—	6.0	—	—	—	2.8	6561.00	—	— A	-	—
0413	1537900	490100	—	—	04/27/1994	35.25	6530.75	0.0	6566.00	—	— A	-	—
0421	1538450	491100	88.0	5.0	01/30/1996	37.58	6534.42	0.9	6572.00	92	6479.1 A	72-102	55.3
0422	1538440	490810	80.0	4.0	04/06/1994	32.82	6537.18	1.0	6570.00	75	6494.0 A	60-80	43.2
0423	1538230	490800	—	—	—	—	—	0.0	6570.00	—	— A	-	—
0425	1538430	490630	90.0	6.0	04/07/1994	32.42	6534.58	1.0	6567.00	71	6495.0 A	50-90	39.6
0426	1538230	490620	100.0	—	11/10/1981	30.65	6534.35	0.0	6565.00	80	6485.0 A	80-100	49.4
0427	1538450	490410	121.0	6.0	04/12/1994	35.00	6535.00	0.0	6570.00	81	6489.0 A	62-120	46.0
0428	1538280	490390	110.0	4.0	—	—	—	0.0	6570.00	66	6504.0 A	83-104	—
0429	1538210	490430	100.0	6.0	09/01/1995	37.21	6532.79	0.0	6570.00	74	6496.0 A	58-75	36.8
0430	1538469	490300	145.0	—	—	—	—	0.0	6568.00	—	— A	-	—
										114	6454.0 U	-	—
0431	1538045	490090	130.0	6.0	04/12/1994	35.00	6533.00	0.0	6568.00	60	6508.0 A	125-130	25.0
										60	6450.0 U	125-130	83.0
0432	1538210	489840	—	—	—	—	—	0.0	6565.00	—	— A	-	—
0433	1538220	489620	90.0	4.0	05/02/1997	36.05	6527.95	1.5	6564.00	75	6487.5 A	58-84	40.5
0435	1538220	489300	85.0	6.0	08/07/1996	34.75	6526.25	1.3	6561.00	85	6474.7 A	-	51.5
0438	1537940	490810	120.0	4.0	—	—	—	0.0	6571.00	105	6466.0 A	70-100	—
0439	1537940	490490	97.0	4.0	08/07/1996	39.80	6527.20	1.0	6567.00	75	6491.0 A	77-97	36.2
0440	1537700	490230	—	—	—	—	—	0.0	6566.00	—	— A	-	—
0441	1537720	490090	116.0	6.0	01/30/1995	35.19	6530.81	1.0	6566.00	78	6487.0 A	106-116	43.8
0442	1537940	489840	100.0	4.0	08/07/1996	37.15	6527.85	0.0	6565.00	80	6485.0 A	70-100	42.8
0443	1537940	489280	—	4.0	—	—	—	0.0	6561.00	75	6486.0 A	60-80	—
0444	1537940	489180	80.0	—	05/18/1994	28.84	6532.16	0.0	6561.00	—	— A	-	—
0445	1537720	489300	108.0	6.0	—	—	—	0.0	6561.00	79	6482.0 A	75-105	—
0446	1537720	488850	110.0	6.0	09/08/1983	41.28	6518.72	0.0	6560.00	60	6500.0 U	60-95	18.7
										60	6500.0 A	60-95	18.7
0447	1537490	490480	142.0	6.0	04/11/1985	41.18	6526.82	0.0	6568.00	—	— A	120-142	—
										80	6488.0 U	120-142	38.8
0448	1537400	489100	—	—	—	—	—	0.0	6561.00	—	— A	-	—
0450	1537480	490710	—	6.0	01/25/1995	42.29	6528.71	1.0	6571.00	85	6485.0 A	70-105	43.7
* 0451	1537700	490600	—	—	—	—	—	0.0	0.00	—	— A	-	—
0452	1537880	490420	100.0	4.0	08/07/1996	41.20	6525.80	0.8	6567.00	85	6481.2 A	40-100	44.6

TABLE 4.1-2. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER BROADVIEW AND FELICE ACRES WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
0453	1538375	490300	110.0	4.0	09/14/1999	34.24	6533.76	0.9	6568.00	80	6487.1 A	60-110	46.7
* 0454	1537920	489025	—	4.0	—	—	—	0.0	0.00	—	— A	-	—
SUB1	1537620	489100	—	4.0	11/16/1999	33.12	6527.88	1.0	6561.00	—	— A	-	—
SUB2	1537395	490320	—	4.0	07/17/1998	40.92	6526.65	1.0	6567.57	—	— A	-	—
SUB3	1538280	489420	84.0	6.0	09/24/1998	28.00	6529.07	1.0	6557.07	72	6484.1 A	56-72	45.0
SUB4	1538440	489840	100.0	4.0	09/21/1978	49.11	6515.89	1.0	6565.00	78	6486.0 A	60-85	29.9
SUB5	1537940	489470	86.0	4.0	—	—	—	0.0	6562.31	66	6496.3 A	55-80	—
SUB6	1537940	490090	82.0	4.0	—	—	—	0.0	6566.00	80	6486.0 A	52-82	—
SUB7	1537940	490630	98.0	4.0	—	—	—	0.0	6568.00	85	6483.0 A	78-98	—
SUB8	1538450	490210	150.0	5.0	—	—	—	0.0	6568.00	72	6496.0 A	60-90	—
SUB9	—	—	—	—	—	—	—	0.0	0.00	—	— A	-	—
						Felice Acres							
0481	1538350	490180	320.0	4.0	—	—	—	0.0	6568.00	110	6458.0 A	270-310	—
										110	6298.0 M	270-310	—
0482	1536985	489604	260.0	5.0	04/11/1996	35.85	6526.81	0.0	6562.66	80	6482.7 A	220-260	44.2
										80	6352.7 M	220-260	174.2
0483	1536586	489753	280.0	—	07/24/1996	36.93	6525.73	0.0	6562.66	—	— M	-	—
										—	— A	-	—
0490	1536540	489756	63.0	4.0	10/13/1999	35.61	6526.81	1.2	6562.42	75	6486.2 A	20-80	40.6
0491	1537025	489662	63.0	4.0	12/29/1984	40.33	6522.29	1.3	6562.62	40	6521.3 A	30-63	1.0
0492	1537220	489280	60.0	4.0	03/03/1999	32.13	6528.55	1.2	6560.68	55	6504.5 A	40-60	24.1
0495	1537400	497100	—	—	—	—	—	0.0	6571.00	—	— A	-	—
0496	1534650	489603	94.4	5.0	08/10/1998	51.21	6511.31	1.6	6562.52	86	6474.9 A	53-93	36.4
0497	1535039	489503	94.0	5.0	08/31/1999	50.13	6512.49	2.0	6562.62	89	6471.6 A	64-94	40.9
CW44	1535048	488891	208.0	6.0	11/12/1999	54.24	6506.50	2.5	6560.74	94	6464.2 A	-	42.3
										94	6428.2 M	69-208	78.3

Note: A = Alluvial Aquifer
M = Middle Chinle Aquifer
T = Tailings Aquifer
* = Well Abandoned
? = Uncertain Identity

TABLE 4.1-3. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER MURRAY ACRES AND PLEASANT VALLEY WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
							Murray						
0801	1541020	488600	100.0	4.0	12/21/1994	36.85	6530.88	0.7	6567.73	85	6482.0 A	80-100	48.9
0802	1540790	488190	98.0	6.0	05/22/1997	40.20	6522.52	1.0	6562.72	81	6480.7 A	75-81	41.8
0803	1540800	487430	290.0	6.0	09/19/1983	84.86	6476.14	0.0	6561.00	85	— C	85-180	—
										85	6476.0 A	85-180	0.1
0804	1540790	486790	137.0	6.0	05/22/1996	45.88	6516.12	2.0	6562.00	85	6475.0 A	125-136	41.1
0805	1540695	486373	140.0	5.0	10/06/1994	59.34	6507.66	1.0	6567.00	110	6458.0 A	100-140	51.7
0810	1540290	486700	105.0	6.0	—	—	—	0.0	6562.00	81	6481.0 A	75-101	—
0811	1540320	486373	140.0	4.0	—	—	—	0.0	6563.00	110	6453.0 A	100-140	—
0815	1539090	488100	255.0	4.0	05/22/1991	29.14	6526.12	1.0	6555.26	—	— A	-	—
0844	1538376	487002	75.0	4.0	11/09/1999	36.03	6520.10	1.2	6556.13	70	6484.9 A	35-75	35.2
0845	1537280	487833	65.0	4.0	07/29/1999	34.36	6522.69	1.7	6557.05	55	6500.4 A	45-65	22.3
AW	1540235	488015	156.0	6.0	01/05/1998	15.00	6548.43	0.1	6563.43	63	6500.3 A	-	48.1
										63	6463.3 U	66-155	85.1
HW	1540900	487430	115.0	6.0	11/09/1994	40.00	6517.00	0.0	6557.00	95	6462.0 A	60-94	55.0
							Pleasant Valley						
0688	1541257	483955	105.0	5.0	05/18/1999	59.43	6503.19	2.9	6562.62	95	6464.7 A	65-105	38.5
0831	1540090	486030	—	—	09/06/1983	54.95	6506.05	1.0	6561.00	—	— A	-	—
0833	1539250	485350	110.0	6.0	12/10/1996	46.61	6511.39	1.0	6558.00	103	6454.0 A	60-90	57.4
0834	1540260	484800	100.0	4.0	—	—	—	0.0	6560.00	80	6480.0 A	60-80	—
0835	1539610	484795	98.0	5.0	05/13/1998	50.92	6508.08	1.0	6559.00	94	6464.0 A	73-94	44.1
0836	1540250	484010	90.0	4.0	—	—	—	0.0	6558.00	80	6478.0 A	65-80	—
0838	1540600	485640	100.0	—	07/22/1995	49.03	6513.97	1.0	6563.00	—	— A	-	—
0839	1541120	485465	100.0	5.0	12/19/1994	50.00	6510.00	1.3	6560.00	94	6464.7 A	80-96	45.3
0840	1540440	485360	98.0	6.0	09/08/1983	47.32	6513.68	1.0	6561.00	94	6466.0 A	73-94	47.7
0841	1540835	485020	100.0	—	07/22/1995	54.66	6506.34	0.0	6561.00	—	— A	-	—
0843	1541265	485995	120.0	4.0	06/27/1989	52.40	6517.60	1.0	6570.00	112	6457.0 A	100-110	60.6

Note: A = Alluvial Aquifer
M = Middle Chinle Aquifer
T = Tailings Aquifer
* = Well Abandoned
? = Uncertain Identity

TABLE 4.1-4. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER REGIONAL WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
0531	1541086	478262	—	—	10/30/1996	79.24	6474.55	2.0	6553.79	—	— A	-	—
0532	1518700	482400	—	—	—	—	—	0.0	6515.00	—	— A	-	—
0533	—	—	—	—	—	—	—	0.0	0.00	—	— A	-	—
0631	1532234	483756	118.0	6.0	11/10/1999	73.44	6467.66	2.0	6541.10	109	6430.1 A	58-118	37.6
0632	1531850	483767	110.0	6.0	11/11/1999	72.64	6468.66	3.0	6541.30	102	6436.3 A	70-110	32.4
0633	1541467	479642	83.0	8.0	12/28/1999	74.17	6483.39	0.0	6557.56	95	6462.6 A	11-83	20.8
0634	1541652	480363	103.0	4.5	08/05/1999	71.44	6488.63	2.8	6560.07	95	6462.3 A	80-100	26.4
0635	1535363	478401	63.0	12.0	—	—	—	—	6546.25	—	— A	4-63	—
0636	1545374	476038	123.0	4.5	—	—	—	0.0	6573.44	119	6454.4 A	103-123	—
0637	1545409	474710	124.0	4.5	—	—	—	0.0	6575.20	118	6457.2 A	104-124	—
0640	1537790	491961	84.0	5.0	07/22/1999	52.83	6527.14	2.2	6579.97	77	6500.8 A	64-84	26.4
0641	1536494	491110	95.0	5.0	07/22/1999	50.45	6522.91	2.5	6573.36	87	6483.9 A	65-95	39.0
0642	1536104	490932	95.0	5.0	07/22/1999	50.87	6521.01	2.4	6571.88	89	6480.5 A	65-95	40.5
0643	1533760	487386	108.0	5.0	10/19/1999	64.11	6487.22	1.5	6551.33	93	6456.8 A	58-108	30.4
0644	1533481	485450	110.0	5.0	10/19/1999	65.45	6478.45	2.2	6543.90	102	6439.7 A	55-110	38.8
0645	1532924	485282	80.0	5.0	10/19/1998	66.48	6477.31	2.5	6543.79	70	6471.3 A	60-80	6.0
0646	1533246	484953	100.0	5.0	10/19/1999	66.93	6476.42	1.5	6543.35	91	6450.9 A	60-100	25.6
0647	1536623	478308	140.0	4.5	11/11/1999	81.15	6470.76	1.4	6551.91	132	6418.5 A	80-140	52.2
0648	1534730	478343	120.0	4.5	11/11/1999	80.89	6466.90	0.5	6547.79	120	6427.3 A	80-120	39.6
0649	1534730	479798	124.0	4.5	11/11/1999	74.62	6468.67	0.3	6543.29	115	6428.0 A	84-124	40.7
0650	1536779	482135	109.0	4.5	04/14/1998	71.10	6476.01	2.2	6547.11	103	6441.9 A	89-109	34.1
0652	1531170	483779	88.0	5.0	10/19/1999	70.68	6467.47	1.5	6538.15	79	6457.6 A	60-88	9.8
0653	1533283	486570	206.0	6.0	10/19/1998	63.05	6481.92	1.3	6544.97	97	6446.7 A	69-206	35.3
										97	6408.7 L	-	73.3
0654	1541994	478636	120.0	4.5	08/04/1999	73.30	6477.20	1.4	6550.50	106	6443.1 A	60-120	34.1
0655	1541620	479830	96.0	8.0	12/28/1999	74.58	6483.60	—	6558.18	88	— A	21-84	—
0656	1542578	478333	88.0	8.0	12/28/1999	29.62	6524.45	—	6554.07	88	— A	6-88	—
0657	1537497	478392	128.0	6.0	11/11/1999	79.66	6472.15	2.2	6551.81	120	6429.6 A	87-128	42.5
0657A	1537083	478412	35.0	8.0	04/13/1999	37.00	6512.00	—	6549.00	—	— A	17-35	—
0658	1535922	478436	130.0	6.0	11/11/1999	81.65	6468.53	0.4	6550.18	129	6420.8 A	89-130	47.7
0658A	1535589	478423	30.6	12.0	—	—	—	—	6546.10	—	— A	14-31	—
0659	1541689	480772	101.0	4.5	08/05/1999	70.27	6489.90	2.0	6560.17	97	6461.2 A	61-101	28.7
0680	1543850	478746	80.0	4.5	10/25/1996	77.39	6481.48	2.0	6558.87	75	6481.9 A	50-80	0.0
0681	1540676	482734	117.0	6.0	09/24/1998	64.18	6496.34	2.1	6560.52	111	6447.4 A	67-117	48.9
0682	1543125	477489	94.0	4.0	12/28/1999	73.66	6480.31	2.0	6553.97	102	6450.0 A	54-94	30.3
0683	1540198	476217	120.0	6.0	09/29/1999	79.61	6476.43	2.0	6556.04	140	6414.0 A	80-120	62.4

TABLE 4.1-4. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER REGIONAL WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
0684	1540273	478499	143.0	6.0	09/30/1999	77.78	6475.50	2.0	6553.28	118	6433.3 A	83-143	42.2
0685	1539098	478170	100.0	4.5	09/29/1999	82.00	6474.57	1.7	6556.57	116	6438.9 A	60-100	35.7
0686	1545319	475438	115.0	4.5	09/29/1999	101.39	6477.41	1.8	6578.80	136	6441.0 A	75-115	36.4
0687	1539011	477276	102.0	6.0	09/29/1999	81.40	6474.56	2.1	6555.96	120	6433.8 A	62-102	40.7
0689	1530024	478478	80.0	4.5	07/27/1999	64.33	6477.69	2.6	6542.02	75	6464.4 A	60-80	13.3
0692	1535892	493175	90.0	5.0	07/26/1999	66.22	6518.60	2.5	6584.82	80	6502.3 A	58-90	16.3
0846	1537219	484730	75.0	4.0	11/09/1999	44.27	6504.65	1.1	6548.92	65	6482.8 A	40-65	21.8
0847	1534736	488508	92.0	5.0	11/22/1996	53.88	6504.39	2.6	6558.27	80	6475.7 A	52-92	28.7
0848	1534634	490660	92.0	5.0	07/26/1999	56.88	6515.61	2.6	6572.49	91	6478.8 A	52-92	36.8
0851	1534692	483909	91.0	5.0	09/01/1999	71.75	6474.69	3.3	6546.44	80	6463.1 A	41-91	11.6
0852	1535610	493989	74.0	5.0	11/22/1996	73.26	6516.88	2.5	6590.14	70	6517.7 A	54-74	0.0
0855	1532111	484184	105.0	5.0	09/01/1999	69.71	6471.40	2.1	6541.11	97	6442.0 A	70-105	29.4
0861	1534332	488702	100.0	5.0	08/31/1999	63.14	6496.71	2.3	6559.85	65	6492.6 A	50-100	4.2
0862	1534265	487800	110.0	5.0	11/12/1999	57.32	6498.86	3.3	6556.18	97	6455.9 A	63-103	43.0
0863	1533867	487912	110.0	5.0	09/01/1999	63.80	6492.76	2.5	6556.56	94	6460.1 A	63-103	32.7
0864	1533735	486464	95.0	5.0	09/01/1999	64.28	6482.44	1.9	6546.72	78	6466.9 A	44-84	15.6
0865	1534123	488429	97.0	5.0	08/31/1999	61.03	6495.75	2.2	6556.78	88	6466.6 A	37-97	29.2
0866	1534494	488340	120.0	5.0	08/31/1999	55.80	6502.32	1.8	6558.12	80	6476.3 A	33-113	26.0
										80	6476.3 A	33-113	26.0
0867	1533762	488409	88.0	5.0	08/31/1999	61.18	6494.72	2.0	6555.90	86	6467.9 A	48-88	26.8
0868	1534848	491033	103.0	5.0	09/01/1999	58.58	6516.16	2.2	6574.74	94	6478.5 A	53-103	37.6
0869	1533251	486073	94.0	5.0	09/02/1999	64.12	6480.37	2.0	6544.49	99	6443.5 A	44-94	36.8
* 0870	1532680	484906	93.0	5.0	01/11/1996	68.56	6475.60	1.9	6544.16	95	6447.3 A	69-89	28.3
0871	1533603	485400	100.0	5.0	01/11/1996	66.86	6477.85	2.4	6544.71	93	6449.3 A	60-100	28.5
* 0872	1533092	485407	100.0	5.0	01/11/1996	65.80	6477.51	1.8	6543.31	96	6445.5 A	55-100	32.0
* 0873	1533286	484505	100.0	5.0	01/11/1996	67.55	6475.46	1.9	6543.01	96	6445.1 A	60-100	30.3
* 0874	1533968	484925	105.0	5.0	01/11/1996	68.68	6476.66	2.2	6545.34	110	6433.1 A	55-105	43.5
* 0875	1532785	483634	125.0	5.0	01/11/1996	69.85	6472.99	1.7	6542.84	116	6425.1 A	65-125	47.9
0876	1532853	486088	95.0	5.0	09/01/1999	63.84	6480.42	1.9	6544.26	85	6457.4 A	58-88	23.1
0877	1533068	488067	70.0	5.0	08/18/1998	63.58	6489.50	1.9	6553.08	65	6486.2 A	58-68	3.3
0879	1532401	486104	70.0	5.0	08/18/1997	64.68	6479.87	2.2	6544.55	62	6480.4 A	48-68	0.0
0881	1542034	481478	96.0	4.5	09/28/1999	73.15	6491.89	2.0	6565.04	103	6460.0 A	76-96	31.8
0882	1541404	482396	110.0	4.5	09/28/1999	64.93	6496.23	2.0	6561.16	98	6461.2 A	70-110	35.0
0883	1540097	483039	100.0	5.0	09/28/1999	59.39	6497.74	1.9	6557.13	96	6459.3 A	60-90	38.5
0884	1542677	481498	90.0	5.0	09/30/1999	73.60	6492.50	0.9	6566.10	85	6480.2 A	58-88	12.4
0885	1541919	483474	100.0	5.0	09/28/1999	64.65	6499.99	1.5	6564.64	95	6468.1 A	70-100	31.8

TABLE 4.1-4. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER REGIONAL WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
0886	1542327	482487	90.0	5.0	09/28/1999	68.60	6495.95	1.5	6564.55	87	6476.1 A	60-90	19.9
0887	1543063	482469	67.0	5.0	03/12/1998	69.21	6498.52	1.5	6567.73	60	6506.2 A	42-67	0.0
0888	1542285	479335	105.0	5.0	09/28/1999	75.80	6481.53	1.1	6557.33	90	6466.2 A	75-105	15.3
0889	1540047	480222	65.0	5.0	10/24/1996	63.31	6486.32	1.5	6549.63	60	6488.2 A	35-65	0.0
0890	1541365	480088	101.0	5.0	09/28/1999	73.12	6485.31	1.7	6558.43	93	6463.7 A	81-101	21.6
0893	1541934	482244	98.0	4.5	09/28/1999	68.88	6495.09	2.1	6563.97	93	6468.9 A	78-98	26.2
0894	1541976	478317	78.0	4.5	12/28/1999	74.92	6479.37	2.0	6554.29	97	6455.3 A	58-78	24.1
0895	1541521	476222	104.0	5.0	09/29/1999	76.34	6477.50	2.4	6553.84	116	6435.4 A	61-101	42.1
0896	1542246	476237	113.0	5.0	09/29/1999	77.77	6477.84	2.0	6555.61	117	6436.6 A	73-113	41.2
0897	1543819	478237	93.0	4.0	09/27/1998	83.28	6478.97	2.0	6562.25	70	6490.3 A	63-93	0.0
0899	1543801	477288	110.0	4.0	09/28/1999	91.78	6479.06	2.0	6570.84	120	6448.8 A	70-110	30.2
0905	1532700	489450	120.0	5.0	—	—	—	0.0	6545.00	120	6425.0 A	100-120	—
0906	1532900	489450	—	—	08/29/1995	74.65	6462.75	0.0	6537.40	—	— A	-	—
0909	1531900	483400	140.0	4.0	11/19/1982	77.45	6461.45	0.0	6538.90	112	6426.9 A	80-135	34.6
										112	6426.9 L	80-135	34.6
0910	1528800	481150	138.0	5.0	—	—	—	0.0	6535.00	132	6403.0 A	120-134	—
0912	1471000	478250	—	—	—	—	—	0.0	6530.00	—	— A	-	—
0913	1555800	500950	—	8.0	01/24/1996	38.40	6604.60	0.3	6643.00	—	— A	-	—
0914	1555500	500850	—	6.0	05/19/1999	39.86	6602.14	1.4	6642.00	—	— A	-	—
0915	1552650	499650	100.0	4.0	—	—	—	0.0	6625.00	70	6555.0 A	55-85	—
0916	1552350	499600	160.0	4.0	04/26/1994	40.00	6585.00	0.0	6625.00	—	— A	45-70	—
0917	1542200	514600	—	—	—	—	—	0.0	6800.00	—	— A	-	—
0920	1555800	496900	—	7.0	05/11/1994	33.40	6594.20	0.7	6627.60	—	— A	-	—
0921	1555400	495800	—	5.0	05/19/1999	38.65	6585.35	1.9	6624.00	—	— A	-	—
0922	1555200	492500	—	6.0	05/19/1999	53.30	6568.40	1.7	6621.70	—	— A	-	—
0924	1547500	438900	135.0	4.0	—	—	—	0.0	6592.90	112	6480.9 A	94-114	—
0925	1548600	480800	150.0	4.0	—	—	—	0.0	6601.40	140	6461.4 A	126-141	—
0926	1547500	482700	134.0	4.0	—	—	—	0.0	6596.90	132	6464.9 A	123-132	—
0935	1540115	476629	300.0	16.0	09/30/1999	81.87	6476.25	2.6	6558.12	125	6430.5 A	95-132	45.7
0936	1543621	472978	160.0	5.0	—	—	—	0.0	6573.38	160	6413.4 A	100-160	—
0939	1539750	483200	97.0	8.0	07/25/1996	59.31	6497.69	2.3	6557.00	—	— A	-	—
0940	1537750	482850	70.0	—	07/24/1996	57.30	6495.70	8.8	6553.00	—	— A	-	—
0942	1538300	483710	102.0	—	—	—	—	0.0	6550.20	95	6455.2 A	85-95	—
0947	1536206	491841	100.0	4.0	07/27/1994	54.63	6520.55	0.0	6575.18	95	6480.2 A	70-100	40.4
0950	1560400	498300	81.0	5.0	—	—	—	0.5	6657.00	—	— A	-	—
0952	1534550	477800	140.0	—	—	—	—	0.0	6550.00	—	— A	-	—

TABLE 4.1-4. BASIC WELL DATA FOR THE ALLUVIAL AQUIFER REGIONAL WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO BASE OF ALLUVIUM (FT-LSD)	ELEV. TO BASE OF ALLUVIUM (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	SATURATED THICKNESS
0975	1539640	482880	—	—	—	—	—	0.0	6556.00	—	— A	-	—
0976	1539630	483100	115.0	—	—	—	—	0.0	0.00	—	— A	-	—
0977	1539400	482730	—	—	12/09/1995	61.47	6495.53	1.0	6557.00	—	— A	-	—
0979	1539010	483280	105.0	5.0	—	—	—	0.0	6651.00	100	6551.0 A	90-100	—
0980	1539040	483080	—	—	11/08/1995	57.70	6497.30	0.0	6555.00	—	— A	-	—
0981	1538970	482820	—	—	—	—	—	0.0	6554.00	—	— A	-	—
0982	1538370	483290	110.0	5.0	—	—	—	0.0	6651.00	105	6546.0 A	90-105	—
0983	1538590	483100	—	—	—	—	—	0.0	6552.00	—	— A	-	—
0984	1538750	482950	103.0	5.0	—	—	—	0.0	6651.00	98	6553.0 A	88-98	—
0985	1538820	483180	115.0	5.0	07/18/1996	58.75	6592.25	0.0	6651.00	102	6549.0 A	90-110	43.3
0989	1537890	482760	—	—	11/02/1995	58.10	6494.90	1.0	6553.00	—	— A	-	—
0992	1539340	483780	100.0	5.0	—	—	—	0.0	6652.00	95	6557.0 A	85-95	—
0993	1537860	483680	102.0	5.0	—	—	—	0.0	6650.00	98	6552.0 A	85-98	—
0994	1539700	476240	144.0	6.0	03/24/1998	84.70	6470.30	0.0	6555.00	—	— L	95-110	—
										—	— A	95-110	—
0996	1537621	477989	138.0	5.0	09/29/1999	80.75	6471.77	0.0	6552.52	136	6416.5 A	126-136	55.3
0997	1539821	473807	—	—	03/12/1996	76.90	6491.40	0.0	6568.30	—	— A	-	—
0999	1524230	480187	—	—	—	—	—	0.0	6527.00	—	— A	-	—
1012	—	—	—	6.0	—	—	—	0.0	0.00	—	— A	-	—
1013	—	—	—	4.0	—	—	—	0.0	0.00	—	— A	-	—
1014	—	—	—	9.0	—	—	—	0.0	0.00	—	— A	-	—
1015	—	—	—	6.0	—	—	—	0.0	0.00	—	— A	-	—
1018	—	—	—	5.0	—	—	—	0.0	0.00	—	— A	-	—
1020	—	—	—	5.0	01/18/1996	15.17	-15.17	0.0	0.00	—	— A	-	—
1021	—	—	—	—	01/18/1996	18.00	-18.00	0.0	0.00	—	— A	-	—

Note: A = Alluvial Aquifer
M = Middle Chinle Aquifer
T = Tailings Aquifer
* = Well Abandoned
? = Uncertain Identity

4.2 ALLUVIAL WATER LEVELS

4.2.1 WATER-LEVEL ELEVATION - ALLUVIAL

This section presents information necessary to define the direction that ground water moves in the alluvial aquifer. Water-level elevations are used to define the gradient of the alluvial water table, which in turn can be used to define the direction of ground-water flow.

Figures 4.2-1A and 4.2-1B present Fall of 1999 alluvial aquifer water-level elevations for what has been termed the west area and the Grants Project area near Homestake's tailings, respectively. Additionally, these figures show, with patterned areas, where the alluvial aquifer is absent due to lack of saturation. These areas were defined based on the 1998 water-level elevation map and base of the alluvium map. Adjustments in the alluvial aquifer limits using 1999 water-level elevation data were not done, because the differences were very small. These unsaturated areas exist where the elevation of the base of the alluvium is equal to or greater than the water-level elevation. Locations of the alluvial wells, with their respective well names listed adjacent to the well symbol, are plotted on Figures 4.1-1A and 4.1-1B. The 1999 ground-water flow patterns in the alluvial aquifer are very similar to those observed in the Fall of 1998, except for an increased depression on the south side of the large tailings due to additional collection (see Figures 4.2-1A and 4.2-1B of Hydro-Engineering, L.L.C., 1998). One-foot water-level elevation contour intervals were drawn near the collection wells where space allowed. Water-level elevations define the area of collection and a pattern outlines their area on Figure 2.1-1. The area of collection is between the fresh-water injection and the collection wells where water is flowing back to the collection wells. The area of the large tailings is also within the collection area because alluvial ground water in this area flows to the collection wells.

Several wells have been drilled in the area of the zero saturation boundaries to better define the limits of the alluvial aquifer. Water was observed in some of these wells in the Chinle shale below the alluvium. There may be zones of perched water in the upper part of the Chinle shale. These wells have been used to help define where the zero saturation of the alluvium occurs and their water levels should be used with caution.

Figure 4.2-1A shows the direction of alluvial ground-water flow in the area immediately west of the Grants Project area with red flow arrows. Flow in the San Mateo alluvium is forced to flow through the western portion of Section 28 due to the zero saturation limits to the north and south of this area. The San Mateo alluvial water then mixes with the Rio San Jose alluvial water, which continues to flow to the south. The gradient is very flat in the Rio San Jose alluvium due to its large transmitting ability. Alluvial ground water that flows through the northern portion of Section 3 (see Figure 4.2-1B) joins the Rio San Jose ground-water system in the eastern portion of Section 4.

Water-level data for the HMC alluvial wells are presented in Table A.1-1 of Appendix A. Table A.1-2 presents alluvial water-level data measured in wells located in Murray Acres, Broadview Acres, Felice Acres, and Pleasant Valley Estates. The water levels from the four subdivisions are presented in numeric and alphabetical order, with wells 453 and Sub 1 from Broadview Acres and wells 490, 492, 497 and CW44 from Felice Acres. Water levels from wells 844 and 845 are from Murray Acres, while well 688 is located in Pleasant Valley. The alluvial water-level data for the regional wells are presented in Table A.1-3 of Appendix A.

4.2.2 WATER-LEVEL CHANGE - ALLUVIAL

Figure 4.2-2 presents wells that were grouped together on water-level elevation versus time plots. The figure number of the water-level elevation plots for each group of wells is shown by the well groupings. The colors used for the well name and well symbol on Figure 4.2-2 are the same as those used on the water-level elevation plots. Water-level elevation data considered to be inaccurate were removed from the plots for better visual presentation of trends, but the excluded data remains in the Appendix A tabulations. These time plots present only the last five years of data to better show the 1999 trends.

Water levels in the alluvial aquifer have been fairly stable during the last year. Figure 4.2-3 presents water-level elevation data for upgradient wells P, Q, R and DD. A very gradual increasing trend has been observed in upgradient well R for several years. A gradual decline in the water level in well P occurred during 1999 due to the upgradient collection. The upgradient pumping was increased in 1998 after the addition of wells P3 and P4. Figure 4.2-4 presents water-level elevation data for the wells located on the north side, (upgradient) of the large tailings. The wells included on Figure 4.2-4 are N, NC, O and S11. Wells N and O are located on the northwest and northeast corners of the large tailings pile, respectively. Well NC is located to the north of the large tailings pile, with well S11 to the west of the northwest corner of the large tailings. The increase in the upgradient collection has caused a gradual decline in water levels in wells N and NC. Water-level rise is being observed in well S11.

Water-level elevation data are presented for two sets of gradient reversal wells located near the S line of the collection system. Reversal wells SP and SO are located just northeast of the majority of the S line of collection wells. Figure 4.2-5 presents water-level elevation data for these two wells and shows that the alluvial hydraulic gradient is reversed between wells SO and SP. A larger reversal had been developed in this area in 1999 but water levels were allowed to rise in late 1999 due to less pumping in this area. Wells S1 and S2 are the two reversal wells downgradient of the S line of collection wells (see Figures 4.1-1B and 4.2-2 for location). Recent data from these four wells show reversal of the ground-water surface downgradient of the S collection wells (see Figure 4.2-6) has decreased in this area due to rising water levels. Additional collection in this area is being initiated to return to the larger reversals.

Figure 4.2-7 presents water-level elevation data for a group of wells located west of the S line of collection wells. Water-level elevations in wells BC, DC, MO and S4 increased in 1999.

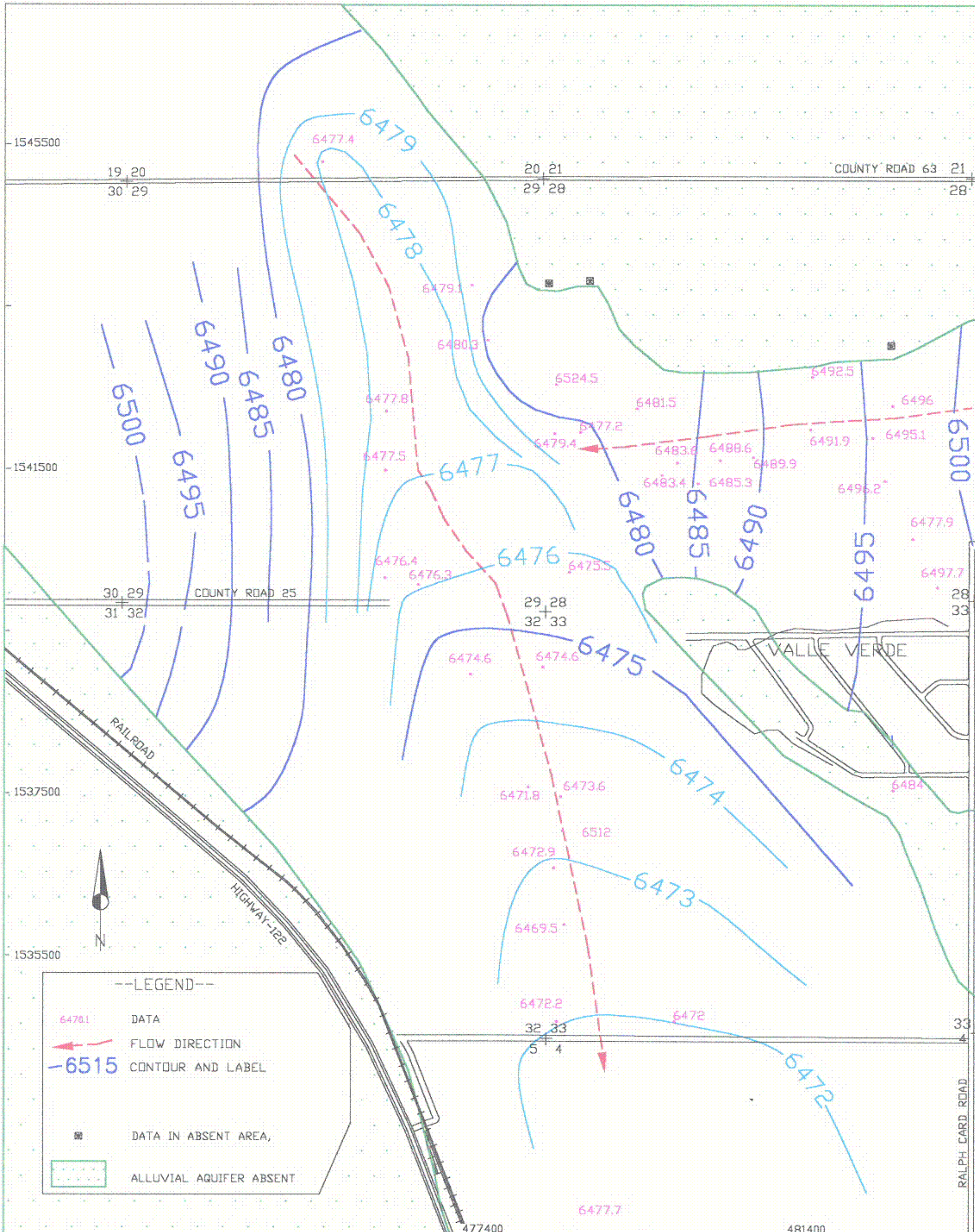
The alluvial hydraulic gradient northeast of the Murray Acres injection system, between wells WR11 and S3, was increased in 1999. The collection and injection at the planned 2000 rates should continue to increase this reversal with time (see Figure 4.2-8).

The pair of reversal wells B and BA is used to define the gradient between the M and J injection lines and the D collection line. Figure 4.2-9 presents water-level elevation data for wells B and BA. Well B is downgradient of well BA, and a ground-water reversal is demonstrated when its water-level elevation is greater than that in well BA. A ground-water gradient from the south to the north exists in this area and the gradient reversal was increased in 1999. Water levels in this area declined gradually in 1999.

Figure 4.2-10 presents water-level elevation plots for alluvial wells BP, B1, D1, M5 and PM, which are located near the collection ponds (lined). This plot shows that the water levels gradually declined in 1999 in all of these wells due to additional collection in this area.

Water-level elevations in the alluvial aquifer near the small tailings collection system, at reversal wells KF and KZ, are presented on Figure 4.2-11. Well KF is further south and closer to the J injection line and, therefore, naturally downgradient of well KZ. This plot shows that during 1999 a reversal of the ground-water gradient was maintained and slightly increased. This pair of reversal wells will be adequate to define the ground-water gradient between the major zone of fresh-water injection and the collection system until the injected fresh water moves to the north of these wells. Figure 4.2-12 presents water-level elevation data for wells B10, DZ and L6. This data demonstrates the changes in water levels near the north and east sides of the small tailings. The variable water levels in well B10 are due to the collection from this well. Figure 4.2-13 shows the water-level elevation plots for wells I, KM, X and Y. Water levels rose in collection well X in 1999 and greatly increased in well KM when injection started in this well.

Water-level elevations in the alluvial aquifer south of the Broadview Acres injection system were maintained high during 1999 (see water levels for wells SUB1, 453, 492 and 490 on Figure 4.2-14). The gradient between Felice Acres alluvial wells 492 and 490 is presently from 492 to 490, as it has been most of the time. Water levels were fairly steady in alluvial wells FB, 844, 846, 688 and MX during 1999 (see Figure 4.2-15). The fresh water mound at well MX is gradually increasing.

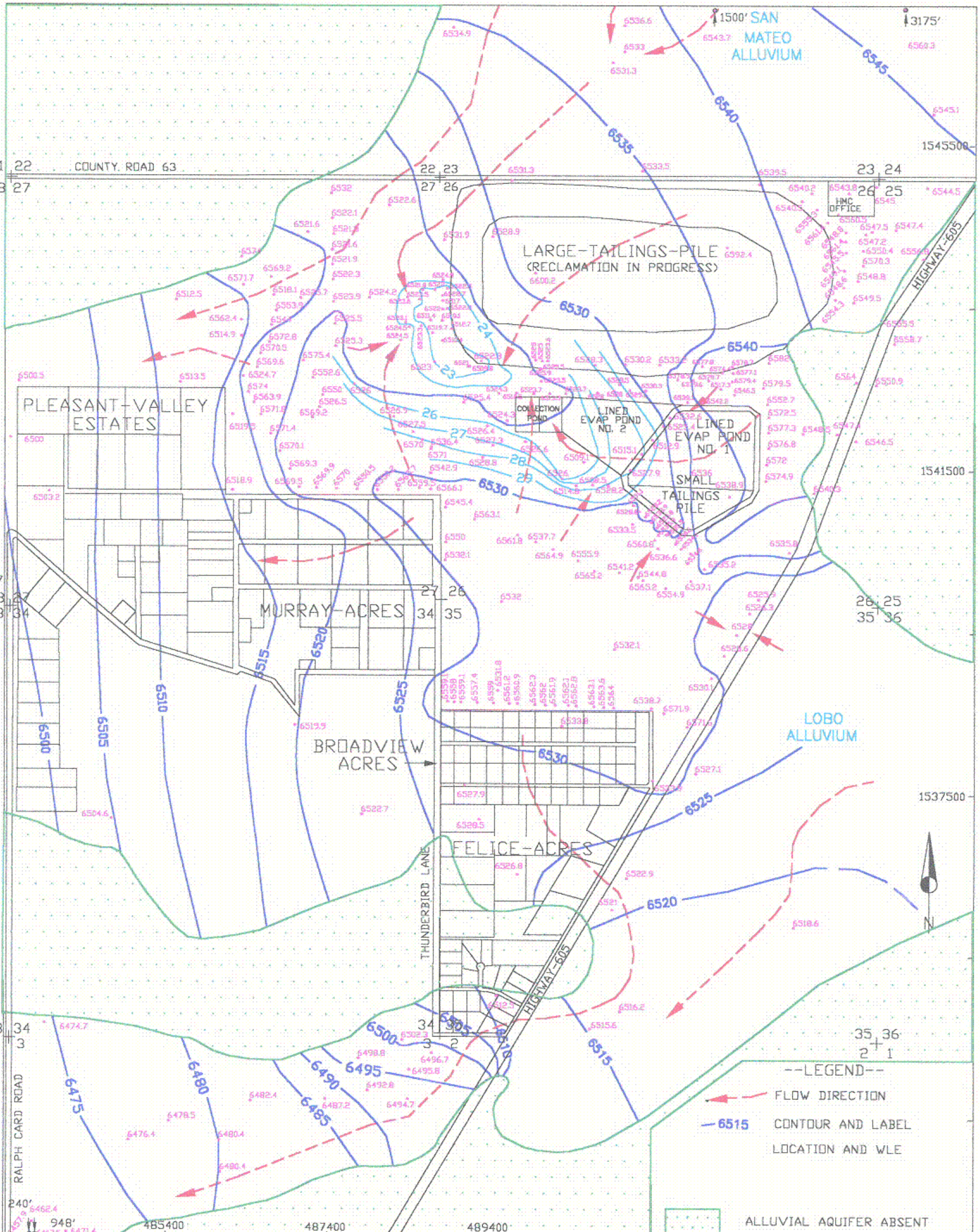


SCALE: 1"=1000'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/06/2000

FIGURE 4.2-1A. WATER-LEVEL ELEVATION FOR THE ALLUVIAL AQUIFER, (WEST AREA), FALL 1999, FT-MSL

R13\DOS\
HMC2000\2000WQAL

C9

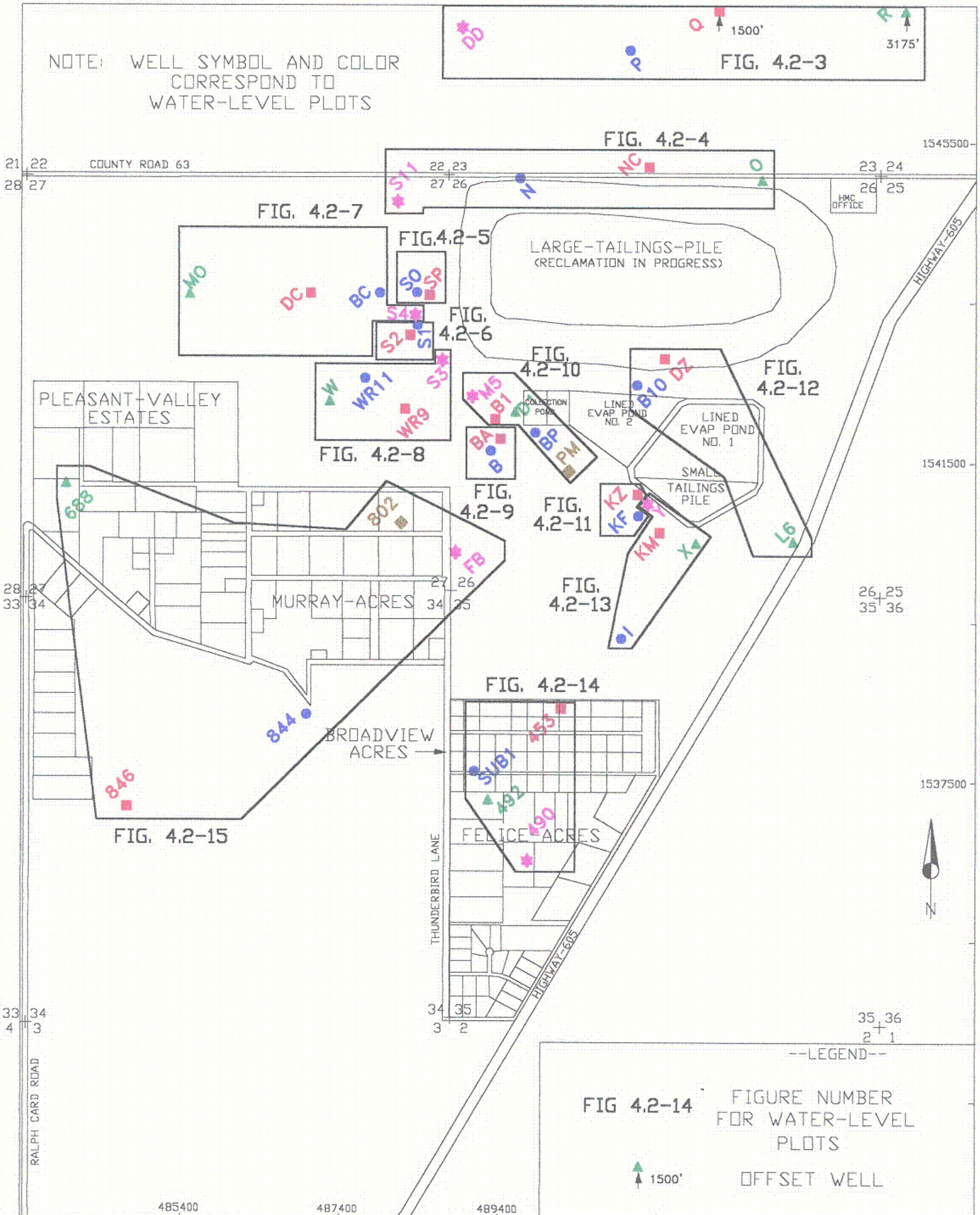


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.2-1B. WATER-LEVEL ELEVATION FOR THE ALLUVIAL AQUIFER, FALL 1999, FT-MSL

R13\DOS
HMC2000\2000EQAL

C10



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/31/2000
	FIGURE 4.2-2. LOCATIONS OF ALLUVIAL WELLS WITH WATER-LEVEL PLOTS	R13\DOS HMC2000\2000FIGS
		page 4.2-7

C11

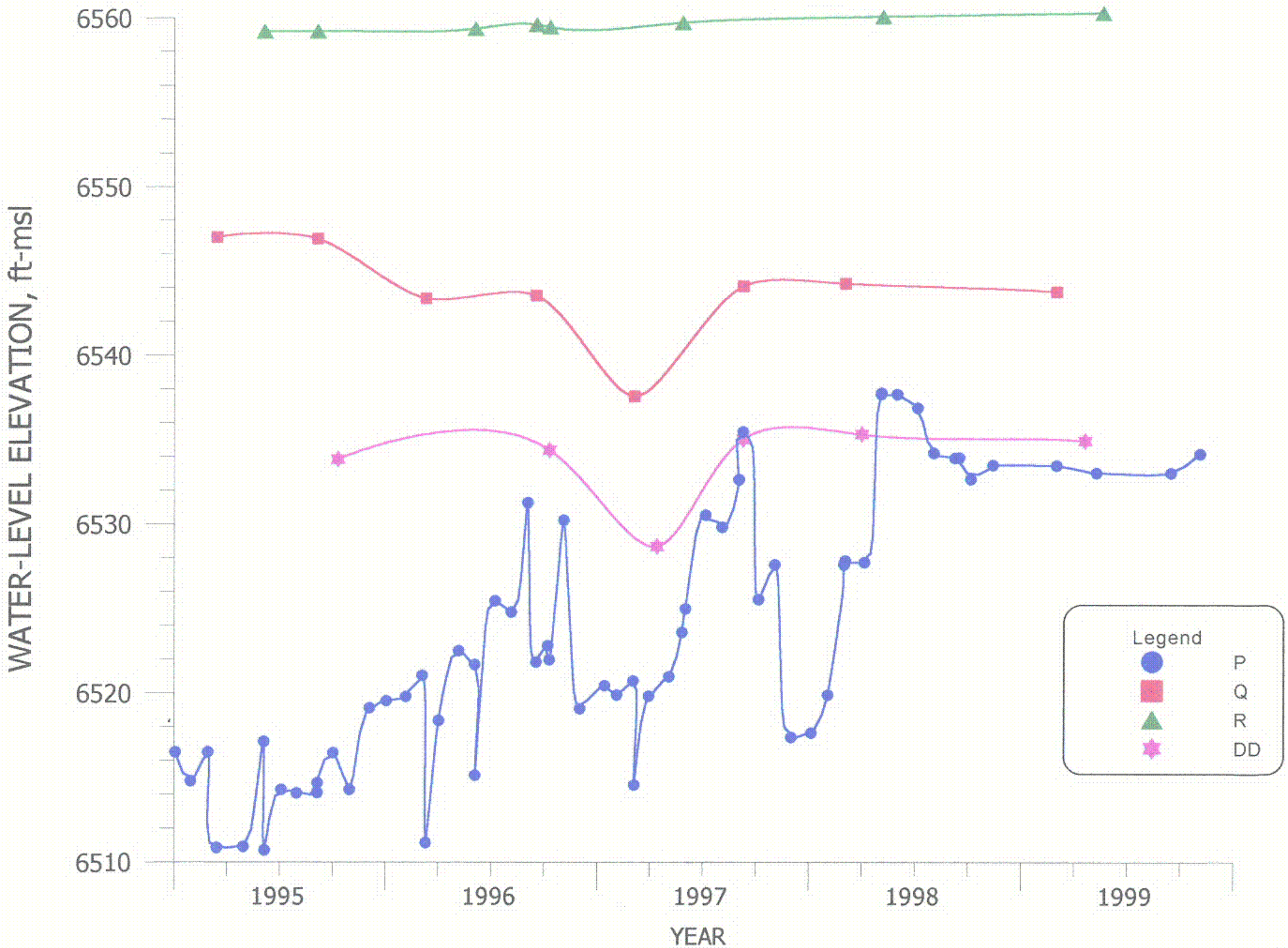


FIGURE 4.2-3. WATER-LEVEL ELEVATION FOR WELLS P, Q, R AND DD. C12

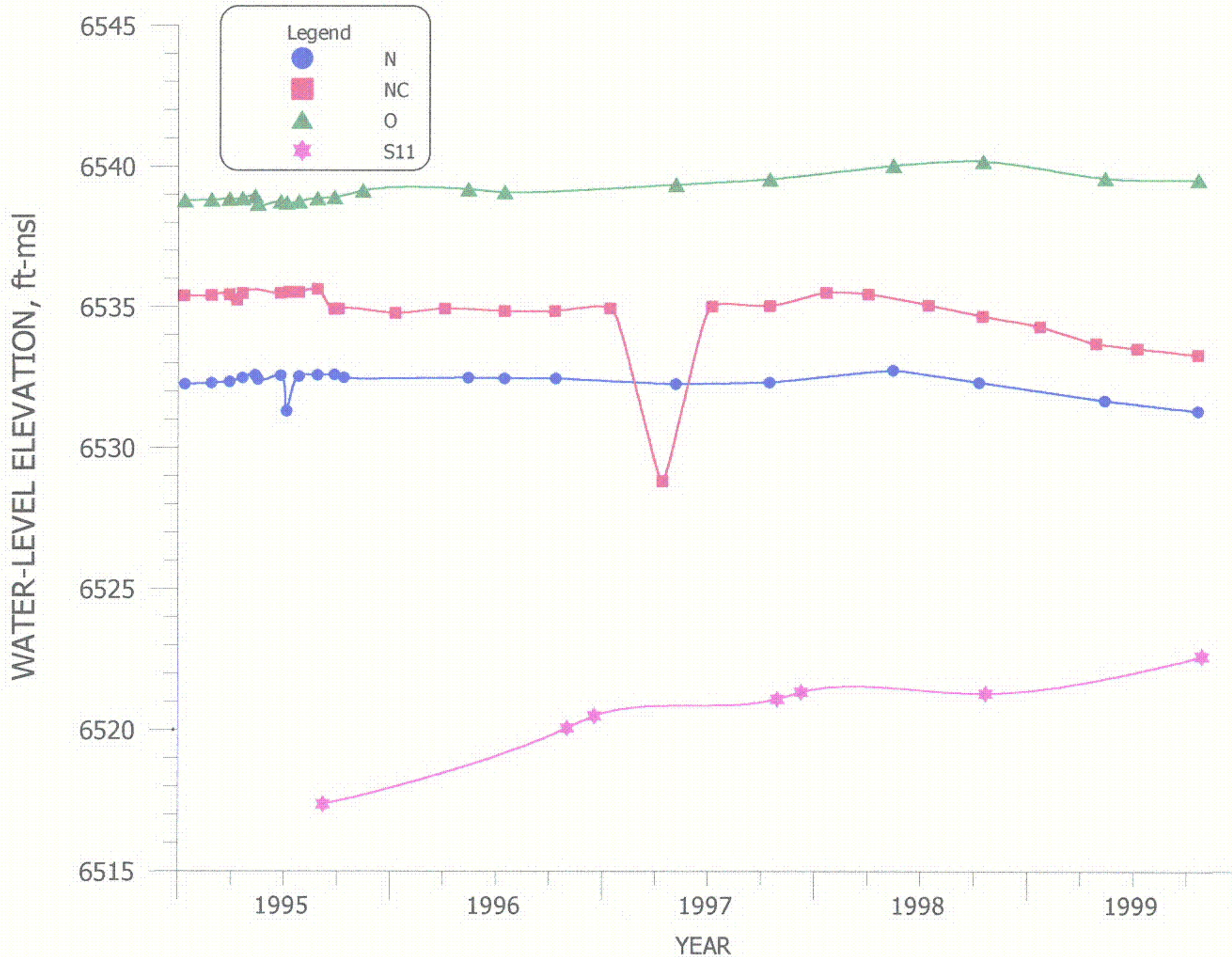


FIGURE 4.2-4. WATER-LEVEL ELEVATION FOR WELLS N, NC, 0 AND S11. C13

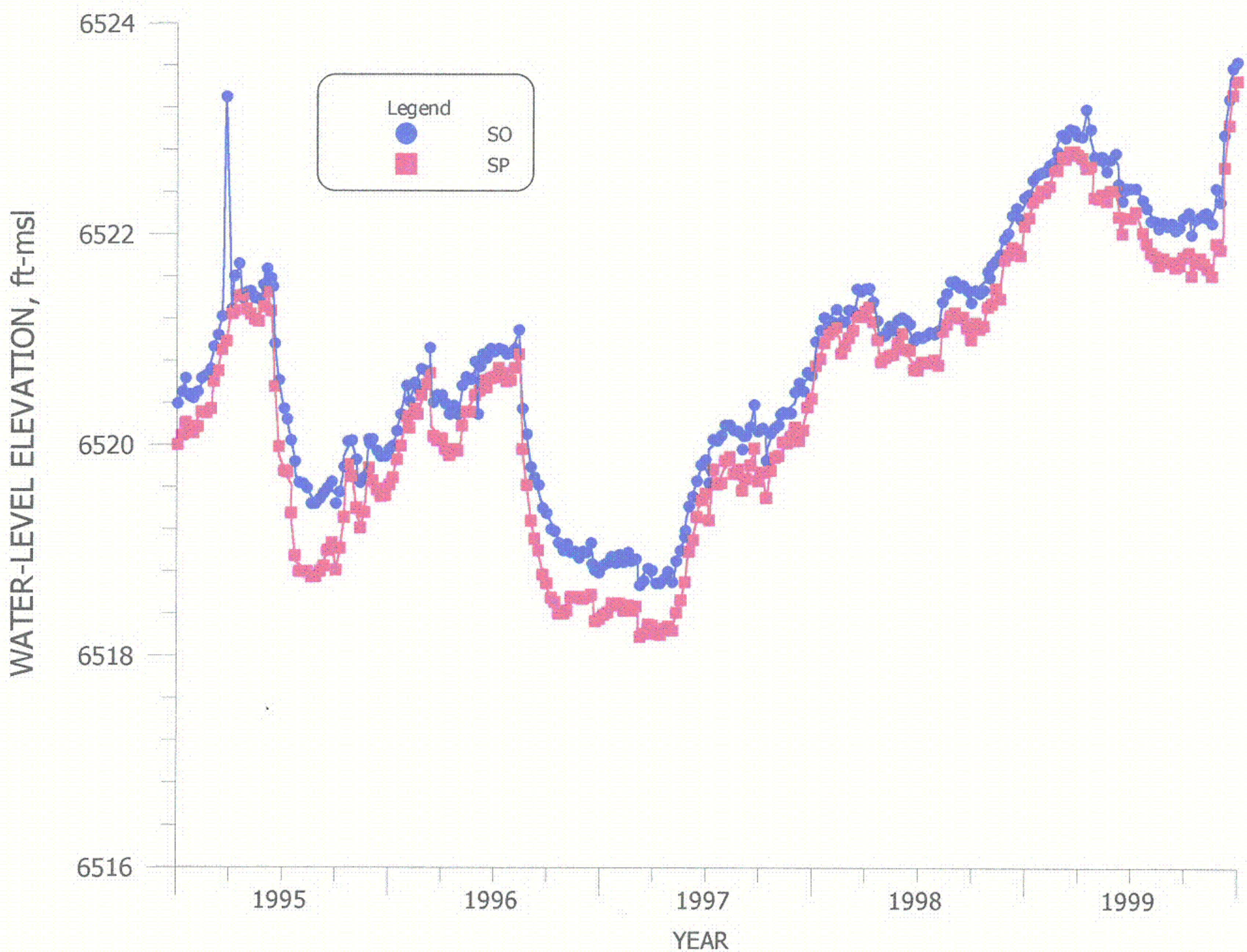


FIGURE 4.2-5. WATER-LEVEL ELEVATION FOR WELLS SO AND SP.

C14

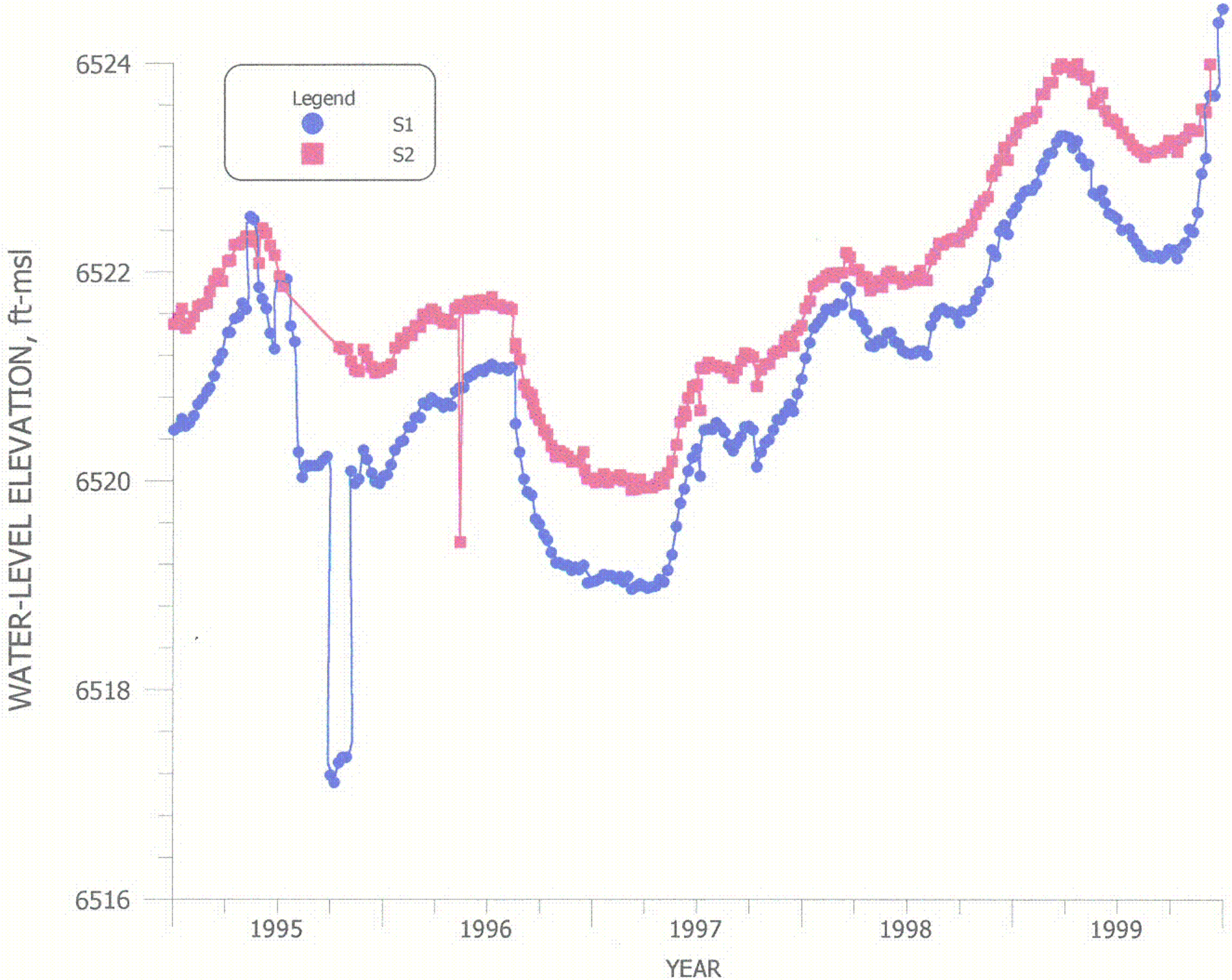


FIGURE 4.2-6. WATER-LEVEL ELEVATION FOR WELLS S1 AND S2.

C 15

FIGURE 4.2-7. WATER-LEVEL ELEVATION FOR WELLS BC, DC, MO AND S4.

C 16

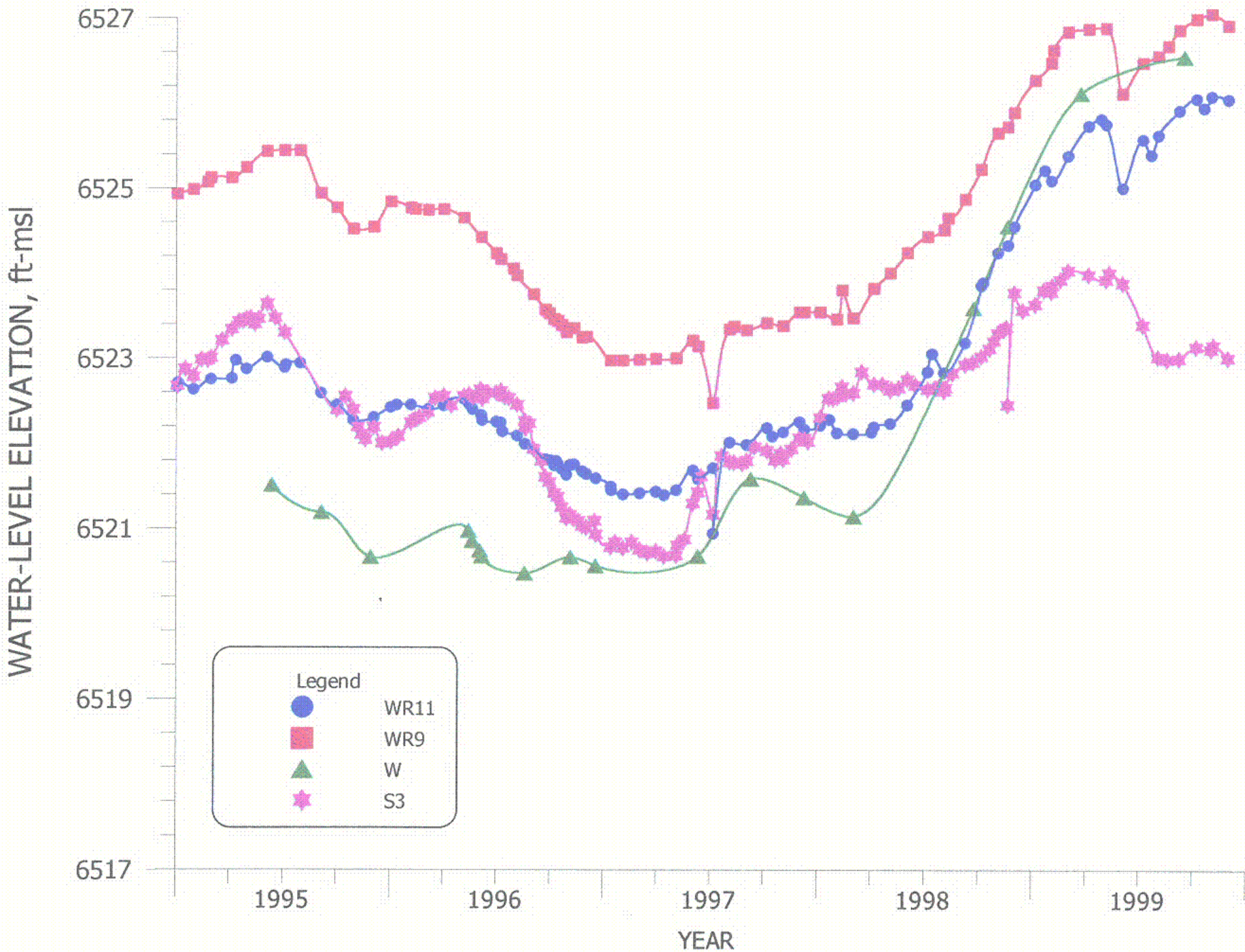


FIGURE 4.2-8. WATER-LEVEL ELEVATION FOR WELLS WR11, WR9, W AND S3.

C17

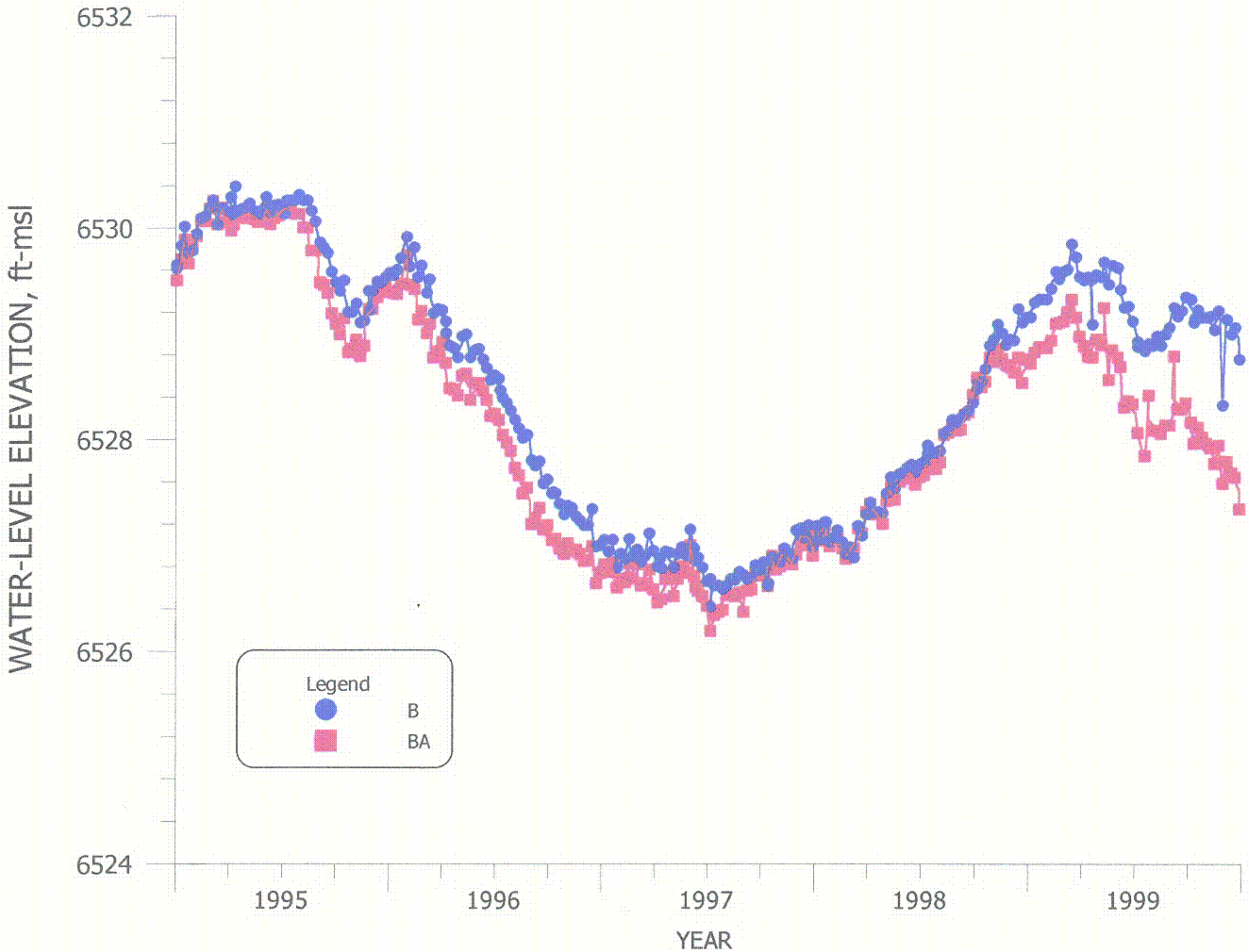


FIGURE 4.2-9. WATER-LEVEL ELEVATION FOR WELLS B AND BA.

C18

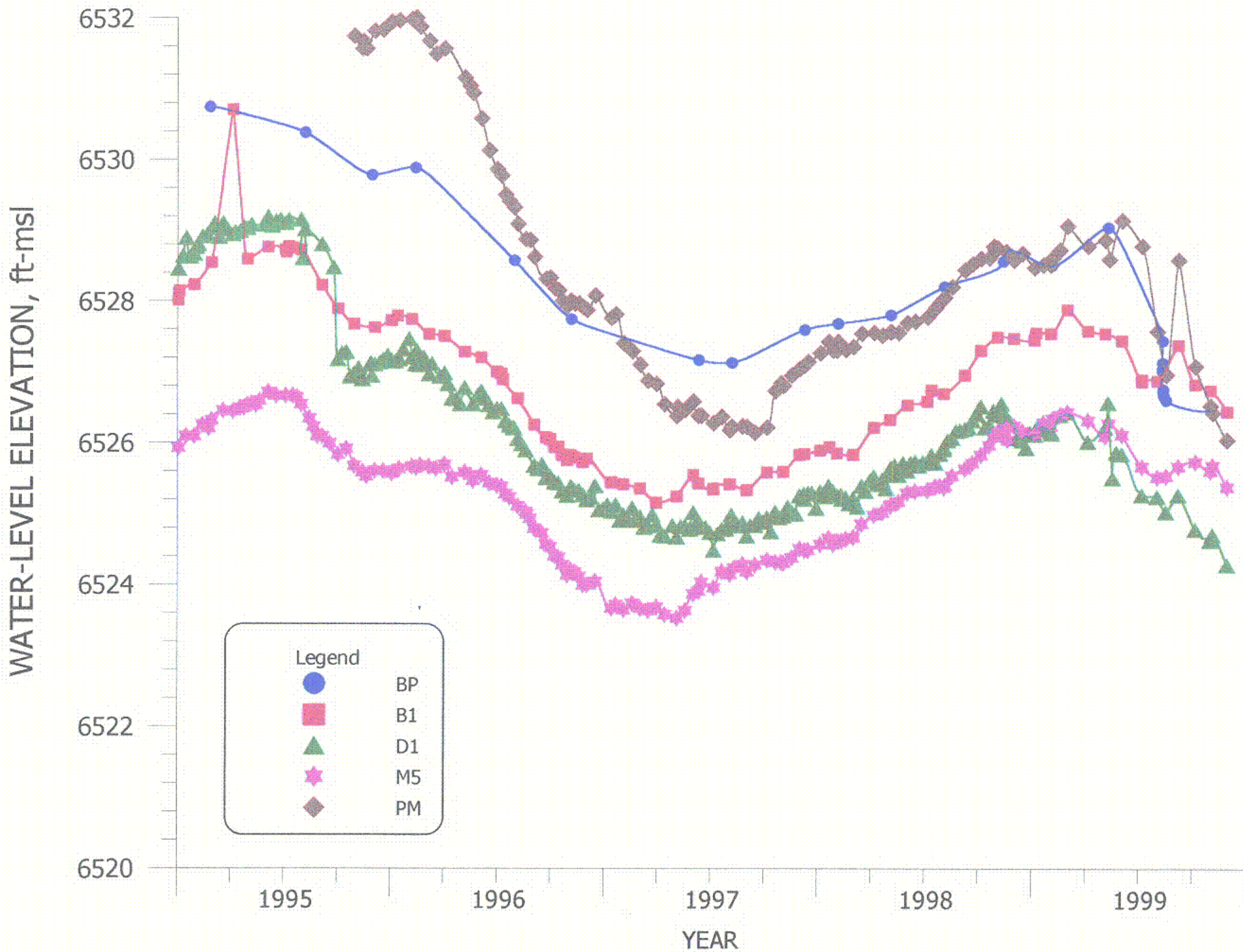


FIGURE 4.2-10. WATER-LEVEL ELEVATION FOR WELLS BP, B1, D1, M5 AND PM.

C19

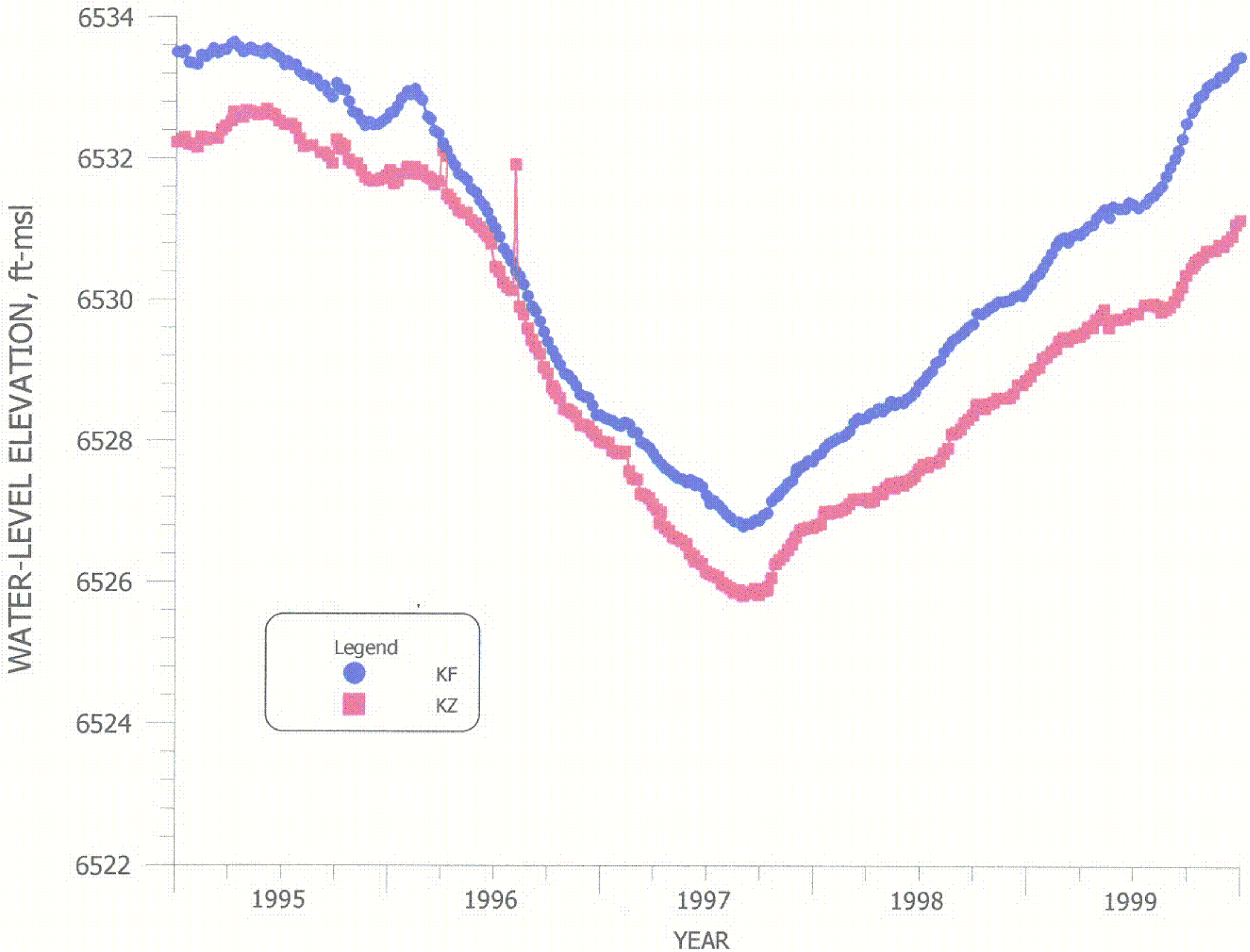


FIGURE 4.2-11. WATER-LEVEL ELEVATION FOR WELLS KF AND KZ.

C 20

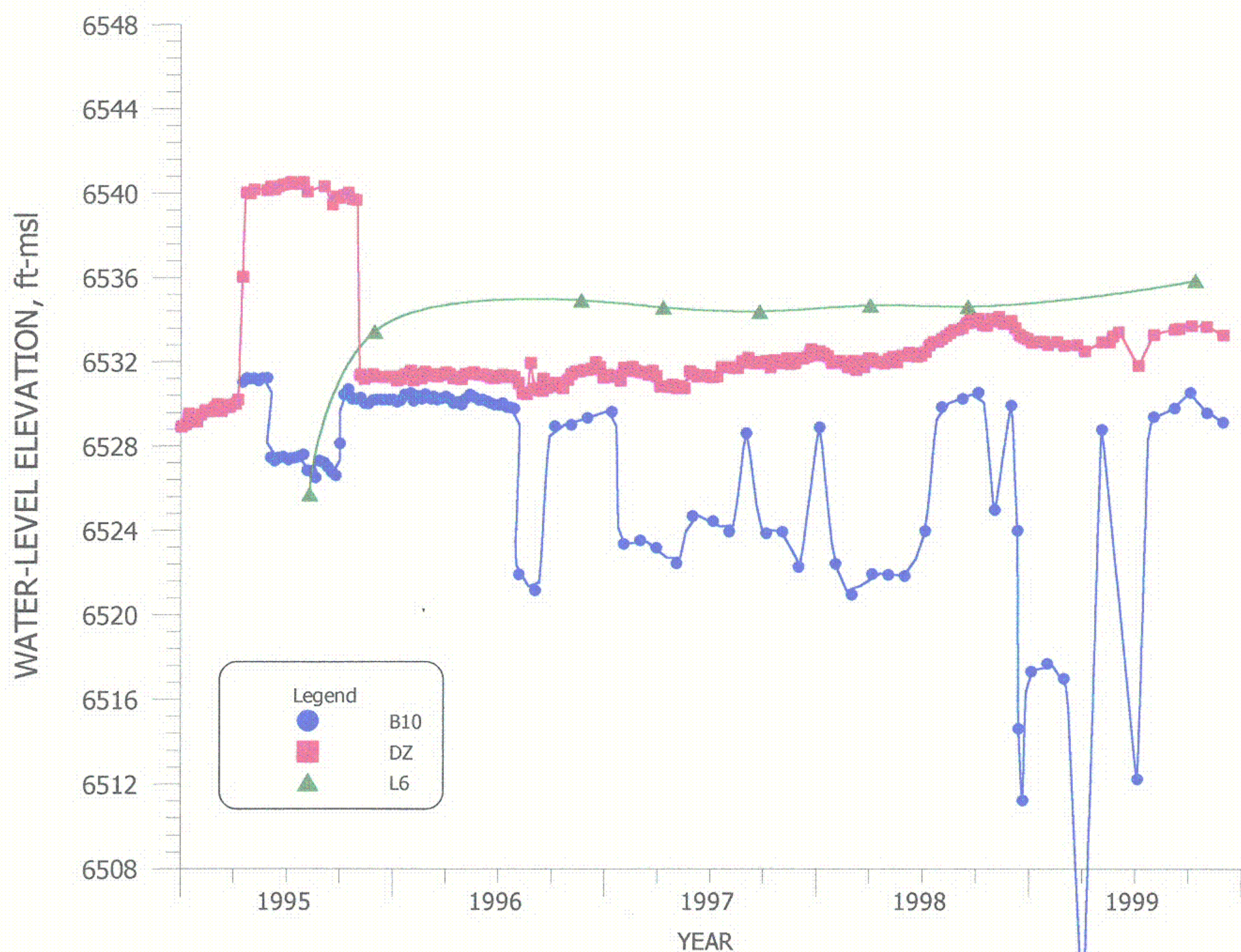
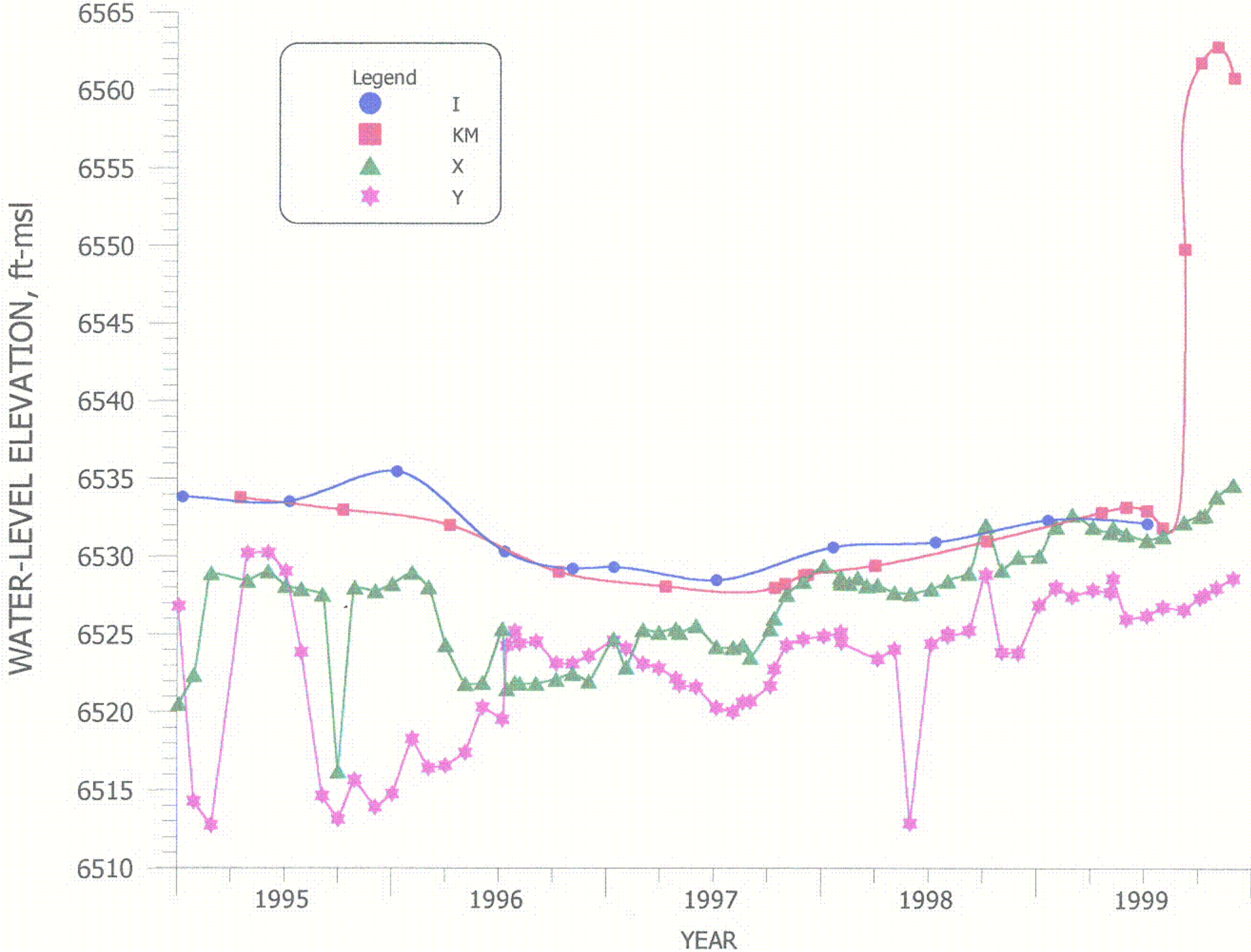


FIGURE 4.2-12. WATER-LEVEL ELEVATION FOR WELLS B10, DZ AND L6.

C21



4.2-18

FIGURE 4.2-13. WATER-LEVEL ELEVATION FOR WELLS I, KM, X AND Y.

C22

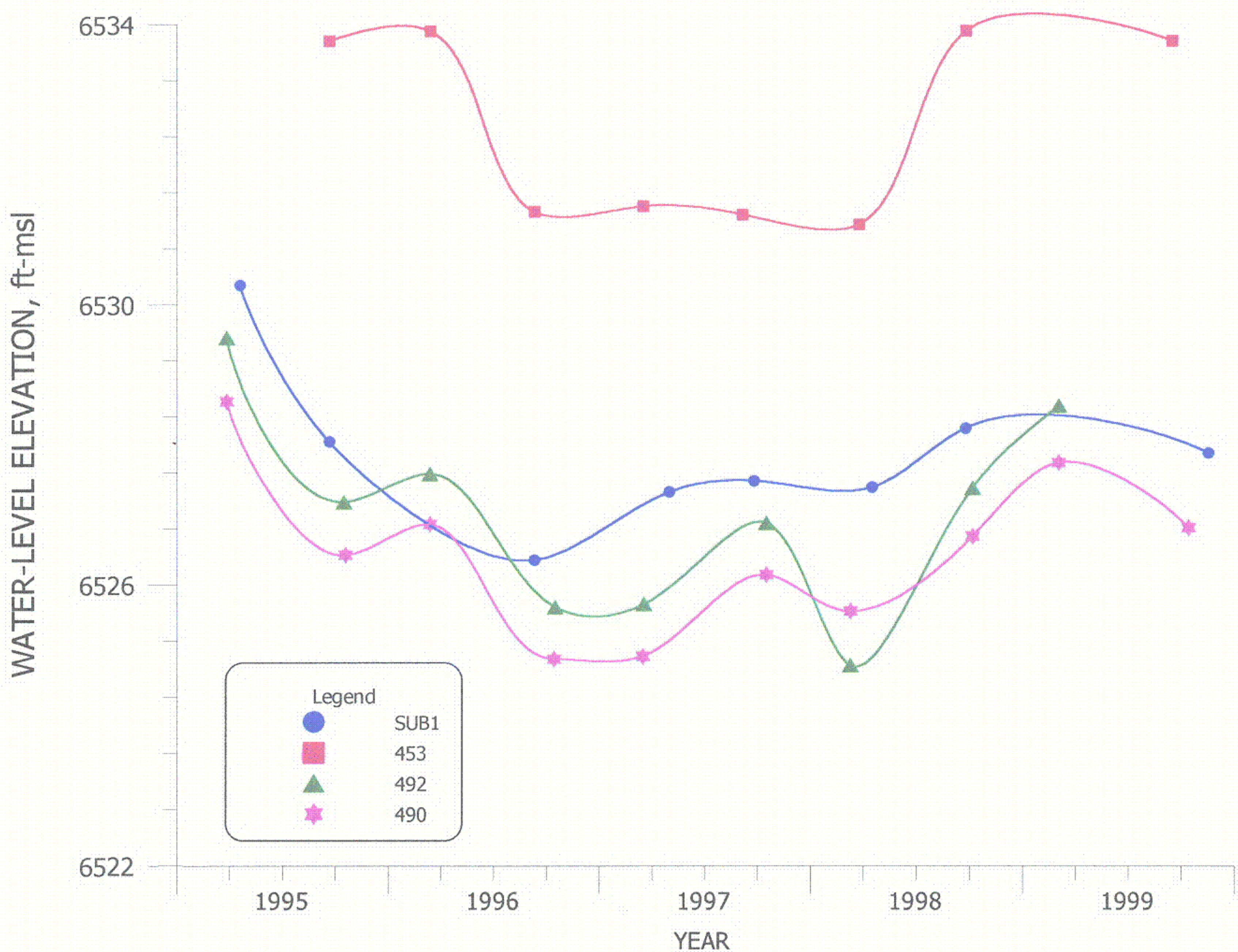


FIGURE 4.2-14. WATER-LEVEL ELEVATION FOR WELLS SUB1, 453, 492 AND 490.

C 23

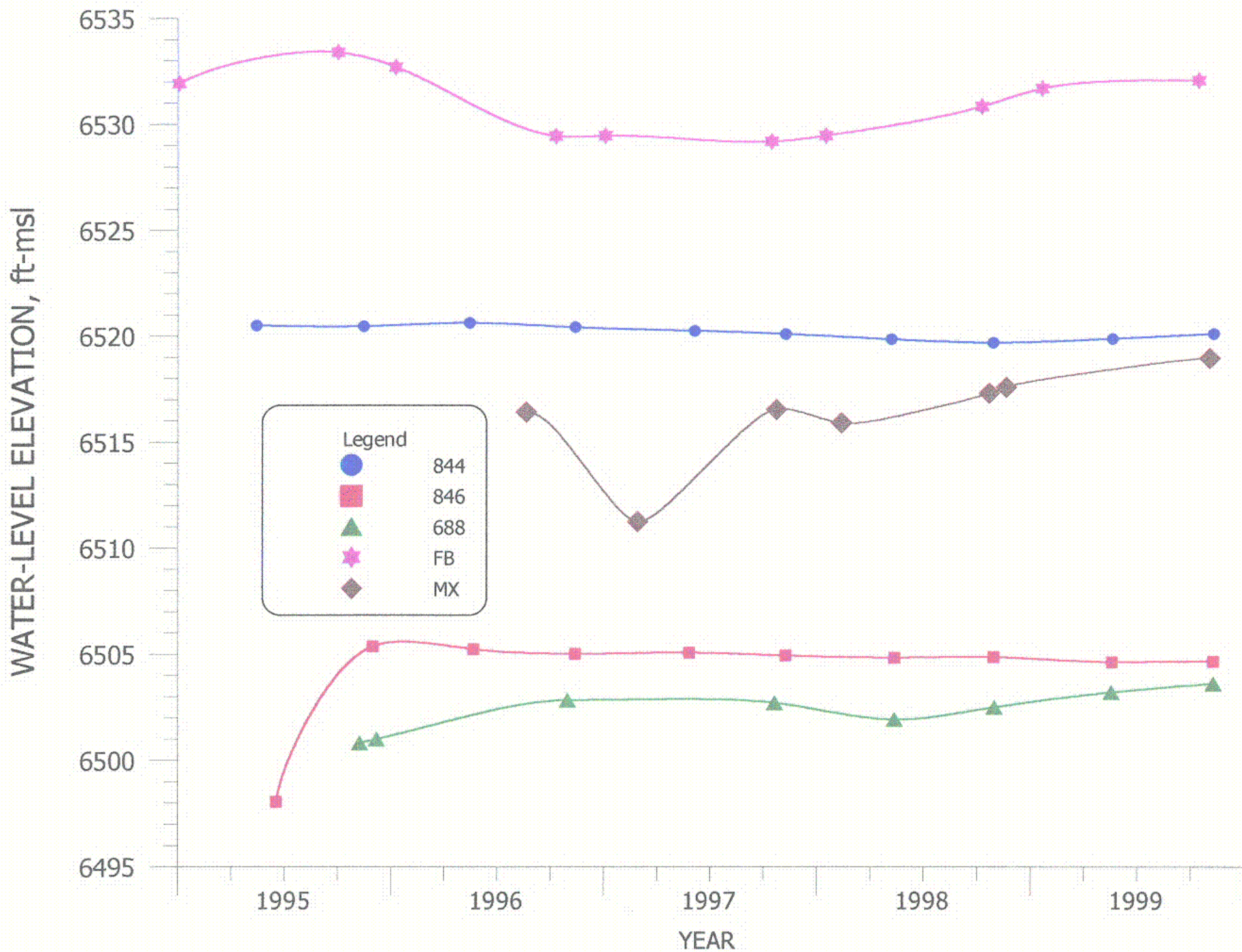


FIGURE 4.2-15. WATER-LEVEL ELEVATION FOR WELLS 844, 846, 688, FB AND MX.

C24

4.3 ALLUVIAL WATER QUALITY

This section presents the 1999 water-quality data for the alluvial aquifer. The major constituents that are typically measured at this site are sulfate, chloride and TDS, with sulfate concentrations being the most important indication for contaminant remediation. Selenium, uranium and molybdenum are the hazardous constituents of most concern at this site. Nitrate, radium, chromium, vanadium and thorium are also discussed in the monitoring report but are not very important at this site. Tables B.4-1 through B.4-6 of Appendix B presents the 1999 alluvial water-quality data for each well. The most recent value observed during the monitoring in 1999 is the one that was used for the concentration contour figures, except for some of the collection wells that were measured frequently. Their latest water-quality results were not available when the figures were developed. The basic well data tables are presented in Section 4.1 for the alluvial wells.

Colored patterns are used on some of the figures to delineate important concentration limits for each of the constituents. Wells located near the unsaturated portion of the alluvial aquifer are depicted with a square symbol and water-quality data from these sources are potentially unreliable.

4.3.1 SULFATE - ALLUVIAL

Sulfate concentrations have been used as the main indicator constituent for this site because concentrations are large in the tailings solution. Concentrations of sulfate in the alluvial aquifer for the Fall of 1999 are presented on Figure 4.3-1A and 4.3-1B. Background concentrations observed in 1999 range from 440 to 1540 mg/l. The background and standard information is presented in the left upper corner on the east area figure for each parameter. The New Mexico sulfate standard for this site is 976 mg/l. An updated statistical evaluation of the background sulfate concentration with data through 1998 showed that concentrations as great as 1870 mg/l could be naturally occurring at this site. Therefore, this concentration has been used to show a blue pattern where significant sulfate concentrations exist. This information is presented in a box in the upper left side of Figure 4.3-1B for sulfate. The upper limit of the sulfate concentration measured in the Fall of 1999 was 1540 mg/l, below the significant level. No sulfate concentrations in the alluvial aquifer exceed 1870 mg/l on the west map (see Figure 4.3-1A). The areas that exceed this concentration and, therefore, contain the blue shading on Figure 4.3-1B are primarily adjacent to the two tailings piles. Sulfate concentrations in an area of the large tailings pile exceed 10,000 mg/l. A significant amount of additional reduction in sulfate concentration has existed along the restoration zone, south of the small tailings pile, in 1999. The largest sulfate concentrations observed in Broadview and Felice Acres were less than 1000 mg/l in 1999. Sulfate concentrations are slightly less than 1000 mg/l in Section 3 to the southwest of Felice Acres. Sulfate concentrations exceed 1000 mg/l in the southwest portion of Murray and Pleasant Valley. Sulfate concentrations exceed 1000 mg/l adjacent to the zero saturation boundary in the northern portion of Section 27 (see Figure 4.3-1B) and Section 28 out to the eastern portion of Section 29 (see Figure 4.3-1A). Downgradient of the Grants Project site the sulfate concentrations are all within natural range of background and, therefore, no restoration of sulfate is needed beyond the Grants Project area.

Water-quality concentrations versus time have been developed for the alluvial aquifer for sulfate, uranium, selenium and molybdenum. The groupings of wells used for these plots are shown on Figure 4.3-2. This figure shows the sulfate figure numbers for each of these groupings. The color and symbol used for each well are the same as those used in the time plots for each constituent. The sulfate figure number is shown on Figure 4.3-2 near each group of wells. Figure numbers for other water-quality parameters are not shown on this map but the location map should be useful for the other time concentration plots because the color, symbol and well groupings are the same.

Figure 4.3-3 presents the sulfate concentrations plotted versus time for upgradient wells P, Q, R and DD. This plot shows that an overall, gradual increasing trend is possibly occurring in the upgradient wells. The 1999 value for well DD indicates a decline has started in this area of the alluvial aquifer. The increases in sulfate concentration in these wells are well within the range observed for sulfate in the upgradient wells but could be due to higher concentrations upgradient of Homestake's background wells flowing into this area.

The second group of time concentration plots for the alluvial aquifer are for wells W, WR11, NC and WR7. This plot shows that the sulfate concentration for wells W, WR11, NC and WR7 have all been near the injection concentration for the last several years.

An overall declining trend is being observed in the sulfate concentrations in alluvial well S3 (see Figure 4.3-5). The sulfate concentration for well S2 had shown a rising trend during the last two years but the 1999 value is slightly lower. An overall decrease in sulfate concentrations is seen in well S4 in 1999.

Figure 4.3-6 presents the sulfate concentrations versus time for alluvial wells BC, DC and MO. The sulfate concentrations have been fairly steady in alluvial wells BC and DC for 1999, while a large decline is observed in well MO.

The fifth sulfate concentration plot for the alluvial wells is presented for wells B, B1, BP, D1, M5 and PM (see Figure 4.3-7). This figure shows that the overall sulfate concentrations in each of these wells have been fairly steady in 1999 with the exception of a rise in wells B1 and BP.

Figure 4.3-8 presents the sulfate concentrations versus time for wells B10, DQ, S5, T and TA. The sulfate concentrations in collection well B10 have gradually decreased during 1999, while sulfate concentrations in well DQ were fairly steady in 1999. Values in wells T and TA gradually declined in 1999, while sulfate concentrations in well S5 gradually increased.

Figure 4.3-9 presents the sulfate concentrations versus time for alluvial wells on the west side of the small tailings. This plot shows fairly steady sulfate concentrations in these wells in 1999, with a gradual decline shown in well C4 due to additional restoration in this area.

Figure 4.3-10 presents the sulfate concentrations versus time for alluvial wells on the south side of the small tailings. This figure shows that the sulfate concentrations in collection wells K2 and KC decreased with time due to the R.O. product injection in this area. Sulfate concentrations in alluvial collection wells Y and X have not been affected by the R.O. product injection. Sulfate concentrations in monitoring well K5 do not show significant restoration in 1999.

Sulfate concentrations in collection wells to the southeast of the small tailings and small tailings monitoring wells are represented in Figure 4.3-11. This figure shows a significant decrease in sulfate concentration with time in collection well L5 in 1999, while concentrations were fairly steady in collection wells L9 and L10 and monitoring wells K4 and L6.

Figure 4.3-12 presents the sulfate concentration time plots for Broadview Acres alluvial wells 453, Sub1 and Sub2. Some variation was observed in these three Broadview wells in 1999 but their concentrations are all near the injection concentration.

Figure 4.3-13 presents sulfate concentrations versus time for Felice Acres alluvial wells 490, 492 and 497. The sulfate concentrations in these three wells have shown some variations over the last three years but are generally very close to the injection concentrations.

Figure 4.3-14 shows sulfate concentrations for Murray Acres and Pleasant Valley alluvial wells 802, 844, 846, 688 and FB. This plot shows that sulfate concentrations for the last few years have been close to the injection concentration in alluvial well 802. An overall gradual decreasing trend has also been observed in wells 844 and FB. An overall increasing trend in alluvial well 846 has been observed.

4.3.2 TOTAL DISSOLVED SOLIDS - ALLUVIAL

Total dissolved solids (TDS) concentration contours for the alluvial aquifer during the Fall of 1999 are presented on Figures 4.3-15A and 4.3-15B. The background TDS concentrations measured upgradient of the large tailings in the Fall of 1999 varied from 1130 mg/l to 2870 mg/l. Based on our updated statistical analysis, a TDS concentration of 3060 mg/l or larger is needed to be confident that the concentrations are not naturally occurring. A light blue pattern is shown on Figure 4.3-15B to indicate where the TDS concentrations exist above 3060 mg/l. None of the concentrations in the west area exceed this level. The TDS concentrations near the tailings exceed 3060 mg/l for approximately 1900 feet to the west of the large tailings. A small area of concentrations greater than 3060 mg/l exists at the L collection wells to the southeast of the small tailings. Some TDS concentrations in the large tailings area exceed 20,000 mg/l. A zone of 2000 mg/l extends to the west of the large tailings and into the eastern portion of Section 29 (see Figure 4.3-15A). An additional area of TDS concentrations greater than 2000 mg/l exist in the southern portion of Pleasant Valley and the southwest portion of Murray Acres and to the south of this area. A small area of TDS concentrations above 2000 mg/l extends into the southeast corner of Section 28. The only other areas of TDS concentrations above 2000 is in two small areas of TDS concentrations slightly above 2000 mg/l in Section 3. Only the areas adjacent to the two tailings piles need restoration based on TDS.

4.3.3 CHLORIDE - ALLUVIAL

Chloride concentrations are important in defining tailings seepage due to the conservative nature of this constituent and low concentrations upgradient. The 1999 chloride concentration figures for the alluvial aquifer are presented as Figures 4.3-16A and 4.3-16B. Upgradient chloride concentrations in the alluvial aquifer varied from 48 to 86 mg/l in the Fall of 1999. The fresh-water injection systems have used water with chloride concentrations of approximately 200 mg/l. A significant portion of the alluvial aquifer around the large and small tailings contained chloride concentrations in excess of the State drinking water standard of 250 mg/l. A light blue pattern is shown to define where concentrations exceed 250 mg/l. No chloride concentrations exist in the west area above 250 mg/l. Some higher chloride concentrations are input into the system from the northern portion of the Rio San Jose alluvial system in Section 20 (see Figures 4.3-16A). These values do not reach the 250 mg/l level.

Chloride concentrations do not exceed 250 mg/l in the subdivisions. These two figures show that restoration is only needed near the tailings for chloride.

4.3.4 URANIUM - ALLUVIAL

Uranium is also a very important parameter to this site due to the significant levels in the tailings seepage. Uranium data for the Fall of 1999 are presented on Figures 4.3-17A and 4.3-17B. Background uranium concentrations during the Fall of 1999 varied from 0.03 to 0.24 mg/l and the site standard is 0.04 mg/l (see notes in upper left corner of Figure 4.3-17B). A uranium concentration of 0.43 mg/l has been chosen as the important uranium value at this site. The light blue pattern on Figures 4.3-17A and 4.3-17B shows where uranium concentrations exceed 0.43 mg/l. Uranium concentrations exceed this level in the area of the large and small tailings pond and extend approximately one-half mile to the west of the large tailings pile. Uranium concentrations above 0.43 mg/l also extend down to the L collection wells to the south of the small tailings. Uranium concentrations also exceed 0.43 mg/l in a small area in the western portion of Section 27 and a narrow band through the central portion of Section 28. These uranium concentrations only slightly exceed the 0.43 mg/l value. Lower uranium concentrations extend further to the west, joining the Rio San Jose alluvial system in the eastern portion of Section 29. Uranium concentrations are also input to this area from the Rio San Jose alluvial system from Section 20. These lower concentrations have joined together and extend down to the southwest corner of Section 33.

An additional area of uranium concentrations above 0.43 mg/l exists in the southern portion of Felice Acres and to the southwest into Section 3 (see Figure 4.3-17B). These concentrations extend for approximately one-half mile to the southwest of the southwest corner of Felice Acres. One small additional area in the northeast portion of Murray Acres at well 802 exceeds the 0.43 mg/l concentration. Some additional restoration is needed in each of these areas based on uranium concentrations.

Uranium versus time plots are presented for this constituent to demonstrate the variations observed. Figure 4.3-2 shows the location of the alluvial wells used for the uranium time plots. The figure numbers shown on Figure 4.3-2 correspond to the sulfate time plots. The same grouping of wells was used for the uranium plots and their symbols and colors are the same as the sulfate plots. Figure 4.3-18 presents the uranium concentrations versus time for upgradient wells P, Q, R and DD. The uranium concentrations in these four wells have been fairly steady for the last five years but the concentration in well DD has consistently been several times greater than the uranium concentrations in the other three wells. The average background uranium concentration for 1999 and the NRC site standard are shown on Figure 4.3-18.

Uranium concentrations for alluvial wells W, WR11, NC and WR7 are presented on Figure 4.3-19. This time concentration plot for these wells shows that uranium concentrations have been low and steady for the last five years in wells W and NC. A decline in concentration in well WR7 was observed in 1998 and 1999, while an overall increase was observed in well WR11.

A decrease in uranium concentration was observed in the 1999 value for well S2, after a large increase in 1998 (see Figure 4.3-20). Uranium concentrations in wells S3 and S4 gradually declined in 1999.

Figure 4.3-21 presents the uranium concentration plots for alluvial wells west of the large tailings pile. This plot shows that uranium concentrations are low and gradually declining in wells BC and MO. Concentrations are also low in well DC.

Figure 4.3-22 presents the uranium concentrations for alluvial wells B, B1, BP, D1, M5 and PM. A gradually declining trend has been observed in 1999 for wells M5 and B. Fairly steady 1999 concentrations have been observed in wells B1, BP, D1 and PM.

Uranium concentrations versus time for alluvial wells B10, DQ, S5, T and TA are presented in Figure 4.3-23. This figure shows that overall concentrations in collection well B10 and monitoring well DQ were declining in 1999. A rising trend is being observed in alluvial wells S5 and TA in 1999. Fairly steady concentrations are observed in well T.

Figure 4.3-24 presents the uranium concentrations for collection wells on the west side of the small tailings. This plot shows that uranium concentrations in collection wells C8 and C11 were variable in 1999 but remained high. Overall uranium concentrations in well C6 were declining in 1998 and 1999, while concentrations stayed low in well C4.

Figure 4.3-25 presents uranium concentrations for wells on the south side of the small tailings. Uranium concentrations declined significantly in collection wells KC and K2, due to the R.O. product injection into this area. Concentrations in collection wells X and Y have not been affected by the R.O. product injection. The uranium concentrations in small tailings monitoring well K5 have stayed high and fairly steady in 1999.

Uranium concentrations for alluvial wells K4, L5, L6, L9 and L10 are presented on Figure 4.3-26. This plot shows an increase in uranium concentrations in 1999 in well K4. The uranium concentrations have gradually increased in well L6 in 1999. The uranium concentrations in collection wells L5, L9 and L10 do not show a consistent trend.

Figure 4.3-27 presents uranium concentrations versus time for three Broadview Acres alluvial wells: Sub1, 453 and Sub2. Uranium concentrations in wells Sub1 and Sub2 have been similar and fairly steady in 1999. Uranium concentrations in well 453 have been small for several years.

Figure 4.3-28 presents the uranium concentrations for Felice Acres wells 490, 492 and 497. Uranium concentrations in these three alluvial wells have also been fairly steady for the last two years. An overall decreasing trend in uranium concentrations in well 490 is indicated in 1999 but additional monitoring with time is needed to determine whether this decline is significant.

Figure 4.3-29 presents the uranium concentrations for wells in the Murray and Pleasant Valley subdivision areas. Uranium concentrations increased in late 1998 in well 802 with a small decrease in 1999. Uranium concentrations in the remaining alluvial wells in this area are low and concentrations in alluvial well 802 would be expected to gradually decrease with time.

4.3.5 SELENIUM - ALLUVIAL

Selenium is one of the important parameters at the Grants site due to significant levels of this constituent in the tailings. Figures 4.3-30A and 4.3-30B present the selenium concentrations for the west and east sides. Although the selenium site standard is 0.1 mg/l, only values equaling or exceeding 0.27 mg/l can be considered non-naturally occurring, based on statistical analysis. The important selenium concentration at this site has been selected to be greater than 0.27 mg/l. A blue pattern on the concentration contour figures is used to show where concentrations exceed 0.27 mg/l. One small area of selenium concentrations above 0.27 exists in the west area (see Figure 4.3-30A). The area exists on the east side of Section 4 near the middle of the section line. A 0.1 mg/l contour extends slightly greater than one mile into the west area in the central portion of Section 28 and around one well in eastern Section 29 and also extends slightly into Section 4 from the Section 3 area.

Concentrations exceeding 0.27 mg/l exist around the large and small tailings pile (see Figure 4.3-30B). The 0.27 mg/l concentrations extend approximately 1500 feet to the west of the large tailings and extends down to the south of the small tailings in the area of the L collection wells. An additional large area of concentrations that exceeds 0.27 mg/l exists in Section 3, southwest of Felice Acres. None of the concentrations in the subdivisions exceed 0.1 mg/l. This shows that the area near the tailings and portions of Section 3 need additional restoration based on selenium.

The time concentration plots for selenium are presented to define the variations with time for this constituent in the alluvial aquifer. Figure 4.3-2 should be used to determine the location of wells in each of the groups of plots. The symbols and colors used on Figure 4.3-2 are the same on each constituent time plot. Figure 4.3-31 presents the selenium concentrations for background wells P, Q, R and DD. This plot shows a gradual increasing trend for the last several years in selenium concentrations for upgradient well R. The average selenium concentration from well P has been higher since well P has not been continuously pumped as part of the upgradient collection in early 1998. Selenium concentrations in upgradient well Q have been fairly steady over the last three years. The NRC site standard and the 1999 average value for all upgradient wells are also shown on Figure 4.3-31.

Figure 4.3-32 presents the selenium concentrations for wells W, WR11, NC and WR7. Selenium concentrations in these wells have stayed low for the last several years with the exception of one outlier in well WR7.

Figure 4.3-33 shows an overall declining trend in well S4. An overall gradual decreasing trend is being observed in well S3, while a significant increase has been observed in well S2 during the last three years.

Figure 4.3-34 presents the selenium concentrations for wells BC, DC and MO. An overall decrease in selenium concentration is being observed in wells DC and MO. Selenium concentrations have stayed low in well BC.

The selenium concentrations for alluvial wells to the southwest of the large tailings are presented in Figure 4.3-35. This figure shows an overall increase in selenium concentrations in wells B, B1, BP and D1 during 1999. An increase followed by a decline was observed in well M5, while an overall decline was measured in well PM.

Figure 4.3-36 presents the selenium concentrations for wells B10, DQ, S5, T and TA. A decreasing trend in selenium is being observed in well B10 in 1999, while selenium concentrations in well DQ were gradually increasing. A decline in selenium concentrations in well T occurred in 1999, while fairly steady concentrations were observed in well S5. The last measurement in 1999 on well TA showed a significant increase.

The selenium concentrations versus time for collection wells on the west side of the small tailings pile are presented in Figure 4.3-37. This plot shows that the selenium concentrations in wells C8 and C11 have shown an overall decline in 1999. A gradual decrease is being observed in collection well C4 as this area is being influenced by the injection system.

Figure 4.3-38 presents selenium concentrations versus time for wells on the south side of the small tailings. This figure presents values for wells KC, K2, K5, X and Y. This plot shows a large decline in 1999 in wells KC and K2 selenium concentrations due to the R.O. product injection in this area. Selenium concentrations have increased in well Y with no effects from the R.O. product injection near this well. Some selenium restoration was observed in observation well K5, which is completed in the alluvium below the small tailings.

Figure 4.3-39 presents the selenium concentrations for wells K4, L5, L6, L9 and L10. A decreasing trend is indicated by the data for well L5. Fairly steady selenium concentrations with time are being observed in monitoring wells K4 and L6. Selenium concentrations have remained low in collection wells L9 and L10.

Figures 4.3-40 and 4.3-41 present the selenium concentrations for the Broadview and Felice Acres alluvial wells. These plots show that the selenium concentrations have been reduced and maintained at low levels for at least the last five years in these two subdivisions. Selenium concentrations are presented for the Murray Acres and Pleasant Valley areas in Figure 4.3-42. This plot shows low selenium concentrations in these monitoring wells in this area of the alluvial aquifer.

4.3.6 MOLYBDENUM - ALLUVIAL

This section discusses the molybdenum concentrations in the alluvial aquifer at the Grants Project during the Fall of 1999. Figures 4.3-43A and 4.3-43B present the concentration contours. All molybdenum concentrations in the west area are less than 0.03 mg/l. The extent of movement of molybdenum is significantly less than that of selenium and uranium. Molybdenum concentrations exceed 100 mg/l near the large tailings and a 10 mg/l contour extends around both the small and large tailings. Significant molybdenum concentrations extend approximately 800 feet west of the large tailings pile and also to the southeast of the small tailings pile to the L collection wells. One alluvial well in Felice Acres slightly exceeds 0.1 mg/l of molybdenum.

The light blue patterned area on Figure 4.3-43B shows the area where molybdenum concentrations exceed 0.73 mg/l. This concentration has been chosen as the significant level of this constituent at this site. This shows that molybdenum concentrations need to be restored only adjacent to the tailings and near the L collection line.

Molybdenum concentrations versus time plots have been developed for the alluvial aquifer because this parameter is significant to this aquifer. Figure 4.3-44 presents the molybdenum concentrations for the background wells P, Q, R and DD. This plot shows that the concentrations have remained low in these four wells. The color and symbol used on the molybdenum plots are shown on Figure 4.3-2.

Figure 4.3-45 presents the molybdenum concentrations for wells W, WR11, NC and WR7. Molybdenum concentrations have been low in wells W, WR11, NC and WR5 for the last few years with a small rise in 1998 in well WR7, followed by a gradual decline.

A gradual decreasing trend with time is being observed in well S4, while the molybdenum concentrations in well S2 were steady in 1999 after increasing over the previous two years (see Figure 4.3-46). Molybdenum concentrations in well S3 have been steady in 1999 after an increase in early 1999.

Figure 4.3-47 presents the molybdenum concentrations for wells BC, DC and MO. Molybdenum concentrations in each of these wells are low and steady.

Figure 4.3-48 presents the molybdenum concentrations for wells B, B1, BP, D1, M5 and PM. Molybdenum concentrations in well M5 have significantly declined in 1999. A gradual decline in concentrations is being observed in monitoring wells B1 and D1. A fairly steady concentration will time is being observed in wells BP and PM. Molybdenum concentrations have been low in well B but have gradually declined in 1999.

Figure 4.3-49 presents the molybdenum concentrations for wells B10, DQ, S5, T and TA. An overall increase over the last few years in the molybdenum concentration of well DQ has been observed while a fairly steady molybdenum concentration in well S5 was observed in 1999. Molybdenum concentrations in well TA are gradually declining with time.

Molybdenum concentrations for wells on the west side of the small tailings are presented in Figure 4.3-50. This figure shows fairly steady molybdenum concentrations in well C8.

Figure 4.3-51 presents the molybdenum concentrations for the wells on the south side of the small tailings. This plot shows a decline in molybdenum concentrations in wells KC and K2 during the last year, but less than the decline in uranium and selenium. This indicates that molybdenum may lag uranium restoration with the R.O. product water. Molybdenum concentrations in other wells in this plot do not show a trend.

Figure 4.3-52 presents molybdenum concentrations further to the southeast in wells K4, L5, L6, L9 and L10. A gradual decreasing trend was observed in wells L5, L6, L9 and L10 during 1999. An increasing molybdenum concentration in well K4 was observed in 1999.

Molybdenum concentrations for alluvial wells in Broadview and Felice Acres are presented in Figure 4.3-53 and 4.3-54. The molybdenum concentrations in Broadview wells Sub1, Sub2 and 453 have been low for the last several years. A slightly higher molybdenum concentration exists in well 490 in Felice Acres with no consistent trend with time.

Figure 4.3-55 shows the molybdenum concentration in wells in the Murray Acres and Pleasant Valley area. This plot shows that molybdenum concentrations have remained low in these alluvial wells.

4.3.7 NITRATE - ALLUVIAL

Some of the nitrate concentrations upgradient of the Grants site generally exceed the State drinking water standard of 12.4 mg/l of nitrate for this site (see Table 3.1-1). A statistical analysis of the upgradient data through 1998 shows that a nitrate concentration of 22.9 mg/l is needed to be 95% confident that it is not from natural upgradient levels. Figures 4.3-56A and 4.3-56B present the nitrate concentrations during the Fall of 1999 for the alluvial aquifer. The nitrate concentrations north and upgradient of the tailings at this site have affected the nitrate concentrations downgradient of the large tailings in the northern portion of Sections 27 and 28. It is difficult to determine whether the tailings has affected the nitrate concentrations in this area due to the naturally higher concentrations upgradient. The nitrate concentrations in the northeast portion of Section 27 that exceed 22.9 mg/l are likely natural levels due to the ground-water flow in this area. Figure 4.3-56A shows that higher nitrate concentrations exist in Section 20 and extend down into Section 29. These higher nitrate concentrations in the Rio San Jose alluvial system are also upgradient and enter the combination San Mateo and Rio San Jose system upgradient of where the Homestake site alluvial water meets the Rio San Jose. Therefore, none of these nitrate concentrations can be attributed to the Homestake tailings seepage.

Nitrate concentrations exceed 22.9 mg/l in an area between the large and small tailings. It is likely that the tailings seepage has affected the nitrate concentrations in this small area and it is, therefore, the only area that requires restoration relative to nitrate concentrations. This parameter will be easily restored during the restoration of other constituents. Time plots for nitrate concentrations in the alluvial aquifer have not been developed because this parameter is not very important to this site.

4.3.8 RADIUM-226 AND RADIUM-228 - ALLUVIAL

Figure 4.3-57 presents radium concentrations in the Grants Project area. The radium concentrations are very small in the alluvial aquifer in the west area and the few values monitored were significantly less than 5 pCi/l. A figure for radium for the west area is, therefore, not presented. The radium-226 concentrations are presented horizontally, while the radium-228 values are shown at a 45° angle and in a magenta color. The State standard for radium-226 plus radium-228 is 30 pCi/l, while the NRC site standard is 5 pCi/l (see upper left corner of Figure 4.3-57 for this information). One radium concentration possibly exceeded the site standard in 1999, with a value of less than 5.6 pCi/l. The latest concentration for POC well DQ contained the radium-226 plus radium-228 concentration of less than 5.6 pCi/l. The four measurements for 1999 for radium 226 plus 228 for well DQ averaged less than 2.8 pCi/l. Therefore, the value less than 5.6 pCi/l is an outlier. Radium concentrations at the Grants Site are, therefore, not significant, and these parameters should be dropped as a site standard. Radium-226 should be monitored annually at the eight POC wells to demonstrate that concentrations are not increasing.

4.3.9 CHROMIUM - ALLUVIAL

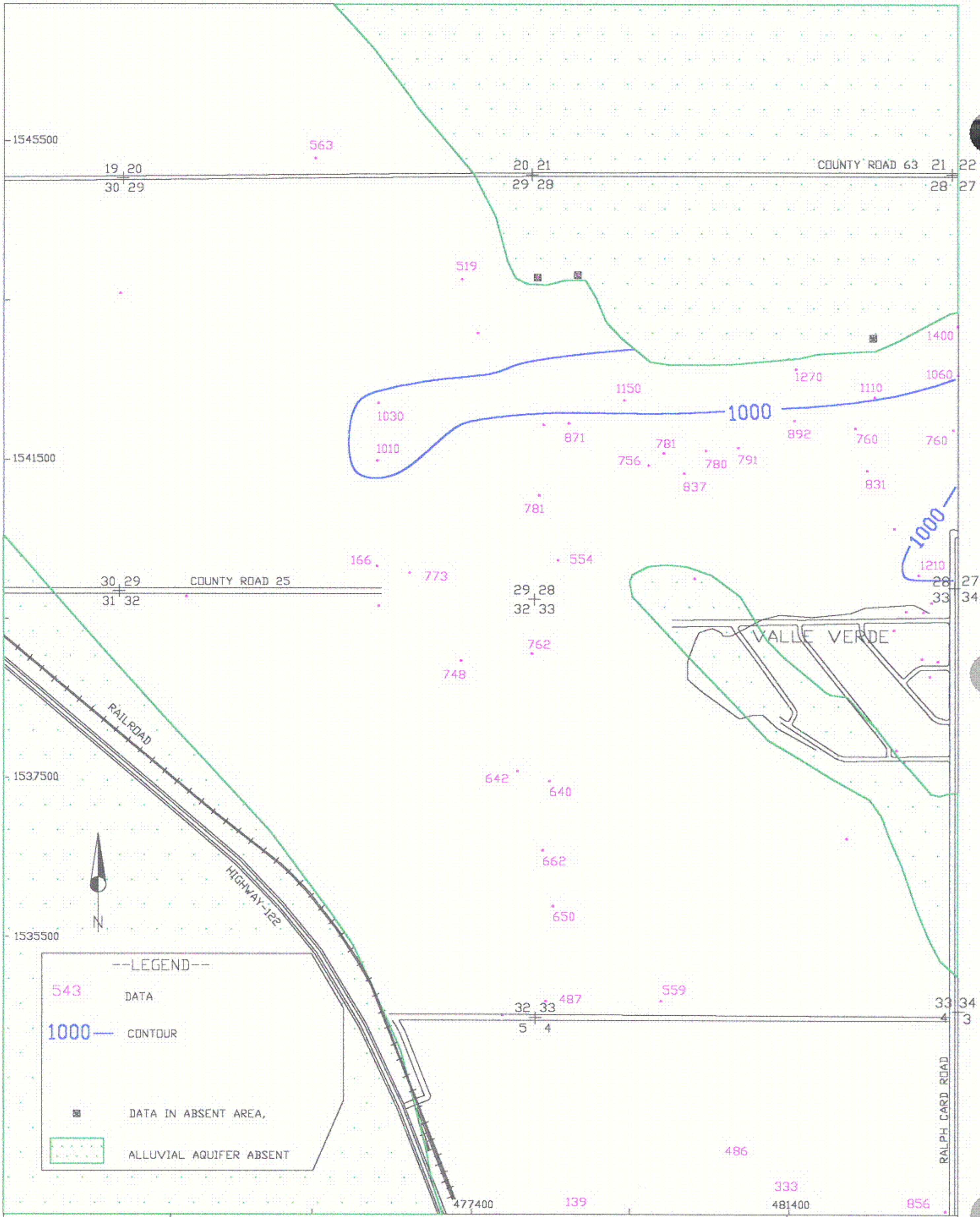
Chromium has been removed as a standard for this site. Figure 4.3-58 presents the chromium concentrations measured during the Fall of 1999 to show that concentrations of this constituent are not increasing at the eight POC wells. All of the chromium concentrations in 1999 were less than detection. Monitoring of chromium has been decreased to annual measurements of only the eight POC wells.

4.3.10 VANADIUM - ALLUVIAL

Vanadium concentrations are shown on Figure 4.3-59 for 1999. Only one vanadium concentration exceeds the site standard of 0.02 mg/l , which is POC well X with a value of 0.04 mg/l. All of the 1999 vanadium values for POC well X were 0.04 mg/l. The 0.04 mg/l concentration is representative of the vanadium concentration in well X. Therefore, only one of the eight POC wells routinely contains concentrations above the site standard of 0.02 mg/l and the average of the POC vanadium concentrations are significantly less than the site standard. The R.O. product injection is actively restoring this area and the vanadium concentrations in well X are expected to be less than the site standard in 2000. Monitoring of this constituent should also be reduced to the eight POC wells.

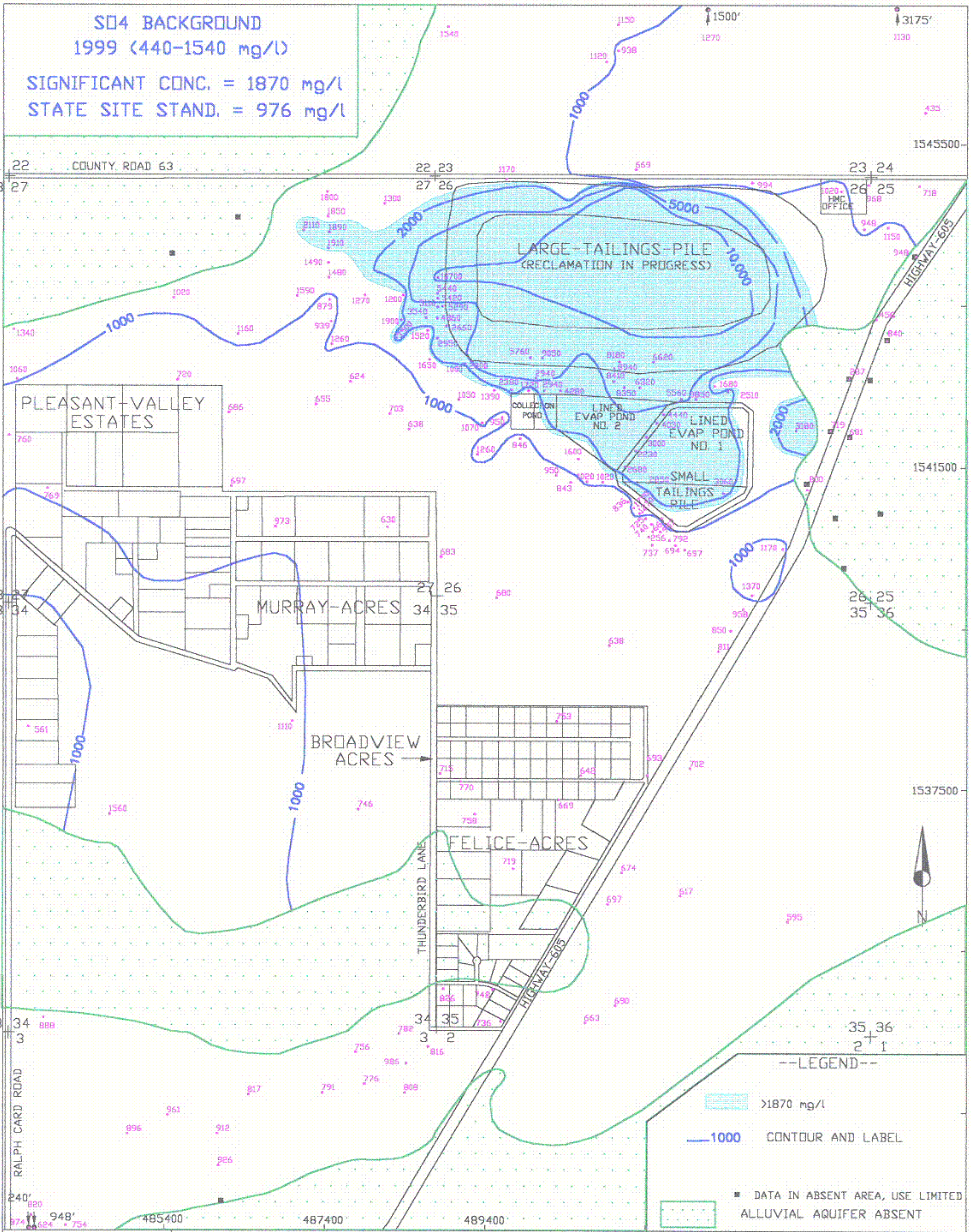
4.3.11 THORIUM-230 - ALLUVIAL

Figure 4.3-60 presents the 1999 thorium concentrations for the alluvial aquifer. Thorium concentrations are low at this site. The very low site standard of 0.3 pCi/l is due to the low background concentrations and no drinking water standard has been established for this constituent. The maximum thorium-230 concentration in the Fall of 1999 was 0.2 pCi/l. The average thorium concentration in each POC well did not exceed the site standard of 0.3 pCi/l in 1999. Thorium-230 should be removed as a site standard and only monitored at the eight POC wells annually.



SCALE: 1"=1000'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/06/2000
FIGURE 4.3-1A. SULFATE CONCENTRATIONS FOR THE ALLUVIAL AQUIFER (WEST AREA), FALL 1999, mg/l		R13\DOS\ HMC2000\2000WQAL
		page 4.3-16

C25

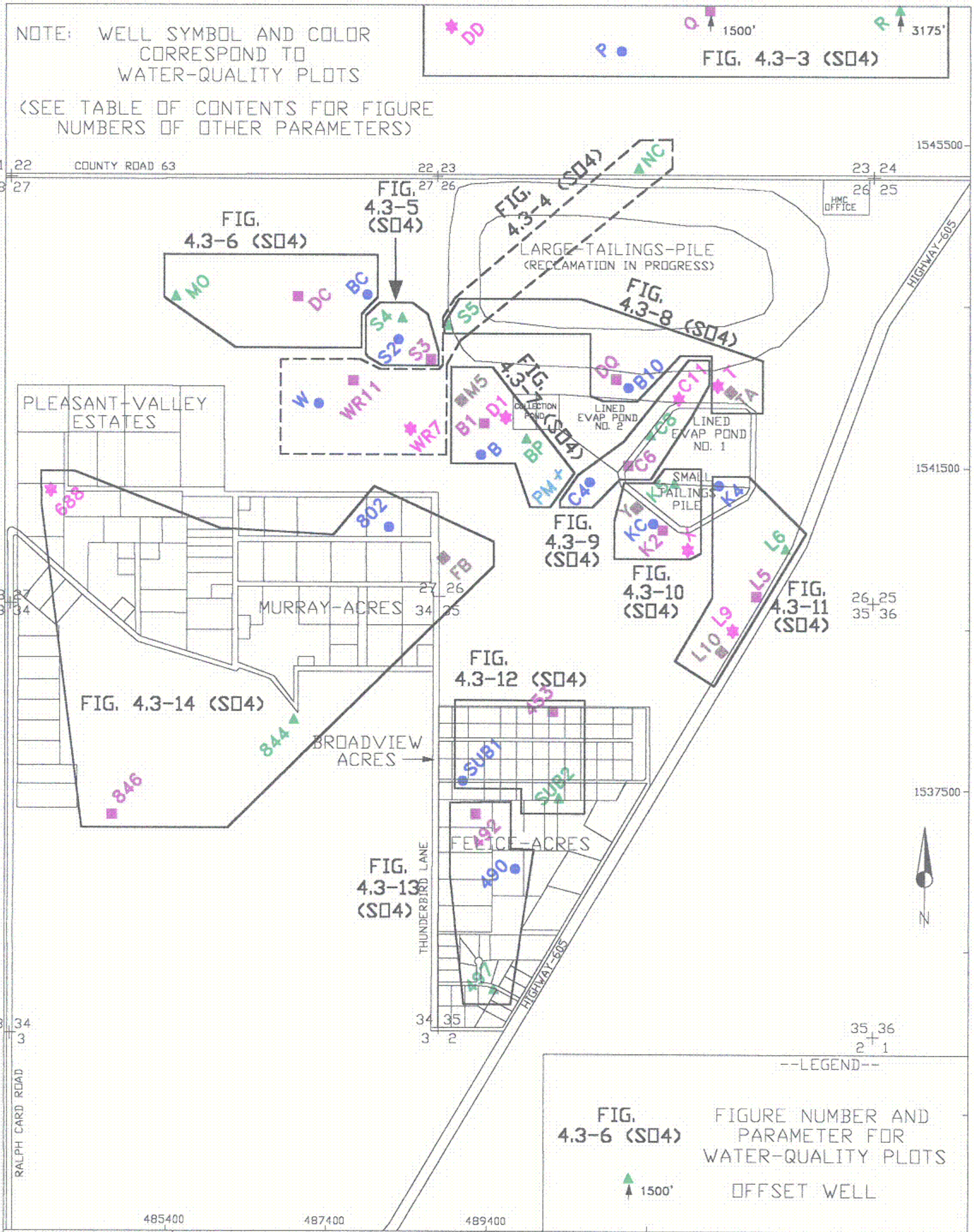


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-1B. SULFATE CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS
HMC2000\2000EQAL
page 4.3-17

C26



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/31/2000
	FIGURE 4.3-2. LOCATION OF ALLUVIAL WELLS WITH WATER-QUALITY PLOTS	R13\DOS HMC2000\2000FIGS
		page 4.3-18

C27

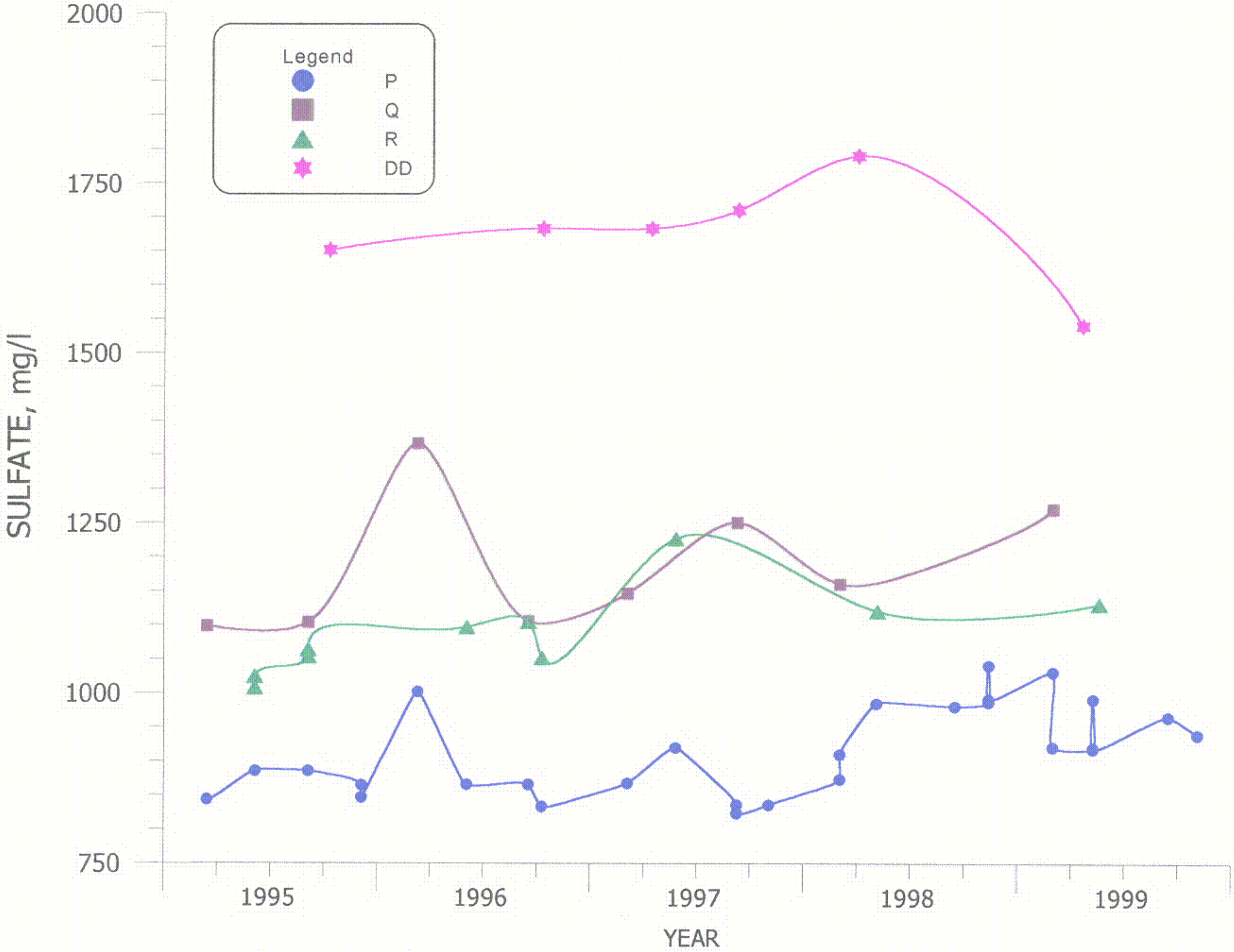


FIGURE 4.3-3. SULFATE CONCENTRATIONS FOR WELLS P, Q, R AND DD.

C28

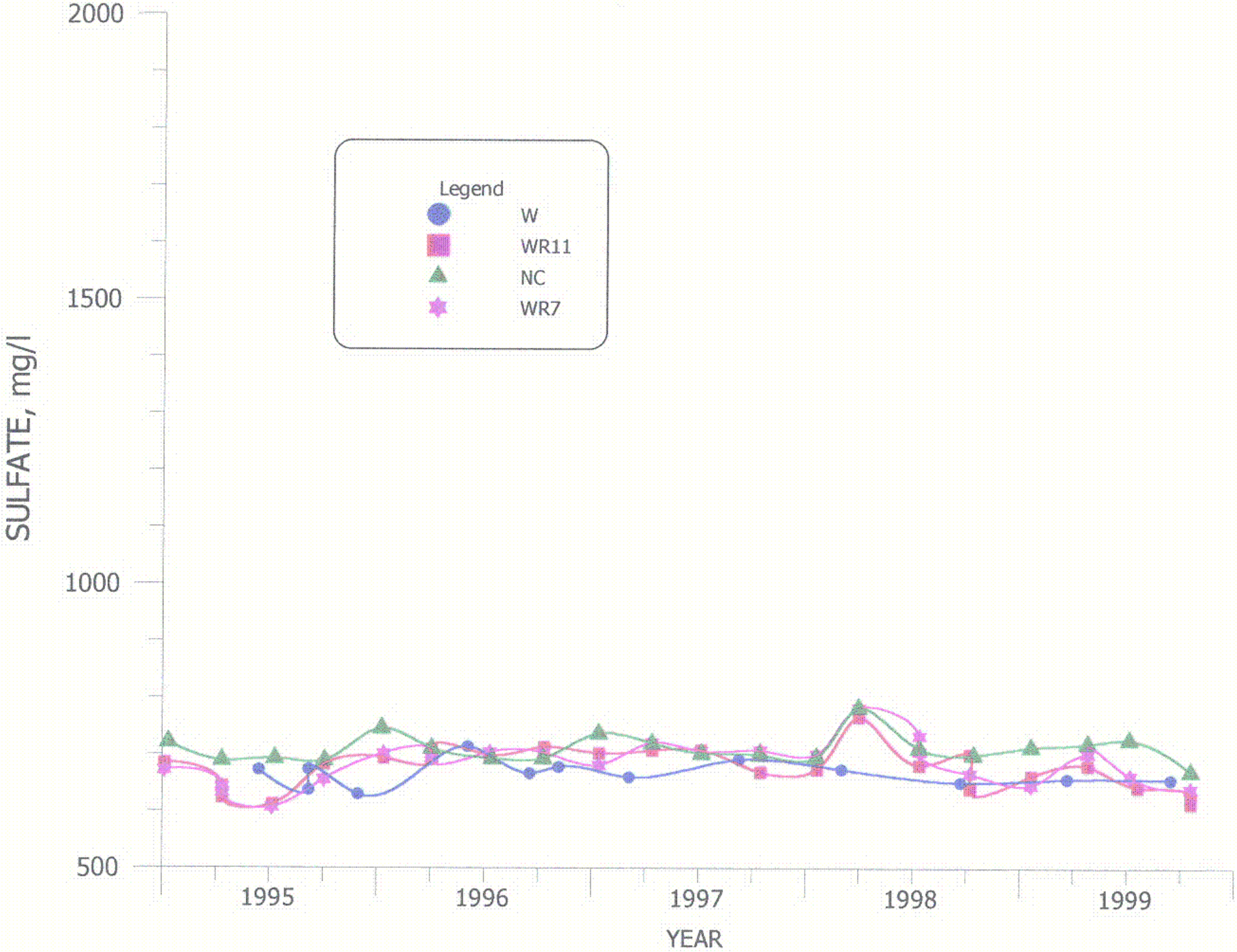


FIGURE 4.3-4. SULFATE CONCENTRATIONS FOR WELLS W, WR11, NC AND WR7.

C29

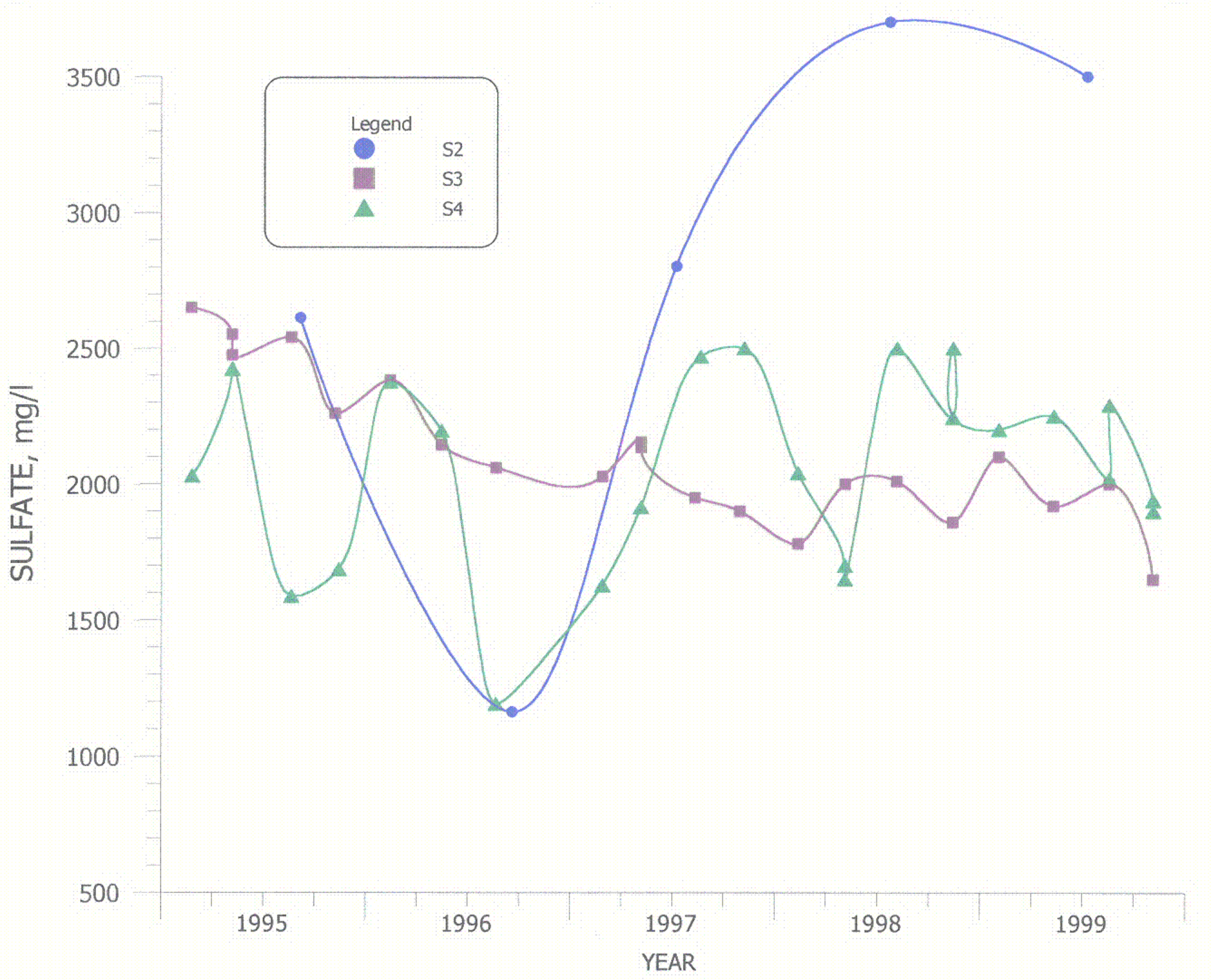


FIGURE 4.3-5. SULFATE CONCENTRATIONS FOR WELLS S2, S3 AND S4.

C30

FIGURE 4.3-6. SULFATE CONCENTRATIONS FOR WELLS BC, DC AND MO.

C31

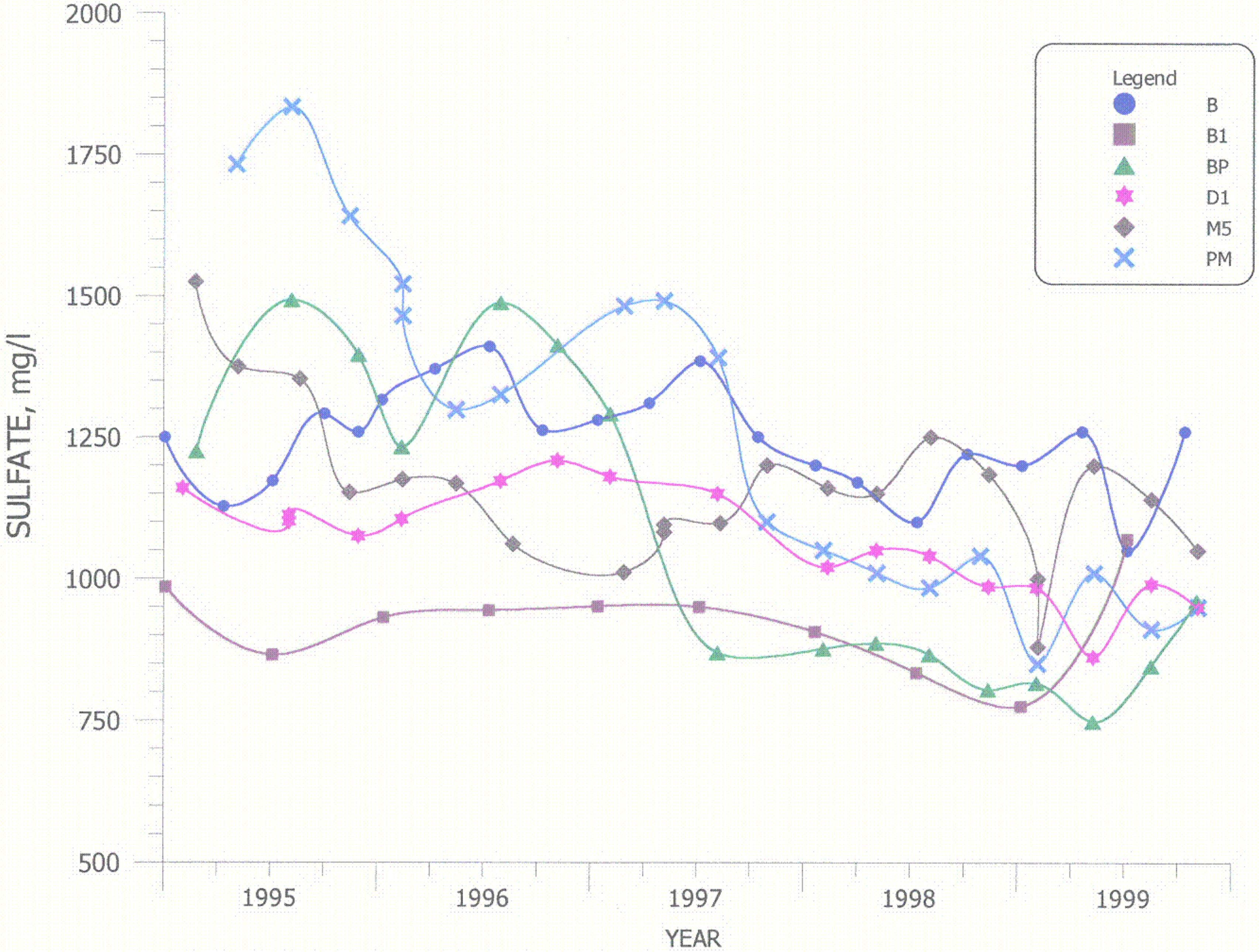


FIGURE 4.3-7. SULFATE CONCENTRATIONS FOR WELLS B, B1, BP, D1, M5 AND PM.

C32

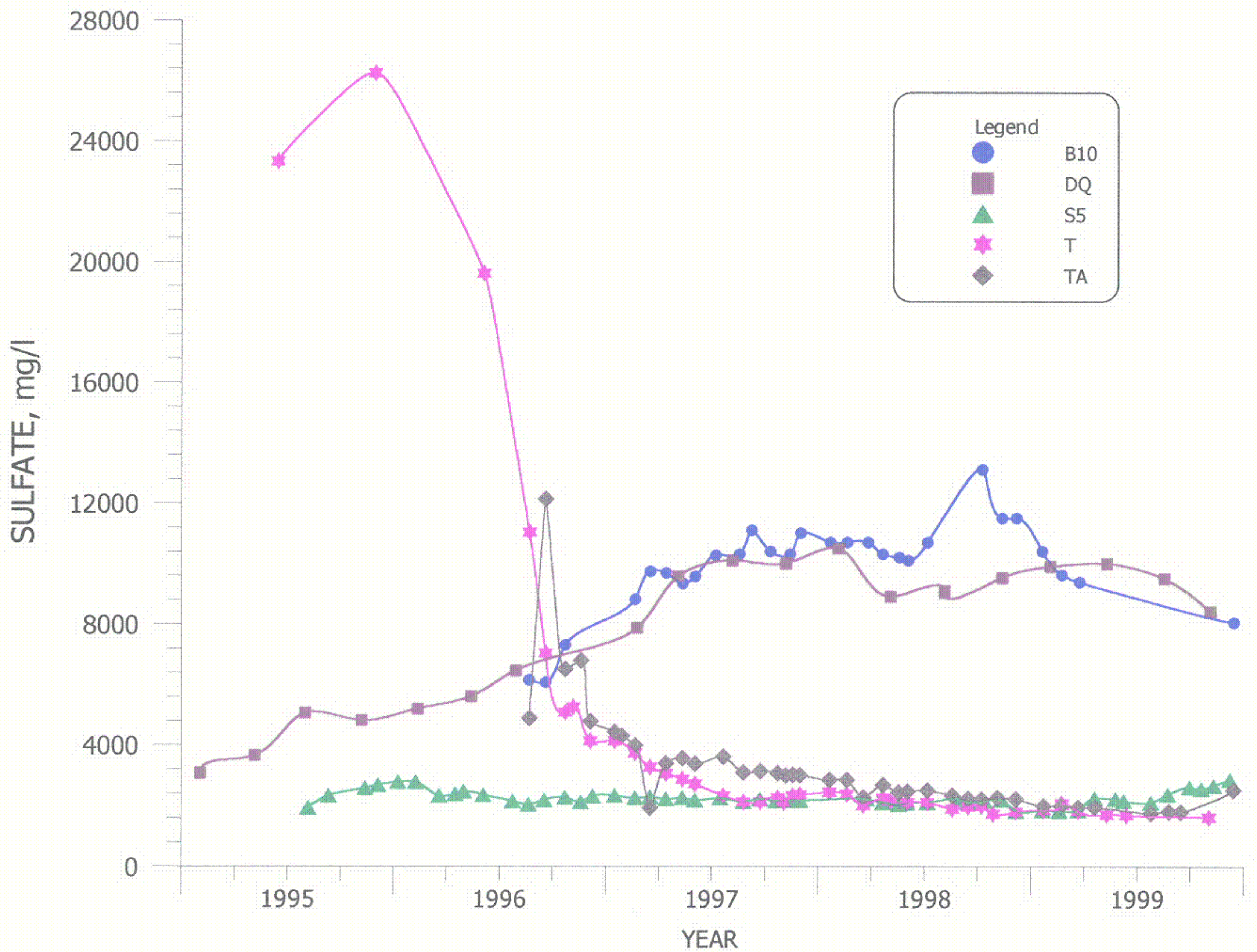


FIGURE 4.3-8. SULFATE CONCENTRATIONS FOR WELLS B10, DQ, S5, T AND TA.

C33

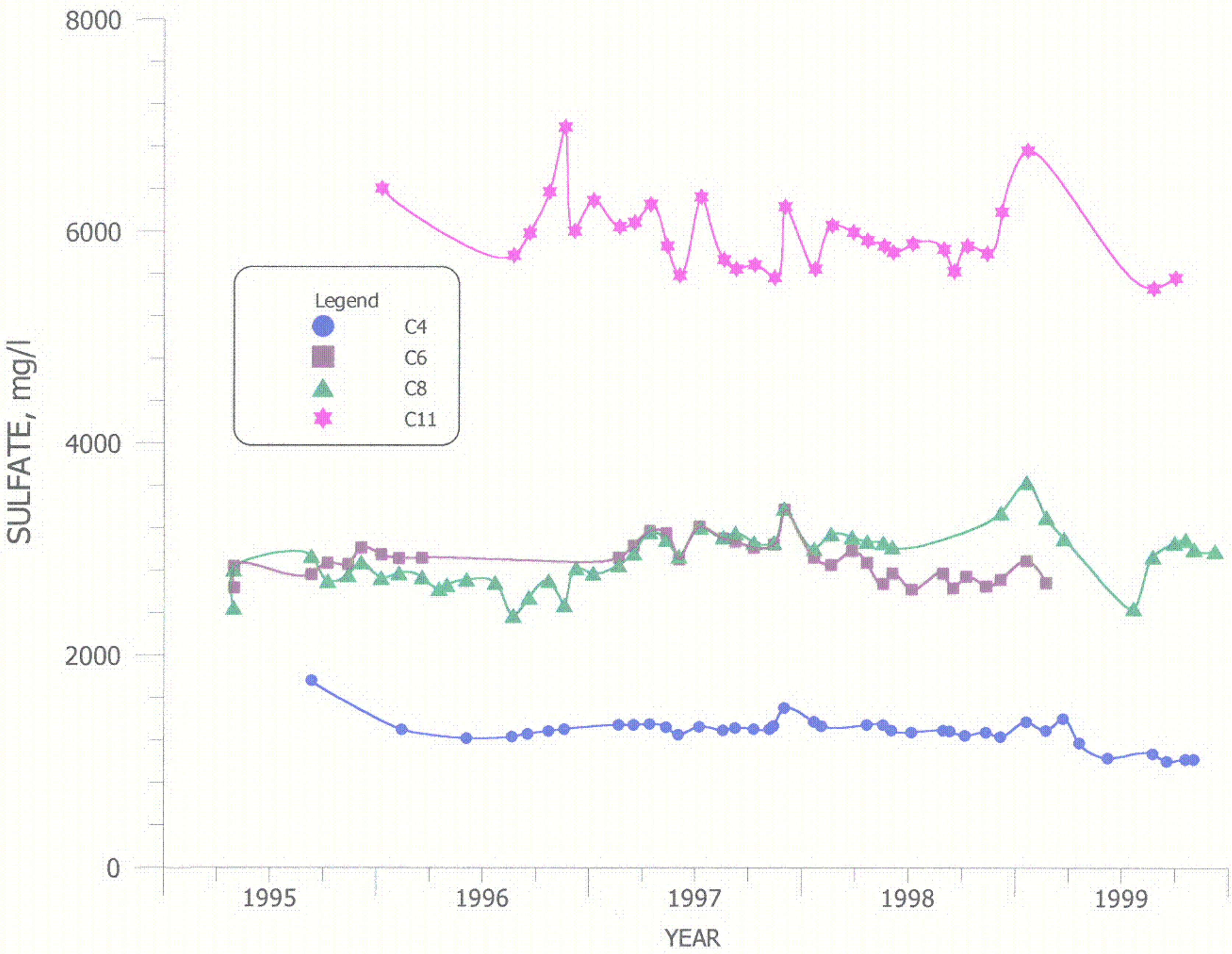


FIGURE 4.3-9. SULFATE CONCENTRATIONS FOR WELLS C4, C6, C8 AND C11.

C34

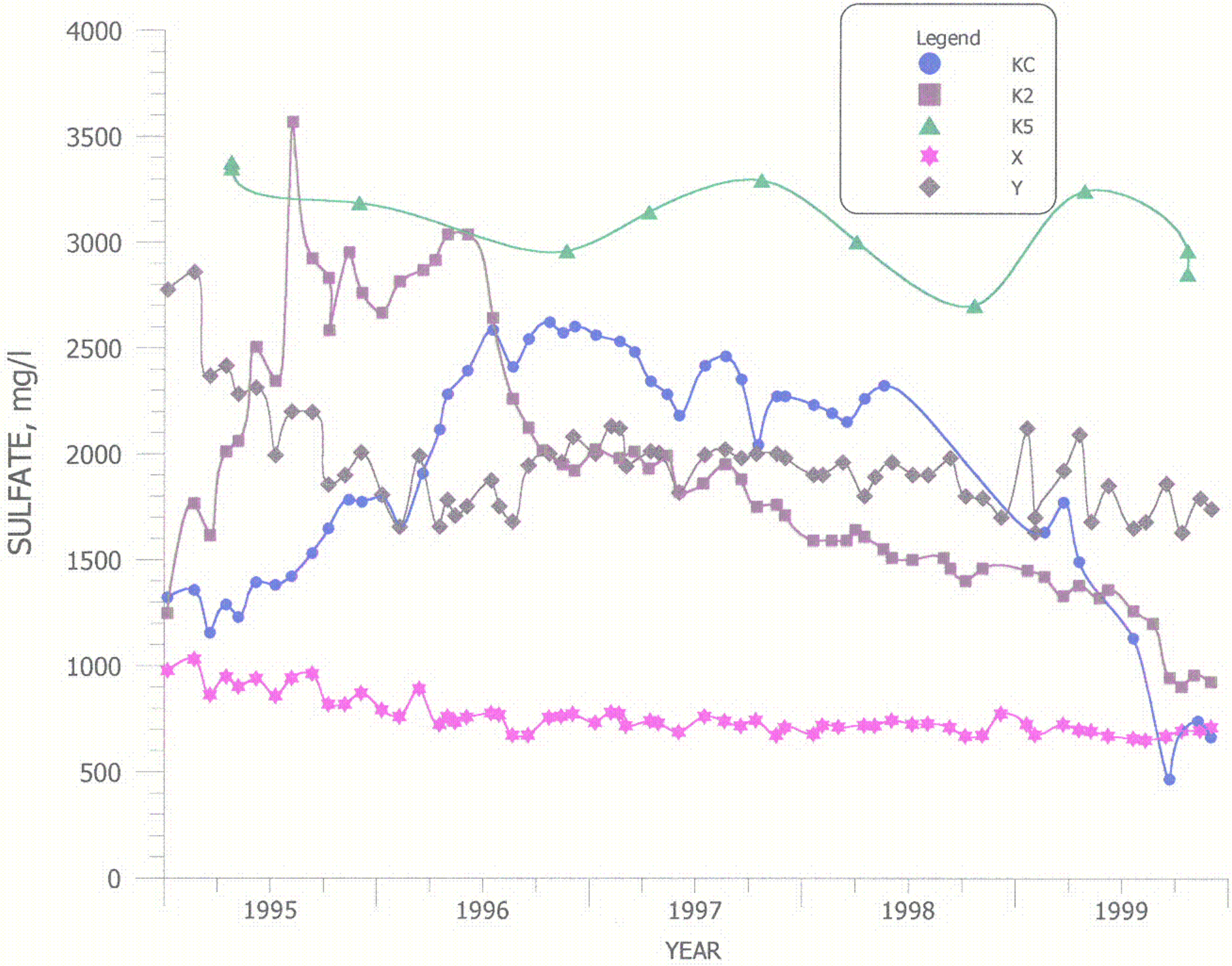


FIGURE 4.3-10. SULFATE CONCENTRATIONS FOR WELLS KC, K2, K5, X AND Y.

C35

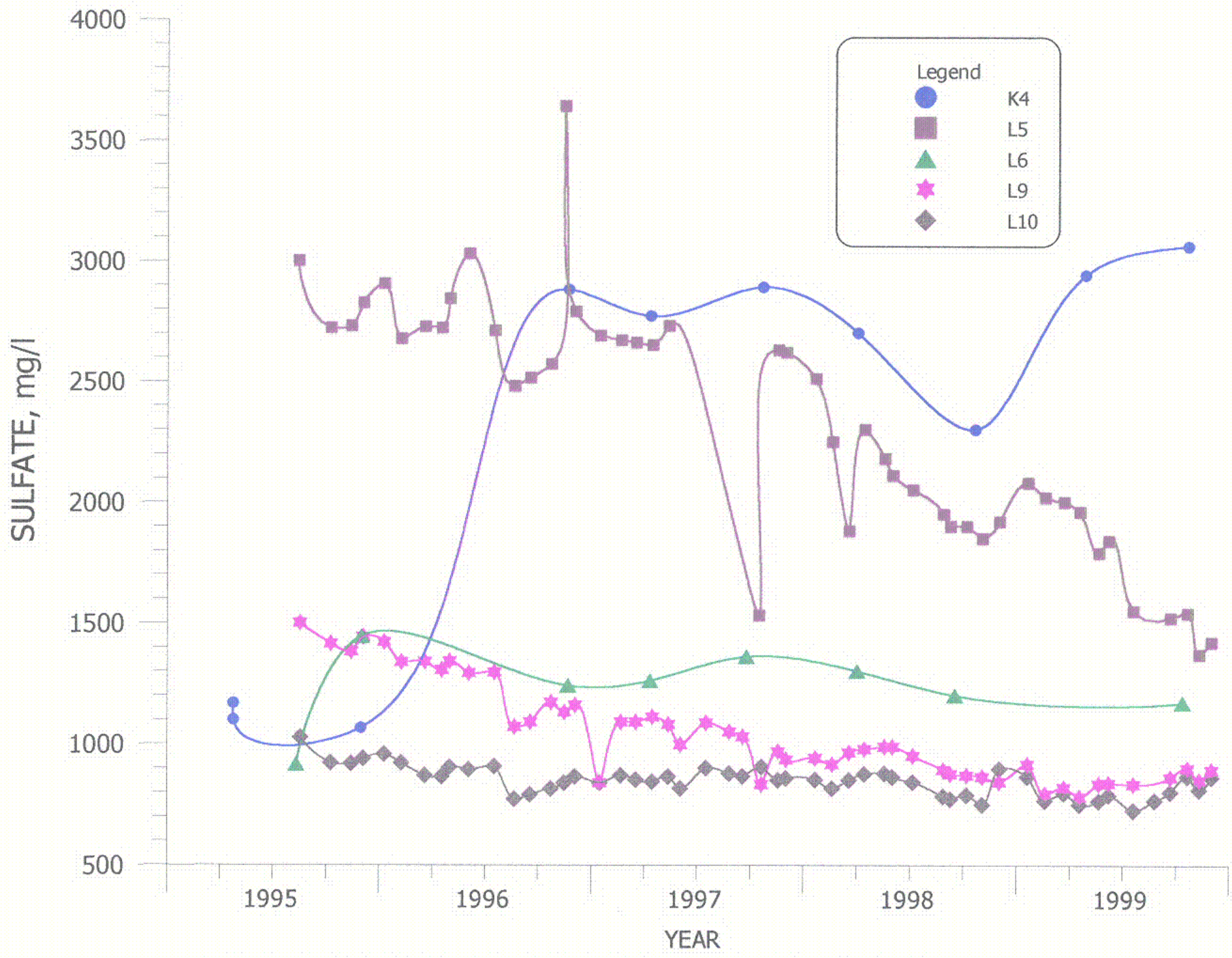
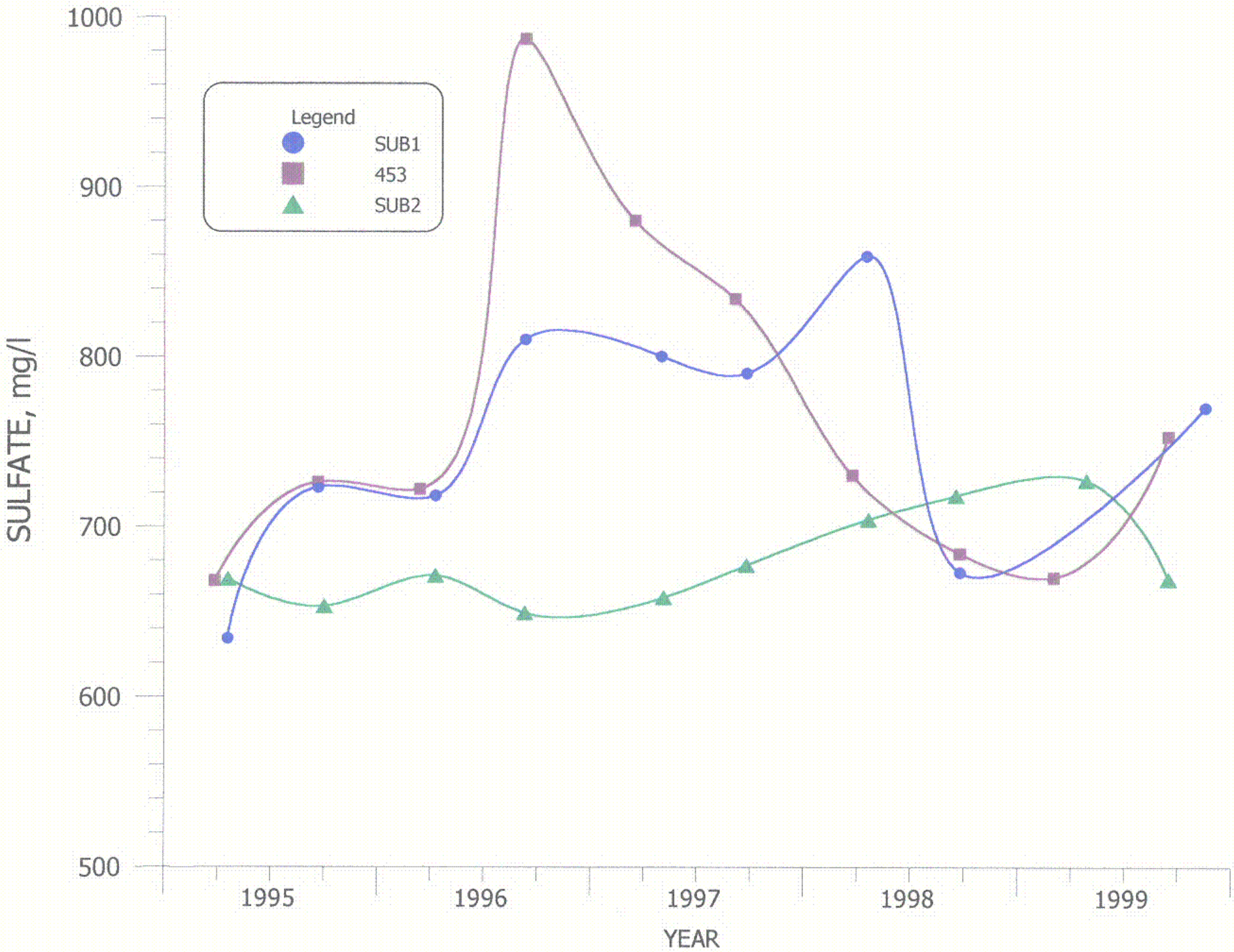


FIGURE 4.3-11. SULFATE CONCENTRATIONS FOR WELLS K4, L5, L6, L9 AND L10.

4.3-27

C36



4.3-28

FIGURE 4.3-12. SULFATE CONCENTRATIONS FOR WELLS SUB1, 453 AND SUB2.

C37

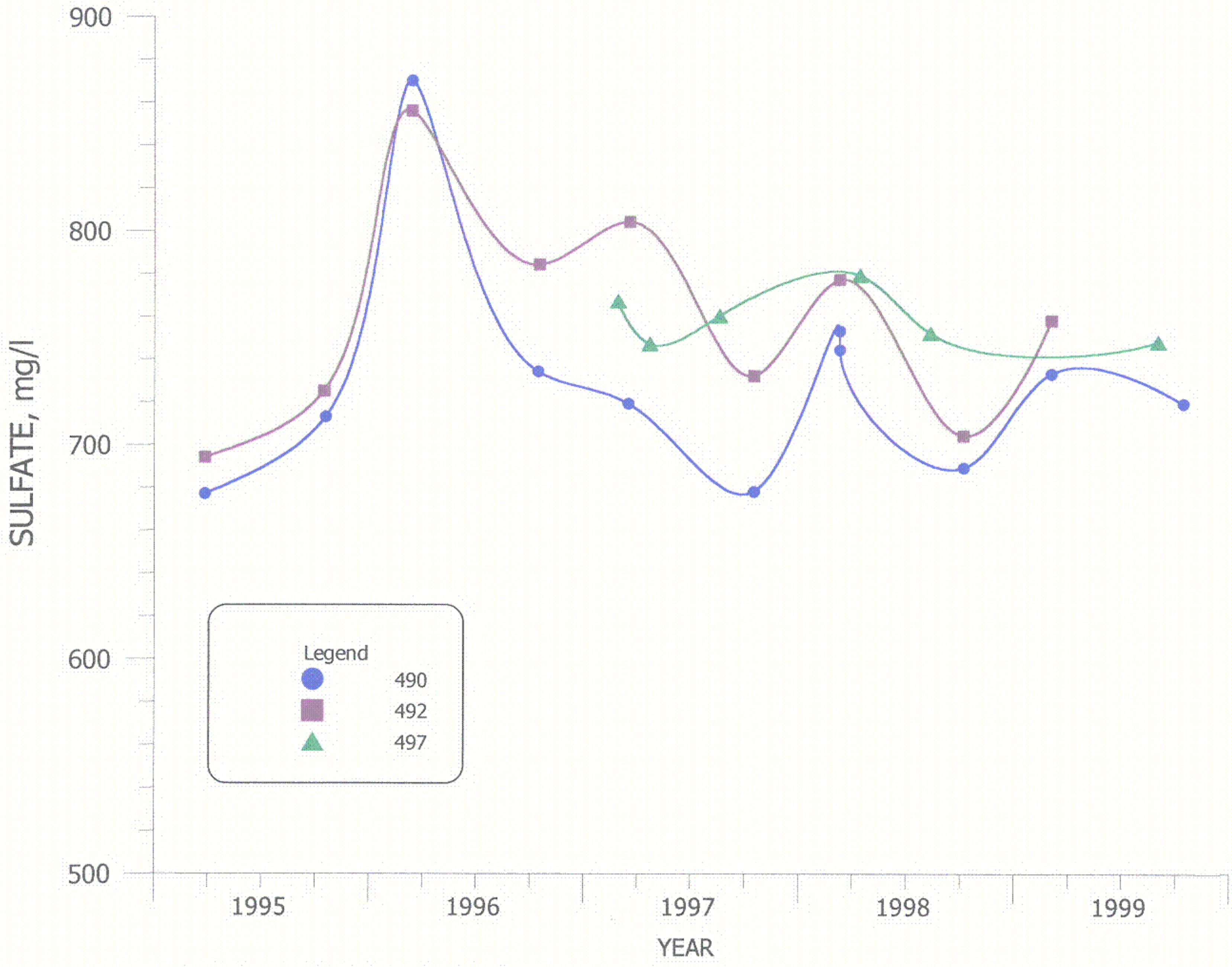


FIGURE 4.3-13. SULFATE CONCENTRATIONS FOR WELLS 490, 492 AND 497.

C38

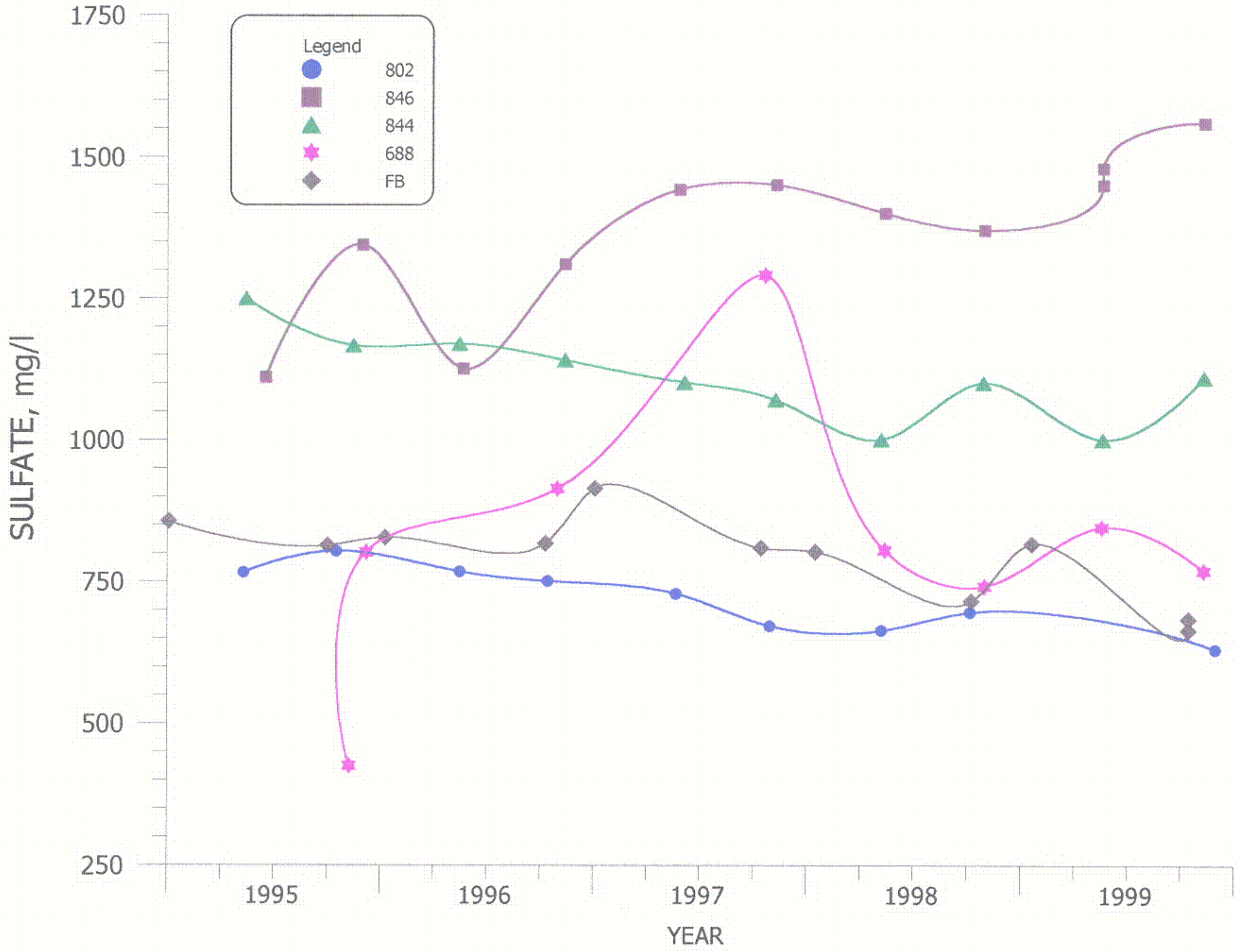
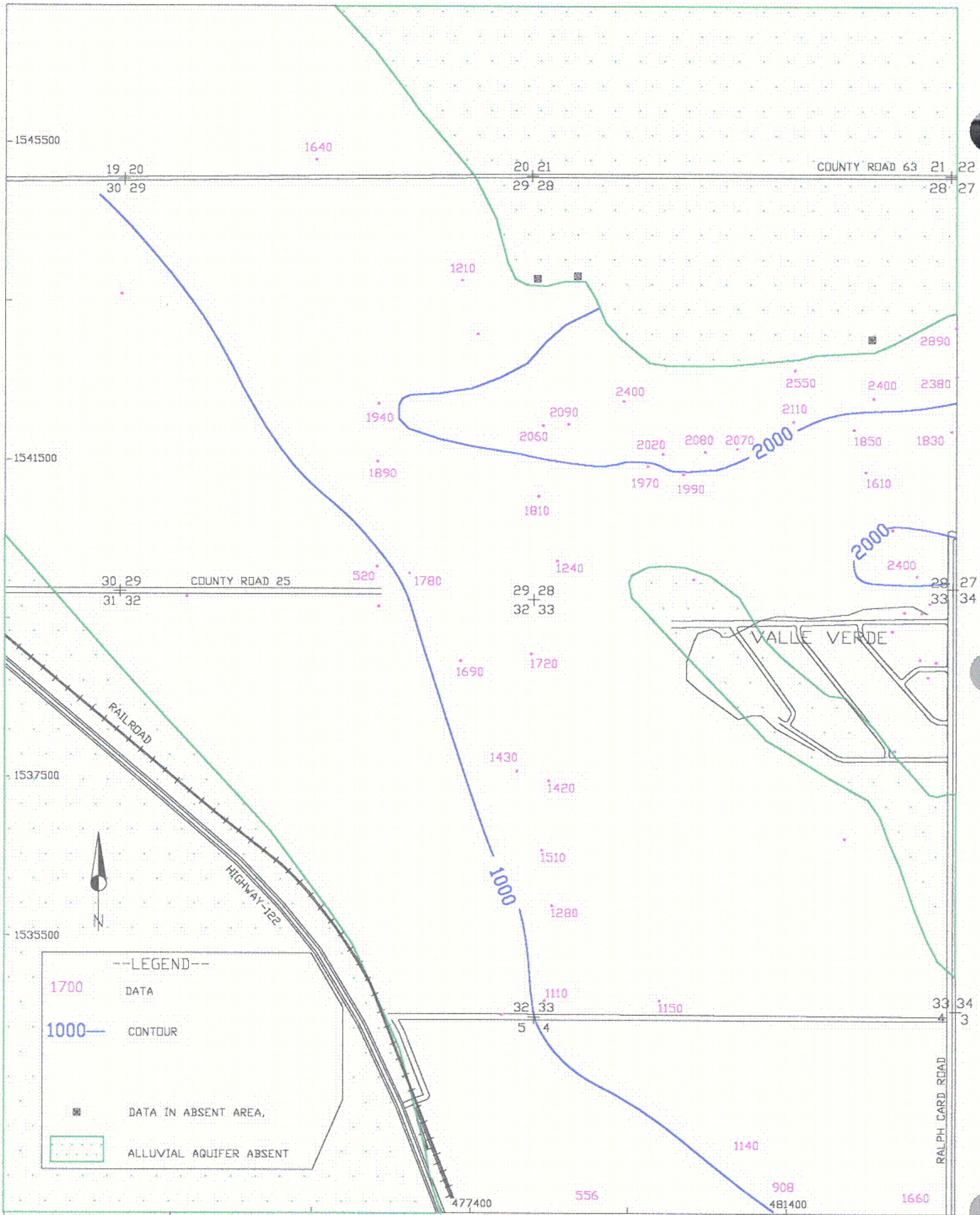


FIGURE 4.3-14. SULFATE CONCENTRATIONS FOR WELLS 802, 846, 844, 688 AND FB.

C39

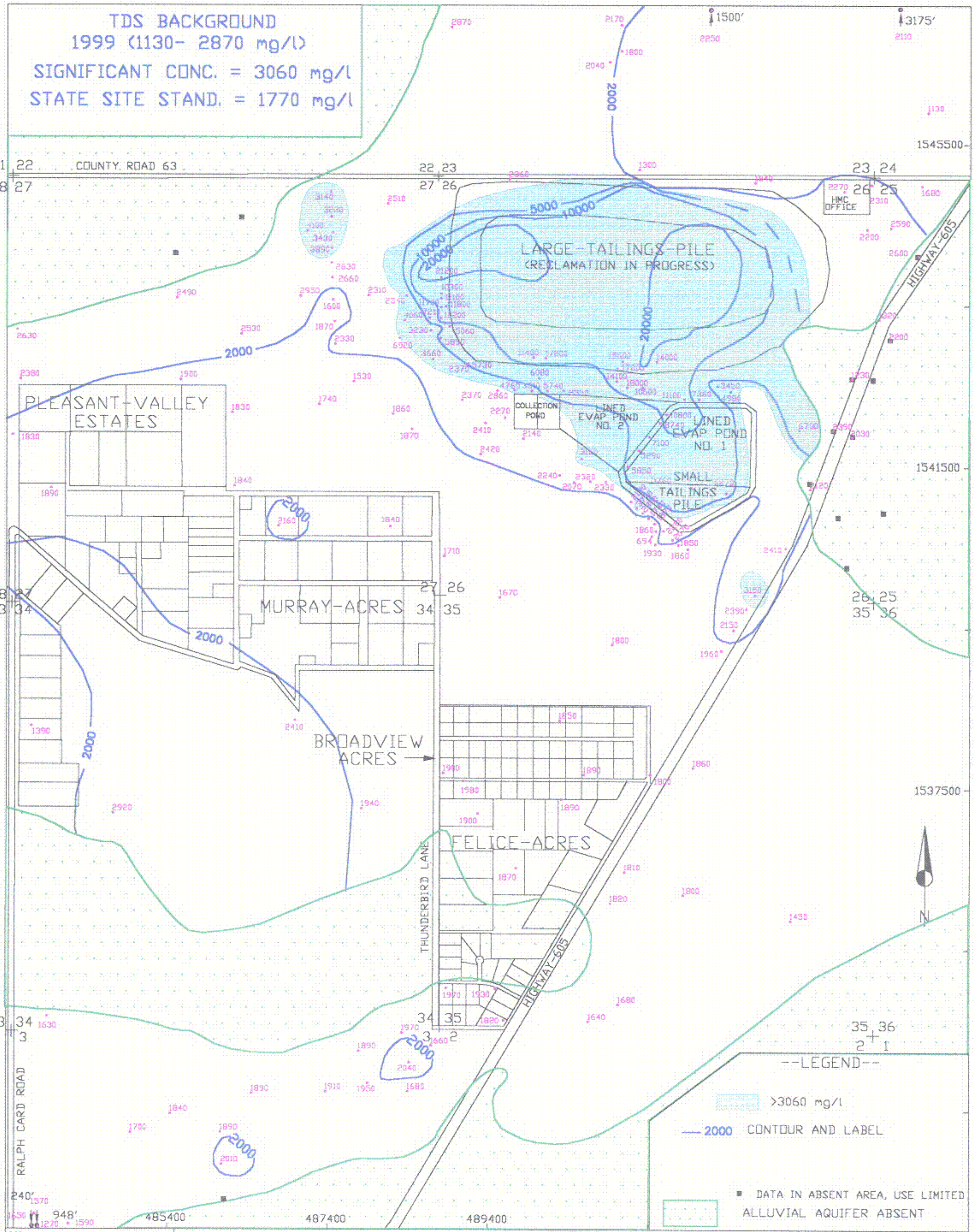


SCALE: 1"=1000' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/06/2000

FIGURE 4.3-15A. TDS CONCENTRATIONS FOR THE ALLUVIAL AQUIFER (WEST AREA), FALL 1999, mg/l

R13\DOS\HMC2000\2000WQAL

C40

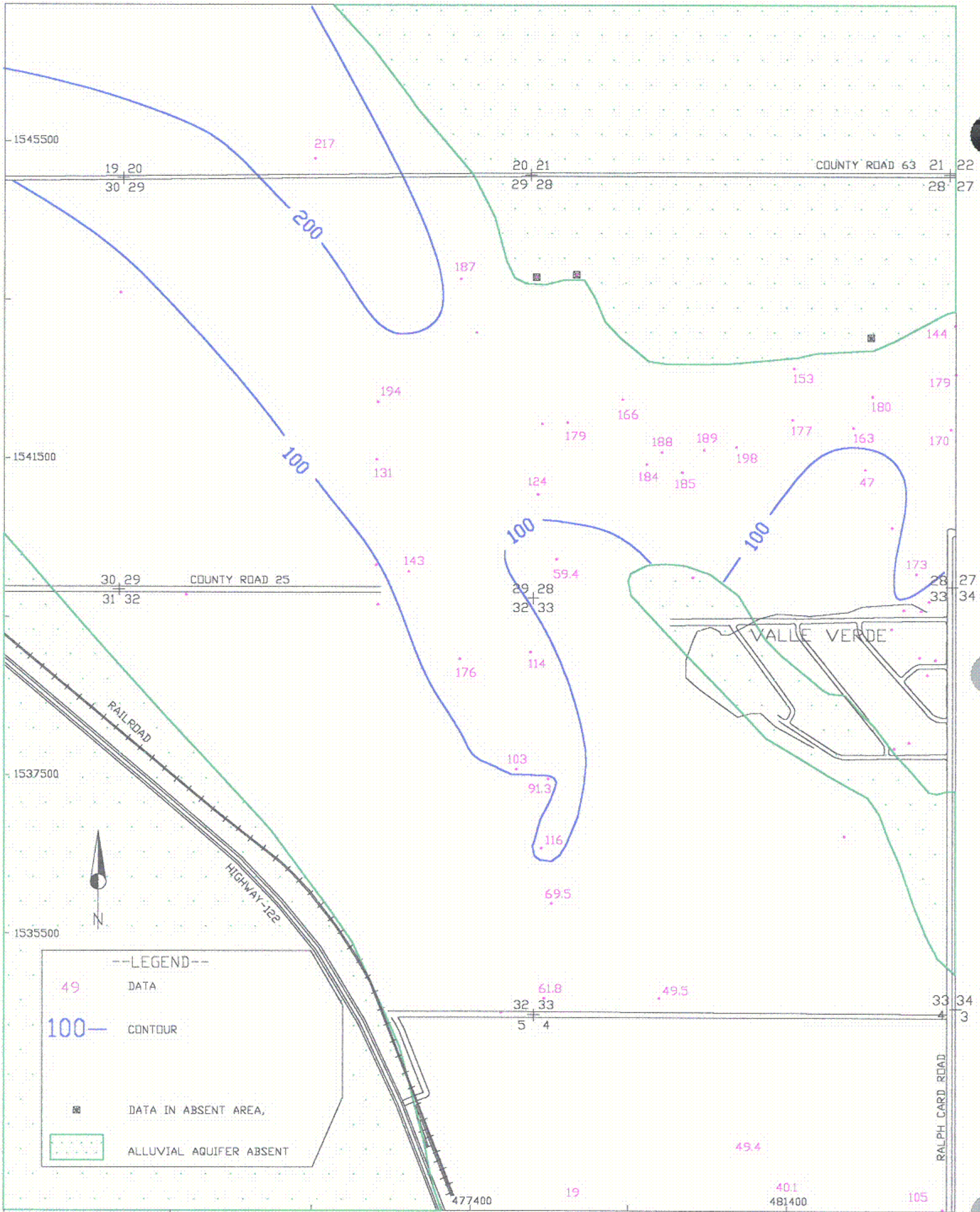


SCALE: 1"=1600' | HOMESTAKE MILL AND ADJACENT PROPERTIES GRANTS NM TOWNSHIP 11&12 N RANGE 10 W | DATE: 01/31/2000

FIGURE 4.3-15B. TDS CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS
HMC2000\2000EQAL
page 4.3-32

C41



SCALE: 1"=1000' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/06/2000

FIGURE 4.3-16A. CHLORIDE CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, (WEST AREA), FALL 1999, mg/l

R13\DOS\HMC2000\2000WQAL

page 4.3-33

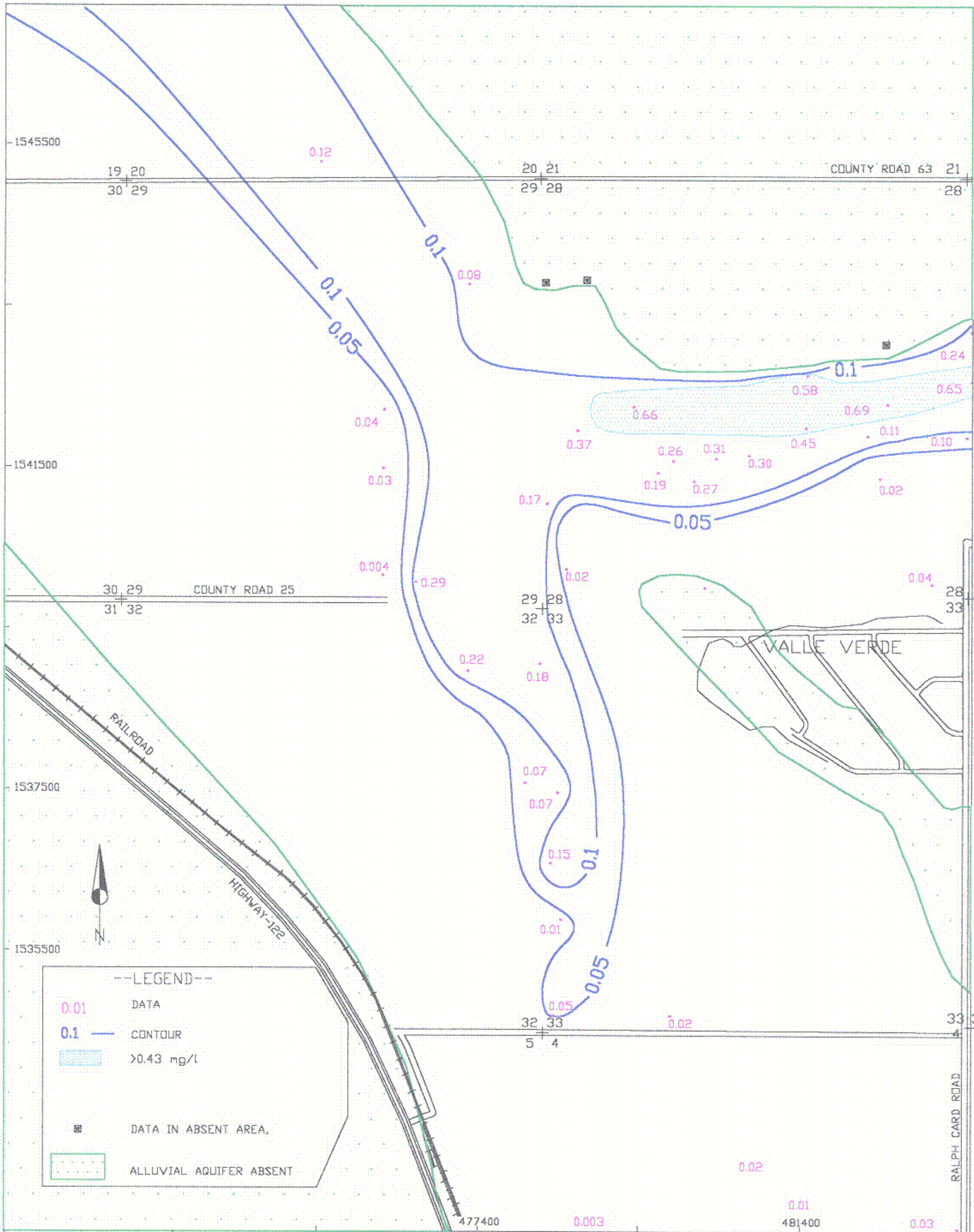
C42

SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/31/2000

FIGURE 4.3-16B. CHLORIDE CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DDS
HMC2000\2000EQAL

C43

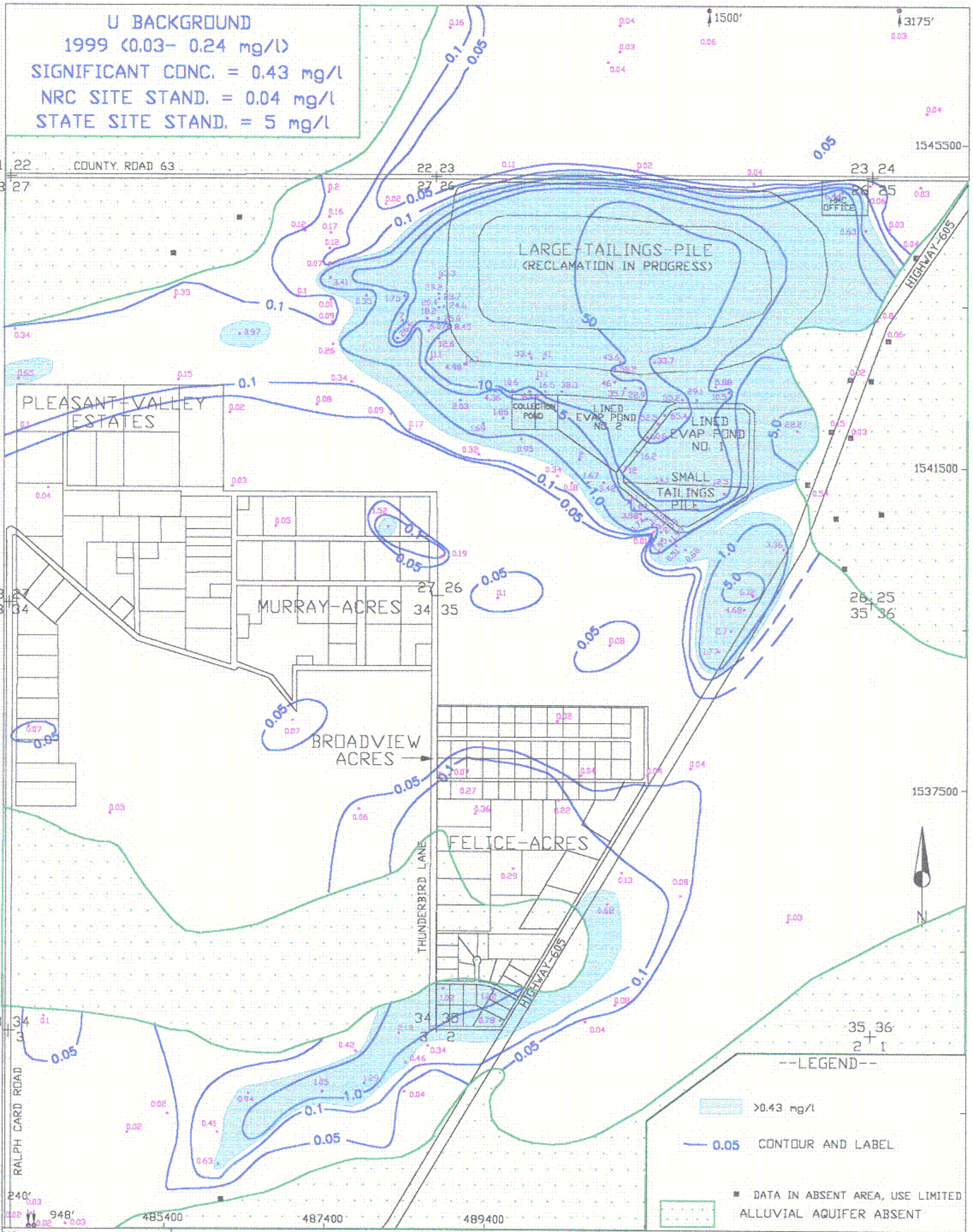


SCALE: 1"=1000' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/06/2000

FIGURE 4.3-17A. URANIUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER (WEST AREA), FALL 1999, mg/l

R13\DOS\HMC2000\2000WQAL

C44



SCALE: 1"=1600' | HOMESTAKE MILL AND ADJACENT PROPERTIES GRANTS NM TOWNSHIP 11&12 N RANGE 10 W | DATE: 01/31/2000

FIGURE 4.3-17B. URANIUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS
HMC2000\2000EQAL

C45

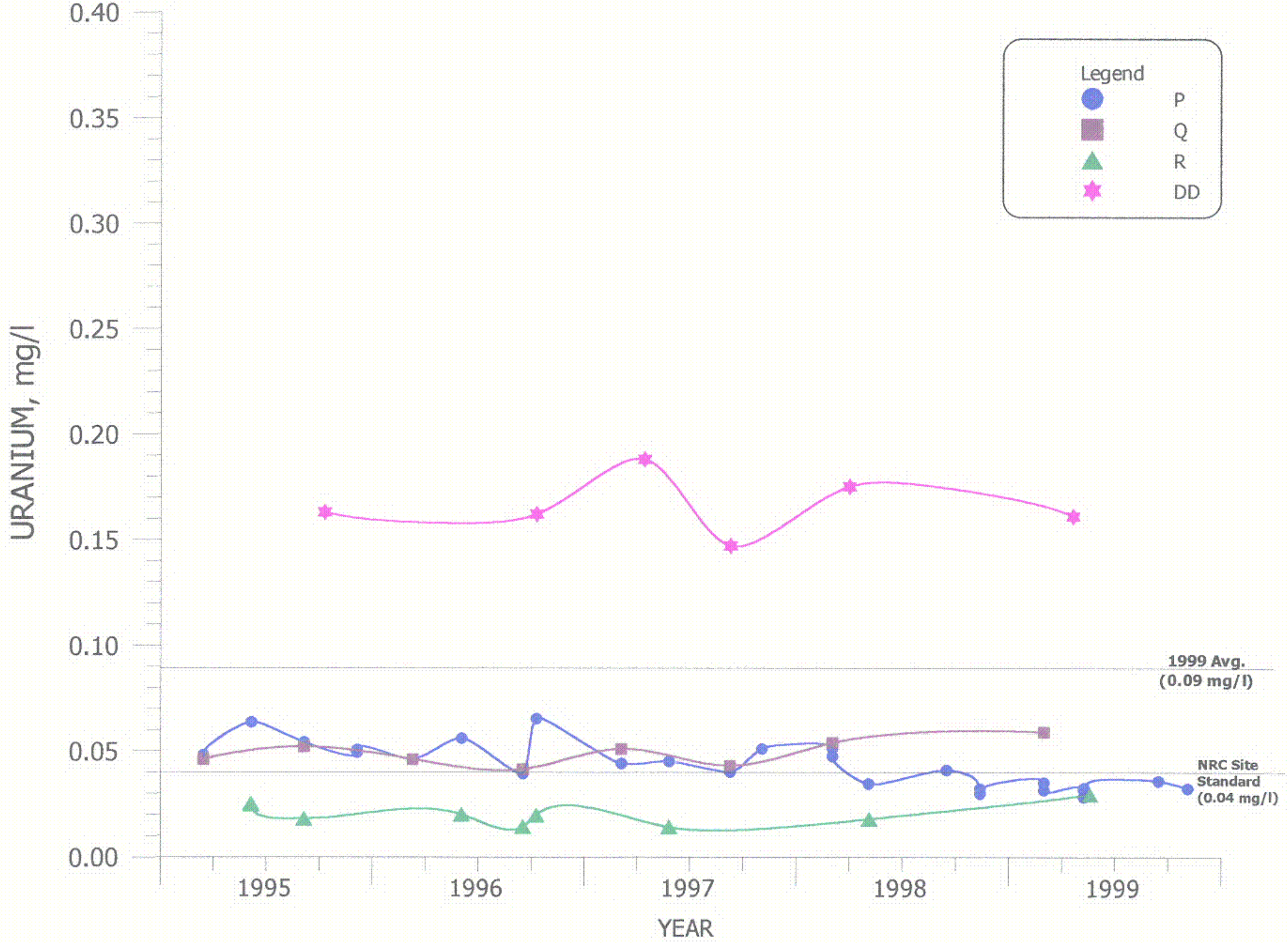
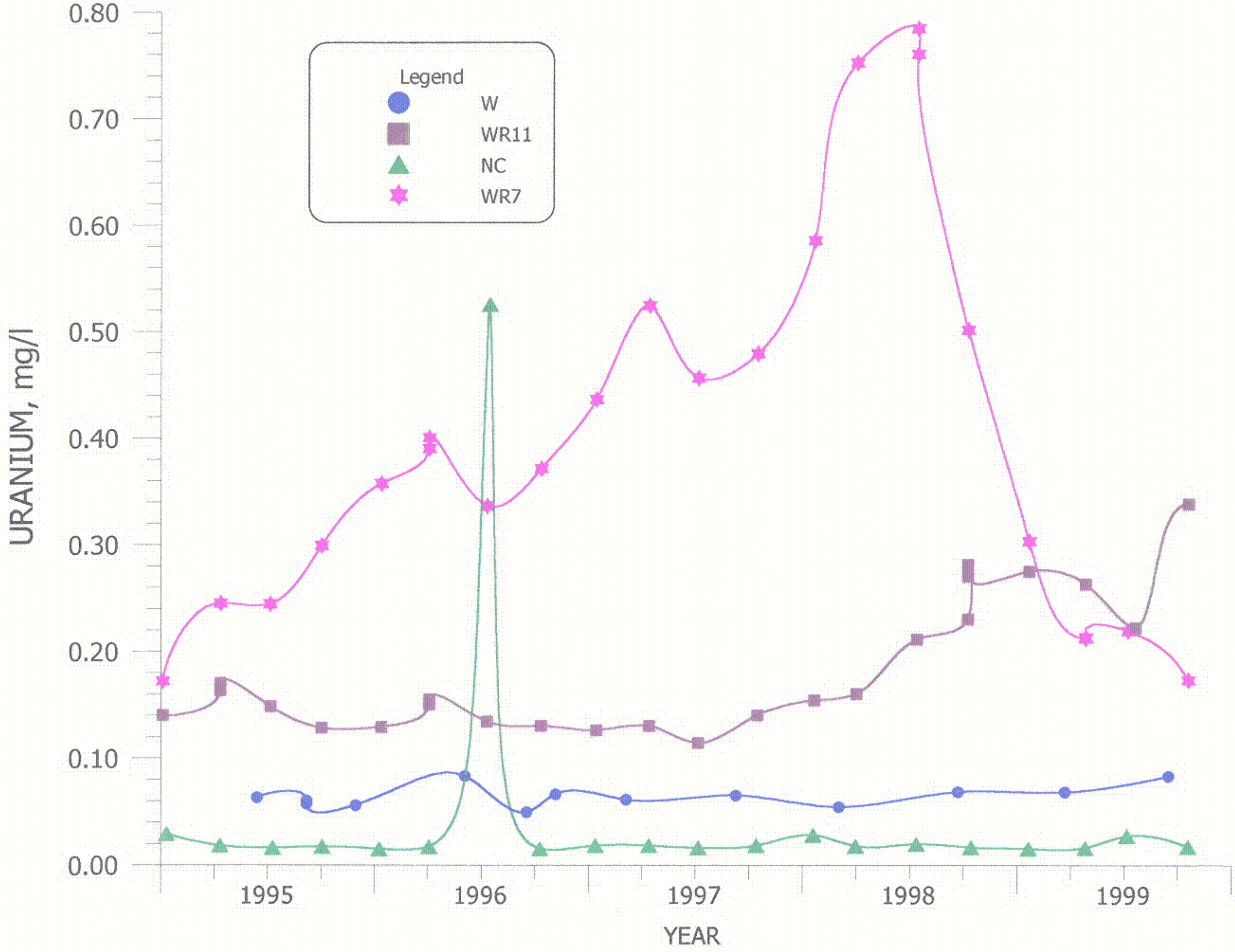


FIGURE 4.3-18. URANIUM CONCENTRATIONS FOR WELLS P, Q, R AND DD.

C46



4.3-38

FIGURE 4.3-19. URANIUM CONCENTRATIONS FOR WELLS W, WR11, NC AND WR7.

C47

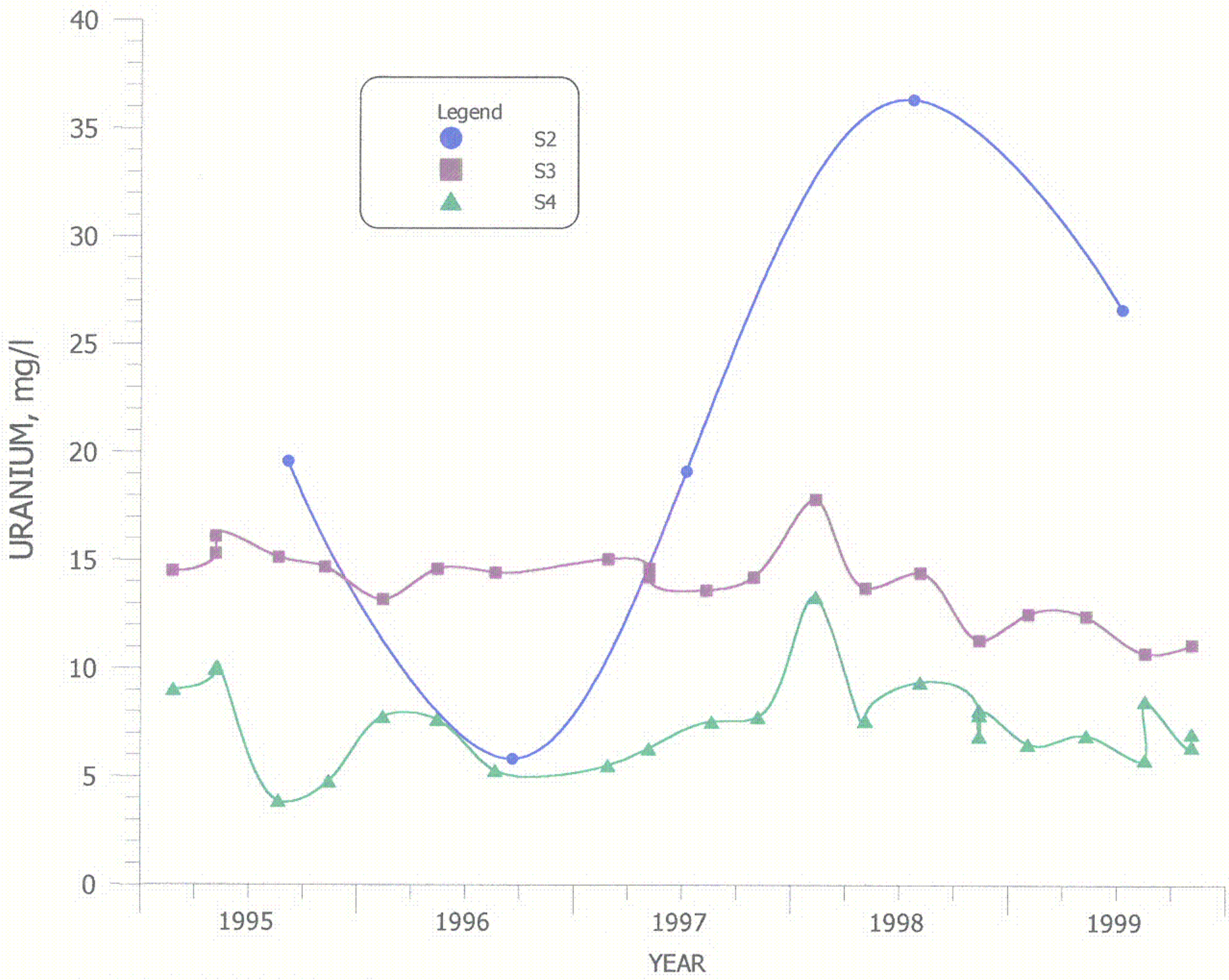


FIGURE 4.3-20. URANIUM CONCENTRATIONS FOR WELLS S2, S3 AND S4.

C48

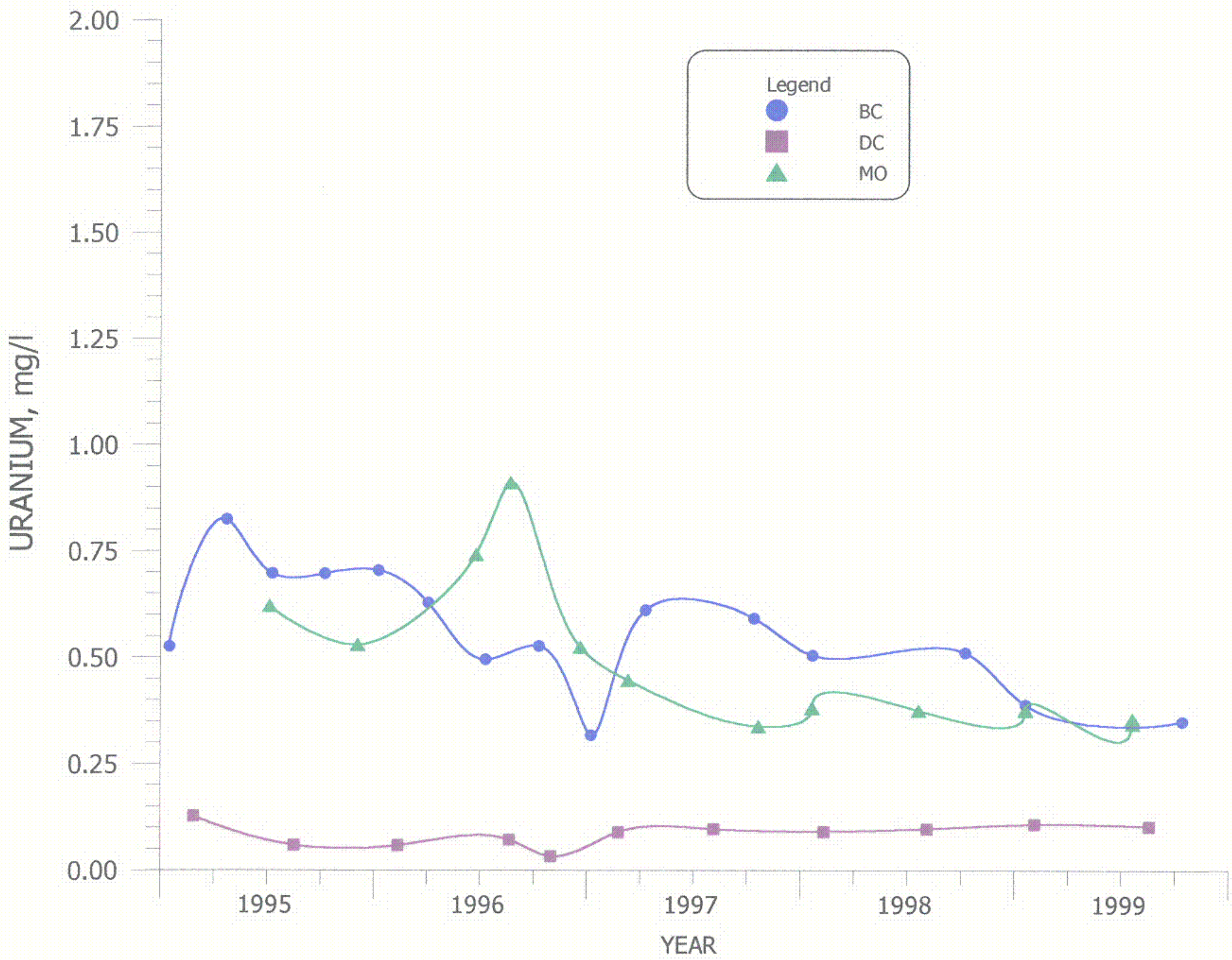


FIGURE 4.3-21. URANIUM CONCENTRATIONS FOR WELLS BC, DC AND MO.

C49

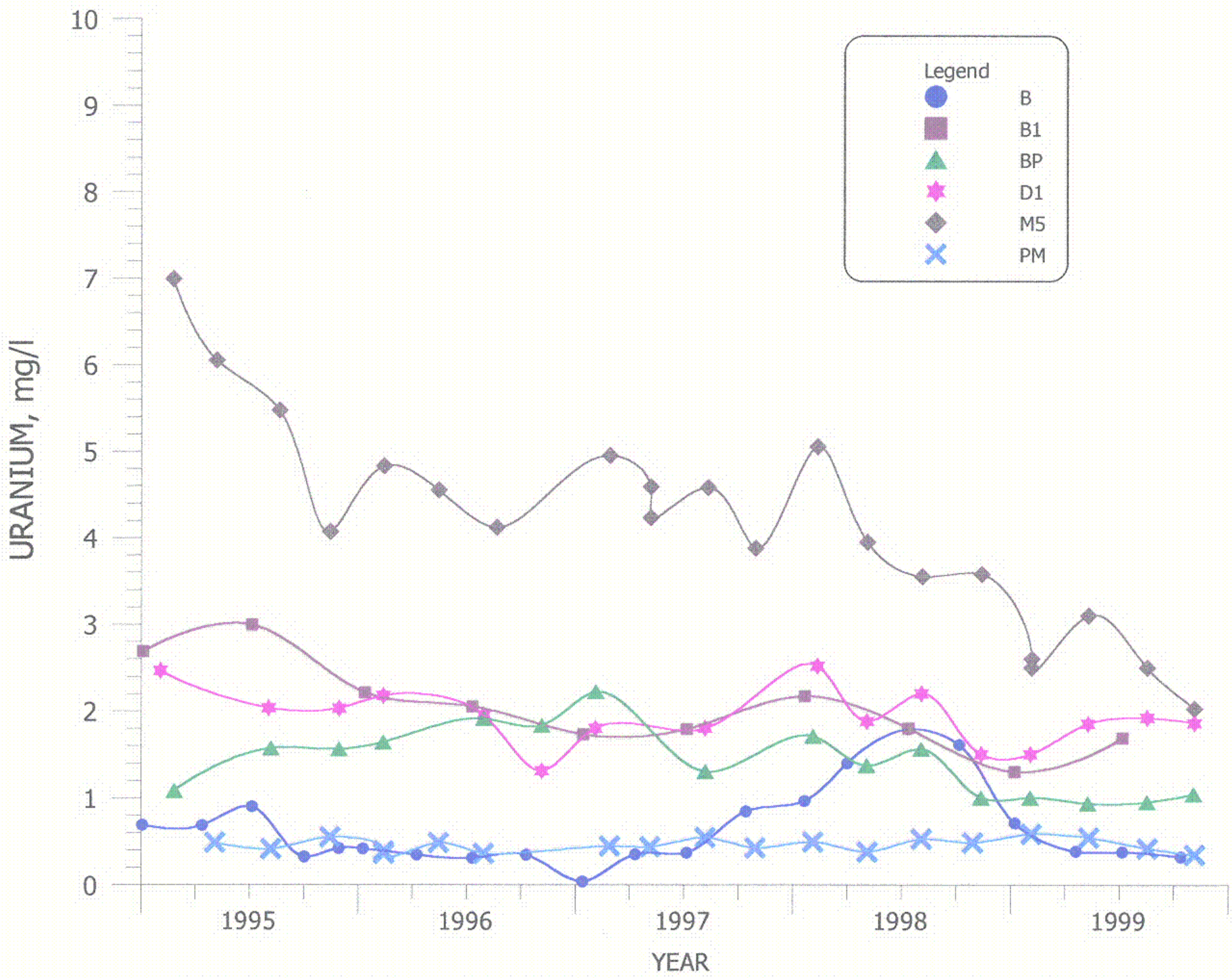


FIGURE 4.3-22. URANIUM CONCENTRATIONS FOR WELLS B, B1, BP, D1, M5 AND PM.

C50

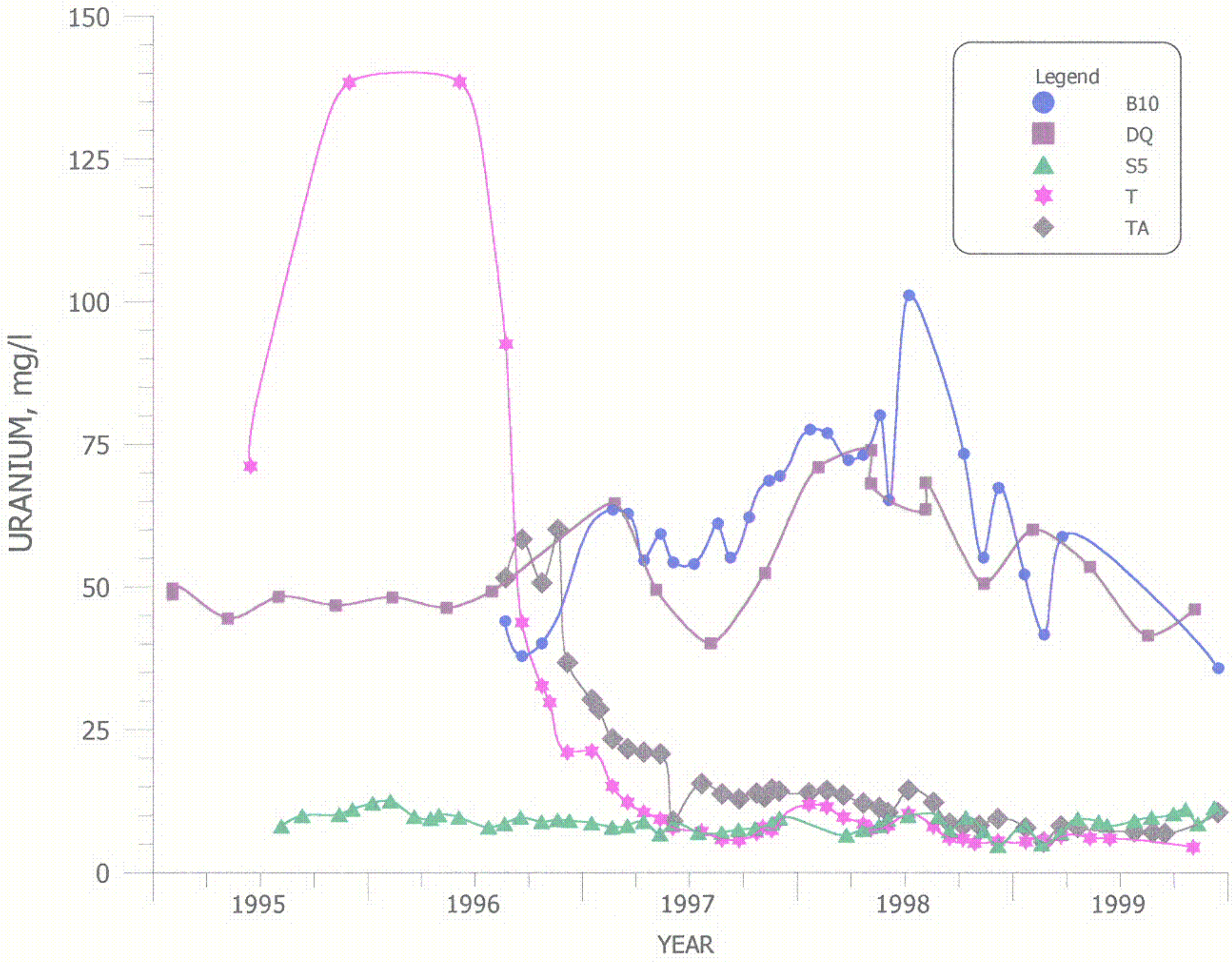


FIGURE 4.3-23. URANIUM CONCENTRATIONS FOR WELLS B10, DQ, S5, T AND TA.

C51

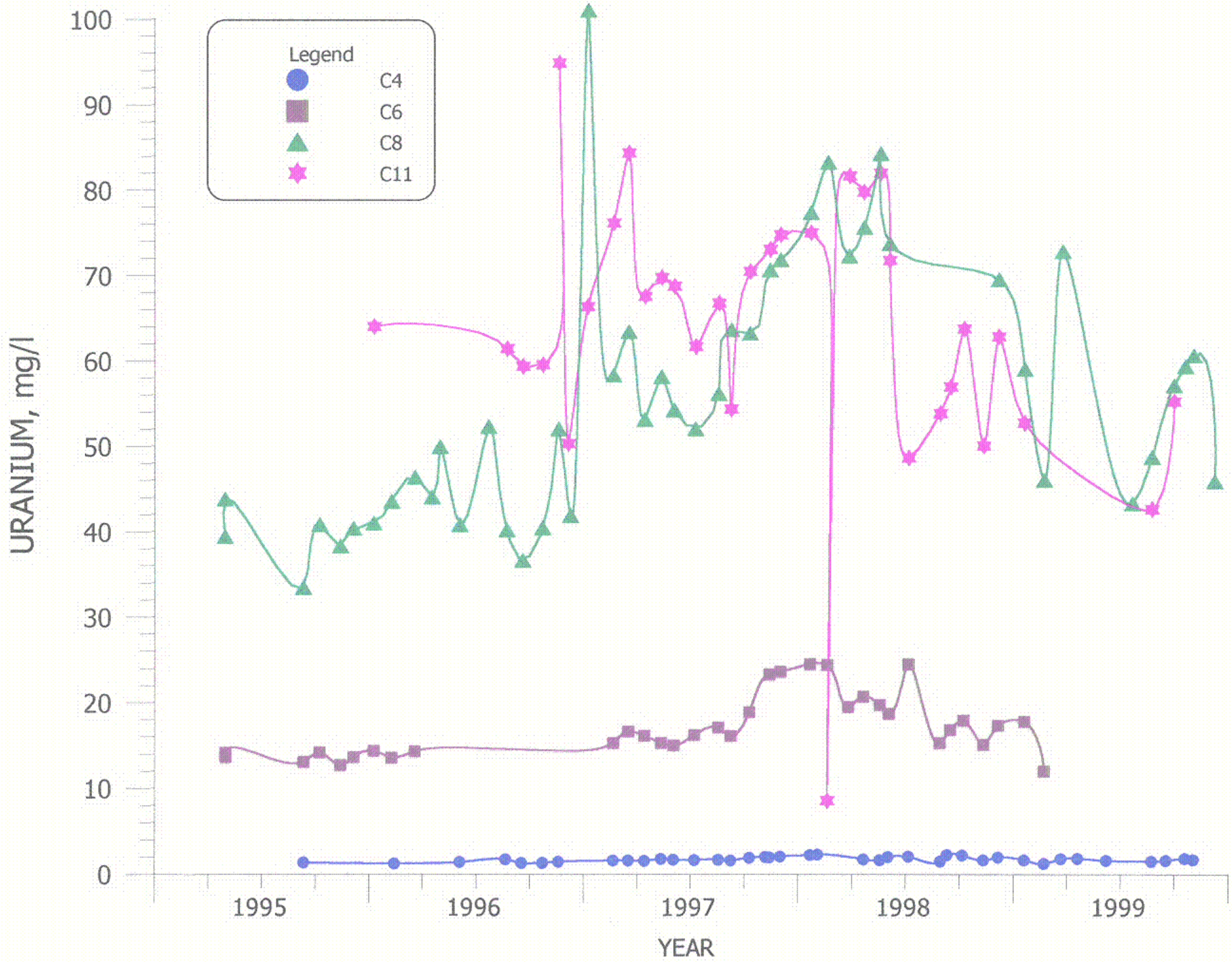


FIGURE 4.3-24. URANIUM CONCENTRATIONS FOR WELLS C4, C6, C8 AND C11.

C52

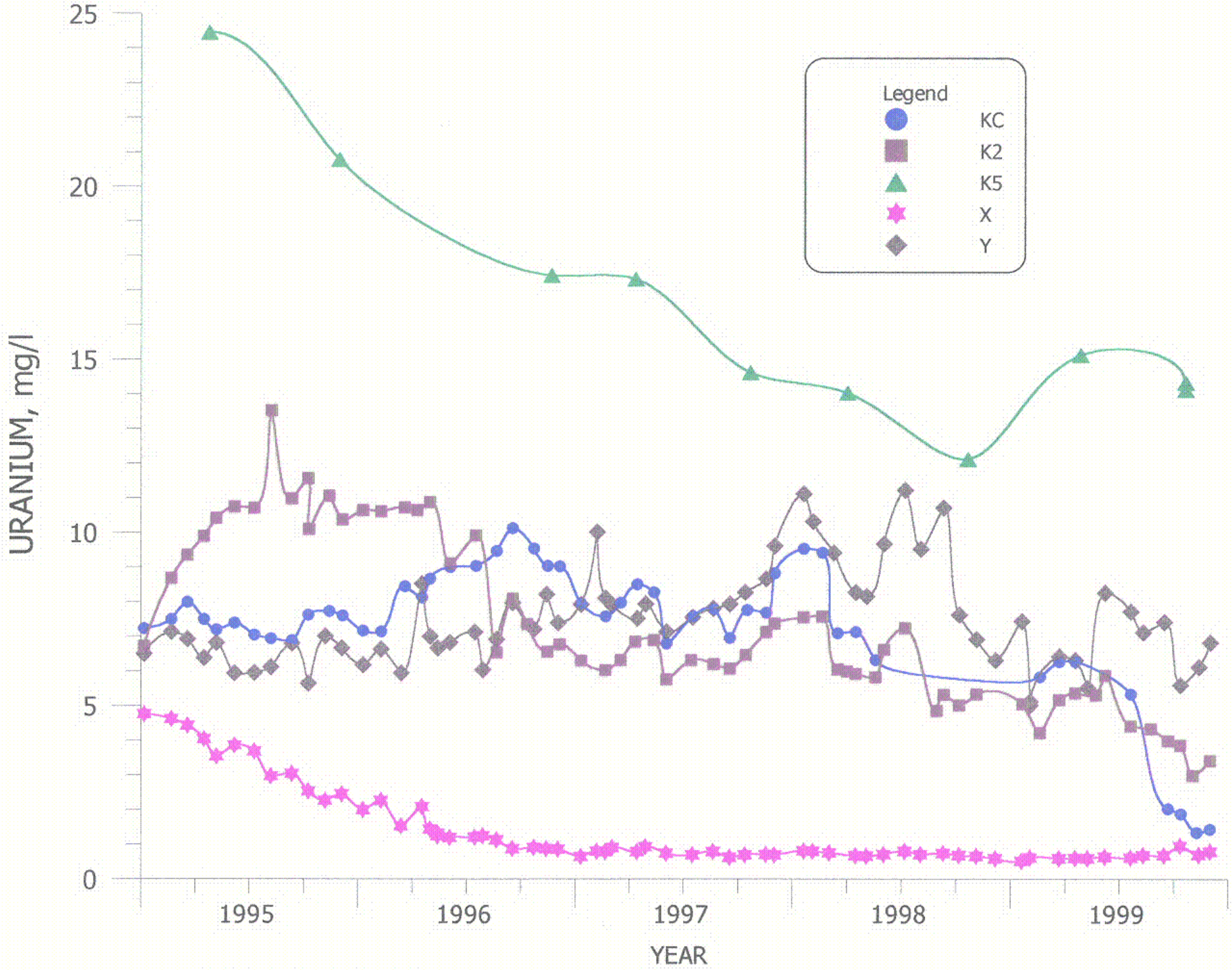
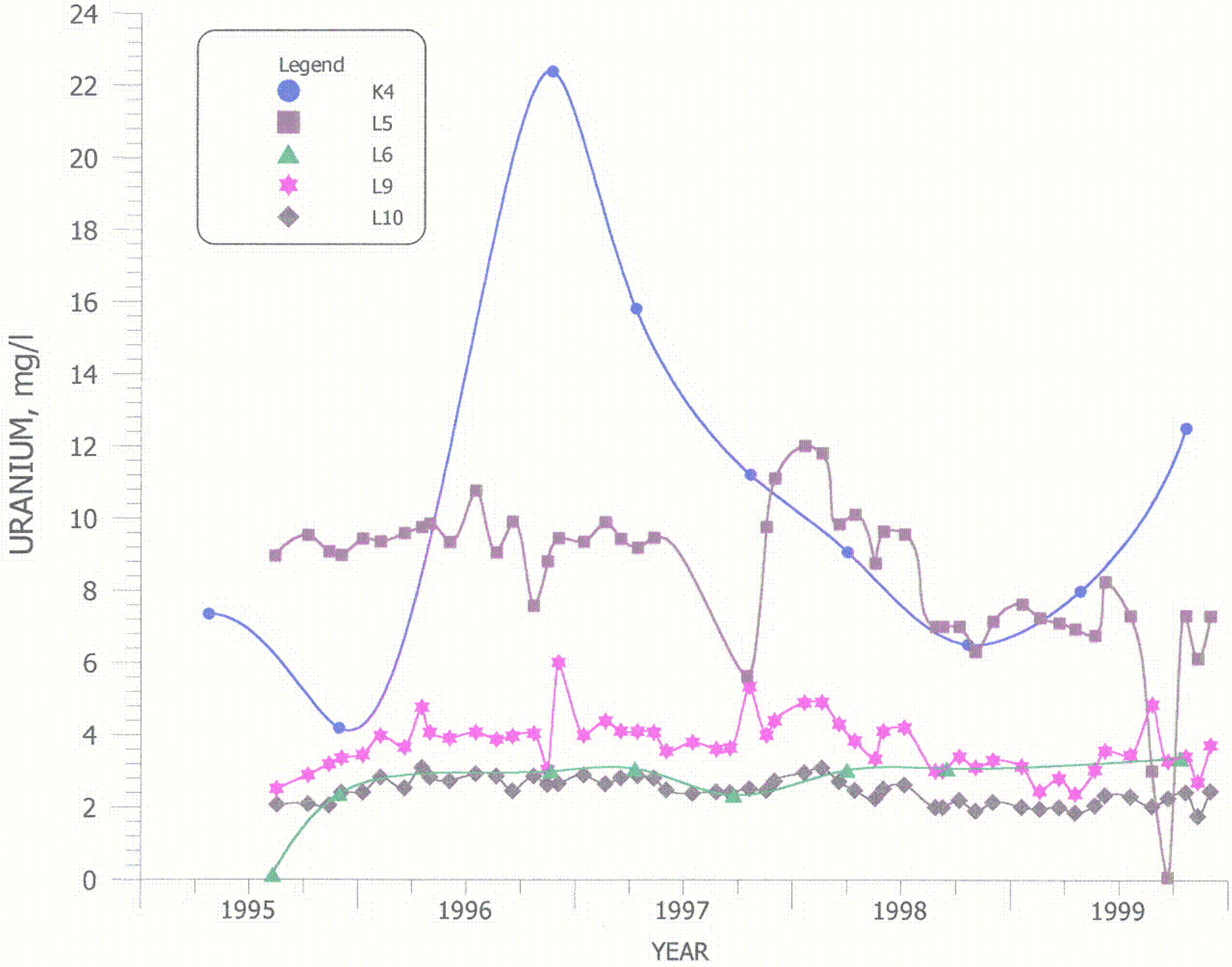


FIGURE 4.3-25. URANIUM CONCENTRATIONS FOR WELLS KC, K2, K5, X AND Y.

C53



4.3-45

FIGURE 4.3-26. URANIUM CONCENTRATIONS FOR WELLS K4, L5, L6, L9 AND L10.

C 54

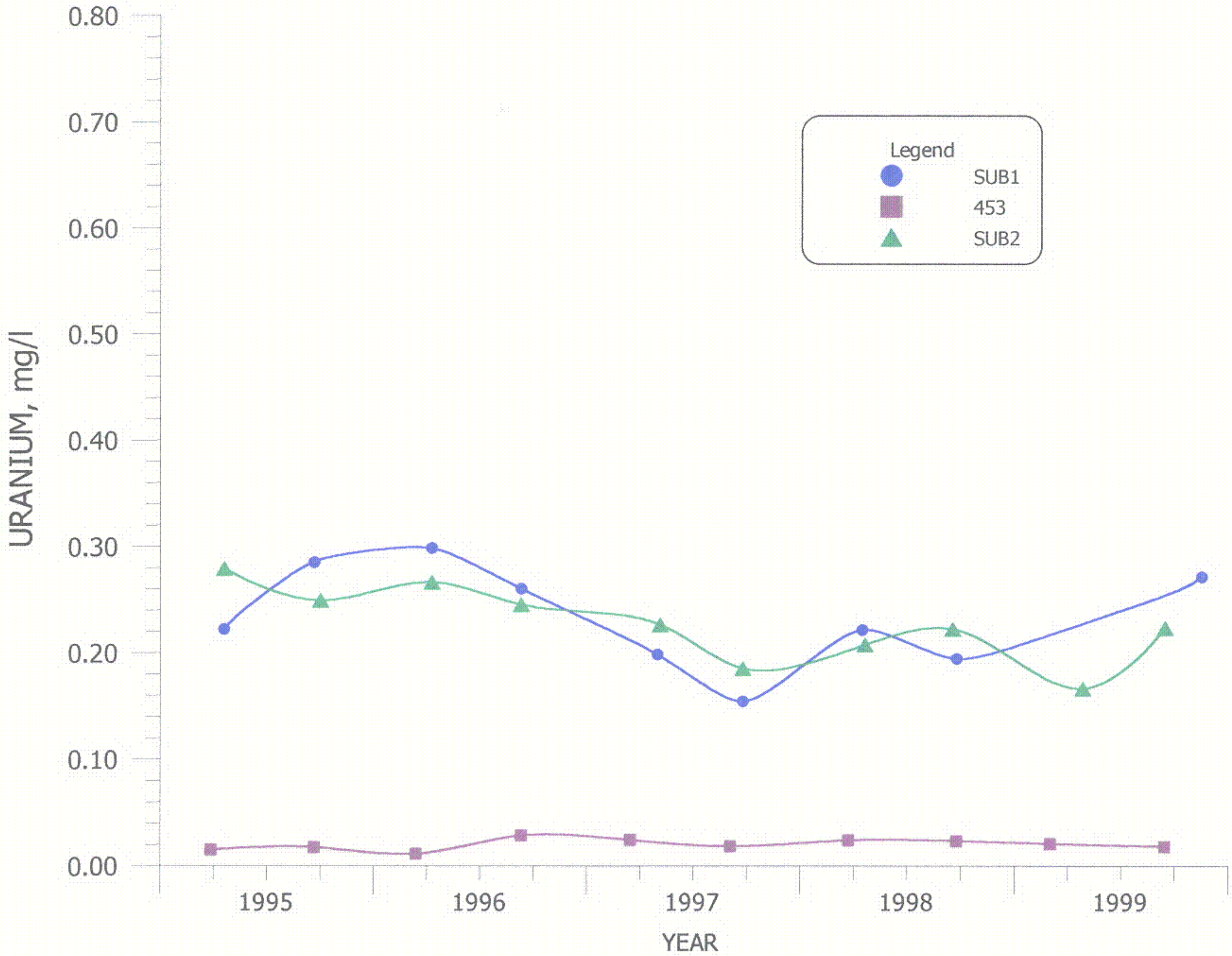


FIGURE 4.3-27. URANIUM CONCENTRATIONS FOR WELLS SUB1, 453 AND SUB2.

C55

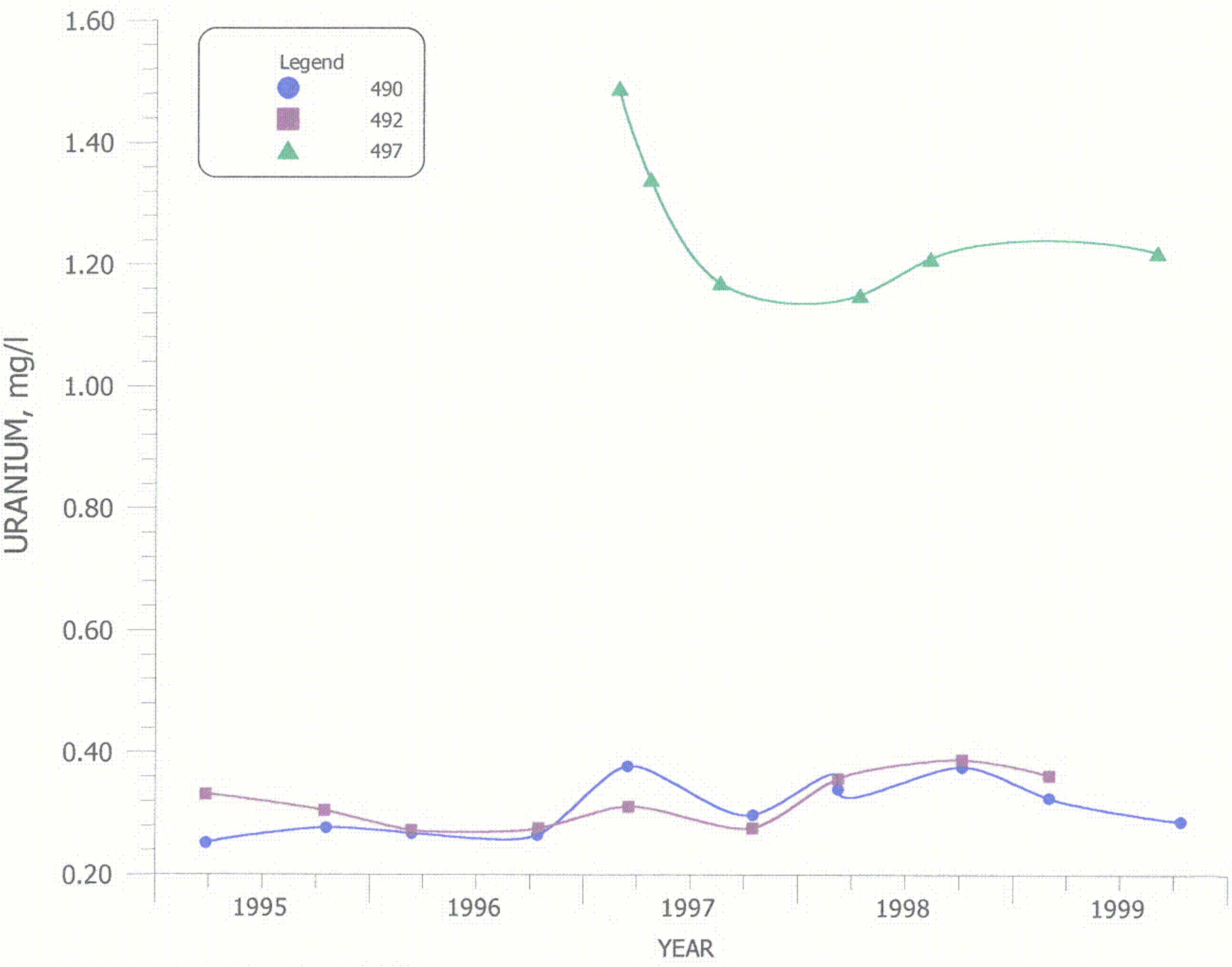


FIGURE 4.3-28. URANIUM CONCENTRATIONS FOR WELLS 490, 492 AND 497.

C56

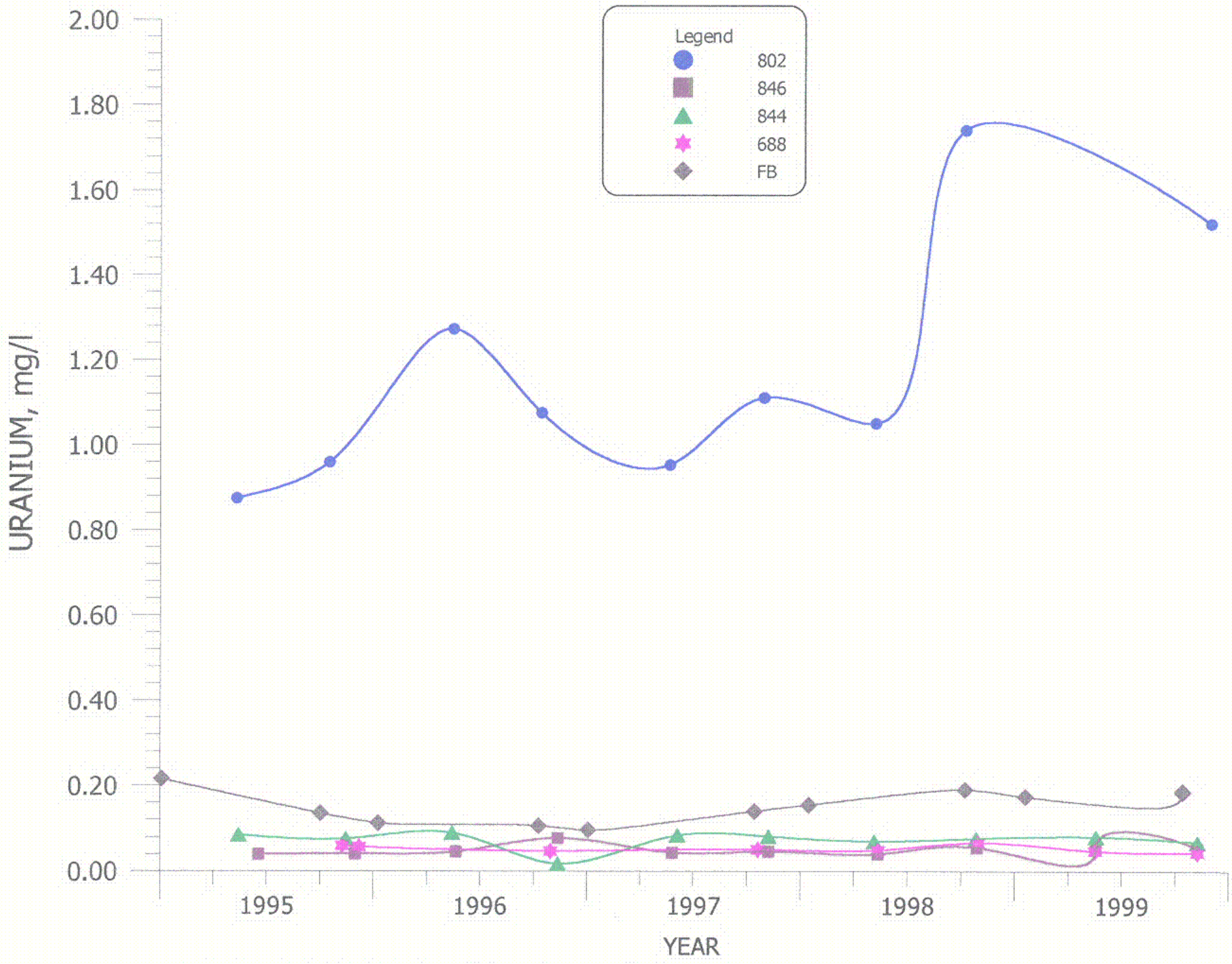
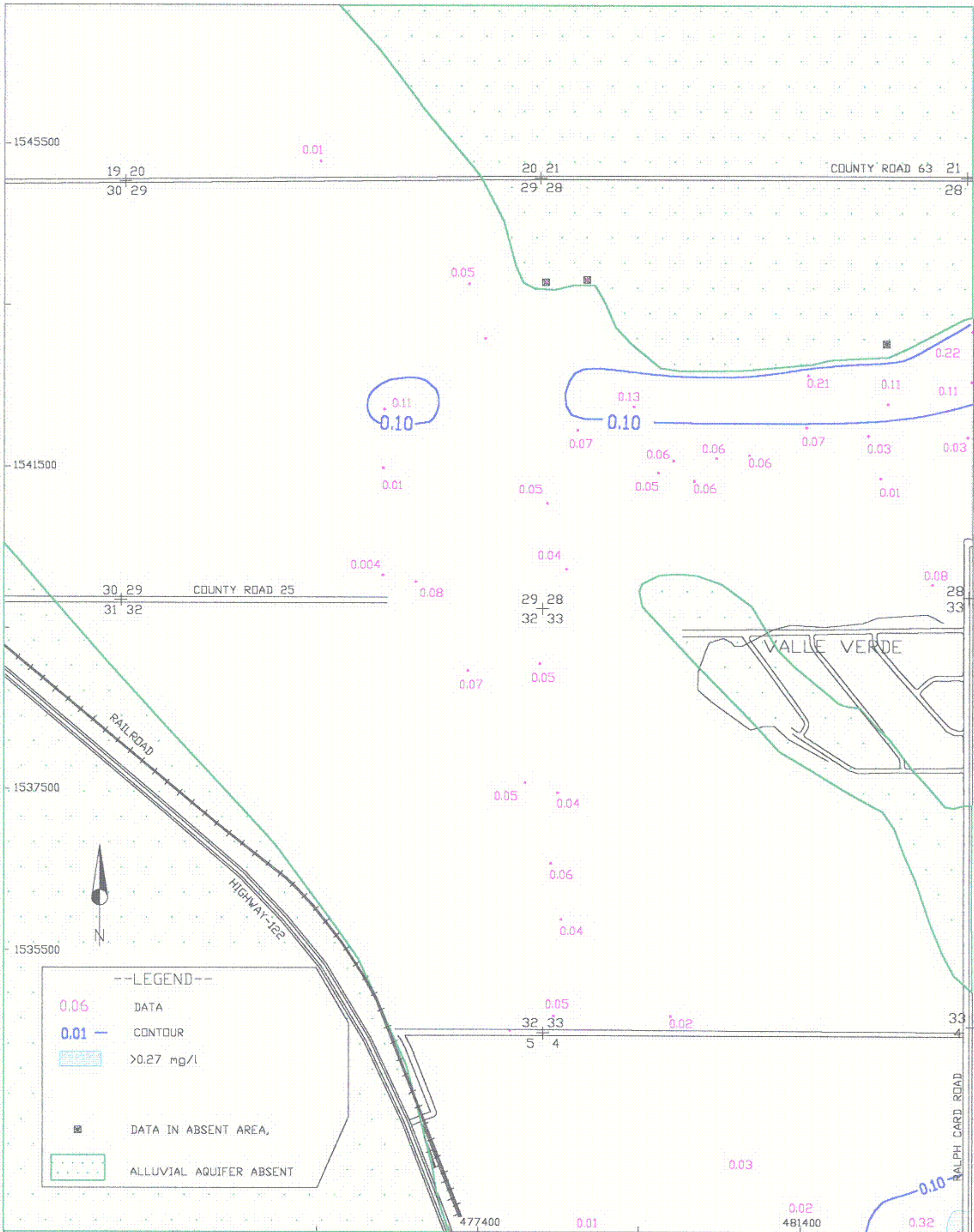


FIGURE 4.3-29. URANIUM CONCENTRATIONS FOR WELLS 802, 846, 844, 688 AND FB.

C57



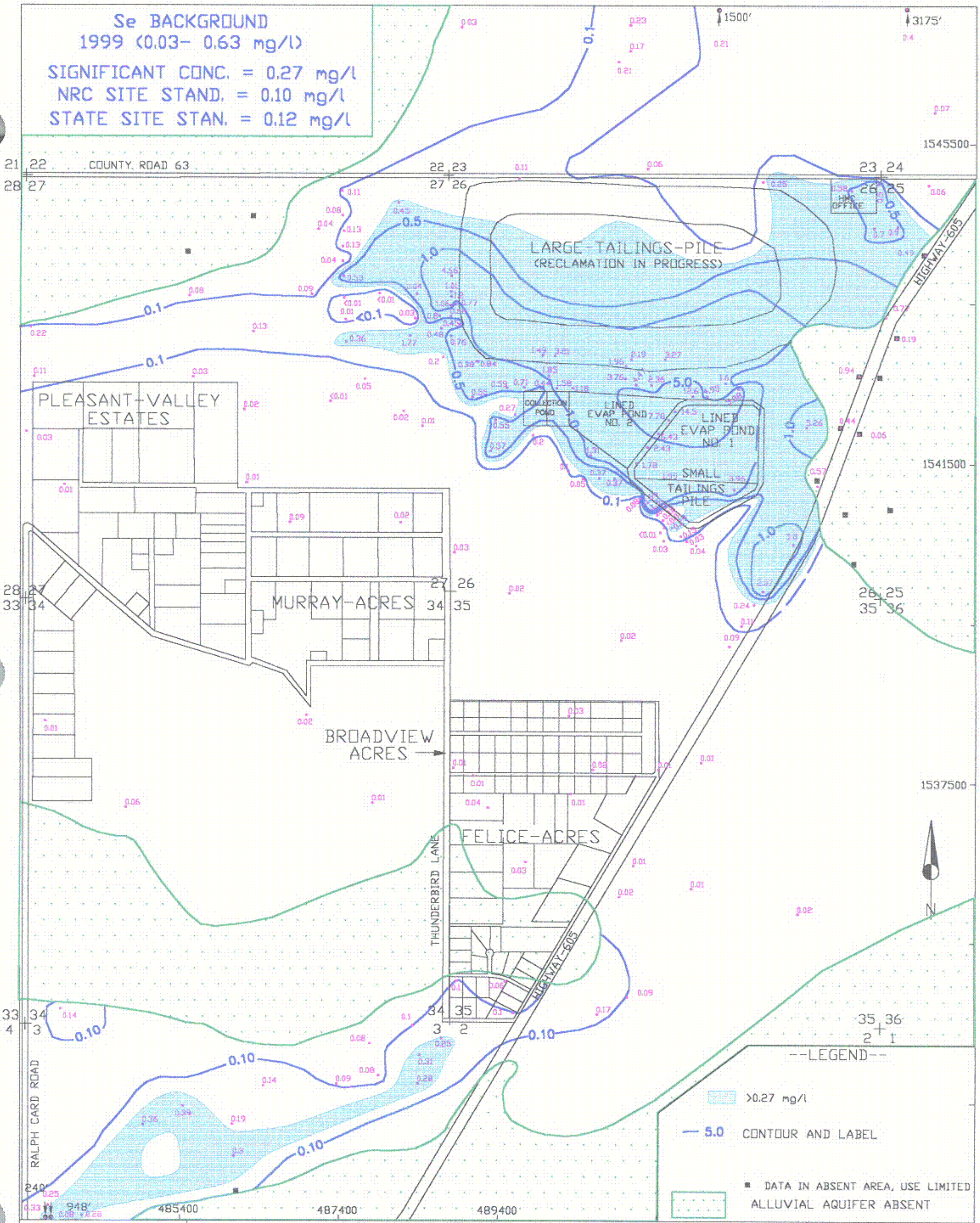
SCALE: 1"=1000' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/06/2000

FIGURE 4.3-30A. SELENIUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER (WEST AREA), FALL 1999, mg/l

R13\DOS\
HMC2000\2000WQAL

page 4.3-49

C 58



SCALE: 1"=1600' | HOMESTAKE MILL AND ADJACENT PROPERTIES GRANTS NM TOWNSHIP 11&12 N RANGE 10 W | DATE: 01/31/2000

FIGURE 4.3-30B. SELENIUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS HMC2000\2000EQAL

C59

4.3-51

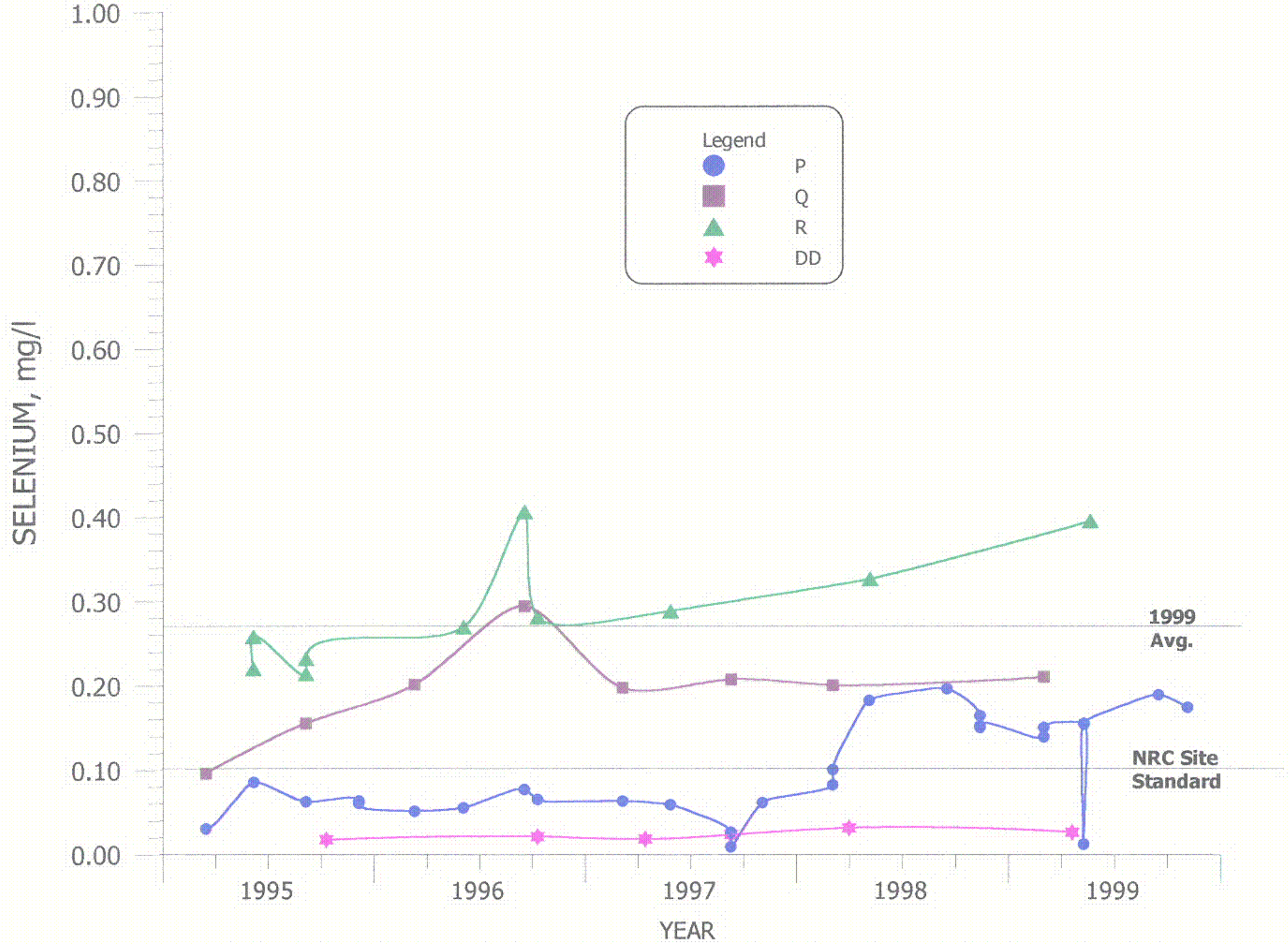


FIGURE 4.3-31. SELENIUM CONCENTRATIONS FOR WELLS P, Q, R AND DD.

C60

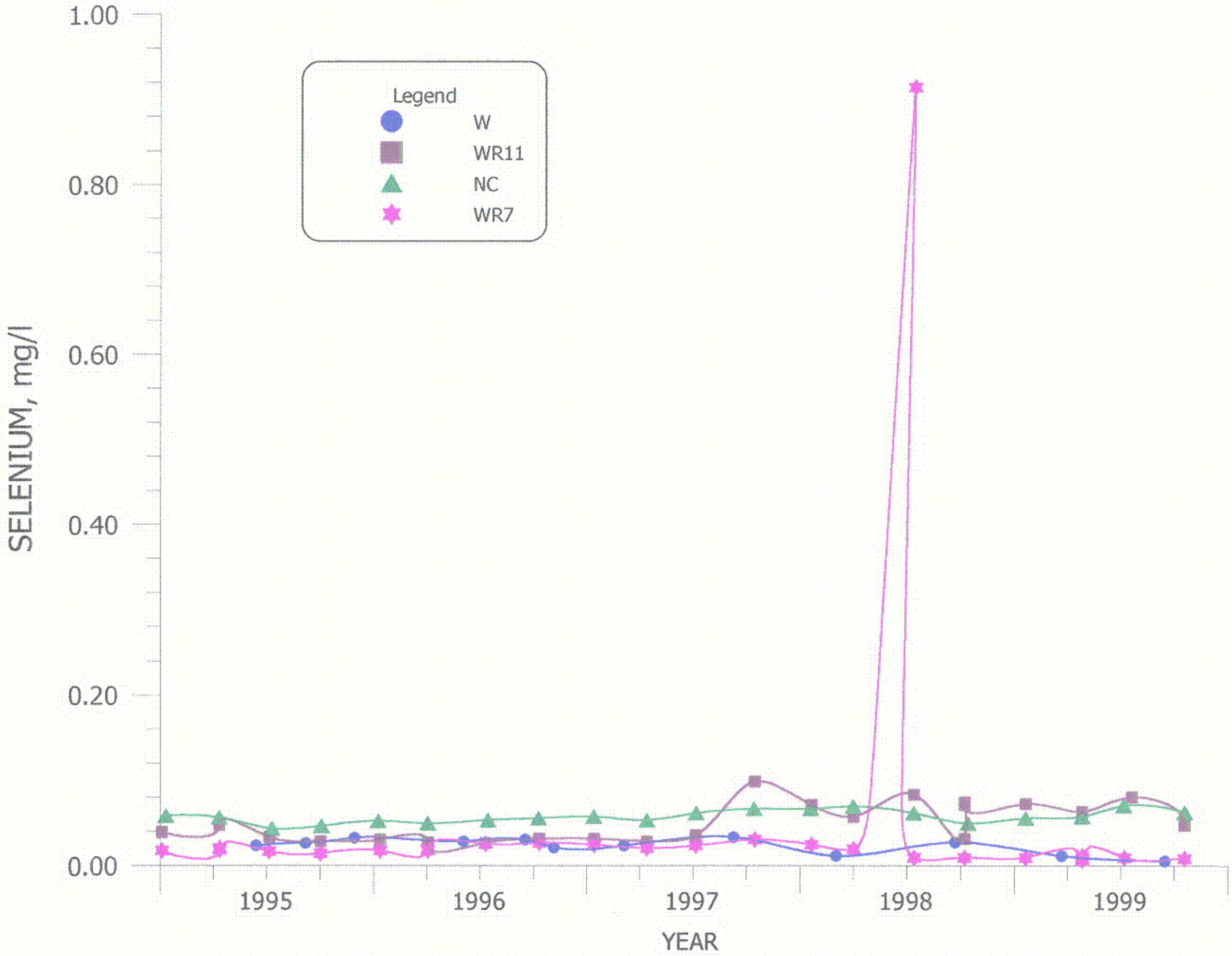


FIGURE 4.3-32. SELENIUM CONCENTRATIONS FOR WELLS W, WR11, NC AND WR7.

C61

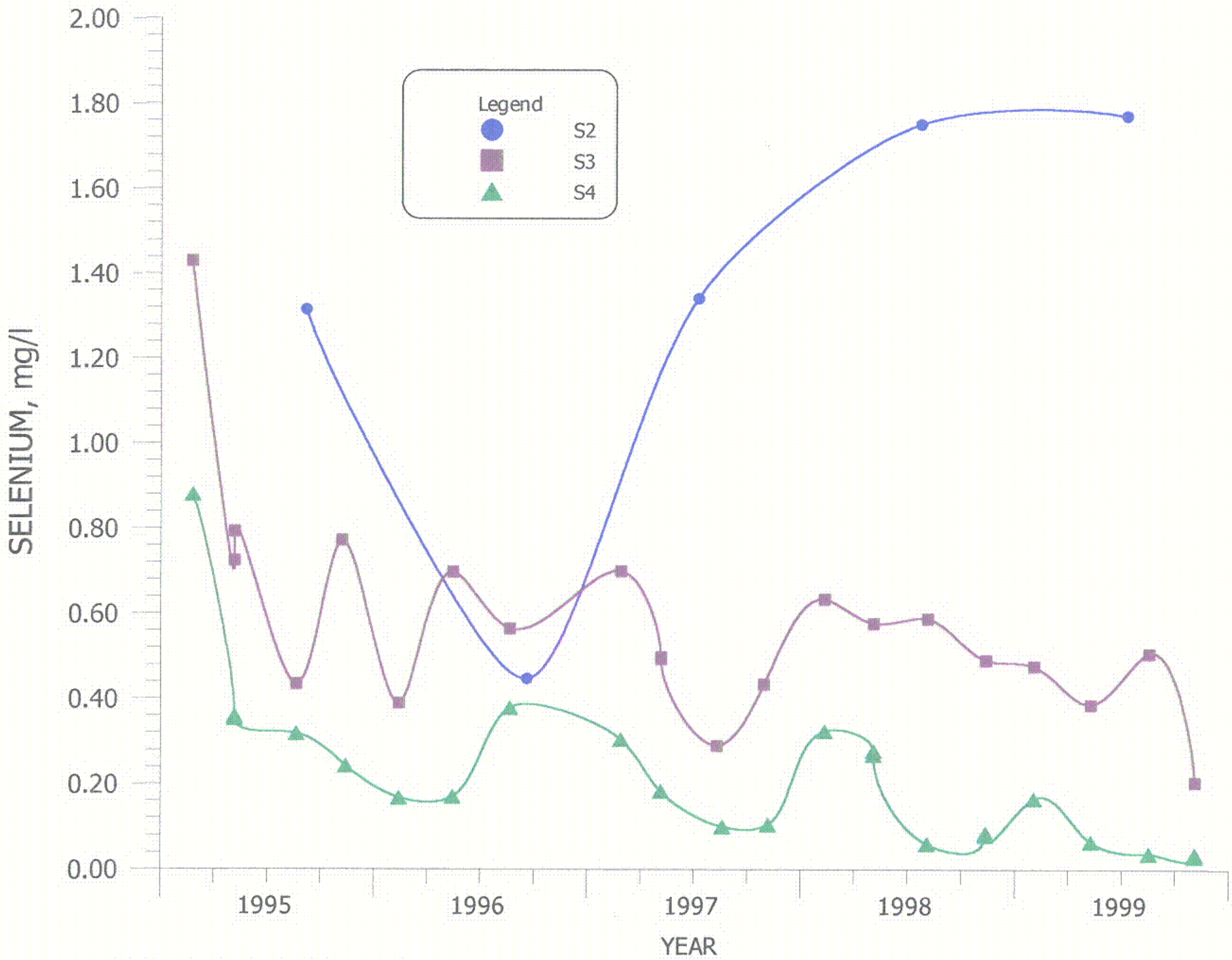
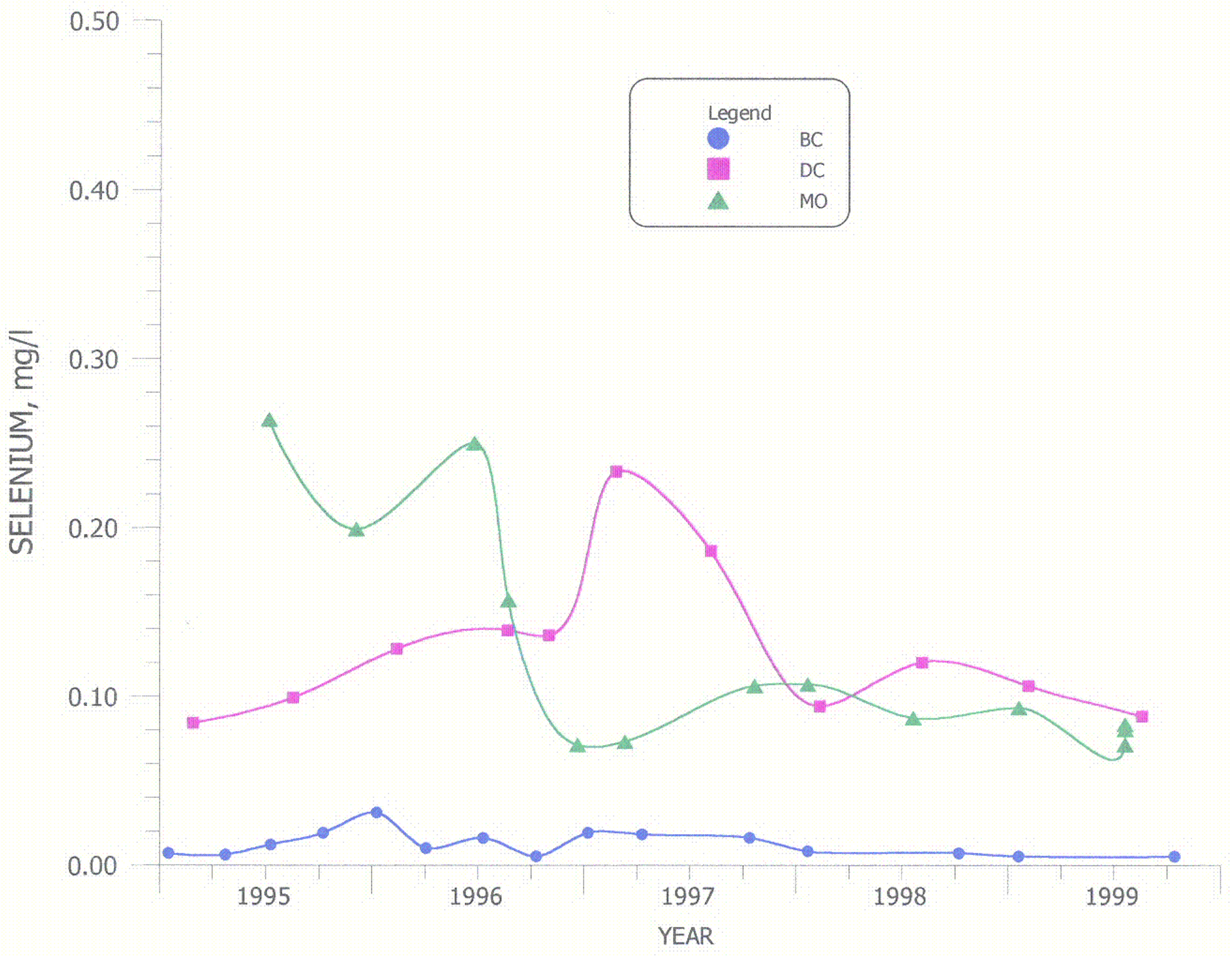


FIGURE 4.3-33. SELENIUM CONCENTRATIONS FOR WELLS S2, S3 AND S4.

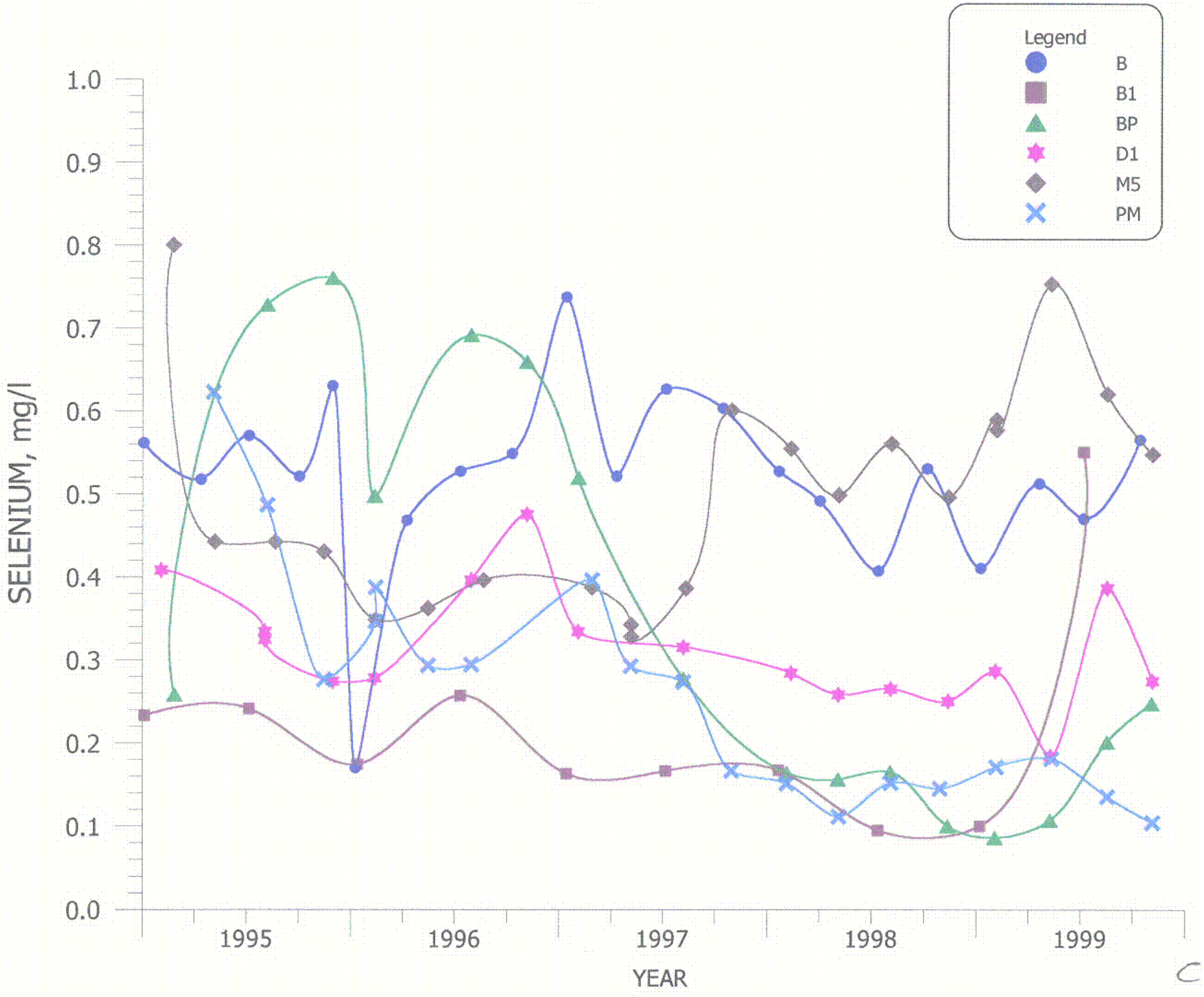
c62



c63

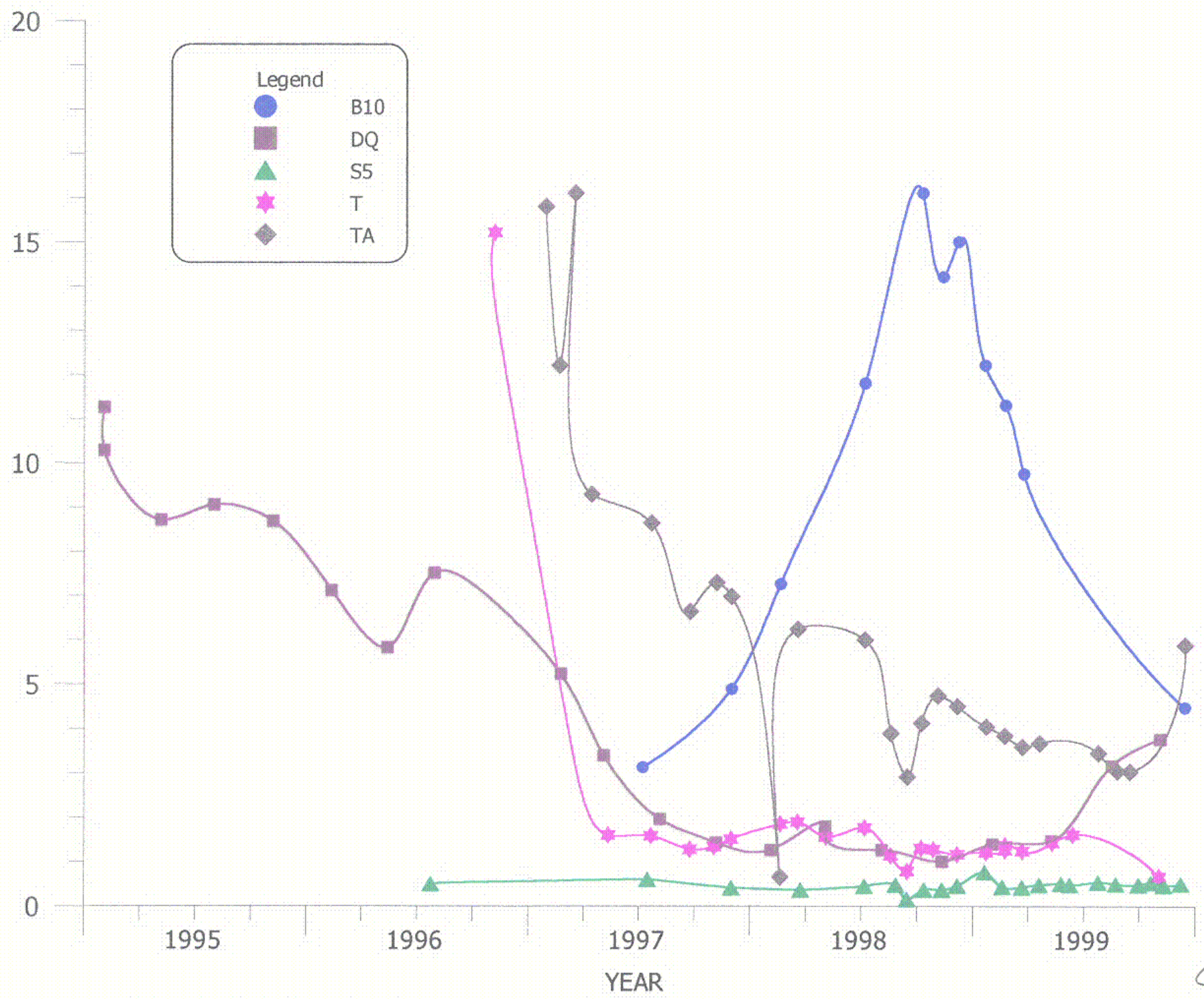
FIGURE 4.3-34. SELENIUM CONCENTRATIONS FOR WELLS BC, DC AND MO.

4.3-55



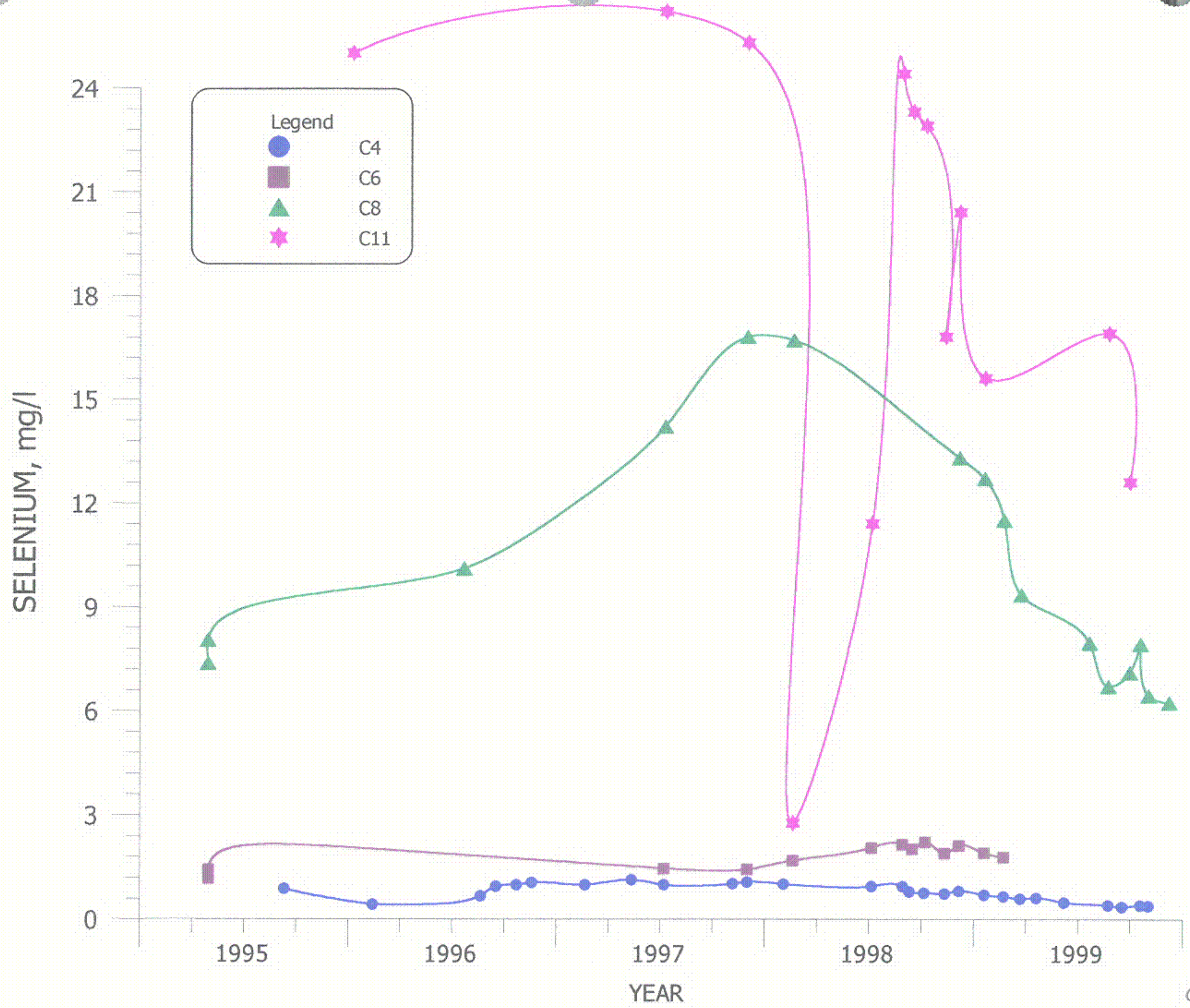
C64

FIGURE 4.3-35. SELENIUM CONCENTRATIONS FOR WELLS B, B1, BP, D1, M5 AND PM.



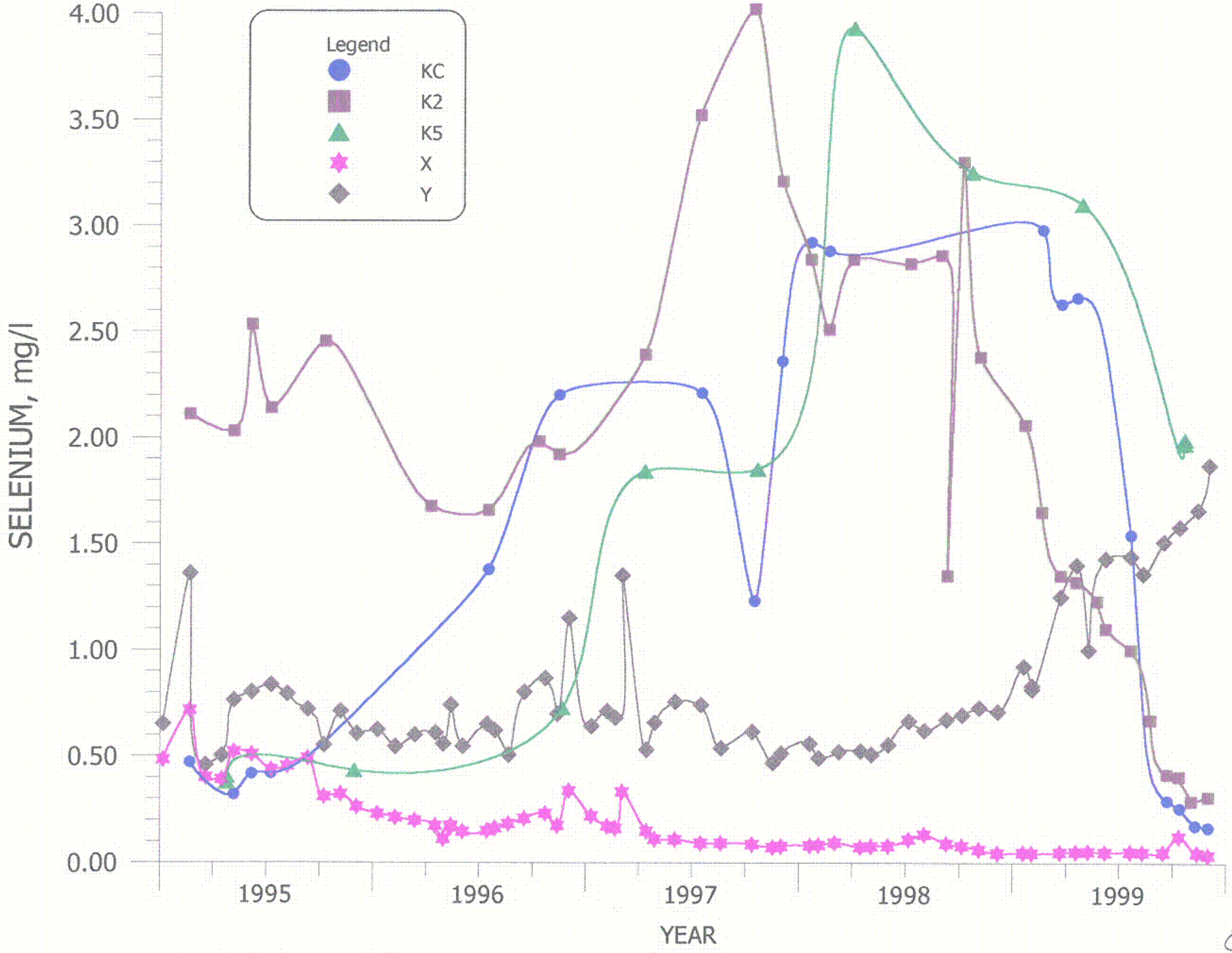
c65

FIGURE 4.3-36. SELENIUM CONCENTRATIONS FOR WELLS B10, DQ, S5, T AND TA.



c66

FIGURE 4.3-37. SELENIUM CONCENTRATIONS FOR WELLS C4, C6, C8 AND C11.

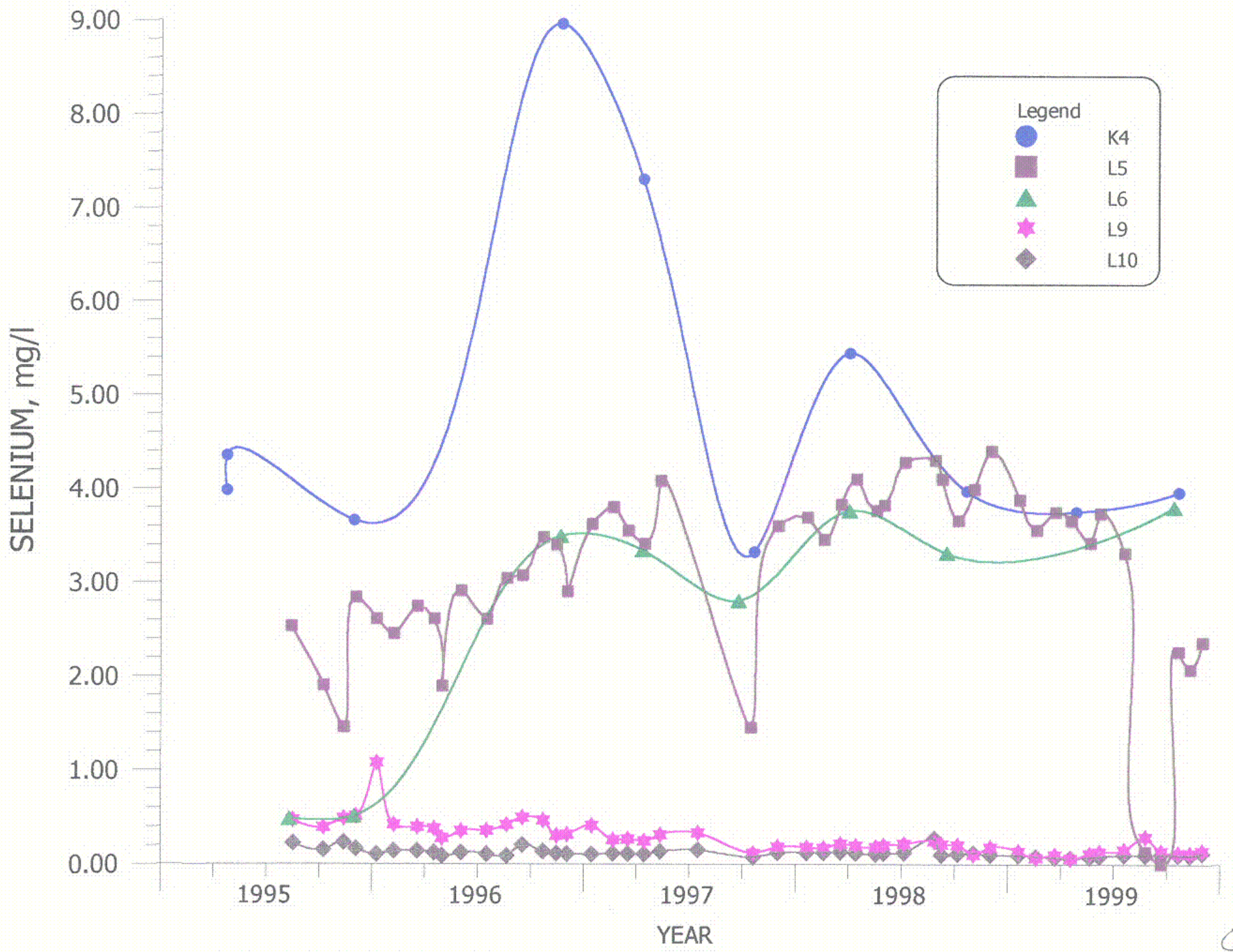


4.3-58

C67

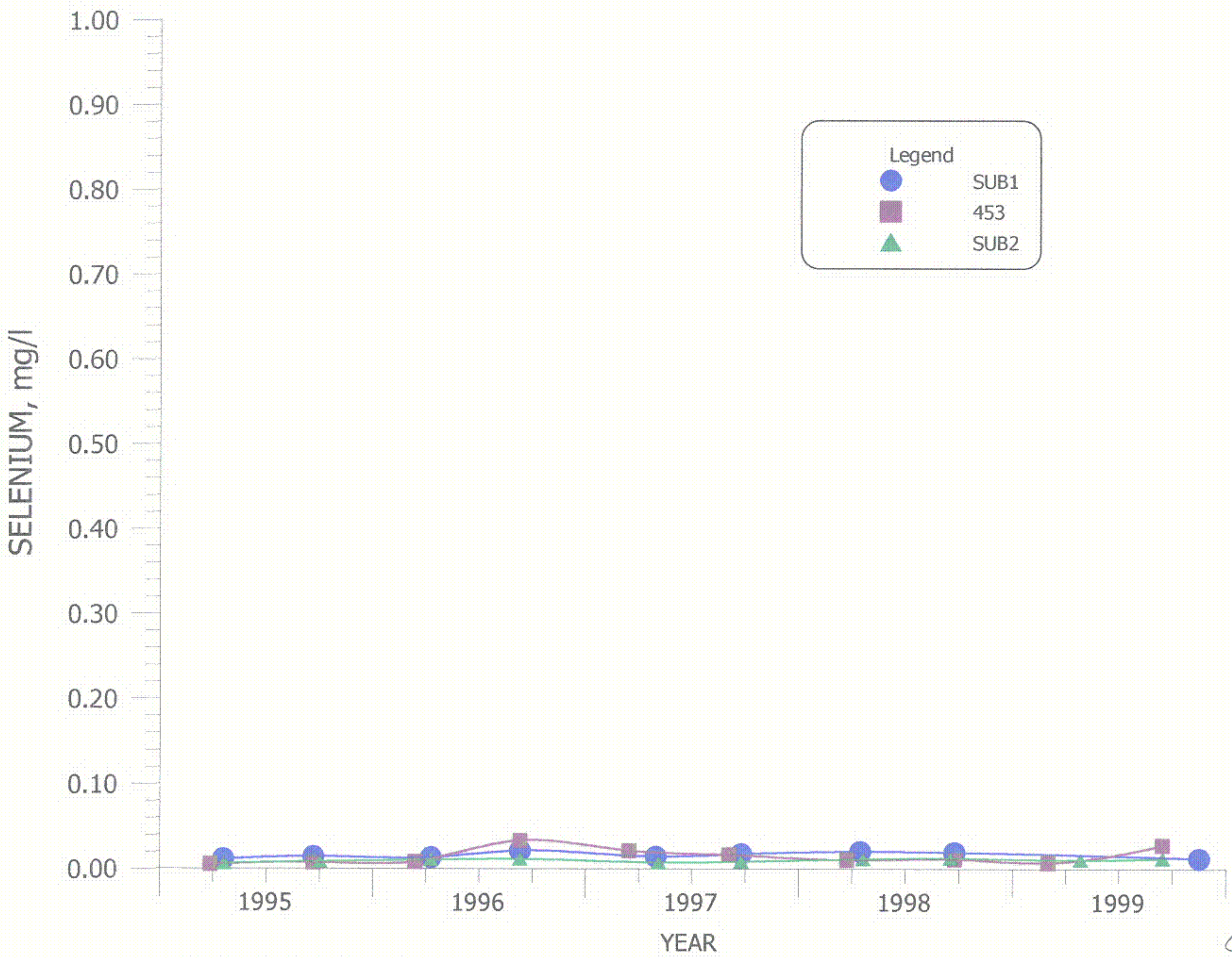
FIGURE 4.3-38. SELENIUM CONCENTRATIONS FOR WELLS KC, K2, K5, X AND Y.

4.3-59



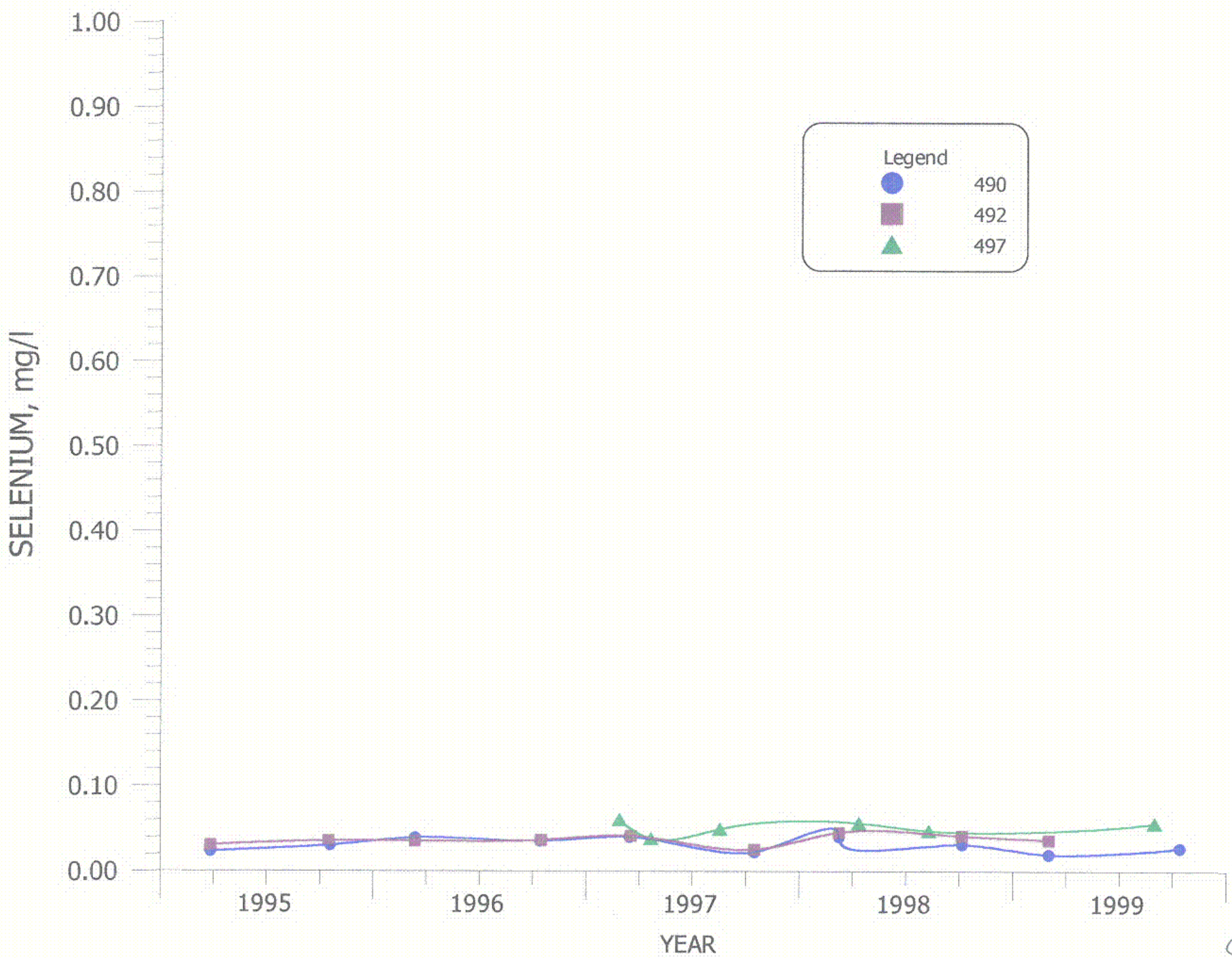
C68

FIGURE 4.3-39. SELENIUM CONCENTRATIONS FOR WELLS K4, L5, L6, L9 AND L10.



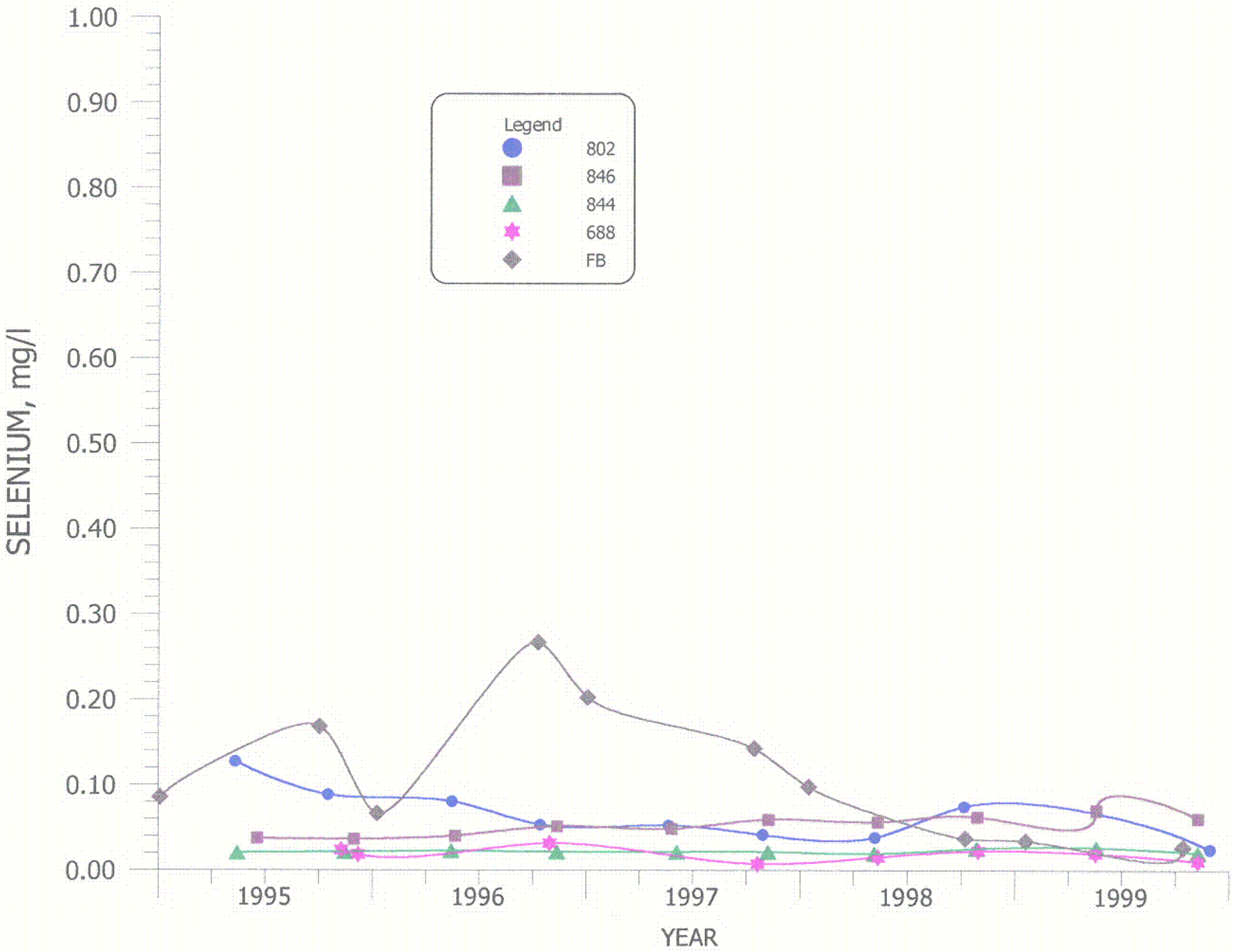
C69

FIGURE 4.3-40. SELENIUM CONCENTRATIONS FOR WELLS SUB1, 453 AND SUB2.



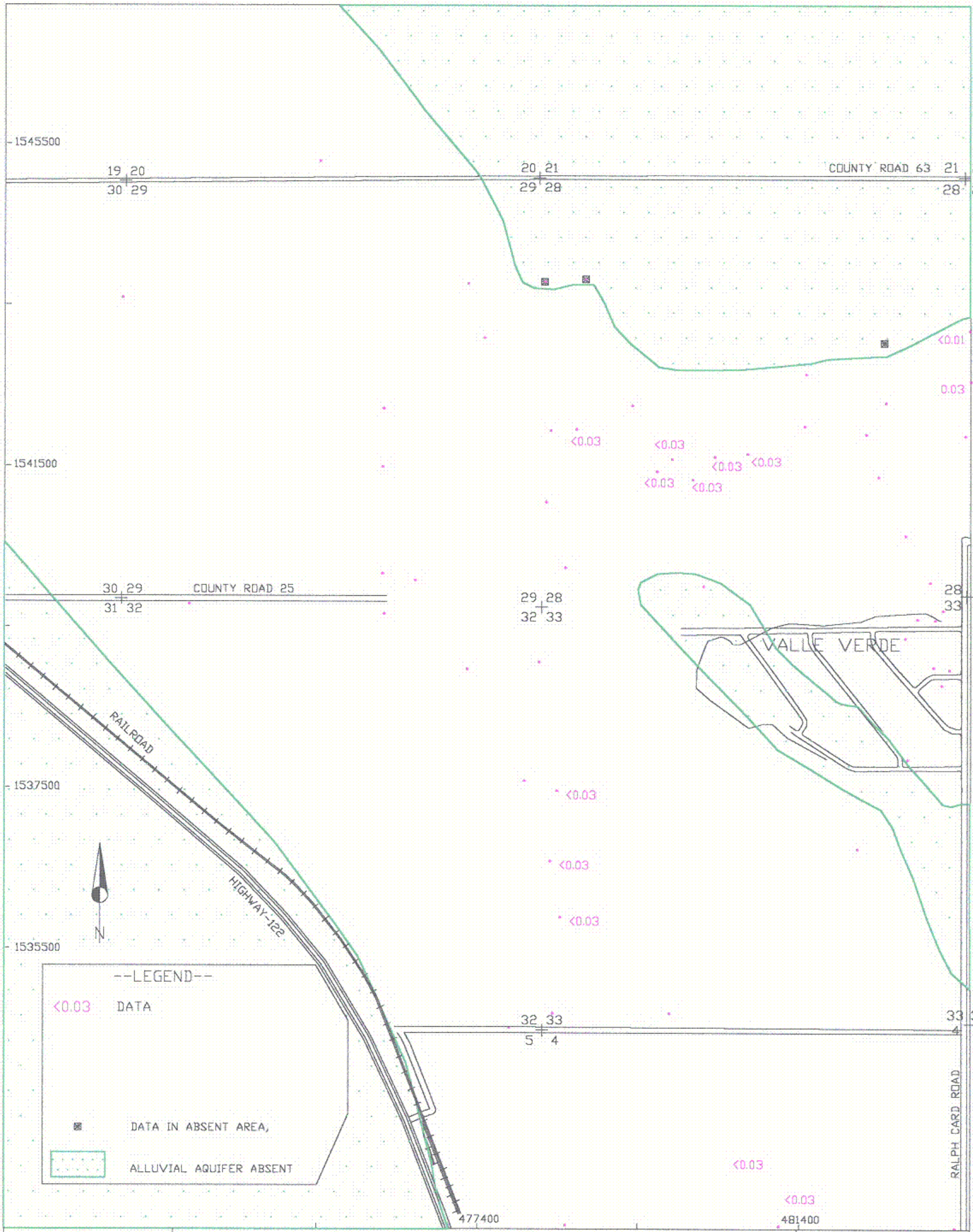
C70

FIGURE 4.3-41. SELENIUM CONCENTRATIONS FOR WELLS 490, 492 AND 497.



c71

FIGURE 4.3-42. SELENIUM CONCENTRATIONS FOR WELLS 802, 846, 844, 688 AND FB.



SCALE: 1"=1000' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/06/2000

FIGURE 4.3-43A. MOLYBDENUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER (WEST AREA), FALL 1999, mg/l

R13\DOS\HMC2000\2000WQAL

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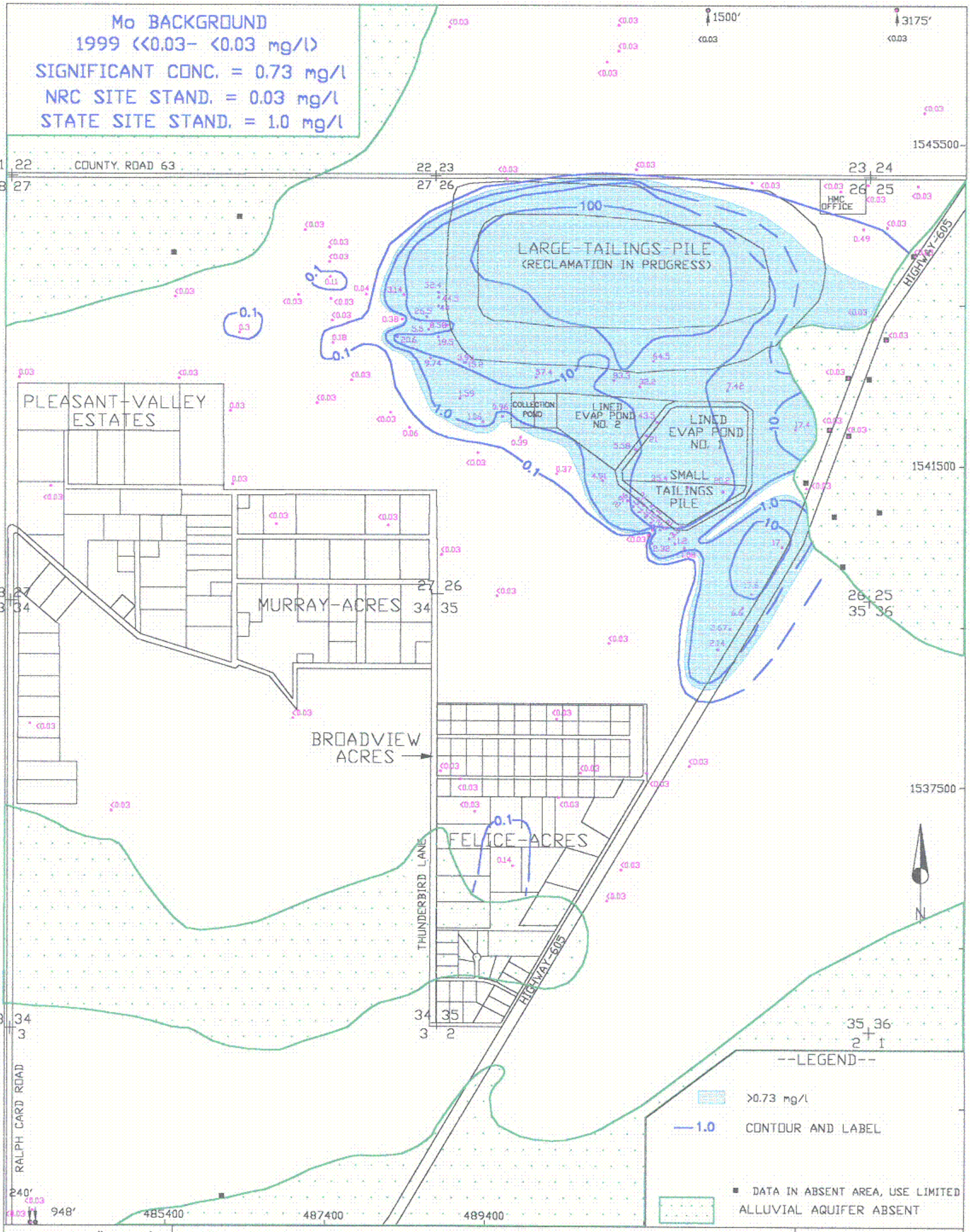
C72



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-43B. MOLYBDENUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS
HMC2000\2000EQAL

C73

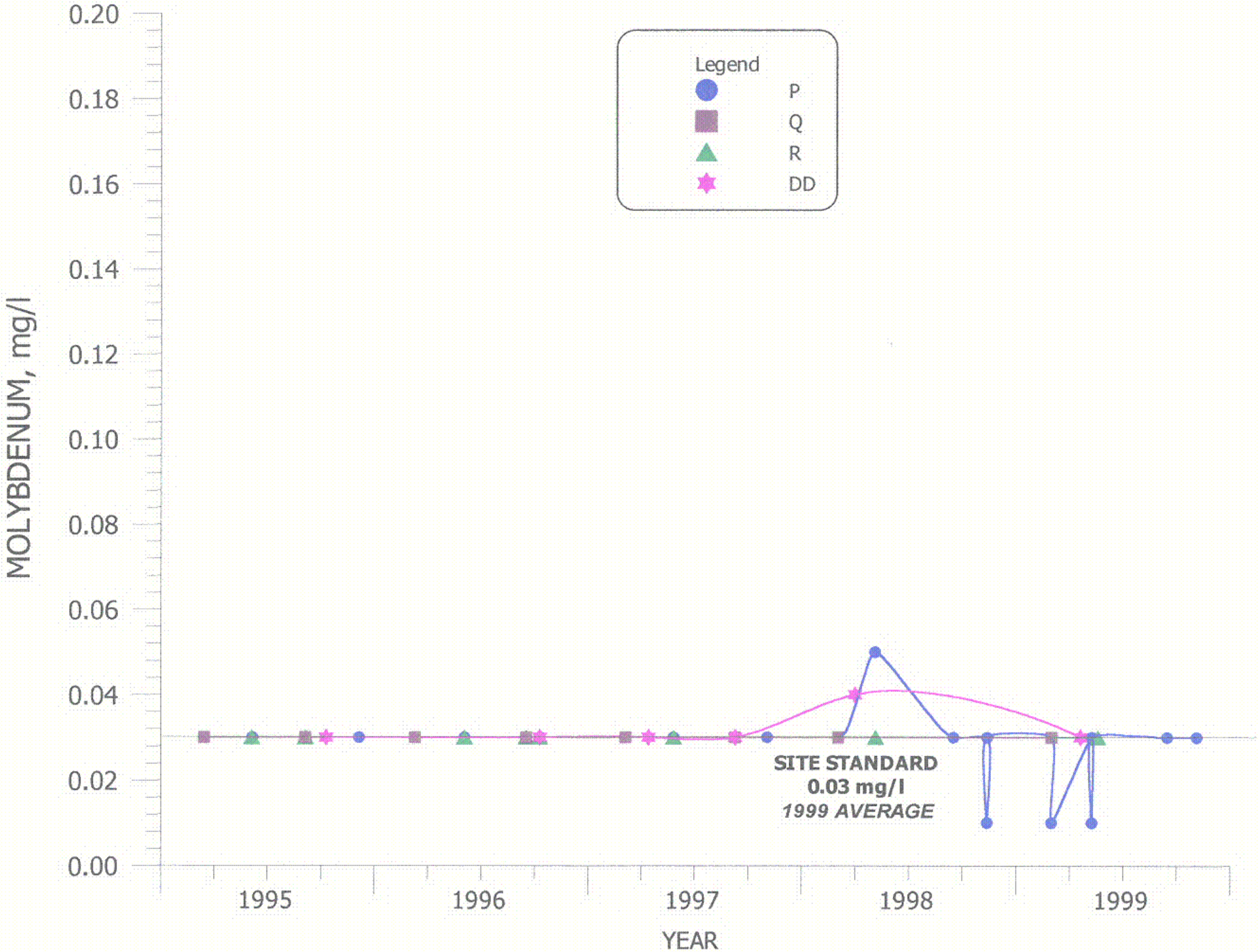
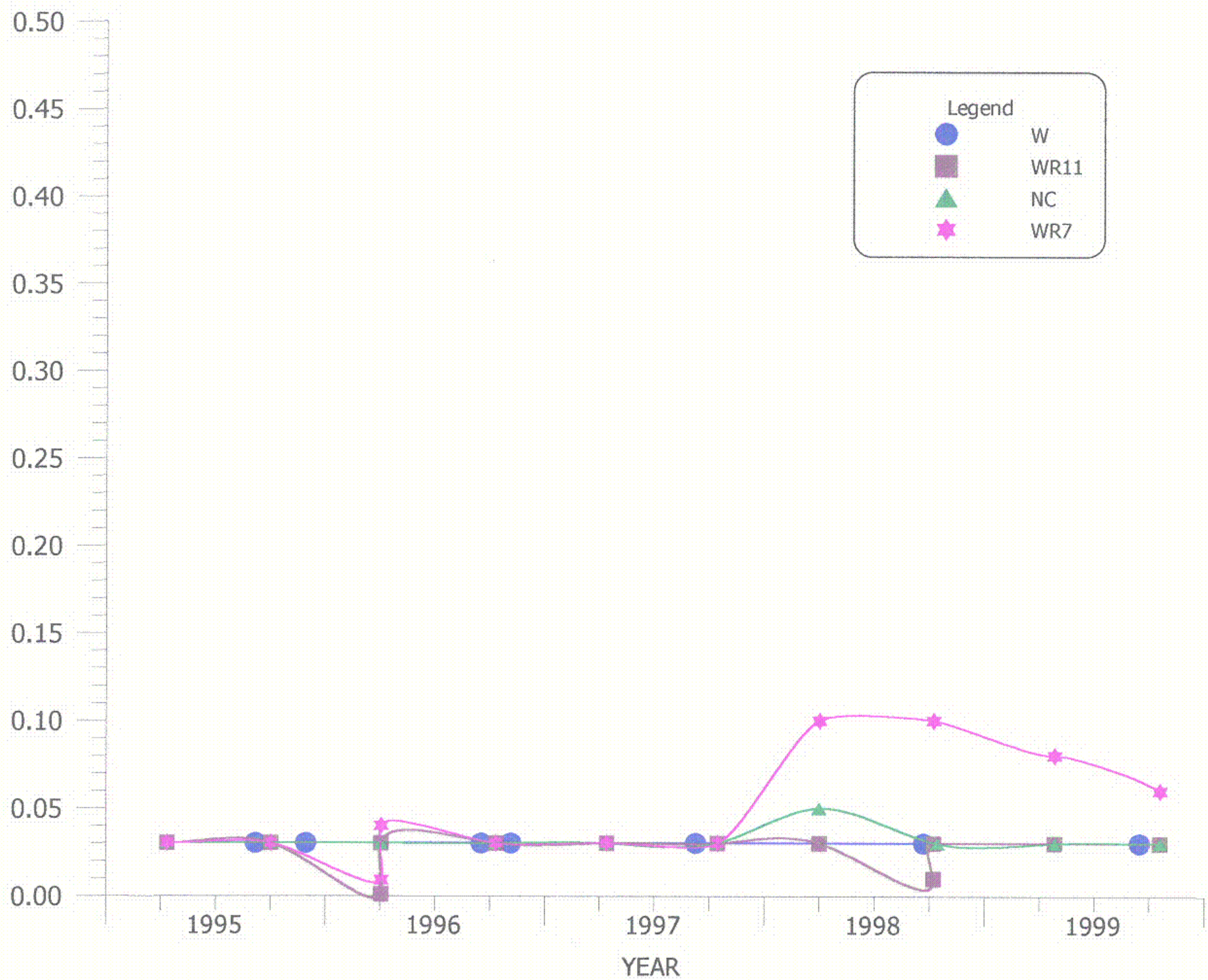


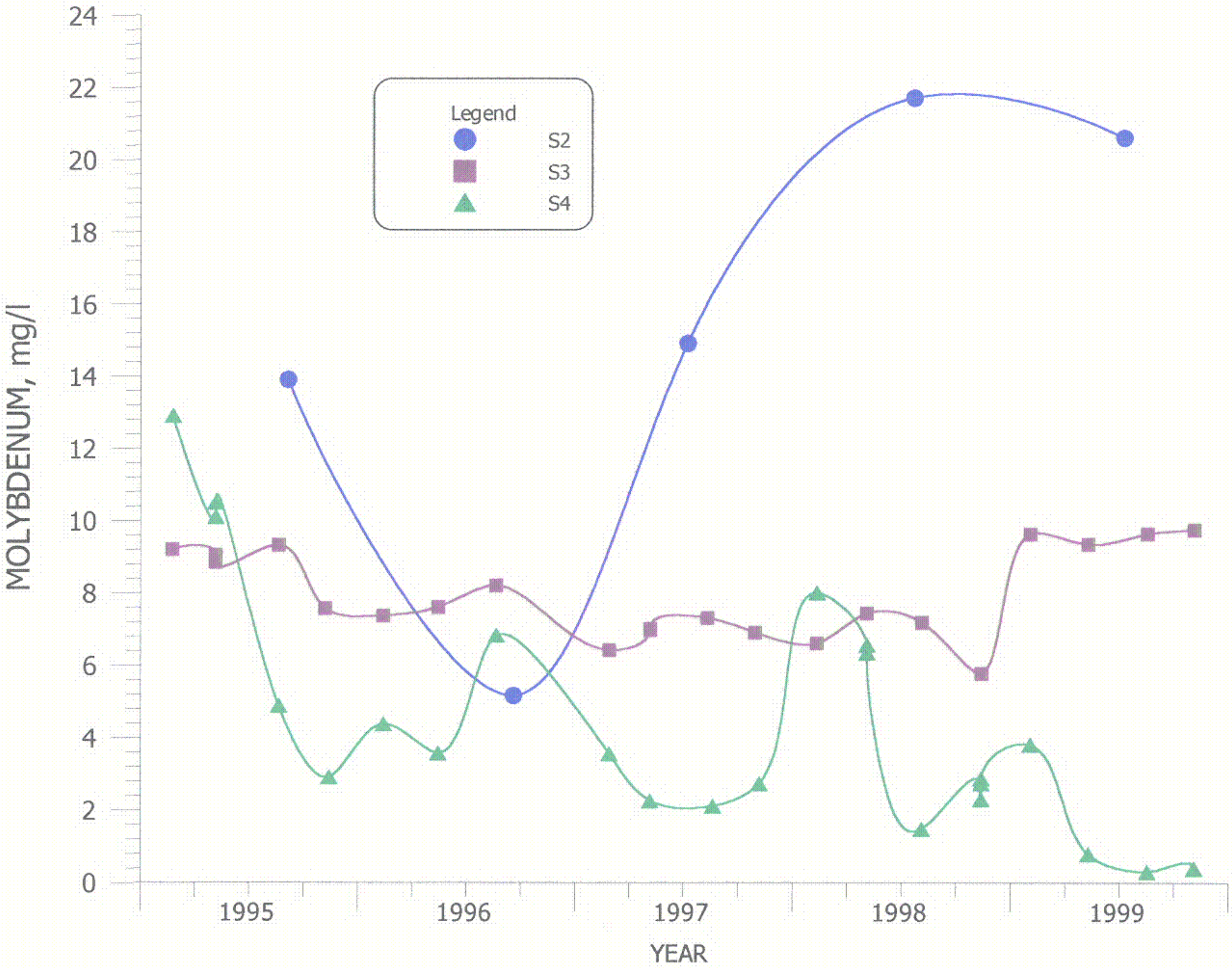
FIGURE 4.3-44. MOLYBDENUM CONCENTRATIONS FOR WELLS P, Q, R AND DD.

C74



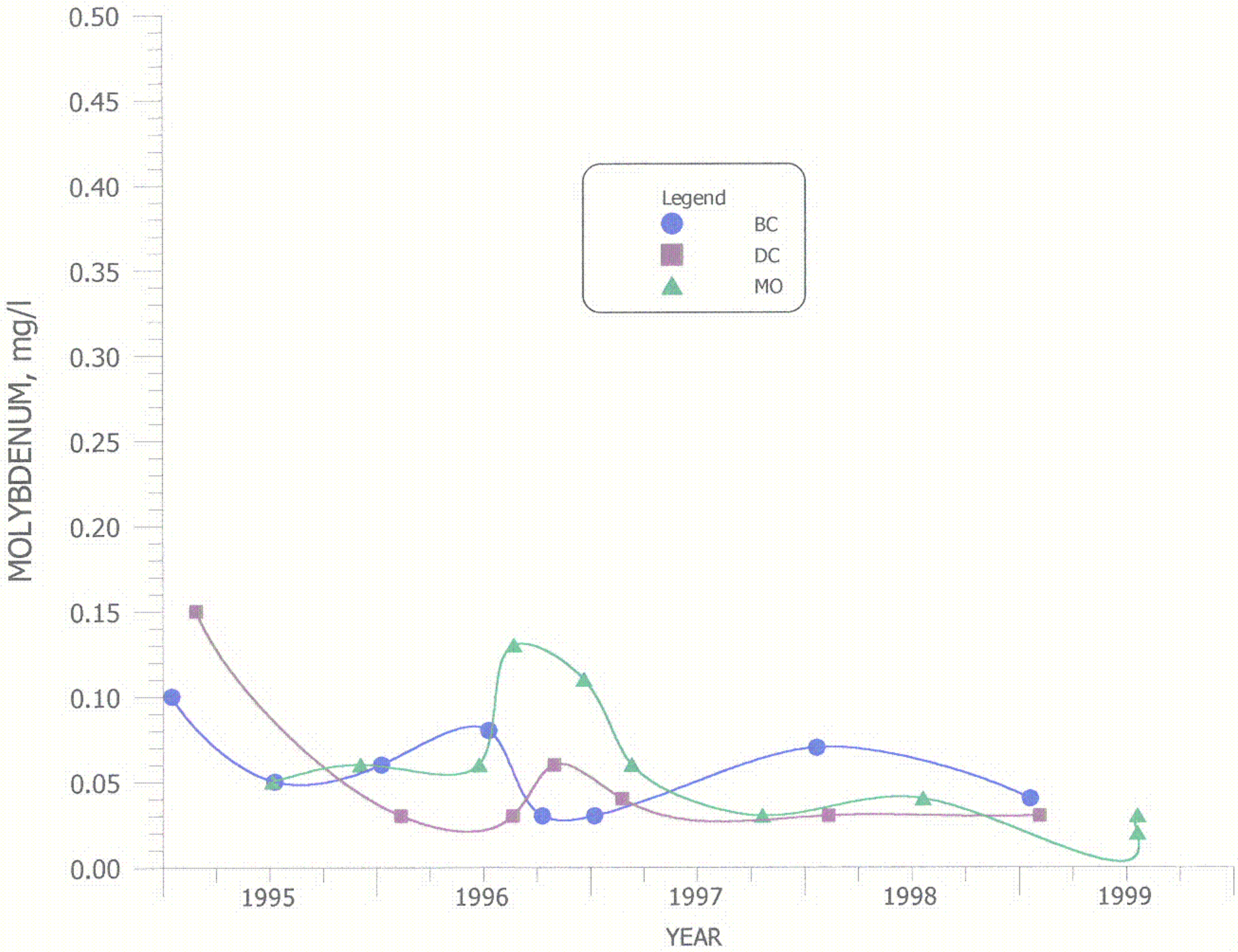
C75

FIGURE 4.3-45. MOLYBDENUM CONCENTRATIONS FOR WELLS W, WR11, NC AND WR7.



C76

FIGURE 4.3-46. MOLYBDENUM CONCENTRATIONS FOR WELLS S2, S3 AND S4



c77

FIGURE 4.3-47. MOLYBDENUM CONCENTRATIONS FOR WELLS BC, DC AND MO.

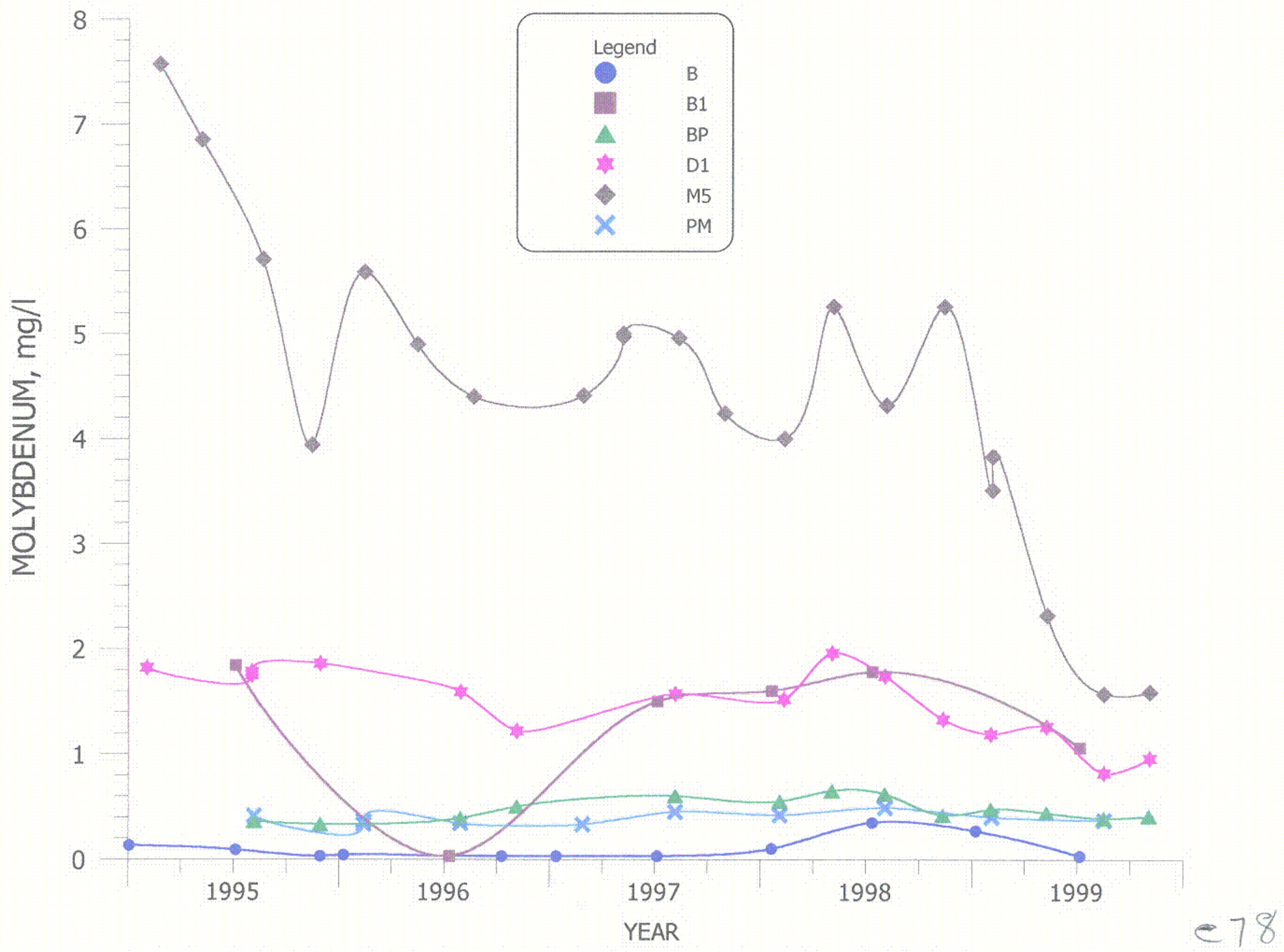
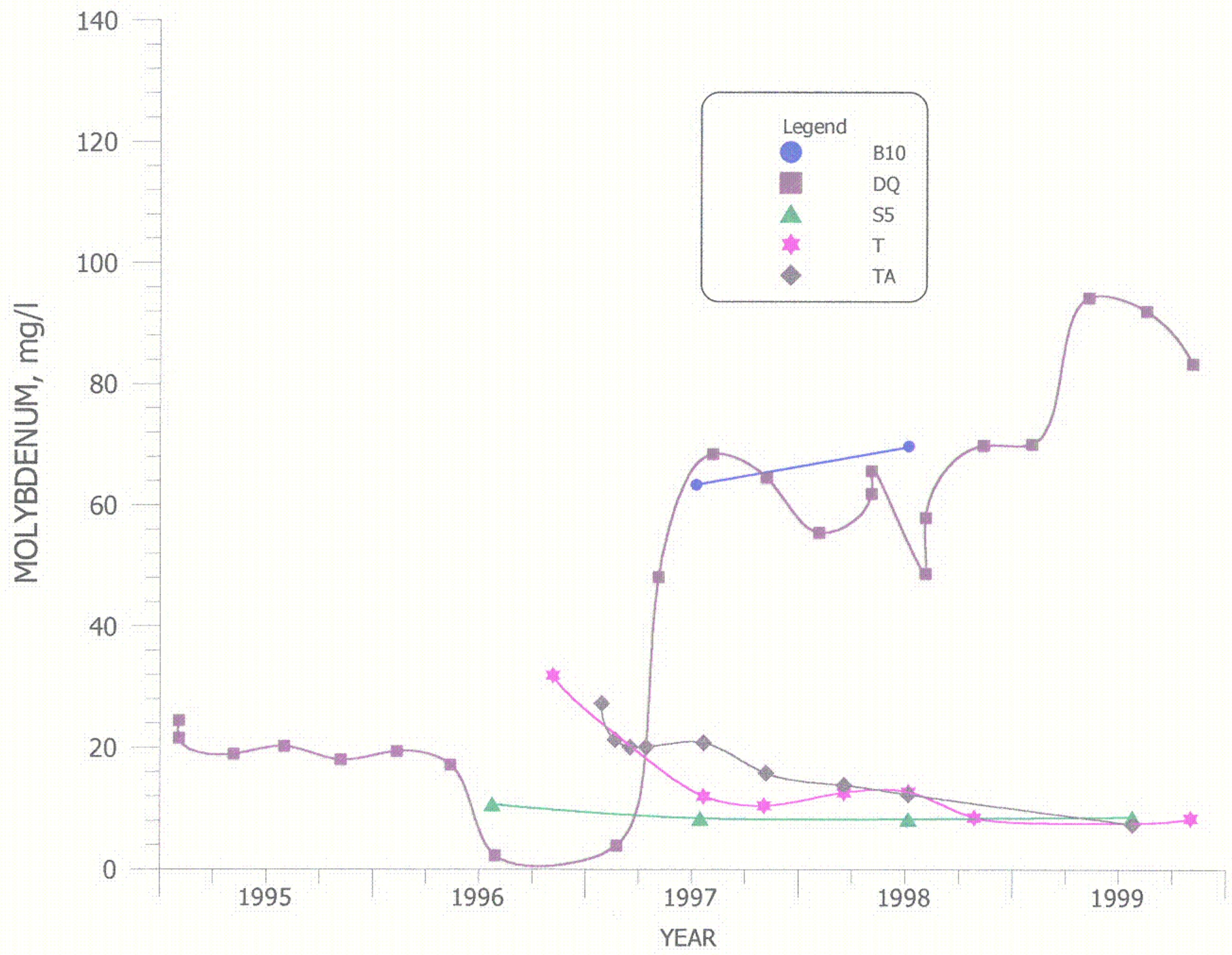
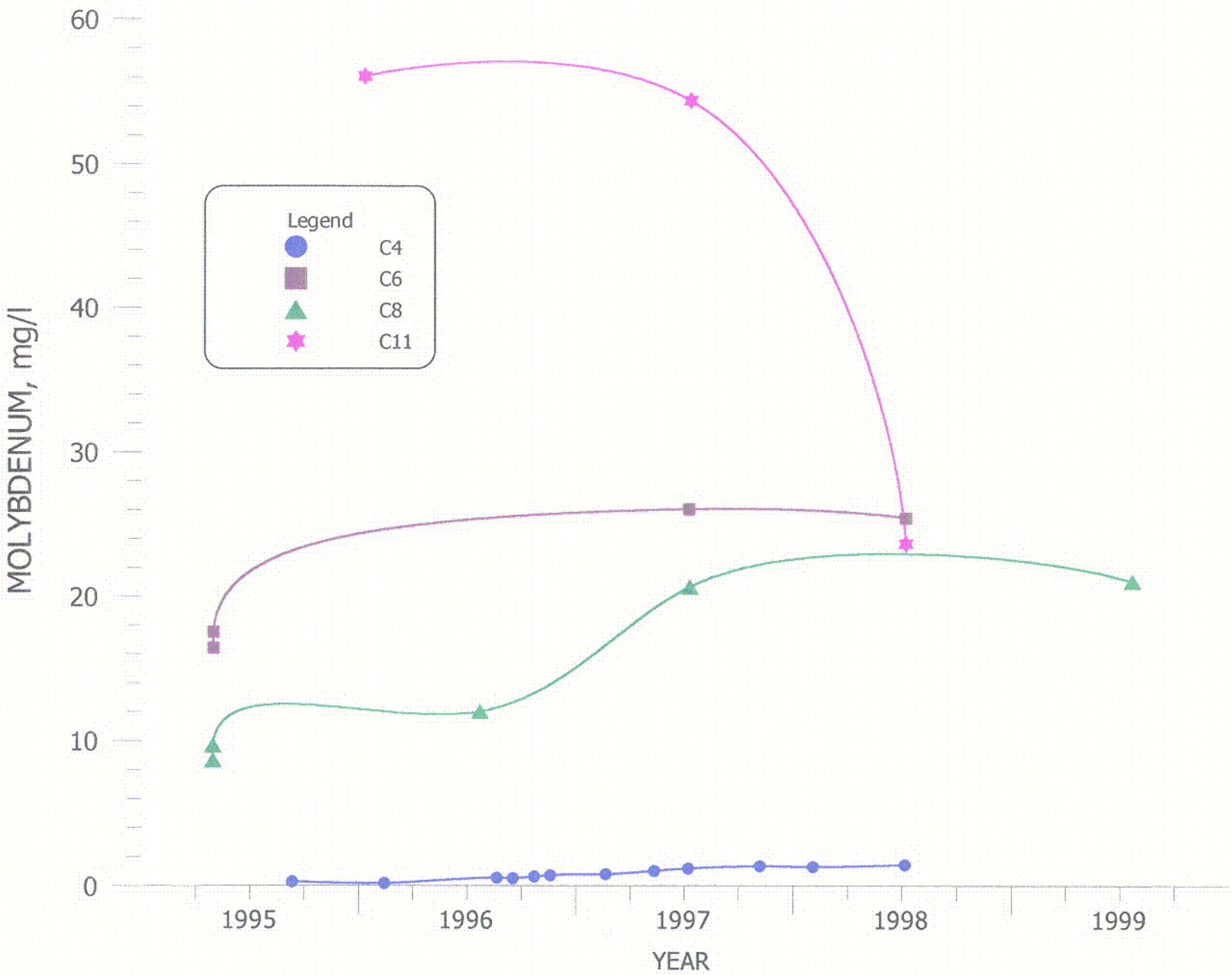


FIGURE 4.3-48. MOLYBDENUM CONCENTRATIONS FOR WELLS B, B1, BP, D1, M5 AND PM.



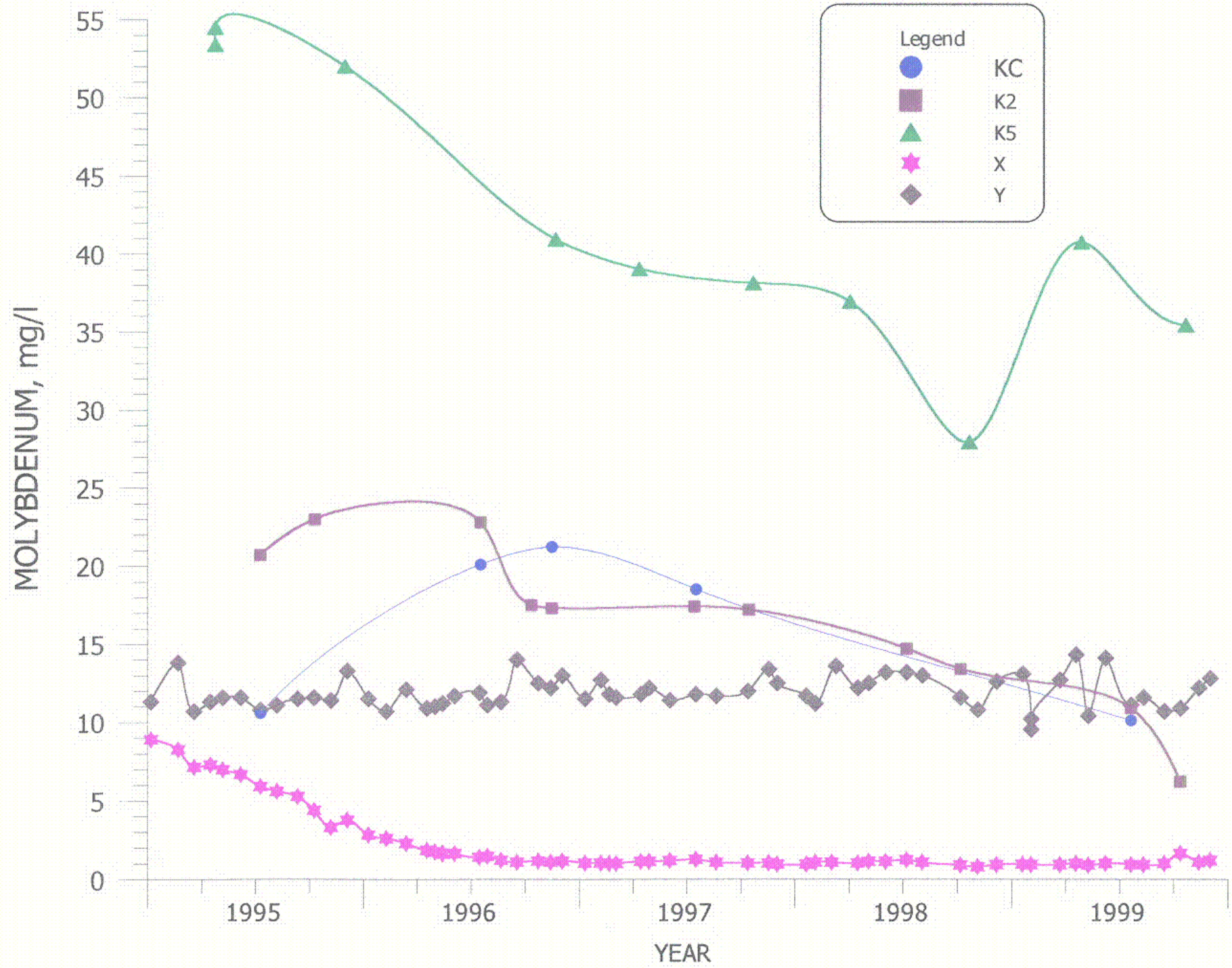
C79

FIGURE 4.3-49. MOLYBDENUM CONCENTRATIONS FOR WELLS B10, DQ, S5, T AND TA.



C80

FIGURE 4.3-50. MOLYBDENUM CONCENTRATIONS FOR WELLS C4, C6, C8 AND C11.



C81

FIGURE 4.3-51. MOLYBDENUM CONCENTRATIONS FOR WELLS KC, K2, K5, X AND Y.

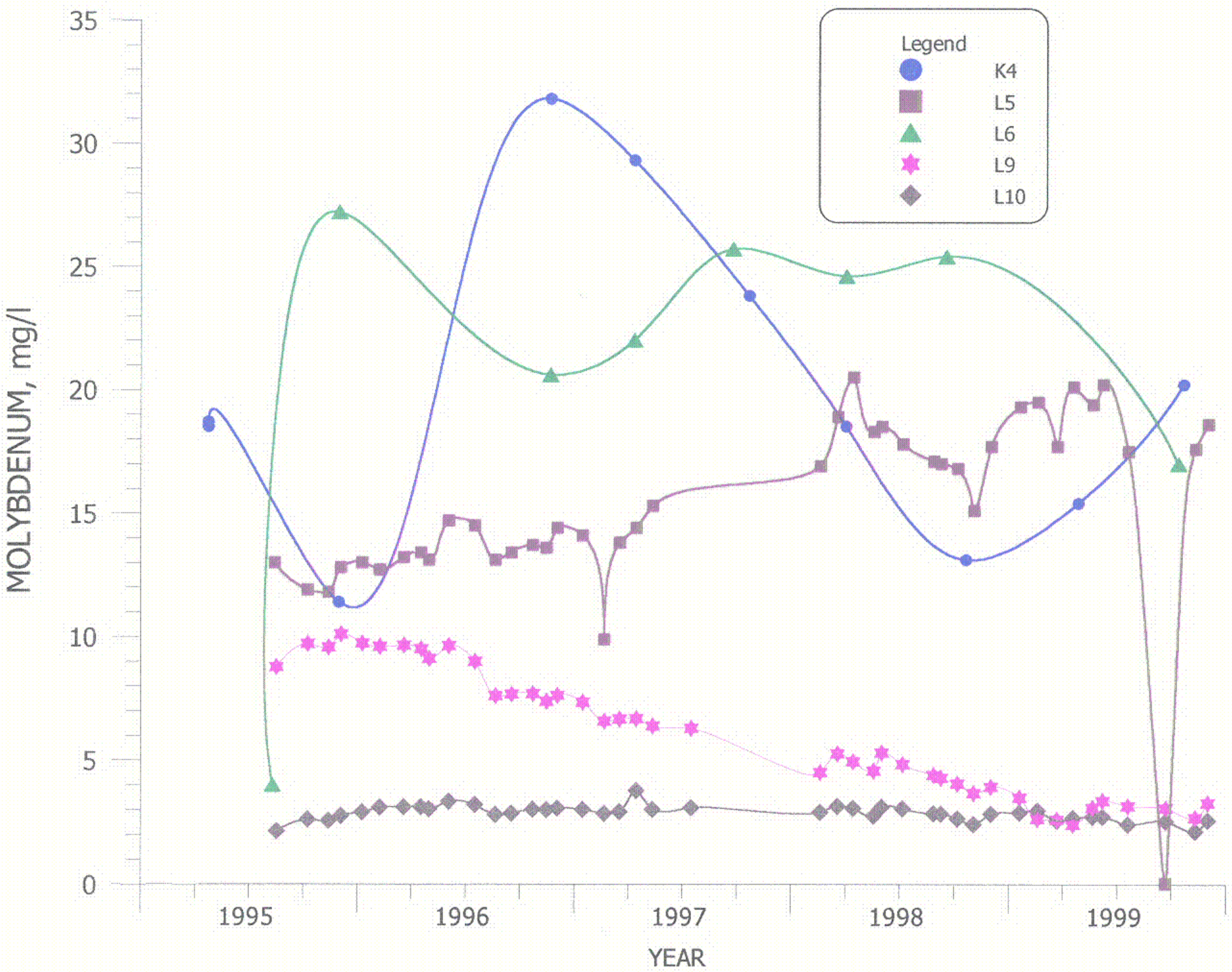


FIGURE 4.3-52. MOLYBDENUM CONCENTRATIONS FOR WELLS K4, L5, L6, L9 AND L10.

C82

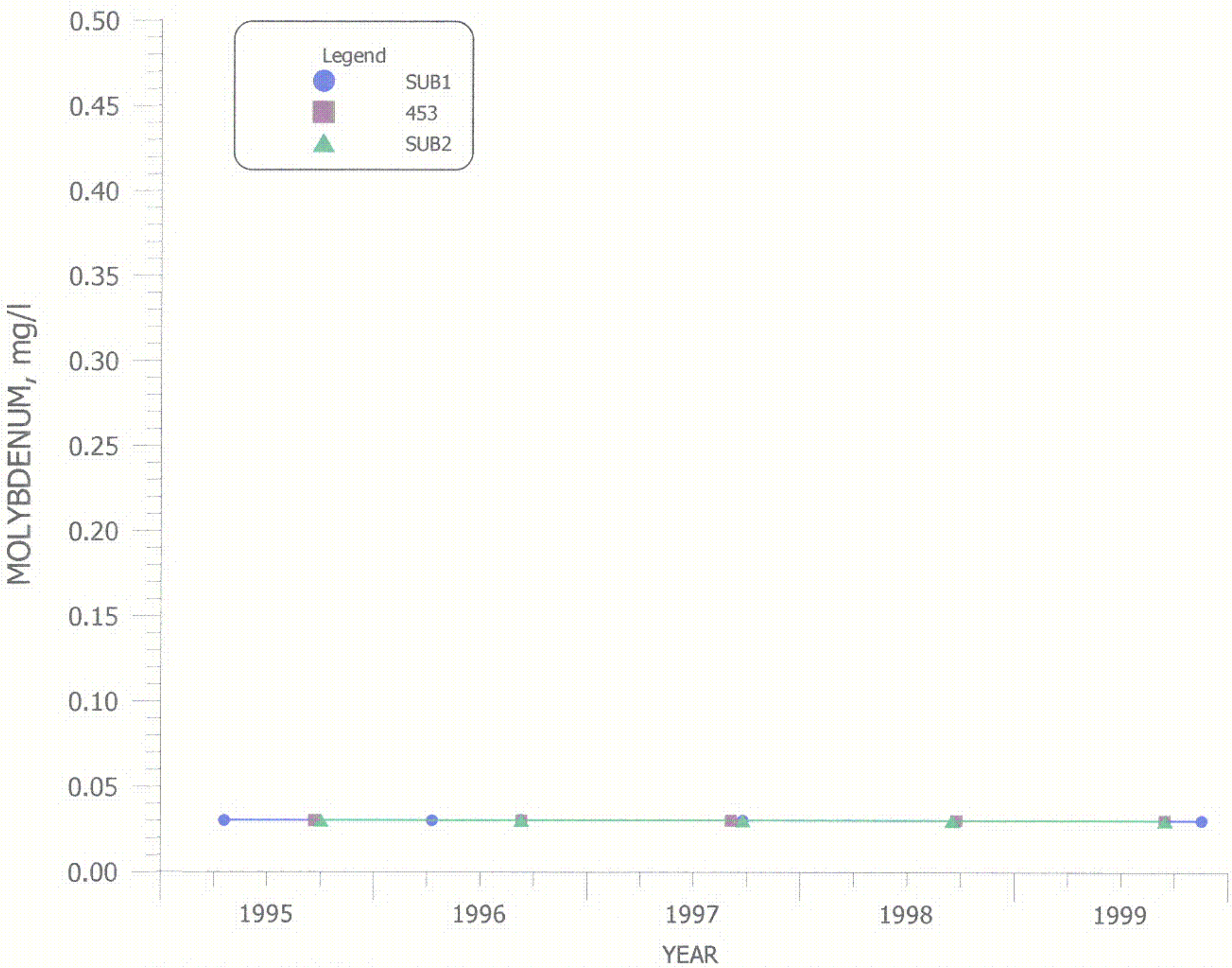
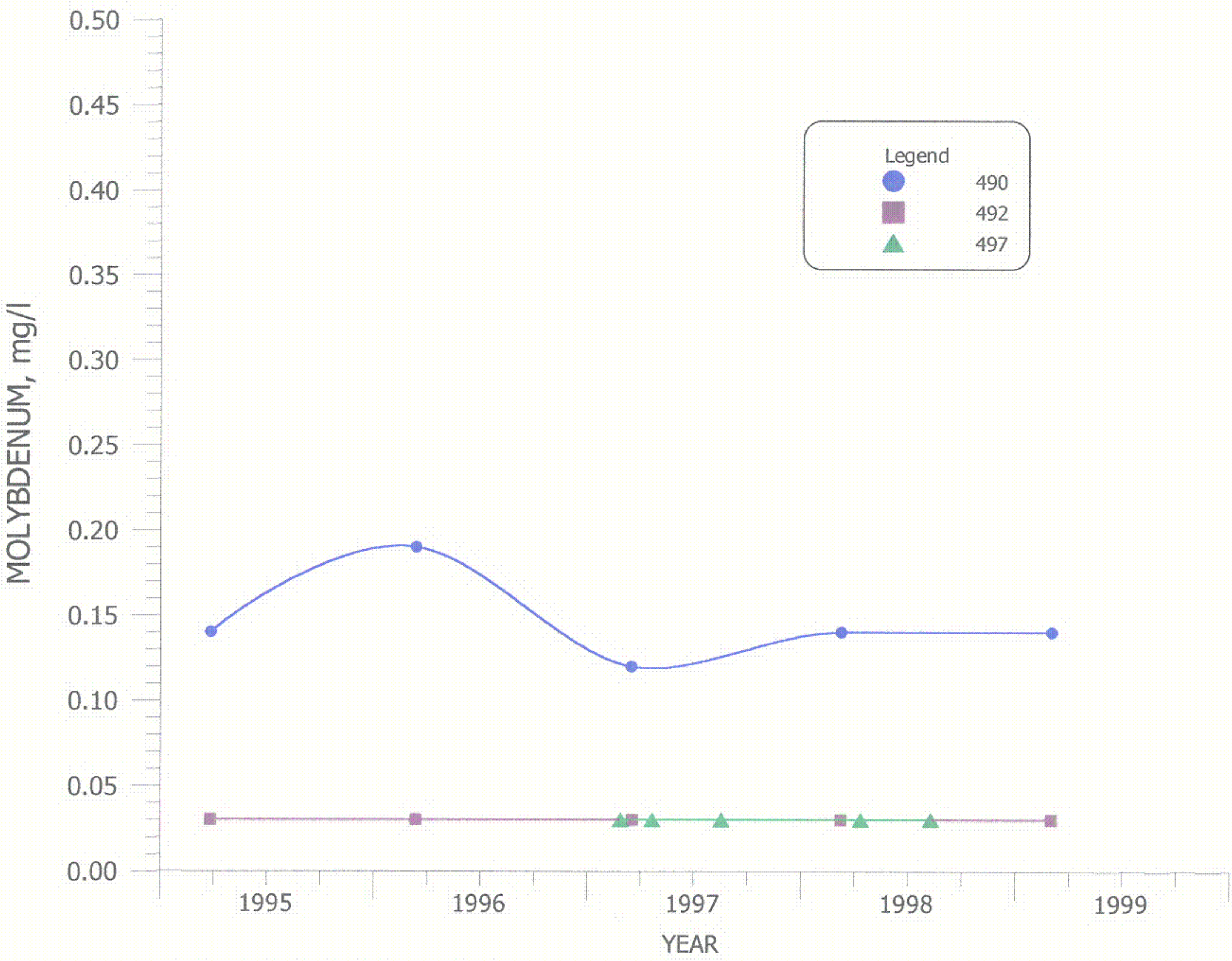


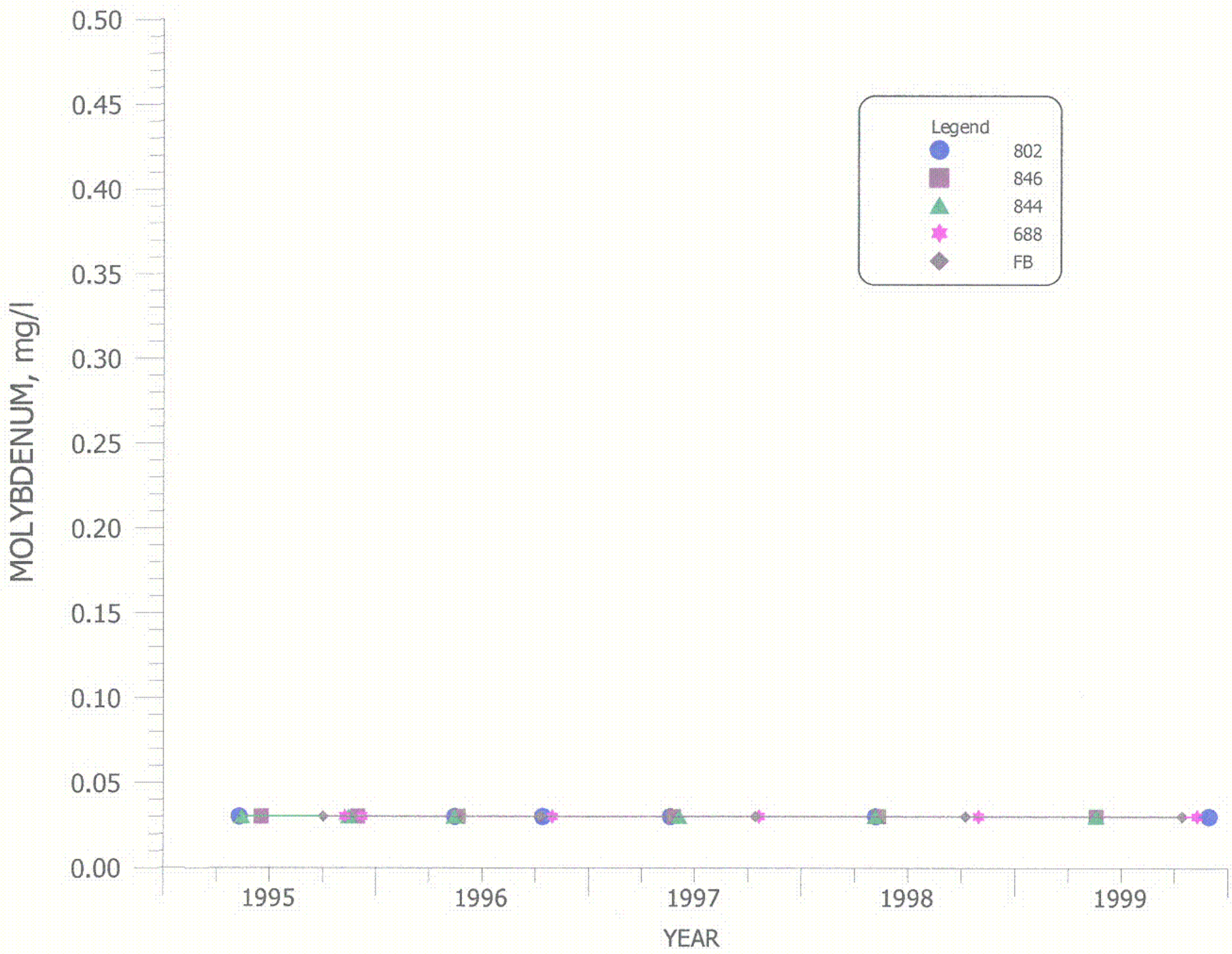
FIGURE 4.3-53. MOLYBDENUM CONCENTRATIONS FOR WELLS SUB1, 453 AND SUB2.

C83



C84

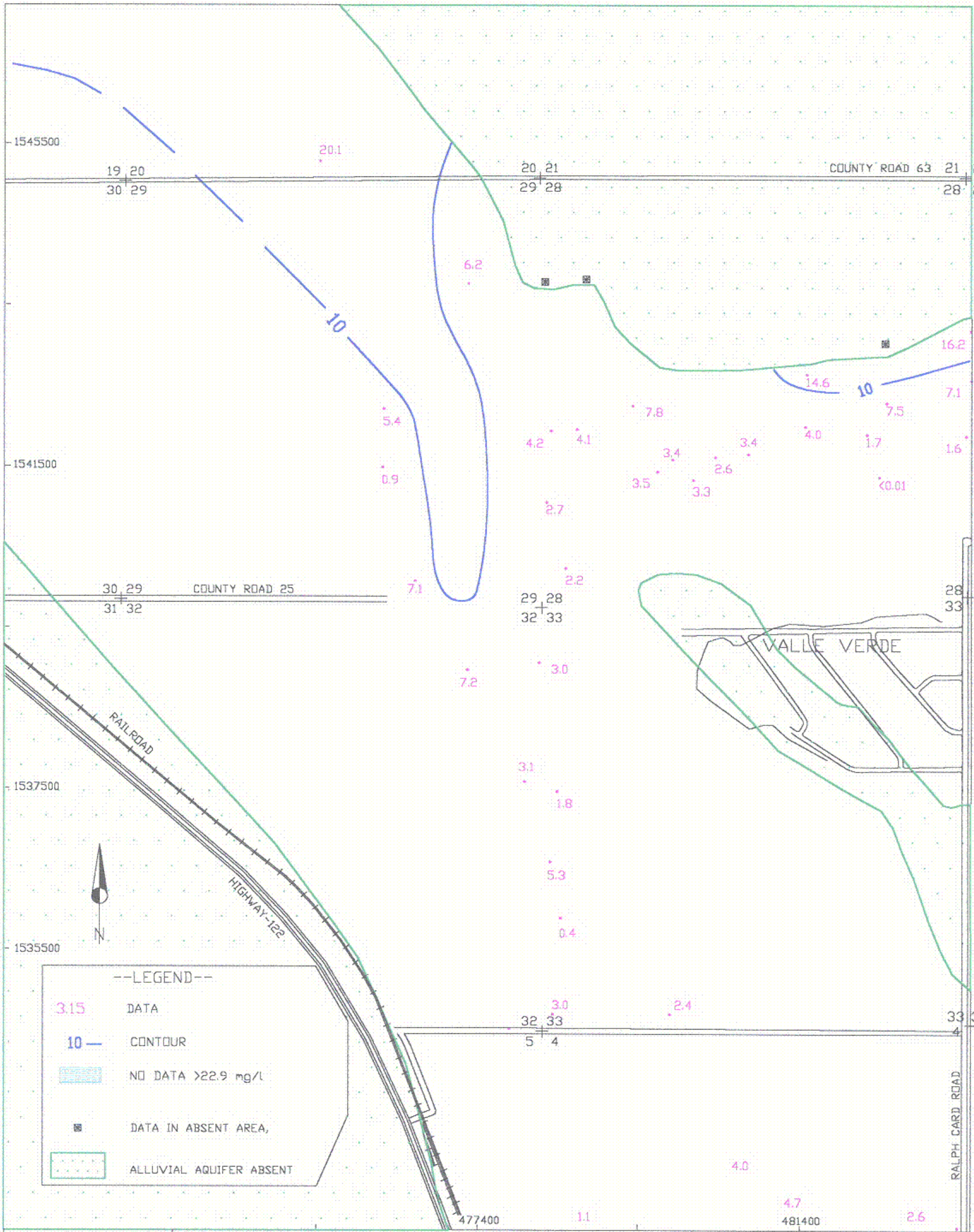
FIGURE 4.3-54. MOLYBDENUM CONCENTRATIONS FOR WELLS 490, 492 AND 497.



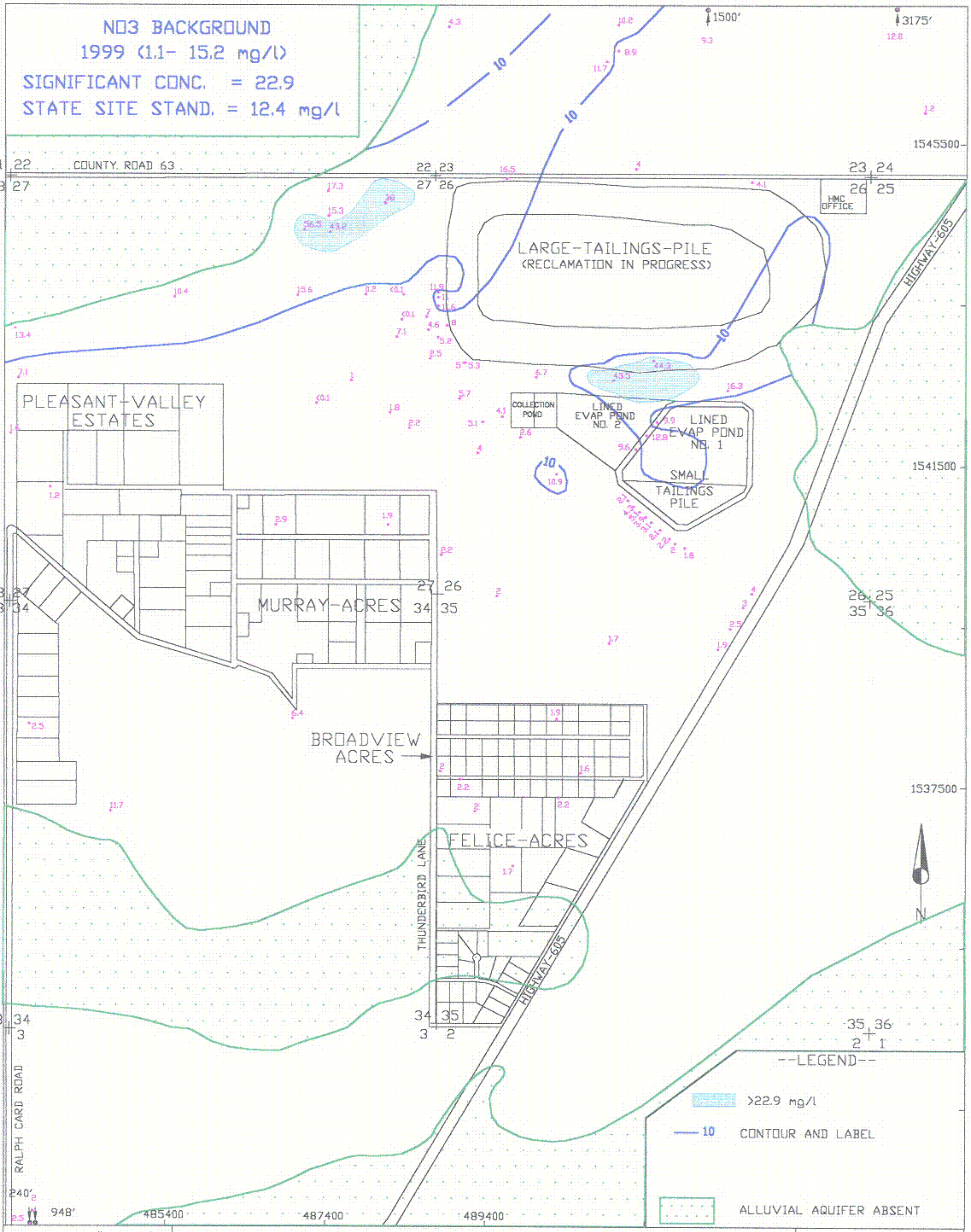
C85

FIGURE 4.3-55. MOLYBDENUM CONCENTRATIONS FOR WELLS 802, 846, 844, 688 AND FB.

c86



SCALE: 1"=1000'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/06/2000
	FIGURE 4.3-56A. NITRATE CONCENTRATIONS FOR THE ALLUVIAL AQUIFER (WEST AREA), FALL 1999, mg/l	R13\DOS\ HMC2000\2000WQAL
		page 4.3-77

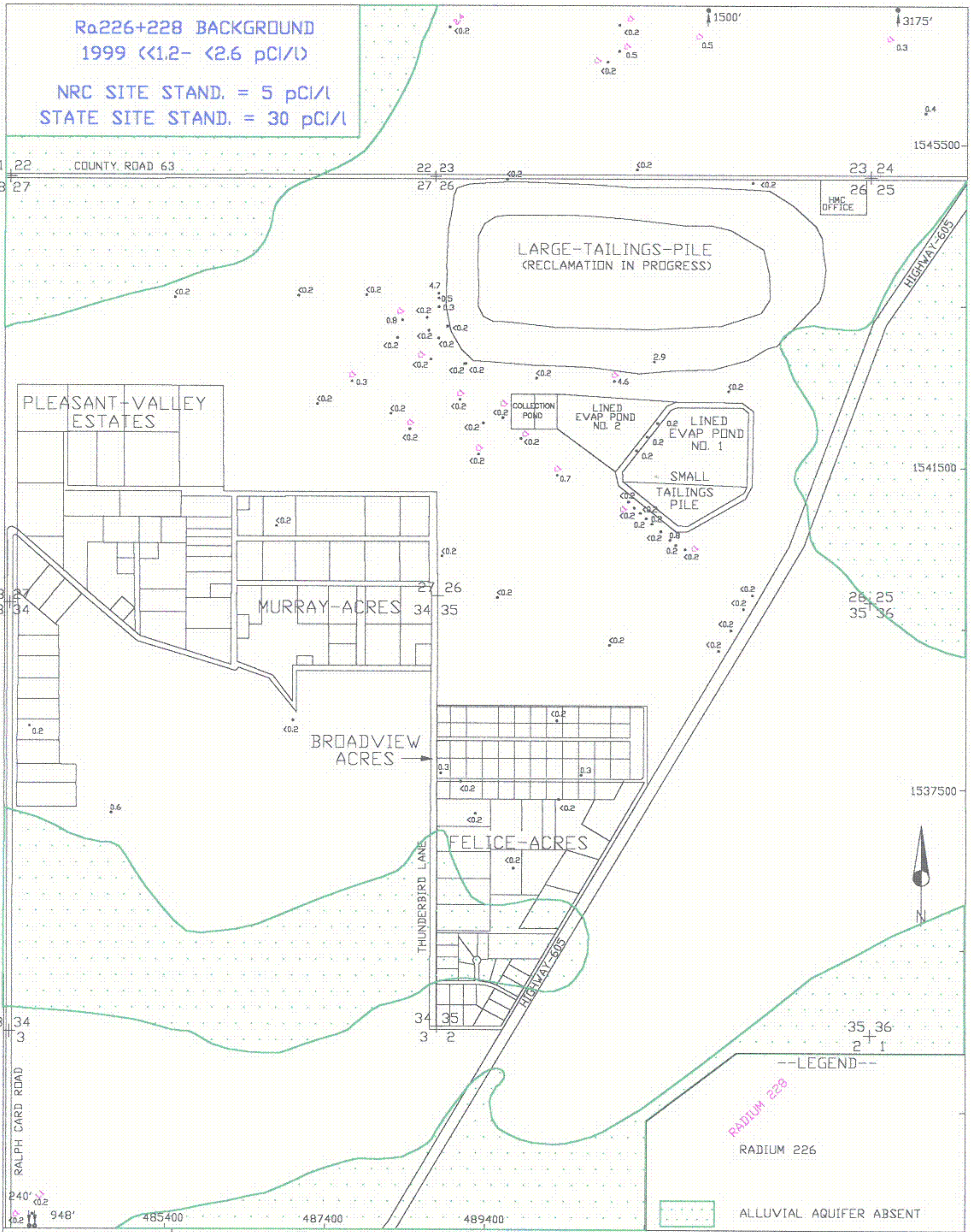


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-56B. NITRATE CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS
HMC2000\2000EQAL

C87

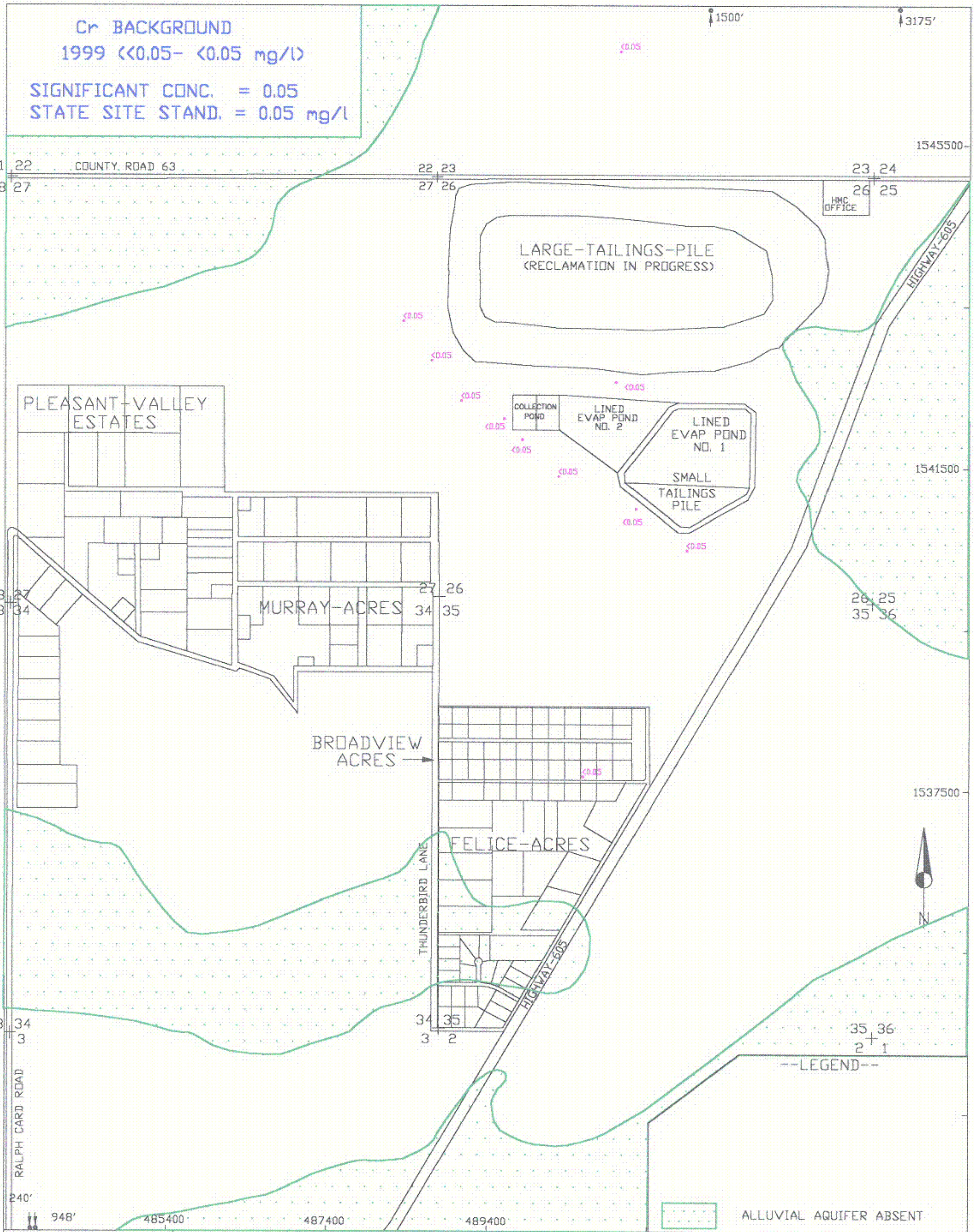


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-57. RADIUM-226 AND RADIUM-228 CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, pCi/l

R13\DOS
HMC2000\2000EQAL

C88

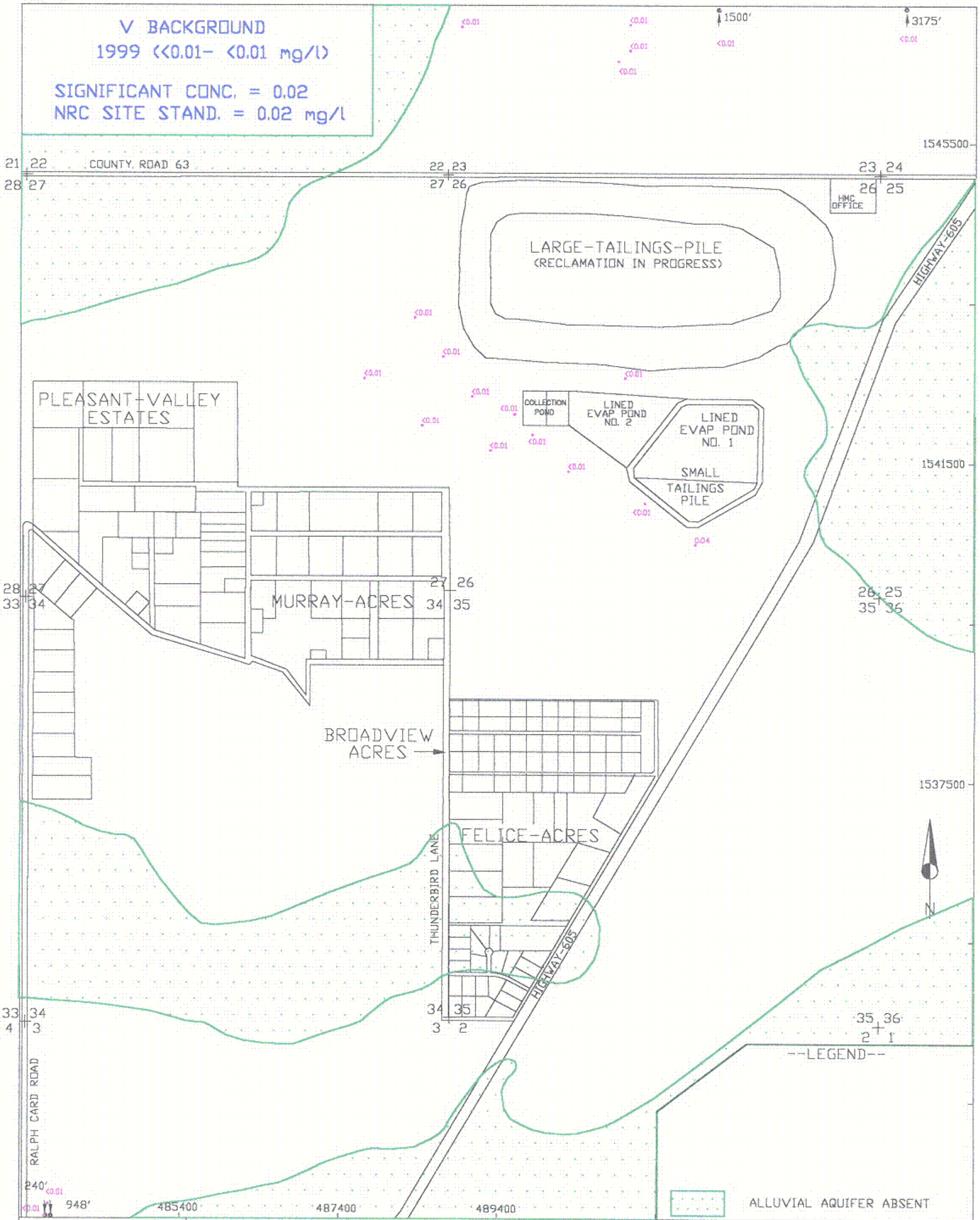


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-58. CHROMIUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DOS
HMC2000\2000EQAL
page 4.3-80

C89

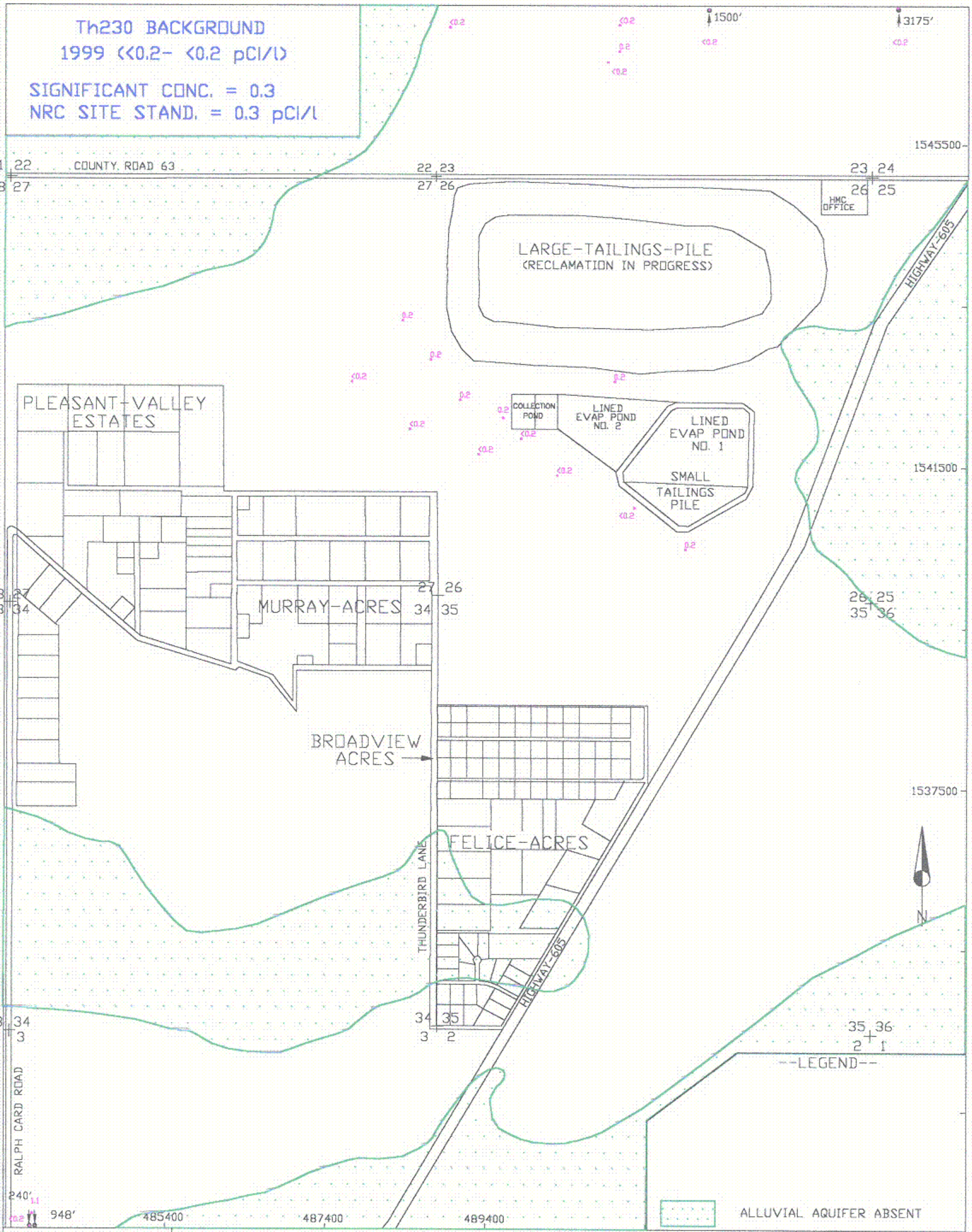


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-59 VANADIUM CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, mg/l

R13\DDS
HMC2000\2000EQAL

C90



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/31/2000

FIGURE 4.3-60 THORIUM-230 CONCENTRATIONS FOR THE ALLUVIAL AQUIFER, FALL 1999, pCi/l

R13\DDS
HMC2000\2000EQAL

C91

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GROUND-WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

TABLES

5.0 UPPER CHINLE AQUIFER MONITORING

5.1 UPPER CHINLE WELL COMPLETION

Chinle aquifer well locations are presented on Figures 5.1-1A and 5.1-1B. The Upper and Middle Chinle aquifers do not exist in the west area. Table 5.1-1 presents basic information for the Chinle wells located on the Homestake property. This table presents well coordinates, well depth, casing diameter, water level, measuring point in feet above land surface and elevation, and depth and elevation to the top of the Chinle aquifers. A "U" follows the elevation of the top of the Upper Chinle aquifer, and an "M" and an "L" have the same meanings for the Middle and Lower Chinle aquifers, respectively. Some of the wells also are used to define the depth to the base of the alluvium, and an "A" is presented following the elevation number to denote that these values are for the base of the alluvium. The casing perforation interval and aquifer unit are also presented in this table.

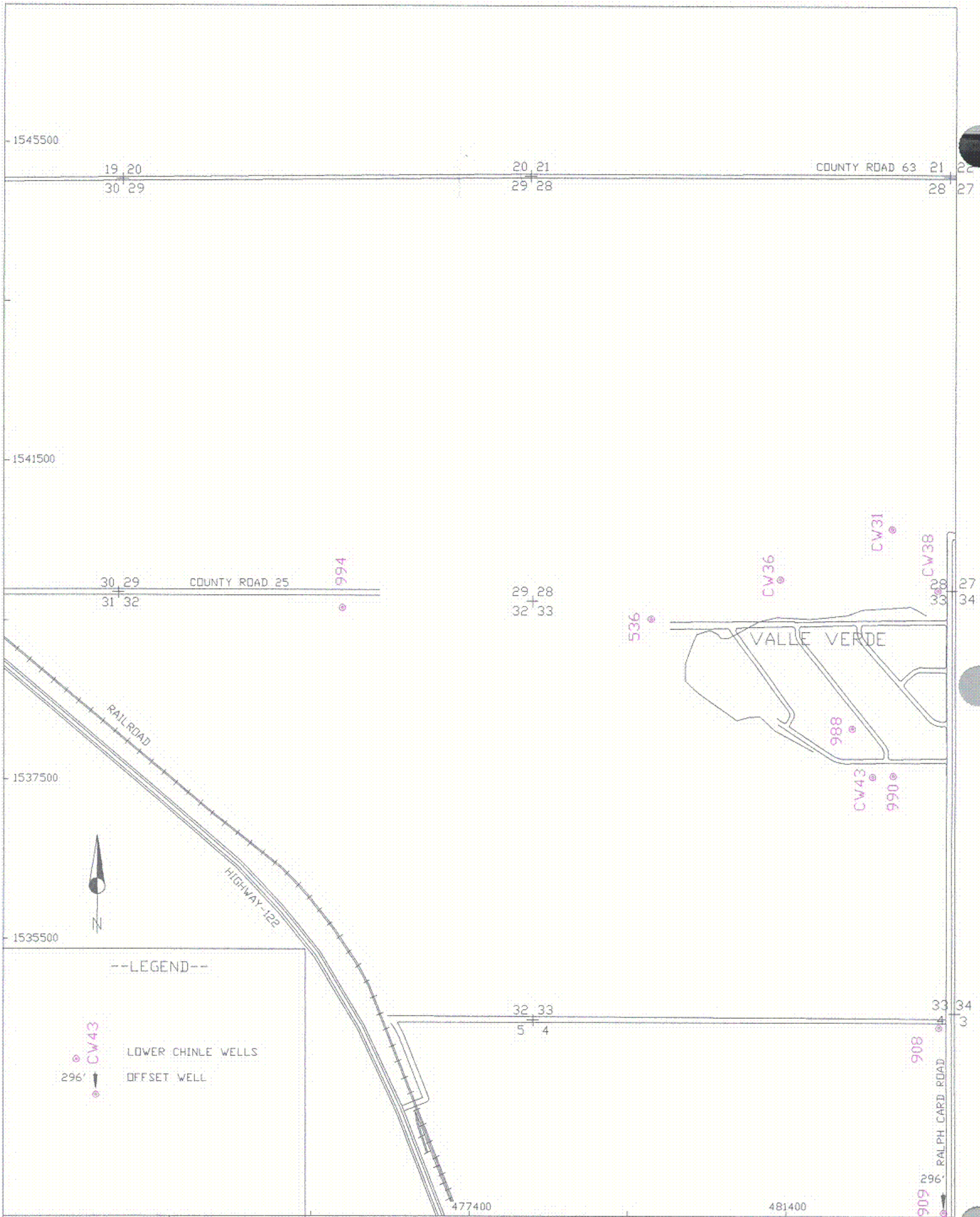
Table 5.1-2 presents basic well data for Chinle wells in Broadview and Felice Acres. Table 5.1-3 presents similar data for Murray Acres and Pleasant Valley Estates Chinle wells. Wells that are not located within the immediate Grants Project property or these four subdivision boundaries are shown on Table 5.1-4 as the regional Chinle wells (see Figure 5.1-1B for inner regional boundary).

Three additional Upper Chinle wells and two test holes were drilled in 1999 to better define the Upper Chinle subcrop near the tailings. The Upper Chinle sandstone grades to a claystone on the western side of the large tailings subcrop area and had previously been thought to pinch out prior to reaching the base of the alluvium in this area. The permeability of this claystone, even though reduced, was measured in the new wells to have the ability to transmit some water at reduced rates. Figure 5.1-2 shows the new wells CE1, CE2 and CE5, as well as test holes CE3 and CE4, which were used to better define the Upper Chinle subcrop. Some of this subcrop area is likely to contain such a low transmissivity that flow in those areas is not important.

The background water quality is the alluvial aquifer upgradient water quality because the alluvium recharges the Chinle aquifers in this area. Therefore, the background data listed in the upward left portions of the water-quality figures is the 1999 background for the alluvial aquifer.

Each of the Upper Chinle wells is plotted on Figure 5.1-2, and the areal extent of the Upper Chinle aquifer at the Grants Project is also shown. Upper Chinle wells CW5 and CW13 are shown in cyan to note that these are fresh-water injection wells. Upper Chinle wells CW4R and CE2 were pumped as input to the R.O. plan in 1999 and are shown in orange. This figure also shows the location of the West and East Faults. Two different patterns have been used to show the limits of the Upper Chinle sandstone where Chinle shale exists above the sandstone (green and blue, west and east of the East Fault, respectively). Figure 5.1-3 presents a typical geologic cross section to show the relative position of the alluvial and Chinle aquifers (see Figure 5.1-2 for location).

The subcrop of the Upper Chinle sandstone where the alluvium is saturated or unsaturated above the Upper Chinle sandstone is also shown on Figure 5.1-2 with red patterns. The alluvial and Upper Chinle aquifers are in direct contact where the red cross-hatched pattern is shown. The Upper Chinle sandstone is in contact with dry alluvium in the red dotted area. The Upper Chinle aquifer does not exist to the west and south of the subcrop area. The Upper Chinle sandstone, therefore, does not exist west of the West Fault.



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/04/2000
FIGURE 5.1-1A. CHINLE AQUIFER WELL LOCATIONS (WEST AREA)		9506/BASE16
		page 5.1-3

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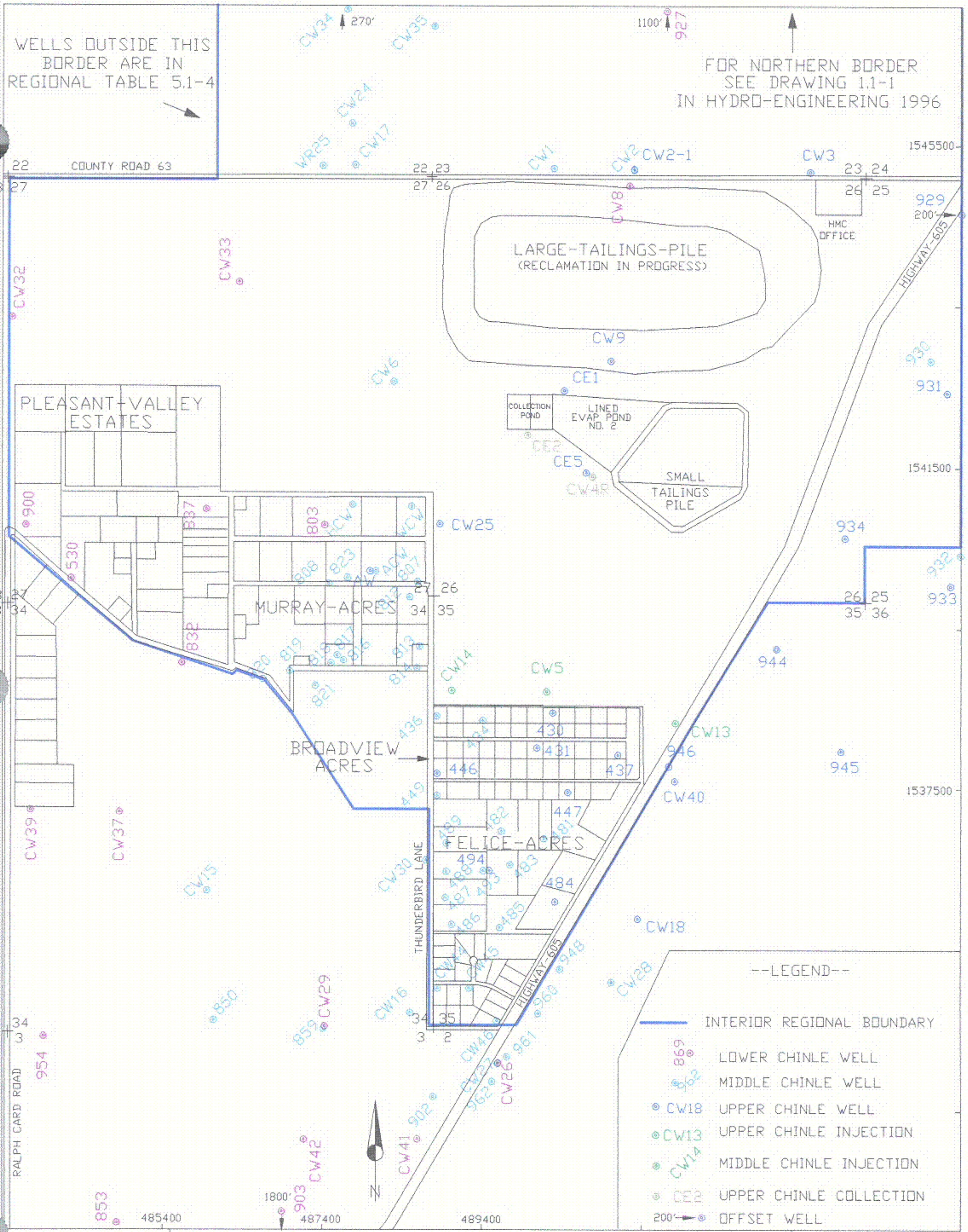

SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/04/2000

FIGURE 5.1-1B. CHINLE AQUIFER WELL LOCATIONS

9506/BASE16

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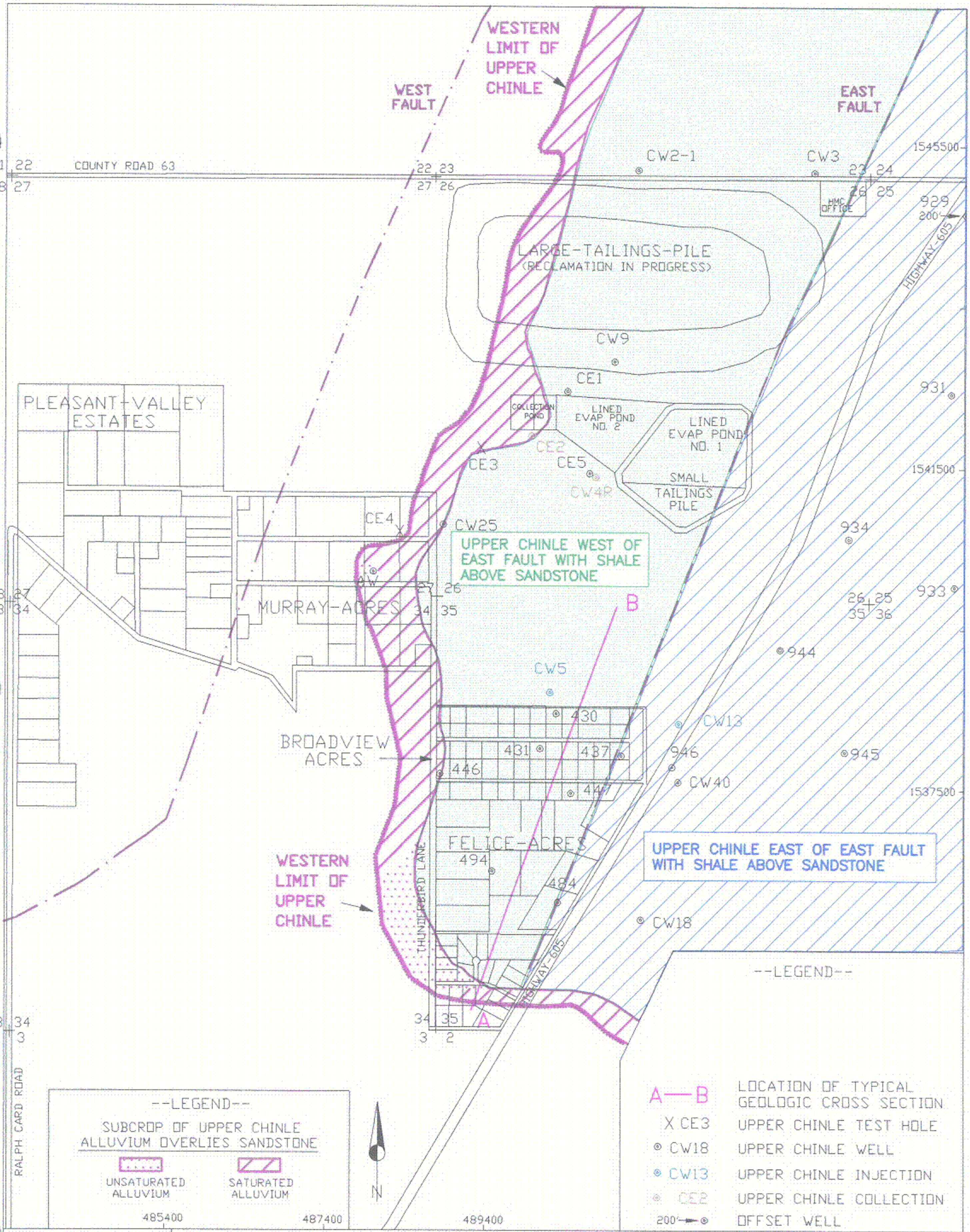
C93



SCALE: 1" = 1600' | HOMESTAKE MILL AND ADJACENT PROPERTIES GRANTS NM TOWNSHIP 11&12 N RANGE 10 W | DATE: 02/03/2000

FIGURE 5.1-2. LIMITS OF UPPER CHINLE AQUIFER AND WELL LOCATIONS

9506/UP1600

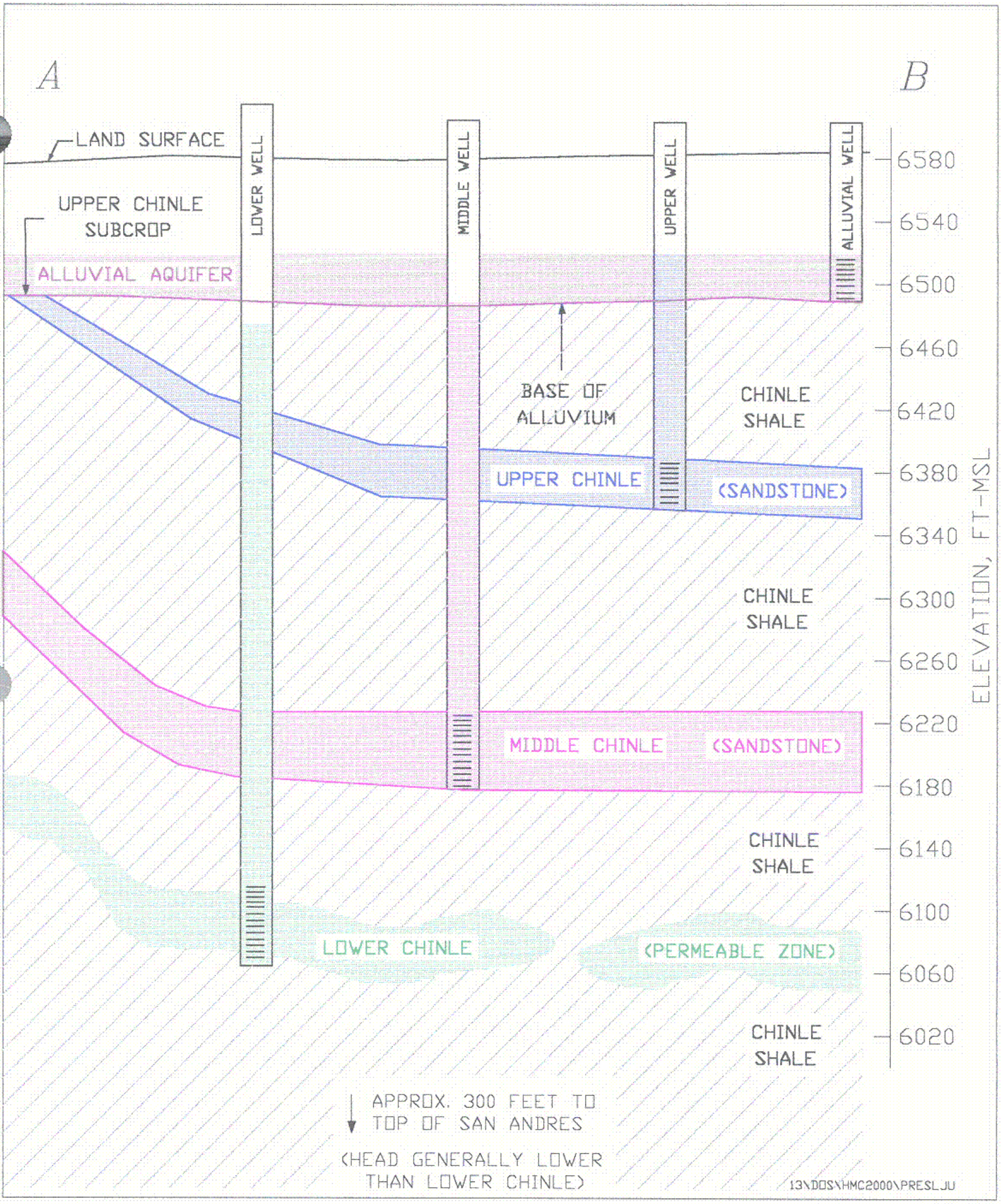


FIGURE 5.1-3. TYPICAL GEOLOGIC CROSS SECTION

C95

TABLE 5.1-1. BASIC WELL DATA FOR THE CHINLE HOMESTAKE WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)		CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
0930	1542848	494997	410.0	6.0	07/27/1999	102.14	6496.40	0.0	6598.54	30	6569	A	-	—
										335	6264	M	330-400	Middle
0931	1542461	495207	366.7	6.0	09/14/1999	63.76	6546.80	0.9	6610.56	339	6271	U	-	Upper
0934	1540641	493941	293.0	7.0	09/14/1999	38.06	6547.53	2.0	6585.59	30	6554	A	-	—
										282	6302	U	330-400	Upper
CE1	1541923	489979	137.0	5.0	08/13/1999	37.25	6532.94	0.1	6570.19	75	6495	A	-	—
										106	6464	U	98-138	Upper
CE2	1542475	490434	119.7	5.0	11/29/1999	60.55	6515.80	1.8	6576.35	74	6501	A	-	—
										74	6501	U	78-118	Upper
CE5	1541750	490800	140.0	5.0	—	—	—	—	—	—	—	U	100-140	Upper
CW1	1545235	490295	325.0	5.0	12/08/1998	92.00	6493.22	0.7	6585.22	105	6480	A	-	—
										272	6313	M	212-323	Middle
CW2	1545212	491302	355.0	5.0	11/04/1999	92.08	6493.40	1.7	6585.48	85	6499	A	-	—
										136	6448	U	-	—
										305	6279	M	306-353	Middle
CW2-1	1545212	491302	168.0	5.0	11/29/1999	53.51	6531.97	1.7	6585.48	85	6499	A	-	—
										136	6448	U	243-253	Upper
CW3	1545200	493496	235.0	5.0	11/09/1999	57.86	6529.32	0.7	6587.18	70	6516	A	-	—
										209	6377	U	210-235	Upper
										348	6238	M	-	—
* CW4	1541682	490874	145.0	5.0	09/07/1994	39.06	6531.89	0.8	6570.95	70	6500	A	-	—
										112	6458	U	110-145	Upper
CW4R	1541416	490787	138.9	6.0	11/29/1999	56.71	6512.02	1.3	6568.73	61	6506	A	-	—
										104	6463	U	102-142	Upper
CW5	1538729	490221	170.0	5.0	11/29/1999	5.00	6564.34	1.6	6569.34	65	6503	A	-	—
										137	6431	U	135-170	Upper
CW6	1542588	488301	282.0	4.0	12/26/1996	85.46	6490.18	1.0	6575.64	236	6339	M	246-276	Middle
CW7	1545285	488773	—	—	10/17/1995	60.80	6522.79	0.0	6583.59	—	—	C	-	Chinle
CW8	1545009	491238	285.0	6.0	11/29/1999	44.65	6547.18	0.0	6591.83	—	—	C	276-286	Chinle
										85	6507	A	-	—
CW9	1542840	491015	180.0	5.0	09/15/1999	77.16	6514.67	0.0	6591.83	—	—	U	130-180	Upper
										80	6512	A	-	—
* CW10	1542823	491803	185.0	5.0	11/13/1995	50.03	6537.86	0.0	6587.89	75	6513	A	-	—
										167	6421	U	155-185	Upper
CW13	1538349	491827	267.7	6.0	11/29/1999	5.00	6571.70	2.7	6576.70	230	6344	U	225-265	Upper
										378	6196	M	-	—
CW14	1538786	488884	360.9	6.0	11/29/1999	8.40	6557.69	2.9	6566.09	56	6507	A	-	—
										66	6497	U	-	—
										310	6253	M	278-358	Middle
CW17	1545279	487771	108.0	5.0	06/01/1999	65.43	6523.89	3.1	6589.32	73	6513	A	-	—

TABLE 5.1-1. BASIC WELL DATA FOR THE CHINLE HOMESTAKE WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)		CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
CW17	1545279	487771	108.0	5.0	06/01/1999	65.43	6523.89	3.1	6589.32	85	6501	M	83-103	Middle
CW24	1545773	487760	121.0	5.0	11/24/1998	57.70	6530.97	3.0	6588.67	61	6525	A	-	—
										65	6521	M	78-118	Middle
CW25	1540802	488866	105.0	5.0	08/13/1999	36.14	6531.06	3.0	6567.20	53	6511	U	62-102	Upper
										53	6511	A	-	—
CW32	1543413	483523	300.0	6.0	06/02/1999	105.98	6461.30	1.7	6567.28	70	6496	A	-	—
										157	6409	L	158-188	—
										157	6409	L	218-303	Lower
CW33	1543814	486347	348.8	6.0	06/02/1999	106.34	6468.55	1.8	6574.89	83	6490	A	-	—
										272	6301	L	307-347	Lower
										272	6301	L	267-287	Lower
CW34	1547827	487707	65.7	6.0	08/27/1996	65.65	6528.75	3.2	6594.40	20	6571	A	-	—
										40	6551	M	33-63	Middle
CW35	1547001	488794	120.0	5.0	06/01/1999	59.34	6531.83	1.9	6591.17	63	6526	A	-	—
										90	6499	M	93-118	Middle
WR25	1545267	487430	113.3	5.0	11/05/1998	64.00	6522.46	2.8	6586.46	50	6534	A	-	—
										71	6513	M	71-111	Middle

NOTE: A = Alluvial Aquifer, Base
U = Upper Chinle Aquifer,Top
M = Middle Chinle Aquifer,Top
L = Lower Chinle Aquifer,Top
* = Abandoned

E = Estimated Depth

TABLE 5.1-2. BASIC WELL DATA FOR THE CHINLE BROADVIEW AND FELICE ACRES WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
Broadview													
0430	1538469	490300	145.0	—	—	—	—	0.0	6568.00	—	—	A -	Alluvium
										114	6454	U -	Upper
0431	1538045	490090	130.0	6.0	04/12/1994	35.00	6533.00	0.0	6568.00	60	6508	A 125-130	Alluvium
										118	6450	U 125-130	Upper
0434	1538370	489420	280.0	6.0	—	—	—	0.0	6563.68	75	6489	A -	—
										265	6299	M -	Middle
0436	1538430	488850	295.0	5.0	10/29/1996	71.82	6490.91	0.0	6562.73	90	6473	A -	—
										280	6283	M 280-295	Middle
0437	1537940	491100	340.0	5.0	10/29/1996	63.23	6508.77	1.8	6572.00	90	6480	A -	—
										180	6390	U -	—
										280	6290	M 240-300	Middle
0446	1537720	488850	110.0	6.0	09/08/1983	41.28	6518.72	0.0	6560.00	60	6500	U 60-95	Upper
										60	6500	A 60-95	Alluvium
0447	1537490	490480	142.0	6.0	04/11/1985	41.18	6526.82	0.0	6568.00	—	—	A 120-142	Alluvium
										80	6488	U 120-142	Upper
0449	1537440	488830	267.0	6.0	12/05/1994	63.42	6496.58	0.0	6560.00	—	—	M -	Middle
Felice Acres													
0481	1538350	490180	320.0	4.0	—	—	—	0.0	6568.00	110	6458	A 270-310	Alluvium
										270	6298	M 270-310	Middle
0482	1536985	489604	260.0	5.0	04/11/1996	35.85	6526.81	0.0	6562.66	80	6483	A 220-260	Alluvium
										210	6353	M 220-260	Middle
0483	1536586	489753	280.0	—	07/24/1996	36.93	6525.73	0.0	6562.66	—	—	A -	Alluvium
										—	—	M -	Middle
0484	1536448	490356	320.0	5.0	12/26/1996	39.43	6524.55	0.0	6563.98	38	6526	A -	—
										129	6435	U -	—
										280	6284	M 220-300	Middle
0485	1535800	489630	260.0	6.0	07/18/1996	70.90	6494.10	0.0	6565.00	35	6530	A -	—
										70	6495	U -	—
										223	6342	M 220-260	Middle
0486	1535800	489024	179.2	4.0	10/15/1996	70.36	6488.04	0.0	6558.40	—	—	M 200-260	Middle
										21	6537	U -	—
										21	6537	A -	—
0487	1536175	488950	260.0	—	07/24/1996	49.20	6511.80	0.0	6561.00	—	—	M -	Middle
0488	1536500	488950	—	—	08/07/1996	78.10	6483.90	0.0	6562.00	—	—	M -	Middle
0489	1536850	488950	—	—	—	—	—	0.0	6562.00	—	—	M -	Middle
0493	1536510	489430	—	5.0	10/13/1999	64.31	6495.97	0.9	6560.28	40	6519	A -	—
										65	6494	U -	—
										236	6323	M 270-300	Middle

TABLE 5.1-2. BASIC WELL DATA FOR THE CHINLE BROADVIEW AND FELICE ACRES WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
0494	1536510	489500	---	5.0	10/13/1999	33.18	6526.96	0.6	6560.14	40	6520 A	-	---
										65	6495 U	65-85	Upper
CW44	1535048	488891	208.0	6.0	11/12/1999	54.24	6506.50	2.5	6560.74	94	6464 A	-	Alluvium
										130	6428 M	69-208	Middle
CW45	1535036	489494	193.0	5.0	09/29/1999	50.96	6510.35	0.6	6561.31	90	6471 A	-	---
										166	6395 M	163-193	Middle
CW46	1534642	489595	187.3	5.0	09/29/1999	58.78	6503.48	1.5	6562.26	88	6473 A	-	---
										112	6449 M	125-185	Middle

NOTE: A = Alluvial Aquifer, Base
U = Upper Chinle Aquifer,Top
M = Middle Chinle Aquifer,Top
L = Lower Chinle Aquifer,Top
* = Abandoned

E = Estimated Depth

TABLE 5.1-3. BASIC WELL DATA FOR THE CHINLE MURRAY ACRES AND PLEASANT VALLEY WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
						Murray							
0803	1540800	487430	290.0	6.0	09/19/1983	84.86	6476.14	0.0	6561.00	—	—	C 85-180	Chinle
										85	6476	A 85-180	Alluvium
0807	1540100	488605	287.0	6.0	—	—	—	0.0	6565.00	63	6502	A -	—
										275	6290	M 275-285	Middle
0808	1540080	487490	290.0	5.0	—	—	—	1.6	6561.00	85	6474	A -	—
										255	6304	M 260-290	Middle
0812	1539910	488505	300.0	6.0	—	—	—	0.6	6566.00	68	6497	A -	—
										268	6297	M 264-284	Middle
0813	1539300	488620	280.0	6.0	—	—	—	0.0	6565.00	63	6502	A -	—
										230	6335	M 235-255	Middle
0814	1539030	488590	—	—	—	—	—	0.0	6565.00	—	—	M -	Middle
0816	1539110	487705	255.0	6.0	—	—	—	0.0	6557.00	35	6522	A -	—
										240	6317	M 240-250	Middle
0817	1539190	487590	—	—	07/22/1995	70.34	6486.66	0.0	6557.00	—	—	M -	Middle
0818	1539090	487510	243.0	4.0	—	—	—	0.0	6557.00	62	6495	A -	—
										230	6327	M 223-243	Middle
0819	1539000	487000	222.0	6.0	—	—	—	0.0	6557.00	62	6495	A -	—
										210	6347	M 210-220	Middle
0820	1538890	486660	230.0	—	05/22/1996	81.45	6476.55	0.0	6558.00	—	—	M 125-230	Middle
0821	1538810	487320	260.0	7.0	11/01/1994	35.88	6524.12	0.0	6560.00	—	—	M -	Middle
0823	1540150	487720	265.0	6.0	—	—	—	0.0	6561.00	—	—	M 257-267	Middle
										40	6521	A -	—
ACW	1540235	488070	325.0	6.0	08/16/1996	77.85	6485.95	1.2	6563.80	40	6523	A -	—
										57	6506	U -	—
										264	6299	M 265-325	Middle
AW	1540235	488015	156.0	6.0	01/05/1998	15.00	6548.43	0.1	6563.43	63	6500	A -	Alluvium
										100	6463	U 66-155	Upper
HCW	1541060	487785	295.0	6.0	09/25/1996	80.00	6482.00	1.0	6562.00	82	6479	A -	—
										264	6297	M 264-295	Middle
WCW	1541045	488520	307.0	6.0	12/08/1998	72.10	6495.27	0.8	6567.37	83	6484	A -	—
										254	6313	M 257-307	Middle
						Pleasant Valley							
0530	1540229	484358	490.0	5.0	10/30/1998	95.78	6463.41	1.5	6559.19	265	6293	L -	Lower
0832	1539320	485670	280.0	4.0	—	—	—	0.0	6557.00	85	6472	A -	—
										240	6317	L 238-278	Lower
0837	1540995	485950	200.0	5.0	09/07/1983	59.87	6507.13	0.0	6567.00	80	6487	A -	—
										160	6407	L 160-200	Lower
* 0842	1541650	483980	250.0	—	—	—	—	0.0	6558.00	—	—	L -	Lower

TABLE 5.1-3. BASIC WELL DATA FOR THE CHINLE MURRAY ACRES AND PLEASANT VALLEY WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
0900	1540800	483700	172.1	—	07/24/1995	91.41	6468.59	1.5	6560.00	—	— L	-	Lower

NOTE: A = Alluvial Aquifer. Base
U = Upper Chinle Aquifer.Top
M = Middle Chinle Aquifer.Top
L = Lower Chinle Aquifer.Top
* = Abandoned

E = Estimated Depth

TABLE 5.1-4. BASIC WELL DATA FOR THE CHINLE REGIONAL WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
0536	1539560	479701	—	—	—	—	—	0.0	—	—	—	L -	Lower
0653	1533283	486570	206.0	6.0	10/19/1998	63.05	6481.92	1.3	6544.97	97	6447	A 69-206	Alluvium
										135	6409	L -	Lower
0850	1534652	486044	54.0	5.0	12/26/1996	55.82	6493.33	3.2	6549.15	37	6509	M 29-54	Middle
										37	6509	A -	—
0853	1532124	484824	95.0	5.0	06/03/1999	65.27	6476.11	1.7	6541.38	60	6480	A -	—
										60	6480	L 55-95	Lower
0859	1534549	487426	83.0	5.0	06/03/1999	59.91	6492.85	2.6	6552.76	52	6498	M 50-83	Middle
0901	1531900	492900	270.0	5.0	11/04/1981	46.88	6552.12	0.0	6599.00	40	6559	A -	—
										190	6409	L 240-260	Lower
0902	1533700	488800	150.0	6.0	01/28/1995	52.10	6507.90	0.0	6560.00	72	6488	A -	—
										72	6488	M 78-102	Middle
0903	1530250	486900	281.0	5.0	—	—	—	0.0	6559.00	220	6339	L 120-260	Lower
0904	1531100	487150	200.0	4.0	—	—	—	0.0	6560.00	—	—	L 170-200	Lower
0908	1534430	483325	282.8	5.0	11/03/1998	81.16	6463.21	1.5	6544.37	107	6436	A -	—
										232	6311	L -	Lower
0909	1531900	483400	140.0	4.0	11/19/1982	77.45	6461.45	0.0	6538.90	112	6427	L 80-135	Lower
										112	6427	A 80-135	Alluvium
0927	1548300	491700	—	—	—	—	—	1.0	6595.00	—	—	C -	Chinle
0929	1544684	495585	320.0	5.0	09/14/1999	44.87	6547.70	2.0	6592.57	—	—	U 290-320	Upper
0932	1540434	495401	501.0	6.0	12/17/1997	111.83	6490.28	0.0	6602.11	354	6248	U -	—
										492	6110	M 450-490	Middle
0933	1540050	499730	—	5.0	12/17/1997	52.78	6547.73	0.5	6600.51	—	—	U -	Upper
0937	1542200	481250	182.0	5.0	—	—	—	0.0	6578.00	70	6508	A -	—
										160	6418	L 95-182	Lower
0944	1539280	493091	300.0	5.0	12/17/1997	38.52	6550.09	1.6	6588.61	64	6523	A -	—
										252	6335	U 220-280	Upper
0945	1537986	493900	300.0	—	03/21/1985	92.41	6498.08	0.0	6590.49	—	—	U -	Upper
0946	1537804	491754	260.0	5.0	10/17/1996	37.45	6541.59	0.0	6579.04	220	6359	U 230-260	Upper
0948	1535190	490400	255.0	5.0	—	—	—	0.0	6568.10	200	6368	M 200-255	Middle
0949	1540350	483600	551.0	—	—	—	—	0.0	6562.30	112	6450	A -	—
										155	6407	L 260-290	Lower
										460	6102	S 505-551	San Andres
										460	6102	S 400-493	San Andres
0954	1534390	484260	307.0	5.0	12/27/1994	77.22	6467.78	0.0	6545.00	225	6320	L 285-307	Lower
0960	1534730	490110	305.0	6.0	04/05/1995	67.46	6497.54	0.0	6565.00	280	6285	M 285-305	Middle
0961	1534190	489720	240.0	5.0	04/05/1995	67.40	6497.60	6.9	6565.00	200	6358	M 200-240	Middle
0962	1533880	489530	238.0	6.0	—	—	—	0.0	6560.00	225	6335	M 220-238	Middle

TABLE 5.1-4. BASIC WELL DATA FOR THE CHINLE REGIONAL WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
0963	1532700	488900	—	4.0	—	—	—	0.0	6557.00	—	—	L -	Lower
0964	1531500	488000	200.0	6.0	—	—	—	0.0	6560.00	170	6390	L 170-200	Lower
0965	1531550	489100	200.0	4.0	—	—	—	0.0	6575.00	—	—	L 130-200	Lower
0966	1531300	489000	—	—	—	—	—	0.0	6575.00	—	—	L -	Lower
0967	1530500	487600	—	—	—	—	—	0.0	6570.00	—	—	L -	Lower
0968	1529700	488400	—	—	—	—	—	0.0	6630.00	—	—	L -	Lower
0969	1529400	488450	—	—	—	—	—	0.0	6640.00	—	—	L -	Lower
0970	1529100	488500	—	5.0	—	—	—	0.0	6660.00	—	—	L -	Lower
0988	1538140	482200	155.0	5.0	07/18/1996	59.86	6589.14	1.3	6649.00	18	6630	A -	—
										152	6496	L 152-155	Lower
0990	1537600	482750	—	—	—	—	—	0.5	6550.00	—	—	L -	Lower
0994	1539700	476240	144.0	6.0	03/24/1998	84.70	6470.30	0.0	6555.00	—	—	A 95-110	Alluvium
										—	—	L 95-110	Lower
CW15	1536259	485961	134.6	5.0	06/03/1999	58.16	6493.16	2.6	6551.32	50	6499	A -	—
										91	6458	M 73-133	Middle
										311	6238	L -	—
CW16	1534747	488507	—	5.0	12/26/1996	68.02	6490.52	0.0	6558.54	82	6477	M 112-152	Middle
										82	6477	A -	—
CW18	1535924	491378	230.7	5.0	07/22/1999	10.26	6562.39	1.5	6572.65	90	6481	A -	—
										190	6381	U 177-232	Upper
										340	6231	M -	—
CW26	1534116	489593	300.0	5.0	06/03/1999	81.56	6479.87	0.5	6561.43	50	6511	M -	—
										50	6511	A -	—
										231	6330	L 245-285	Lower
CW27	1534109	489600	110.0	5.0	06/03/1999	62.68	6500.20	1.9	6562.88	50	6511	M -	Middle
										50	6511	A -	—
CW28	1535112	491008	370.0	5.0	07/26/1999	70.06	6501.62	1.9	6571.68	90	6480	A -	—
										110	6460	U -	—
										294	6276	M 280-360	Middle
CW29	1534551	487435	290.0	5.0	06/03/1999	72.63	6479.59	1.7	6552.22	52	6499	M -	—
										52	6499	A -	—
										228	6323	L 230-270	Lower
CW30	1536642	488704	251.5	5.0	06/03/1999	59.74	6498.57	2.1	6558.31	35	6521	A -	—
										220	6336	M 219-249	Middle
CW31	1540689	482738	311.0	6.0	06/02/1999	82.38	6477.88	2.0	6560.26	111	6447	A -	—
										254	6304	L 291-311	Lower
										254	6304	L 231-271	—
										254	6304	L 136-156	—
CW36	1540053	481329	179.9	5.0	12/08/1998	73.73	6477.36	2.8	6551.09	96	6452	A -	—
										152	6396	L 155-177	Lower

TABLE 5.1-4. BASIC WELL DATA FOR THE CHINLE REGIONAL WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
CW37	1537240	484853	150.1	5.0	06/02/1999	59.90	6491.27	1.3	6551.17	55	6495	A -	—
										100	6450	L 100-150	Lower
CW38	1540103	483429	174.8	5.0	11/14/1997	55.18	6500.42	2.1	6555.60	108	6446	A -	—
										130	6424	L 133-173	Lower
CW39	1537260	483754	126.3	5.0	12/08/1998	61.96	6488.75	3.4	6550.71	40	6507	A -	—
										87	6460	L 90-123	Lower
CW40	1537624	491819	264.0	5.0	09/14/1999	18.70	6560.24	2.6	6578.94	75	6501	A -	—
										220	6356	U 224-264	Upper
CW41	1533174	488584	206.0	6.0	12/08/1998	75.87	6479.54	1.5	6555.41	59	6495	A -	—
										138	6416	L 146-206	Lower
CW42	1533169	487177	205.0	6.0	09/02/1999	66.92	6481.86	0.0	6548.78	98	6451	A -	—
										124	6425	L 125-205	Lower
CW43	1537587	482493	104.1	5.0	09/29/1999	64.82	6483.97	2.0	6548.79	57	6490	L 81-101	Lower
										57	6490	A -	—

NOTE: A = Alluvial Aquifer, Base
U = Upper Chinle Aquifer,Top
M = Middle Chinle Aquifer,Top
L = Lower Chinle Aquifer,Top
* = Abandoned

E = Estimated Depth

5.2 UPPER CHINLE WATER LEVELS

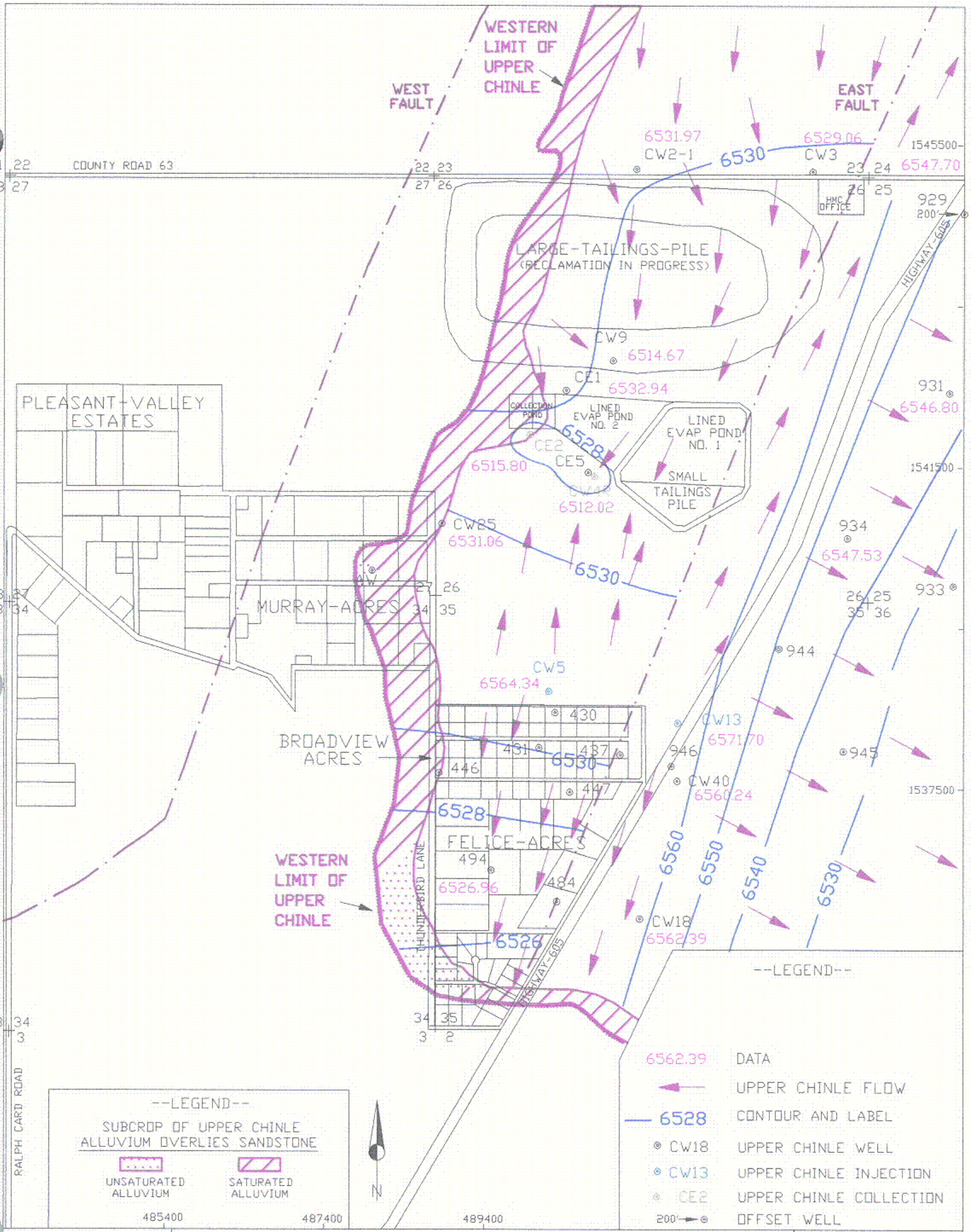
5.2.1 WATER LEVELS - UPPER CHINLE

Water levels in Homestake's Upper, Middle and Lower Chinle aquifer wells are presented in Appendix A. Appendix A contains a table with Homestake, subdivision, and regional Chinle wells. Figure 5.2-1 presents water-level elevation contours of the Upper Chinle aquifer for the Fall of 1999. The red arrows on Figure 5.2-1 show the direction of ground-water flow, which is greatly influenced by the fresh-water injection into the Upper Chinle at wells CW5 and CW13 and collection from wells CW4R and CE2. Well CW13, an injection well on the east side of the East Fault, is in the high permeability zone of the Upper Chinle aquifer that parallels the East Fault. This high permeability zone exists at least out to 1000 feet east of the East Fault at well CW18. This injection has increased the head along the east side of the East Fault to greater than 6560 ft-msl. The permeability decreases to the east of the East Fault and, therefore, an easterly gradient occurs in the Upper Chinle away from the East Fault. The slow movement to the east is not expected to change the concentrations of uranium, selenium and molybdenum in monitoring well 945 but should eventually result in a change in the conservative constituents of chloride and sulfate due to the injection concentrations. Chloride concentrations are expected to gradually decline to the injection concentration, while the sulfate concentrations are expected to slightly increase to the injection concentration. The red arrows show the direction of ground-water flow in this area.

The injection into Upper Chinle well CW5 causes ground-water flow to the north and south of this area. The flow that moves to the south discharges to the alluvial aquifer in the subcrop area where the alluvium is saturated over the top of the Upper Chinle. Flow in the Upper Chinle also moves north of Broadview Acres to collection wells CE2 and CW4R. The natural flow in the Upper Chinle aquifer west of the East Fault is from the north and ground water continues to flow in this direction toward the large tailings from the north. Well CW3 is upgradient of this site.

The time plots for water level and water quality for the Chinle were also limited to the last five years to enable the 1999 trends to be seen easier. Figure 5.2-2 presents the location of the Upper Chinle wells that are used to monitor water-level changes with time. The color of the well name and symbol is the same on Figure 5.2-2 as on the water-level plots. Figure 5.2-3 presents the water-level elevations plotted versus time for Upper Chinle wells CW3, CW4R, CW5, CE2, 494 and CW25. Water levels in the Upper Chinle have been fairly stable during 1999 except for the changes in collection wells CE2 and CW4R due to pumping.

Figure 5.2-4 presents the water-level elevation changes for the Upper Chinle wells east of the East Fault. The large water-level rise in these wells in mid-1996 was due to the injection into well CW13. The water-level elevation in each of these wells in the Upper Chinle is greater than the alluvial head in this area. This prevents the recharge of the Upper Chinle on the east side of the East Fault from the alluvial aquifer. Water levels in the Upper Chinle, east of the East Fault, were maintained high and fairly steady in 1999.

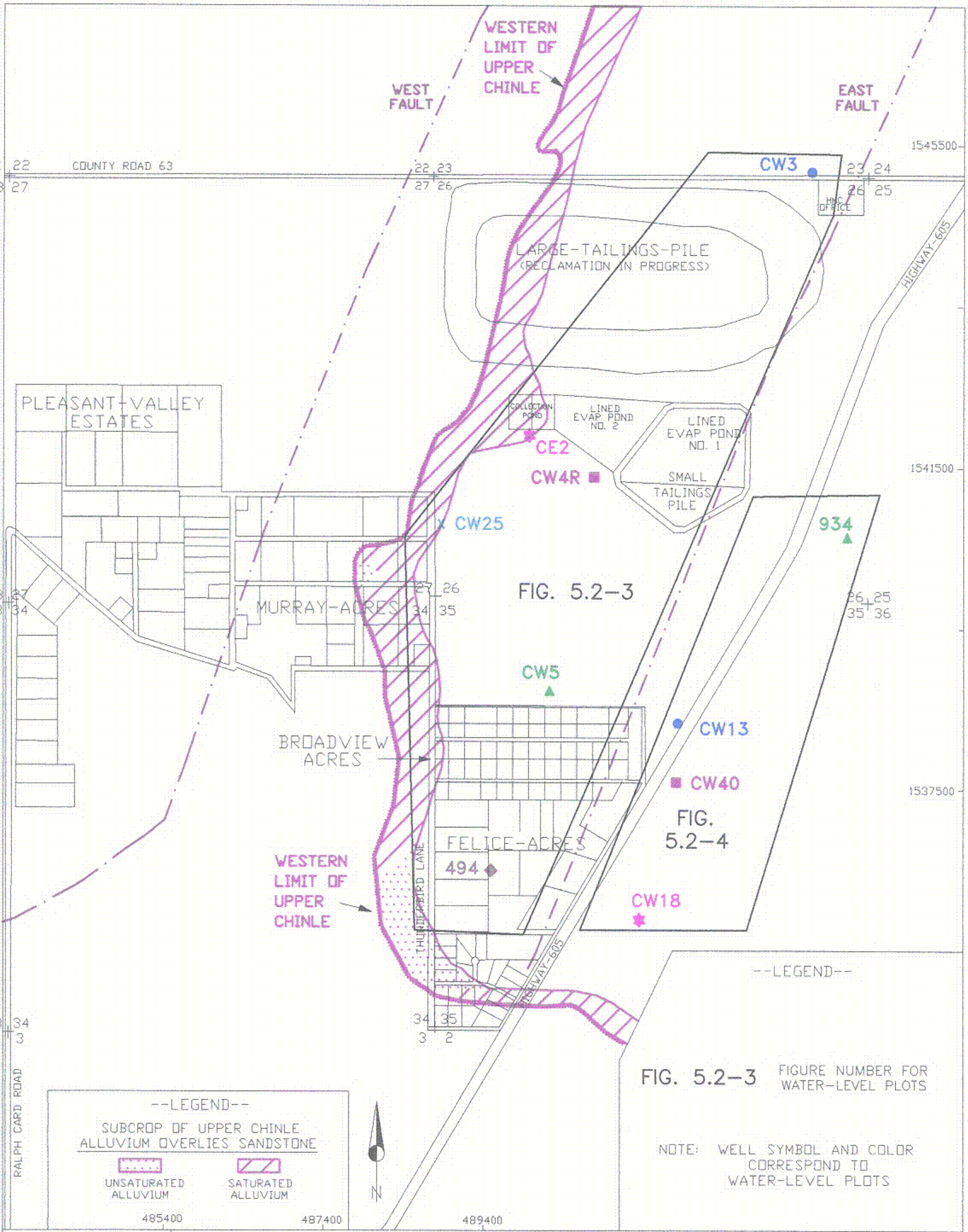


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/01/2000

FIGURE 5.2-1. WATER-LEVEL ELEVATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, FT-MSL

9506/UP1600

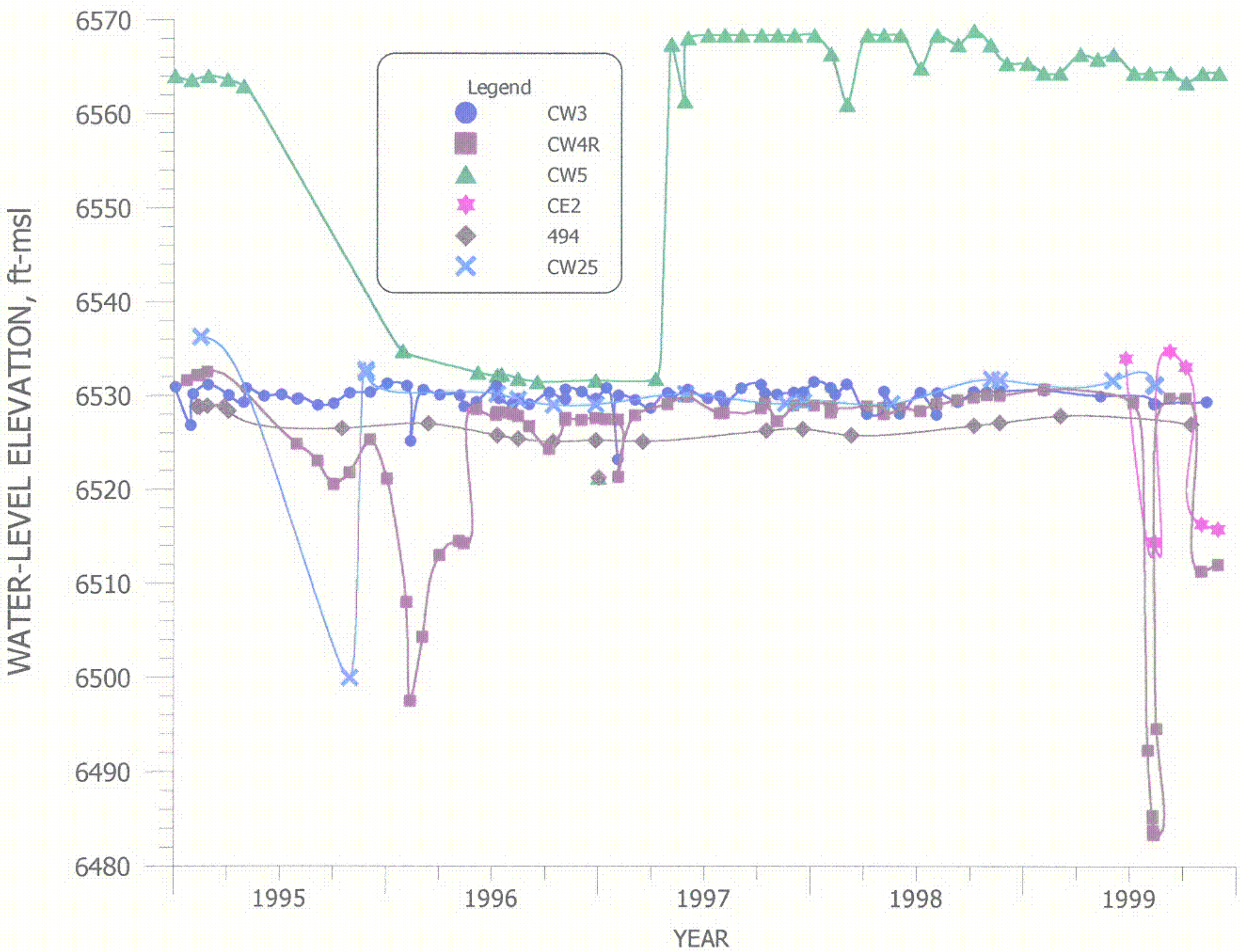
C96



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/03/2000

FIGURE 5.2-2. LOCATION OF UPPER CHINLE WELLS WITH WATER-LEVEL PLOTS

9506/UP1600



5.2-5

FIGURE 5.2-3. WATER-LEVEL ELEVATION FOR WELLS CW3, CW4R, CW5, CE2, 494 AND CW25.

C98

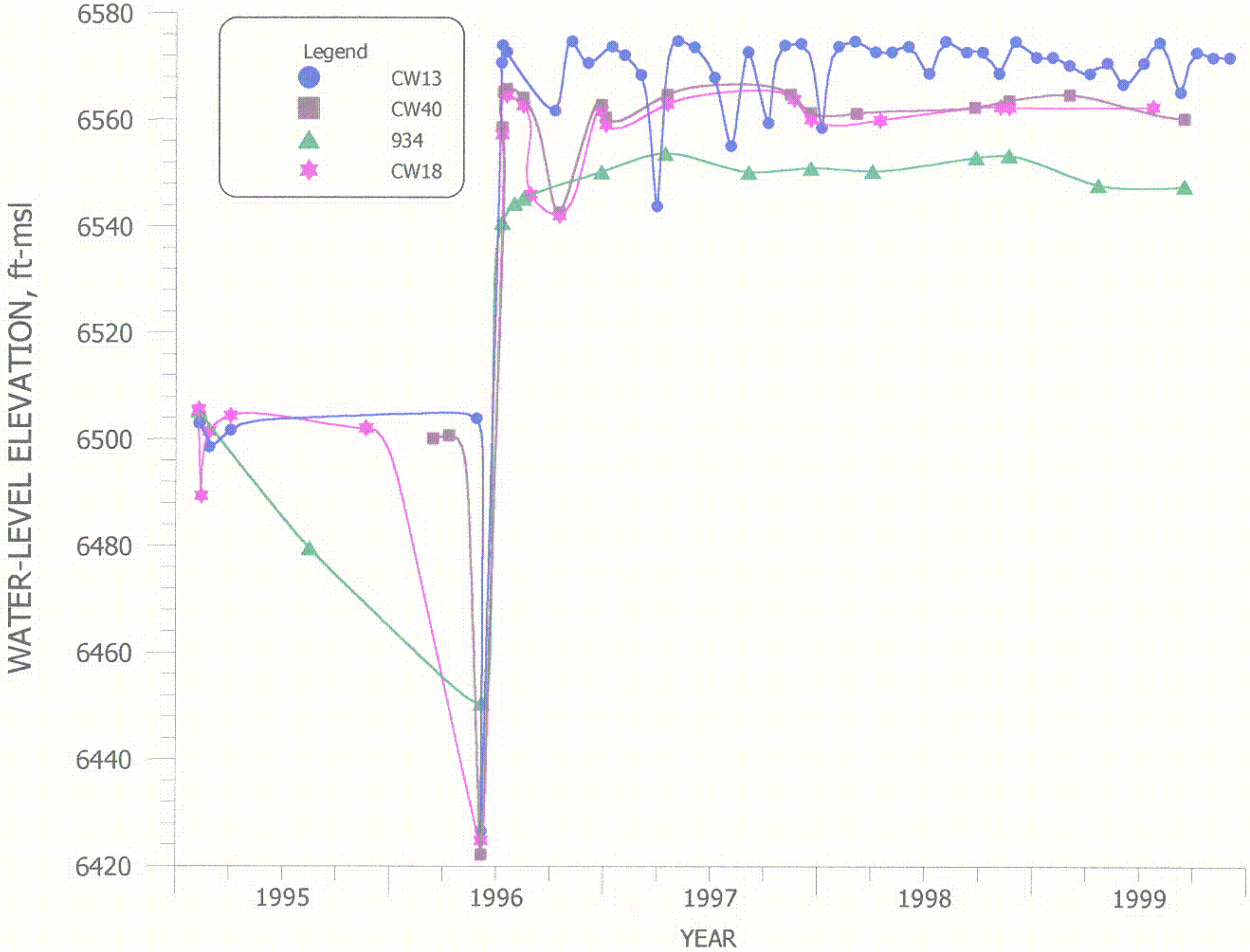


FIGURE 5.2-4. WATER-LEVEL ELEVATION FOR WELLS CW13, CW40, 934 AND CW18.

c 99

5.3 UPPER CHINLE WATER QUALITY

The water quality data for 1999 for the Chinle aquifers is presented in Tables B.5-1 and B.5-2 of Appendix B. The basic well data presented in Tables 5.1-1 through 5.1-4 and Figure 5.1-2 show which of the Chinle wells are completed in the Upper Chinle.

The water quality in the Upper Chinle aquifer exceeds background conditions in only a few locations. Sulfate concentrations have been adequately restored in the Upper Chinle aquifer. Selenium concentrations are less than the NRC and State site standards in all Upper Chinle wells in 1999 except for the subcrop area near the large tailings. Uranium concentrations exceed background in four wells that are slowly being restored due to the leaching of this constituent during restoration. Only one of the Upper Chinle wells exceed the significant concentrations for molybdenum.

5.3.1 SULFATE - UPPER CHINLE

Figure 5.3-1 presents the sulfate concentrations for the Upper Chinle aquifer during the Fall of 1999. The Upper Chinle concentrations varied from less than 500 to slightly greater than 1100 mg/l. No values exceeded the range in background concentrations in the Upper Chinle in 1999. Background data is presented for sulfate in 1999 in a box in the upper left corner of Figure 5.3-1. Therefore, sulfate in this aquifer has been adequately restored. Background data is considered to be upgradient alluvial wells because the alluvial aquifer recharges the Upper Chinle in this area.

The location of wells used in the water-quality plots versus time are presented in Figure 5.3-2. The color and symbol of the individual wells are the same as on the various water quality time plots. Sulfate time plot figure numbers are also shown on Figure 5.3-2 for each group. The same color and symbol scheme is used for other constituents also. Figure 5.3-2 shows that Upper Chinle wells CW3, CW25, CW4R, CE2, 446 and 494 are grouped together on the water quality time plots.

Figure 5.3-3 presents the sulfate concentrations versus time for the above listed Upper Chinle wells. The sulfate concentrations in each of these wells are below background, showing restoration of all Upper Chinle wells west of the East Fault (see

Figure 5.3-3). Sulfate concentrations in well CE2 near the subcrop area south of the large tailings gradually increased in 1999.

Sulfate concentrations plotted versus time for Upper Chinle wells CW40, 931, 934, 945 and CW18 are presented on Figure 5.3-4 (see Figure 5.3-2 for location of these wells). This plot shows steady sulfate concentrations in Upper Chinle wells for the last three years due to the fresh-water injection into Upper Chinle well CW13 except for well 931. The sulfate concentration has been gradually declining below the injection concentration for the last three years in well 931.

5.3.2 TOTAL DISSOLVED SOLIDS - UPPER CHINLE

Figure 5.3-5 presents the total dissolved solids (TDS) concentrations for the Upper Chinle aquifer for the Fall of 1999. All concentrations are less than 2000 mg/l, with the exception of an area of the Upper Chinle east of State Highway 605 and a small area near the large tailings. The TDS concentration naturally increased to the east of the East Fault due to the slower movement of ground water in this less transmissive portion of the aquifer. No pattern is shown on Figure 5.3-5 because all of the Upper Chinle TDS concentrations are less than 3060 mg/l, which is the important level of this constituent. No concentration time plots are presented for this constituent because sulfate time concentration plots adequately define the variation of major constituents with time. TDS concentrations in the Upper Chinle aquifer do not require restoration.

5.3.3 CHLORIDE - UPPER CHINLE

The Upper Chinle chloride concentrations for the Fall of 1999 are presented in Figure 5.3-6. The 1999 data shows that all Upper Chinle chloride concentrations are less than the secondary drinking water standard of 250 mg/l, with the exception of well 945, which is in the eastern portion of the Upper Chinle east of the East Fault. The natural chloride concentration for this area of the Upper Chinle aquifer is significantly higher than the natural level in the more transmissive portion of this aquifer. Chloride concentrations have always been higher in these eastern wells indicating that these are natural levels. These higher chloride concentrations are, therefore, not an indication of seepage contamination. No time concentration plots are presented for chloride because sulfate time plots adequately show the variation in the major constituents at this site. No restoration of chloride is needed in the Upper Chinle aquifer.

5.3.4 URANIUM - UPPER CHINLE

Uranium concentration in the Upper Chinle aquifer is an important parameter for the Upper Chinle. Figure 5.3-7 presents the uranium concentrations in the Upper Chinle aquifer for the Fall of 1999. Only two of the uranium concentrations in the Upper Chinle exceed the 0.43 mg/l concentration. The highest value east of the East Fault for 1999 was observed in well 929 with a value of 0.34 mg/l, which is ten times greater than previous values for this well. Additional analyses from well 929 are needed before this value is given any significance. Only five values exceed the 1999 upper limit of uranium background concentrations of 0.24 mg/l (see Figure 3.2-1 or upper left box in Figure 5.3-7). These concentrations should gradually be decreased to below background concentrations with the CE2 collection and the CW5 injection.

Uranium concentrations plotted versus time for Upper Chinle wells CW3, CW25, CW4R, CE2, 446 and 494 are presented in Figure 5.3-8 (see Figure 5.3-2 for location of these wells). This plot shows that the uranium concentrations in Upper Chinle well CW4R gradually increased in 1999 when it was pumped. The gradual increasing trend that was being observed in Upper Chinle well CW25 was stopped in 1999. Uranium concentrations had increased over the previous two years in well 494 but declined in 1999. The uranium concentrations in Upper Chinle collection well CE2 averaged 1.3 mg/l in 1999. All of the other uranium concentrations on this plot are very low.

The uranium concentrations in all of the Upper Chinle wells east of the Highway are very low. Figure 5.3-9 shows the uranium concentration for Upper Chinle wells CW40, 931, 934, 945 and CW18. The low uranium concentration in well CW18 is gradually declining with time. Concentrations in all of these wells are below the average background concentration and, therefore, do not require any restoration relative to uranium.

5.3.5 SELENIUM - UPPER CHINLE

Selenium concentrations for the Upper Chinle aquifer are presented in Figure 5.3-10 for the Fall of 1999. This figure shows that all of the selenium concentrations are less than 0.27 mg/l except for the concentration at well CE1. The 1999 selenium concentration in well CE1 was 0.28 mg/l. The 0.27 mg/l value is based on the upper background level observed in the alluvial aquifer upgradient of the tailings.

Figure 5.3-11 presents the selenium concentration versus time for wells CW3, CW25, CW4R, CE2, 446 and 494. The selenium concentrations in the Upper Chinle aquifer in well CW4R increased due to its pumping and then gradually declined. The selenium concentration in collection well CE2 was higher and fairly steady in 1999. The selenium concentrations for all of the remaining wells on this plot are low.

Figure 5.3-12 presents the selenium concentrations versus time for Upper Chinle wells CW40, 931, 934, 945 and CW18. This plot shows that the selenium concentrations in 1999 for wells CW40 and CW18 have remained low after their restoration in 1997. These decreases in concentration are due to the fresh-water injection in Upper Chinle well CW13 east of the East Fault.

5.3.6 MOLYBDENUM - UPPER CHINLE

Figure 5.3-13 presents the molybdenum concentrations in the Upper Chinle aquifer during 1999. The molybdenum concentrations near the large tailings are above 0.73 mg/l. Concentrations are above 0.1 mg/l extending outward to the small tailings and the northeast corner of Murray Acres. A small amount of additional restoration is needed in this area, which should be accomplished with the collection from well CE2.

Figure 5.3-14 presents the molybdenum time concentration plots for Upper Chinle wells between the two faults. This plot shows that the molybdenum concentrations for 1999 decreased in wells CW4R and CW25 after increasing in 1998. The CE2 collection should cause these concentrations to continue to decline this year. Well CE2 is planned to be part of the collection system for several years.

Figure 5.3-15 shows molybdenum concentrations for wells CW40, 931, 934, 945 and CW18. This figure shows small molybdenum concentrations in each of these wells with the exception of one outlier from well 931 in 1998.

5.3.7 NITRATE - UPPER CHINLE

Nitrate concentrations for the Upper Chinle aquifer are presented in Figure 5.3-16 for the Fall of 1999. This figure illustrates that nitrate concentrations in the Upper Chinle are significantly less than the State standard for this site of 12.4 mg/l. Nitrate concentrations are not expected to be significant in the future in the Upper Chinle aquifer due to the very limited extent of elevated concentrations in the alluvial aquifer.

5.3.8 RADIUM-226 AND RADIUM-228 - UPPER CHINLE

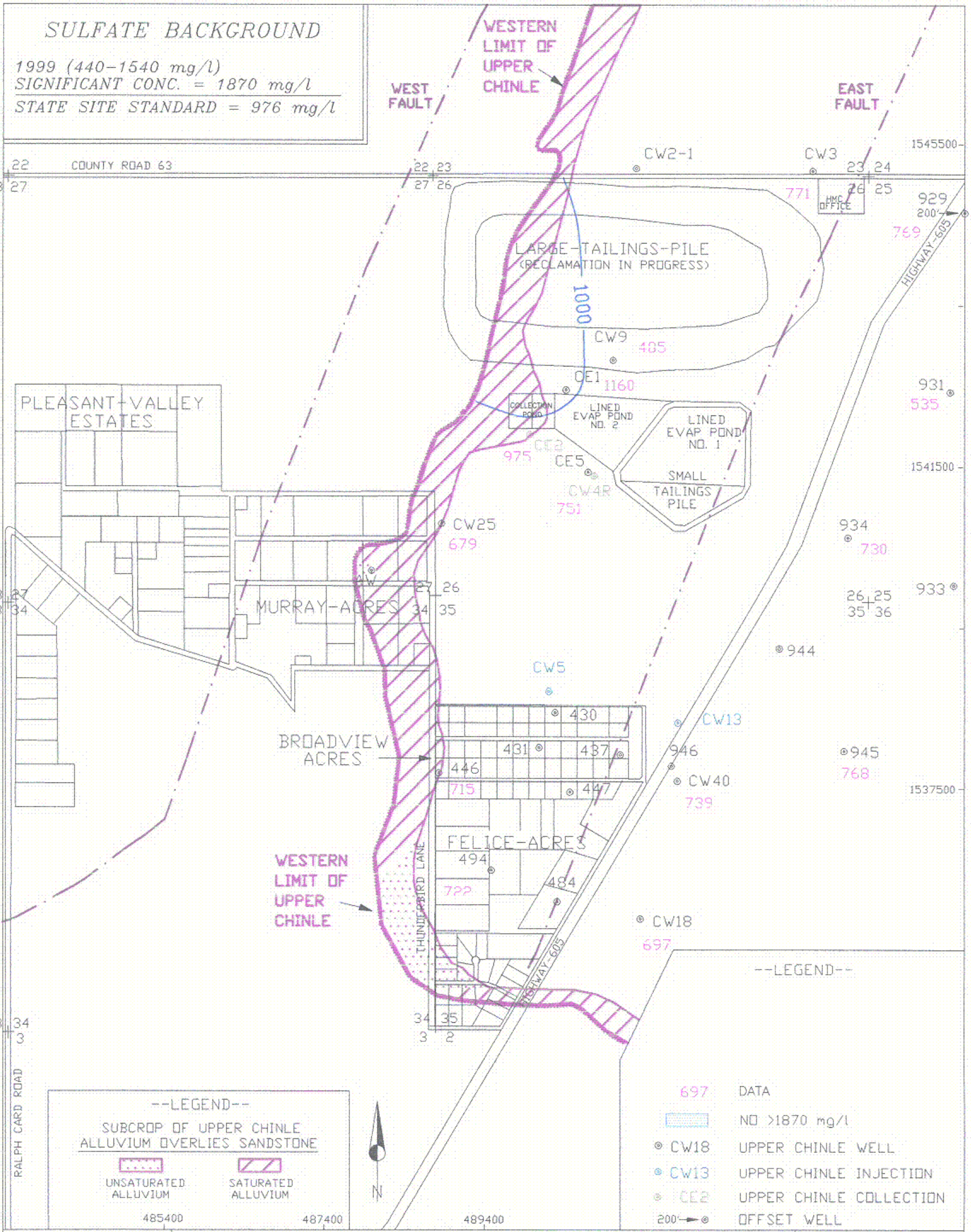
Figure 5.3-17 presents the radium-226 (horizontal) and radium-228 (45° angle) concentrations for the Upper Chinle aquifer. All radium concentrations are very low as in past years and less than the site standard of 5 pCi/l in the Upper Chinle aquifer for 1999. This data shows that radium is not an important parameter relative to the Upper Chinle aquifer and supports the removal of these constituents as an NRC site standard.

5.3.9 VANADIUM - UPPER CHINLE

Vanadium concentrations for 1999 for the Upper Chinle aquifer were measured only in wells CW4R and CW3. All vanadium concentrations for these wells for 1999 in this aquifer are less than the detection level of 0.01 mg/l. Significant concentrations in the Upper Chinle aquifer would not be expected because only one well near the tailings in the alluvial aquifer has consistently shown slightly elevated vanadium concentrations. Vanadium concentrations in the Upper Chinle aquifer have never supported the use of this constituent as a site standard.

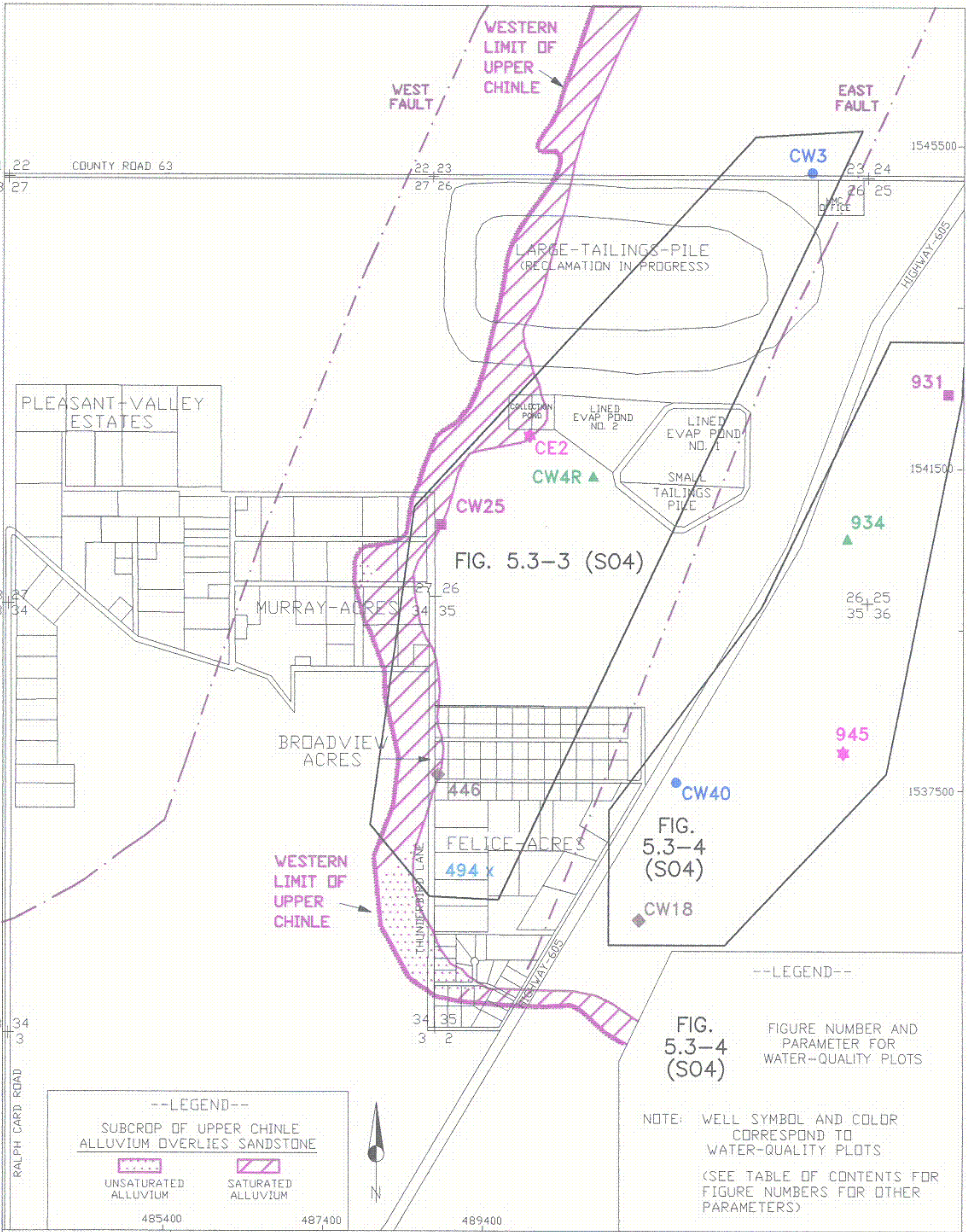
5.3.10 THORIUM-230 - UPPER CHINLE

Thorium-230 concentrations in the Upper Chinle during 1999 were all less than 0.2 pCi/l in the Upper Chinle aquifer. Thorium-230 is not expected to be a significant parameter in the Upper Chinle aquifer because it is not significant in the alluvial aquifer. Thorium-230 concentrations have never been significant in the Upper Chinle aquifer and, therefore, should be dropped from the Upper Chinle monitoring list.



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/01/2000
FIGURE 5.3-1.	SULFATE CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l	9506/UP1600
		page 5.3-7

C 100



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/03/2000

FIGURE 5.3-2. LOCATION OF UPPER CHINLE WELLS WITH WATER-QUALITY PLOTS

9506/UP1600

C 101

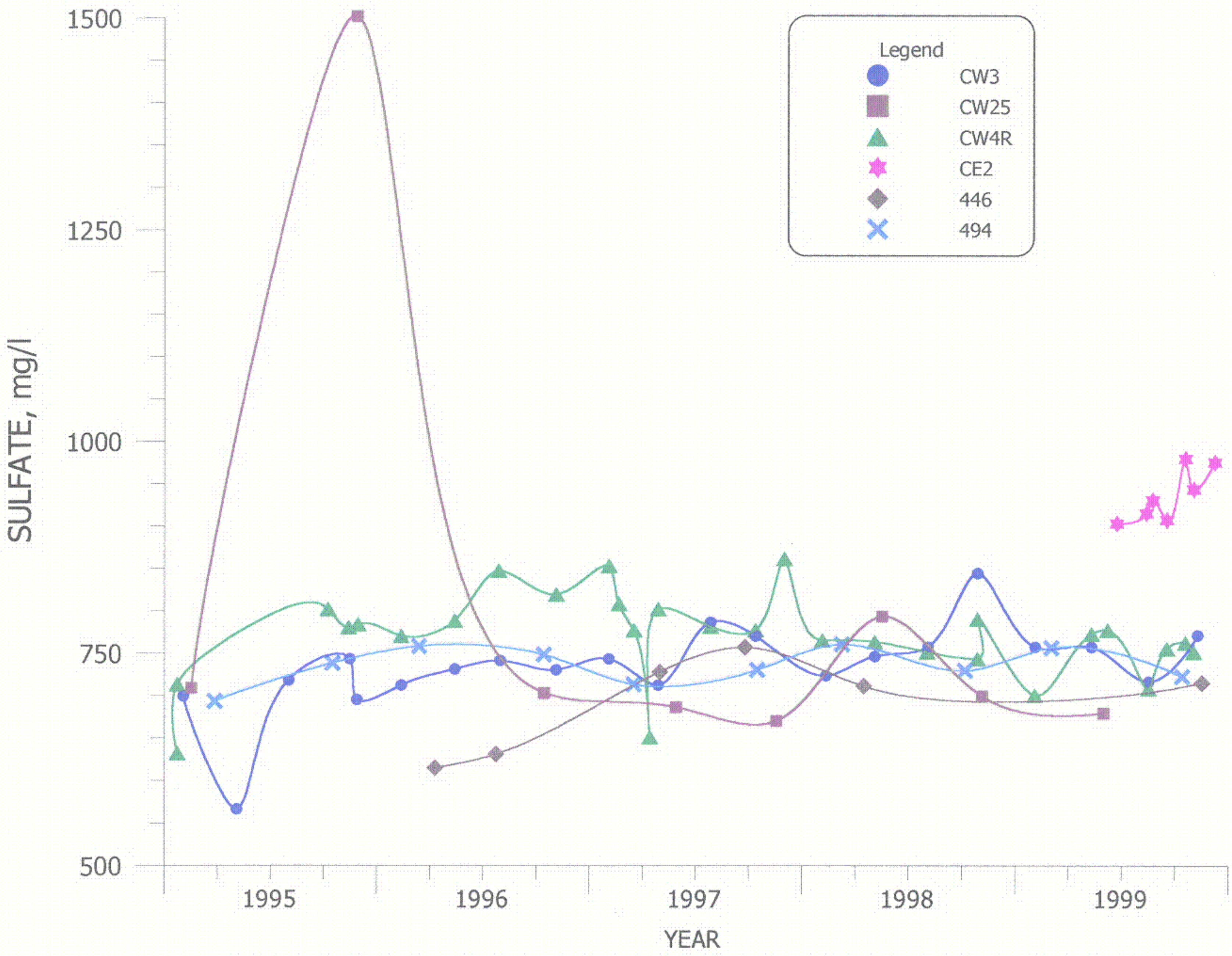


FIGURE 5.3-3. SULFATE CONCENTRATIONS FOR WELLS CW3, CW25, CW4R, CE2, 446 AND 494.

C102

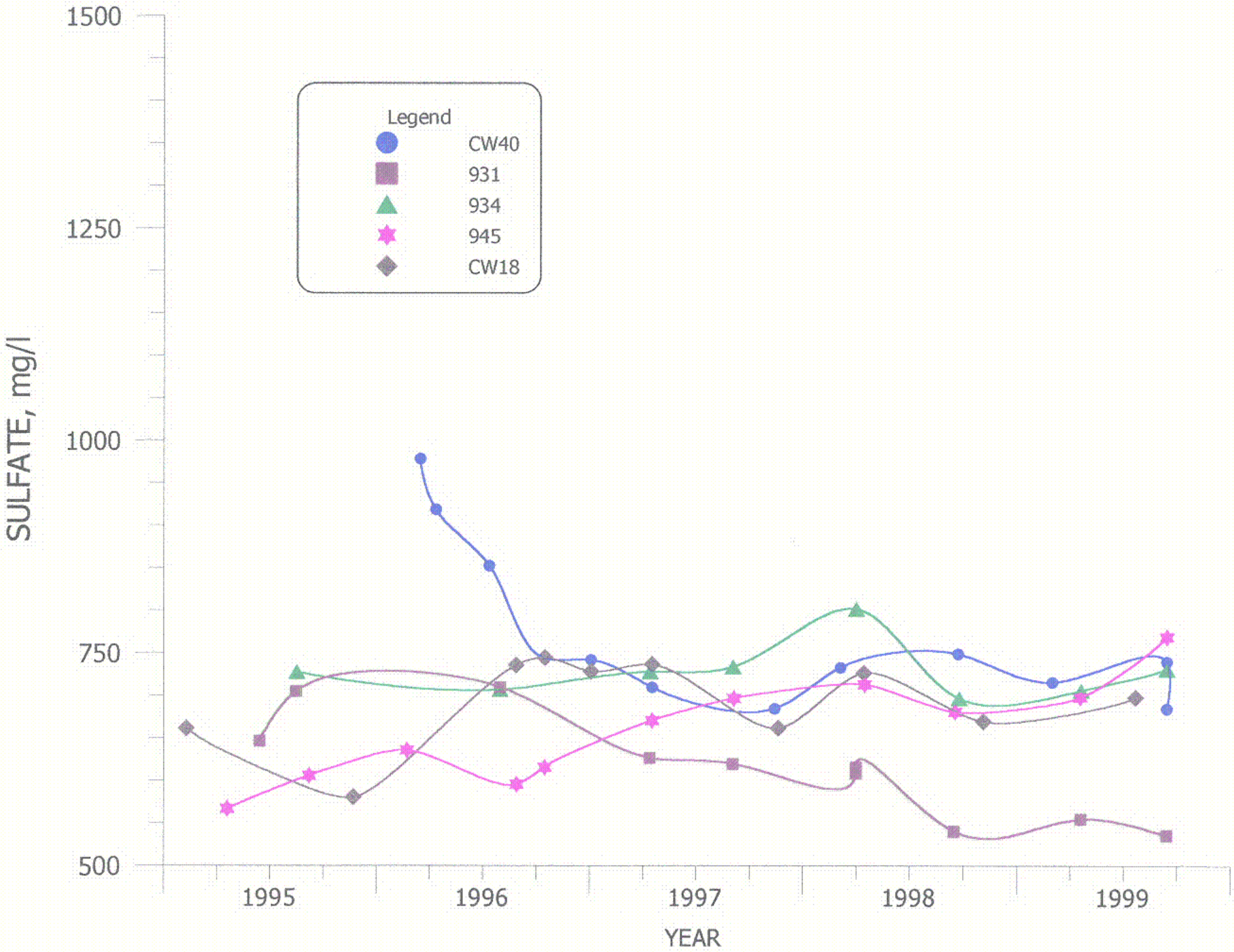
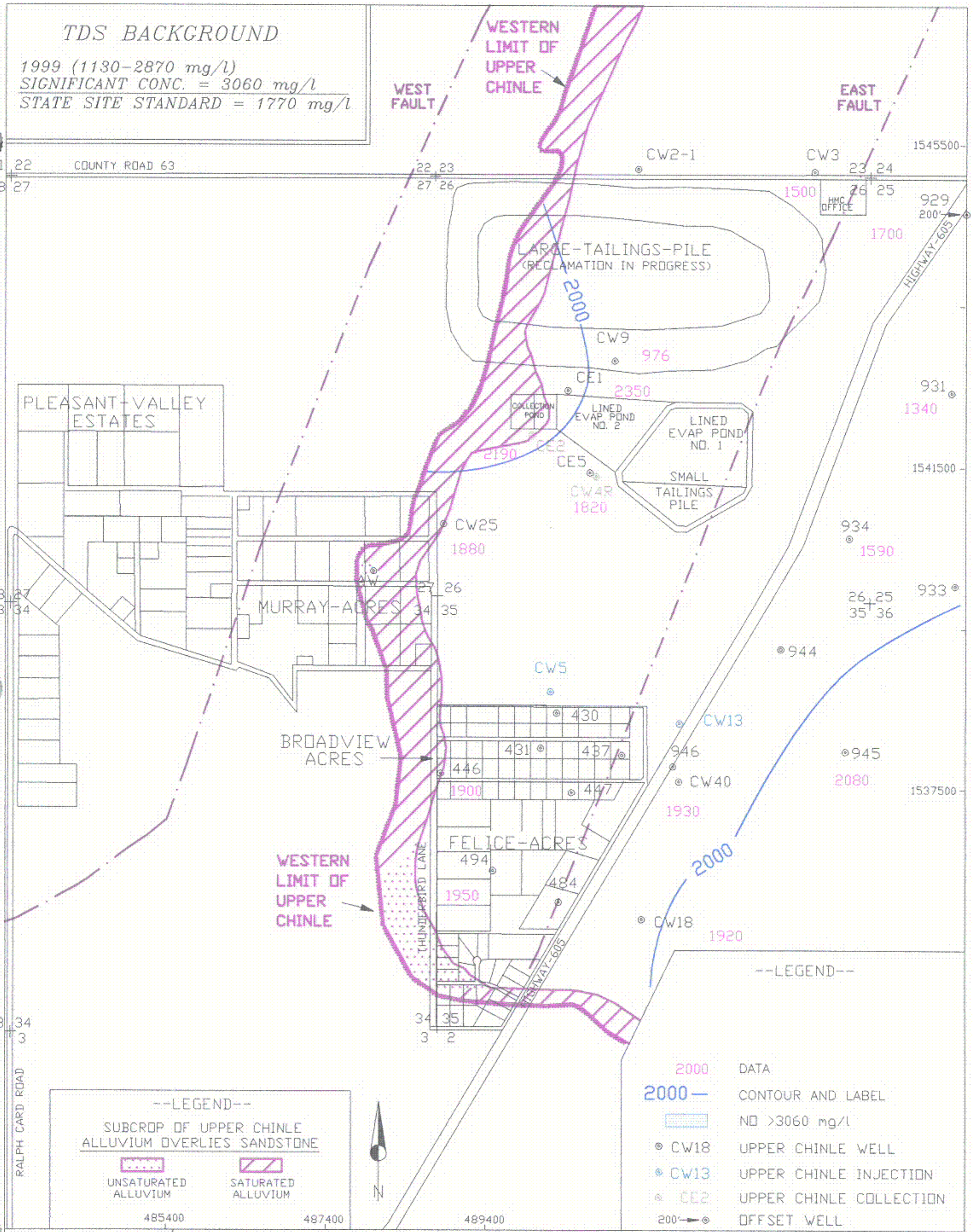


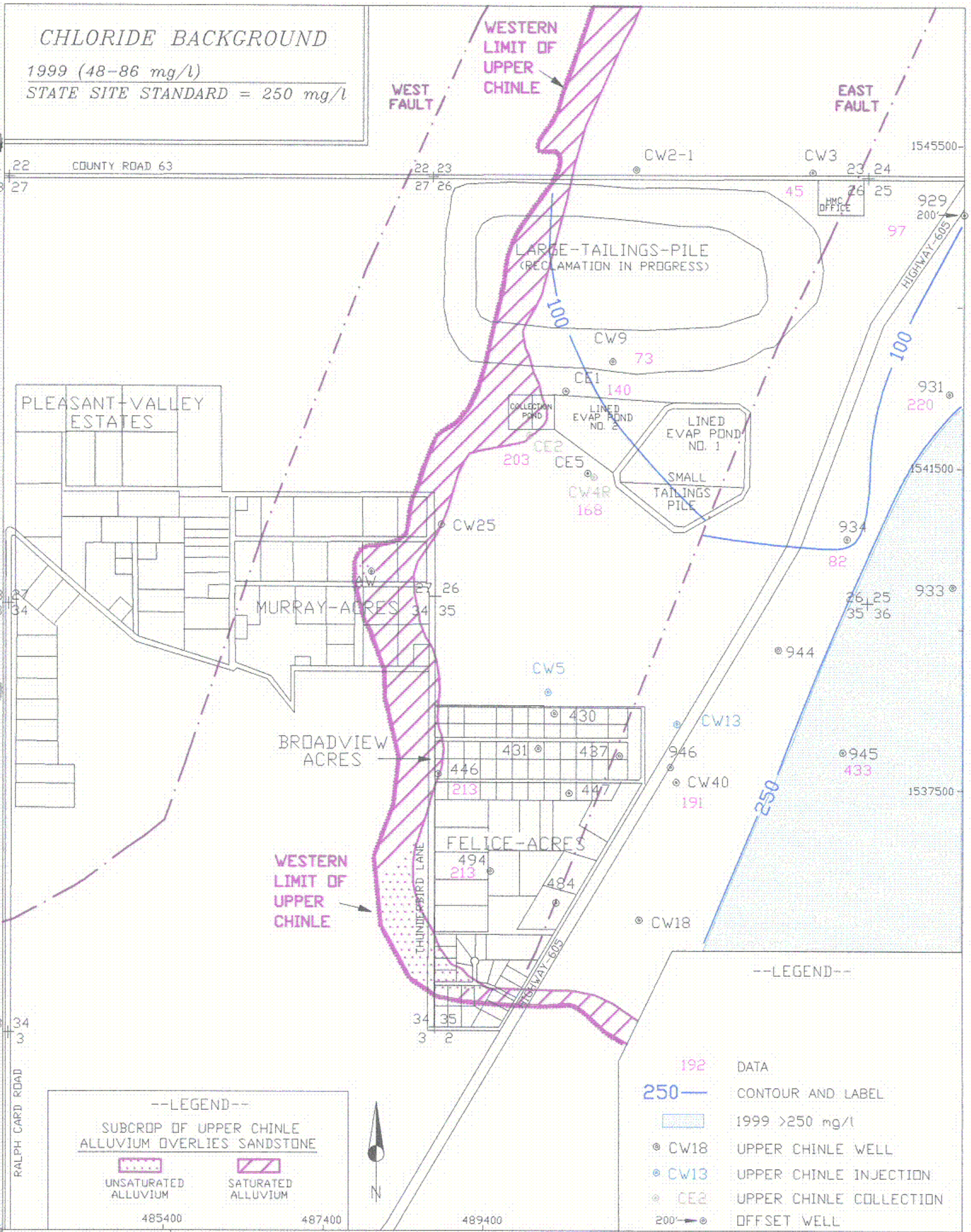
FIGURE 5.3-4. SULFATE CONCENTRATIONS FOR WELLS CW40, 931, 934, 945 AND CW18.

C 103



SCALE: 1" = 1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/01/2000
FIGURE 5.3-5. TDS CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l		9506/UP1600
		page 5.3-11

C 104



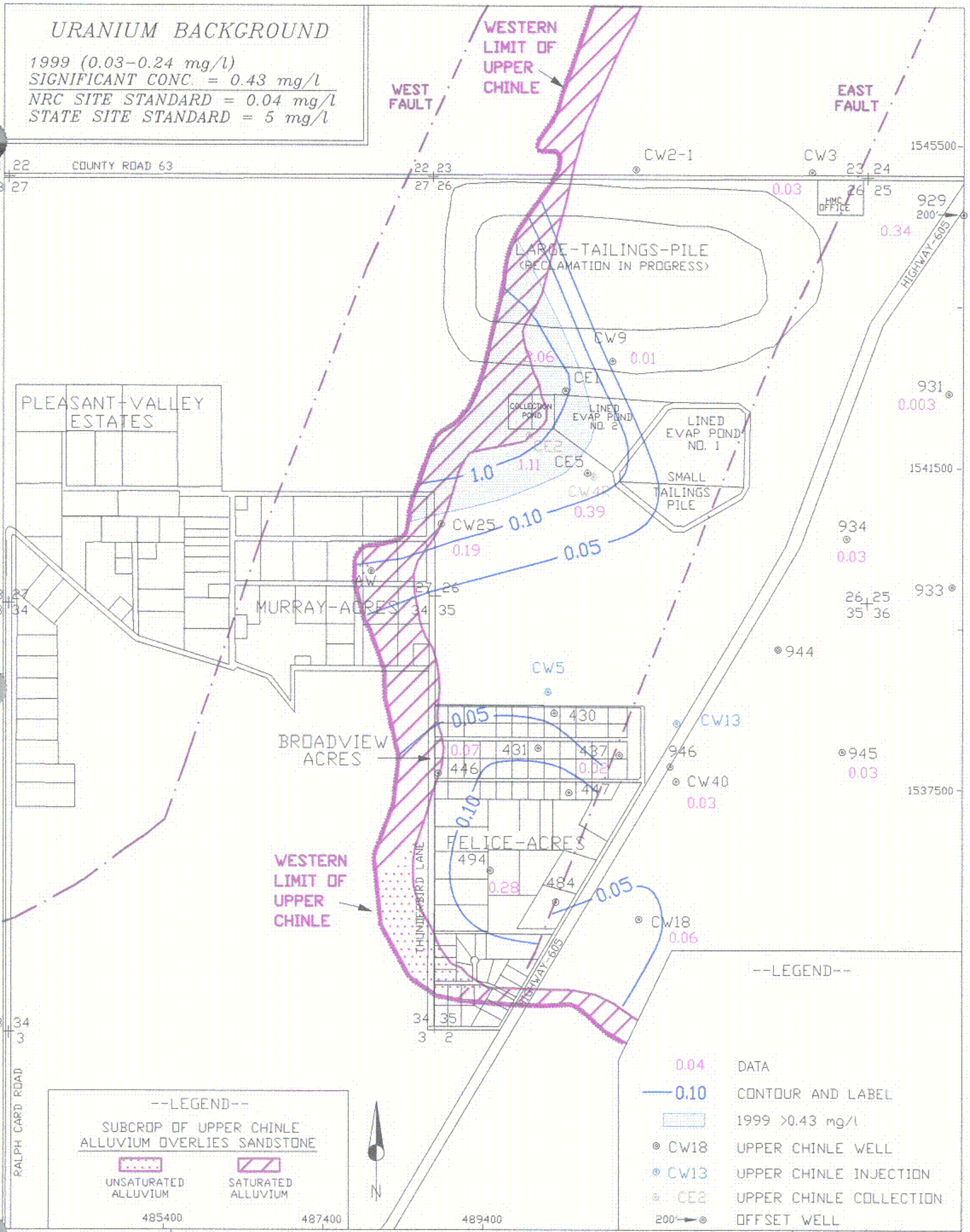
SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES	GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/01/2000

FIGURE 5.3-6. CHLORIDE CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l

9506/UP1600

page 5.3-12

C 105



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/01/2000

FIGURE 5.3-7. URANIUM CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l

9506/UP1600

C106

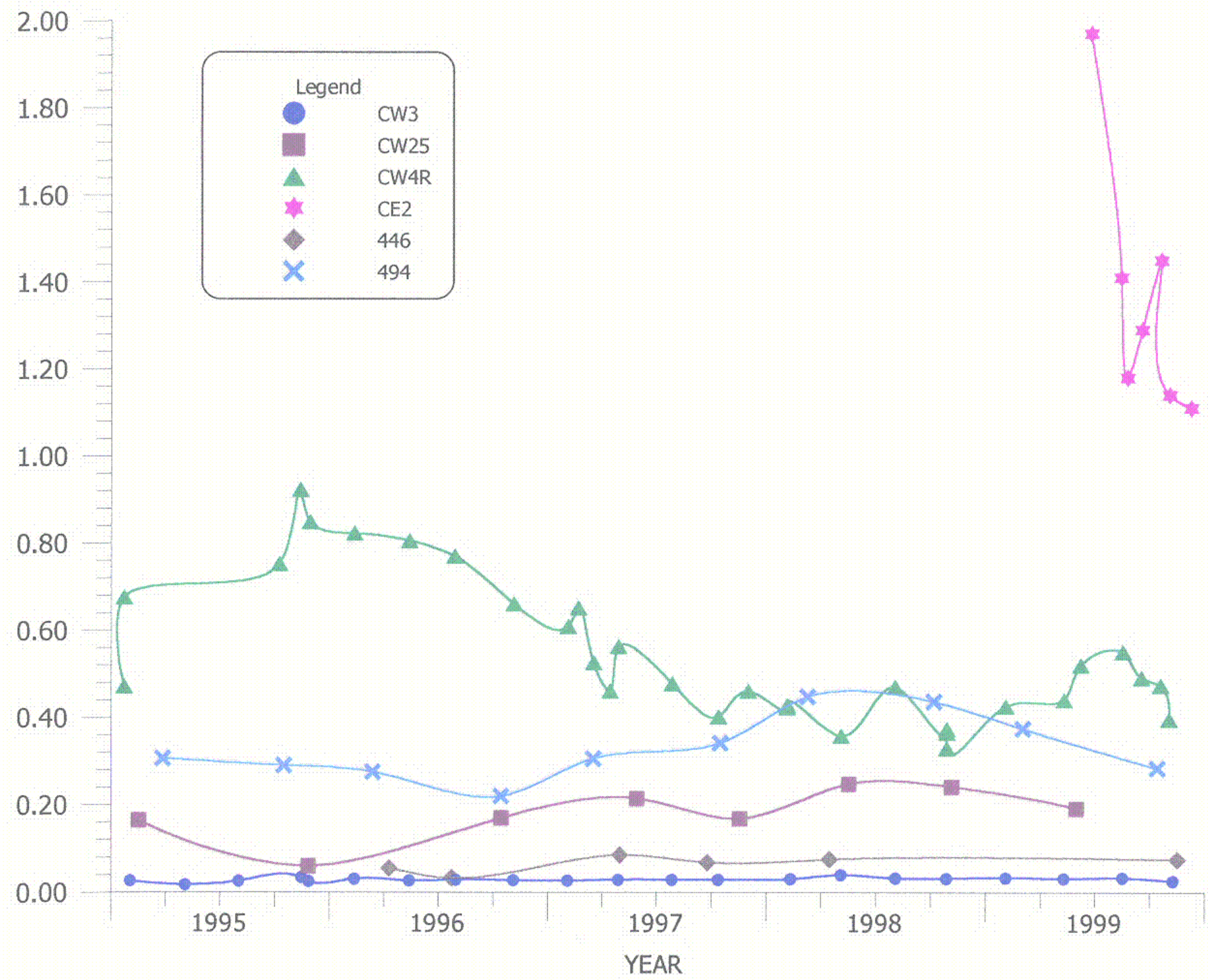


FIGURE 5.3-8. URANIUM CONCENTRATIONS FOR WELLS CW3, CW25, CW4R, CE2, 446 AND 494.

C 107

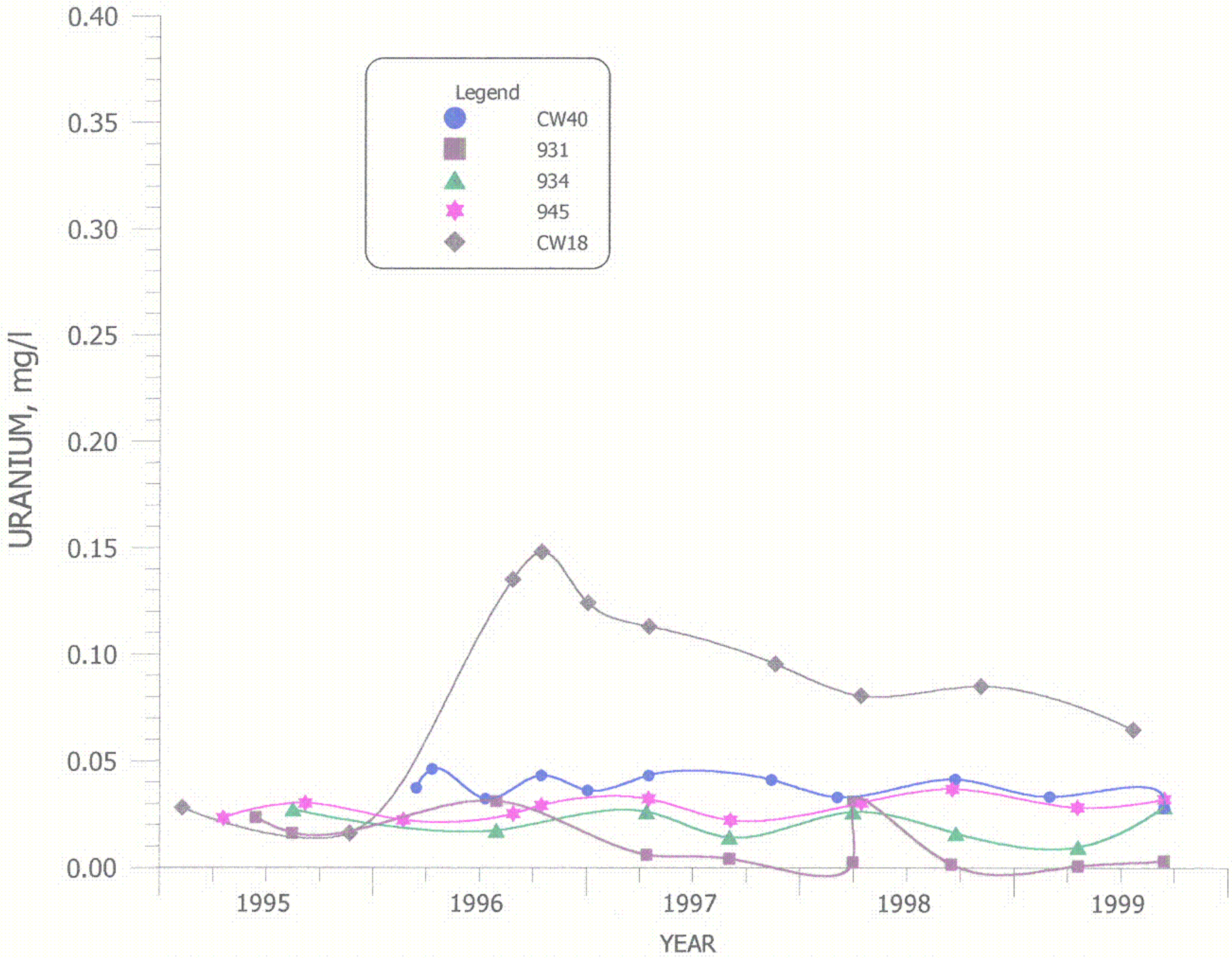
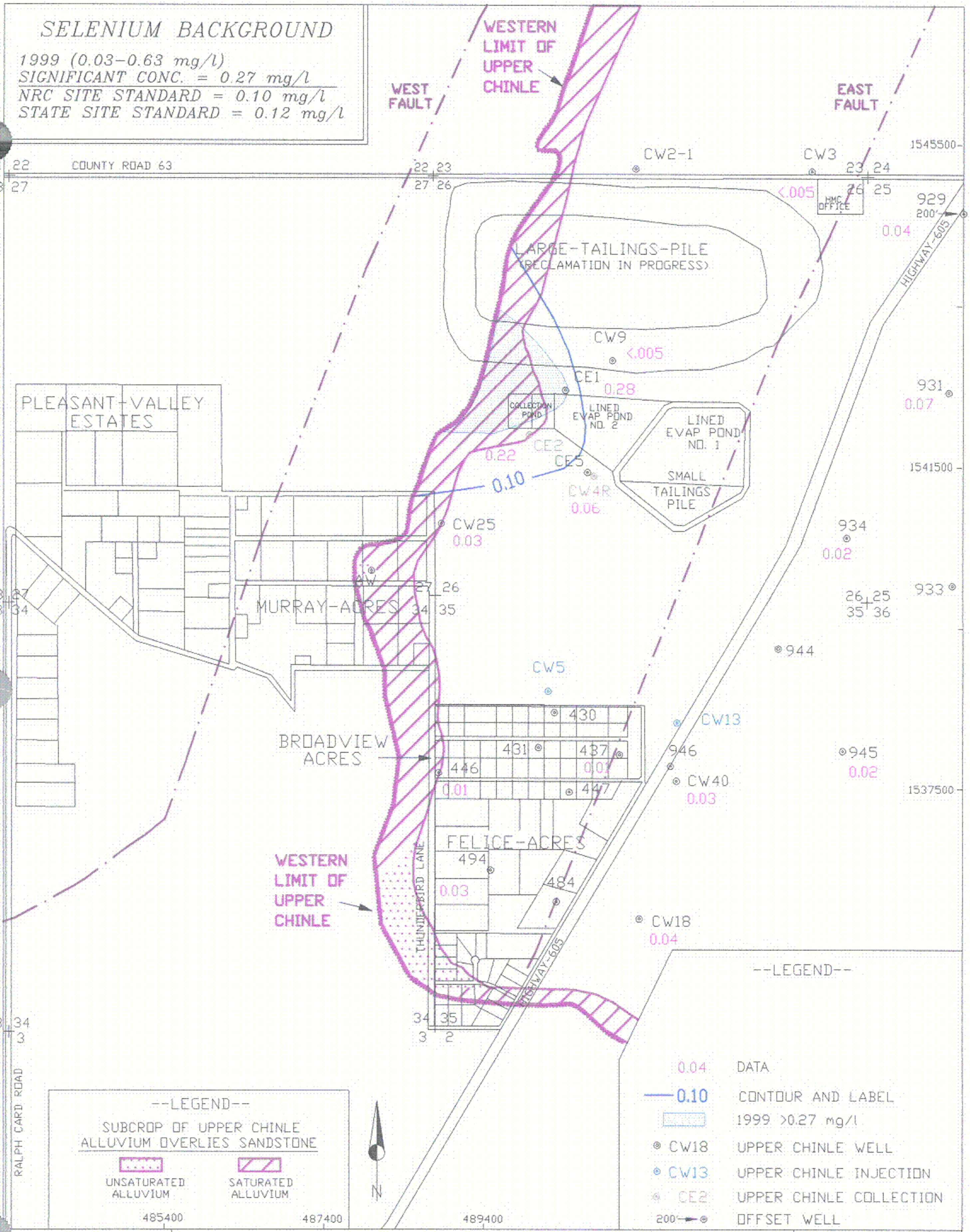


FIGURE 5.3-9. URANIUM CONCENTRATIONS FOR WELLS CW40, 931, 934, 945 AND CW18.

c108



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/01/2000

FIGURE 5.3-10. SELENIUM CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l

9506/UP1600

C109

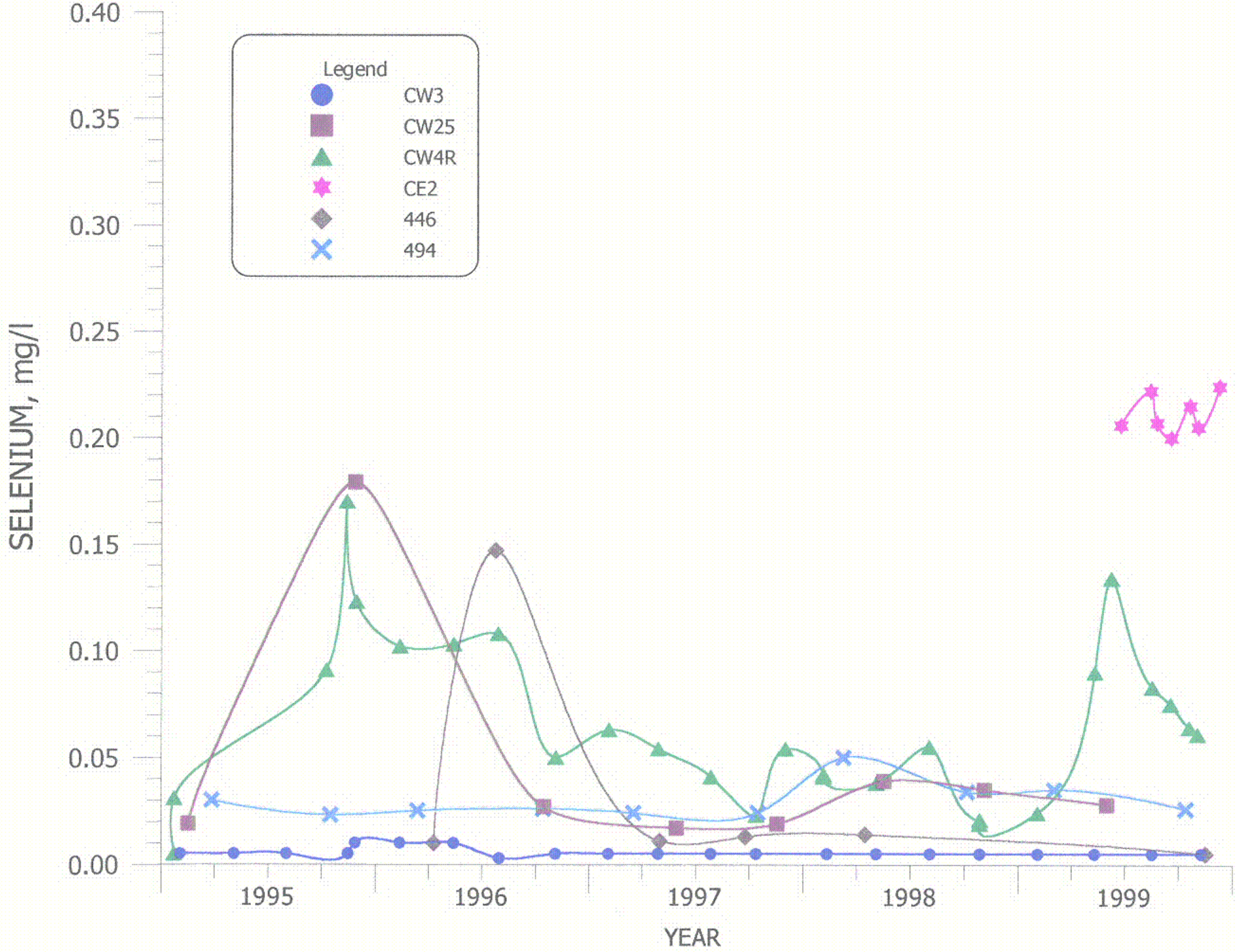


FIGURE 5.3-11. SELENIUM CONCENTRATIONS FOR WELLS CW3, CW25, CW4R, CE2, 446 AND 494.

C 110

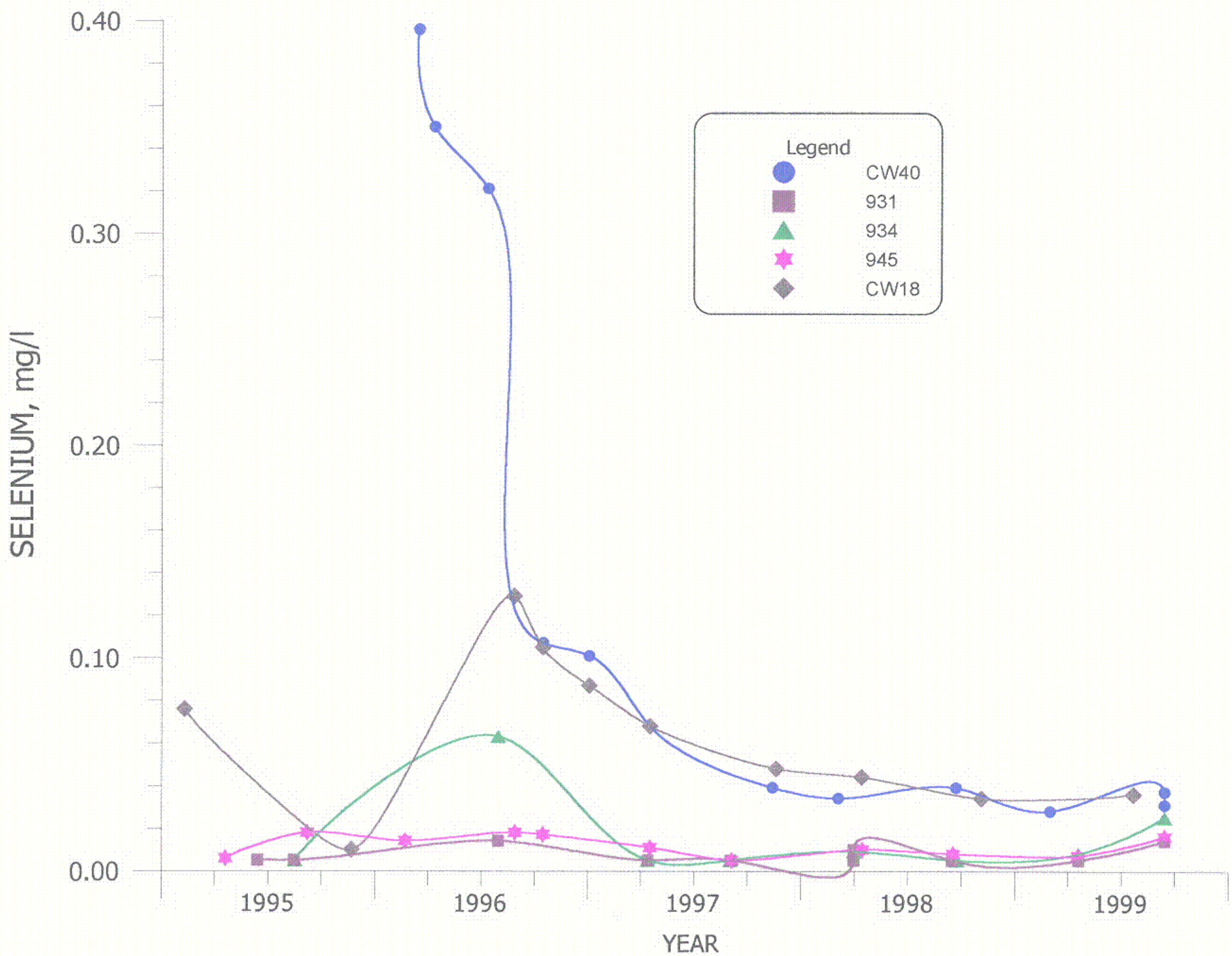
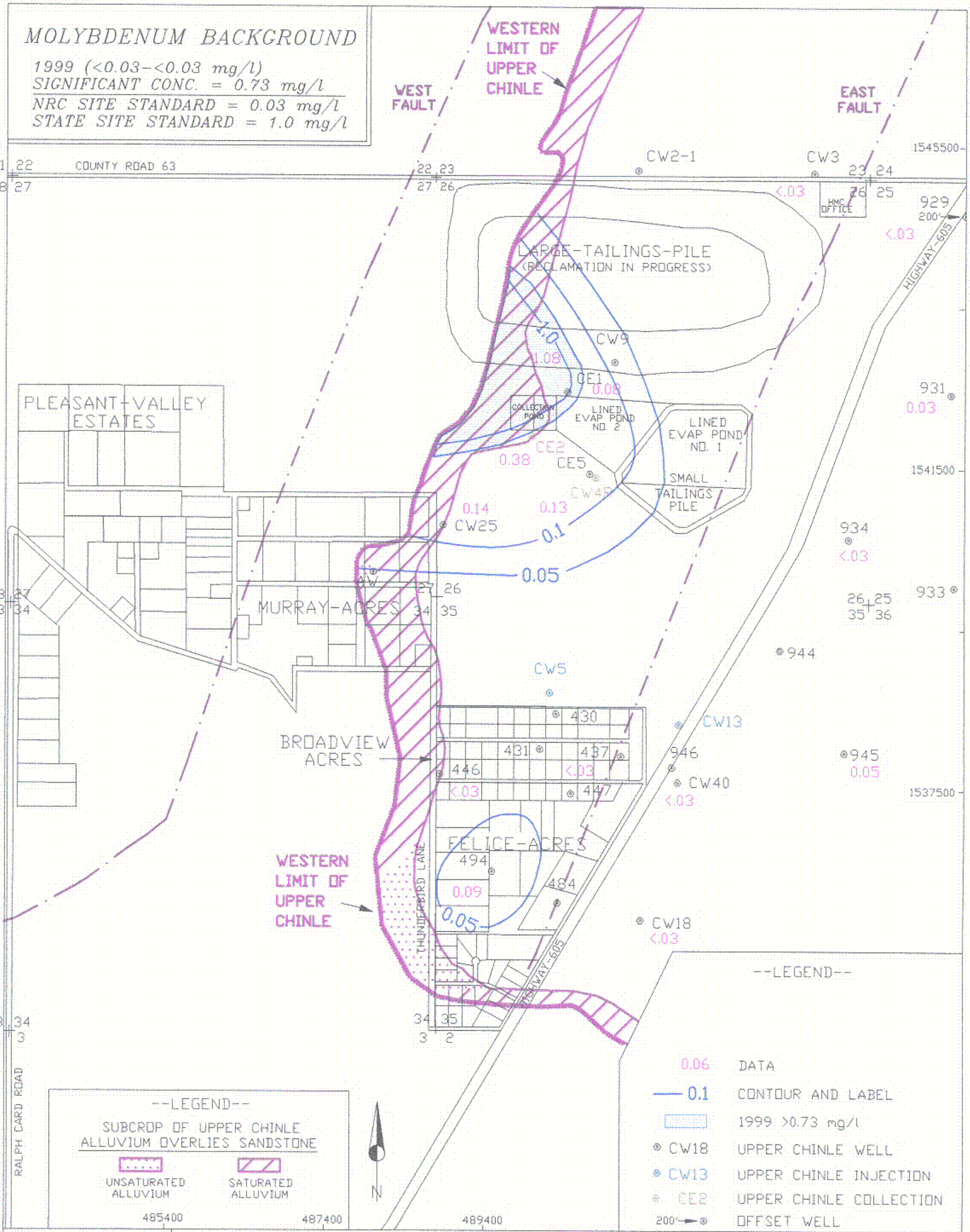


FIGURE 5.3-12. SELENIUM CONCENTRATIONS FOR WELLS CW40, 931, 934, 945 AND CW18.

C111

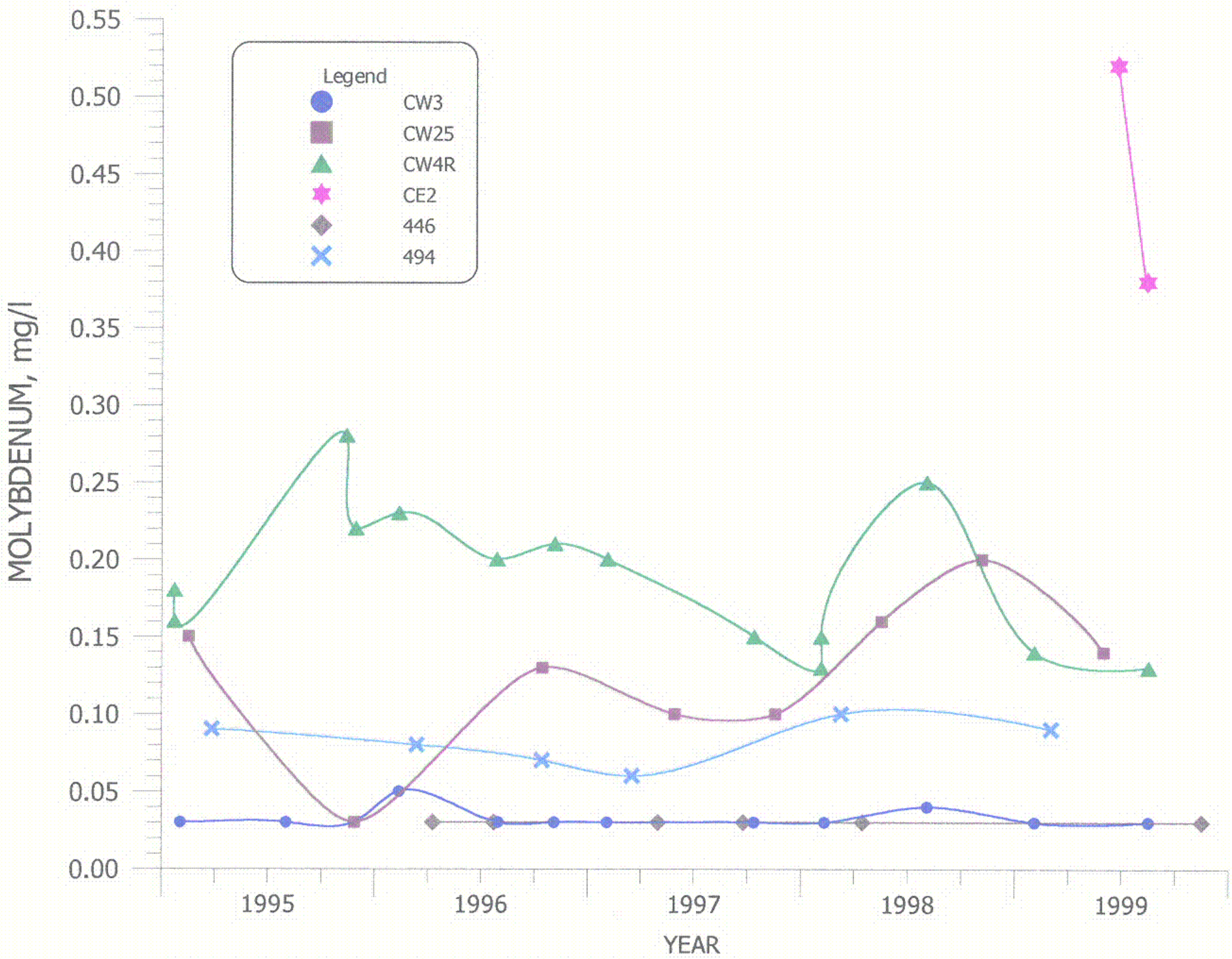


SCALE: 1" = 1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/03/2000

FIGURE 5.3-13. MOLYBDENUM CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l

9506/UP1600

C112



5.3-20

FIGURE 5.3-14. MOLYBDENUM CONCENTRATIONS FOR WELLS CW3, CW25, CW4R, CE2, 446 AND 494.

C113

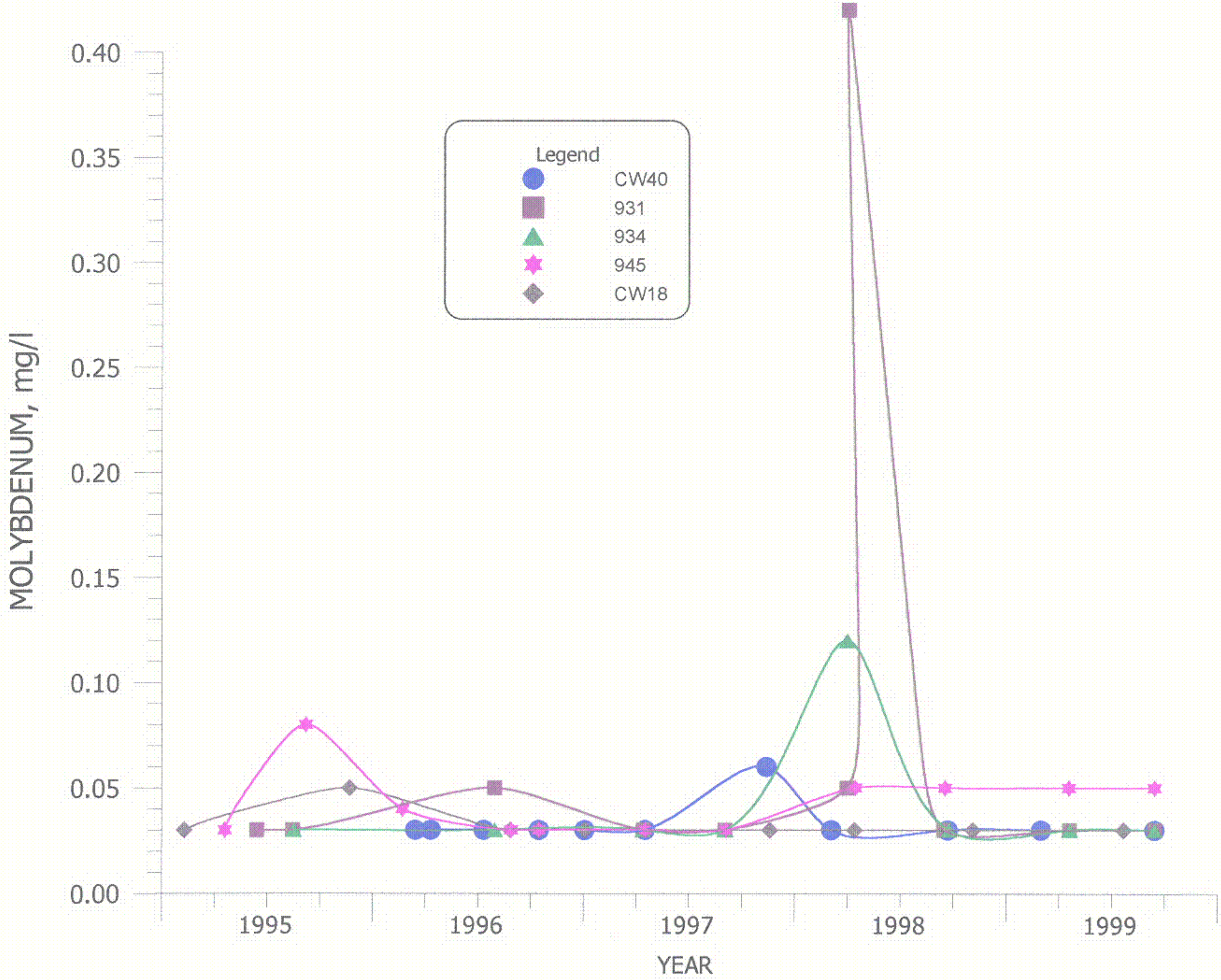
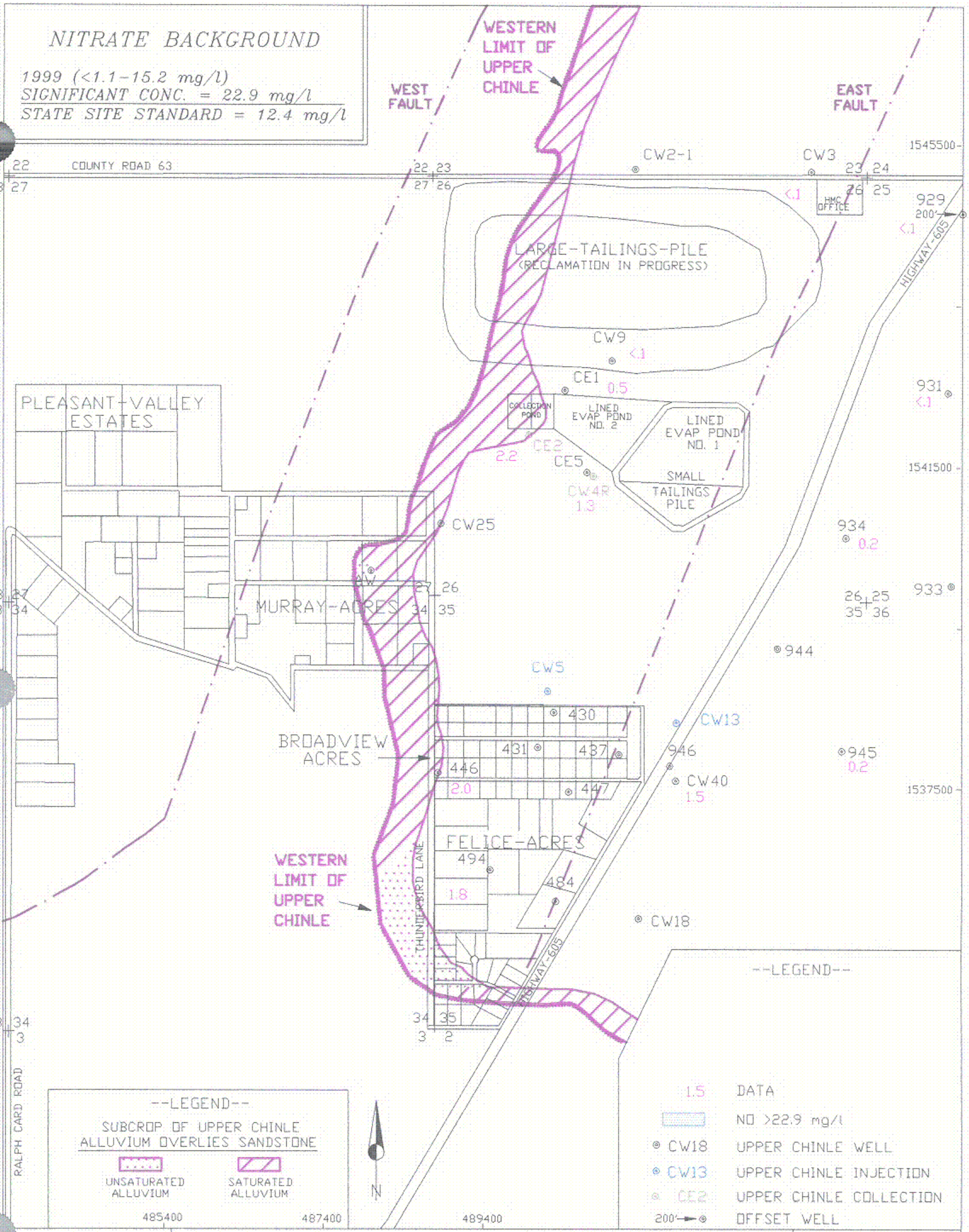


FIGURE 5.3-15. MOLYBDENUM CONCENTRATIONS FOR WELLS CW40, 931, 934, 945 AND CW18.

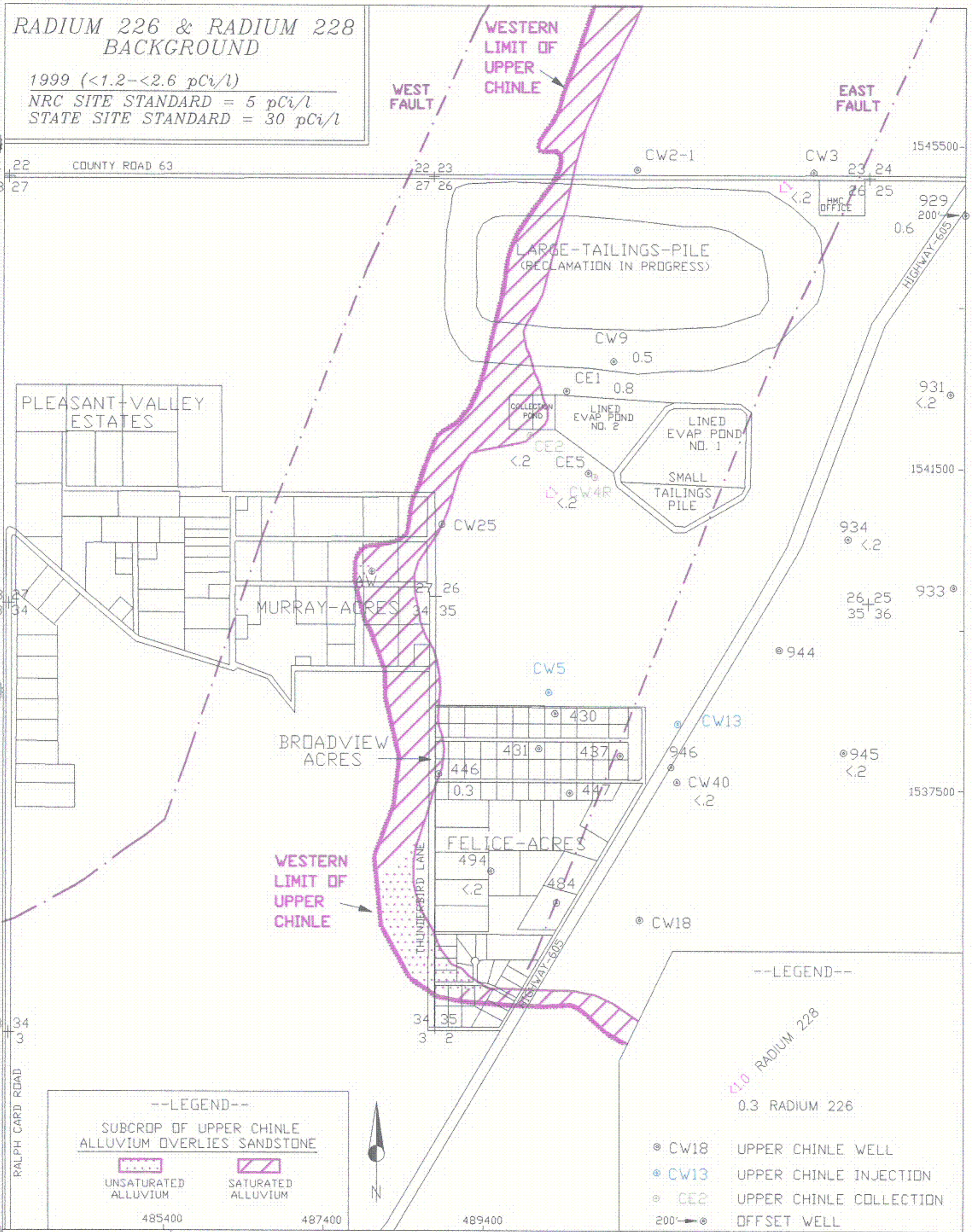
C114



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/01/2000

FIGURE 5.3-16. NITRATE CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, mg/l

9506/UP1600



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/01/2000

FIGURE 5.3-17. RADIUM-226 AND RADIUM-228 CONCENTRATIONS FOR THE UPPER CHINLE AQUIFER, FALL 1999, pCi/l

9506/UP1600

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GROUND-WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

FIGURES (continued)

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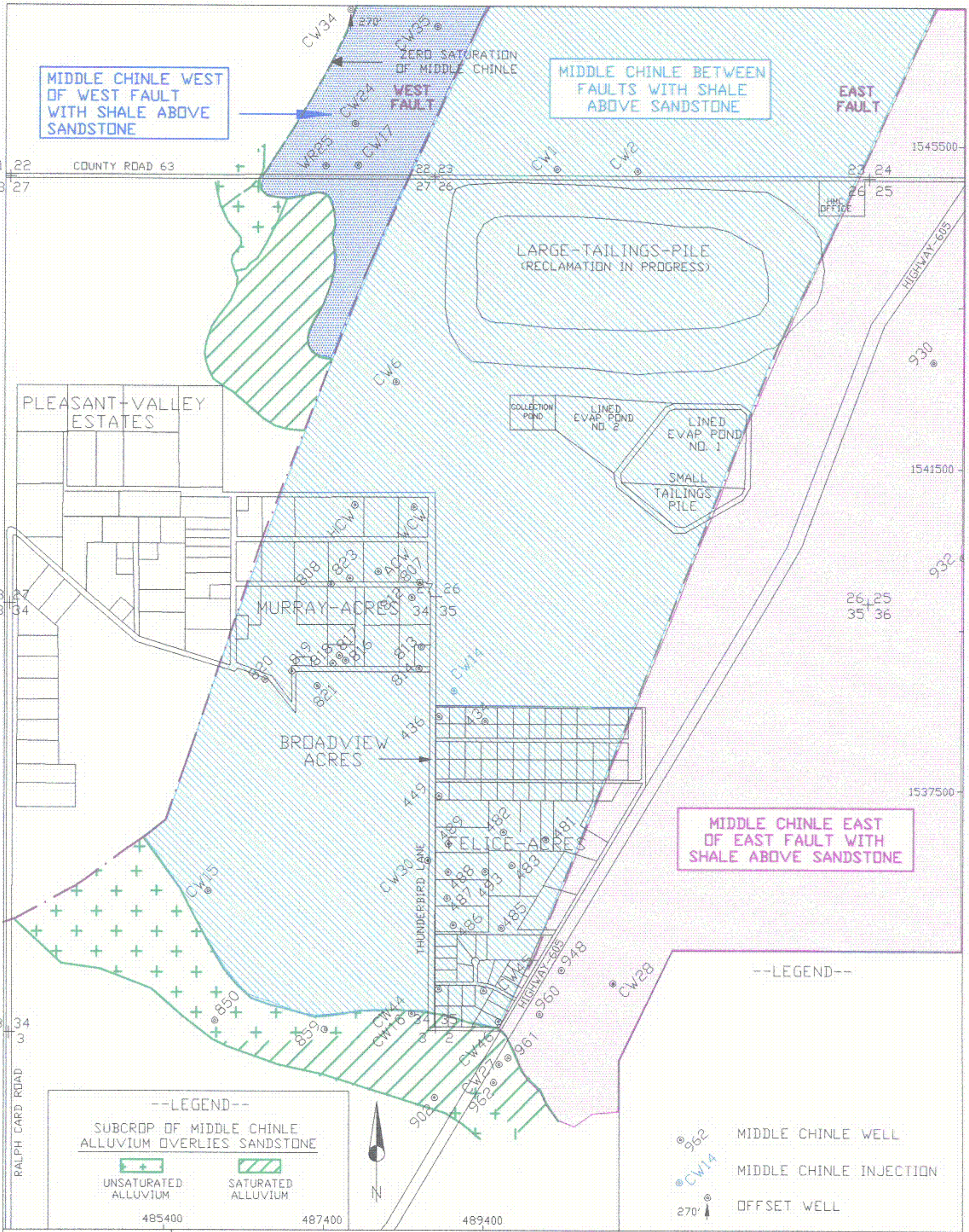
6.0 MIDDLE CHINLE AQUIFER MONITORING

6.1 MIDDLE CHINLE WELL COMPLETION AND LOCATION

Basic well data tables for the Middle Chinle wells are presented in the Upper Chinle Section 5.1. Tables 5.1-1 through 5.1-4 present the Chinle well basic data. Figure 6.1-1 shows the locations of the Middle Chinle wells and areas where the Middle Chinle aquifer exists at the Grants Project. The light blue area is where the Middle Chinle aquifer exists between the West and East Faults and has Chinle shale between the top of the Middle Chinle sandstone and the base of the alluvium. The green areas show where the alluvium overlies the Middle Chinle sandstone and produces direct contact between these two units. The area where the alluvium is saturated over the Middle Chinle sandstone is very important with respect to transfer of water between these two aquifers and is shown with the green cross hatch. The area where the Middle Chinle subcrops against alluvium that is not saturated is shown by the green plus (+) pattern.

The Middle Chinle aquifer also exists east of the East Fault in the red pattern area with a subcrop zone on the south side of this area. A limited area (dark blue) of Middle Chinle aquifer exists west of the West Fault. All three of these areas in the Middle Chinle aquifers act as separate ground-water systems with the exception of some contact between the two areas where the East Fault ceases to the south.



SCALE: 1" =1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 02/03/2000

FIGURE 6.1-1 LIMITS OF MIDDLE CHINLE AQUIFER AND WELL LOCATIONS

9506/MID1600

C117

6.2 MIDDLE CHINLE WATER LEVELS

Water levels in Homestake's Upper, Middle and Lower Chinle wells are presented in Appendix A. Fall of 1999 water-level elevations for the Middle Chinle aquifer are presented on Figure 6.2-1. The gradient in the Middle Chinle aquifer is steeper in its subcrop area in the southern portion of Felice Acres near wells CW44, CW45 and CW46. This increase in gradient is due to an influx of water in the area to the Middle Chinle aquifer from the alluvial aquifer. The green arrows show the direction of ground-water flow in the Middle Chinle aquifer. Flow on the east side of the East Fault is mainly to the north near the East Fault, but due to a decrease in the transmissivity in the aquifer to the east, flow moves easterly away from the East Fault.

Ground-water flow west of the West Fault is to the southwest, discharging into the alluvial aquifer. This prevents the alluvial aquifer from affecting the water quality of the Middle Chinle aquifer on the west side of the West Fault. This Middle Chinle water flows from upgradient of the site into the area west of the large tailings. The remainder of the Middle Chinle aquifer is recharged by the alluvial aquifer south of Felice Acres.

A mound of water around well CW14 has been created by the injection of fresh water into this well. This causes the ground-water flow to be to the north and south of well CW14. Flow between the two faults in the Middle Chinle aquifer, north of CW14, continues downgradient of the tailings area. The head in the Middle Chinle aquifer on each side of the two faults is significantly different than the head between the two faults, which shows that the ground water is not readily connected on each side of these faults.

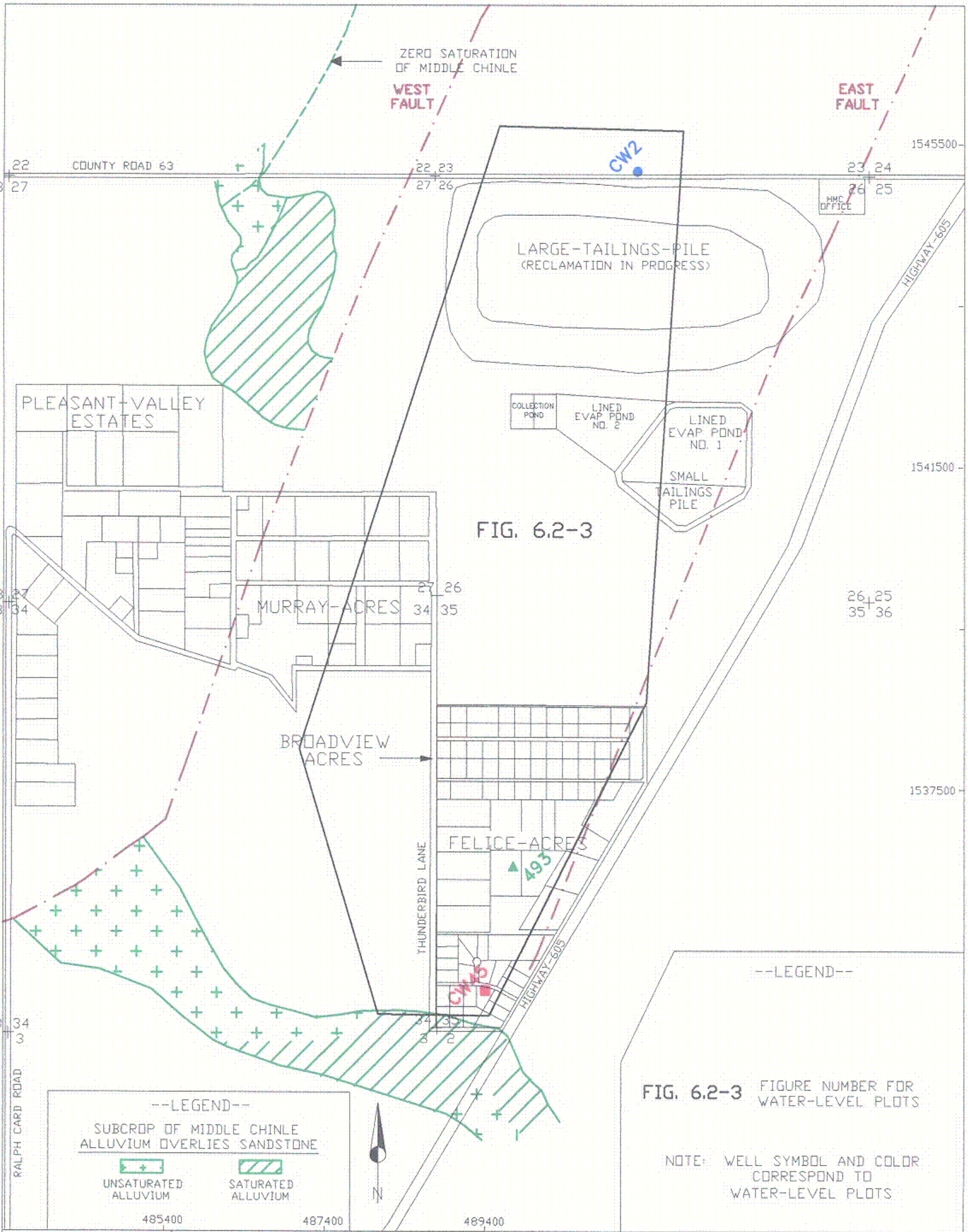
Figure 6.2-2 shows the location of the Middle Chinle wells that are used to present the water-level changes with time. This figure is color and symbol coded with the water-level elevation time plot. Figure 6.2-3 presents the water-level elevation changes versus time in Middle Chinle wells CW2, CW45 and 493. Water levels are higher in Middle Chinle well CW45 than to the north in wells 493 and CW2.

SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/13/2000

FIGURE 6.2-1. WATER-LEVEL ELEVATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, FT-MSL

9506/MID1600

C118



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/13/2000
	FIGURE 6.2-2. LOCATION OF MIDDLE CHINLE WELLS WITH WATER-LEVEL PLOTS	9506/MID1600
		page 6.2-3

C119

FIGURE 6.2-3. WATER-LEVEL ELEVATION FOR WELLS CW2, CW45 AND 493.

C 120

6.3 MIDDLE CHINLE WATER QUALITY

The water-quality data for the Middle Chinle aquifer is presented along with all of the other Chinle aquifer wells in Tables B.5-1 and B.5-2 of Appendix B. The Chinle aquifer water-quality results for subdivision wells are also presented in these tables. The basic well data for the Middle Chinle aquifer wells is presented in Tables 5.1-1 through 5.1-4 in the Upper Chinle aquifer monitoring section.

The area of water-quality concern in the Middle Chinle aquifer exists in the western portion of Broadview Acres and Felice Acres. All sulfate concentrations are within the range of background concentrations. Uranium concentrations are above background only in western Felice Acres. Selenium concentrations also exceed the background values in western Felice and Broadview Acres. No significant molybdenum concentrations exist in the Middle Chinle aquifer.

6.3.1 SULFATE - MIDDLE CHINLE

Figure 6.3-1 presents the sulfate concentrations for the Middle Chinle aquifer for the Fall of 1999. This figure shows that the Middle Chinle sulfate concentrations range from 458 mg/l to a high of 1880 mg/l at well CW17. Sulfate background and site standard concentrations are given in a box in the upper left corner of Figure 6.3-1. All sulfate concentrations in the Middle Chinle aquifer are within the background range with the exception of the level in well CW17, which was essentially at the significant concentration. Sulfate concentrations in well CW17, which is located west of the West Fault, are natural. The sulfates are naturally occurring because the ground-water flow in the Middle Chinle aquifer west of the West Fault is from the north to the southwest. All sulfate concentrations in the Middle Chinle wells are, essentially, within the natural background range and, therefore, do not indicate any need for restoration based on this parameter.

Figure 6.3-2 shows the locations of the Middle Chinle wells with time concentration plots for the 1999 report. The sulfate figure number is shown in the group area to define the figure number for each group of wells. Only one group of wells for the

Middle Chinle aquifer is presented. The colors and symbols on Figure 6.3-2 are the same as those used in the concentration time plots.

Figure 6.3-3 presents the sulfate concentrations for Middle Chinle wells CW2, WCW, CW44 and 493. The sulfate concentration in Middle Chinle well CW2 was variable in 1999, but varied over its historical range. Concentrations in all of these Chinle wells have been fairly similar for the last two years.

6.3.2 TOTAL DISSOLVED SOLIDS - MIDDLE CHINLE

Total dissolved solids (TDS) and sulfate are used to define changes in major constituents at this site. Figure 6.3-4 presents the TDS concentrations for the Middle Chinle aquifer for the Fall of 1999 and shows that one value exceeds 2000 mg/l near the alluvial subcrop area on the southwest side of Felice Acres.

Background data for 1999 varied from 1130 to 2870 mg/l for TDS. All of the TDS values within the Middle Chinle aquifer are within the background range except the high TDS value reported for well CW35 west of the West Fault. Middle Chinle concentrations west of the West Fault are natural due to the flow direction in this area. This TDS is thought to be a lab error because it does not fit the field conductivity or previous values. The TDS in well CW17 of 1600 mg/l is also thought to be a lab error because the sulfate is greater than the TDS. Additional monitoring is needed prior to giving either of these two values any significance. No restoration of TDS is needed in the Middle Chinle aquifer.

6.3.3 CHLORIDE - MIDDLE CHINLE

Figure 6.3-5 presents chloride concentrations for the Middle Chinle aquifer for the Fall of 1999. This figure shows that chloride concentrations are relatively low in all of the Middle Chinle wells. Previous measurements have shown that chloride concentrations east of the East Fault do exceed the secondary drinking water standard of 250 mg/l. A pattern is shown where chloride concentrations in the Middle Chinle aquifer are likely to naturally exceed 250 mg/l east of the East Fault. These concentrations are natural due to the slow movement of ground water in this less transmissive portion of the Middle Chinle aquifer.

6.3.4 URANIUM - MIDDLE CHINLE

Uranium concentration is an important parameter in the Middle Chinle aquifer due to elevated concentrations that exist in the southern and western portions of Felice Acres from recharge to the Middle Chinle aquifer in this area. The saturated alluvial aquifer in this area flows across a subcrop of the Middle Chinle aquifer just south of Felice Acres and alluvial ground water has entered the Middle Chinle aquifer in this area. Figure 6.3-6 presents the uranium concentrations for the Fall of 1999 for the Middle Chinle aquifer. An area of concentrations of greater than 0.43 mg/l exists in the western portion of Felice Acres. Uranium concentrations in the Middle Chinle aquifer, west of the West Fault, naturally exceed 0.1 mg/l. Flow in the Middle Chinle aquifer west of the West Fault moves from the CW35 area to the subcrop area to the south. All other areas of the Middle Chinle aquifer contain small levels of uranium.

Figure 6.3-7 presents the uranium concentration plots versus time for Middle Chinle wells CW2, WCW, CW44 and 493 (see Figure 6.3-2 for well locations). Uranium concentrations in this plot for 1999 have been less than 0.1 mg/l, except for those from well CW44. This plot shows that Middle Chinle well CW44 contains significant amounts of uranium, which should gradually decline over the next several years. Additional monitoring of well CW44 with time will define this decline.

6.3.5 SELENIUM - MIDDLE CHINLE

Western Felice and southwestern Broadview Acres Middle Chinle aquifer wells contained water with selenium concentrations exceeding 0.27 mg/l in 1999 (see Figure 6.3-8). The blue pattern is used to delineate the areas where selenium concentrations are greater than 0.27 mg/l. The selenium concentration of 0.27 mg/l is the significant concentration for this site. These concentrations are a result of recharge to the Middle Chinle aquifer from the alluvium in the subcrop area just south of Felice Acres. Flow in the Middle Chinle aquifer is toward the north causing concentrations from the subcrop area to move to the north. The highest selenium concentration was observed in well CW27 at 0.44 mg/l, which is located in the subcrop area. Background selenium concentrations for the Fall of 1999 vary from 0.03 to 0.63 mg/l (see note in upper left side of Figure 6.3-8). All of the Middle Chinle aquifer concentrations are within this range.

Selenium concentrations of roughly 0.1 mg/l exist west of the West Fault. These concentrations have to be natural levels in the Middle Chinle aquifer because the flow is from the north in this area. The selenium concentration from well CW35 is ten times the typical value and should not be given any significance until it is confirmed. All other concentrations in the Middle Chinle aquifer beyond these two areas are low values.

Selenium concentrations for Middle Chinle wells CW2, WCW, CW44 and 493 are presented in Figure 6.3-9 for variations with time. This plot shows that the selenium concentrations have varied significantly in well 493 but have generally increased over the last several years. A decrease in the selenium concentrations in well 493 is expected in the next few years. The fresh-water injection into Middle Chinle well CW14 and use of Middle Chinle well CW44 for irrigation should cause this decrease. Selenium concentrations in wells CW2 and WCW, further to the north, have both stayed low over the last several years. The connection between the alluvial aquifer and the Middle Chinle aquifer south of Felice Acres is the cause for the rise in concentrations in well 493.

6.3.6 MOLYBDENUM - MIDDLE CHINLE

The molybdenum concentrations in the Middle Chinle aquifer during the Fall of 1999 are presented in Figure 6.3-10. None of the molybdenum concentrations for the Fall of 1999 exceed the detection limit.

Figure 6.3-11 presents the molybdenum concentrations for Middle Chinle wells CW2, WCW, CW44 and 493. This plot shows that the concentration in each of these wells has been low for the last few years and each of these values were low during 1999 (see figure 6.3-2 for location of these wells).

6.3.7 NITRATE - MIDDLE CHINLE

Nitrate concentrations in the Middle Chinle aquifer during 1999 are presented on Figure 6.3-12. The 1999 range in background concentrations is presented in the upper left corner of this figure (1.1 – 15.2 mg/l). Nitrate concentrations in the Middle Chinle aquifer were all less than the State site standard of 12.4 mg/l.

6.3.8 RADIUM-226 AND RADIUM-228 - MIDDLE CHINLE

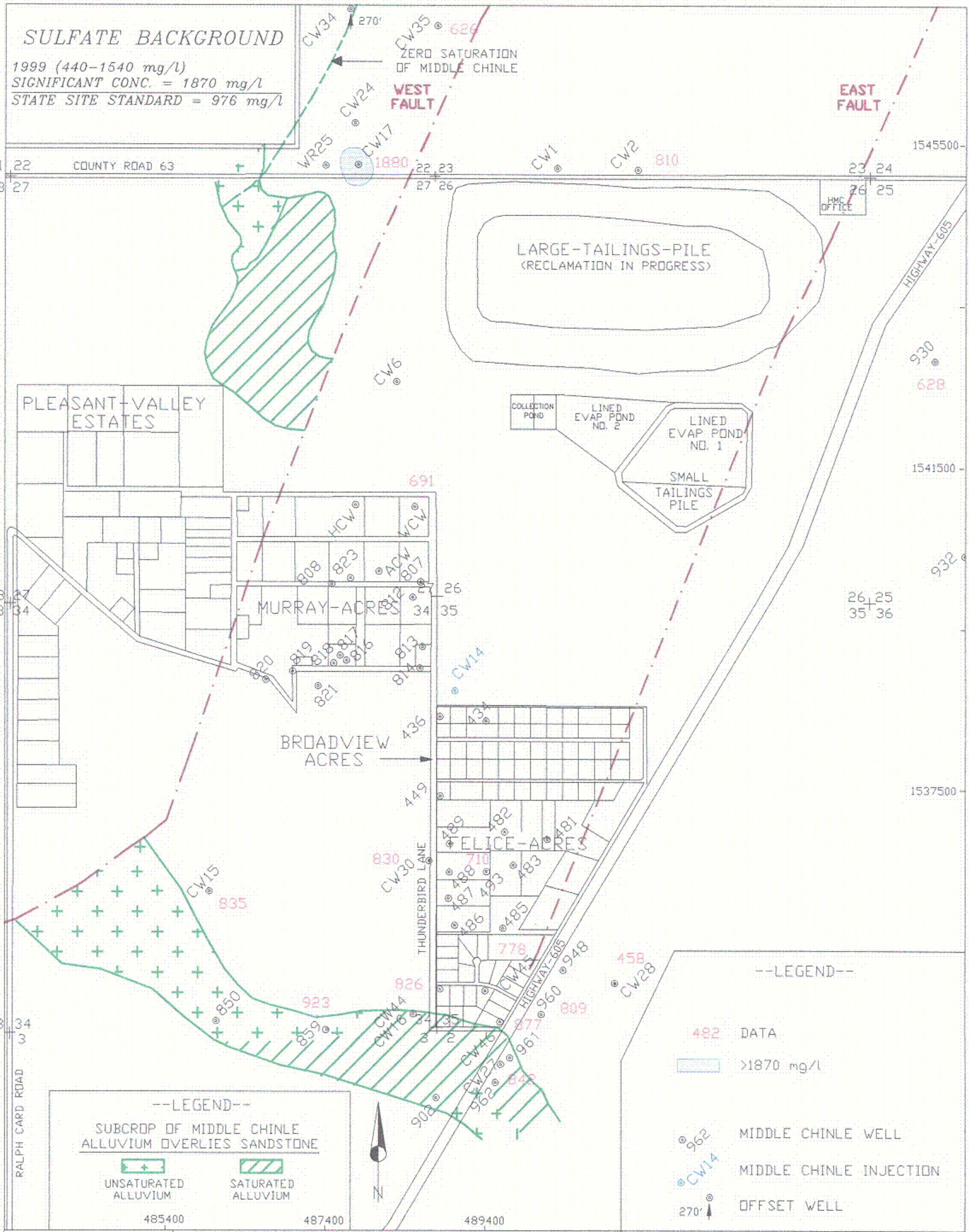
Radium concentrations for the Middle Chinle aquifer for 1999 were measured only in well CW2. The combined concentrations of radium 226 + 228 were less than 1.2 pCi/l. This data, and past Middle Chinle monitoring, shows that these two parameters are not important relative to the restoration of the Middle Chinle aquifer. Radium is not an important parameter for the alluvial aquifer and, therefore, does not have the potential to be important to the Middle Chinle aquifer. Radium should be removed as an NRC site standard.

6.3.9 VANADIUM - MIDDLE CHINLE

Vanadium concentrations for the Middle Chinle aquifer for 1999 were measured only in well CW2 and were less than 0.01 mg/l. The site standard for vanadium is 0.02 mg/l. Previous monitoring of vanadium in the Middle Chinle aquifer shows that vanadium is not a significant parameter for this aquifer. Monitoring of vanadium should be dropped because the few low values that exist in the alluvial aquifer are not near the subcrop area where these two aquifers are connected.

6.3.10 THORIUM-230 - MIDDLE CHINLE

Thorium concentrations during 1999 were measured in the Middle Chinle in well CW2 at less than 0.2 pCi/l (site standard of 0.3 pCi/l). Thorium-230 concentrations are not significant in the alluvial aquifer. Therefore, the Middle Chinle aquifer does not have the potential for containing significant thorium concentrations from the tailings seepage. Thorium-230 is, therefore, not a significant parameter in the Middle Chinle aquifer and should be dropped from future monitoring in the Middle Chinle aquifer.

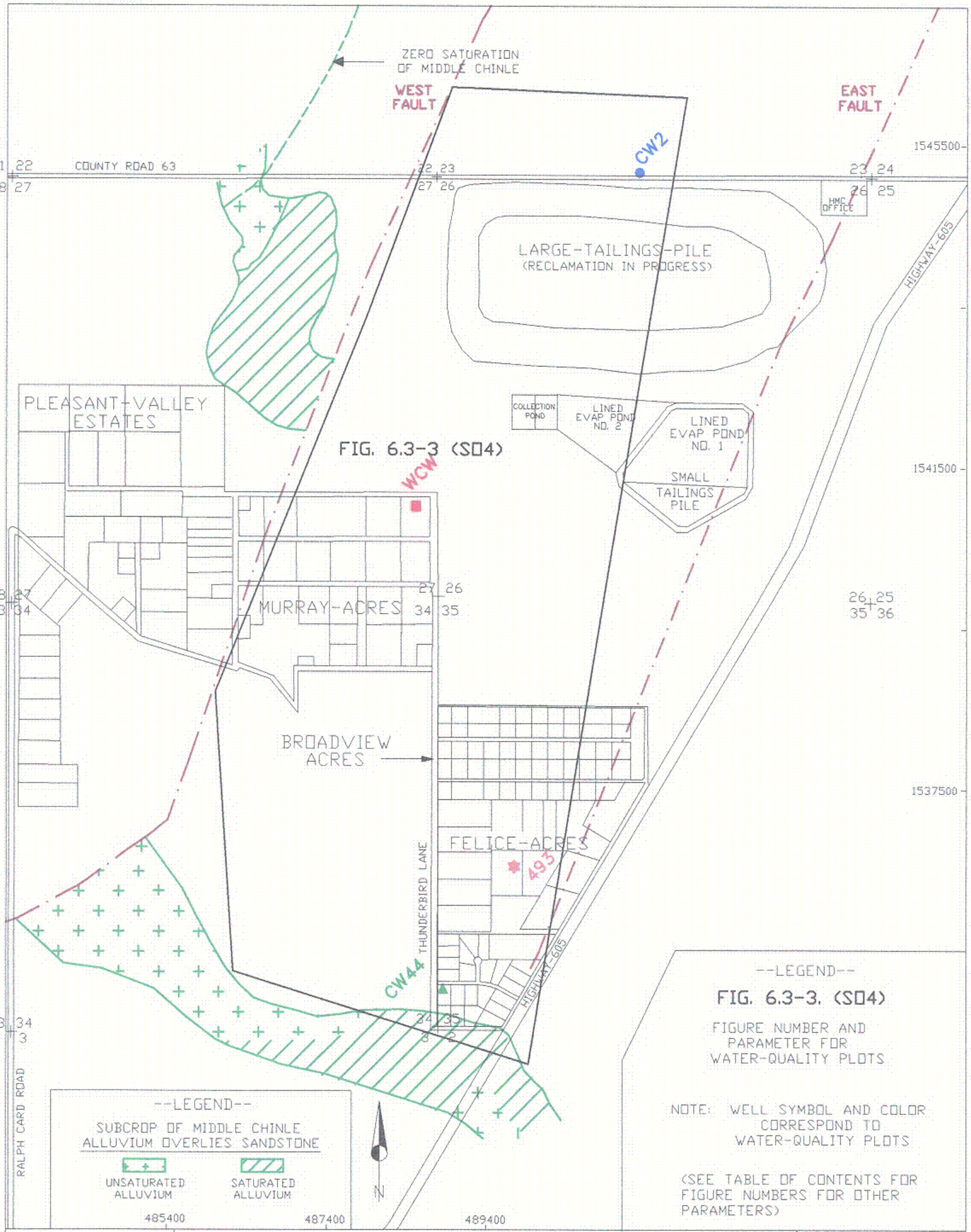


SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/13/2000

FIGURE 6.3-1. SULFATE CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l

9506/MID1600

C121



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/03/2000
	FIGURE 6.3-2. LOCATION OF MIDDLE CHINLE WELLS WITH WATER-QUALITY PLOTS	9506/MID1600
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C122

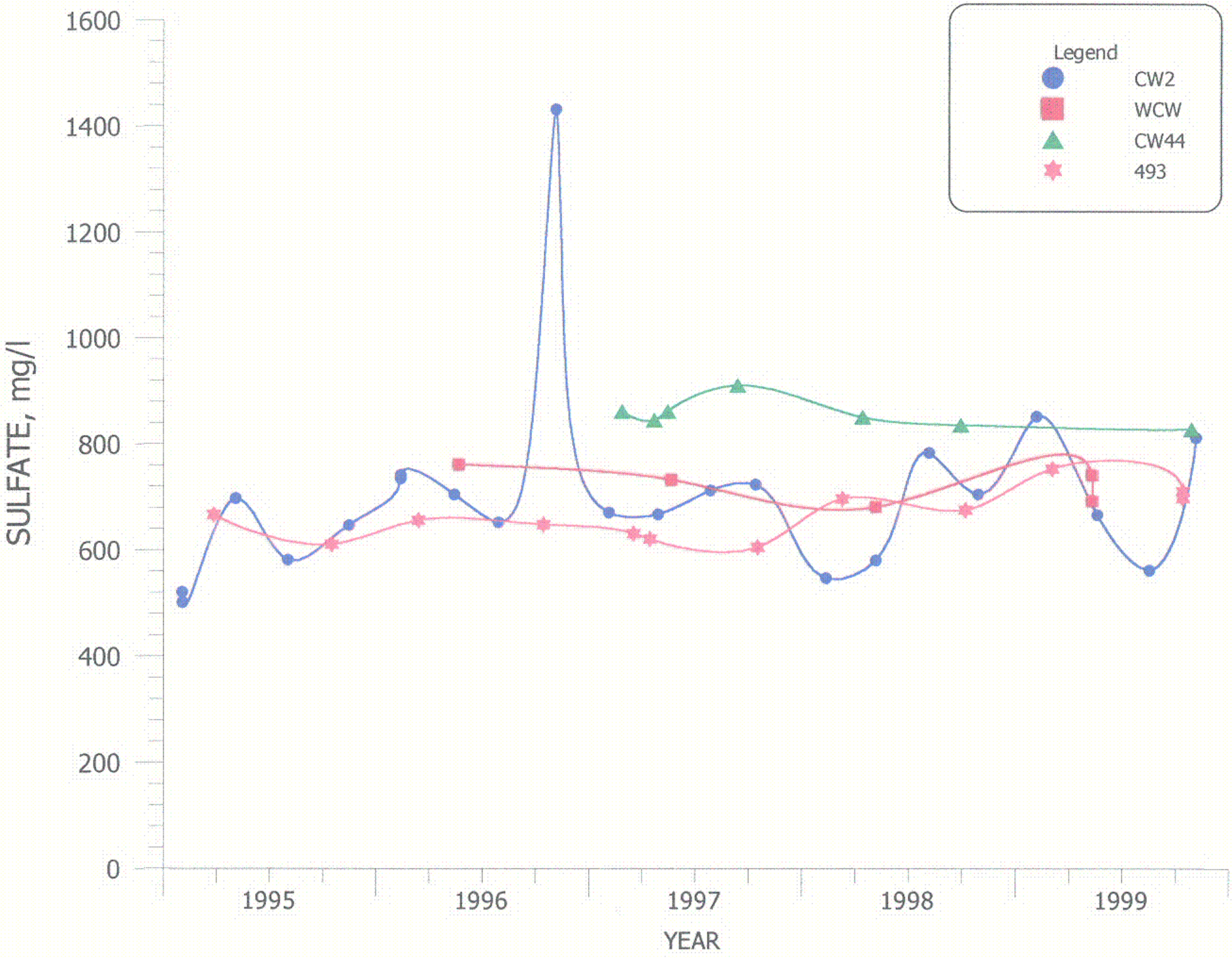
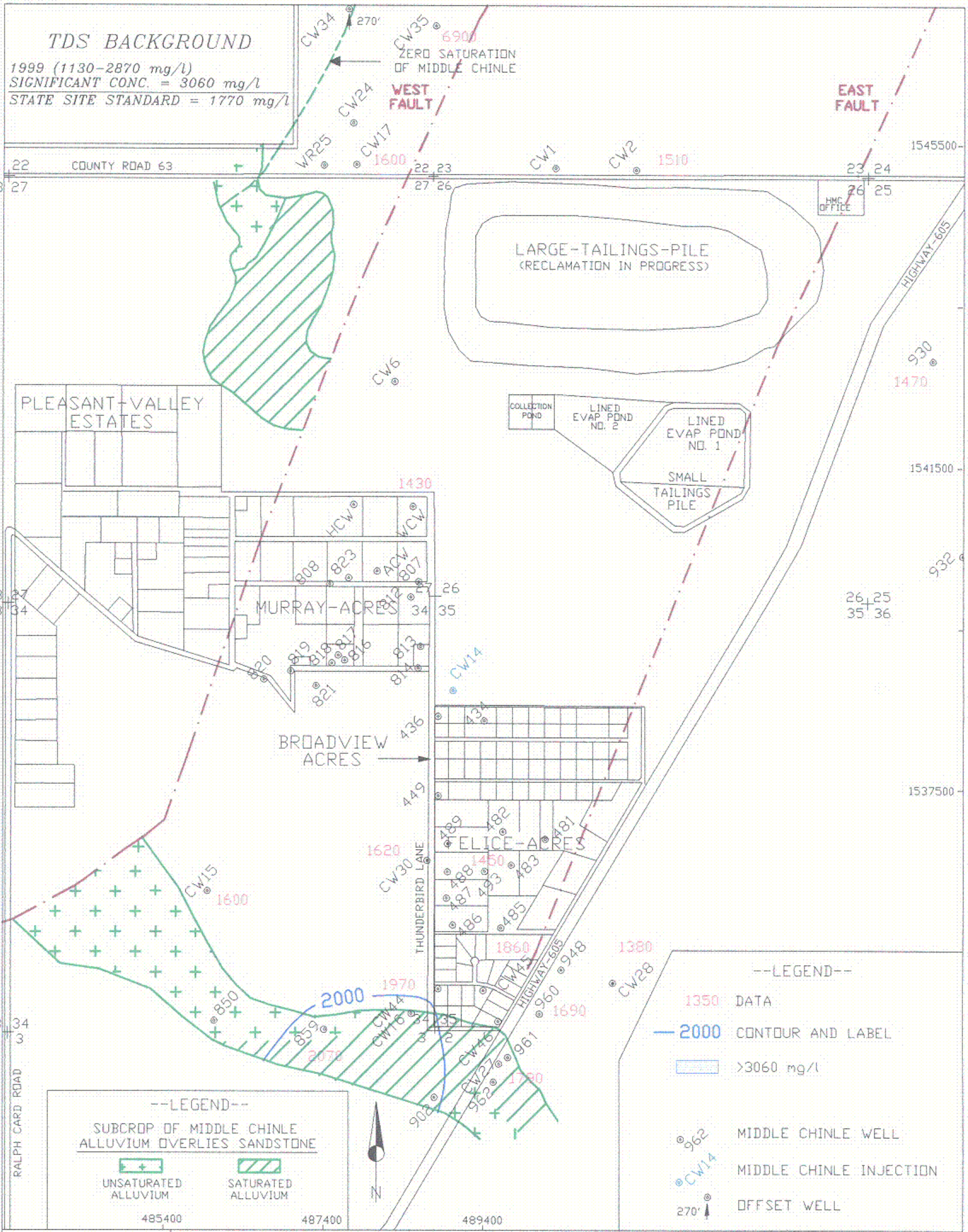


FIGURE 6.3-3. SULFATE CONCENTRATIONS FOR WELLS CW2, WCW, CW44 AND 493.

C123

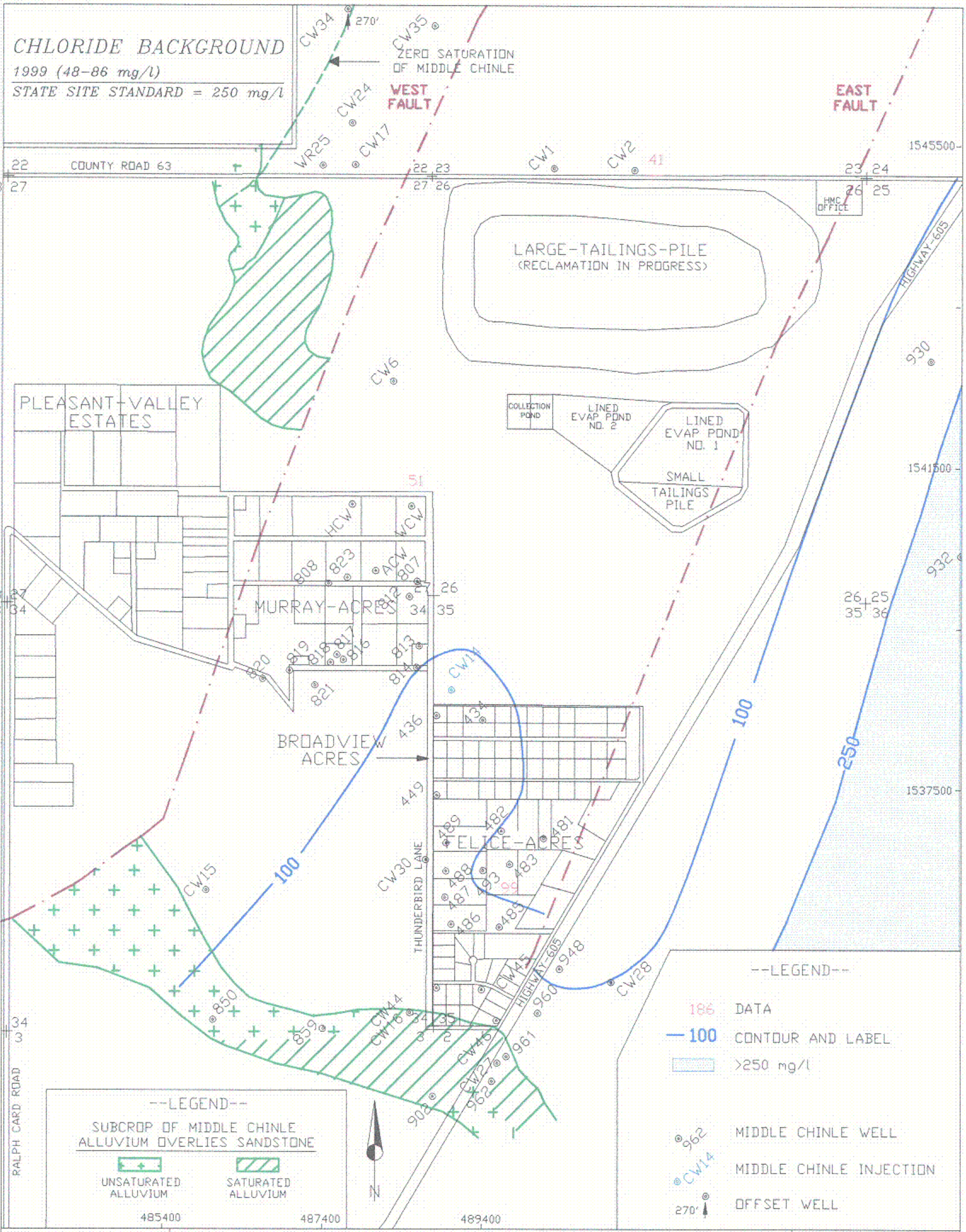


SCALE: 1" = 1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/13/2000

FIGURE 6.3-4. TDS CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l

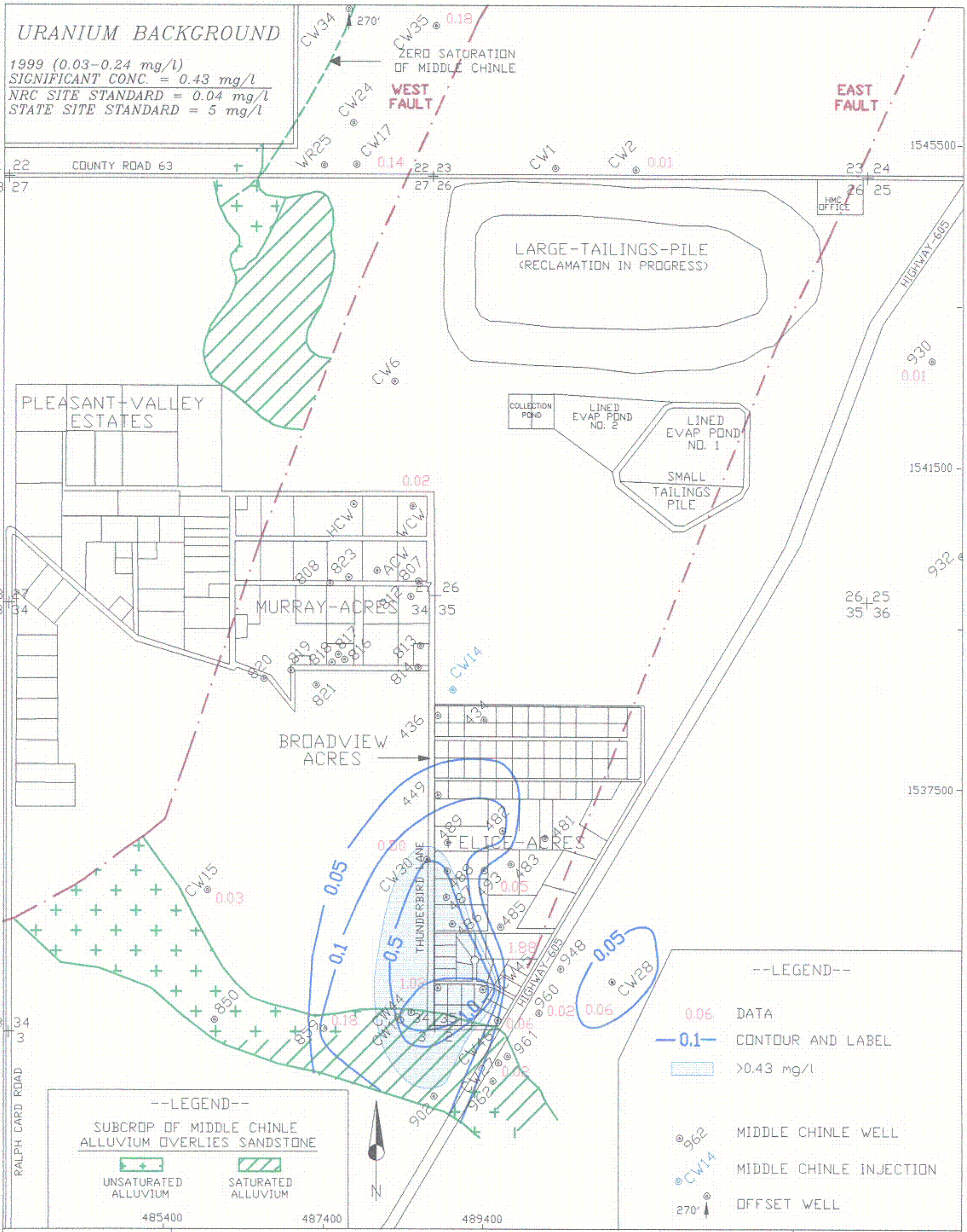
9506/MID1600

C124



SCALE: 1" = 1600'	HOMESTAKE MILL AND ADJACENT PROPERTIES GRANTS NM TOWNSHIP 11&12 N RANGE 10 W	DATE: 01/13/2000
FIGURE 6.3-5. CHLORIDE CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l		9506/MID1600
		page 6.3-11

C125



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/13/2000

FIGURE 6.3-6. URANIUM CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l

9506/MID1600

C126

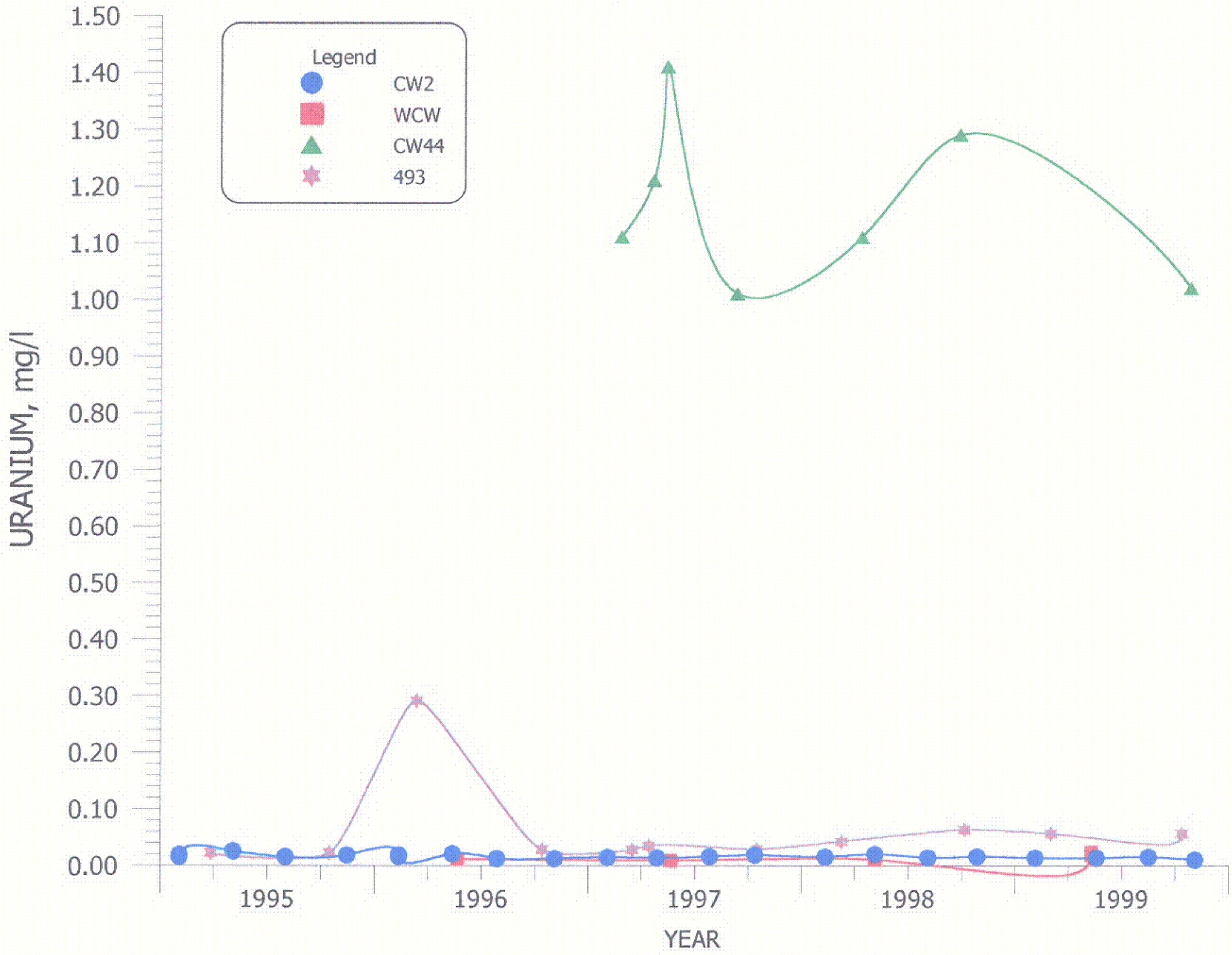
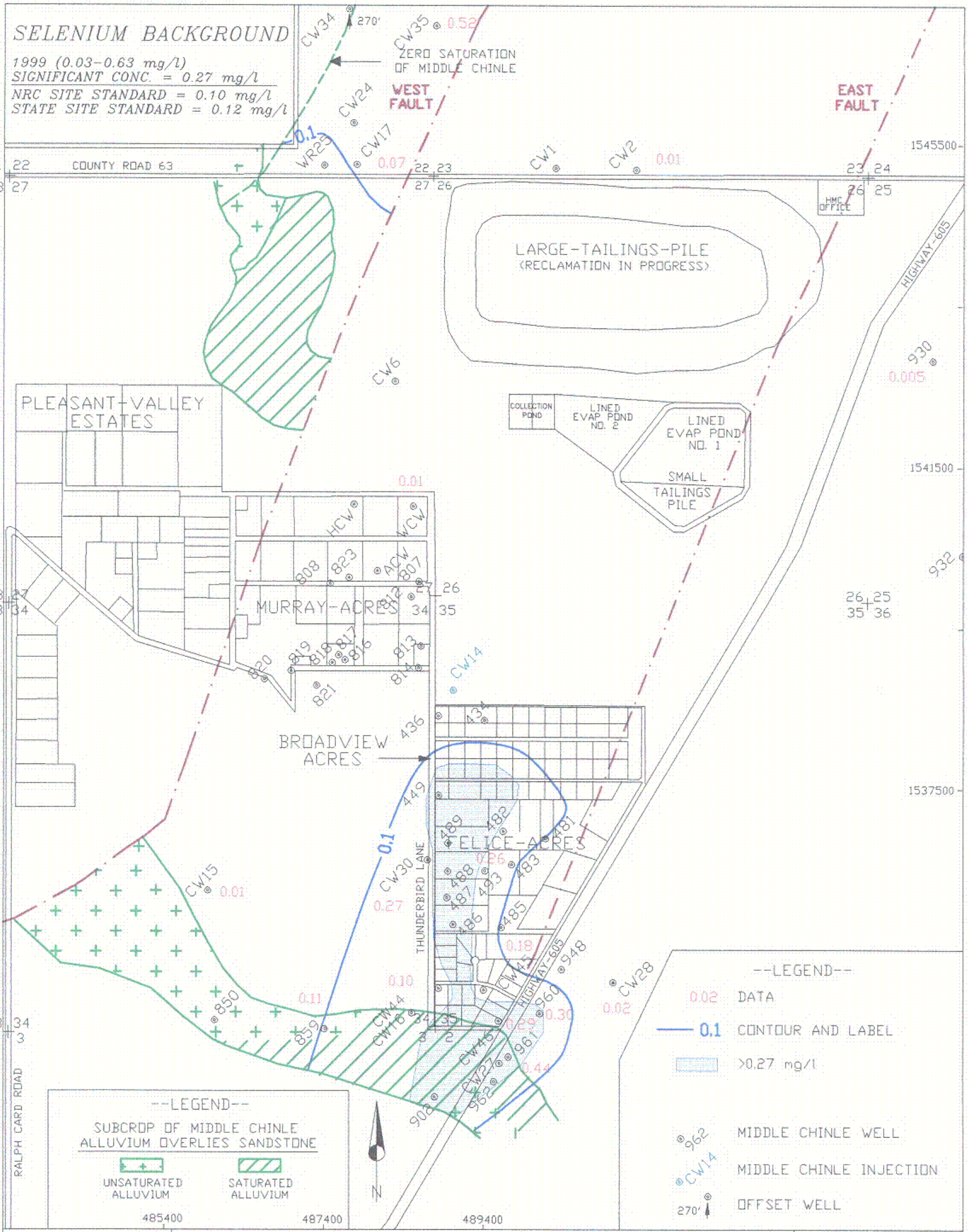


FIGURE 6.3-7. URANIUM CONCENTRATIONS FOR WELLS CW2, WCW, CW44 AND 493.

C127



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/13/2000
FIGURE 6.3-8. SELENIUM CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l		9506/MID1600
		page 6.3-14

C128

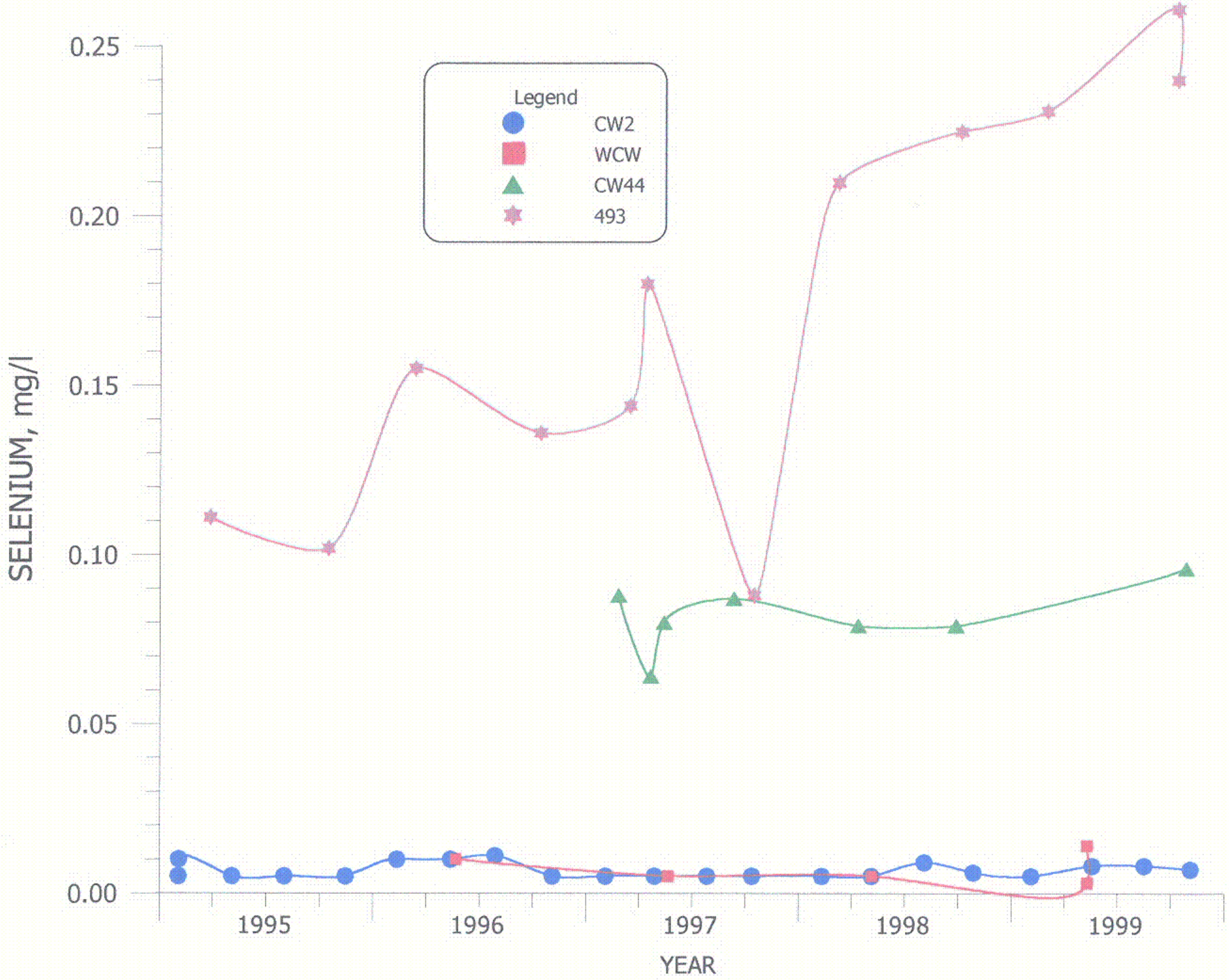
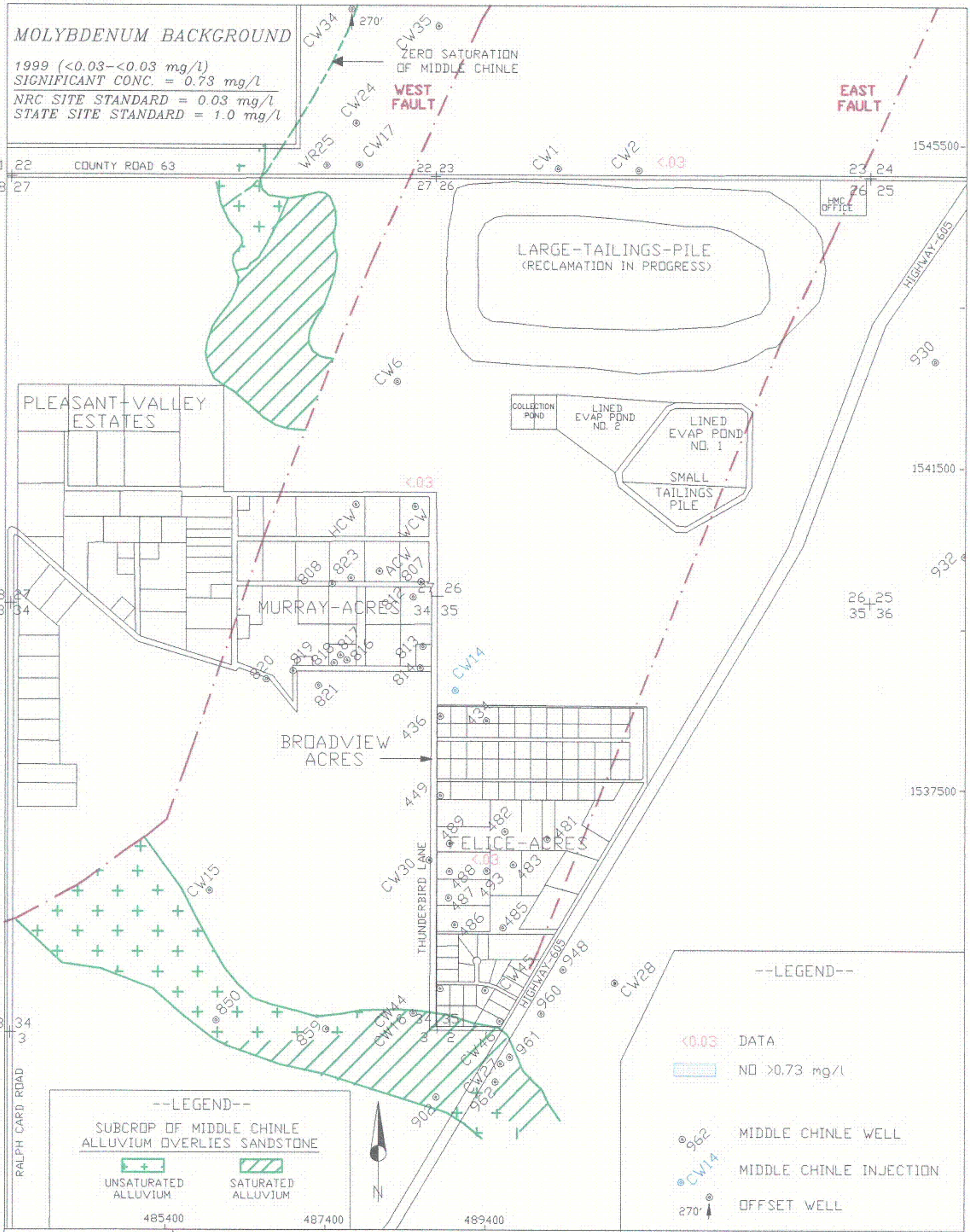


FIGURE 6.3-9. SELENIUM CONCENTRATIONS FOR WELLS CW2, WCW, CW44 AND 493.

C129



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/13/2000
FIGURE 6.3-10. MOLYBDENUM CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l		9506/MID1600
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C130

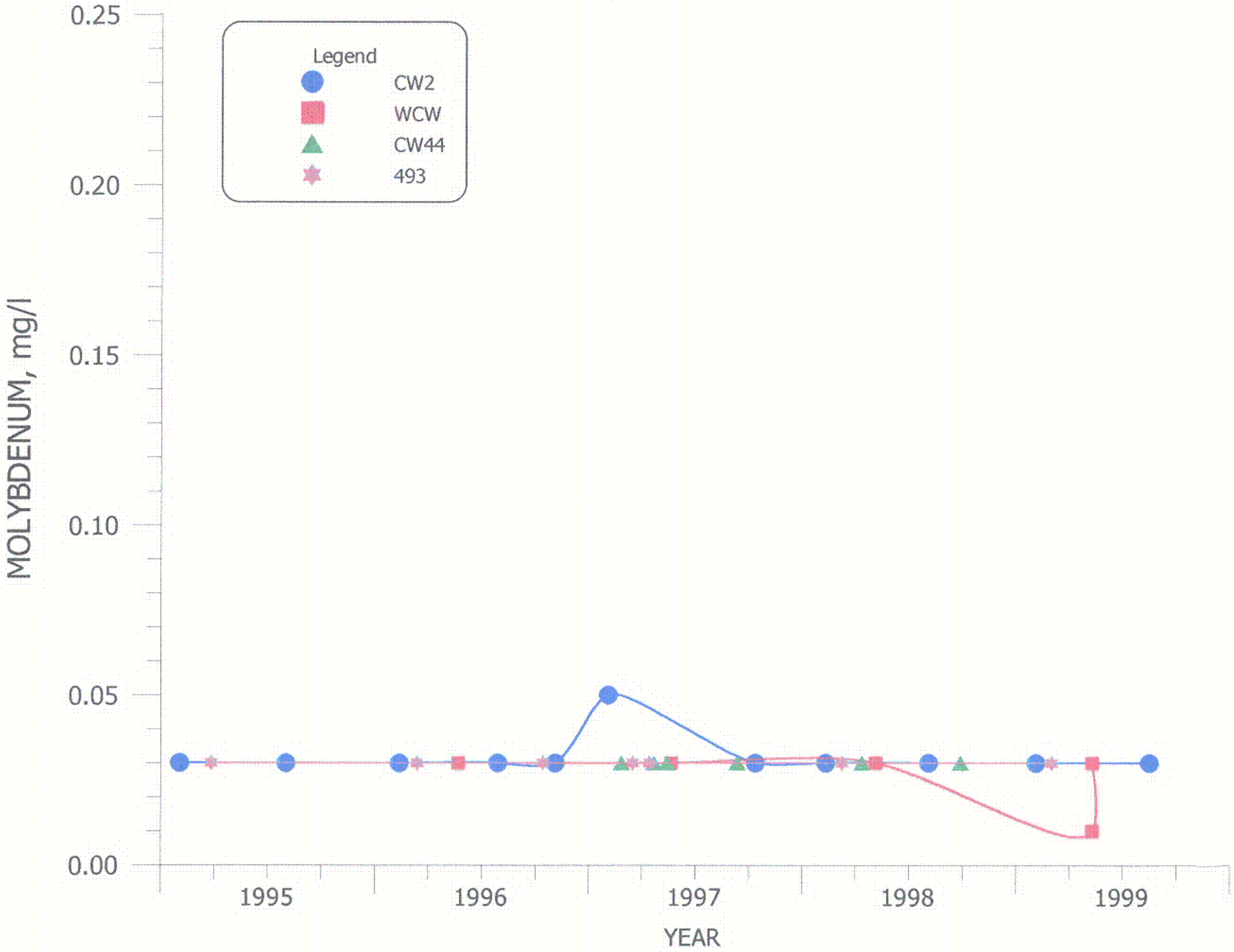
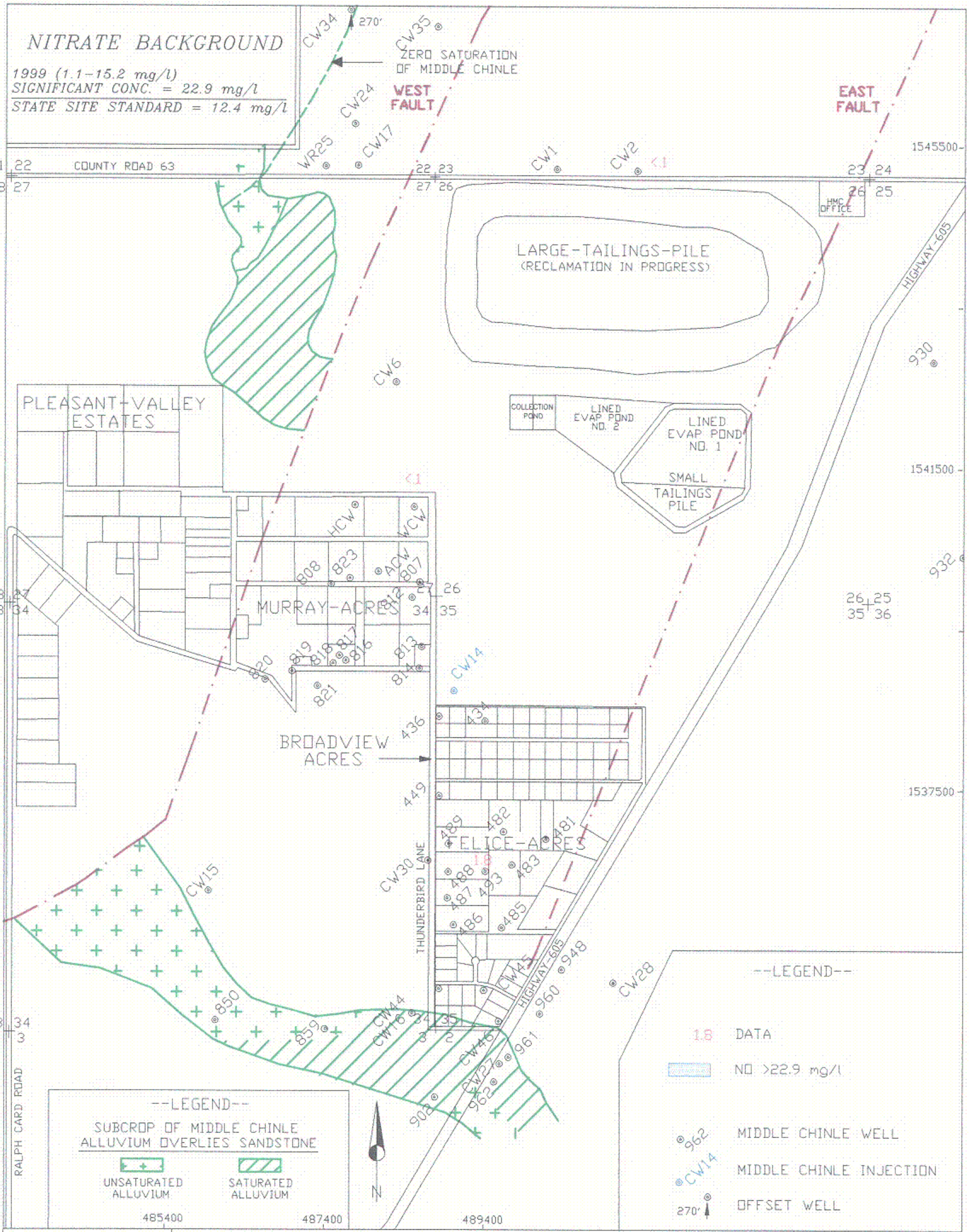


FIGURE 6.3-11. MOLYBDENUM CONCENTRATIONS FOR WELLS CW2, WCW, CW44 AND 493.

C131



SCALE: 1" = 1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 01/13/2000

FIGURE 6.3-12. NITRATE CONCENTRATIONS FOR THE MIDDLE CHINLE AQUIFER, FALL 1999, mg/l

9506/MID1600

C132

SECTION 7

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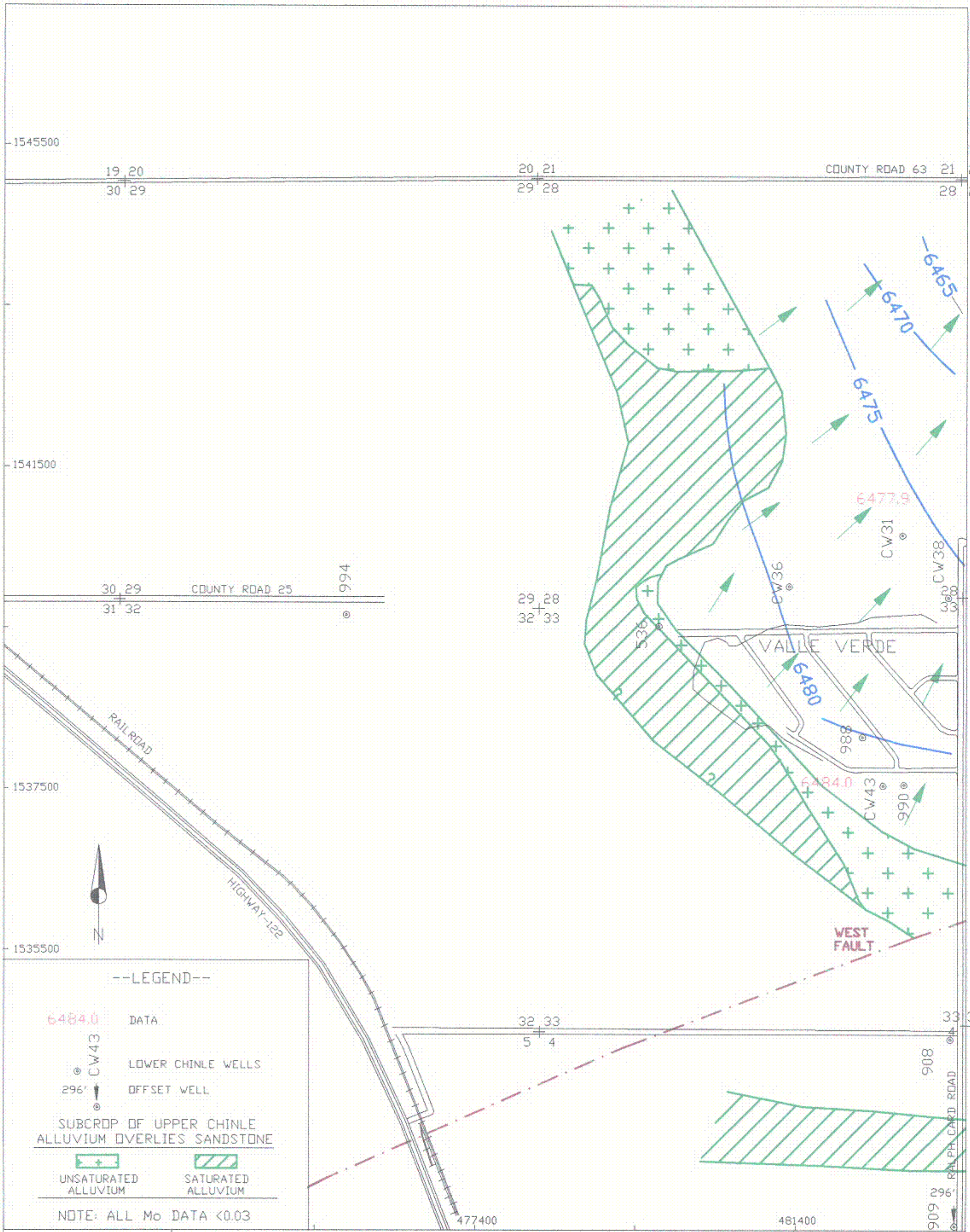
7.0 LOWER CHINLE AQUIFER MONITORING

The Lower Chinle aquifer is a permeable zone in the Chinle shale below the Middle Chinle sandstone and above the San Andres aquifer. This aquifer becomes important west and southwest of the Homestake areas where this unit exists at shallower depths. The permeable zone in the Lower Chinle aquifer can vary greatly because the transmitting ability of this aquifer depends on secondary permeability being developed. Tables 5.1-1 through 5.1-4 present the Lower Chinle basic well data along with the other Chinle aquifer wells.

Water-level elevations for the Lower Chinle wells are presented with the remainder of the Chinle wells in Appendix A. Figures 7.0-1A and 7.0-1B present the location of the Lower Chinle wells and the Fall of 1999 water-level elevations. The West and East Faults are shown on Figures 7.0-1A and 7.0-1B. Flow west of the West Fault in the Lower Chinle is mainly to the northeast. Flow between the two faults is to the northwest, indicating that the Lower Chinle water moves across the West Fault. The approximate subcrop areas for the Lower Chinle aquifer are also shown on these two figures.

The Lower Chinle water quality is presented on Figures 7.0-2A and 7.0-2B. These figures present the sulfate, uranium, selenium and TDS concentrations for each of the wells during the Fall of 1999. All molybdenum concentrations in all Lower Chinle wells are less than 0.03 mg/l. The sulfate concentrations are shown in the upper left quadrant by each well in blue. Sulfate concentrations varied from a low of 433 mg/l to a high of 2070 mg/l. A similar range in sulfate concentrations existed in the upgradient water quality in the alluvial aquifer. TDS concentrations varied from 1040 to 7130 mg/l. The TDS concentrations in the Lower Chinle increase substantially downgradient of the subcrop area west of the West Fault. These higher TDS concentrations are thought to be natural and a function of long travel times of the ground water in this shale.

Uranium concentrations are generally low in all of the Lower Chinle wells. A small area around Lower Chinle well CW42, which is located in Section 3, contained an elevated uranium concentration in the Fall of 1999. This concentration is due to the connection with the alluvial aquifer to the west of this well in the subcrop area and should be reduced as the alluvial aquifer concentrations are reduced in this area. Selenium concentrations in most of the Lower Chinle wells are also low. Some significant selenium concentrations have been observed in wells 853, 909, CW26 and CW42.



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/04/2000

FIGURE 7.0-1A. LOCATION OF LOWER CHINLE WELLS AND WATER-LEVEL ELEVATION (WEST AREA), FALL 1999, FT-MSL

9506/LOW1600

C133

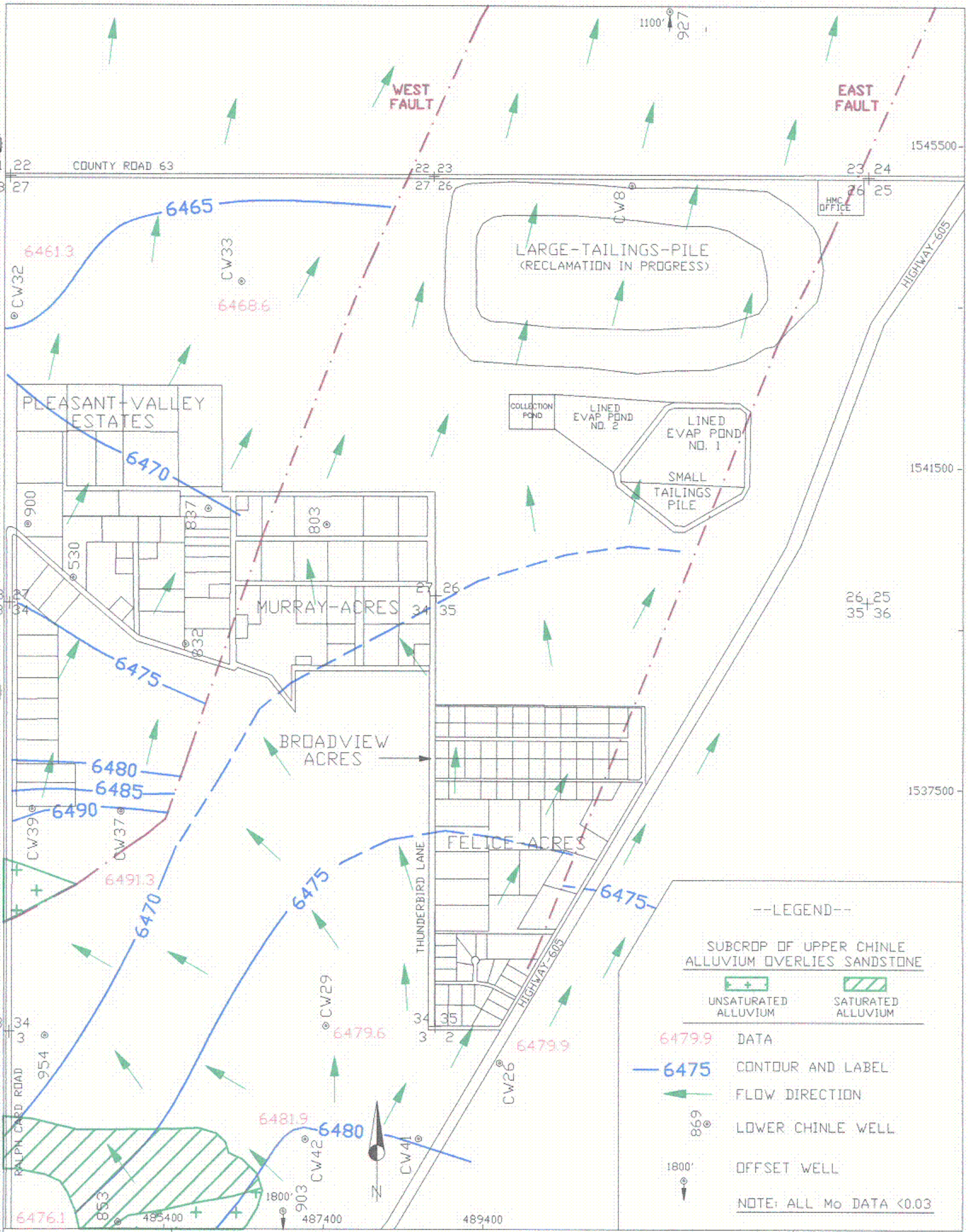


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FIGURE 7.0-1B. LOCATION OF LOWER CHINLE WELLS AND WATER-LEVEL ELEVATION, FALL 1999, FT-MSL

9506/LOW1600

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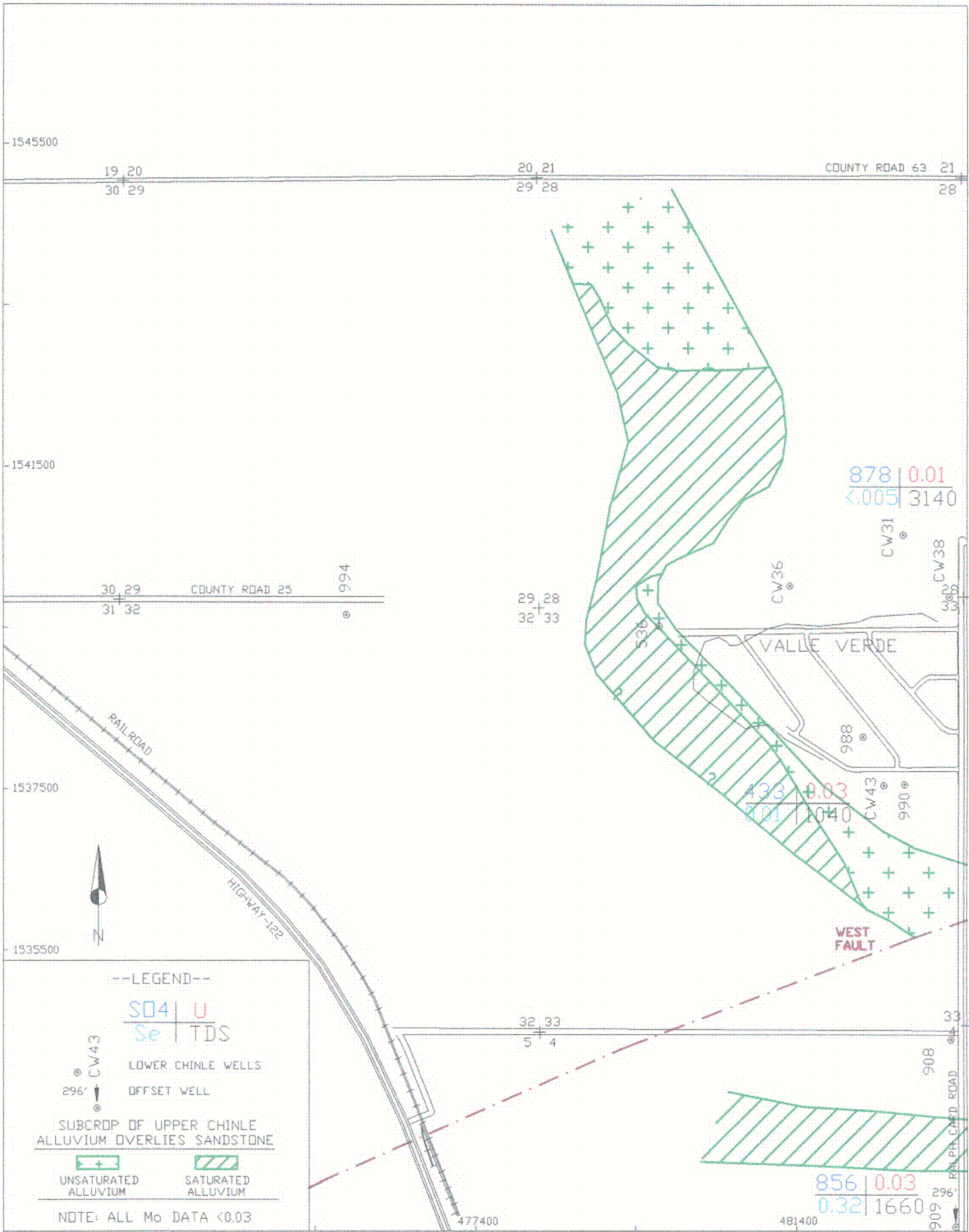
C134



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/10/2000
FIGURE 7.0-2A. WATER QUALITY FOR THE LOWER CHINLE AQUIFER (WEST AREA), FALL 1999, mg/l		9506/LOW1600 page 7.0-5

C135

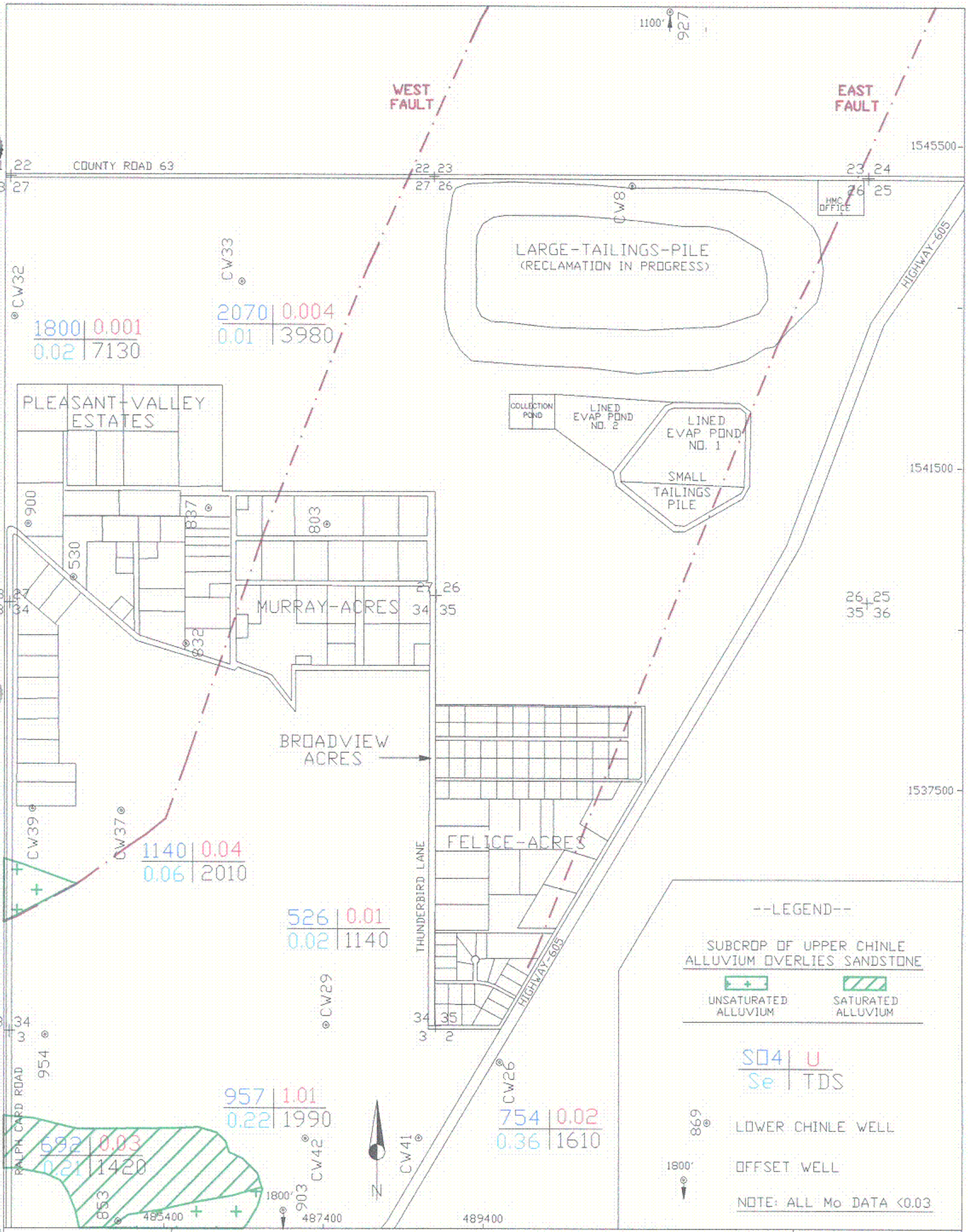


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FIGURE 7.0-2B WATER QUALITY FOR THE LOWER CHINLE AQUIFER, FALL 1999, mg/l

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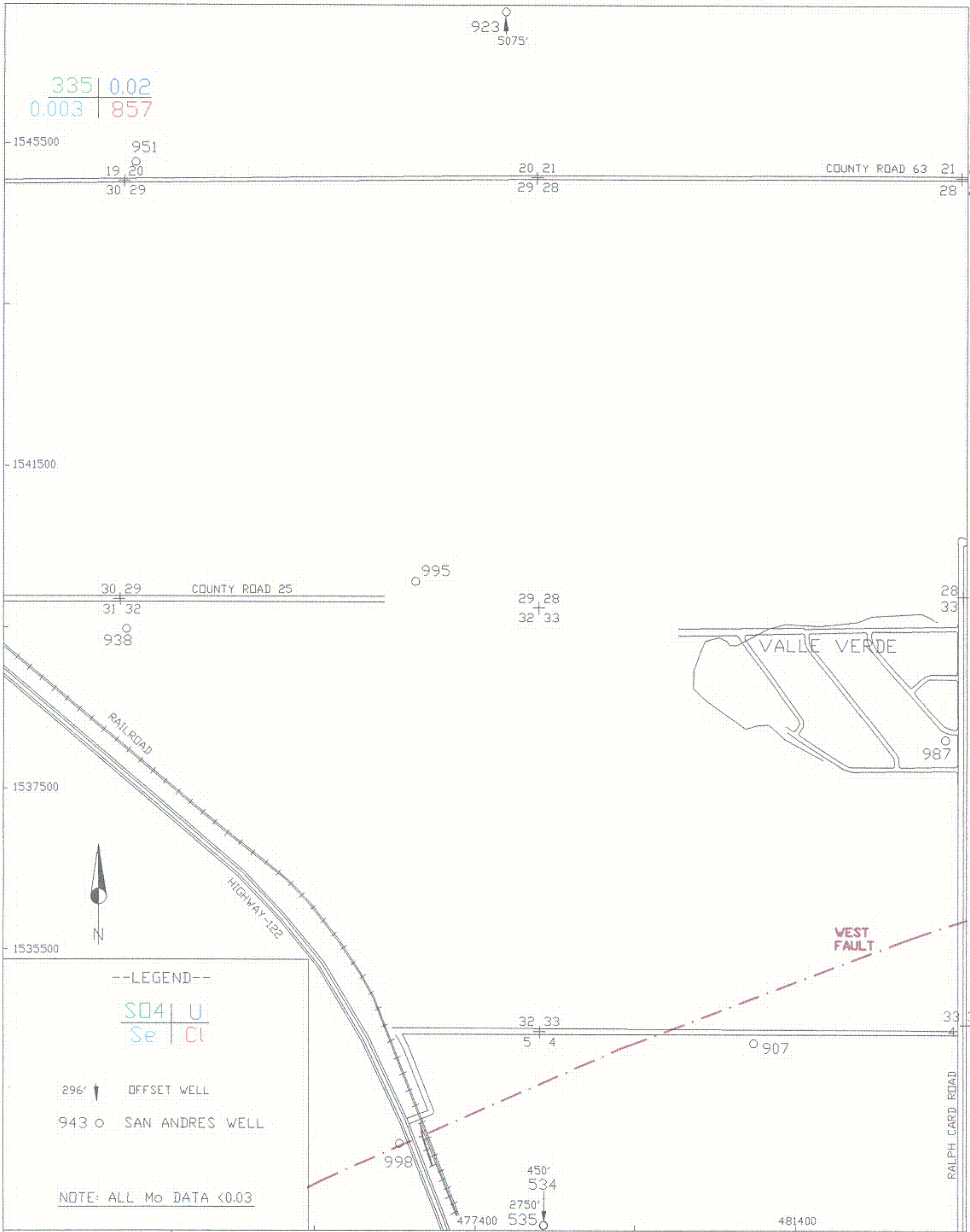
8.0 SAN ANDRES AQUIFER MONITORING

The San Andres aquifer is the most important regional aquifer in this area. The Chinle formation, which exists between the alluvium and the San Andres, is approximately 800 feet thick at the Homestake tailings site and consists of mainly shale with a few sandstone lenses. Therefore, the alluvial aquifer and the San Andres aquifer have a very thick aquitard separating them. The difference between the piezometric heads between the alluvial and San Andres aquifers is in the range of 70 to 80 feet, which indicates that the flow is highly retarded between these two systems. The San Andres and alluvial aquifers are only in direct connection in the western portion of the west area. Figure 8.0-1A presents the west area. Therefore, the San Andres aquifer is not as important to the evaluation of ground-water conditions at this site as the other aquifers. The San Andres aquifer has been used as the source for fresh-water injection into the alluvium and Chinle aquifers at the Grants Project, which has resulted in the San Andres monitoring program.

Table 8.0-1 presents well completion information for the San Andres wells in this area. Homestake has two deep wells, #1 Deep and #2 Deep, which are used to supply the fresh-water injection systems. San Andres well 951 is the fresh-water injection supply for the Sections 28 and 29 irrigation system. Figures 8.0-1A and 8.0-1B show the locations of the San Andres wells in this area. Recharge to the San Andres aquifer is mainly west of Figure 8.0-1A and flow in the San Andres is deeper below the land surface as it moves to the east. The water level (see Hydro-Engineering, 1996, for a map) is a very flat piezometric surface with a gradient from the west-northwest to the east-southeast. The gradient in the area indicates that the faults do not significantly affect the ground-water flow in the San Andres aquifer. The faults' displacements are not large enough to completely displace the entire thickness of this aquifer system.

Figures 8.0-1A and 8.0-1B also present the most recent water-quality data for the San Andres aquifer. Appendix B presents the tabulation of the 1999 water-quality data for the San Andres aquifer. These two figures show the 1999 data for the San Andres aquifer in a manner similar to the data presented on the Lower Chinle aquifer figures. The sulfate concentrations are presented in the upper left quadrant, while the TDS data is presented in the lower right quadrant. This shows that the sulfate concentrations vary from 335 mg/l to 1170 mg/l in the San Andres aquifer. Sulfate concentrations are typically near 700 mg/l for the two Homestake wells. TDS concentrations have varied from 857 to 2070 mg/l and generally show an increase in a downgradient direction. The higher concentrations of sulfate and TDS to the east are natural and typical of a limestone aquifer due to dissolving of the rock as the water is in contact with the formation longer. This increase from the recharge area to down dip is expected. Uranium concentrations for all of the San Andres wells monitored in 1999 are low with the highest value being 0.09 at well 928. Well 928 typically contains slightly higher uranium concentrations. Selenium concentrations in the San Andres vary from less than 0.005 to 0.03 mg/l with the high also being from well 928. All molybdenum concentrations are less than 0.03 mg/l.

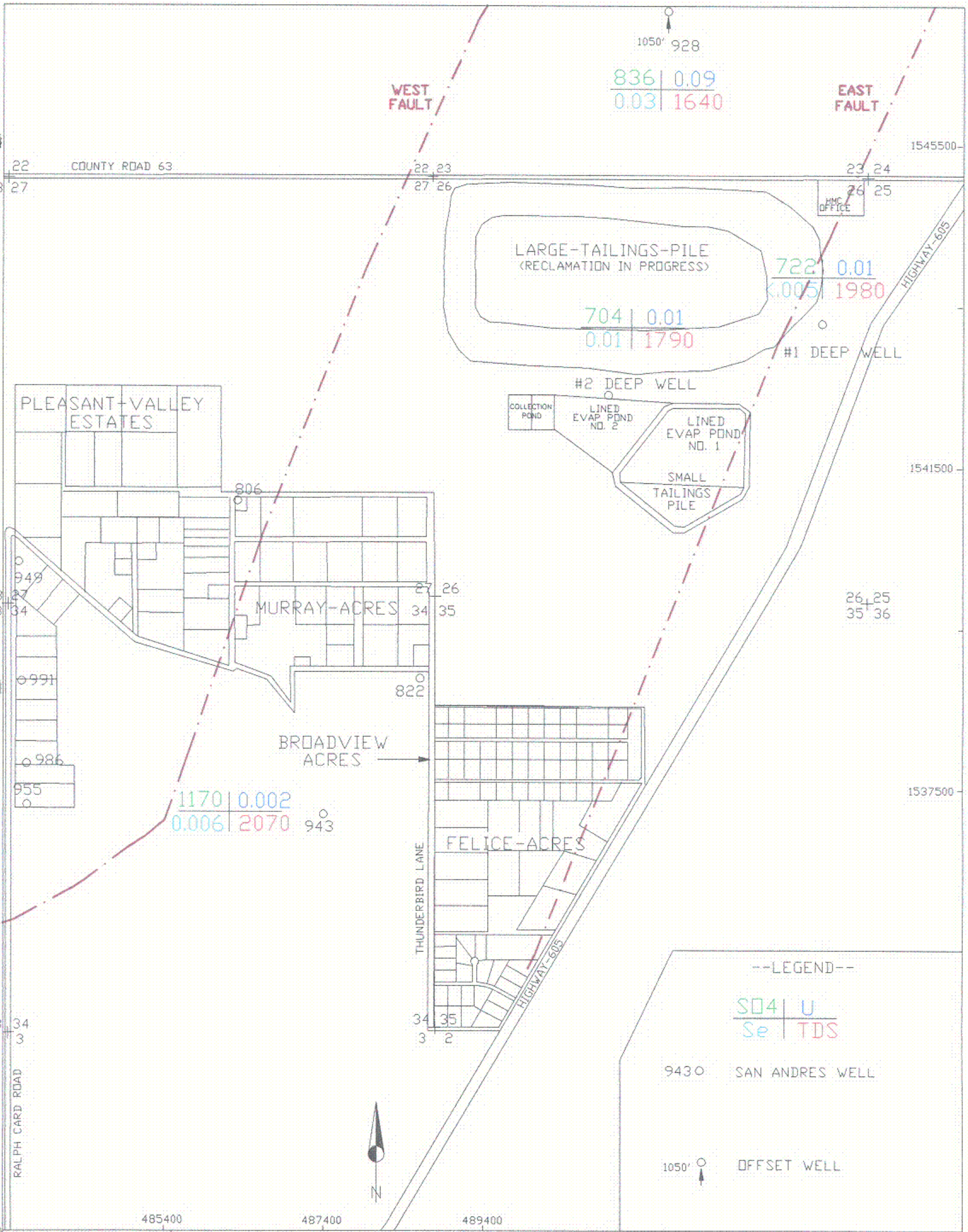
Figure 8.0-2 presents sulfate concentrations with time for Homestake's two deep wells at this site. This data shows significant variations in sulfate concentrations in the last five years, with a few outliers, in the two Homestake deep wells but does not show a consistent trend. This plot also shows that the sulfate concentrations for the Sections 28 and 29 injection supply from well 951 have remained steady in 1999.



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 02/03/00

FIGURE 8.0-1A. LOCATION OF SAN ANDRES WELLS AND WATER QUALITY FOR THE SAN ANDRES AQUIFER (WEST AREA), FALL 1999, mg/l

9506/SAN1600



SCALE: 1"=1600'	HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W	DATE: 01/10/2000
FIGURE 8.0-1B.	LOCATION OF SAN ANDRES WELLS AND WATER QUALITY FOR THE SAN ANDRES AQUIFER, FALL 1999, mg/l	9506/SAN1600 page 8.0-4

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8.0-5

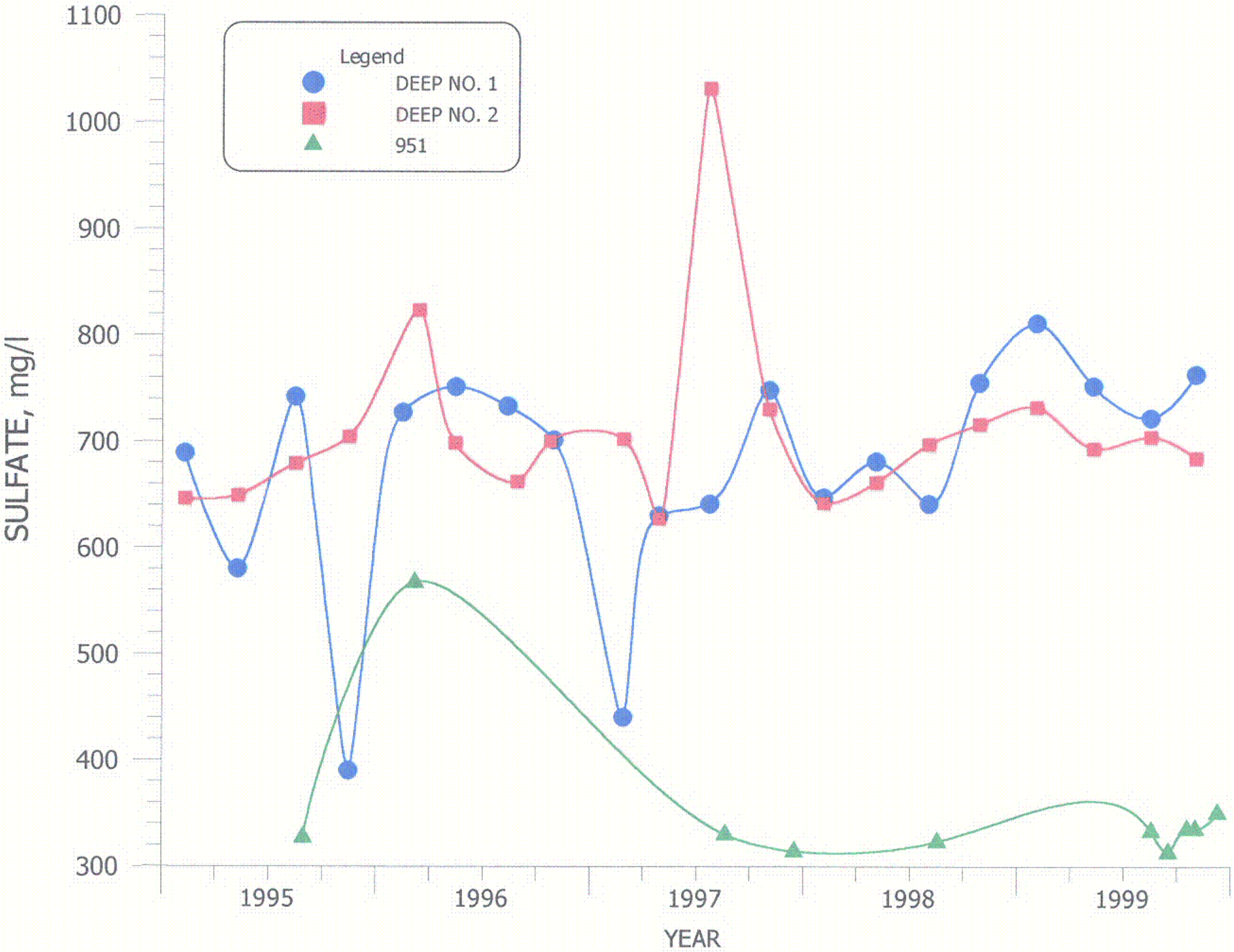

FIGURE 8.0-2. SULFATE CONCENTRATIONS FOR WELLS DEEP NO. 1, DEEP NO. 2 AND 951.

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TABLE 8.0-1. BASIC WELL DATA FOR THE SAN ANDRES WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO TOP OF SAN ANDRES (FT-LSD)	ELEV. TO TOP OF SAN ANDRES (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)
#1 Deep	1543307	493633	1000.0	10.0	02/15/1996	80	6503.76	0.0	6583.76	130	6454	A —
										303	6281	U —
										433	6151	M —
										597	5987	L —
										955	5629	S 919-999
#2 Deep	1542424	490972	870.0	—	02/03/1999	168	6407.66	0.0	6575.66	110	6466	A —
										800	5776	S -
0534	1534589	476549	1000.0	16.0	—	—	—	0.0	6552.57	0	6553	S -
0535	1530100	478450	198.0	12.0	—	—	—	0.0	6540.00	—	—	S -
0806	1541120	486320	584.0	16.0	—	—	—	0.0	6567.00	90	6477	A —
										520	6047	S -
0822	1538920	488630	980.0	7.0	—	—	—	0.0	6557.00	790	5767	S 790-875
0907	1534250	480800	360.0	16.0	10/06/1994	78	6467.60	0.0	6545.60	123	6423	A —
										262	6284	S 295-360
0911	1534350	476800	188.0	—	—	—	—	0.0	6552.60	—	—	S -
0918	—	—	725.0	4.0	—	—	—	0.0	6702.40	620	6082	S 635-655
0919	—	—	628.0	5.0	—	—	—	0.0	6684.00	35	6649	A —
										356	6328	S 364-571
0923	1552400	487900	330.0	5.0	04/06/1994	6464.97	157.63	0.0	6622.60	60	6563	A —
										229	6394	S 234-330
0928	1548250	491700	864.0	—	08/27/1998	135.399	6462.20	1.1	6597.60	138	6458	A —
										801	5795	S -
0938	1539500	473040	—	—	09/18/1995	96.4400	6472.36	0.0	6568.80	95	6474	A —
										120	6449	S -
0943	1537222	487407	978.0	18.0	09/02/1999	63.2000	6492.71	0.0	6555.91	704	5852	S 703-978
0949	1540350	483600	551.0	—	—	—	—	0.0	6562.30	112	6450	A —
										155	6407	L —
										460	6102	S 400-493
										460	6102	S 505-551
0951	1545500	483200	275.0	10.0	11/29/1999	107.610	6466.09	0.9	6573.70	110	6463	A —
										227	6346	S 241-275
0955	1537300	483700	498.0	5.0	11/03/1995	78.0500	6471.95	0.2	6550.00	40	6510	A —
										420	6130	S 385-498
0986	1537860	483750	467.0	5.0	11/02/1995	80.75	6569.25	0.8	6650.00	65	6584	A —
										85	6564	L —
										415	6234	S 420-467
0987	1538120	483270	500.0	5.0	11/03/1995	54.4799	6595.52	1.0	6650.00	70	6579	A —
										385	6264	S 425-470
0991	1538880	483630	500.0	—	11/08/1995	84.4100	6566.59	1.4	6651.00	—	—	S -
0995	1540115	476594	—	—	—	—	—	0.0	6474.00	—	—	S -

TABLE 8.0-1. BASIC WELL DATA FOR THE SAN ANDRES WELLS. (cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL DATE	WATER LEVEL DEPTH (FT-MP)	WATER LEVEL ELEV. (FT-MSL)	MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO TOP OF SAN ANDRES (FT-LSD)	ELEV. TO TOP OF SAN ANDRES (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)
0998	1533080	476450	145.0	16.0	---	---	---	0.0	6650.00	---	---	S -

NOTE: A = Base of Alluvium
L = Lower Chinle
S = San Andres Aquifer
r = Reported
* = Abandoned

SECTION 9

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GROUND-WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

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APPENDIX A

WATER LEVELS

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GROUND-WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

APPENDIX A

TABLES

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TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS.

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1A		
5/5/1999	3.40	6582.03
6/1/1999	4.30	6581.13
7/6/1999	4.00	6581.43
8/2/1999	4.00	6581.43
9/7/1999	4.30	6581.13
10/5/1999	5.55	6579.88
11/1/1999	5.50	6579.93
11/29/1999	36.79	6548.64
1B		
10/7/1999	37.03	6547.39
1C		
10/7/1999	43.50	6544.49
1D		
10/7/1999	29.20	6556.77
1E		
10/7/1999	36.82	6547.49
1F		
10/7/1999	43.54	6543.84
1G		
10/7/1999	42.11	6544.96
1H		
10/7/1999	30.86	6555.53
1I		
10/7/1999	34.38	6563.97
1J		
10/11/1999	38.00	6547.40
1K		
10/11/1999	35.64	6548.49
1L		
10/12/1999	38.31	6540.30
1N		
9/30/1999	32.11	6558.74
1O		
9/30/1999	44.00	6550.94
1P		
9/30/1999	38.70	6546.54
B		
1/4/1999	41.75	6529.15
1/7/1999	58.20	6512.70
1/11/1999	41.61	6529.29
1/19/1999	41.58	6529.32
1/25/1999	41.58	6529.32
2/1/1999	41.58	6529.32
2/8/1999	41.48	6529.42
2/16/1999	41.32	6529.58
2/22/1999	41.39	6529.51
3/1/1999	41.32	6529.58
3/8/1999	41.30	6529.60
3/15/1999	41.06	6529.84
3/23/1999	41.18	6529.72
3/29/1999	41.37	6529.53
4/5/1999	41.40	6529.50
4/12/1999	41.37	6529.53
4/20/1999	41.82	6529.08
4/20/1999	41.39	6529.51
4/26/1999	41.35	6529.55
5/5/1999	41.37	6529.53
5/10/1999	41.23	6529.67
5/18/1999	41.44	6529.46
5/24/1999	41.26	6529.64
6/2/1999	41.28	6529.62
6/7/1999	41.49	6529.41
6/14/1999	41.66	6529.24
6/21/1999	41.65	6529.25
6/28/1999	41.79	6529.11
7/7/1999	41.98	6528.92
7/7/1999	42.03	6528.87
7/19/1999	42.07	6528.83
7/26/1999	42.00	6528.90
8/2/1999	42.02	6528.88
8/9/1999	41.93	6528.97
8/16/1999	42.02	6528.88
8/23/1999	41.91	6528.99
8/30/1999	41.85	6529.05
9/7/1999	41.66	6529.24
9/13/1999	41.74	6529.16
9/20/1999	41.69	6529.21
9/27/1999	41.56	6529.34
10/6/1999	41.58	6529.32
10/11/1999	41.80	6529.10
10/13/1999	41.76	6529.14
10/18/1999	41.68	6529.22
10/25/1999	41.75	6529.15
11/1/1999	41.75	6529.15
11/8/1999	41.74	6529.16
11/15/1999	41.87	6529.03
11/22/1999	41.69	6529.21
11/29/1999	42.58	6528.32
12/6/1999	41.77	6529.13
12/14/1999	41.91	6528.99
12/20/1999	41.85	6529.05
12/28/1999	42.15	6528.75
B1		
1/4/1999	44.20	6527.45
1/7/1999	44.10	6527.55
2/1/1999	44.11	6527.54
3/1/1999	43.77	6527.88
4/5/1999	44.07	6527.58
5/5/1999	44.11	6527.54
6/2/1999	44.21	6527.44
7/7/1999	44.79	6526.86
7/7/1999	44.76	6526.89
8/2/1999	44.78	6526.87
9/7/1999	44.27	6527.38
10/6/1999	44.83	6526.82
11/1/1999	44.91	6526.74
11/29/1999	45.21	6526.44
B2		
5/5/1999	64.10	6510.15
7/6/1999	48.95	6525.30
8/2/1999	48.96	6525.29
9/7/1999	48.27	6525.98
10/4/1999	49.21	6525.04
11/1/1999	49.62	6524.63
11/29/1999	49.95	6524.30
B3		
5/5/1999	47.95	6526.34
7/6/1999	48.72	6525.57
8/2/1999	49.10	6525.19
9/7/1999	47.60	6526.69
10/4/1999	48.94	6525.35
11/1/1999	66.57	6507.72
11/29/1999	63.77	6510.52
B4		
5/5/1999	47.85	6526.81
7/6/1999	49.86	6524.80
8/2/1999	56.06	6518.60
9/7/1999	47.31	6527.35
10/4/1999	49.51	6525.15
11/1/1999	50.40	6524.26
11/29/1999	50.95	6523.71
B5		
1/4/1999	55.70	6517.76
2/1/1999	54.92	6518.54
3/1/1999	52.10	6521.36
4/5/1999	61.06	6512.40
5/5/1999	46.32	6527.14
7/6/1999	60.06	6513.40
8/2/1999	63.17	6510.29
9/7/1999	45.75	6527.71
10/4/1999	48.21	6525.25
11/1/1999	57.52	6515.94
11/29/1999	59.95	6513.51
B6		
11/1/1999	52.98	6524.71
11/10/1999	53.37	6524.32
11/16/1999	53.19	6524.50
11/23/1999	53.39	6524.30
11/29/1999	52.81	6524.88
11/30/1999	52.47	6525.22
12/8/1999	53.95	6523.74

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

B8

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	48.18	6527.57
7/6/1999	60.50	6515.25
8/2/1999	48.30	6527.45
9/7/1999	47.18	6528.57
10/4/1999	47.99	6527.76
11/1/1999	48.48	6527.27
11/29/1999	47.74	6528.01

B9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	48.38	6527.79
1/11/1999	48.31	6527.86
1/19/1999	48.41	6527.76
1/25/1999	48.44	6527.73
2/1/1999	48.51	6527.66
2/16/1999	48.29	6527.88
3/1/1999	48.43	6527.74
4/5/1999	48.95	6527.22
5/5/1999	48.03	6528.14
5/18/1999	47.78	6528.39
5/24/1999	47.51	6528.66
6/2/1999	47.39	6528.78
7/7/1999	50.48	6525.69
8/2/1999	47.50	6528.67
9/7/1999	46.92	6529.25
10/6/1999	47.24	6528.93
11/1/1999	47.56	6528.61
11/29/1999	48.14	6528.03

B10

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	59.46	6517.31
2/1/1999	59.09	6517.68
3/1/1999	59.80	6516.97
4/5/1999	75.82	6500.95
5/5/1999	48.02	6528.75
7/6/1999	64.55	6512.22
8/2/1999	47.40	6529.37
9/7/1999	46.98	6529.79
10/4/1999	46.25	6530.52
11/1/1999	47.22	6529.55
11/29/1999	47.65	6529.12

B11

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	47.75	6529.64
7/6/1999	60.77	6516.62
8/2/1999	46.85	6530.54
9/7/1999	46.55	6530.84
10/4/1999	46.65	6530.74
10/20/1999	46.84	6530.55
11/1/1999	46.76	6530.63
11/29/1999	47.11	6530.28

BA

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	42.87	6528.71
1/11/1999	42.76	6528.82
1/19/1999	42.71	6528.87
1/25/1999	42.72	6528.86
2/1/1999	42.72	6528.86
2/8/1999	42.65	6528.93
2/16/1999	42.49	6529.09
2/22/1999	42.48	6529.10
3/1/1999	42.47	6529.11
3/8/1999	42.38	6529.20
3/15/1999	42.26	6529.32
3/23/1999	42.43	6529.15
3/29/1999	42.61	6528.97
4/5/1999	42.70	6528.88
4/12/1999	42.80	6528.78
4/20/1999	42.81	6528.77
4/26/1999	42.64	6528.94
5/5/1999	42.69	6528.89
5/10/1999	42.34	6529.24
5/18/1999	43.02	6528.56
5/24/1999	42.74	6528.84
6/2/1999	42.81	6528.77
6/7/1999	42.90	6528.68
6/14/1999	43.28	6528.30
6/21/1999	43.22	6528.36
6/28/1999	43.25	6528.33
7/7/1999	43.52	6528.06
7/19/1999	43.74	6527.84
7/26/1999	43.17	6528.41
8/2/1999	43.50	6528.08
8/9/1999	43.50	6528.08
8/16/1999	43.53	6528.05
8/23/1999	43.45	6528.13
8/30/1999	43.45	6528.13
9/7/1999	42.80	6528.78
9/13/1999	43.30	6528.28
9/20/1999	43.30	6528.28
9/27/1999	43.24	6528.34
10/6/1999	43.42	6528.16
10/11/1999	43.62	6527.96
10/18/1999	43.47	6528.11
10/25/1999	43.56	6528.02
11/1/1999	43.62	6527.96
11/8/1999	43.66	6527.92
11/15/1999	43.81	6527.77
11/22/1999	43.64	6527.94
11/29/1999	44.00	6527.58
12/6/1999	43.79	6527.79
12/14/1999	43.90	6527.68
12/20/1999	43.94	6527.64
12/28/1999	44.24	6527.34

BC

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	51.05	6523.56
1/11/1999	50.95	6523.66
1/19/1999	51.03	6523.58
1/19/1999	56.82	6517.79
1/25/1999	50.91	6523.70
2/1/1999	50.85	6523.76
2/16/1999	50.58	6524.03
3/1/1999	50.49	6524.12
4/5/1999	50.25	6524.36
5/5/1999	50.28	6524.33
5/18/1999	50.43	6524.18
5/24/1999	50.41	6524.20
6/2/1999	50.40	6524.21
7/7/1999	50.70	6523.91
9/7/1999	50.67	6523.94
10/6/1999	50.61	6524.00
10/14/1999	50.62	6523.99
11/1/1999	50.44	6524.17
11/29/1999	50.40	6524.21

BP

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
2/2/1999	43.80	6528.50
5/10/1999	43.26	6529.04
8/11/1999	44.86	6527.44
8/11/1999	45.17	6527.13
8/11/1999	45.25	6527.05
8/11/1999	45.28	6527.02
8/11/1999	45.28	6527.02
8/11/1999	45.30	6527.00
8/12/1999	45.57	6526.73
8/12/1999	45.55	6526.75
8/13/1999	45.64	6526.66
8/17/1999	45.70	6526.60
11/3/1999	45.84	6526.46

C2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/6/1999	37.24	6527.88
8/2/1999	45.67	6519.45
9/7/1999	37.58	6527.54
10/4/1999	39.34	6525.78
11/1/1999	52.29	6512.83
11/29/1999	56.05	6509.07

C3R

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/6/1999	40.28	6529.10
8/2/1999	54.81	6514.57
9/7/1999	40.98	6528.40
10/4/1999	43.26	6526.12
11/1/1999	53.97	6515.41
11/29/1999	54.62	6514.76

C4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	62.64	6508.26
2/1/1999	62.70	6508.20
3/1/1999	62.75	6508.15
4/5/1999	62.88	6508.02
5/5/1999	62.92	6507.98
7/6/1999	42.01	6528.89
8/2/1999	59.18	6511.72
9/7/1999	42.70	6528.20
10/4/1999	44.93	6525.97
11/1/1999	59.72	6511.18
11/29/1999	62.44	6508.46

C5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/20/1999	41.61	6528.21

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

C6

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	61.31	6523.58
2/1/1999	60.95	6523.94
3/1/1999	60.49	6524.40
4/5/1999	56.55	6528.34
5/5/1999	56.40	6528.49
6/1/1999	56.25	6528.64
7/6/1999	56.50	6528.39
8/2/1999	56.23	6528.66
9/7/1999	56.36	6528.53
10/4/1999	56.44	6528.45
11/1/1999	56.62	6528.27
11/29/1999	57.00	6527.89

C7

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	65.25	6519.19
2/1/1999	64.65	6519.79
3/1/1999	65.80	6518.64
4/5/1999	66.80	6517.64
5/5/1999	65.60	6518.84
6/1/1999	63.60	6520.84
7/6/1999	64.48	6519.96
8/2/1999	70.20	6514.24
9/7/1999	63.78	6520.66
10/4/1999	65.35	6519.09
11/1/1999	68.38	6516.06
11/29/1999	69.30	6515.14

C8

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	64.65	6519.84
2/1/1999	61.55	6522.94
3/1/1999	64.95	6519.54
4/5/1999	62.30	6522.19
5/5/1999	54.65	6529.84
6/1/1999	54.60	6529.89
7/6/1999	60.45	6524.04
8/2/1999	68.00	6516.49
9/7/1999	65.00	6519.49
10/4/1999	63.64	6520.85
11/1/1999	64.32	6520.17
11/29/1999	71.55	6512.94

C9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	58.95	6525.60
2/1/1999	58.95	6525.60
3/1/1999	58.84	6525.71
4/5/1999	59.09	6525.46
5/5/1999	58.95	6525.60
6/1/1999	57.95	6526.60
7/6/1999	53.04	6531.51
8/2/1999	59.42	6525.13
9/7/1999	59.34	6525.21
10/4/1999	58.46	6526.09
11/1/1999	58.68	6525.87
11/29/1999	59.15	6525.40

C10

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	66.26	6519.00
2/1/1999	67.62	6517.64
3/1/1999	67.80	6517.46
4/5/1999	62.50	6522.76
5/5/1999	62.00	6523.26
6/1/1999	58.90	6526.36
7/6/1999	51.95	6533.31
8/2/1999	51.86	6533.40
9/7/1999	51.63	6533.63
10/4/1999	51.64	6533.62
11/1/1999	51.48	6533.78
11/29/1999	52.64	6532.62

C11

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	63.42	6517.96
2/1/1999	63.40	6517.98
3/1/1999	43.67	6537.71
4/5/1999	42.45	6538.93
5/5/1999	42.40	6538.98
7/6/1999	42.90	6538.48
8/2/1999	42.87	6538.51
9/7/1999	45.52	6535.86
10/4/1999	43.04	6538.34
11/1/1999	42.27	6539.11
11/29/1999	42.30	6539.08

C12

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	59.50	6521.05
2/1/1999	59.73	6520.82
3/1/1999	59.60	6520.95
4/5/1999	40.15	6540.40
5/5/1999	40.05	6540.50
7/6/1999	42.50	6538.05
8/2/1999	39.19	6541.36
9/7/1999	41.46	6539.09
10/4/1999	39.65	6540.90
11/1/1999	38.90	6541.65
11/29/1999	38.35	6542.20

D1

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	44.79	6526.11
1/11/1999	44.65	6526.25
1/19/1999	44.71	6526.19
1/25/1999	44.71	6526.19
2/1/1999	44.74	6526.16
2/2/1999	44.77	6526.13
2/16/1999	44.51	6526.39
3/1/1999	44.47	6526.43
4/5/1999	44.89	6526.01
5/5/1999	44.69	6526.21
5/10/1999	44.34	6526.56
5/18/1999	45.40	6525.50
5/24/1999	45.04	6525.86
6/2/1999	45.06	6525.84
7/7/1999	45.64	6525.26
8/2/1999	45.66	6525.24
8/17/1999	45.88	6525.02
9/7/1999	45.64	6525.26
10/6/1999	46.12	6524.78
11/1/1999	46.28	6524.62
11/4/1999	46.20	6524.70
11/29/1999	46.62	6524.28

D2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.00	6577.17
2/1/1999	11.40	6568.77
3/1/1999	1.50	6578.67
4/5/1999	4.00	6576.17
5/5/1999	3.60	6576.57
6/1/1999	0.50	6579.67
7/6/1999	2.00	6578.17
8/2/1999	8.00	6572.17
9/7/1999	3.50	6576.67
10/5/1999	2.15	6578.02
11/1/1999	2.30	6577.87
11/29/1999	0.50	6579.67

D3

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.50	6576.63
2/1/1999	10.50	6569.63
3/1/1999	29.00	6551.13
4/5/1999	6.30	6573.83
5/5/1999	5.50	6574.63
6/1/1999	6.00	6574.13
7/6/1999	7.20	6572.93
8/2/1999	7.45	6572.68
9/7/1999	9.60	6570.53
10/5/1999	11.52	6568.61
11/1/1999	11.04	6569.09
11/29/1999	0.50	6579.63

D4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.00	6576.43
2/1/1999	2.50	6576.93
3/1/1999	0.50	6578.93
4/5/1999	24.00	6555.43
5/5/1999	2.60	6576.83
6/1/1999	5.00	6574.43
7/6/1999	1.50	6577.93
8/2/1999	6.50	6572.93
9/7/1999	3.40	6576.03
10/5/1999	1.87	6577.56
11/1/1999	2.40	6577.03
11/29/1999	0.50	6578.93

DAA

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	1.00	6579.60
2/1/1999	8.00	6572.60
3/1/1999	7.50	6573.10
4/5/1999	4.50	6576.10
5/5/1999	3.80	6576.80
6/1/1999	4.00	6576.60
7/6/1999	12.60	6568.00
8/2/1999	13.46	6567.14
9/7/1999	1.00	6579.60
10/5/1999	4.17	6576.43
11/1/1999	3.89	6576.71
11/29/1999	3.50	6577.10

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
DAB		
1/4/1999	3.50	6576.38
2/1/1999	8.40	6571.48
3/1/1999	13.00	6566.88
4/5/1999	1.00	6578.88
5/5/1999	5.20	6574.68
6/1/1999	12.60	6567.28
7/6/1999	13.00	6566.88
8/2/1999	12.78	6567.10
9/7/1999	16.50	6563.38
10/5/1999	4.84	6575.04
11/1/1999	6.02	6573.86
11/29/1999	0.50	6579.38
DC		
1/4/1999	48.12	6523.19
2/1/1999	47.91	6523.40
2/4/1999	47.82	6523.49
3/1/1999	47.86	6523.45
4/5/1999	48.03	6523.28
5/5/1999	48.16	6523.15
6/2/1999	48.18	6523.13
7/7/1999	48.25	6523.06
8/19/1999	48.12	6523.19
9/7/1999	47.27	6524.04
10/6/1999	43.48	6527.83
11/1/1999	44.79	6526.52
11/29/1999	45.63	6525.68
DD		
4/20/1999	57.68	6534.91
DL		
1/4/1999	2.00	6582.87
2/1/1999	8.00	6576.87
3/1/1999	8.00	6576.87
4/5/1999	5.00	6579.87
5/5/1999	6.60	6578.27
6/1/1999	10.40	6574.47
7/6/1999	15.50	6569.37
8/2/1999	5.00	6579.87
9/7/1999	2.00	6582.87
10/5/1999	6.69	6578.18
11/1/1999	6.50	6578.37
11/29/1999	6.20	6578.67
DM		
1/4/1999	49.66	6525.42
1/11/1999	49.51	6525.57
1/19/1999	49.63	6525.45
1/25/1999	49.63	6525.45
2/1/1999	49.68	6525.40
2/16/1999	49.32	6525.76
3/1/1999	49.07	6526.01
3/23/1999	48.83	6526.25
4/5/1999	50.81	6524.27
5/5/1999	48.22	6526.86
5/18/1999	50.95	6524.13
5/24/1999	50.32	6524.76
6/2/1999	50.60	6524.48
7/7/1999	51.45	6523.63
8/2/1999	51.13	6523.95
9/7/1999	47.73	6527.35
9/15/1999	47.70	6527.38
10/6/1999	47.72	6527.36
11/1/1999	50.80	6524.28
11/29/1999	51.56	6523.52
DN		
1/4/1999	50.25	6526.41
1/11/1999	50.21	6526.45
1/19/1999	50.28	6526.38
1/25/1999	50.30	6526.36
2/1/1999	50.40	6526.26
2/16/1999	50.23	6526.43
3/1/1999	50.31	6526.35
4/5/1999	50.43	6526.23
5/5/1999	50.41	6526.25
5/18/1999	50.48	6526.18
5/24/1999	50.07	6526.59
6/2/1999	50.03	6526.63
7/7/1999	50.34	6526.32
8/2/1999	50.30	6526.36
9/7/1999	49.56	6527.10
10/6/1999	50.26	6526.40
11/1/1999	50.36	6526.30
11/29/1999	50.75	6525.91
DNR		
1/4/1999	50.69	6526.37
2/1/1999	50.83	6526.23
3/1/1999	50.71	6526.35
4/5/1999	51.00	6526.06
5/5/1999	50.64	6526.42
6/2/1999	50.79	6526.27
7/7/1999	51.12	6525.94
8/2/1999	51.07	6525.99
9/7/1999	50.52	6526.54
10/6/1999	51.00	6526.06
11/1/1999	51.13	6525.93
11/29/1999	51.55	6525.51
DO		
1/4/1999	65.58	6524.75
1/11/1999	65.40	6524.93
1/19/1999	65.74	6524.59
1/25/1999	65.67	6524.66
2/1/1999	65.80	6524.53
2/16/1999	65.24	6525.09
3/1/1999	65.31	6525.02
4/5/1999	66.63	6523.70
5/5/1999	63.57	6526.76
5/18/1999	65.06	6525.27
5/24/1999	64.53	6525.80
6/2/1999	64.59	6525.74
7/7/1999	65.35	6524.98
8/2/1999	65.06	6525.27
9/7/1999	63.25	6527.08
10/6/1999	64.63	6525.70
11/1/1999	65.75	6524.58
11/29/1999	65.33	6525.00
DQ		
1/4/1999	48.69	6527.74
1/11/1999	48.61	6527.82
1/19/1999	48.71	6527.72
1/25/1999	48.76	6527.67
2/1/1999	48.81	6527.62
2/2/1999	48.85	6527.58
2/16/1999	48.54	6527.89
3/1/1999	48.76	6527.67
4/5/1999	49.33	6527.10
5/5/1999	47.95	6528.48
5/10/1999	47.94	6528.49
5/18/1999	47.77	6528.66
5/24/1999	47.43	6529.00
6/2/1999	47.24	6529.19
7/7/1999	50.91	6525.52
8/2/1999	47.36	6529.07
8/17/1999	48.00	6528.43
9/7/1999	46.80	6529.63
10/6/1999	47.07	6529.36
11/1/1999	47.33	6529.10
11/4/1999	47.30	6529.13
11/29/1999	47.92	6528.51
DR		
1/4/1999	87.37	6503.46
2/1/1999	83.61	6507.22
3/1/1999	70.34	6520.49
4/5/1999	87.45	6503.38
5/5/1999	64.30	6526.53
7/6/1999	65.35	6525.48
8/2/1999	65.36	6525.47
9/7/1999	64.10	6526.73
10/4/1999	65.28	6525.55
11/1/1999	65.32	6525.51
11/29/1999	65.85	6524.98
DS		
1/4/1999	66.11	6522.70
2/1/1999	65.65	6523.16
3/1/1999	65.66	6523.15
4/5/1999	66.84	6521.97
5/5/1999	61.91	6526.90
6/1/1999	62.00	6526.81
7/6/1999	65.30	6523.51
8/2/1999	65.22	6523.59
DT		
5/5/1999	67.00	6516.81
7/6/1999	67.30	6516.51
8/2/1999	60.81	6523.00
9/7/1999	60.61	6523.20
10/4/1999	60.51	6523.30
11/1/1999	60.74	6523.07
11/29/1999	60.98	6522.83

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

DV

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	57.33	6528.27
7/6/1999	58.85	6526.75
8/2/1999	57.18	6528.42
9/7/1999	56.40	6529.20
10/4/1999	57.18	6528.42
11/1/1999	57.25	6528.35
11/29/1999	57.32	6528.28

DW

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.00	6585.66
2/1/1999	8.00	6580.66
3/1/1999	8.00	6580.66
4/5/1999	6.50	6582.16
5/5/1999	8.00	6580.66
6/1/1999	9.50	6579.16
7/6/1999	11.60	6577.06
8/2/1999	11.10	6577.56
9/7/1999	10.60	6578.06
10/5/1999	9.41	6579.25
11/1/1999	10.10	6578.56
11/29/1999	10.84	6577.82

DX

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	64.37	6527.61
2/1/1999	64.34	6527.64
3/1/1999	64.44	6527.54
4/5/1999	64.89	6527.09
5/5/1999	62.34	6529.64
6/1/1999	63.07	6528.91
7/6/1999	64.72	6527.26
8/2/1999	61.80	6530.18

DY

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6576.61
2/1/1999	3.00	6577.61
3/1/1999	3.00	6577.61
4/5/1999	3.50	6577.11
5/5/1999	4.60	6576.01
6/1/1999	6.00	6574.61
7/6/1999	5.78	6574.83
8/2/1999	5.08	6575.53
9/7/1999	8.50	6572.11
10/5/1999	5.18	6575.43
11/1/1999	5.89	6574.72
11/29/1999	6.20	6574.41

DZ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	57.65	6532.88
1/19/1999	57.59	6532.94
1/25/1999	57.60	6532.93
2/1/1999	57.74	6532.79
2/16/1999	57.61	6532.92
3/1/1999	57.79	6532.74
3/23/1999	57.76	6532.77
4/5/1999	58.04	6532.49
5/5/1999	57.63	6532.90
5/18/1999	57.63	6532.90
5/24/1999	57.34	6533.19
6/2/1999	57.14	6533.39
7/7/1999	58.73	6531.80
8/2/1999	57.28	6533.25
9/7/1999	57.01	6533.52
9/15/1999	56.98	6533.55
10/6/1999	56.84	6533.69
11/1/1999	56.88	6533.65
11/29/1999	57.29	6533.24

E

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6564.94
2/1/1999	4.00	6564.94
3/1/1999	4.00	6564.94
4/5/1999	4.00	6564.94
5/5/1999	4.00	6564.94
6/1/1999	3.00	6565.94
7/6/1999	4.00	6564.94
8/2/1999	4.00	6564.94
9/7/1999	4.00	6564.94
10/4/1999	4.00	6564.94
11/1/1999	4.00	6564.94
11/29/1999	4.00	6564.94

F

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/19/1999	32.80	6532.02
7/7/1999	32.86	6531.96

FB

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/19/1999	34.00	6531.66
10/14/1999	33.60	6532.06

G

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6559.09
2/1/1999	4.00	6559.09
3/1/1999	4.00	6559.09
4/5/1999	4.00	6559.09
5/5/1999	4.00	6559.09
6/1/1999	4.00	6559.09
7/6/1999	4.00	6559.09
8/2/1999	4.00	6559.09
9/7/1999	4.00	6559.09
10/4/1999	4.00	6559.09
11/1/1999	4.00	6559.09
11/29/1999	4.00	6559.09

GA

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6558.79
2/1/1999	4.00	6558.79
3/1/1999	4.00	6558.79
4/5/1999	4.00	6558.79
5/5/1999	4.00	6558.79
6/1/1999	4.00	6558.79
7/6/1999	4.00	6558.79
8/2/1999	2.73	6560.06
9/7/1999	5.00	6557.79
10/4/1999	4.00	6558.79
11/1/1999	4.00	6558.79
11/29/1999	5.40	6557.39

GB

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6558.99
2/1/1999	5.00	6557.99
3/1/1999	4.00	6558.99
4/5/1999	4.00	6558.99
5/5/1999	4.00	6558.99
6/1/1999	5.00	6557.99
7/6/1999	5.00	6557.99
8/2/1999	5.00	6557.99
9/7/1999	6.00	6556.99
10/4/1999	4.00	6558.99
11/1/1999	4.50	6558.49
11/29/1999	4.00	6558.99

GC

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6561.17
2/1/1999	4.00	6561.17
3/1/1999	4.00	6561.17
4/5/1999	4.00	6561.17
5/5/1999	4.00	6561.17
6/1/1999	4.00	6561.17
7/6/1999	4.00	6561.17
8/2/1999	4.00	6561.17
9/7/1999	4.00	6561.17
10/4/1999	5.00	6560.17
11/1/1999	4.00	6561.17
11/29/1999	4.00	6561.17

GE

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6562.27
2/1/1999	5.00	6561.27
3/1/1999	4.00	6562.27
4/5/1999	4.00	6562.27
5/5/1999	4.00	6562.27
6/1/1999	4.00	6562.27
7/6/1999	4.00	6562.27
8/2/1999	1.00	6565.27
9/7/1999	4.00	6562.27
10/4/1999	5.00	6561.27
11/1/1999	4.00	6562.27
11/29/1999	4.00	6562.27

GF

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	6.00	6560.01
2/1/1999	4.00	6562.01
3/1/1999	4.00	6562.01
4/5/1999	4.00	6562.01
5/5/1999	4.00	6562.01
6/1/1999	6.00	6560.01
7/6/1999	5.00	6561.01
8/2/1999	1.31	6564.70
9/7/1999	4.00	6562.01
10/4/1999	4.00	6562.01
11/1/1999	4.00	6562.01
11/29/1999	4.00	6562.01

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

GG

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6559.13
2/1/1999	4.00	6559.13
3/1/1999	4.00	6559.13
4/5/1999	4.00	6559.13
5/5/1999	4.00	6559.13
6/1/1999	4.00	6559.13
7/6/1999	4.00	6559.13
8/2/1999	4.00	6559.13
9/7/1999	4.00	6559.13
10/4/1999	4.00	6559.13
11/1/1999	4.00	6559.13
11/29/1999	4.00	6559.13

GH

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
6/1/1999	30.92	6531.84
11/9/1999	31.92	6530.84

GI

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	6.30	6559.55
2/1/1999	4.00	6561.85
3/1/1999	4.00	6561.85
4/5/1999	4.00	6561.85
5/5/1999	4.00	6561.85
6/1/1999	4.00	6561.85
7/6/1999	5.00	6560.85
8/2/1999	2.04	6563.81
9/7/1999	4.50	6561.35
10/4/1999	5.00	6560.85
11/1/1999	4.00	6561.85
11/29/1999	4.00	6561.85

GJ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	7.00	6559.15
2/1/1999	5.00	6561.15
3/1/1999	4.00	6562.15
4/5/1999	4.00	6562.15
5/5/1999	4.00	6562.15
6/1/1999	6.00	6560.15
7/6/1999	4.00	6562.15
8/2/1999	2.05	6564.10
9/7/1999	6.00	6560.15
10/4/1999	5.00	6561.15
11/1/1999	4.00	6562.15
11/29/1999	4.00	6562.15

GK

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	6.00	6560.76
2/1/1999	4.00	6562.76
3/1/1999	4.00	6562.76
4/5/1999	4.00	6562.76
5/5/1999	4.00	6562.76
6/1/1999	5.00	6561.76
7/6/1999	4.00	6562.76
8/2/1999	1.83	6564.93
9/7/1999	5.00	6561.76
10/4/1999	4.00	6562.76
11/1/1999	4.00	6562.76
11/29/1999	4.00	6562.76

GL

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	5.50	6561.65
2/1/1999	4.00	6563.15
3/1/1999	4.00	6563.15
4/5/1999	4.00	6563.15
5/5/1999	4.00	6563.15
6/1/1999	4.00	6563.15
7/6/1999	4.00	6563.15
8/2/1999	2.02	6565.13
9/7/1999	5.00	6562.15
10/4/1999	4.00	6563.15
11/1/1999	4.00	6563.15
11/29/1999	4.00	6563.15

GM

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	8.00	6559.65
2/1/1999	4.00	6563.65
3/1/1999	4.00	6563.65
4/5/1999	4.00	6563.65
5/5/1999	4.00	6563.65
6/1/1999	4.00	6563.65
7/6/1999	4.00	6563.65
8/2/1999	1.92	6565.73
9/7/1999	5.00	6562.65
10/4/1999	5.00	6562.65
11/1/1999	4.00	6563.65
11/29/1999	4.00	6563.65

GN

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	6.00	6561.97
2/1/1999	4.00	6563.97
3/1/1999	5.00	6562.97
4/5/1999	4.00	6563.97
5/5/1999	4.00	6563.97
6/1/1999	5.00	6562.97
7/6/1999	4.00	6563.97
8/2/1999	2.50	6565.47
9/7/1999	4.00	6563.97
10/4/1999	5.00	6562.97
11/1/1999	4.00	6563.97
11/29/1999	4.00	6563.97

GO

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6559.00
2/1/1999	4.00	6559.00
3/1/1999	5.00	6558.00
4/5/1999	4.00	6559.00
5/5/1999	4.00	6559.00
6/1/1999	6.00	6557.00
7/6/1999	5.00	6558.00
8/2/1999	4.82	6558.18
9/7/1999	4.00	6559.00
10/4/1999	5.00	6558.00
11/1/1999	4.00	6559.00
11/29/1999	5.00	6558.00

GP

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6560.87
2/1/1999	5.00	6559.87
3/1/1999	5.00	6559.87
4/5/1999	5.00	6559.87
5/5/1999	5.00	6559.87
6/1/1999	5.00	6559.87
7/6/1999	5.00	6559.87
8/2/1999	2.36	6562.51
9/7/1999	5.00	6559.87
10/4/1999	4.00	6560.87
11/1/1999	4.00	6560.87
11/29/1999	4.00	6560.87

GS

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	40.00	6534.31
2/1/1999	30.00	6544.31
3/1/1999	31.30	6543.01
4/5/1999	34.50	6539.81
5/5/1999	35.00	6539.31
6/1/1999	34.60	6539.71
7/6/1999	33.80	6540.51
8/2/1999	34.73	6539.58
9/7/1999	18.80	6555.51
10/4/1999	33.84	6540.47
11/1/1999	32.00	6542.31
11/29/1999	35.60	6538.71

GT

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	6.00	6570.17
2/1/1999	4.00	6572.17
3/1/1999	6.00	6570.17
4/5/1999	3.00	6573.17
5/5/1999	8.00	6568.17
6/1/1999	7.00	6569.17
7/6/1999	5.50	6570.67
8/2/1999	2.16	6574.01
9/7/1999	8.00	6568.17
10/4/1999	4.00	6572.17
11/1/1999	5.00	6571.17
11/29/1999	4.30	6571.87

GU

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6571.65
2/1/1999	4.00	6571.65
3/1/1999	4.00	6571.65
4/5/1999	5.00	6570.65
5/5/1999	4.00	6571.65
6/1/1999	4.00	6571.65
7/6/1999	4.00	6571.65
8/2/1999	3.60	6572.05
9/7/1999	4.00	6571.65
10/4/1999	4.00	6571.65
11/1/1999	5.00	6570.65
11/29/1999	4.00	6571.65

GV

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/12/1999	43.49	6533.89

I

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/19/1999	34.87	6532.33
7/7/1999	35.09	6532.11

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

J

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	6.00	6564.19
2/1/1999	4.00	6566.19
3/1/1999	4.00	6566.19
4/5/1999	4.00	6566.19
5/5/1999	4.00	6566.19
6/1/1999	4.00	6566.19
7/6/1999	4.00	6566.19
8/2/1999	2.75	6567.44
9/7/1999	4.00	6566.19
10/4/1999	4.00	6566.19
11/1/1999	5.00	6565.19
11/29/1999	5.00	6565.19

J1

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	8.00	6563.85
2/1/1999	8.00	6563.85
3/1/1999	11.00	6560.85
4/5/1999	16.77	6555.08
5/5/1999	18.00	6553.85
6/1/1999	19.00	6552.85
7/6/1999	22.50	6549.35
8/2/1999	26.14	6545.71
9/7/1999	15.00	6556.85
10/4/1999	16.50	6555.35
11/1/1999	17.00	6554.85
11/29/1999	17.00	6554.85

J2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	32.00	6538.19
2/1/1999	29.50	6540.69
3/1/1999	35.50	6534.69
4/5/1999	18.28	6551.91
5/5/1999	20.00	6550.19
6/1/1999	12.00	6558.19
7/6/1999	18.80	6551.39
8/2/1999	3.67	6566.52
9/7/1999	28.00	6542.19
10/4/1999	28.80	6541.39
11/1/1999	29.00	6541.19
11/29/1999	29.00	6541.19

J3

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	33.00	6536.14
2/1/1999	25.00	6544.14
3/1/1999	33.00	6536.14
4/5/1999	34.59	6534.55
5/5/1999	33.80	6535.34
6/1/1999	18.85	6550.29
7/6/1999	21.00	6548.14
8/2/1999	33.12	6536.02
9/7/1999	13.00	6556.14
10/4/1999	14.10	6555.04
11/1/1999	16.00	6553.14
11/29/1999	13.20	6555.94

J4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	35.00	6534.52
2/1/1999	31.00	6538.52
3/1/1999	25.00	6544.52
4/5/1999	31.38	6538.14
5/5/1999	35.00	6534.52
6/1/1999	23.50	6546.02
7/6/1999	24.00	6545.52
8/2/1999	22.87	6546.65
9/7/1999	8.68	6560.84
10/4/1999	31.45	6538.07
11/1/1999	32.00	6537.52
11/29/1999	31.80	6537.72

J5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	20.00	6549.79
2/1/1999	19.70	6550.09
3/1/1999	22.86	6546.93
4/5/1999	7.85	6561.94
5/5/1999	9.00	6560.79
6/1/1999	6.50	6563.29
7/6/1999	18.00	6551.79
8/2/1999	4.00	6565.79
9/7/1999	5.00	6564.79
10/4/1999	28.00	6541.79
11/1/1999	11.00	6558.79
11/29/1999	8.00	6561.79

J6

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	20.00	6550.10
2/1/1999	21.00	6549.10
3/1/1999	21.55	6548.55
4/5/1999	24.48	6545.62
5/5/1999	24.98	6545.12
6/1/1999	8.00	6562.10
7/6/1999	7.00	6563.10
8/2/1999	4.76	6565.34
9/7/1999	8.00	6562.10
10/4/1999	6.00	6564.10
11/1/1999	6.00	6564.10
11/29/1999	7.00	6563.10

J7

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	23.00	6547.38
2/1/1999	15.00	6555.38
3/1/1999	10.00	6560.38
4/5/1999	23.00	6547.38
5/5/1999	25.00	6545.38
6/1/1999	13.00	6557.38
7/6/1999	16.00	6554.38
8/2/1999	18.12	6552.26
9/7/1999	32.50	6537.88
10/4/1999	33.00	6537.38
11/1/1999	34.00	6536.38
11/29/1999	33.30	6537.08

J8

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	36.00	6534.79
2/1/1999	31.00	6539.79
3/1/1999	32.00	6538.79
4/5/1999	33.60	6537.19
5/5/1999	34.80	6535.99
6/1/1999	21.60	6549.19
7/6/1999	27.30	6543.49
8/2/1999	35.53	6535.26
9/7/1999	35.30	6535.49
10/4/1999	35.80	6534.99
11/1/1999	34.50	6536.29
11/29/1999	35.60	6535.19

J9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	7.50	6563.70
2/1/1999	4.00	6567.20
3/1/1999	4.00	6567.20
4/5/1999	5.00	6566.20
5/5/1999	4.50	6566.70
6/1/1999	5.00	6566.20
7/6/1999	12.00	6559.20
8/2/1999	14.63	6556.57
9/7/1999	24.00	6547.20
10/4/1999	26.00	6545.20
11/1/1999	27.00	6544.20
11/29/1999	26.00	6545.20

J10

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	8.00	6562.91
2/1/1999	4.00	6566.91
3/1/1999	5.00	6565.91
4/5/1999	8.00	6562.91
5/5/1999	9.80	6561.11
6/1/1999	4.00	6566.91
7/6/1999	8.00	6562.91
8/2/1999	5.50	6565.41
9/7/1999	22.00	6548.91
10/4/1999	23.00	6547.91
11/1/1999	28.00	6542.91
11/29/1999	26.00	6544.91

J11

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	10.00	6559.86
2/1/1999	3.00	6566.86
3/1/1999	5.80	6564.06
4/5/1999	5.00	6564.86
5/5/1999	7.50	6562.36
6/1/1999	12.00	6557.86
7/6/1999	10.00	6559.86
8/2/1999	1.85	6568.01
9/7/1999	5.80	6564.06
10/4/1999	6.80	6563.06
11/1/1999	9.55	6560.31
11/29/1999	7.20	6562.66

J12

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	27.00	6543.30
2/1/1999	4.00	6566.30
3/1/1999	4.00	6566.30
4/5/1999	4.00	6566.30
5/5/1999	4.40	6565.90
6/1/1999	8.00	6562.30
7/6/1999	15.00	6555.30
8/2/1999	3.95	6566.35
9/7/1999	12.80	6557.50
10/4/1999	12.85	6557.45
11/1/1999	12.00	6558.30
11/29/1999	8.00	6562.30

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
JC		
1/4/1999	32.00	6536.44
2/1/1999	18.00	6550.44
3/1/1999	29.00	6539.44
4/5/1999	31.68	6536.76
5/5/1999	30.00	6538.44
6/1/1999	5.00	6563.44
7/6/1999	12.60	6555.84
8/2/1999	14.78	6553.66
9/7/1999	21.00	6547.44
10/4/1999	23.00	6545.44
11/1/1999	23.00	6545.44
11/29/1999	23.60	6544.84
K2		
1/4/1999	40.15	6532.06
2/1/1999	39.52	6532.69
3/1/1999	39.26	6532.95
4/5/1999	39.56	6532.65
4/19/1999	39.29	6532.92
5/5/1999	39.15	6533.06
6/1/1999	39.65	6532.56
7/6/1999	40.10	6532.11
8/2/1999	39.68	6532.53
9/7/1999	38.04	6534.17
10/4/1999	37.68	6534.53
10/12/1999	37.38	6534.83
11/1/1999	37.11	6535.10
11/29/1999	36.70	6535.51
K4		
4/27/1999	63.00	6539.02
10/20/1999	63.16	6538.86
K5		
4/27/1999	66.28	6535.45
10/20/1999	65.77	6535.96
K6		
5/26/1999	37.26	6532.81
7/20/1999	36.62	6533.45
8/5/1999	36.08	6533.99
8/10/1999	35.76	6534.31
8/17/1999	34.54	6535.53
8/24/1999	34.00	6536.07
8/27/1999	33.33	6536.74
8/31/1999	33.95	6536.12
9/1/1999	33.69	6536.38
9/3/1999	34.41	6535.66
9/10/1999	33.32	6536.75
9/16/1999	33.11	6536.96
9/30/1999	32.83	6537.24
10/7/1999	32.74	6537.33
10/14/1999	32.64	6537.43
10/21/1999	32.74	6537.33
10/28/1999	33.54	6536.53
11/11/1999	32.24	6537.83
12/2/1999	32.18	6537.89
12/9/1999	32.20	6537.87
KA		
1/4/1999	42.61	6529.58
2/1/1999	42.20	6529.99
3/1/1999	41.90	6530.29
4/5/1999	49.19	6523.00
5/5/1999	47.40	6524.79
6/1/1999	47.61	6524.58
7/6/1999	47.45	6524.74
8/2/1999	46.90	6525.29
9/7/1999	48.00	6524.19
10/4/1999	45.85	6526.34
11/1/1999	44.89	6527.30
11/29/1999	43.98	6528.21
KB		
1/4/1999	46.36	6525.29
2/1/1999	47.42	6524.23
3/1/1999	50.95	6520.70
4/5/1999	62.85	6508.80
5/5/1999	65.90	6505.75
6/1/1999	66.79	6504.86
7/6/1999	52.88	6518.77
8/2/1999	47.00	6524.65
9/7/1999	49.75	6521.90
10/4/1999	41.35	6530.30
11/1/1999	40.35	6531.30
11/29/1999	37.80	6533.85
KC		
1/4/1999	65.40	6504.91
2/1/1999	39.65	6530.66
3/1/1999	66.50	6503.81
4/5/1999	60.66	6509.65
5/5/1999	63.10	6507.21
6/1/1999	39.00	6531.31
7/6/1999	64.95	6505.36
8/2/1999	38.70	6531.61
9/7/1999	37.80	6532.51
10/4/1999	46.95	6523.36
11/1/1999	65.50	6504.81
11/29/1999	46.52	6523.79
KD		
1/4/1999	40.48	6529.74
2/1/1999	39.90	6530.32
3/1/1999	37.25	6532.97
4/5/1999	37.20	6533.02
5/5/1999	36.98	6533.24
6/1/1999	42.71	6527.51
7/6/1999	44.00	6526.22
8/2/1999	44.40	6525.82
9/7/1999	43.22	6527.00
10/4/1999	41.60	6528.62
11/1/1999	40.50	6529.72
11/29/1999	39.65	6530.57
KE		
1/4/1999	40.32	6531.96
2/1/1999	49.65	6522.63
3/1/1999	38.51	6533.77
4/5/1999	40.60	6531.68
5/5/1999	40.05	6532.23
6/1/1999	41.24	6531.04
7/6/1999	41.65	6530.63
8/2/1999	41.60	6530.68
9/7/1999	40.61	6531.67
10/4/1999	40.35	6531.93
11/1/1999	39.18	6533.10
11/29/1999	38.15	6534.13
KEB		
9/30/1999	33.10	6536.63
KF		
1/4/1999	39.99	6530.22
1/11/1999	39.88	6530.33
1/19/1999	39.83	6530.38
1/25/1999	39.75	6530.46
2/1/1999	39.65	6530.56
2/8/1999	39.55	6530.66
2/16/1999	39.43	6530.78
2/22/1999	39.36	6530.85
3/1/1999	39.32	6530.89
3/8/1999	39.39	6530.82
3/15/1999	39.30	6530.91
3/23/1999	39.27	6530.94
3/29/1999	39.28	6530.93
4/5/1999	39.22	6530.99
4/12/1999	39.16	6531.05
4/20/1999	39.14	6531.07
4/26/1999	39.04	6531.17
5/5/1999	38.97	6531.24
5/10/1999	38.92	6531.29
5/18/1999	39.04	6531.17
5/24/1999	38.88	6531.33
6/2/1999	38.91	6531.30
6/7/1999	38.91	6531.30
6/14/1999	38.91	6531.30
6/21/1999	38.82	6531.39
6/28/1999	38.85	6531.36
7/7/1999	38.90	6531.31
7/19/1999	38.83	6531.38
7/26/1999	38.76	6531.45
8/2/1999	38.72	6531.49
8/9/1999	38.65	6531.56
8/16/1999	38.59	6531.62
8/23/1999	38.45	6531.76
8/30/1999	38.32	6531.89
9/7/1999	38.20	6532.01
9/13/1999	38.08	6532.13
9/20/1999	37.92	6532.29
9/27/1999	37.70	6532.51
10/6/1999	37.54	6532.67
10/11/1999	37.46	6532.75
10/18/1999	37.33	6532.88
10/25/1999	37.29	6532.92
11/1/1999	37.18	6533.03
11/8/1999	37.14	6533.07
11/15/1999	37.12	6533.09
11/22/1999	37.04	6533.17
11/29/1999	37.04	6533.17
12/6/1999	36.96	6533.25
12/14/1999	36.90	6533.31
12/20/1999	36.78	6533.43
12/28/1999	36.76	6533.45

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

KM

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
4/20/1999	36.93	6532.84
6/1/1999	36.60	6533.17
7/6/1999	36.82	6532.95
8/2/1999	37.93	6531.84
9/7/1999	20.00	6549.77
10/4/1999	8.00	6561.77
11/1/1999	7.00	6562.77
11/29/1999	9.00	6560.77

KN

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/17/1999	35.54	6534.05
7/21/1999	36.88	6532.71
7/22/1999	36.77	6532.82
7/29/1999	36.70	6532.89
8/2/1999	36.50	6533.09
8/12/1999	36.21	6533.38
8/24/1999	35.04	6534.55
8/27/1999	34.63	6534.96
8/31/1999	34.83	6534.76
9/10/1999	34.37	6535.22
9/16/1999	34.14	6535.45
9/30/1999	33.86	6535.73
10/7/1999	33.76	6535.83
10/14/1999	33.64	6535.95
10/21/1999	33.70	6535.89
10/28/1999	33.54	6536.05
11/11/1999	33.30	6536.29
12/2/1999	33.12	6536.47
12/9/1999	33.12	6536.47

KZ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	42.79	6528.93
1/11/1999	42.70	6529.02
1/19/1999	42.67	6529.05
1/25/1999	42.55	6529.17
2/1/1999	42.52	6529.20
2/8/1999	42.45	6529.27
2/16/1999	42.41	6529.31
2/22/1999	42.30	6529.42
3/1/1999	42.25	6529.47
3/8/1999	42.30	6529.42
3/15/1999	42.25	6529.47
3/23/1999	42.21	6529.51
3/29/1999	42.23	6529.49
4/5/1999	42.18	6529.54
4/12/1999	42.10	6529.62
4/20/1999	42.08	6529.64
4/20/1999	42.11	6529.61
4/26/1999	41.99	6529.73
5/5/1999	41.93	6529.79
5/10/1999	41.85	6529.87
5/18/1999	42.11	6529.61
5/24/1999	41.99	6529.73
6/2/1999	41.99	6529.73
6/7/1999	41.98	6529.74
6/14/1999	41.98	6529.74
6/21/1999	41.93	6529.79
6/28/1999	41.90	6529.82
7/7/1999	41.91	6529.81
7/19/1999	41.78	6529.94
7/26/1999	41.78	6529.94
8/2/1999	41.77	6529.95
8/9/1999	41.79	6529.93
8/16/1999	41.88	6529.84
8/23/1999	41.85	6529.87
8/30/1999	41.81	6529.91
9/7/1999	41.73	6529.99
9/13/1999	41.63	6530.09
9/20/1999	41.52	6530.20
9/27/1999	41.36	6530.36
10/6/1999	41.26	6530.46
10/11/1999	41.21	6530.51
10/12/1999	41.17	6530.55
10/18/1999	41.13	6530.59
10/25/1999	41.10	6530.62
11/1/1999	41.02	6530.70
11/8/1999	41.01	6530.71
11/15/1999	41.01	6530.71
11/22/1999	40.93	6530.79
11/29/1999	40.95	6530.77
12/6/1999	40.87	6530.85
12/14/1999	40.81	6530.91
12/20/1999	40.64	6531.08
12/28/1999	40.58	6531.14

L

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	46.06	6528.91
2/1/1999	45.70	6529.27
3/1/1999	45.30	6529.67
4/5/1999	45.08	6529.89
5/5/1999	49.95	6525.02
6/1/1999	44.90	6530.07
7/6/1999	45.50	6529.47
8/2/1999	45.34	6529.63
9/7/1999	45.60	6529.37
10/4/1999	45.04	6529.93
11/1/1999	44.72	6530.25
11/29/1999	44.85	6530.12

L5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	53.81	6522.26
2/1/1999	53.20	6522.87
3/1/1999	51.61	6524.46
4/5/1999	51.11	6524.96
5/5/1999	50.98	6525.09
6/1/1999	51.95	6524.12
7/6/1999	52.09	6523.98
8/2/1999	52.14	6523.93
9/7/1999	51.62	6524.45
10/4/1999	52.09	6523.98
11/1/1999	50.79	6525.28
11/29/1999	50.17	6525.90

L6

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/12/1999	38.81	6535.83

L8

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	52.21	6524.28
2/1/1999	53.44	6523.05
3/1/1999	51.78	6524.71
4/5/1999	49.52	6526.97
5/5/1999	49.47	6527.02
6/1/1999	56.00	6520.49
7/6/1999	64.40	6512.09
8/2/1999	68.03	6508.46
9/7/1999	58.91	6517.58
10/4/1999	56.04	6520.45
11/1/1999	53.14	6523.35
11/29/1999	50.15	6526.34

L9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	51.04	6526.19
2/1/1999	51.04	6526.19
3/1/1999	48.67	6528.56
4/5/1999	48.94	6528.29
5/5/1999	49.05	6528.18
6/1/1999	52.05	6525.18
7/6/1999	52.59	6524.64
8/2/1999	51.93	6525.30
9/7/1999	51.62	6525.61
10/4/1999	51.44	6525.79
11/1/1999	50.11	6527.12
11/29/1999	49.27	6527.96

L10

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	50.55	6526.28
2/1/1999	51.61	6525.22
3/1/1999	49.60	6527.23
4/5/1999	48.19	6528.64
5/5/1999	47.99	6528.84
6/1/1999	49.01	6527.82
7/6/1999	49.26	6527.57
8/2/1999	51.24	6525.59
9/7/1999	50.69	6526.14
10/4/1999	50.54	6526.29
11/1/1999	49.79	6527.04
11/29/1999	48.19	6528.64

M3

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	60.14	6515.96
2/1/1999	59.70	6516.40
3/1/1999	59.46	6516.64
4/5/1999	64.52	6511.58
5/5/1999	64.40	6511.70
7/6/1999	65.10	6511.00
8/2/1999	66.68	6509.42
9/7/1999	66.34	6509.76
10/4/1999	53.00	6523.10
11/1/1999	66.05	6510.05
11/29/1999	66.30	6509.80

M4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
4/27/1999	57.31	6520.95
10/13/1999	58.16	6520.10

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

M5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	49.22	6526.12
1/19/1999	49.06	6526.28
2/1/1999	49.11	6526.23
2/4/1999	49.00	6526.34
2/16/1999	48.95	6526.39
3/1/1999	48.91	6526.43
4/5/1999	49.03	6526.31
5/5/1999	49.25	6526.09
5/10/1999	49.07	6526.27
6/2/1999	49.23	6526.11
7/7/1999	49.68	6525.66
8/2/1999	49.83	6525.51
8/17/1999	49.81	6525.53
9/7/1999	49.68	6525.66
10/6/1999	49.61	6525.73
11/1/1999	49.74	6525.60
11/4/1999	49.66	6525.68
11/29/1999	49.97	6525.37

M6

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.59	6571.45
2/1/1999	3.19	6571.85
3/1/1999	3.19	6571.85
4/5/1999	3.19	6571.85
5/6/1999	3.19	6571.85
6/1/1999	3.19	6571.85
7/6/1999	2.16	6572.88
8/2/1999	2.16	6572.88
9/8/1999	2.26	6572.78
10/4/1999	2.16	6572.88
11/1/1999	2.26	6572.78
11/29/1999	2.26	6572.78

M7

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.68	6569.17
2/1/1999	3.28	6569.57
3/1/1999	3.28	6569.57
4/5/1999	3.28	6569.57
5/6/1999	3.28	6569.57
6/1/1999	3.28	6569.57
7/6/1999	3.28	6569.57
8/2/1999	3.28	6569.57
9/8/1999	3.28	6569.57
10/4/1999	3.28	6569.57
11/1/1999	3.28	6569.57
11/29/1999	3.28	6569.57

M8

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.34	6571.89
2/1/1999	4.69	6570.54
3/1/1999	4.69	6570.54
4/5/1999	4.69	6570.54
5/6/1999	4.69	6570.54
6/1/1999	4.69	6570.54
7/6/1999	4.69	6570.54
8/2/1999	4.69	6570.54
9/8/1999	4.69	6570.54
10/4/1999	4.69	6570.54
11/1/1999	4.69	6570.54
11/29/1999	4.69	6570.54

M9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	54.58	6522.23
2/1/1999	49.32	6527.49
3/1/1999	50.00	6526.81
4/5/1999	46.71	6530.10
5/6/1999	46.65	6530.16
6/1/1999	51.60	6525.21
7/6/1999	46.70	6530.11
8/2/1999	36.32	6540.49
9/8/1999	42.12	6534.69
10/4/1999	49.88	6526.93
11/1/1999	35.13	6541.68
11/29/1999	32.86	6543.95

M10

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	58.35	6515.01
2/1/1999	57.90	6515.46
3/1/1999	56.53	6516.83
4/5/1999	56.83	6516.53
5/6/1999	56.30	6517.06
6/1/1999	57.36	6516.00
7/6/1999	56.54	6516.82
8/2/1999	56.31	6517.05
9/8/1999	54.37	6518.99
10/4/1999	54.82	6518.54
11/1/1999	53.92	6519.44
11/29/1999	55.26	6518.10

M11

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	31.92	6541.30
2/1/1999	30.87	6542.35
3/1/1999	30.91	6542.31
4/5/1999	25.92	6547.30
5/5/1999	30.02	6543.20
6/1/1999	24.51	6548.71
7/6/1999	16.44	6556.78
8/2/1999	15.93	6557.29
9/7/1999	12.93	6560.29
10/4/1999	10.98	6562.24
11/1/1999	8.53	6564.69
11/29/1999	9.36	6563.86

M12

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	38.11	6535.40
2/1/1999	35.20	6538.31
3/1/1999	34.87	6538.64
4/5/1999	35.10	6538.41
5/6/1999	20.81	6552.70
6/1/1999	26.58	6546.93
7/6/1999	20.18	6553.33
8/2/1999	16.71	6556.80
9/7/1999	14.18	6559.33
10/4/1999	5.78	6567.73
11/1/1999	6.53	6566.98
11/29/1999	4.35	6569.16

M13

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	44.21	6531.95
2/1/1999	41.92	6534.24
3/1/1999	38.40	6537.76
4/5/1999	39.96	6536.20
5/6/1999	30.74	6545.42
6/1/1999	32.69	6543.47
7/6/1999	28.70	6547.46
8/2/1999	27.96	6548.20
9/7/1999	25.85	6550.31
10/4/1999	26.60	6549.56
11/1/1999	25.13	6551.03
11/29/1999	26.21	6549.95

M14

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	43.48	6533.69
2/1/1999	40.28	6536.89
3/1/1999	38.08	6539.09
4/5/1999	40.16	6537.01
5/6/1999	29.40	6547.77
6/1/1999	32.48	6544.69
7/6/1999	28.92	6548.25
8/2/1999	27.77	6549.40
9/7/1999	26.93	6550.24
10/4/1999	25.38	6551.79
11/1/1999	24.33	6552.84
11/29/1999	24.56	6552.61

M15

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.92	6575.16
2/1/1999	3.54	6575.54
3/1/1999	3.46	6575.62
4/5/1999	3.46	6575.62
5/6/1999	3.71	6575.37
6/1/1999	3.71	6575.37
7/6/1999	3.71	6575.37
8/2/1999	3.71	6575.37
9/7/1999	3.71	6575.37
10/4/1999	3.71	6575.37
11/1/1999	3.71	6575.37
11/29/1999	3.71	6575.37

MA

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	26.86	6545.36
2/1/1999	32.33	6539.89
3/1/1999	29.33	6542.89
4/5/1999	31.92	6540.30
5/5/1999	39.14	6533.08
6/1/1999	35.22	6537.00
7/6/1999	41.02	6531.20
8/2/1999	23.20	6549.02
9/7/1999	18.67	6553.55
10/4/1999	21.54	6550.68
11/1/1999	21.53	6550.69
11/29/1999	21.73	6550.49

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

MB

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.05	6570.01
2/1/1999	2.05	6570.01
3/1/1999	2.05	6570.01
4/5/1999	2.05	6570.01
5/5/1999	24.86	6547.20
6/1/1999	2.05	6570.01
7/6/1999	2.05	6570.01
8/2/1999	2.05	6570.01
9/7/1999	2.05	6570.01
10/4/1999	2.05	6570.01
11/1/1999	2.05	6570.01
11/29/1999	2.05	6570.01

MC

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.12	6569.94
2/1/1999	2.12	6569.94
3/1/1999	2.12	6569.94
4/5/1999	2.12	6569.94
5/5/1999	6.92	6565.14
6/1/1999	2.12	6569.94
7/6/1999	2.12	6569.94
8/2/1999	2.12	6569.94
9/7/1999	2.12	6569.94
10/4/1999	2.12	6569.94
11/1/1999	2.12	6569.94
11/29/1999	2.12	6569.94

MD

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.00	6569.46
2/1/1999	2.00	6569.46
3/1/1999	2.00	6569.46
4/5/1999	2.00	6569.46
5/5/1999	5.00	6566.46
6/1/1999	2.00	6569.46
7/6/1999	2.00	6569.46
8/2/1999	2.00	6569.46
9/7/1999	2.00	6569.46
10/4/1999	2.00	6569.46
11/1/1999	2.00	6569.46
11/29/1999	2.00	6569.46

ME

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	1.61	6569.31
2/1/1999	1.61	6569.31
3/1/1999	1.61	6569.31
4/5/1999	1.61	6569.31
5/5/1999	1.61	6569.31
6/1/1999	1.61	6569.31
7/6/1999	1.61	6569.31
8/2/1999	1.61	6569.31
9/7/1999	1.61	6569.31
10/4/1999	1.61	6569.31
11/1/1999	1.61	6569.31
11/29/1999	1.61	6569.31

MF

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.22	6570.06
2/1/1999	2.22	6570.06
3/1/1999	2.22	6570.06
4/5/1999	2.22	6570.06
5/5/1999	9.12	6563.16
6/1/1999	2.22	6570.06
7/6/1999	2.22	6570.06
8/2/1999	2.22	6570.06
9/7/1999	2.22	6570.06
10/4/1999	2.22	6570.06
11/1/1999	2.22	6570.06
11/29/1999	2.22	6570.06

MG

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	1.78	6571.30
2/1/1999	1.78	6571.30
3/1/1999	1.78	6571.30
4/5/1999	1.78	6571.30
5/5/1999	6.92	6566.16
6/1/1999	1.78	6571.30
7/6/1999	1.78	6571.30
8/2/1999	1.78	6571.30
9/7/1999	1.72	6571.36
10/4/1999	1.72	6571.36
11/1/1999	1.72	6571.36
11/29/1999	1.72	6571.36

MH

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.13	6571.79
2/1/1999	2.13	6571.79
3/1/1999	2.13	6571.79
4/5/1999	2.13	6571.79
5/5/1999	2.13	6571.79
6/1/1999	2.13	6571.79
7/6/1999	2.13	6571.79
8/2/1999	2.13	6571.79
9/7/1999	2.13	6571.79
10/4/1999	2.13	6571.79
11/1/1999	2.13	6571.79
11/29/1999	2.13	6571.79

MI

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.80	6573.47
2/1/1999	2.24	6574.03
3/1/1999	2.24	6574.03
4/5/1999	2.24	6574.03
5/5/1999	2.24	6574.03
6/1/1999	2.84	6573.43
7/6/1999	2.24	6574.03
8/2/1999	2.24	6574.03
9/7/1999	2.24	6574.03
10/4/1999	2.24	6574.03
11/1/1999	2.24	6574.03
11/29/1999	2.24	6574.03

MJ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	48.40	6524.54
2/1/1999	47.61	6525.33
3/1/1999	47.72	6525.22
4/5/1999	47.69	6525.25
5/5/1999	50.41	6522.53
6/1/1999	49.71	6523.23
7/6/1999	49.10	6523.84
8/2/1999	49.16	6523.78
9/7/1999	48.38	6524.56
10/4/1999	50.12	6522.82
11/1/1999	47.98	6524.96
11/29/1999	48.20	6524.74

MK

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	10.62	6563.17
2/1/1999	10.30	6563.49
3/1/1999	12.78	6561.01
4/5/1999	13.83	6559.96
5/5/1999	36.85	6536.94
6/1/1999	26.80	6546.99
7/6/1999	20.31	6553.48
8/2/1999	20.58	6553.21
9/7/1999	9.41	6564.38
10/4/1999	7.48	6566.31
11/1/1999	6.48	6567.31
11/29/1999	11.36	6562.43

ML

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	3.46	6569.24
2/1/1999	3.46	6569.24
3/1/1999	3.46	6569.24
4/5/1999	3.46	6569.24
5/6/1999	3.46	6569.24
6/1/1999	3.46	6569.24
7/6/1999	3.46	6569.24
8/2/1999	3.46	6569.24
9/8/1999	3.46	6569.24
10/4/1999	3.46	6569.24
11/1/1999	3.46	6569.24
11/29/1999	3.46	6569.24

MM

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	13.20	6564.25
2/1/1999	3.47	6573.98
3/1/1999	4.32	6573.13
4/5/1999	4.37	6573.08
5/5/1999	14.38	6563.07
6/1/1999	3.15	6574.30
7/6/1999	16.72	6560.73
8/2/1999	3.48	6573.97
9/8/1999	3.48	6573.97
10/4/1999	3.48	6573.97
11/1/1999	3.48	6573.97
11/29/1999	3.48	6573.97

MO

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/19/1999	60.51	6512.38
7/21/1999	60.39	6512.50

MQ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/20/1999	59.36	6514.94

MR

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/20/1999	65.72	6500.54

MS

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/20/1999	57.21	6513.46

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
MT		
11/2/1999	66.24	6501.19
MU		
10/20/1999	52.63	6521.56
MW		
1/4/1999	3.48	6571.43
2/1/1999	3.30	6571.61
3/1/1999	3.26	6571.65
4/5/1999	6.18	6568.73
5/5/1999	11.68	6563.23
6/1/1999	6.12	6568.79
7/6/1999	2.76	6572.15
8/2/1999	2.76	6572.15
9/8/1999	3.17	6571.74
10/4/1999	3.17	6571.74
11/1/1999	3.17	6571.74
11/29/1999	3.17	6571.74
MX		
11/2/1999	49.67	6518.94
MY		
11/2/1999	54.06	6519.50
MZ		
1/4/1999	34.73	6541.91
2/1/1999	36.82	6539.82
3/1/1999	32.21	6544.43
4/5/1999	31.92	6544.72
5/6/1999	28.27	6548.37
6/1/1999	42.64	6534.00
7/6/1999	31.30	6545.34
8/2/1999	32.81	6543.83
9/8/1999	24.92	6551.72
10/4/1999	25.32	6551.32
11/1/1999	23.12	6553.52
11/29/1999	22.71	6553.93
N		
5/12/1999	52.30	6531.67
10/19/1999	52.68	6531.29
NC		
1/20/1999	51.54	6534.29
4/27/1999	52.13	6533.70
7/7/1999	52.31	6533.52
10/19/1999	52.54	6533.29
ND		
8/18/1999	47.78	6545.11
NE5		
4/29/1999	74.63	6592.37
NW5		
5/12/1999	128.69	6528.89
O		
5/12/1999	48.26	6539.57
10/19/1999	48.32	6539.51
P		
3/2/1999	53.80	6533.46
5/10/1999	54.26	6533.00
9/15/1999	54.24	6533.02
11/4/1999	53.13	6534.13
P1		
1/4/1999	62.09	6530.38
2/1/1999	52.65	6539.82
3/1/1999	55.78	6536.69
4/5/1999	55.84	6536.63
5/5/1999	55.75	6536.72
6/1/1999	55.89	6536.58
7/6/1999	56.21	6536.26
8/2/1999	55.90	6536.57
9/8/1999	56.00	6536.47
10/4/1999	56.08	6536.39
11/2/1999	56.00	6536.47
11/2/1999	56.04	6536.43
11/29/1999	55.83	6536.64
P2		
1/4/1999	63.71	6526.08
2/1/1999	64.29	6525.50
2/3/1999	63.39	6526.40
3/1/1999	64.40	6525.39
4/5/1999	64.31	6525.48
5/5/1999	64.70	6525.09
5/11/1999	65.60	6524.19
6/1/1999	65.84	6523.95
7/6/1999	66.04	6523.75
8/2/1999	64.90	6524.89
8/18/1999	65.31	6524.48
9/8/1999	65.68	6524.11
10/4/1999	64.92	6524.87
11/2/1999	65.73	6524.06
11/2/1999	61.20	6528.59
11/29/1999	58.53	6531.26
P3		
1/4/1999	62.81	6527.14
2/1/1999	63.58	6526.37
3/1/1999	63.28	6526.67
4/5/1999	64.44	6525.51
5/5/1999	65.00	6524.95
6/1/1999	62.19	6527.76
7/6/1999	63.43	6526.52
8/2/1999	62.60	6527.35
9/8/1999	63.25	6526.70
10/4/1999	63.28	6526.67
11/2/1999	63.57	6526.38
11/29/1999	63.36	6526.59
P4		
1/4/1999	79.29	6510.23
2/1/1999	83.61	6505.91
3/1/1999	51.38	6538.14
4/5/1999	69.31	6520.21
5/5/1999	69.59	6519.93
6/1/1999	69.04	6520.48
7/6/1999	69.51	6520.01
8/2/1999	66.05	6523.47
9/8/1999	67.40	6522.12
10/4/1999	67.91	6521.61
11/2/1999	70.45	6519.07
11/29/1999	74.95	6514.57
PM		
1/4/1999	38.95	6528.47
1/19/1999	38.91	6528.51
2/1/1999	38.91	6528.51
2/4/1999	38.81	6528.61
2/16/1999	38.70	6528.72
3/1/1999	38.36	6529.06
4/5/1999	38.64	6528.78
5/5/1999	38.56	6528.86
5/12/1999	38.83	6528.59
6/2/1999	38.28	6529.14
7/7/1999	38.64	6528.78
8/2/1999	39.85	6527.57
8/18/1999	40.46	6526.96
9/7/1999	38.84	6528.58
10/6/1999	40.34	6527.08
11/1/1999	40.90	6526.52
11/5/1999	41.00	6526.42
11/29/1999	41.38	6526.04
Q		
3/2/1999	50.08	6543.74
R		
5/20/1999	43.76	6560.27
S		
1/4/1999	55.81	6525.36
1/11/1999	55.68	6525.49
1/19/1999	55.59	6525.58
1/25/1999	55.60	6525.57
2/1/1999	55.61	6525.56
3/1/1999	55.44	6525.73
4/5/1999	55.47	6525.70
5/5/1999	55.69	6525.48
5/11/1999	72.22	6508.95
5/18/1999	55.69	6525.48
5/24/1999	55.57	6525.60
6/2/1999	55.51	6525.66
7/7/1999	55.77	6525.40
8/2/1999	55.91	6525.26
9/7/1999	56.03	6525.14
10/6/1999	56.06	6525.11
11/1/1999	56.09	6525.08
11/5/1999	56.11	6525.06
11/29/1999	56.28	6524.89

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

S1

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	52.57	6522.62
1/11/1999	52.48	6522.71
1/19/1999	52.42	6522.77
1/25/1999	52.41	6522.78
2/1/1999	52.41	6522.78
2/8/1999	52.35	6522.84
2/16/1999	52.21	6522.98
2/22/1999	52.15	6523.04
3/1/1999	52.06	6523.13
3/8/1999	52.05	6523.14
3/15/1999	51.95	6523.24
3/23/1999	51.89	6523.30
3/29/1999	51.89	6523.30
4/5/1999	51.90	6523.29
4/12/1999	52.00	6523.19
4/20/1999	51.94	6523.25
4/26/1999	52.10	6523.09
5/5/1999	52.17	6523.02
5/10/1999	52.16	6523.03
5/18/1999	52.44	6522.75
5/24/1999	52.46	6522.73
6/2/1999	52.41	6522.78
6/7/1999	52.53	6522.66
6/14/1999	52.63	6522.56
6/21/1999	52.65	6522.54
6/28/1999	52.68	6522.51
7/7/1999	52.79	6522.40
7/19/1999	52.78	6522.41
7/26/1999	52.86	6522.33
8/2/1999	52.92	6522.27
8/9/1999	52.98	6522.21
8/16/1999	53.04	6522.15
8/23/1999	53.03	6522.16
8/30/1999	53.05	6522.14
9/7/1999	53.03	6522.16
9/13/1999	53.06	6522.13
9/20/1999	53.03	6522.16
9/27/1999	52.97	6522.22
10/6/1999	52.98	6522.21
10/11/1999	53.06	6522.13
10/18/1999	52.96	6522.23
10/25/1999	52.91	6522.28
11/1/1999	52.78	6522.41
11/8/1999	52.81	6522.38
11/15/1999	52.62	6522.57
11/22/1999	52.25	6522.94
11/29/1999	52.10	6523.09
12/6/1999	51.50	6523.69
12/14/1999	51.50	6523.69
12/20/1999	50.80	6524.39
12/28/1999	50.67	6524.52

S2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	50.39	6523.33
1/11/1999	50.29	6523.43
1/19/1999	50.28	6523.44
1/25/1999	50.25	6523.47
2/1/1999	50.25	6523.47
2/8/1999	50.19	6523.53
2/16/1999	50.02	6523.70
2/22/1999	50.02	6523.70
3/1/1999	49.91	6523.81
3/8/1999	49.91	6523.81
3/15/1999	49.78	6523.94
3/23/1999	49.73	6523.99
3/29/1999	49.76	6523.96
4/5/1999	49.76	6523.96
4/12/1999	49.81	6523.91
4/20/1999	49.73	6523.99
4/26/1999	49.83	6523.89
5/5/1999	49.88	6523.84
5/10/1999	49.85	6523.87
5/18/1999	50.11	6523.61
5/24/1999	50.05	6523.67
6/2/1999	50.01	6523.71
6/7/1999	50.18	6523.54
6/14/1999	50.27	6523.45
6/21/1999	50.26	6523.46
6/28/1999	50.30	6523.42
7/7/1999	50.39	6523.33
7/8/1999	50.38	6523.34
7/19/1999	50.45	6523.27
7/26/1999	50.51	6523.21
8/2/1999	50.55	6523.17
8/9/1999	50.57	6523.15
8/16/1999	50.62	6523.10
8/23/1999	50.58	6523.14
8/30/1999	50.58	6523.14
9/7/1999	50.56	6523.16
9/13/1999	50.57	6523.15
9/20/1999	50.53	6523.19
9/27/1999	50.46	6523.26
10/6/1999	50.48	6523.24
10/11/1999	50.57	6523.15
10/18/1999	50.46	6523.26
10/25/1999	50.43	6523.29
11/1/1999	50.35	6523.37
11/8/1999	50.37	6523.35
11/15/1999	50.37	6523.35
11/22/1999	50.16	6523.56
11/29/1999	50.19	6523.53
12/6/1999	49.73	6523.99
12/14/1999	49.46	6524.26
12/20/1999	49.26	6524.46
12/28/1999	49.17	6524.55

S3

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	51.15	6523.63
1/19/1999	50.98	6523.80
2/1/1999	51.00	6523.78
2/2/1999	50.93	6523.85
2/16/1999	50.86	6523.92
3/1/1999	50.75	6524.03
4/5/1999	50.80	6523.98
5/5/1999	50.86	6523.92
5/10/1999	50.78	6524.00
6/2/1999	50.90	6523.88
7/7/1999	51.39	6523.39
8/2/1999	51.77	6523.01
8/18/1999	51.80	6522.98
9/7/1999	51.79	6522.99
10/6/1999	51.65	6523.13
11/1/1999	51.68	6523.10
11/4/1999	51.63	6523.15
11/29/1999	51.78	6523.00

S4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	52.61	6522.68
1/19/1999	52.48	6522.81
2/1/1999	52.47	6522.82
2/2/1999	52.37	6522.92
2/16/1999	52.34	6522.95
3/1/1999	52.15	6523.14
4/5/1999	52.04	6523.25
5/5/1999	52.25	6523.04
5/11/1999	52.18	6523.11
6/2/1999	52.40	6522.89
7/7/1999	52.68	6522.61
8/2/1999	52.93	6522.36
8/18/1999	53.00	6522.29
9/7/1999	53.00	6522.29
10/6/1999	52.88	6522.41
11/1/1999	52.70	6522.59
11/4/1999	52.67	6522.62
11/29/1999	52.23	6523.06

S5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	58.11	6516.58
2/1/1999	58.21	6516.48
3/1/1999	58.20	6516.49
4/5/1999	60.21	6514.48
5/5/1999	60.40	6514.29
7/6/1999	57.25	6517.44
8/2/1999	61.56	6513.13
9/7/1999	61.35	6513.34
10/4/1999	57.81	6516.88
11/1/1999	61.80	6512.89
11/29/1999	62.00	6512.69

S6

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	57.69	6522.38
2/1/1999	56.74	6523.33
3/1/1999	56.35	6523.72
4/5/1999	56.70	6523.37
5/5/1999	56.80	6523.27
7/6/1999	56.71	6523.36
8/2/1999	56.81	6523.26
9/7/1999	57.36	6522.71
10/4/1999	57.30	6522.77
11/1/1999	56.97	6523.10
11/29/1999	57.31	6522.76

S7

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	57.38	6522.51

S11

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	55.79	6522.60

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
S12		
11/1/1999	62.20	6516.80
11/3/1999	62.20	6516.80
11/5/1999	62.31	6516.69
11/8/1999	62.18	6516.82
11/10/1999	62.28	6516.72
11/12/1999	62.26	6516.74
11/15/1999	62.14	6516.86
12/2/1999	60.54	6518.46
12/9/1999	59.79	6519.21
SA		
1/4/1999	65.94	6514.37
2/1/1999	67.55	6512.76
3/1/1999	67.21	6513.10
4/5/1999	68.81	6511.50
5/5/1999	56.28	6524.03
7/6/1999	57.15	6523.16
8/2/1999	70.05	6510.26
9/7/1999	69.71	6510.60
10/4/1999	57.57	6522.74
11/1/1999	69.98	6510.33
11/29/1999	69.87	6510.44
SB		
1/4/1999	60.64	6520.45
2/1/1999	63.34	6517.75
3/1/1999	62.60	6518.49
4/5/1999	62.55	6518.54
5/5/1999	61.35	6519.74
6/1/1999	61.40	6519.69
7/6/1999	62.15	6518.94
8/2/1999	61.99	6519.10
SC		
1/4/1999	62.97	6515.83
2/1/1999	61.72	6517.08
3/1/1999	61.65	6517.15
4/5/1999	64.25	6514.55
5/5/1999	64.00	6514.80
7/6/1999	56.57	6522.23
8/2/1999	56.98	6521.82
9/7/1999	59.98	6518.82
10/4/1999	60.28	6518.52
11/1/1999	61.88	6516.92
11/29/1999	61.84	6516.96

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
SE		
10/28/1999	56.67	6521.32
11/1/1999	110.80	6467.19
11/29/1999	54.67	6523.32
SE4		
10/26/1999	54.43	6523.57
11/1/1999	54.30	6523.70
11/3/1999	54.29	6523.71
11/5/1999	54.58	6523.42
11/8/1999	54.35	6523.65
11/10/1999	54.34	6523.66
11/12/1999	54.36	6523.64
11/15/1999	54.36	6523.64
12/2/1999	53.40	6524.60
12/9/1999	53.00	6525.00
SM		
1/4/1999	56.98	6521.76
2/1/1999	56.73	6522.01
3/1/1999	56.34	6522.40
4/5/1999	56.36	6522.38
5/5/1999	56.54	6522.20
6/2/1999	56.42	6522.32
7/7/1999	56.74	6522.00
8/2/1999	56.85	6521.89
9/7/1999	56.86	6521.88
10/6/1999	56.84	6521.90
11/1/1999	56.84	6521.90
11/29/1999	56.93	6521.81
SN		
1/4/1999	57.14	6522.12
2/1/1999	56.74	6522.52
3/1/1999	56.44	6522.82
4/5/1999	56.44	6522.82
5/5/1999	56.62	6522.64
6/2/1999	56.42	6522.84
7/7/1999	56.57	6522.69
8/2/1999	57.03	6522.23
9/7/1999	57.14	6522.12
10/6/1999	57.17	6522.09
11/1/1999	57.23	6522.03
11/29/1999	57.22	6522.04

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
SO		
1/4/1999	56.41	6522.38
1/11/1999	56.27	6522.52
1/19/1999	56.22	6522.57
1/25/1999	56.20	6522.59
2/1/1999	56.19	6522.60
2/8/1999	56.13	6522.66
2/16/1999	56.10	6522.69
2/22/1999	56.00	6522.79
3/1/1999	55.84	6522.95
3/8/1999	55.87	6522.92
3/15/1999	55.79	6523.00
3/23/1999	55.80	6522.99
3/29/1999	55.85	6522.94
4/5/1999	55.86	6522.93
4/12/1999	55.60	6523.19
4/20/1999	55.79	6523.00
4/26/1999	56.05	6522.74
5/5/1999	56.07	6522.72
5/10/1999	56.05	6522.74
5/12/1999	56.08	6522.71
5/18/1999	56.19	6522.60
5/24/1999	56.08	6522.71
6/2/1999	56.02	6522.77
6/7/1999	56.31	6522.48
6/14/1999	56.47	6522.32
6/21/1999	56.35	6522.44
6/28/1999	56.35	6522.44
7/7/1999	56.35	6522.44
7/19/1999	56.46	6522.33
7/26/1999	56.54	6522.25
8/2/1999	56.66	6522.13
8/9/1999	56.66	6522.13
8/16/1999	56.73	6522.06
8/23/1999	56.67	6522.12
8/30/1999	56.71	6522.08
9/7/1999	56.68	6522.11
9/13/1999	56.75	6522.04
9/20/1999	56.72	6522.07
9/27/1999	56.63	6522.16
10/6/1999	56.58	6522.21
10/11/1999	56.79	6522.00
10/18/1999	56.64	6522.15
10/25/1999	56.62	6522.17
11/1/1999	56.59	6522.20
11/5/1999	56.58	6522.21
11/8/1999	56.63	6522.16
11/15/1999	56.68	6522.11
11/22/1999	56.35	6522.44
11/29/1999	56.48	6522.31
12/6/1999	55.84	6522.95
12/14/1999	55.50	6523.29
12/20/1999	55.21	6523.58
12/28/1999	55.15	6523.64

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

SP

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	56.50	6522.16
1/11/1999	56.35	6522.31
1/19/1999	56.30	6522.36
1/25/1999	56.24	6522.42
2/1/1999	56.26	6522.40
2/8/1999	56.20	6522.46
2/16/1999	56.04	6522.62
2/22/1999	56.05	6522.61
3/1/1999	55.92	6522.74
3/8/1999	55.94	6522.72
3/15/1999	55.87	6522.79
3/23/1999	55.87	6522.79
3/29/1999	55.90	6522.76
4/5/1999	55.93	6522.73
4/12/1999	56.03	6522.63
4/20/1999	56.01	6522.65
4/26/1999	56.31	6522.35
5/5/1999	56.32	6522.34
5/10/1999	56.28	6522.38
5/18/1999	56.34	6522.32
5/24/1999	56.24	6522.42
6/2/1999	56.24	6522.42
6/7/1999	56.49	6522.17
6/14/1999	56.65	6522.01
6/21/1999	56.50	6522.16
6/28/1999	56.50	6522.16
7/7/1999	56.44	6522.22
7/19/1999	56.64	6522.02
7/26/1999	56.74	6521.92
8/2/1999	56.83	6521.83
8/9/1999	56.86	6521.80
8/16/1999	56.95	6521.71
8/23/1999	56.88	6521.78
8/30/1999	56.92	6521.74
9/7/1999	56.92	6521.74
9/13/1999	56.97	6521.69
9/20/1999	56.95	6521.71
9/27/1999	56.87	6521.79
10/6/1999	56.83	6521.83
10/11/1999	57.05	6521.61
10/18/1999	56.92	6521.74
10/25/1999	56.88	6521.78
11/1/1999	56.93	6521.73
11/8/1999	56.98	6521.68
11/15/1999	57.05	6521.61
11/22/1999	56.74	6521.92
11/29/1999	56.80	6521.86
12/6/1999	56.02	6522.64
12/14/1999	55.62	6523.04
12/20/1999	55.33	6523.33
12/28/1999	55.20	6523.46

SQ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	58.95	6520.25
2/1/1999	58.44	6520.76
3/1/1999	57.85	6521.35
4/5/1999	56.80	6522.40
5/5/1999	56.98	6522.22
7/6/1999	56.10	6523.10
8/2/1999	56.39	6522.81
9/7/1999	58.65	6520.55
10/4/1999	58.87	6520.33
11/1/1999	58.78	6520.42
11/29/1999	57.20	6522.00

SS

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	58.52	6519.86
2/1/1999	58.28	6520.10
3/1/1999	57.44	6520.94
4/5/1999	60.32	6518.06
5/5/1999	62.50	6515.88
6/1/1999	65.19	6513.19
7/6/1999	66.41	6511.97
8/2/1999	66.73	6511.65
9/7/1999	67.09	6511.29
10/4/1999	67.45	6510.93
11/1/1999	67.48	6510.90
11/29/1999	66.98	6511.40

ST

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	57.35	6521.96
2/1/1999	57.22	6522.09
3/1/1999	56.35	6522.96
4/5/1999	57.22	6522.09
5/5/1999	57.92	6521.39
6/1/1999	59.07	6520.24
7/6/1999	59.79	6519.52
8/2/1999	60.06	6519.25
9/7/1999	60.05	6519.26
10/4/1999	59.95	6519.36
11/1/1999	60.02	6519.29
11/29/1999	59.60	6519.71

SV

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/26/1999	56.75	6522.50
7/8/1999	56.56	6522.69

SZ

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	> 48.85	< 6532.62
2/1/1999	> 48.85	< 6532.62
3/1/1999	48.90	6532.57
4/5/1999	> 48.90	< 6532.57
5/5/1999	48.91	6532.56
6/2/1999	48.95	6532.52
7/7/1999	49.51	6531.96
8/2/1999	49.43	6532.04
9/7/1999	49.45	6532.02
10/6/1999	49.52	6531.95
11/1/1999	49.48	6531.99
11/29/1999	49.54	6531.93

T

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	61.21	6518.02
2/1/1999	62.14	6517.09
3/1/1999	61.95	6517.28

TA

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	42.87	6537.43
2/1/1999	43.20	6537.10
3/1/1999	47.02	6533.28
4/5/1999	55.70	6524.60
5/5/1999	35.40	6544.90
7/6/1999	35.61	6544.69
8/2/1999	55.00	6525.30
9/7/1999	35.04	6545.26
10/4/1999	55.09	6525.21
11/1/1999	54.85	6525.45
11/29/1999	33.75	6546.55

W

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
3/23/1999	46.03	6526.11
9/15/1999	45.60	6526.54

WN4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/12/1999	107.16	6555.62
8/11/1999	106.29	6556.49
8/11/1999	106.32	6556.46
8/11/1999	106.34	6556.44
8/11/1999	106.38	6556.40
8/11/1999	106.35	6556.43
8/11/1999	106.33	6556.45
8/12/1999	106.75	6556.03
8/12/1999	106.82	6555.96
8/13/1999	107.00	6555.78
9/20/1999	132.56 *	6530.22

WR1R

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	14.63	6553.84
2/1/1999	18.94	6549.53
3/1/1999	11.80	6556.67
4/5/1999	14.93	6553.54
5/6/1999	31.48	6536.99
6/1/1999	33.87	6534.60
7/6/1999	28.93	6539.54
8/2/1999	16.11	6552.36
9/8/1999	11.60	6556.87
10/4/1999	16.12	6552.35
11/1/1999	2.95	6565.52
11/29/1999	9.00	6559.47

WR2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.38	6566.21
2/1/1999	3.36	6565.23
3/1/1999	2.52	6566.07
4/5/1999	4.10	6564.49
5/6/1999	2.52	6566.07
6/1/1999	2.52	6566.07
7/6/1999	2.52	6566.07
8/2/1999	2.52	6566.07
9/8/1999	2.52	6566.07
10/4/1999	2.52	6566.07
11/1/1999	2.52	6566.07
11/29/1999	2.52	6566.07

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

WR3

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	32.54	6537.00
2/1/1999	31.25	6538.29
3/1/1999	31.86	6537.68
4/5/1999	33.82	6535.72
5/6/1999	31.71	6537.83
6/1/1999	36.35	6533.19
7/6/1999	32.32	6537.22
8/2/1999	31.23	6538.31
9/8/1999	31.62	6537.92
10/4/1999	25.76	6543.78
11/1/1999	24.31	6545.23
11/29/1999	26.63	6542.91

WR4

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	8.10	6564.71
2/1/1999	8.30	6564.51
3/1/1999	0.84	6571.97
4/5/1999	1.36	6571.45
5/6/1999	1.38	6571.43
6/1/1999	19.61	6553.20
7/6/1999	13.72	6559.09
8/2/1999	1.76	6571.05
9/8/1999	1.98	6570.83
10/4/1999	1.92	6570.89
11/1/1999	1.92	6570.89
11/29/1999	1.86	6570.95

WR5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	39.27	6531.96
2/1/1999	40.48	6530.75
3/1/1999	38.11	6533.12
4/5/1999	40.93	6530.30
5/6/1999	40.83	6530.40
6/1/1999	41.78	6529.45
7/6/1999	43.14	6528.09
8/2/1999	39.70	6531.53
9/8/1999	38.92	6532.31
10/4/1999	36.11	6535.12
11/1/1999	34.91	6536.32
11/29/1999	34.82	6536.41

WR6

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.68	6570.35
2/1/1999	3.04	6569.99
3/1/1999	3.04	6569.99
4/5/1999	6.17	6566.86
5/6/1999	2.53	6570.50
6/1/1999	20.21	6552.82
7/6/1999	3.04	6569.99
8/2/1999	3.04	6569.99
9/8/1999	3.04	6569.99
10/4/1999	3.04	6569.99
11/1/1999	3.04	6569.99
11/29/1999	3.04	6569.99

WR7

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/20/1999	45.58	6528.15
4/27/1999	45.59	6528.14
7/8/1999	46.23	6527.50
10/19/1999	45.72	6528.01

WR9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	46.78	6526.27
2/1/1999	46.58	6526.47
2/4/1999	46.43	6526.62
3/1/1999	46.21	6526.84
4/5/1999	46.18	6526.87
5/5/1999	46.17	6526.88
6/2/1999	46.94	6526.11
7/7/1999	46.58	6526.47
8/2/1999	46.50	6526.55
8/19/1999	46.38	6526.67
9/7/1999	46.19	6526.86
10/6/1999	46.06	6526.99
11/1/1999	46.00	6527.05
11/29/1999	46.14	6526.91

WR11

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	49.45	6525.04
1/20/1999	49.28	6525.21
2/1/1999	49.40	6525.09
3/1/1999	49.11	6525.38
4/5/1999	48.76	6525.73
4/27/1999	48.68	6525.81
5/5/1999	48.74	6525.75
6/2/1999	49.49	6525.00
7/7/1999	48.92	6525.57
7/21/1999	49.10	6525.39
8/2/1999	48.87	6525.62
9/7/1999	48.58	6525.91
10/6/1999	48.44	6526.05
10/19/1999	48.55	6525.94
11/1/1999	48.41	6526.08
11/29/1999	48.45	6526.04

WR12

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	2.36	6565.83
2/1/1999	19.10	6549.09
3/1/1999	27.80	6540.39
4/5/1999	28.81	6539.38
5/6/1999	15.63	6552.56
6/1/1999	14.81	6553.38
7/6/1999	5.38	6562.81
8/2/1999	2.47	6565.72
9/8/1999	2.47	6565.72
10/4/1999	2.47	6565.72
11/1/1999	2.47	6565.72
11/29/1999	2.47	6565.72

WR13

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	30.28	6538.89
2/1/1999	25.83	6543.34
3/1/1999	22.74	6546.43
4/5/1999	26.08	6543.09
5/6/1999	29.04	6540.13
6/1/1999	30.92	6538.25
7/6/1999	28.97	6540.20
8/2/1999	26.46	6542.71
9/8/1999	26.20	6542.97
10/4/1999	26.72	6542.45
11/1/1999	20.95	6548.22
11/29/1999	23.76	6545.41

WR14

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	18.20	6548.71
2/1/1999	13.95	6552.96
3/1/1999	14.12	6552.79
4/5/1999	18.73	6548.18
5/6/1999	19.02	6547.89
6/1/1999	24.62	6542.29
7/6/1999	25.57	6541.34
8/2/1999	18.57	6548.34
9/8/1999	11.80	6555.11
10/4/1999	15.20	6551.71
11/1/1999	13.80	6553.11
11/29/1999	16.96	6549.95

WR15

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	39.83	6531.36
2/1/1999	35.28	6535.91
3/1/1999	17.78	6553.41
4/5/1999	18.63	6552.56
5/6/1999	25.03	6546.16
6/1/1999	26.30	6544.89
7/6/1999	23.93	6547.26
8/2/1999	20.27	6550.92
9/8/1999	20.12	6551.07
10/4/1999	21.87	6549.32
11/1/1999	16.86	6554.33
11/29/1999	20.99	6550.20

WR16

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	47.48	6525.30

WR17

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	47.59	6525.50

WR18

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	48.97	6523.94

WR19

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	52.61	6522.32

WR20

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	52.60	6521.87

WR21

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	54.48	6521.57

WR22

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	56.08	6521.81

WR23

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/27/1999	54.40	6522.07

WR24

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/21/1999	56.67	6532.00

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
X		
1/4/1999	41.57	6530.04
1/13/1999	4.00	6567.61
2/1/1999	39.70	6531.91
2/2/1999	39.70	6531.91
3/1/1999	38.91	6532.70
4/5/1999	39.71	6531.90
5/5/1999	40.04	6531.57
5/10/1999	39.75	6531.86
6/1/1999	40.16	6531.45
7/6/1999	40.56	6531.05
8/2/1999	40.30	6531.31
9/7/1999	39.40	6532.21
10/4/1999	39.00	6532.61
10/12/1999	38.94	6532.67
11/1/1999	37.75	6533.86
11/29/1999	37.00	6534.61
X5		
1/4/1999	4.00	6573.61
2/1/1999	5.00	6572.61
3/1/1999	5.00	6572.61
4/5/1999	2.50	6575.11
5/5/1999	2.60	6575.01
6/1/1999	3.00	6574.61
7/6/1999	3.68	6573.93
8/2/1999	5.00	6572.61
9/7/1999	4.00	6573.61
10/5/1999	4.03	6573.58
11/1/1999	3.00	6574.61
11/29/1999	2.75	6574.86
X6		
1/4/1999	5.00	6573.72
2/1/1999	4.00	6574.72
3/1/1999	6.00	6572.72
4/5/1999	2.50	6576.22
5/5/1999	2.50	6576.22
6/1/1999	7.00	6571.72
7/6/1999	6.90	6571.82
8/2/1999	5.00	6573.72
9/7/1999	7.00	6571.72
10/5/1999	7.00	6571.72
11/1/1999	5.40	6573.32
11/29/1999	6.68	6572.04
X7		
1/4/1999	5.00	6575.43
2/1/1999	5.00	6575.43
3/1/1999	4.50	6575.93
4/5/1999	3.00	6577.43
5/5/1999	3.00	6577.43
6/1/1999	15.00	6565.43
7/6/1999	17.00	6563.43
8/2/1999	5.00	6575.43
9/7/1999	5.00	6575.43
10/5/1999	15.45	6564.98
11/1/1999	3.00	6577.43
11/29/1999	3.60	6576.83
X8		
1/4/1999	32.60	6549.16
2/1/1999	33.00	6548.76
3/1/1999	29.50	6552.26
4/5/1999	30.50	6551.26
5/5/1999	29.90	6551.86
6/1/1999	30.00	6551.76
7/6/1999	28.90	6552.86
8/2/1999	3.00	6578.76
9/7/1999	25.30	6556.46
10/5/1999	2.12	6579.64
11/1/1999	16.00	6565.76
11/29/1999	4.50	6577.26
X9		
1/4/1999	31.30	6551.62
2/1/1999	30.65	6552.27
3/1/1999	31.40	6551.52
4/5/1999	31.70	6551.22
5/5/1999	30.70	6552.22
6/1/1999	31.00	6551.92
7/6/1999	32.75	6550.17
8/2/1999	19.00	6563.92
9/7/1999	34.40	6548.52
10/5/1999	2.30	6580.62
11/1/1999	5.78	6577.14
11/29/1999	10.45	6572.47
X10		
1/4/1999	32.05	6550.38
2/1/1999	32.77	6549.66
3/1/1999	33.80	6548.63
4/5/1999	32.50	6549.93
5/5/1999	32.60	6549.83
6/1/1999	33.50	6548.93
7/6/1999	33.40	6549.03
8/2/1999	33.40	6549.03
9/7/1999	35.40	6547.03
10/5/1999	31.80	6550.63
11/1/1999	33.80	6548.63
11/29/1999	29.75	6552.68
X11		
1/4/1999	3.00	6579.00
2/1/1999	1.50	6580.50
3/1/1999	2.50	6579.50
4/5/1999	1.00	6581.00
5/5/1999	2.50	6579.50
6/1/1999	3.50	6578.50
7/6/1999	5.60	6576.40
8/2/1999	2.00	6580.00
9/7/1999	4.60	6577.40
10/5/1999	1.96	6580.04
11/1/1999	2.31	6579.69
11/29/1999	2.50	6579.50
X12		
1/4/1999	4.50	6578.83
2/1/1999	0.50	6582.83
3/1/1999	1.50	6581.83
4/5/1999	1.50	6581.83
5/5/1999	1.70	6581.63
6/1/1999	2.50	6580.83
7/6/1999	0.50	6582.83
8/2/1999	8.98	6574.35
9/7/1999	2.50	6580.83
10/5/1999	2.16	6581.17
11/1/1999	2.00	6581.33
11/29/1999	1.30	6582.03
X13		
5/5/1999	4.00	6582.94
6/1/1999	6.50	6580.44
7/6/1999	6.10	6580.84
8/2/1999	3.00	6583.94
9/7/1999	6.05	6580.89
10/5/1999	6.87	6580.07
11/1/1999	6.50	6580.44
11/29/1999	32.66	6554.28
X14		
5/5/1999	3.00	6583.20
6/1/1999	3.50	6582.70
7/6/1999	3.40	6582.80
8/2/1999	4.00	6582.20
9/7/1999	3.50	6582.70
10/5/1999	7.00	6579.20
11/1/1999	7.20	6579.00
11/29/1999	37.05	6549.15
X15		
5/5/1999	3.50	6579.41
6/1/1999	3.70	6579.21
7/6/1999	5.50	6577.41
8/2/1999	6.00	6576.91
9/7/1999	5.50	6577.41
10/5/1999	6.90	6576.01
11/1/1999	6.50	6576.41
11/29/1999	37.40	6545.51
X16		
5/5/1999	3.00	6581.79
6/1/1999	5.00	6579.79
7/6/1999	6.00	6578.79
8/2/1999	6.00	6578.79
9/7/1999	5.95	6578.84
10/5/1999	6.95	6577.84
11/1/1999	5.90	6578.89
11/29/1999	36.00	6548.79
X17		
5/5/1999	4.00	6581.84
6/1/1999	6.00	6579.84
7/6/1999	6.60	6579.24
8/2/1999	6.00	6579.84
9/7/1999	6.00	6579.84
10/5/1999	8.12	6577.72
11/1/1999	8.10	6577.74
11/29/1999	24.45	6561.39

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-1. WATER LEVELS FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

X18

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	4.50	6581.58
6/1/1999	6.50	6579.58
7/6/1999	5.80	6580.28
8/2/1999	6.00	6580.08
9/7/1999	5.50	6580.58
10/5/1999	4.16	6581.92
11/1/1999	4.35	6581.73
11/29/1999	24.64	6561.44

X19

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	3.50	6581.70
6/1/1999	13.50	6571.70
7/6/1999	12.95	6572.25
8/2/1999	6.40	6578.80
9/7/1999	13.00	6572.20
10/5/1999	5.00	6580.20
11/1/1999	6.50	6578.70
11/29/1999	29.95	6555.25

X20

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	3.00	6582.73
6/1/1999	12.00	6573.73
7/6/1999	10.90	6574.83
8/2/1999	11.10	6574.63
9/7/1999	10.50	6575.23
10/5/1999	4.85	6580.88
11/1/1999	10.70	6575.03
11/29/1999	45.20	6540.53

X21

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	2.50	6583.83
6/1/1999	4.50	6581.83
7/6/1999	5.60	6580.73
8/2/1999	6.00	6580.33
9/7/1999	5.30	6581.03
10/5/1999	4.66	6581.67
11/1/1999	4.50	6581.83
11/29/1999	36.81	6549.52

X22

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	3.50	6582.20
6/1/1999	4.50	6581.20
7/6/1999	4.30	6581.40
8/2/1999	4.50	6581.20
9/7/1999	4.50	6581.20
10/5/1999	4.00	6581.70
11/1/1999	3.80	6581.90
11/29/1999	36.94	6548.76

X23

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	3.00	6582.94
6/1/1999	2.80	6583.14
7/6/1999	1.50	6584.44
8/2/1999	2.20	6583.74
9/7/1999	2.00	6583.94
10/5/1999	4.88	6581.06
11/1/1999	3.50	6582.44
11/29/1999	15.65	6570.29

X24

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	3.00	6582.72
6/1/1999	3.00	6582.72
7/6/1999	2.50	6583.22
8/2/1999	2.00	6583.72
9/7/1999	2.20	6583.52
10/5/1999	6.80	6578.92
11/1/1999	5.50	6580.22
11/29/1999	35.29	6550.43

X25

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	2.50	6583.13
6/1/1999	3.00	6582.63
7/6/1999	3.40	6582.23
8/2/1999	4.00	6581.63
9/7/1999	3.60	6582.03
10/5/1999	3.35	6582.28
11/1/1999	2.00	6583.63
11/29/1999	38.44	6547.19

X26

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	3.50	6584.14
6/1/1999	5.50	6582.14
7/6/1999	6.60	6581.04
8/2/1999	4.00	6583.64
9/7/1999	5.95	6581.69
10/5/1999	3.92	6583.72
11/1/1999	2.10	6585.54
11/29/1999	27.14	6560.50

X27

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
5/5/1999	4.50	6580.80
6/1/1999	11.60	6573.70
7/6/1999	13.60	6571.70
8/2/1999	7.50	6577.80
9/7/1999	13.50	6571.80
10/5/1999	4.03	6581.27
11/1/1999	4.85	6580.45
11/29/1999	45.12	6540.18

Y

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	46.01	6526.87
2/1/1999	44.94	6527.94
2/2/1999	44.84	6528.04
3/1/1999	45.45	6527.43
4/5/1999	45.02	6527.86
5/5/1999	45.21	6527.67
5/10/1999	44.33	6528.55
6/1/1999	46.90	6525.98
7/6/1999	46.68	6526.20
8/2/1999	46.15	6526.73
9/7/1999	46.30	6526.58
10/4/1999	45.55	6527.33
10/12/1999	45.36	6527.52
11/1/1999	44.90	6527.98
11/29/1999	44.28	6528.60

Z

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6565.22
2/1/1999	3.00	6566.22
3/1/1999	4.00	6565.22
4/5/1999	4.00	6565.22
5/5/1999	4.00	6565.22
6/1/1999	4.00	6565.22
7/6/1999	4.00	6565.22
8/2/1999	7.84	6561.38
9/7/1999	4.00	6565.22
10/4/1999	4.00	6565.22
11/1/1999	4.00	6565.22
11/29/1999	4.00	6565.22

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-2. WATER LEVELS FOR THE SUBDIVISION ALLUVIAL WELLS.

WATER-LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)	Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)	Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)	Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
0453											
3/3/1999	32.72	6535.28									
9/14/1999	34.24	6533.76									
0490											
3/3/1999	34.68	6527.74									
10/13/1999	35.61	6526.81									
0492											
3/3/1999	32.13	6528.55									
0497											
8/31/1999	50.13	6512.49									
0688											
5/18/1999	59.43	6503.19									
11/9/1999	59.03	6503.59									
0844											
5/20/1999	36.27	6519.86									
11/9/1999	36.03	6520.10									
0845											
7/29/1999	34.36	6522.69									
CW44											
10/11/1999	55.45	6505.29									
10/12/1999	151.50	6409.24									
10/15/1999	158.90	6401.84									
10/21/1999	150.60	6410.14									
10/22/1999	54.20	6506.54									
11/12/1999	54.24	6506.50									
Sub1											
11/16/1999	33.12	6527.88									

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-3. WATER LEVELS FOR REGIONAL ALLUVIAL WELLS.

WATER LEVEL ELEVATION (FT-MSL)

0631

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
3/30/1999	70.82	6470.28
3/31/1999	78.73	6462.37
9/28/1999	90.50	6450.60
9/29/1999	88.65	6452.45
10/4/1999	88.61	6452.49
10/15/1999	99.30	6441.80
10/21/1999	88.40	6452.70
10/22/1999	73.70	6467.40
10/26/1999	88.75	6452.35
11/10/1999	73.44	6467.66

0632

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
3/25/1999	71.34	6469.96
3/25/1999	83.41	6457.89
3/26/1999	83.42	6457.88
10/22/1999	73.20	6468.10
10/26/1999	88.75	6452.55
10/27/1999	89.85	6451.45
11/11/1999	72.64	6468.66

0633

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/5/1999	72.70	6484.86
8/30/1999	74.75	6482.81
9/8/1999	74.77	6482.79
9/13/1999	74.62	6482.94
9/20/1999	74.64	6482.92
9/27/1999	74.58	6482.98
10/5/1999	73.98	6483.58
10/11/1999	73.98	6483.58
10/18/1999	73.85	6483.71
10/25/1999	73.83	6483.73
11/1/1999	73.81	6483.75
11/8/1999	73.71	6483.85
11/15/1999	73.74	6483.82
11/22/1999	73.61	6483.95
11/29/1999	74.19	6483.37
12/7/1999	74.02	6483.54
12/15/1999	74.04	6483.52
12/21/1999	73.81	6483.75
12/28/1999	74.17	6483.39

0634

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/5/1999	71.44	6488.63

0640

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/22/1999	52.83	6527.14

0641

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/22/1999	50.45	6522.91

0642

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/22/1999	50.87	6521.01

0643

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/19/1999	64.11	6487.22

0644

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/19/1999	65.45	6478.45

0646

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/19/1999	66.93	6476.42

0647

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/21/1999	78.98	6472.93
11/11/1999	81.15	6470.76

0648

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/21/1999	75.57	6472.22
10/4/1999	101.42	6446.37
10/15/1999	97.30	6450.49
10/21/1999	88.30	6459.49
10/22/1999	81.05	6466.74
10/26/1999	88.05	6459.74
11/11/1999	80.89	6466.90

0649

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/21/1999	71.26	6472.03
7/21/1999	71.26	6472.03
10/21/1999	74.90	6468.39
10/26/1999	87.60	6455.69
11/11/1999	74.62	6468.67

0652

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
10/19/1999	70.68	6467.47

0654

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/4/1999	73.30	6477.20

0655

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/5/1999	72.83	6485.35
8/30/1999	75.02	6483.16
9/8/1999	75.06	6483.12
9/13/1999	74.98	6483.20
9/20/1999	75.02	6483.16
9/27/1999	74.68	6483.50
10/5/1999	74.92	6483.26
10/11/1999	74.90	6483.28
10/18/1999	74.79	6483.39
10/25/1999	74.77	6483.41
11/1/1999	74.71	6483.47
11/8/1999	74.55	6483.63
11/15/1999	74.47	6483.71
11/22/1999	74.53	6483.65
11/29/1999	74.64	6483.54
12/7/1999	74.48	6483.70
12/15/1999	74.63	6483.55
12/21/1999	74.41	6483.77
12/28/1999	74.58	6483.60

0656

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/30/1999	26.57	6527.50
9/8/1999	29.37	6524.70
9/13/1999	29.50	6524.57
9/20/1999	28.12	6525.95
9/27/1999	29.98	6524.09
10/5/1999	36.51	6517.56
10/11/1999	32.74	6521.33
10/18/1999	29.58	6524.49
10/25/1999	27.37	6526.70
11/1/1999	27.15	6526.92
11/8/1999	27.91	6526.16
11/15/1999	29.14	6524.93
11/22/1999	28.83	6525.24
11/29/1999	28.90	6525.17
12/7/1999	28.26	6525.81
12/15/1999	2907.00	3647.07
12/21/1999	29.62	6524.45
12/28/1999	29.62	6524.45

0657

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/5/1999	78.16	6473.65
10/4/1999	95.39	6456.42
10/15/1999	94.10	6457.71
10/21/1999	94.30	6457.51
10/22/1999	79.15	6472.66
10/26/1999	91.82	6459.99
11/11/1999	79.66	6472.15

0657A

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
4/13/1999	37.00	6512.00

0658

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
4/13/1999	80.65	6469.53
4/13/1999	80.65	6469.53
10/4/1999	98.50	6451.68
10/15/1999	100.80	6449.38
10/22/1999	82.00	6468.18
10/26/1999	100.95	6449.23
11/11/1999	81.65	6468.53

0659

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/5/1999	70.27	6489.90

0682

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/30/1999	76.43	6477.54
9/8/1999	74.58	6479.39
9/13/1999	74.45	6479.52
9/20/1999	74.50	6479.47
9/27/1999	74.28	6479.69
9/28/1999	74.25	6479.72
10/5/1999	74.20	6479.77
10/11/1999	74.18	6479.79
10/18/1999	73.94	6480.03
10/25/1999	73.88	6480.09
11/1/1999	73.86	6480.11
11/8/1999	73.91	6480.06
11/15/1999	73.69	6480.28
11/22/1999	73.64	6480.33
11/29/1999	73.76	6480.21
12/7/1999	73.57	6480.40
12/15/1999	74.72	6479.25
12/21/1999	73.61	6480.36
12/28/1999	73.66	6480.31

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.1-3. WATER LEVELS FOR REGIONAL ALLUVIAL WELLS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
0683		
9/29/1999	79.61	6476.43
0684		
9/30/1999	77.78	6475.50
0685		
9/29/1999	82.00	6474.57
0686		
9/29/1999	101.39	6477.41
0687		
9/29/1999	81.40	6474.56
0689		
7/27/1999	64.33	6477.69
0692		
7/26/1999	66.22	6518.60
0846		
5/20/1999	44.30	6504.62
11/9/1999	44.27	6504.65
0848		
7/26/1999	56.88	6515.61
0851		
9/1/1999	71.75	6474.69
0855		
9/1/1999	69.71	6471.40
0861		
8/31/1999	63.14	6496.71
0862		
9/1/1999	57.34	6498.84
11/12/1999	57.32	6498.86
0863		
9/1/1999	63.80	6492.76
0864		
9/1/1999	64.28	6482.44
0865		
8/31/1999	61.03	6495.75
0866		
8/31/1999	55.80	6502.32
0867		
8/31/1999	61.18	6494.72
0868		
9/1/1999	58.58	6516.16
0869		
9/2/1999	64.12	6480.37
0876		
9/1/1999	63.84	6480.42
0881		
9/28/1999	73.15	6491.89
0882		
9/28/1999	64.93	6496.23
0883		
9/28/1999	59.39	6497.74
0884		
9/30/1999	73.60	6492.50
0885		
9/28/1999	64.65	6499.99
0886		
9/28/1999	68.60	6495.95
0888		
9/28/1999	75.80	6481.53
0890		
3/10/1999	81.29	6477.14
3/11/1999	84.44	6473.99
9/28/1999	73.12	6485.31
0893		
9/28/1999	68.88	6495.09
0894		
8/30/1999	75.46	6478.83
9/8/1999	75.37	6478.92
9/13/1999	75.12	6479.17
9/20/1999	75.11	6479.18
9/27/1999	74.98	6479.31
9/28/1999	75.00	6479.29
10/5/1999	75.03	6479.26
10/11/1999	74.97	6479.32
10/18/1999	74.82	6479.47
10/25/1999	74.86	6479.43
11/1/1999	74.90	6479.39
11/8/1999	74.83	6479.46
11/15/1999	74.83	6479.46
11/22/1999	74.71	6479.58
11/29/1999	74.91	6479.38
12/7/1999	74.78	6479.51
12/15/1999	74.94	6479.35
12/21/1999	74.82	6479.47
12/28/1999	74.92	6479.37
0895		
9/29/1999	76.34	6477.50
0896		
9/29/1999	77.77	6477.84
0899		
9/28/1999	91.78	6479.06
0914		
5/19/1999	39.86	6602.14
0921		
5/19/1999	38.65	6585.35
0922		
5/19/1999	53.30	6568.40
0935		
9/30/1999	81.87	6476.25
0996		
9/29/1999	80.75	6471.77

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.2-1. WATER LEVELS FOR THE CHINLE AQUIFERS.

WATER LEVEL ELEVATION (FT-MSL)

0493

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
3/3/1999	60.14	6500.14
10/13/1999	64.31	6495.97
10/13/1999	64.31	6495.97

0494

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
3/3/1999	32.31	6527.83
10/13/1999	33.18	6526.96

0853

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
6/3/1999	65.27	6476.11

0859

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
6/3/1999	59.91	6492.85

0929

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
3/23/1999	35.89	6556.68
9/14/1999	44.87	6547.70

0930

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
7/27/1999	102.14	6496.40

0931

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
4/20/1999	62.42	6548.14
9/14/1999	63.76	6546.80

0934

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
4/20/1999	37.84	6547.75
9/14/1999	38.06	6547.53

CE1

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
6/23/1999	43.22	6526.97
8/11/1999	43.76	6526.43
8/11/1999	40.10	6530.09
8/11/1999	37.03	6533.16
8/11/1999	36.16	6534.03
8/11/1999	35.57	6534.62
8/11/1999	35.12	6535.07
8/12/1999	31.12	6539.07
8/12/1999	30.31	6539.88
8/13/1999	37.25	6532.94

CE2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
6/23/1999	42.44	6533.91
8/12/1999	62.00	6514.35
8/12/1999	61.89	6514.46
8/13/1999	62.03	6514.32
9/7/1999	41.64	6534.71
10/4/1999	43.31	6533.04
11/1/1999	60.02	6516.33
11/29/1999	60.55	6515.80

CW2

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
2/4/1999	89.56	6495.92
5/20/1999	91.00	6494.48
8/17/1999	88.88	6496.60
11/4/1999	92.08	6493.40

CW2-1

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	53.79	6531.69
1/19/1999	53.75	6531.73
2/1/1999	53.78	6531.70
2/16/1999	53.62	6531.86
3/1/1999	53.65	6531.83
4/5/1999	53.84	6531.64
5/5/1999	53.89	6531.59
5/20/1999	54.65	6530.83
6/2/1999	54.02	6531.46
7/7/1999	54.48	6531.00
8/2/1999	54.42	6531.06
8/11/1999	88.31	6497.17
8/11/1999	88.33	6497.15
8/11/1999	88.35	6497.13
8/11/1999	88.37	6497.11
8/11/1999	88.36	6497.12
8/11/1999	88.35	6497.13
8/12/1999	53.66	6531.82
8/12/1999	53.70	6531.78
8/13/1999	53.71	6531.77
9/7/1999	53.47	6532.01
10/6/1999	54.28	6531.20
11/1/1999	53.58	6531.90
11/4/1999	54.40	6531.08
11/29/1999	53.51	6531.97

CW3

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
2/3/1999	56.63	6530.55
5/11/1999	57.24	6529.94
8/11/1999	58.00	6529.18
8/11/1999	58.03	6529.15
8/11/1999	58.06	6529.12
8/11/1999	58.08	6529.10
8/11/1999	58.05	6529.13
8/11/1999	58.05	6529.13
8/12/1999	58.08	6529.10
8/12/1999	58.12	6529.06
8/13/1999	58.12	6529.06
11/9/1999	57.86	6529.32

CW4R

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
2/3/1999	38.08	6530.65
7/6/1999	39.48	6529.25
8/2/1999	76.43	6492.30
8/11/1999	83.63	6485.10
8/11/1999	83.50	6485.23
8/11/1999	83.39	6485.34
8/11/1999	83.40	6485.33
8/11/1999	83.40	6485.33
8/11/1999	83.38	6485.35
8/12/1999	84.98	6483.75
8/12/1999	85.35	6483.38
8/13/1999	85.38	6483.35
8/17/1999	74.16	6494.57
9/7/1999	39.04	6529.69
10/4/1999	39.00	6529.73
11/1/1999	57.40	6511.33
11/29/1999	56.71	6512.02

CW5

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	4.00	6565.34
2/1/1999	5.00	6564.34
3/1/1999	5.00	6564.34
4/5/1999	3.00	6566.34
5/5/1999	3.50	6565.84
6/1/1999	3.00	6566.34
7/6/1999	5.00	6564.34
8/2/1999	5.00	6564.34
9/7/1999	5.00	6564.34
10/4/1999	6.00	6563.34
11/1/1999	5.00	6564.34
11/29/1999	5.00	6564.34

CW8

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	51.37	6540.46
2/1/1999	50.73	6541.10
3/1/1999	50.21	6541.62
4/5/1999	49.23	6542.60
5/5/1999	48.61	6543.22
6/2/1999	48.14	6543.69
7/7/1999	47.50	6544.33
8/2/1999	46.83	6545.00
9/7/1999	46.15	6545.68
10/6/1999	45.66	6546.17
11/1/1999	45.12	6546.71
11/29/1999	44.65	6547.18

CW9

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
8/11/1999	76.66	6515.17
8/11/1999	76.64	6515.19
8/11/1999	76.65	6515.18
8/11/1999	76.66	6515.17
8/11/1999	76.65	6515.18
8/11/1999	76.66	6515.17
8/12/1999	76.67	6515.16
8/12/1999	76.70	6515.13
8/13/1999	76.72	6515.11
9/15/1999	77.16	6514.67

CW13

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
1/4/1999	5.00	6571.70
2/1/1999	5.00	6571.70
3/1/1999	6.50	6570.20
4/5/1999	8.00	6568.70
5/5/1999	6.00	6570.70
6/1/1999	10.00	6566.70
7/6/1999	6.00	6570.70
8/2/1999	2.17	6574.53
9/7/1999	11.50	6565.20
10/4/1999	4.00	6572.70
11/1/1999	5.00	6571.70
11/29/1999	5.00	6571.70

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.2-1. WATER LEVELS FOR THE CHINLE AQUIFERS. (cont.)

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
CW14		
1/4/1999	45.00	6521.09
2/1/1999	20.00	6546.09
3/1/1999	43.00	6523.09
4/5/1999	51.00	6515.09
5/5/1999	49.58	6516.51
6/1/1999	35.50	6530.59
7/6/1999	22.80	6543.29
8/2/1999	19.50	6546.59
9/7/1999	14.50	6551.59
10/4/1999	12.50	6553.59
11/1/1999	14.60	6551.49
11/29/1999	8.40	6557.69
CW15		
6/3/1999	58.16	6493.16
CW17		
6/1/1999	65.43	6523.89
CW18		
7/22/1999	10.26	6562.39
CW25		
6/1/1999	35.63	6531.57
8/11/1999	36.02	6531.18
8/11/1999	36.04	6531.16
8/11/1999	36.03	6531.17
8/11/1999	36.03	6531.17
8/11/1999	36.03	6531.17
8/11/1999	36.02	6531.18
8/12/1999	36.11	6531.09
8/12/1999	36.07	6531.13
8/13/1999	36.14	6531.06
CW26		
6/3/1999	81.56	6479.87
CW27		
6/3/1999	62.68	6500.20
CW28		
7/26/1999	70.06	6501.62
CW29		
6/3/1999	72.63	6479.59
CW30		
6/3/1999	59.74	6498.57
CW31		
6/2/1999	82.38	6477.88
CW32		
6/2/1999	105.98	6461.30
CW33		
6/2/1999	106.34	6468.55
6/2/1999	106.34	6468.55
CW35		
6/1/1999	59.34	6531.83
CW37		
6/2/1999	59.90	6491.27
CW40		
3/2/1999	14.24	6564.70
9/14/1999	18.70	6560.24
CW42		
9/2/1999	66.92	6481.86
CW43		
9/29/1999	64.82	6483.97
CW44		
10/11/1999	55.45	6505.29
10/12/1999	151.50	6409.24
10/15/1999	158.90	6401.84
10/21/1999	150.60	6410.14
10/22/1999	54.20	6506.54
11/12/1999	54.24	6506.50
CW45		
9/29/1999	50.96	6510.35
CW46		
9/29/1999	58.78	6503.48

* Drawdown Tube Pressure, # Transducer Reading

TABLE A.3-1. WATER LEVELS FOR THE SAN ANDRES AQUIFER.

WATER LEVEL ELEVATION (FT-MSL)

Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)	Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)	Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)	Date	Water Level (ft-MP)	Water Level Elevation (ft+MSL)
#2 Deepwell											
2/3/1999	168.00	6407.66									
0943											
9/2/1999	63.20	6492.71									
0951											
8/19/1999	107.50	6466.20									
8/30/1999	110.85	6462.85									
9/7/1999	110.93	6462.77									
10/5/1999	110.79	6462.91									
11/1/1999	109.92	6463.78									
11/29/1999	107.61	6466.09									

* Drawdown Tube Pressure, # Transducer Reading

APPENDIX B

WATER QUALITY

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GROUND-WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

APPENDIX B

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GROUND-WATER MONITORING
FOR HOMESTAKE'S GRANTS PROJECT

APPENDIX B

TABLES
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TABLE B.1-1. WATER QUALITY ANALYSES FOR THE TAILINGS WELLS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
CS2	11/2/1999	HMC	—	—	—	—	—	—	—	—	—	24056	—
	11/3/1999	ENER	—	—	—	—	—	—	—	9250	24600	* 28557	—
	11/10/1999	HMC	—	—	—	—	—	—	—	—	—	26165	—
	11/16/1999	HMC	—	—	—	—	—	—	—	—	—	25203	—
	11/23/1999	HMC	—	—	—	—	—	—	—	—	—	25203	—
	11/30/1999	HMC	—	—	—	—	—	—	—	—	—	25849	—
	12/8/1999	HMC	—	—	—	—	—	—	—	—	—	24556	—
CS3	11/2/1999	HMC	—	—	—	—	—	—	—	—	—	21320	—
	11/3/1999	ENER	—	—	—	—	—	—	—	9200	22900	* 27109	—
	11/10/1999	HMC	—	—	—	—	—	—	—	—	—	24408	—
	11/16/1999	HMC	—	—	—	—	—	—	—	—	—	23910	—
	11/23/1999	HMC	—	—	—	—	—	—	—	—	—	23124	—
	11/30/1999	HMC	—	—	—	—	—	—	—	—	—	24408	—
	12/8/1999	HMC	—	—	—	—	—	—	—	—	—	24800	—
ED1	6/30/1999	ENER	1.10	< 1.000	86.2	9850	7970	2970	1000	8760	26600	—	0.979
	8/24/1999	ENER	< 1.000	< 1.000	46.0	8850	8150	2900	818	8140	26300	* 35825	0.914
EG7	9/10/1999	ENER	1.20	2.10	50.7	9400	7600	2700	854	9500	26000	—	0.940
NE6	6/30/1999	ENER	1.10	< 1.000	97.0	10200	7380	3160	965	9200	26200	—	1.00
	8/24/1999	ENER	< 1.000	< 1.000	54.3	9260	7260	3250	896	9100	26900	* 39631	0.915
PW1	8/24/1999	ENER	1.60	3.70	33.8	9150	5750	1550	1450	11300	28000	* 38670	0.946
PW2	11/2/1999	HMC	—	—	—	—	—	—	—	—	—	21972	—
	11/3/1999	ENER	—	—	—	—	—	—	—	9380	24100	* 28205	—
	11/10/1999	HMC	—	—	—	—	—	—	—	—	—	25203	—
	11/16/1999	HMC	—	—	—	—	—	—	—	—	—	23264	—
	11/23/1999	HMC	—	—	—	—	—	—	—	—	—	23910	—
	11/30/1999	HMC	—	—	—	—	—	—	—	—	—	24556	—

* Signifies Specific Conductivity from HMC

TABLE B.1-1. WATER QUALITY ANALYSES FOR THE TAILINGS WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
PW2	12/8/1999	HMC	—	—	—	—	—	—	—	—	—	24556	—
WA3	6/30/1999	ENER	1.10	< 1.000	73.4	10000	8330	3560	609	8220	26800	—	0.985
	8/24/1999	ENER	1.000	< 1.000	38.2	9040	8310	3240	680	8170	26400	* 38112	0.910
WB2	8/24/1999	ENER	1.000	< 1.000	40.6	9580	6780	2150	1340	10400	28600	* 40850	0.956
WC1	9/8/1999	ENER	8.60	107	49.3	10000	4780	513	2000	15000	30800	—	0.960
WE2	6/30/1999	ENER	1.000	< 1.000	74.4	9500	7930	3170	942	7700	25800	—	0.983
	8/24/1999	ENER	1.000	< 1.000	34.1	8520	6980	2790	903	7540	25600	* 37248	0.953
WE7	11/2/1999	HMC	—	—	—	—	—	—	—	—	—	34064	—
	11/3/1999	ENER	—	—	—	—	—	—	—	10900	30100	* 34365	—
	11/16/1999	HMC	—	—	—	—	—	—	—	—	—	29615	—
	11/23/1999	HMC	—	—	—	—	—	—	—	—	—	29796	—
	11/30/1999	HMC	—	—	—	—	—	—	—	—	—	27756	—
	12/8/1999	HMC	—	—	—	—	—	—	—	—	—	27820	—

* Signifies Specific Conductivity from HMC

TABLE B.1-2. WATER QUALITY ANALYSES FOR THE TAILINGS WELLS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
CS2	11/3/1999	ENER	—	53.9	125	0.307	—	—	—	—	—	—
CS3	11/3/1999	ENER	—	31.2	93.4	0.126	—	—	—	—	—	—
ED1	6/30/1999	ENER	9.82	56.1	112	0.0430	3.00	363	3.00	—	< 0.0100	3990
	8/24/1999	ENER	9.80	57.0	106	0.103	3.27	142	< 1.000	—	< 0.0100	3450
EG7	9/10/1999	ENER	9.80	42.9	161	0.131	11.1	461	—	—	—	—
NE6	6/30/1999	ENER	9.88	41.5	102	0.146	2.97	245	< 1.000	—	0.0400	2560
	8/24/1999	ENER	9.90	44.7	102	0.130	1.61	301	< 1.000	—	< 0.0100	2230
PW1	8/24/1999	ENER	9.68	26.0	87.4	0.118	0.810	230	< 1.000	—	< 0.0100	1220
PW2	11/3/1999	ENER	—	51.8	118	0.146	—	—	—	—	—	—
WA3	6/30/1999	ENER	9.88	31.5	138	0.236	1.19	558	2.80	—	< 0.0100	5560
	8/24/1999	ENER	9.84	30.9	120	0.250	3.62	581	1.80	—	0.0600	4660
WB2	8/24/1999	ENER	9.75	23.7	94.8	0.208	5.82	379	3.70	—	0.0200	1790
WC1	9/8/1999	ENER	9.28	66.3	122	0.393	1.04	1.70	—	—	—	—
WE2	6/30/1999	ENER	9.85	33.8	95.8	0.279	3.59	427	< 1.000	—	< 0.0100	3470
	8/24/1999	ENER	9.85	36.6	96.6	0.280	6.01	317	1.70	—	< 0.0100	3020
WE7	11/3/1999	ENER	—	51.9	101	0.0950	—	—	—	—	—	—

TABLE B.2-1. WATER QUALITY ANALYSES FOR THE TOE DRAIN SUMPS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
East 1 Sump	8/18/1999	ENER	2.70	7.60	48.8	10400	7290	1640	1530	12400	29200	* 33458	0.956
East 2 Sump	8/18/1999	ENER	17.0	50.6	51.2	10100	5650	607	1640	14000	29800	* 33370	0.989
East Reclaim	8/18/1999	ENER	1.30	3.90	73.6	10000	6820	1720	1380	10000	27600	* 30840	1.05
North 1 Sump	8/18/1999	ENER	2.40	8.30	87.8	11000	7210	1350	1340	11400	29700	* 30943	1.10
South 1 Sump	8/18/1999	ENER	1.50	11.0	79.1	9800	6780	1520	1270	10000	26900	* 28954	1.06
West 2 Sump	9/8/1999	ENER	11.7	1.50	3.60	74.5	143	< 1.000	25.7	63.4	279	—	0.914

* Signifies Specific Conductivity from HMC

TABLE B.2-2. WATER QUALITY ANALYSES FOR THE TOE DRAIN SUMPS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
East 1 Sump	8/18/1999	ENER	9.60	49.3	113	0.340	0.650	78.0	---	---	---	---
East 2 Sump	8/18/1999	ENER	9.28	131	110	0.472	4.08	6.30	---	---	---	---
East Reclaim	8/18/1999	ENER	9.65	28.4	103	0.530	3.55	82.5	---	---	---	---
North 1 Sump	8/18/1999	ENER	9.52	35.2	106	0.510	0.530	114	---	---	---	---
South 1 Sump	8/18/1999	ENER	9.60	27.8	100.0	0.460	0.420	167	---	---	---	---
West 2 Sump	9/8/1999	ENER	7.96	0.571	0.750	0.0230	< 0.100	0.400	---	---	---	---

TABLE B.3-1. WATER QUALITY ANALYSES FOR THE LINED PONDS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
E Coll Pond	1/7/1999	ENER	178	104	13.0	2800	1455	< 1.000	653	5000	10600	* 16130	0.953
	4/19/1999	ENER	218	103	10.00	2690	1490	30.5	617	4900	9870	* 14761	0.943
	7/7/1999	ENER	11.7	90.4	35.1	4000	1120	72.3	828	6400	11600	* 15057	1.03
	10/12/1999	ENER	203	108	15.5	2680	1160	17.6	660	4800	9890	* 12740	0.984
Evap Pond 1	1/7/1999	ENER	—	—	—	—	—	—	2950	19800	40200	* 55218	—
	4/19/1999	ENER	20.7	312	79.5	14000	5940	1110	3100	22000	44900	* 51103	0.938
	7/17/1999	ENER	18.5	169	180	17600	6380	787	2090	25000	46000	* 48007	1.11
	10/12/1999	ENER	—	—	—	—	—	—	3670	24200	49500	* 52540	—
Evap Pond 2	1/7/1999	ENER	—	—	—	—	—	—	1150	8890	17300	* 27338	—
	4/16/1999	ENER	35.4	157	20.3	5240	2250	318	1070	8240	17000	* 20175	0.976
	4/16/1999	ENER	# 30.5	# 134	# 19.7	# 5300	# 2140	# 357	# 1000	# 8200	# 17000	*# 20175	# 0.991
	7/17/1999	ENER	17.8	112	69.0	7000	2490	294	1070	9900	18800	* 23434	1.10
	10/12/1999	ENER	—	—	—	—	—	—	1290	9720	18400	* 13413	—
W Coll Pond	5/11/1999	ENER	101	203	50.0	16600	1980	69.0	3300	29600	52800	* 6743	1.00
	8/18/1999	ENER	181	93.0	17.5	2340	1040	< 1.000	606	3860	8800	* 11626	1.04
	11/2/1999	ENER	326	111	14.4	2420	1310	< 1.000	610	4220	9200	* 14711	1.04

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.3-2. WATER QUALITY ANALYSES FOR THE LINED PONDS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
E Coll Pond	1/7/1999	ENER	8.23	23.3	33.6	3.27	23.1	6.70	< 1.000	—	0.120	2.30
	4/19/1999	ENER	8.56	20.8	31.0	2.34	16.6	7.70	—	—	—	—
	7/7/1999	ENER	9.06	18.8	29.9	1.49	11.1	4.70	< 1.000	—	< 0.0100	1.30
	10/12/1999	ENER	8.43	16.1	25.2	1.56	9.84	3.00	—	—	—	—
Evap Pond 1	1/7/1999	ENER	—	72.7	136	0.630	—	—	—	—	—	—
	4/19/1999	ENER	9.52	80.7	157	0.593	< 0.100	6.60	< 1.000	—	2.63	4.60
	7/17/1999	ENER	9.34	65.6	160	1.000	< 0.100	6.70	< 1.000	—	< 0.0100	2.20
	10/12/1999	ENER	—	131	152	0.443	—	—	—	—	—	—
Evap Pond 2	1/7/1999	ENER	—	35.5	55.2	2.47	—	—	—	—	—	—
	4/16/1999	ENER	9.40	34.6	65.2	2.89	17.4	3.30	< 1.000	—	1.000	< 0.200
	4/16/1999	ENER	# 9.47	# 34.4	# 62.0	# 2.88	# 12.3	# 3.90	# < 1.000	—	# 0.0100	# 0.300
	7/17/1999	ENER	9.32	32.6	75.8	2.41	9.25	4.40	< 1.000	—	< 0.0100	0.700
	10/12/1999	ENER	—	46.0	39.0	2.33	—	—	—	—	—	—
W Coll Pond	5/11/1999	ENER	8.79	74.0	47.5	4.10	14.2	12.1	—	—	—	—
	8/18/1999	ENER	8.27	12.0	16.7	1.47	11.0	2.10	< 1.000	—	0.150	0.200
	11/2/1999	ENER	8.09	14.3	22.3	1.25	9.76	4.00	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
1B	10/7/1999	ENER	—	—	—	—	—	—	—	1150	2590	* 4601	—
1C	10/7/1999	ENER	—	—	—	—	—	—	—	718	1680	* 3356	—
1D	10/7/1999	ENER	—	—	—	—	—	—	—	948	2600	* 4965	—
1E	10/7/1999	ENER	—	—	—	—	—	—	—	948	2200	* 3891	—
1F	10/7/1999	ENER	—	—	—	—	—	—	—	1020	2270	* 3990	—
1G	10/7/1999	ENER	—	—	—	—	—	—	—	968	2310	* 4206	—
1H	10/7/1999	ENER	—	—	—	—	—	—	—	456	1320	* 2011	—
1I	10/7/1999	ENER	—	—	—	—	—	—	—	287	1230	* 2459	—
1J	10/11/1999	ENER	—	—	—	—	—	—	—	719	2390	* 4355	—
1K	10/11/1999	ENER	—	—	—	—	—	—	—	3160	6750	* 9981	—
	10/11/1999	ENER	—	—	—	—	—	—	—	# 3180	# 6790	* # 9981	—
1L	10/12/1999	ENER	—	—	—	—	—	—	—	800	2120	* 3846	—
1N	9/30/1999	ENER	—	—	—	—	—	—	—	840	2200	* 3698	—
1P	9/30/1999	ENER	—	—	—	—	—	—	—	681	2030	* 3808	—
B	1/7/1999	ENER	290	62.0	6.90	347	357	< 1.000	177	1200	2500	* 3910	0.972
	4/20/1999	ENER	—	—	—	—	—	—	—	1260	2400	* 3791	—
	7/7/1999	ENER	264	55.9	5.50	329	330	< 1.000	185	1050	2340	* 3785	0.991
	10/13/1999	ENER	—	—	—	—	—	—	—	1260	2420	* 3966	—
B1	1/7/1999	ENER	—	—	—	—	—	—	—	775	2000	* 3353	—
	7/7/1999	ENER	269	55.7	6.30	370	423	< 1.000	196	1070	2410	* 3963	0.985
B2	5/26/1999	ENER	—	—	—	—	—	—	—	1390	2860	* 3634	—
	12/14/1999	ENER	—	—	—	—	—	—	—	1430	2950	* 3778	—
B3	9/30/1999	ENER	—	—	—	—	—	—	—	1760	3590	* 5036	—
	10/19/1999	ENER	—	—	—	—	—	—	—	2170	4380	* 5293	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
B3	11/2/1999	ENER	---	---	---	---	---	---	---	2380	4760	* 5772	---
	12/14/1999	ENER	---	---	---	---	---	---	---	2280	4580	* 5667	---
B4	5/26/1999	ENER	---	---	---	---	---	---	---	1390	2810	* 3597	---
	6/14/1999	ENER	---	---	---	---	---	---	---	1470	3060	* 3947	---
	8/24/1999	ENER	---	---	---	---	---	---	---	1620	3360	* 4193	---
	9/17/1999	ENER	---	---	---	---	---	---	---	1720	3510	* 4274	---
B5	1/19/1999	ENER	---	---	---	---	---	---	---	2370	4350	* 5137	---
	2/22/1999	ENER	---	---	---	---	---	---	---	2310	4380	* 5110	---
	3/23/1999	ENER	---	---	---	---	---	---	---	2280	4310	* 5030	---
	4/20/1999	ENER	---	---	---	---	---	---	---	2290	4440	* 5162	---
	5/26/1999	ENER	---	---	---	---	---	---	---	2400	4700	* 5358	---
	6/14/1999	ENER	---	---	---	---	---	---	---	2420	4960	* 5716	---
	8/24/1999	ENER	---	---	---	---	---	---	---	2700	5330	* 6038	---
	9/17/1999	ENER	---	---	---	---	---	---	---	2780	5480	* 6140	---
	10/19/1999	ENER	---	---	---	---	---	---	---	2980	5700	* 6648	---
	11/2/1999	ENER	---	---	---	---	---	---	---	2940	5740	* 6784	---
	12/14/1999	ENER	---	---	---	---	---	---	---	2770	5410	* 6494	---
B6	11/2/1999	ENER	---	---	---	---	---	---	---	4280	8350	* 9381	---
	11/3/1999	ENER	---	---	---	---	---	---	---	4270	8440	* 10329	---
	12/8/1999	ENER	---	---	---	---	---	---	---	4540	8860	* 9724	---
B8	12/14/1999	ENER	---	---	---	---	---	---	---	7580	14500	* 16241	---
B10	1/19/1999	ENER	---	---	---	---	---	---	---	10400	19600	* 22072	---
	2/22/1999	ENER	---	---	---	---	---	---	---	9620	18800	* 19178	---
	3/24/1999	ENER	---	---	---	---	---	---	---	9380	18000	* 20451	---
	12/14/1999	ENER	---	---	---	---	---	---	---	8050	14100	* 16524	---
B11	10/20/1999	ENER	---	---	---	---	---	---	---	6320	10600	* 10885	---

* Signifies Specific Conductivity from HMC

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
BC	1/19/1999	ENER	265	76.0	4.00	263	371	< 1.000	78.0	1240	2400	* 3597	0.909
	10/14/1999	ENER	—	—	—	—	—	—	—	1270	2310	* 3035	—
BP	2/2/1999	ENER	187	50.9	3.70	362	563	< 1.000	195	816	2030	* 3608	0.925
	5/10/1999	ENER	211	54.7	4.10	353	553	< 1.000	192	748	2040	* 3555	1.01
	8/17/1999	ENER	192	52.3	5.40	352	516	< 1.000	198	846	2140	* 3707	0.926
	11/3/1999	ENER	230	61.9	4.40	404	475	< 1.000	195	961	2280	* 3890	1.03
C2	6/8/1999	ENER	—	—	—	—	—	—	—	1490	3130	* 3829	—
	8/24/1999	ENER	—	—	—	—	—	—	—	1550	3060	* 3803	—
	9/17/1999	ENER	—	—	—	—	—	—	—	1550	3060	* 3601	—
	10/19/1999	ENER	—	—	—	—	—	—	—	1610	3100	* 4073	—
	11/2/1999	ENER	—	—	—	—	—	—	—	1600	3160	* 4045	—
	12/8/1999	ENER	—	—	—	—	—	—	—	1710	3280	* 4278	—
C3R	6/8/1999	ENER	—	—	—	—	—	—	—	828	2120	* 3032	—
	8/24/1999	ENER	—	—	—	—	—	—	—	889	2120	* 2949	—
	9/17/1999	ENER	—	—	—	—	—	—	—	862	2100	* 2745	—
	10/19/1999	ENER	—	—	—	—	—	—	—	876	2080	* 2995	—
	11/2/1999	ENER	—	—	—	—	—	—	—	843	2070	* 2911	—
C4	1/19/1999	ENER	—	—	—	—	—	—	—	1370	2680	* 3495	—
	2/22/1999	ENER	—	—	—	—	—	—	—	1290	2650	* 3491	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1400	2600	* 3448	—
	4/20/1999	ENER	—	—	—	—	—	—	—	1170	2590	* 3326	—
	6/8/1999	ENER	—	—	—	—	—	—	—	1030	2380	* 3229	—
	8/24/1999	ENER	—	—	—	—	—	—	—	1070	2370	* 3158	—
	9/17/1999	ENER	—	—	—	—	—	—	—	1000	2310	* 3759	—
	10/19/1999	ENER	—	—	—	—	—	—	—	1020	2300	* 3141	—
	11/2/1999	ENER	—	—	—	—	—	—	—	1020	2320	* 3192	—
C5	10/20/1999	ENER	—	—	—	—	—	—	—	1020	2330	* 4091	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
C6	1/19/1999	ENER	—	—	—	—	—	—	—	2890	5910	* 6848	—
	2/22/1999	ENER	—	—	—	—	—	—	—	2680	5850	* 6906	—
C7	1/19/1999	ENER	—	—	—	—	—	—	—	2580	6300	* 7874	—
	2/22/1999	ENER	—	—	—	—	—	—	—	2500	6020	* 7444	—
	3/24/1999	ENER	—	—	—	—	—	—	—	2390	5930	* 7438	—
	4/20/1999	ENER	—	—	—	—	—	—	—	2280	5750	* 7297	—
	5/24/1999	ENER	—	—	—	—	—	—	—	2500	5730	* 7031	—
	6/10/1999	ENER	—	—	—	—	—	—	—	2450	5620	* 7153	—
	7/22/1999	ENER	428	105	13.9	1040	638	< 1.000	1080	1940	5580	* 6939	0.929
	8/24/1999	ENER	—	—	—	—	—	—	—	2250	5440	* 6616	—
	9/30/1999	ENER	—	—	—	—	—	—	—	2380	5350	* 7752	—
	10/19/1999	ENER	—	—	—	—	—	—	—	2190	5240	* 6695	—
	11/2/1999	ENER	—	—	—	—	—	—	—	2230	5290	* 6687	—
	12/8/1999	ENER	—	—	—	—	—	—	—	2280	5240	* 6939	—
C8	1/19/1999	ENER	—	—	—	—	—	—	—	3630	8660	* 10411	—
	2/22/1999	ENER	—	—	—	—	—	—	—	3300	8280	* 10215	—
	3/24/1999	ENER	—	—	—	—	—	—	—	3100	8120	* 10107	—
	7/22/1999	ENER	529	115	19.0	1550	872	< 1.000	1380	2440	7410	* 9151	0.997
	8/24/1999	ENER	—	—	—	—	—	—	—	2930	7370	* 9002	—
	9/30/1999	ENER	—	—	—	—	—	—	—	3060	7180	* 1034	—
	10/19/1999	ENER	—	—	—	—	—	—	—	3090	7070	* 9100	—
	11/2/1999	ENER	—	—	—	—	—	—	—	3000	7100	* 9128	—
	12/8/1999	ENER	—	—	—	—	—	—	—	2980	6810	* 8538	—
C9	1/19/1999	ENER	—	—	—	—	—	—	—	4620	9990	* 11993	—
	2/22/1999	ENER	—	—	—	—	—	—	—	4380	9510	* 11748	—
	3/24/1999	ENER	—	—	—	—	—	—	—	4060	9290	* 11453	—
	4/20/1999	ENER	—	—	—	—	—	—	—	4110	9090	* 11114	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
C9	5/24/1999	ENER	—	—	—	—	—	—	—	4020	8990	* 10939	—
	6/10/1999	ENER	—	—	—	—	—	—	—	4050	8800	* 10899	—
	7/22/1999	ENER	492	170	21.0	2070	982	< 1.000	1080	3840	8770	* 10712	1.02
	8/24/1999	ENER	—	—	—	—	—	—	—	3760	8780	* 10539	—
	9/30/1999	ENER	—	—	—	—	—	—	—	3940	8720	* 12549	—
	10/19/1999	ENER	—	—	—	—	—	—	—	4040	8730	* 11068	—
	11/2/1999	ENER	—	—	—	—	—	—	—	4030	8740	* 11102	—
	12/8/1999	ENER	—	—	—	—	—	—	—	4040	8670	* 10472	—
C10	1/19/1999	ENER	—	—	—	—	—	—	—	4380	10500	* 12778	—
	2/22/1999	ENER	—	—	—	—	—	—	—	4100	10500	* 13247	—
	3/24/1999	ENER	—	—	—	—	—	—	—	4180	10500	* 12841	—
	4/20/1999	ENER	—	—	—	—	—	—	—	4340	10500	* 12930	—
	5/24/1999	ENER	—	—	—	—	—	—	—	4410	10600	* 12841	—
	6/10/1999	ENER	—	—	—	—	—	—	—	4440	10800	* 13397	—
C11	1/19/1999	ENER	—	—	—	—	—	—	—	6760	12100	* 13739	—
	8/24/1999	ENER	—	—	—	—	—	—	—	5460	11100	* 12515	—
	9/30/1999	ENER	—	—	—	—	—	—	—	5560	11100	* 14444	—
C12	1/19/1999	ENER	—	—	—	—	—	—	—	6380	11000	* 12778	—
	2/22/1999	ENER	—	—	—	—	—	—	—	5410	10500	* 12364	—
	2/22/1999	ACZ	—	—	—	—	—	—	—	# 5930	# 10500	—	—
	3/24/1999	ENER	—	—	—	—	—	—	—	5300	10200	* 11974	—
	9/30/1999	ENER	—	—	—	—	—	—	—	3850	7360	* 10309	—
D1	2/2/1999	ENER	197	48.7	4.00	399	484	< 1.000	181	984	2360	* 3949	0.933
	5/10/1999	ENER	211	51.5	4.60	389	514	< 1.000	202	862	2170	* 3743	0.991
	8/17/1999	ENER	215	49.6	5.60	380	459	< 1.000	197	990	2350	* 3910	0.933
	11/4/1999	ENER	231	53.1	4.40	418	474	< 1.000	197	950	2270	* 2976	1.03
DC	2/4/1999	ENER	425	80.8	3.00	247	215	< 1.000	224	1500	3110	* 4605	0.941

Signifies Quality Control Sample

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
DC	8/19/1999	ENER	—	—	—	—	—	—	—	1590	2950	* 4305	—
DD	4/20/1999	ENER	379	87.9	6.30	304	370	< 1.000	72.1	1540	2870	* 2883	0.983
DM	3/23/1999	ENER	5.80	39.1	5.00	3900	3110	216	594	4800	12240	* 19948	0.991
	9/15/1999	ENER	—	—	—	—	—	—	—	2940	6080	* 10143	—
DP	4/20/1999	ENER	—	—	—	—	—	—	—	8650	16700	* 17434	—
	5/26/1999	ENER	—	—	—	—	—	—	—	8940	17800	* 20329	—
DQ	2/2/1999	ENER	440	228	16.0	5400	2776	< 1.000	1250	9900	19800	* 28463	0.962
	5/10/1999	ENER	478	312	17.2	5550	2800	< 1.000	1320	10000	20300	* 27928	1.00
	8/17/1999	ENER	348	155	30.8	5370	2770	< 1.000	1160	9500	20300	* 27573	0.959
	11/4/1999	ENER	358	157	14.5	5290	2620	< 1.000	1090	8410	18800	* 20049	1.05
DR	1/20/1999	ENER	—	—	—	—	—	—	—	5690	11800	* 14289	—
	2/22/1999	ENER	—	—	—	—	—	—	—	5980	11600	* 14078	—
	3/24/1999	ENER	—	—	—	—	—	—	—	5760	11400	* 13755	—
	12/14/1999	ENER	—	—	—	—	—	—	—	7730	14300	* 17120	—
DS	1/20/1999	ENER	—	—	—	—	—	—	—	7070	16000	* 18568	—
	2/22/1999	ENER	—	—	—	—	—	—	—	7810	13900	* 19074	—
	3/24/1999	ENER	—	—	—	—	—	—	—	7690	15800	* 18990	—
	4/20/1999	ENER	—	—	—	—	—	—	—	8350	16300	* 19308	—
	5/26/1999	ENER	—	—	—	—	—	—	—	8650	16800	* 20445	—
	6/9/1999	ENER	—	—	—	—	—	—	—	8470	17100	* 20237	—
	8/24/1999	ENER	—	—	—	—	—	—	—	9050	17800	* 20678	—
DX	1/20/1999	ENER	—	—	—	—	—	—	—	9300	17950	* 19626	—
	2/22/1999	ENER	—	—	—	—	—	—	—	10600	17600	* 19642	—
	3/24/1999	ENER	—	—	—	—	—	—	—	9210	14400	* 19233	—
	4/20/1999	ENER	—	—	—	—	—	—	—	9040	16800	* 19293	—
	5/26/1999	ENER	—	—	—	—	—	—	—	8880	16600	* 18935	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
DX	6/9/1999	ENER	—	—	—	—	—	—	—	9090	16200	* 17890	—
	8/24/1999	ENER	—	—	—	—	—	—	—	8180	15600	* 17657	—
DZ	3/23/1999	ENER	9.60	36.2	21.1	6500	3720	196	1200	8800	20500	* 28948	1.01
	9/15/1999	ENER	—	—	—	—	—	—	—	6620	14000	* 20744	—
F	1/19/1999	ENER	192	49.0	3.00	229	413	< 1.000	178	666	1730	* 3051	0.921
	7/7/1999	ENER	—	—	—	—	—	—	—	680	1670	* 2948	—
FB	1/19/1999	ENER	—	—	—	—	—	—	—	816	1750	* 2931	—
	10/14/1999	ENER	217	54.8	4.00	224	380	< 1.000	177	664	1720	* 2698	1.00
	10/14/1999	ENER	# 218	# 55.7	# 4.00	# 234	# 384	# < 1.000	# 184	# 683	# 1710	*# 2698	# 1.00
GV	10/12/1999	ENER	—	—	—	—	—	—	—	693	1800	* 3053	—
I	1/19/1999	ENER	—	—	—	—	—	—	—	736	1830	* 3066	—
	7/7/1999	ENER	201	58.8	7.20	269	542	< 1.000	192	638	1800	* 2993	0.969
K2	1/20/1999	ENER	—	—	—	—	—	—	—	1450	3310	* 4442	—
	2/18/1999	ENER	—	—	—	—	—	—	—	1420	3230	* 4340	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1330	3170	* 4318	—
	4/19/1999	ENER	—	—	—	—	—	—	—	1380	3120	* 4269	—
	5/24/1999	ENER	—	—	—	—	—	—	—	1320	3130	* 4304	—
	6/8/1999	ENER	—	—	—	—	—	—	—	1360	3110	* 4257	—
	7/21/1999	ENER	134	41.2	10.1	870	730	< 1.000	252	1260	3140	* 4240	1.06
	8/24/1999	ENER	—	—	—	—	—	—	—	1200	2830	* 3852	—
	9/22/1999	ENER	—	—	—	—	—	—	—	944	2290	* 3226	—
	10/12/1999	ENER	123	37.1	5.80	589	658	< 1.000	207	903	2370	* 3796	0.986
	11/2/1999	ENER	—	—	—	—	—	—	—	957	2280	* 3255	—
	12/1/1999	ENER	—	—	—	—	—	—	—	926	2130	* 3092	—
K4	4/27/1999	ENER	—	—	—	—	—	—	—	2940	5950	* 8823	—
	10/20/1999	ENER	—	—	—	—	—	—	—	3060	6270	* 9803	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
K5	4/27/1999	ENER	—	—	—	—	—	—	—	3240	6350	* 9630	—
	10/20/1999	ENER	—	—	—	—	—	—	—	2960	5800	* 8978	—
	10/20/1999	ENER	—	—	—	—	—	—	—	# 2850	# 5760	*# 8978	—
K6	7/20/1999	ENER	—	—	—	—	—	—	98.3	344	1040	* 1833	—
	7/22/1999	ENER	—	—	—	—	—	—	39.3	134	585	—	—
	8/2/1999	ENER	—	—	—	—	—	—	12.2	31.3	431	—	—
	8/5/1999	ENER	—	—	—	—	—	—	8.00	18.1	329	* 616	—
	8/10/1999	ENER	—	—	—	—	—	—	7.30	13.3	308	* 590	—
	8/17/1999	ENER	—	—	—	—	—	—	5.10	6.50	240	* 460	—
	8/24/1999	ENER	—	—	—	—	—	—	8.80	7.60	251	* 467	—
	8/27/1999	ENER	—	—	—	—	—	—	7.20	6.90	315	* 626	—
	8/31/1999	ENER	—	—	—	—	—	—	34.4	102	533	* 977	—
	9/1/1999	ENER	—	—	—	—	—	—	126	427	1230	* 1981	—
	9/3/1999	ENER	—	—	—	—	—	—	154	498	1430	* 2225	—
	9/10/1999	ENER	—	—	—	—	—	—	211	705	1820	* 2761	—
	9/16/1999	ENER	—	—	—	—	—	—	200	694	1780	* 2718	—
	9/23/1999	ENER	—	—	—	—	—	—	200	679	1810	—	—
	9/30/1999	ENER	—	—	—	—	—	—	197	704	1820	* 2762	—
	10/7/1999	ENER	—	—	—	—	—	—	200	689	1830	* 2608	—
	10/14/1999	ENER	—	—	—	—	—	—	194	719	1820	* 2798	—
	10/21/1999	ENER	—	—	—	—	—	—	204	710	1800	* 2868	—
	10/28/1999	ENER	—	—	—	—	—	—	201	725	1810	* 2849	—
	11/11/1999	ENER	—	—	—	—	—	—	90.0	288	952	* 1424	—
	12/2/1999	ENER	—	—	—	—	—	—	168	568	1510	* 2139	—
	12/9/1999	ENER	—	—	—	—	—	—	135	454	1250	* 1802	—
KA	3/23/1999	ENER	—	—	—	—	—	—	—	2170	4220	* 5221	—
	4/19/1999	ENER	—	—	—	—	—	—	—	1980	4320	* 5311	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
KA	5/24/1999	ENER	—	—	—	—	—	—	—	2080	4350	* 5388	—
	6/8/1999	ENER	—	—	—	—	—	—	—	2020	4330	* 5291	—
	7/21/1999	ENER	290	75.1	12.4	885	669	< 1.000	377	1740	4350	* 5273	1.03
	8/24/1999	ENER	—	—	—	—	—	—	—	1840	4040	* 4984	—
	9/22/1999	ENER	—	—	—	—	—	—	—	1600	3610	* 4561	—
	10/13/1999	ENER	—	—	—	—	—	—	—	1460	3210	* 4482	—
	11/9/1999	ENER	—	—	—	—	—	—	—	1270	2850	* 3833	—
	12/1/1999	ENER	—	—	—	—	—	—	—	1210	2670	* 3688	—
KB	1/20/1999	ENER	—	—	—	—	—	—	—	1840	4060	* 4983	—
	2/18/1999	ENER	—	—	—	—	—	—	—	1850	4040	* 5030	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1940	3840	* 4792	—
	4/19/1999	ENER	—	—	—	—	—	—	—	1660	3720	* 4773	—
	5/24/1999	ENER	—	—	—	—	—	—	—	1640	3580	* 4661	—
	6/8/1999	ENER	—	—	—	—	—	—	—	1490	3530	* 4578	—
	7/21/1999	ENER	194	51.7	10.9	731	694	< 1.000	283	1240	3300	* 4274	1.02
	8/24/1999	ENER	—	—	—	—	—	—	—	1270	2990	* 3927	—
	9/22/1999	ENER	—	—	—	—	—	—	—	929	2250	* 3115	—
	10/13/1999	ENER	—	—	—	—	—	—	—	773	1870	* 2828	—
	11/9/1999	ENER	—	—	—	—	—	—	—	725	1740	* 2528	—
KC	2/18/1999	ENER	—	—	—	—	—	—	—	1630	3790	* 4760	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1770	3580	* 4554	—
	4/19/1999	ENER	—	—	—	—	—	—	—	1490	3460	* 4448	—
	7/21/1999	ENER	188	50.3	9.80	655	683	< 1.000	256	1130	3090	* 4052	1.01
	9/22/1999	ENER	—	—	—	—	—	—	—	467	1330	* 1973	—
	10/13/1999	ENER	—	—	—	—	—	—	—	696	1750	* 2649	—
	11/9/1999	ENER	—	—	—	—	—	—	—	740	1870	* 2624	—
	12/1/1999	ENER	—	—	—	—	—	—	—	664	1610	* 2393	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
KD	1/20/1999	ENER	—	—	—	—	—	—	—	910	2270	* 3217	—
	4/19/1999	ENER	—	—	—	—	—	—	—	795	2140	* 3129	—
	5/24/1999	ENER	—	—	—	—	—	—	—	853	2160	* 3186	—
	6/8/1999	ENER	—	—	—	—	—	—	—	816	2060	* 3188	—
	7/21/1999	ENER	114	35.0	7.40	596	642	< 1.000	226	765	2190	* 3164	1.06
	8/24/1999	ENER	—	—	—	—	—	—	—	801	2120	* 2986	—
	9/22/1999	ENER	—	—	—	—	—	—	—	813	2110	* 3004	—
	10/13/1999	ENER	—	—	—	—	—	—	—	808	2090	* 3140	—
	11/9/1999	ENER	—	—	—	—	—	—	—	792	2070	* 2973	—
	12/1/1999	ENER	—	—	—	—	—	—	—	822	2050	* 2992	—
KE	1/20/1999	ENER	—	—	—	—	—	—	—	725	1970	* 2737	—
	2/18/1999	ENER	—	—	—	—	—	—	—	739	1950	* 2743	—
	3/23/1999	ENER	—	—	—	—	—	—	—	711	1960	* 2779	—
	4/19/1999	ENER	—	—	—	—	—	—	—	708	1970	* 2811	—
	5/24/1999	ENER	—	—	—	—	—	—	—	765	1970	* 2806	—
	6/8/1999	ENER	—	—	—	—	—	—	—	717	1930	* 2775	—
	7/21/1999	ENER	171	50.6	7.10	402	593	< 1.000	205	685	1980	* 2775	1.02
	8/24/1999	ENER	—	—	—	—	—	—	—	712	1930	* 2664	—
	9/22/1999	ENER	—	—	—	—	—	—	—	717	1920	* 2670	—
	10/13/1999	ENER	—	—	—	—	—	—	—	716	1880	* 2841	—
	11/9/1999	ENER	—	—	—	—	—	—	—	694	1850	* 2572	—
	12/1/1999	ENER	—	—	—	—	—	—	—	680	1760	* 2493	—
KEB	9/30/1999	ENER	—	—	—	—	—	—	197	737	1930	* 3494	—
KM	4/20/1999	ENER	—	—	—	—	—	—	—	740	2050	* 3602	—
	11/11/1999	ENER	—	—	—	—	—	—	79.6	256	694	* 1053	—
KN	7/17/1999	HMC	—	—	—	—	—	—	—	—	—	2662	—
	7/21/1999	ENER	—	—	—	—	—	—	190	676	1780	* 2603	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
KN	7/22/1999	ENER	—	—	—	—	—	—	179	644	1760	* 3279	—
	7/29/1999	ENER	—	—	—	—	—	—	175	637	1630	* 2864	—
	8/2/1999	ENER	—	—	—	—	—	—	175	590	1650	* 31.0	—
	8/12/1999	ENER	—	—	—	—	—	—	161	559	1640	* 2919	—
	8/17/1999	ENER	—	—	—	—	—	—	131	444	1470	—	—
	8/24/1999	ENER	—	—	—	—	—	—	85.7	294	1090	* 1826	—
	8/27/1999	ENER	—	—	—	—	—	—	63.9	221	932	* 1682	—
	8/31/1999	ENER	—	—	—	—	—	—	49.7	207	794	* 1501	—
	9/10/1999	ENER	—	—	—	—	—	—	34.4	122	651	* 1216	—
	9/16/1999	ENER	—	—	—	—	—	—	77.2	256	900	* 1610	—
	9/23/1999	ENER	—	—	—	—	—	—	105	335	1100	—	—
	9/30/1999	ENER	—	—	—	—	—	—	140	479	1390	* 2079	—
	10/7/1999	ENER	—	—	—	—	—	—	183	625	1710	* 2357	—
	10/14/1999	ENER	—	—	—	—	—	—	194	656	1770	* 2804	—
	10/21/1999	ENER	—	—	—	—	—	—	201	688	1820	* 2856	—
	10/28/1999	ENER	—	—	—	—	—	—	201	688	1830	* 2923	—
	11/11/1999	ENER	—	—	—	—	—	—	201	667	1860	* 2479	—
	12/2/1999	ENER	—	—	—	—	—	—	131	448	1290	* 1878	—
	12/9/1999	ENER	—	—	—	—	—	—	114	382	1160	* 1656	—
KZ	4/20/1999	ENER	—	—	—	—	—	—	—	1120	3300	* 5775	—
	10/12/1999	ENER	150	38.7	6.20	510	624	< 1.000	213	836	2190	* 3856	0.980
L5	1/19/1999	ENER	—	—	—	—	—	—	425	2080	4210	* 5166	—
	2/18/1999	ENER	—	—	—	—	—	—	419	2020	4150	* 5170	—
	3/23/1999	ENER	—	—	—	—	—	—	421	2000	4070	* 5112	—
	4/19/1999	ENER	—	—	—	—	—	—	397	1960	4020	* 5018	—
	5/22/1999	ENER	—	—	—	—	—	—	383	1790	3900	* 4970	—
	6/8/1999	ENER	—	—	—	—	—	—	369	1840	3730	* 4786	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
L5	7/20/1999	ENER	234	53.2	11.8	850	452	< 1.000	373	1550	3610	* 4698	1.06
	8/26/1999	ENER	—	—	—	—	—	—	—	877	2160	* 3018	—
	9/22/1999	ENER	—	—	—	—	—	—	326	1520	3340	* 4297	—
	10/21/1999	ENER	—	—	—	—	—	—	—	1540	3200	* 4215	—
	11/10/1999	ENER	—	—	—	—	—	—	311	1370	3150	* 4164	—
	12/1/1999	ENER	—	—	—	—	—	—	304	1420	2990	* 4017	—
L6	10/12/1999	ENER	—	—	—	—	—	—	—	1170	2410	* 4105	—
L8	1/19/1999	ENER	—	—	—	—	—	—	278	1390	2850	* 3803	—
	2/18/1999	ENER	—	—	—	—	—	—	267	1230	2790	* 3778	—
	3/23/1999	ENER	—	—	—	—	—	—	260	1280	2730	* 3737	—
	4/19/1999	ENER	—	—	—	—	—	—	239	1050	2520	* 3518	—
	5/22/1999	ENER	—	—	—	—	—	—	253	1180	2650	* 3686	—
	6/8/1999	ENER	—	—	—	—	—	—	253	1190	2610	* 3641	—
	7/20/1999	ENER	154	35.4	10.4	667	529	< 1.000	266	1050	2580	* 3601	1.05
	8/26/1999	ENER	—	—	—	—	—	—	—	1590	3470	* 4410	—
	9/22/1999	ENER	—	—	—	—	—	—	239	1050	2460	* 3408	—
	10/21/1999	ENER	—	—	—	—	—	—	—	1070	2380	* 3344	—
	11/10/1999	ENER	—	—	—	—	—	—	242	958	2390	* 3366	—
	12/1/1999	ENER	—	—	—	—	—	—	237	978	2320	* 3326	—
L9	1/19/1999	ENER	—	—	—	—	—	—	208	914	2120	* 2926	—
	2/18/1999	ENER	—	—	—	—	—	—	198	794	2000	* 2901	—
	3/23/1999	ENER	—	—	—	—	—	—	197	819	2020	* 2926	—
	4/19/1999	ENER	—	—	—	—	—	—	197	780	1980	* 2842	—
	5/22/1999	ENER	—	—	—	—	—	—	207	833	2070	* 2996	—
	6/8/1999	ENER	—	—	—	—	—	—	207	838	2030	* 2988	—
	7/20/1999	ENER	138	32.5	9.20	540	518	< 1.000	224	832	2130	* 3052	1.03
	8/26/1999	ENER	—	—	—	—	—	—	—	1010	2540	* 3486	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
L9	9/22/1999	ENER	—	—	—	—	—	—	211	861	2130	* 2982	—
	10/21/1999	ENER	—	—	—	—	—	—	—	899	2110	* 3041	—
	11/10/1999	ENER	—	—	—	—	—	—	215	850	2150	* 3131	—
	12/1/1999	ENER	—	—	—	—	—	—	215	892	2090	* 3032	—
L10	1/19/1999	ENER	—	—	—	—	—	—	194	865	1900	* 2651	—
	2/18/1999	ENER	—	—	—	—	—	—	# 192	# 766	# 1890	* 2603	—
	3/23/1999	ENER	—	—	—	—	—	—	190	796	1890	* 2644	—
	4/19/1999	ENER	—	—	—	—	—	—	183	749	1840	* 2577	—
	5/22/1999	ENER	—	—	—	—	—	—	190	765	1870	* 2675	—
	6/8/1999	ENER	—	—	—	—	—	—	186	788	1820	* 2614	—
	7/20/1999	ENER	149	35.8	8.70	419	416	< 1.000	196	725	1890	* 2690	1.05
	8/26/1999	ENER	—	—	—	—	—	—	—	766	1920	* 2649	—
	9/22/1999	ENER	—	—	—	—	—	—	190	801	1910	* 2678	—
	10/21/1999	ENER	—	—	—	—	—	—	—	866	1920	* 2694	—
	11/10/1999	ENER	—	—	—	—	—	—	199	811	1960	* 2723	—
	12/1/1999	ENER	—	—	—	—	—	—	195	862	1930	* 2743	—
M3	1/20/1999	ENER	—	—	—	—	—	—	—	2600	5090	* 6346	—
	2/18/1999	ENER	—	—	—	—	—	—	—	2530	5140	* 6573	—
	3/23/1999	ENER	—	—	—	—	—	—	—	2580	5200	* 6691	—
	4/20/1999	ENER	—	—	—	—	—	—	—	2710	5380	* 6882	—
	5/26/1999	ENER	—	—	—	—	—	—	—	2640	5420	* 7202	—
	6/9/1999	ENER	—	—	—	—	—	—	—	2750	5440	* 6954	—
	7/26/1999	ENER	122	54.7	13.9	1740	977	< 1.000	360	2490	5250	* 6916	1.11
	8/24/1999	ENER	—	—	—	—	—	—	—	2670	5580	* 7135	—
	9/30/1999	ENER	—	—	—	—	—	—	—	2820	5660	* 8520	—
	10/20/1999	ENER	—	—	—	—	—	—	—	2870	5700	* 7424	—
	11/10/1999	ENER	—	—	—	—	—	—	—	2800	5730	* 7179	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
M4	4/27/1999	ENER	—	—	—	—	—	—	—	1220	2620	* 4301	—
	10/13/1999	ENER	139	60.6	4.90	537	559	< 1.000	185	1000	2370	* 4057	1.00
M5	2/4/1999	ENER	206	40.7	3.60	395	425	< 1.000	195	1000	2580	* 4340	0.927
	2/4/1999	ENER	# 190	# 37.4	# 3.20	# 364	# 426	# < 1.000	# 188	# 880	# 2580	* # 4340	# 0.929
	5/10/1999	ENER	295	58.6	4.30	399	363	< 1.000	195	1200	2630	* 4229	1.01
	8/17/1999	ENER	256	54.8	5.30	357	344	< 1.000	188	1140	2530	* 4071	0.949
	11/4/1999	ENER	264	56.7	4.50	355	343	< 1.000	191	1050	2370	* 2989	1.01
MO	1/19/1999	ENER	—	—	—	—	—	—	—	1260	2550	* 3930	—
	1/19/1999	ENER	—	—	—	—	—	—	—	# 1300	# 2580	* # 3930	—
	7/21/1999	ACZ	# 312	# 82.3	# 7.70	# 352	# 400	# < 2.00	# 190	# 1220	# 2630	* # 3873	# 1.01
	7/21/1999	ENER	280	72.7	9.70	316	478	< 1.000	188	1020	2490	* 3873	0.987
	7/21/1999	ENER	# 286	# 74.8	# 9.70	# 325	# 477	# < 1.000	# 191	# 1020	# 2490	* # 3873	# 1.01
MQ	10/20/1999	ENER	—	—	—	—	—	—	—	1160	2530	* 3904	—
MR	10/20/1999	ENER	—	—	—	—	—	—	—	1060	2380	* 3845	—
MS	10/20/1999	ENER	—	—	—	—	—	—	—	720	1900	* 3012	—
MT	11/2/1999	ENER	—	—	—	—	—	—	—	1340	2630	* 4055	—
MU	10/20/1999	ENER	—	—	—	—	—	—	—	2110	4100	* 5652	—
MX	11/2/1999	ENER	—	—	—	—	—	—	—	# 694	# 1830	* # 2984	—
	11/2/1999	ENER	—	—	—	—	—	—	—	697	1840	* 2984	—
MY	11/2/1999	ENER	—	—	—	—	—	—	—	686	1830	* 2953	—
N	5/12/1999	ENER	—	—	—	—	—	—	—	1280	2380	* 3530	—
	10/19/1999	ENER	277	73.6	4.40	287	334	< 1.000	61.8	1170	2360	* 3675	1.03
NC	1/20/1999	ENER	—	—	—	—	—	—	—	712	1320	* 2228	—
	4/27/1999	ENER	169	36.3	3.40	194	194	< 1.000	47.5	718	1340	* 2216	1.02
	7/7/1999	ENER	—	—	—	—	—	—	—	725	1300	* 2200	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
NC	10/19/1999	ENER	144	33.9	3.00	200	199	< 1.000	44.0	669	1300	* 2094	1.02
ND	8/18/1999	ENER	27.1	8.20	1.70	362	413	< 1.000	71.4	440	1130	* 1922	0.991
	8/18/1999	ENER	# 27.1	# 8.20	# 1.80	# 348	# 405	# < 1.000	# 70.2	# 435	# 1130	*# 1922	# 0.972
O	5/12/1999	ENER	167	35.5	1.80	327	186	< 1.000	121	896	1830	* 2897	1.01
	10/19/1999	ENER	—	—	—	—	—	—	—	994	1840	* 2867	—
P	3/2/1999	ENER	238	49.0	5.50	240	249	< 1.000	53.3	1030	1830	* 2883	0.979
	3/2/1999	ACZ	# 216	# 47.6	# 4.70	# 245	# 204	# < 2.00	# 56.0	920	1780	*# 2883	# 1.05
	5/10/1999	ENER	# 244	# 48.3	# 5.40	# 226	# 253	# < 1.000	# 58.2	# 919	# 1790	*# 2850	# 1.05
	5/10/1999	ACZ	# 229	# 47.8	# 5.30	# 254	# 212	# < 2.00	# 50.0	# 990	# 1810	*# 2850	# 1.04
	5/10/1999	ENER	239	47.5	5.30	224	252	< 1.000	56.3	917	1790	* 2850	1.03
	9/15/1999	ENER	216	47.2	4.60	239	241	< 1.000	47.9	964	1840	* 2803	0.991
	11/4/1999	ENER	231	49.6	5.40	257	247	< 1.000	54.6	938	1800	* 2245	1.07
P1	1/21/1999	ENER	267	53.3	6.40	248	244	< 1.000	51.9	1150	2150	* 2598	0.973
	1/21/1999	ENER	# 267	# 53.1	# 6.50	# 247	# 244	# < 1.000	# 52.9	# 1150	# 2170	*# 2598	# 0.971
P2	2/3/1999	ENER	259	50.9	5.90	239	247	< 1.000	56.0	1100	2000	* 3172	0.968
	5/11/1999	ENER	# 270	# 54.5	# 6.20	# 255	# 245	# < 1.000	# 56.5	# 1060	# 2070	*# 3178	# 1.05
	5/11/1999	ENER	268	53.8	6.10	249	246	< 1.000	58.8	1050	2070	* 3178	1.04
	8/18/1999	ENER	273	55.8	6.90	255	251	< 1.000	60.2	1120	2040	* 3166	1.01
	11/2/1999	ENER	272	56.5	6.10	267	244	< 1.000	57.0	1090	2050	* 3192	1.06
PM	2/4/1999	ENER	163	40.8	3.30	412	478	< 1.000	200	850	2370	* 3339	0.945
	5/12/1999	ENER	—	—	—	—	—	—	—	1010	2370	* 4005	—
	8/18/1999	ENER	164	45.4	5.10	517	505	< 1.000	191	911	2270	* 3956	1.06
	11/5/1999	ENER	—	—	—	—	—	—	—	950	2240	* 3058	—
Q	3/2/1999	ENER	307	56.9	7.40	256	237	< 1.000	62.8	1270	2250	* 3394	0.975
R	5/20/1999	ENER	292	47.5	4.10	254	149	< 1.000	61.3	1130	2110	* 3208	1.07
S	5/11/1999	ENER	—	—	—	—	—	—	—	10700	21200	* 28848	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
S	11/5/1999	ENER	19.6	74.3	24.9	7500	3700	77.6	1400	10100	21900	* 24324	1.07
S2	7/8/1999	ENER	548	123	15.9	1300	1240	< 1.000	314	3500	6920	* 8481	0.925
S3	2/2/1999	ENER	293	68.2	7.10	930	789	< 1.000	275	2100	4580	* 7274	0.945
	5/10/1999	ENER	286	69.4	6.70	844	737	< 1.000	272	1920	4270	* 6802	0.952
	8/18/1999	ENER	276	72.0	8.00	984	672	< 1.000	305	2000	4550	* 7130	1.02
	11/4/1999	ENER	215	57.2	6.30	861	678	< 1.000	221	1650	3660	* 4638	1.03
S4	2/2/1999	ENER	416	99.4	7.50	672	611	< 1.000	211	2200	4290	* 6400	0.944
	5/11/1999	ENER	500	111	7.60	609	586	< 1.000	201	2250	4400	* 6278	0.978
	8/18/1999	ENER	416	97.2	7.90	620	568	< 1.000	188	2020	4370	* 6262	0.986
	8/18/1999	ENER	# 526	# 139	# 8.20	# 605	# 579	# < 1.000	# 201	# 2290	# 4340	* # 6262	# 1.02
	11/4/1999	ENER	465	100.0	7.80	580	528	< 1.000	181	1940	4040	* 4574	1.05
	11/4/1999	ENER	# 462	# 97.7	# 7.90	# 567	# 528	# < 1.000	# 178	# 1900	# 4060	* # 4574	# 1.05
S5	1/20/1999	ENER	—	—	—	—	—	—	—	1840	3580	* 4207	—
	2/18/1999	ENER	—	—	—	—	—	—	—	1810	3580	* 4325	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1840	3800	* 4548	—
	4/20/1999	ENER	—	—	—	—	—	—	—	2240	4360	* 5072	—
	5/26/1999	ENER	—	—	—	—	—	—	—	2210	4200	* 4961	—
	6/9/1999	ENER	—	—	—	—	—	—	—	2150	4310	* 5018	—
	7/26/1999	ENER	411	83.6	12.4	909	683	< 1.000	245	2100	4440	* 5489	1.09
	8/24/1999	ENER	—	—	—	—	—	—	—	2360	4670	* 5379	—
	9/30/1999	ENER	—	—	—	—	—	—	—	2600	4820	* 6726	—
	10/20/1999	ENER	—	—	—	—	—	—	—	2550	4930	* 5895	—
	11/10/1999	ENER	—	—	—	—	—	—	—	2660	5060	* 5941	—
	12/8/1999	ENER	—	—	—	—	—	—	—	2850	5270	* 6308	—
S6	2/22/1999	ENER	—	—	—	—	—	—	—	5480	11500	* 14533	—
	3/24/1999	ENER	—	—	—	—	—	—	—	5290	11800	* 14242	—

Signifies Quality Control Sample

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
S11	10/27/1999	ENER	—	—	—	—	—	—	—	1300	2510	* 3874	—
S12	10/26/1999	ENER	—	—	—	—	—	—	173	947	1980	—	—
	11/1/1999	ENER	—	—	—	—	—	—	166	922	2050	* 2843	—
	11/3/1999	ENER	—	—	—	—	—	—	—	915	1990	* 3361	—
	11/5/1999	ENER	—	—	—	—	—	—	145	878	1910	* 2501	—
	11/8/1999	ENER	—	—	—	—	—	—	131	761	1710	* 2307	—
	11/10/1999	ENER	—	—	—	—	—	—	114	685	1600	* 2170	—
	11/12/1999	ENER	—	—	—	—	—	—	111	637	1470	* 2052	—
	11/15/1999	ENER	—	—	—	—	—	—	104	561	1370	* 1889	—
	11/19/1999	ENER	—	—	—	—	—	—	96.9	537	1280	—	—
	12/2/1999	ENER	—	—	—	—	—	—	88.0	526	1210	* 1748	—
	12/9/1999	ENER	—	—	—	—	—	—	125	647	1520	* 2028	—
SA	1/22/1999	ENER	—	—	—	—	—	—	—	3630	7300	* 9210	—
	2/22/1999	ENER	—	—	—	—	—	—	—	3430	7020	* 8917	—
	3/24/1999	ENER	—	—	—	—	—	—	—	3260	6750	* 8521	—
	5/26/1999	ENER	—	—	—	—	—	—	—	3200	6380	* 8248	—
	6/9/1999	ENER	—	—	—	—	—	—	—	3100	6330	* 7991	—
	7/26/1999	ENER	165	54.0	15.6	2000	1130	< 1.000	395	3070	6080	* 8014	1.07
	8/26/1999	ENER	—	—	—	—	—	—	—	2900	6260	* 7773	—
	9/30/1999	ENER	—	—	—	—	—	—	—	3030	6040	* 8601	—
	10/20/1999	ENER	—	—	—	—	—	—	—	2980	5980	* 7615	—
	11/10/1999	ENER	—	—	—	—	—	—	—	2950	5890	* 7547	—
	12/8/1999	ENER	—	—	—	—	—	—	—	2920	5570	* 6939	—
SB	1/22/1999	ENER	—	—	—	—	—	—	—	2930	5560	* 6780	—
	2/22/1999	ENER	—	—	—	—	—	—	—	3140	5850	* 7088	—
	3/24/1999	ENER	—	—	—	—	—	—	—	3060	6070	* 7547	—
	4/20/1999	ENER	—	—	—	—	—	—	—	3350	6130	* 7297	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
SB	5/26/1999	ENER	—	—	—	—	—	—	—	3540	6880	* 8364	—
	6/9/1999	ENER	—	—	—	—	—	—	—	3920	7560	* 8829	—
	8/26/1999	ENER	—	—	—	—	—	—	—	4860	10200	* 12346	—
SC	1/22/1999	ENER	—	—	—	—	—	—	—	5210	11200	* 13658	—
	2/22/1999	ENER	—	—	—	—	—	—	—	5520	11200	* 13946	—
	3/24/1999	ENER	—	—	—	—	—	—	—	5350	11500	* 18990	—
	4/20/1999	ENER	—	—	—	—	—	—	—	5440	11300	* 14032	—
	5/26/1999	ENER	—	—	—	—	—	—	—	5550	11300	* 14289	—
	6/14/1999	ENER	—	—	—	—	—	—	—	5390	11400	* 13851	—
	7/26/1999	ENER	51.2	63.8	28.8	4000	2200	27.2	563	5560	11000	* 13942	1.08
	8/26/1999	ENER	—	—	—	—	—	—	—	5330	11100	* 13781	—
	9/30/1999	ENER	—	—	—	—	—	—	—	5530	10900	* 15219	—
	10/20/1999	ENER	—	—	—	—	—	—	—	5500	11100	* 13890	—
	11/10/1999	ENER	—	—	—	—	—	—	—	5420	11100	* 13755	—
SE4	10/26/1999	ENER	—	—	—	—	—	—	122	1300	2350	* 3781	—
	10/29/1999	ENER	—	—	—	—	—	—	83.0	851	1720	* 2856	—
	11/1/1999	ENER	—	—	—	—	—	—	69.5	363	927	* 1583	—
	11/3/1999	ENER	—	—	—	—	—	—	—	255	745	* 1481	—
	11/5/1999	ENER	—	—	—	—	—	—	24.3	185	624	* 996	—
	11/8/1999	ENER	—	—	—	—	—	—	17.7	126	531	* 856	—
	11/10/1999	ENER	—	—	—	—	—	—	17.7	120	531	* 821	—
	11/12/1999	ENER	—	—	—	—	—	—	15.3	91.9	484	* 785	—
	11/15/1999	ENER	—	—	—	—	—	—	14.1	85.2	482	* 783	—
	12/2/1999	ENER	—	—	—	—	—	—	67.8	233	781	* 1212	—
	12/9/1999	ENER	—	—	—	—	—	—	138	531	1400	* 1968	—
SO	5/12/1999	ENER	—	—	—	—	—	—	—	2040	3730	* 5582	—
	11/5/1999	ENER	211	62.2	6.40	441	308	< 1.000	112	1200	2340	* 2904	1.05

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
SQ	1/22/1999	ENER	—	—	—	—	—	—	—	4500	9870	* 12217	—
	2/22/1999	ENER	—	—	—	—	—	—	—	5000	10500	* 12918	—
	3/24/1999	ENER	—	—	—	—	—	—	—	4870	10900	* 13147	—
	4/20/1999	ENER	—	—	—	—	—	—	—	5150	10500	* 13321	—
	5/26/1999	ENER	—	—	—	—	—	—	—	5370	11300	* 14172	—
	6/14/1999	ENER	—	—	—	—	—	—	—	5190	11500	* 14306	—
	7/26/1999	ENER	77.0	48.4	30.9	4300	2440	63.0	619	5600	11300	* 14271	1.11
	8/26/1999	ENER	—	—	—	—	—	—	—	5210	11500	* 13867	—
	9/30/1999	ENER	—	—	—	—	—	—	—	5430	11300	* 15865	—
	10/20/1999	ENER	—	—	—	—	—	—	—	5390	11300	* 14263	—
	11/10/1999	ENER	—	—	—	—	—	—	—	5110	11700	* 14467	—
SS	1/22/1999	ENER	—	—	—	—	—	—	—	2130	4370	* 5485	—
	2/22/1999	ENER	—	—	—	—	—	—	—	2100	4330	* 5407	—
	3/23/1999	ENER	—	—	—	—	—	—	—	2080	4240	* 5306	—
	4/20/1999	ENER	—	—	—	—	—	—	—	2150	4120	* 5186	—
	5/24/1999	ENER	—	—	—	—	—	—	—	2560	5230	* 6346	—
	6/9/1999	ENER	—	—	—	—	—	—	—	2680	5460	* 6753	—
	7/21/1999	ENER	198	70.5	13.8	1750	1130	< 1.000	351	3300	6390	* 7724	0.949
	8/24/1999	ENER	—	—	—	—	—	—	—	3160	6490	* 7904	—
	9/15/1999	ENER	—	—	—	—	—	—	—	3160	6520	* 7921	—
	10/20/1999	ENER	—	—	—	—	—	—	—	3370	6590	* 8169	—
	11/10/1999	ENER	—	—	—	—	—	—	391	3540	7210	* 4168	—
	12/8/1999	ENER	—	—	—	—	—	—	—	3820	7500	* 9336	—
ST	1/22/1999	ENER	—	—	—	—	—	—	—	1900	3540	* 4536	—
	2/22/1999	ENER	—	—	—	—	—	—	—	1700	3330	* 4287	—
	2/22/1999	ACZ	—	—	—	—	—	—	—	# 1690	# 3270	—	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1540	3180	* 4130	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
ST	4/20/1999	ENER	—	—	—	—	—	—	—	1510	3070	* 3978	—
	5/24/1999	ENER	—	—	—	—	—	—	—	1680	3340	* 4324	—
	6/9/1999	ENER	—	—	—	—	—	—	—	1680	3400	* 4306	—
	7/21/1999	ENER	225	57.1	8.90	749	596	< 1.000	236	1650	3470	* 4431	0.959
	8/24/1999	ENER	—	—	—	—	—	—	—	1580	3370	* 4226	—
	9/15/1999	ENER	—	—	—	—	—	—	—	1580	3260	* 4213	—
	10/20/1999	ENER	—	—	—	—	—	—	—	1590	3220	* 4189	—
	11/10/1999	ENER	—	—	—	—	—	—	230	1520	3230	* 8950	—
	12/8/1999	ENER	—	—	—	—	—	—	—	1380	2820	* 3530	—
SV	1/26/1999	ENER	86.7	68.4	9.60	2700	1724	21.8	443	4500	9740	* 15147	0.944
	7/8/1999	ENER	—	—	—	—	—	—	—	5440	10300	* 16078	—
T	1/22/1999	ENER	—	—	—	—	—	—	—	1840	3660	* 4965	—
	2/22/1999	ENER	—	—	—	—	—	—	—	2020	3740	* 5064	—
	2/22/1999	ACZ	—	—	—	—	—	—	—	# 2070	# 3670	—	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1810	3690	* 4973	—
	5/11/1999	ENER	—	—	—	—	—	—	—	1700	3480	* 6053	—
	6/14/1999	ENER	—	—	—	—	—	—	—	1680	3450	* 4778	—
	11/2/1999	ENER	205	52.8	9.10	823	625	< 1.000	292	1610	3510	* 6123	0.973
TA	1/22/1999	ENER	—	—	—	—	—	—	—	1990	4100	* 5594	—
	2/22/1999	ENER	—	—	—	—	—	—	—	2000	4050	* 5635	—
	3/23/1999	ENER	—	—	—	—	—	—	—	1940	4060	* 5489	—
	4/20/1999	ENER	—	—	—	—	—	—	—	1940	3930	* 5379	—
	7/26/1999	ENER	139	44.8	11.8	1090	625	< 1.000	348	1750	3630	* 5291	1.03
	8/26/1999	ENER	—	—	—	—	—	—	—	1800	3820	* 5145	—
	9/15/1999	ENER	—	—	—	—	—	—	—	1790	3770	* 5272	—
	12/14/1999	ENER	—	—	—	—	—	—	—	2510	4980	* 7111	—
W	3/23/1999	ENER	—	—	—	—	—	—	—	656	1690	* 1812	—

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TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
W	9/15/1999	ENER	214	48.3	5.30	243	518	< 1.000	158	655	1740	* 2682	0.953
WR7	1/20/1999	ENER	—	—	—	—	—	—	—	645	1780	* 2929	—
	4/27/1999	ENER	281	55.5	5.50	255	559	< 1.000	204	700	1890	* 2910	1.01
	4/27/1999	ACZ	# 261	# 55.0	# 5.30	# 278	# 478	# < 2.00	# 190	# 700	# 1910	* # 2910	# 1.07
	4/27/1999	ENER	# 287	# 55.7	# 5.60	# 249	# 559	# < 1.000	# 216	# 702	# 1910	* # 2910	# 0.999
	7/8/1999	ENER	—	—	—	—	—	—	—	661	1860	* 2949	—
	10/19/1999	ENER	247	54.3	5.20	251	578	< 1.000	193	638	1870	* 2922	0.986
WR9	2/4/1999	ENER	—	—	—	—	—	—	—	772	1820	* 3267	—
	8/19/1999	ENER	255	54.7	5.80	257	561	< 1.000	200	703	1860	* 3256	0.968
WR11	1/20/1999	ENER	—	—	—	—	—	—	—	661	1500	* 2642	—
	4/27/1999	ENER	203	46.5	5.30	223	347	< 1.000	138	679	1540	* 2666	1.00
	7/21/1999	ENER	—	—	—	—	—	—	—	642	1580	* 2740	—
	10/19/1999	ENER	179	44.3	4.90	225	377	< 1.000	131	624	1530	* 2734	0.982
	10/19/1999	ENER	# 182	# 45.2	# 4.90	# 230	# 374	# < 1.000	# 130	# 613	# 1530	* # 2734	# 1.01
WR16	10/27/1999	ENER	—	—	—	—	—	—	—	1260	2330	* 3633	—
WR17	10/27/1999	ENER	—	—	—	—	—	—	—	937	1880	* 3173	—
	10/27/1999	ENER	—	—	—	—	—	—	—	# 939	# 1870	* # 3173	—
WR18	10/27/1999	ENER	—	—	—	—	—	—	—	879	1600	* 2610	—
WR19	10/27/1999	ENER	—	—	—	—	—	—	—	1480	2660	* 3925	—
WR20	10/27/1999	ENER	—	—	—	—	—	—	—	1490	2830	* 4455	—
WR21	10/27/1999	ENER	—	—	—	—	—	—	—	1910	3890	* 5611	—
WR22	10/27/1999	ENER	—	—	—	—	—	—	—	1890	3430	* 5059	—
WR23	10/27/1999	ENER	—	—	—	—	—	—	—	1850	3230	* 4597	—
WR24	10/21/1999	ENER	—	—	—	—	—	—	—	1840	3120	* 4597	—
	10/21/1999	ENER	—	—	—	—	—	—	—	# 1800	# 3140	* # 4597	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-1. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
X	1/19/1999	ENER	—	—	—	—	—	—	204	725	1930	* 2657	—
	2/2/1999	ENER	168	49.2	5.50	328	577	< 1.000	185	674	1920	* 3382	0.934
	3/23/1999	ENER	—	—	—	—	—	—	204	724	1910	* 2675	—
	4/19/1999	ENER	—	—	—	—	—	—	200	698	1930	* 2710	—
	5/10/1999	ENER	185	52.9	6.20	385	576	< 1.000	211	692	1970	* 3377	1.02
	6/8/1999	ENER	—	—	—	—	—	—	204	671	1900	* 2701	—
	7/21/1999	ENER	165	49.2	9.40	398	595	< 1.000	215	658	1910	* 2735	1.01
	8/11/1999	ENER	168	49.8	7.00	378	591	< 1.000	194	651	1910	* 2775	1.01
	9/15/1999	ENER	—	—	—	—	—	—	200	668	1880	* 2660	—
	10/12/1999	ENER	162	47.9	5.60	399	600	< 1.000	201	694	1950	* 3175	0.985
	11/12/1999	ENER	—	—	—	—	—	—	196	697	1860	* 2637	—
	12/1/1999	ENER	—	—	—	—	—	—	201	712	1860	* 2711	—
Y	1/19/1999	ENER	—	—	—	—	—	—	405	2120	4230	—	—
	2/2/1999	ENER	246	61.3	7.50	749	610	< 1.000	346	1630	3870	* 6409	0.932
	2/2/1999	ENER	# 256	# 64.0	# 7.70	# 779	# 502	# < 1.000	# 353	# 1700	# 3910	* # 6409	# 0.972
	3/23/1999	ENER	—	—	—	—	—	—	383	1920	4240	* 5255	—
	4/19/1999	ENER	—	—	—	—	—	—	383	2090	4220	* 5313	—
	5/10/1999	ENER	275	68.0	8.40	810	608	< 1.000	378	1680	3890	* 4088	0.984
	6/8/1999	ENER	—	—	—	—	—	—	376	1850	4160	* 5194	—
	7/21/1999	ENER	254	64.8	14.4	910	644	< 1.000	395	1650	4100	* 5136	1.03
	8/11/1999	ENER	266	67.4	11.4	882	640	< 1.000	394	1680	4110	* 5053	1.02
	9/15/1999	ENER	—	—	—	—	—	—	354	1860	3950	* 5022	—
	10/12/1999	ENER	255	65.5	8.10	790	627	< 1.000	347	1630	3820	* 5778	0.975
	11/12/1999	ENER	—	—	—	—	—	—	332	1790	3770	* 4558	—
	12/1/1999	ENER	—	—	—	—	—	—	331	1740	3690	* 4784	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
1B	10/7/1999	ENER	—	0.0307	< 0.0300	0.895	—	—	—	—	—	—
1C	10/7/1999	ENER	—	0.0254	< 0.0300	0.0620	—	—	—	—	—	—
1D	10/7/1999	ENER	—	0.0424	< 0.0300	0.487	—	—	—	—	—	—
1E	10/7/1999	ENER	—	0.626	0.490	0.704	—	—	—	—	—	—
1F	10/7/1999	ENER	—	6.44	< 0.0300	0.578	—	—	—	—	—	—
1G	10/7/1999	ENER	—	0.0581	< 0.0300	0.497	—	—	—	—	—	—
1H	10/7/1999	ENER	—	0.803	< 0.0300	0.767	—	—	—	—	—	—
1I	10/7/1999	ENER	—	0.0160	< 0.0300	0.942	—	—	—	—	—	—
1J	10/11/1999	ENER	—	0.150	< 0.0300	0.435	—	—	—	—	—	—
1K	10/11/1999	ENER	—	23.2	17.0	5.24	—	—	—	—	—	—
	10/11/1999	ENER	—	# 22.2	# 17.4	# 5.26	—	—	—	—	—	—
1L	10/12/1999	ENER	—	0.536	< 0.0300	0.570	—	—	—	—	—	—
1N	9/30/1999	ENER	—	0.0621	< 0.0300	0.194	—	—	—	—	—	—
1P	9/30/1999	ENER	—	0.0333	< 0.0300	0.0630	—	—	—	—	—	—
B	1/7/1999	ENER	7.77	0.709	0.270	0.410	6.63	< 0.200	< 1.000	—	< 0.0100	< 0.200
	4/20/1999	ENER	—	0.383	—	0.512	—	—	—	—	—	—
	7/7/1999	ENER	8.12	0.373	< 0.0300	0.470	3.97	< 0.200	< 1.000	—	< 0.0100	< 0.200
	10/13/1999	ENER	—	0.319	—	0.565	—	—	—	—	—	—
B1	1/7/1999	ENER	—	1.30	—	< 0.100	—	—	—	—	—	—
	7/7/1999	ENER	7.90	1.69	1.06	0.550	5.09	< 0.200	—	—	—	—
B2	5/26/1999	ENER	—	4.36	—	0.593	—	—	—	—	—	—
	12/14/1999	ENER	—	4.75	—	0.497	—	—	—	—	—	—
B3	9/30/1999	ENER	—	7.31	—	0.691	—	—	—	—	—	—
	10/19/1999	ENER	—	10.4	—	0.838	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
B3	11/2/1999	ENER	—	10.6	—	0.711	—	—	—	—	—	—
	12/14/1999	ENER	—	9.93	—	0.696	—	—	—	—	—	—
B4	5/26/1999	ENER	—	3.89	—	0.486	—	—	—	—	—	—
	6/14/1999	ENER	—	5.00	—	0.480	—	—	—	—	—	—
	8/24/1999	ENER	—	5.27	—	0.427	—	—	—	—	—	—
	9/17/1999	ENER	—	6.44	—	0.442	—	—	—	—	—	—
B5	1/19/1999	ENER	—	5.53	—	1.83	—	—	—	—	—	—
	2/22/1999	ENER	—	4.50	—	1.73	—	—	—	—	—	—
	3/23/1999	ENER	—	6.86	—	1.51	—	—	—	—	—	—
	4/20/1999	ENER	—	8.30	—	1.64	—	—	—	—	—	—
	5/26/1999	ENER	—	9.20	—	1.87	—	—	—	—	—	—
	6/14/1999	ENER	—	10.2	—	1.82	—	—	—	—	—	—
	8/24/1999	ENER	—	9.86	—	1.58	—	—	—	—	—	—
	9/17/1999	ENER	—	14.8	—	1.75	—	—	—	—	—	—
	10/19/1999	ENER	—	15.6	—	1.85	—	—	—	—	—	—
	11/2/1999	ENER	—	16.5	—	1.58	—	—	—	—	—	—
	12/14/1999	ENER	—	12.4	—	1.70	—	—	—	—	—	—
B6	11/2/1999	ENER	—	38.3	—	1.18	—	—	—	—	—	—
	11/3/1999	ENER	—	29.2	2.04	1.34	—	—	—	—	—	—
	12/8/1999	ENER	—	37.0	—	1.41	—	—	—	—	—	—
B8	12/14/1999	ENER	—	64.6	—	1.63	—	—	—	—	—	—
B10	1/19/1999	ENER	—	52.1	—	12.2	—	—	—	—	—	—
	2/22/1999	ENER	—	41.5	—	11.3	—	—	—	—	—	—
	3/24/1999	ENER	—	58.7	—	9.75	—	—	—	—	—	—
	12/14/1999	ENER	—	35.7	—	4.47	—	—	—	—	—	—
B11	10/20/1999	ENER	—	22.9	32.2	2.36	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
BC	1/19/1999	ENER	8.04	0.388	0.0400	< 0.0050	0.190	< 0.200	—	—	—	—
	10/14/1999	ENER	—	0.348	—	< 0.0050	—	—	—	—	—	—
BP	2/2/1999	ENER	7.91	0.999	0.473	0.0860	2.27	< 0.200	< 1.000	< 0.0500	< 0.0100	< 0.200
	5/10/1999	ENER	7.81	0.934	0.440	0.107	2.42	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
	8/17/1999	ENER	7.71	0.950	0.390	0.201	2.63	< 0.200	< 1.000	< 0.0500	< 0.0100	< 0.200
	11/3/1999	ENER	7.71	1.04	0.410	0.247	3.52	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
C2	6/8/1999	ENER	—	2.02	—	0.717	—	—	—	—	—	—
	8/24/1999	ENER	—	1.84	—	0.853	—	—	—	—	—	—
	9/17/1999	ENER	—	2.08	—	0.933	—	—	—	—	—	—
	10/19/1999	ENER	—	2.11	—	1.28	—	—	—	—	—	—
	11/2/1999	ENER	—	2.00	—	1.31	—	—	—	—	—	—
	12/8/1999	ENER	—	1.95	—	1.60	—	—	—	—	—	—
C3R	6/8/1999	ENER	—	0.186	—	0.0830	—	—	—	—	—	—
	8/24/1999	ENER	—	0.160	—	0.0640	—	—	—	—	—	—
	9/17/1999	ENER	—	0.218	—	0.0650	—	—	—	—	—	—
	10/19/1999	ENER	—	0.208	—	0.0600	—	—	—	—	—	—
	11/2/1999	ENER	—	0.180	—	0.0510	—	—	—	—	—	—
C4	1/19/1999	ENER	—	1.63	—	0.685	—	—	—	—	—	—
	2/22/1999	ENER	—	1.20	—	0.639	—	—	—	—	—	—
	3/23/1999	ENER	—	1.75	—	0.580	—	—	—	—	—	—
	4/20/1999	ENER	—	1.80	—	0.603	—	—	—	—	—	—
	6/8/1999	ENER	—	1.56	—	0.474	—	—	—	—	—	—
	8/24/1999	ENER	—	1.48	—	0.385	—	—	—	—	—	—
	9/17/1999	ENER	—	1.57	—	0.341	—	—	—	—	—	—
	10/19/1999	ENER	—	1.79	—	0.389	—	—	—	—	—	—
	11/2/1999	ENER	—	1.67	—	0.367	—	—	—	—	—	—
C5	10/20/1999	ENER	—	3.42	4.91	0.367	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
C6	1/19/1999	ENER	—	17.8	—	1.90	—	—	—	—	—	—
	2/22/1999	ENER	—	12.0	—	1.78	—	—	—	—	—	—
C7	1/19/1999	ENER	—	13.6	—	4.93	—	—	—	—	—	—
	2/22/1999	ENER	—	9.80	—	4.40	—	—	—	—	—	—
	3/24/1999	ENER	—	15.0	—	3.77	—	—	—	—	—	—
	4/20/1999	ENER	—	16.6	—	4.00	—	—	—	—	—	—
	5/24/1999	ENER	—	16.5	—	3.86	—	—	—	—	—	—
	6/10/1999	ENER	—	15.5	—	3.65	—	—	—	—	—	—
	7/22/1999	ENER	7.81	11.9	5.58	3.14	9.64	0.200	—	—	—	—
	8/24/1999	ENER	—	13.6	—	2.50	—	—	—	—	—	—
	9/30/1999	ENER	—	14.3	—	2.60	—	—	—	—	—	—
	10/19/1999	ENER	—	15.7	—	2.85	—	—	—	—	—	—
	11/2/1999	ENER	—	16.2	—	2.43	—	—	—	—	—	—
	12/8/1999	ENER	—	12.5	—	2.40	—	—	—	—	—	—
C8	1/19/1999	ENER	—	59.0	—	12.7	—	—	—	—	—	—
	2/22/1999	ENER	—	46.0	—	11.5	—	—	—	—	—	—
	3/24/1999	ENER	—	72.8	—	9.34	—	—	—	—	—	—
	7/22/1999	ENER	7.49	43.3	21.0	7.96	12.8	0.200	—	—	—	—
	8/24/1999	ENER	—	48.7	—	6.70	—	—	—	—	—	—
	9/30/1999	ENER	—	57.1	—	7.10	—	—	—	—	—	—
	10/19/1999	ENER	—	59.3	—	7.92	—	—	—	—	—	—
	11/2/1999	ENER	—	60.6	—	6.43	—	—	—	—	—	—
	12/8/1999	ENER	—	45.9	—	6.23	—	—	—	—	—	—
C9	1/19/1999	ENER	—	51.5	—	10.1	—	—	—	—	—	—
	2/22/1999	ENER	—	40.4	—	9.33	—	—	—	—	—	—
	3/24/1999	ENER	—	60.5	—	7.74	—	—	—	—	—	—
	4/20/1999	ENER	—	56.2	—	8.69	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
C9	5/24/1999	ENER	—	61.4	—	9.13	—	—	—	—	—	—
	6/10/1999	ENER	—	52.2	—	8.50	—	—	—	—	—	—
	7/22/1999	ENER	7.60	36.0	43.5	8.30	9.90	0.200	—	—	—	—
	8/24/1999	ENER	—	39.4	—	10.4	—	—	—	—	—	—
	9/30/1999	ENER	—	47.8	—	7.94	—	—	—	—	—	—
	10/19/1999	ENER	—	44.4	—	8.97	—	—	—	—	—	—
	11/2/1999	ENER	—	52.5	—	7.78	—	—	—	—	—	—
	12/8/1999	ENER	—	42.7	—	8.42	—	—	—	—	—	—
C10	1/19/1999	ENER	—	47.1	—	13.1	—	—	—	—	—	—
	2/22/1999	ENER	—	38.5	—	12.9	—	—	—	—	—	—
	3/24/1999	ENER	—	64.1	—	11.4	—	—	—	—	—	—
	4/20/1999	ENER	—	63.7	—	13.6	—	—	—	—	—	—
	5/24/1999	ENER	—	66.6	—	14.0	—	—	—	—	—	—
	6/10/1999	ENER	—	65.4	—	14.5	—	—	—	—	—	—
C11	1/19/1999	ENER	—	52.7	—	15.6	—	—	—	—	—	—
	8/24/1999	ENER	—	42.6	—	16.9	—	—	—	—	—	—
	9/30/1999	ENER	—	55.2	—	12.6	—	—	—	—	—	—
C12	1/19/1999	ENER	—	46.6	—	13.2	—	—	—	—	—	—
	2/22/1999	ENER	—	35.9	—	10.8	—	—	—	—	—	—
	2/22/1999	ACZ	—	# 47.2	—	# 8.40	—	—	—	—	—	—
	3/24/1999	ENER	—	51.7	—	8.22	—	—	—	—	—	—
	9/30/1999	ENER	—	29.1	—	4.95	—	—	—	—	—	—
D1	2/2/1999	ENER	8.00	1.50	1.19	0.286	4.34	0.200	< 1.000	< 0.0500	< 0.0100	< 0.200
	5/10/1999	ENER	7.74	1.85	1.26	0.184	2.81	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
	8/17/1999	ENER	7.75	1.92	0.820	0.386	3.78	0.200	< 1.000	< 0.0500	< 0.0100	< 0.200
	11/4/1999	ENER	7.73	1.86	0.960	0.274	4.10	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
DC	2/4/1999	ENER	7.74	0.107	< 0.0300	0.106	15.6	< 0.200	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
DC	8/19/1999	ENER	—	0.102	—	0.0880	—	—	—	—	—	—
DD	4/20/1999	ENER	7.62	0.161	< 0.0300	0.0260	4.26	< 0.200	2.40	—	< 0.0100	< 0.200
DM	3/23/1999	ENER	9.09	24.8	57.4	1.65	6.72	< 0.200	—	—	—	—
	9/15/1999	ENER	—	11.1	—	1.85	—	—	—	—	—	—
DP	4/20/1999	ENER	—	72.9	—	1.34	—	—	—	—	—	—
	5/26/1999	ENER	—	58.2	—	1.96	—	—	—	—	—	—
DQ	2/2/1999	ENER	7.65	59.9	70.0	1.39	20.5	< 0.200	< 1.000	—	< 0.0100	< 0.200
	5/10/1999	ENER	7.96	53.4	94.2	1.46	29.9	0.500	< 1.000	< 0.0500	0.0400	0.400
	8/17/1999	ENER	7.99	41.4	92.0	3.16	41.9	1.80	< 1.000	< 0.0500	0.0170	< 0.200
	11/4/1999	ENER	7.97	46.0	83.3	3.76	43.5	4.60	< 1.000	< 0.0500	< 0.0100	0.200
DR	1/20/1999	ENER	—	33.0	—	1.68	—	—	—	—	—	—
	2/22/1999	ENER	—	34.5	—	1.63	—	—	—	—	—	—
	3/24/1999	ENER	—	33.4	—	1.49	—	—	—	—	—	—
	12/14/1999	ENER	—	49.4	—	2.04	—	—	—	—	—	—
DS	1/20/1999	ENER	—	45.2	—	2.47	—	—	—	—	—	—
	2/22/1999	ENER	—	42.3	—	2.37	—	—	—	—	—	—
	3/24/1999	ENER	—	45.1	—	2.21	—	—	—	—	—	—
	4/20/1999	ENER	—	42.5	—	2.33	—	—	—	—	—	—
	5/26/1999	ENER	—	44.7	—	2.56	—	—	—	—	—	—
	6/9/1999	ENER	—	51.4	—	2.48	—	—	—	—	—	—
	8/24/1999	ENER	—	41.0	—	3.21	—	—	—	—	—	—
DX	1/20/1999	ENER	—	56.9	—	1.22	—	—	—	—	—	—
	2/22/1999	ENER	—	61.5	—	1.25	—	—	—	—	—	—
	3/24/1999	ENER	—	64.8	—	1.15	—	—	—	—	—	—
	4/20/1999	ENER	—	70.5	—	1.23	—	—	—	—	—	—
	5/26/1999	ENER	—	55.5	—	1.39	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
DX	6/9/1999	ENER	—	55.2	—	1.39	—	—	—	—	—	—
	8/24/1999	ENER	—	45.6	—	2.19	—	—	—	—	—	—
DZ	3/23/1999	ENER	8.97	36.2	64.5	2.70	44.3	2.90	—	—	—	—
	9/15/1999	ENER	—	33.7	—	3.27	—	—	—	—	—	—
F	1/19/1999	ENER	8.03	0.0905	< 0.0300	0.0140	2.04	< 0.200	—	—	—	—
	7/7/1999	ENER	—	0.100	—	0.0150	—	—	—	—	—	—
FB	1/19/1999	ENER	—	0.174	—	0.0340	—	—	—	—	—	—
	10/14/1999	ENER	8.16	0.184	< 0.0300	0.0260	2.56	0.500	—	—	—	—
	10/14/1999	ENER	# 8.09	# 0.187	# < 0.0300	# 0.0270	# 2.19	# < 0.200	—	—	—	—
GV	10/12/1999	ENER	—	0.0400	< 0.0300	0.0070	—	—	—	—	—	—
I	1/19/1999	ENER	—	0.0660	—	0.0150	—	—	—	—	—	—
	7/7/1999	ENER	7.68	0.0818	< 0.0300	0.0170	1.70	< 0.200	—	—	—	—
K2	1/20/1999	ENER	—	5.03	—	2.06	—	—	—	—	—	—
	2/18/1999	ENER	—	4.20	—	1.65	—	—	—	—	—	—
	3/23/1999	ENER	—	5.15	—	1.35	—	—	—	—	—	—
	4/19/1999	ENER	—	5.34	—	1.32	—	—	—	—	—	—
	5/24/1999	ENER	—	5.29	—	1.23	—	—	—	—	—	—
	6/8/1999	ENER	—	5.86	—	1.10	—	—	—	—	—	—
	7/21/1999	ENER	8.07	4.40	10.9	1.000	2.93	0.200	—	—	—	—
	8/24/1999	ENER	—	4.32	—	0.670	—	—	—	—	—	—
	9/22/1999	ENER	—	3.97	—	0.414	—	—	—	—	—	—
	10/12/1999	ENER	8.08	3.84	6.21	0.404	2.10	< 0.200	—	—	—	—
	11/2/1999	ENER	—	2.98	—	0.288	—	—	—	—	—	—
	12/1/1999	ENER	—	3.41	—	0.310	—	—	—	—	—	—
K4	4/27/1999	ENER	—	7.98	15.4	3.75	—	—	—	—	—	—
	10/20/1999	ENER	—	12.5	20.2	3.96	—	—	—	—	—	—

\# Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
K5	4/27/1999	ENER	—	15.1	40.7	3.10	—	—	—	—	—	—
	10/20/1999	ENER	—	14.3	35.4	1.97	—	—	—	—	—	—
	10/20/1999	ENER	—	# 14.1	# 35.4	# 1.99	—	—	—	—	—	—
K6	7/20/1999	ENER	—	0.423	0.850	0.0070	—	—	—	—	—	—
	7/22/1999	ENER	—	0.200	0.540	< 0.0050	—	—	—	—	—	—
	8/2/1999	ENER	7.34	0.0940	0.220	< 0.0050	—	—	—	—	—	—
	8/5/1999	ENER	—	0.0630	0.193	< 0.0050	—	—	—	—	—	—
	8/10/1999	ENER	—	0.0496	0.130	< 0.0050	—	—	—	—	—	—
	8/17/1999	ENER	7.63	0.0260	0.0600	< 0.0050	—	—	—	—	—	—
	8/24/1999	ENER	—	0.0235	0.0600	< 0.0050	—	—	—	—	—	—
	8/27/1999	ENER	7.18	0.0230	0.0380	< 0.0050	—	—	—	—	—	—
	8/31/1999	ENER	7.37	0.0427	0.0380	< 0.0050	—	—	—	—	—	—
	9/1/1999	ENER	—	0.0670	< 0.0300	< 0.0050	—	—	—	—	—	—
	9/3/1999	ENER	—	0.0525	0.0300	0.0060	—	—	—	—	—	—
	9/10/1999	ENER	—	0.0264	0.0300	0.0080	—	—	—	—	—	—
	9/16/1999	ENER	—	0.0200	< 0.0300	0.0080	—	—	—	—	—	—
	9/23/1999	ENER	—	0.0269	0.0300	0.0070	—	—	—	—	—	—
	9/30/1999	ENER	—	0.0164	0.0300	0.0070	—	—	—	—	—	—
	10/7/1999	ENER	—	0.0170	< 0.0300	< 0.0050	—	—	—	—	—	—
	10/14/1999	ENER	—	0.0201	< 0.0300	0.0090	—	—	—	—	—	—
	10/21/1999	ENER	—	0.0184	< 0.0300	0.0080	—	—	—	—	—	—
	10/28/1999	ENER	—	0.0160	< 0.0300	< 0.0050	—	—	—	—	—	—
	11/11/1999	ENER	—	0.0090	< 0.0300	< 0.0050	—	—	—	—	—	—
	12/2/1999	ENER	—	0.0453	0.0400	< 0.0050	—	—	—	—	—	—
	12/9/1999	ENER	—	0.0168	< 0.0300	< 0.0050	—	—	—	—	—	—
KA	3/23/1999	ENER	—	8.43	—	1.000	—	—	—	—	—	—
	4/19/1999	ENER	—	8.36	—	1.56	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
KA	5/24/1999	ENER	—	8.41	—	1.98	—	—	—	—	—	—
	6/8/1999	ENER	—	8.06	—	2.14	—	—	—	—	—	—
	7/21/1999	ENER	7.92	6.60	14.0	2.30	5.12	< 0.200	—	—	—	—
	8/24/1999	ENER	—	6.17	—	2.06	—	—	—	—	—	—
	9/22/1999	ENER	—	5.90	—	1.84	—	—	—	—	—	—
	10/13/1999	ENER	—	5.01	—	1.65	—	—	—	—	—	—
	11/9/1999	ENER	—	3.98	—	1.31	—	—	—	—	—	—
	12/1/1999	ENER	—	4.44	—	1.22	—	—	—	—	—	—
KB	1/20/1999	ENER	—	6.09	—	2.75	—	—	—	—	—	—
	2/18/1999	ENER	—	5.00	—	2.57	—	—	—	—	—	—
	3/23/1999	ENER	—	6.20	—	2.55	—	—	—	—	—	—
	4/19/1999	ENER	—	6.77	—	2.95	—	—	—	—	—	—
	5/24/1999	ENER	—	5.55	—	2.67	—	—	—	—	—	—
	6/8/1999	ENER	—	6.19	—	2.50	—	—	—	—	—	—
	7/21/1999	ENER	7.83	5.30	10.5	1.96	3.90	0.200	—	—	—	—
	8/24/1999	ENER	—	4.01	—	1.32	—	—	—	—	—	—
	9/22/1999	ENER	—	3.16	—	0.544	—	—	—	—	—	—
	10/13/1999	ENER	—	2.28	—	0.230	—	—	—	—	—	—
	11/9/1999	ENER	—	1.74	—	0.114	—	—	—	—	—	—
KC	2/18/1999	ENER	—	5.81	—	2.98	—	—	—	—	—	—
	3/23/1999	ENER	—	6.25	—	2.63	—	—	—	—	—	—
	4/19/1999	ENER	—	6.25	—	2.66	—	—	—	—	—	—
	7/21/1999	ENER	7.81	5.31	10.1	1.54	3.07	0.200	—	—	—	—
	9/22/1999	ENER	—	2.01	—	0.290	—	—	—	—	—	—
	10/13/1999	ENER	—	1.86	—	0.256	—	—	—	—	—	—
	11/9/1999	ENER	—	1.33	—	0.175	—	—	—	—	—	—
	12/1/1999	ENER	—	1.42	—	0.165	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
KD	1/20/1999	ENER	—	2.72	—	0.446	—	—	—	—	—	—
	4/19/1999	ENER	—	2.71	—	0.278	—	—	—	—	—	—
	5/24/1999	ENER	—	2.57	—	0.281	—	—	—	—	—	—
	6/8/1999	ENER	—	2.71	—	0.260	—	—	—	—	—	—
	7/21/1999	ENER	7.96	2.35	3.26	0.216	2.16	0.800	—	—	—	—
	8/24/1999	ENER	—	1.97	—	0.171	—	—	—	—	—	—
	9/22/1999	ENER	—	2.22	—	0.176	—	—	—	—	—	—
	10/13/1999	ENER	—	1.95	—	0.165	—	—	—	—	—	—
	11/9/1999	ENER	—	1.93	—	0.153	—	—	—	—	—	—
	12/1/1999	ENER	—	2.25	—	0.168	—	—	—	—	—	—
KE	1/20/1999	ENER	—	0.946	—	0.0830	—	—	—	—	—	—
	2/18/1999	ENER	—	0.865	—	0.0650	—	—	—	—	—	—
	3/23/1999	ENER	—	0.926	—	0.0670	—	—	—	—	—	—
	4/19/1999	ENER	—	1.02	—	0.0740	—	—	—	—	—	—
	5/24/1999	ENER	—	0.884	—	0.0670	—	—	—	—	—	—
	6/8/1999	ENER	—	0.960	—	0.0640	—	—	—	—	—	—
	7/21/1999	ENER	7.85	0.845	1.20	0.0600	1.98	0.200	—	—	—	—
	8/24/1999	ENER	—	0.680	—	0.0520	—	—	—	—	—	—
	9/22/1999	ENER	—	0.803	—	0.0540	—	—	—	—	—	—
	10/13/1999	ENER	—	0.751	—	0.0540	—	—	—	—	—	—
	11/9/1999	ENER	—	0.509	—	0.0290	—	—	—	—	—	—
	12/1/1999	ENER	—	0.821	—	0.0360	—	—	—	—	—	—
KEB	9/30/1999	ENER	—	1.95	2.32	0.0280	—	—	—	—	—	—
KM	4/20/1999	ENER	—	1.79	—	0.0270	—	—	—	—	—	—
	11/11/1999	ENER	—	0.0100	< 0.0300	< 0.0050	—	—	—	—	—	—
KN	7/21/1999	ENER	—	2.25	2.50	0.0230	—	—	—	—	—	—
	7/22/1999	ENER	—	1.88	2.42	0.0170	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
KN	7/29/1999	ENER	—	1.80	2.41	0.0160	—	—	—	—	—	—
	8/2/1999	ENER	7.92	1.73	2.06	0.0150	—	—	—	—	—	—
	8/12/1999	ENER	7.35	1.69	1.97	0.0170	—	—	—	—	—	—
	8/17/1999	ENER	7.39	1.46	1.97	0.0120	—	—	—	—	—	—
	8/24/1999	ENER	—	1.14	2.20	0.0070	—	—	—	—	—	—
	8/27/1999	ENER	7.41	0.990	1.68	0.0050	—	—	—	—	—	—
	8/31/1999	ENER	7.57	1.01	1.76	0.0050	—	—	—	—	—	—
	9/10/1999	ENER	—	0.650	1.21	0.0040	—	—	—	—	—	—
	9/16/1999	ENER	—	0.610	0.700	< 0.0050	—	—	—	—	—	—
	9/23/1999	ENER	—	0.533	0.580	< 0.0050	—	—	—	—	—	—
	9/30/1999	ENER	—	0.441	0.410	0.0060	—	—	—	—	—	—
	10/7/1999	ENER	—	0.378	0.280	< 0.0050	—	—	—	—	—	—
	10/14/1999	ENER	—	0.297	0.260	0.0110	—	—	—	—	—	—
	10/21/1999	ENER	—	0.246	0.240	0.0070	—	—	—	—	—	—
	10/28/1999	ENER	—	0.175	0.220	< 0.0050	—	—	—	—	—	—
	11/11/1999	ENER	—	0.130	0.210	< 0.0050	—	—	—	—	—	—
	12/2/1999	ENER	—	0.0846	0.220	< 0.0050	—	—	—	—	—	—
	12/9/1999	ENER	—	0.0736	0.230	< 0.0050	—	—	—	—	—	—
KZ	4/20/1999	ENER	—	1.37	—	0.0250	—	—	—	—	—	—
	10/12/1999	ENER	7.86	3.10	2.96	0.0790	2.10	< 0.200	—	—	—	—
L5	1/19/1999	ENER	—	7.62	19.3	3.88	—	—	—	—	—	—
	2/18/1999	ENER	—	7.24	19.5	3.56	—	—	—	—	—	—
	3/23/1999	ENER	—	7.10	17.7	3.75	—	—	—	—	—	—
	4/19/1999	ENER	—	6.93	20.1	3.66	—	—	—	—	—	—
	5/22/1999	ENER	—	6.76	19.4	3.42	—	—	—	—	—	—
	6/8/1999	ENER	—	8.24	20.2	3.74	—	—	—	—	—	—
	7/20/1999	ENER	8.25	7.30	17.5	3.31	4.04	< 0.200	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
L5	8/26/1999	ENER	—	3.01	—	0.131	—	—	—	—	—	—
	9/22/1999	ENER	—	0.0651	< 0.0300	< 0.0050	—	—	—	—	—	—
	10/21/1999	ENER	—	7.31	—	2.26	—	—	—	—	—	—
	11/10/1999	ENER	—	6.12	17.6	2.07	—	—	—	—	—	—
	12/1/1999	ENER	—	7.30	18.6	2.36	—	—	—	—	—	—
L6	10/12/1999	ENER	—	3.36	17.0	3.80	—	—	—	—	—	—
L8	1/19/1999	ENER	—	5.48	10.6	0.454	—	—	—	—	—	—
	2/18/1999	ENER	—	5.19	10.3	0.421	—	—	—	—	—	—
	3/23/1999	ENER	—	5.00	9.00	0.385	—	—	—	—	—	—
	4/19/1999	ENER	—	4.74	8.66	0.288	—	—	—	—	—	—
	5/22/1999	ENER	—	4.98	9.17	0.373	—	—	—	—	—	—
	6/8/1999	ENER	—	6.05	9.19	0.392	—	—	—	—	—	—
	7/20/1999	ENER	8.23	6.30	7.82	0.378	2.96	< 0.200	—	—	—	—
	8/26/1999	ENER	—	6.63	—	2.79	—	—	—	—	—	—
	9/22/1999	ENER	—	5.31	7.37	0.286	—	—	—	—	—	—
	10/21/1999	ENER	—	5.35	—	0.230	—	—	—	—	—	—
	11/10/1999	ENER	—	4.68	6.60	0.240	—	—	—	—	—	—
	12/1/1999	ENER	—	5.40	7.05	0.269	—	—	—	—	—	—
L9	1/19/1999	ENER	—	3.13	3.48	0.134	—	—	—	—	—	—
	2/18/1999	ENER	—	2.44	2.62	0.0660	—	—	—	—	—	—
	3/23/1999	ENER	—	2.80	2.59	0.0960	—	—	—	—	—	—
	4/19/1999	ENER	—	2.37	2.40	0.0590	—	—	—	—	—	—
	5/22/1999	ENER	—	3.03	3.08	0.110	—	—	—	—	—	—
	6/8/1999	ENER	—	3.57	3.36	0.127	—	—	—	—	—	—
	7/20/1999	ENER	8.11	3.44	3.14	0.150	2.53	< 0.200	—	—	—	—
	8/26/1999	ENER	—	4.85	—	0.286	—	—	—	—	—	—
	9/22/1999	ENER	—	3.28	3.07	0.135	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
L9	10/21/1999	ENER	—	3.41	—	0.112	—	—	—	—	—	—
	11/10/1999	ENER	—	2.70	2.67	0.110	—	—	—	—	—	—
	12/1/1999	ENER	—	3.72	3.28	0.136	—	—	—	—	—	—
L10	1/19/1999	ENER	—	2.01	2.89	0.0960	—	—	—	—	—	—
	2/18/1999	ENER	—	# 1.96	# 2.96	# 0.0790	—	—	—	—	—	—
	3/23/1999	ENER	—	2.00	2.56	0.0710	—	—	—	—	—	—
	4/19/1999	ENER	—	1.86	2.67	0.0610	—	—	—	—	—	—
	5/22/1999	ENER	—	2.06	2.73	0.0770	—	—	—	—	—	—
	6/8/1999	ENER	—	2.33	2.73	0.0830	—	—	—	—	—	—
	7/20/1999	ENER	7.84	2.30	2.42	0.0990	1.89	< 0.200	—	—	—	—
	8/26/1999	ENER	—	2.03	—	0.0940	—	—	—	—	—	—
	9/22/1999	ENER	—	2.26	2.55	0.101	—	—	—	—	—	—
	10/21/1999	ENER	—	2.42	—	0.0960	—	—	—	—	—	—
	11/10/1999	ENER	—	1.77	2.14	0.0910	—	—	—	—	—	—
	12/1/1999	ENER	—	2.46	2.58	0.115	—	—	—	—	—	—
M3	1/20/1999	ENER	—	10.7	—	1.06	—	—	—	—	—	—
	2/18/1999	ENER	—	9.60	—	1.16	—	—	—	—	—	—
	3/23/1999	ENER	—	13.4	—	0.909	—	—	—	—	—	—
	4/20/1999	ENER	—	14.8	—	1.03	—	—	—	—	—	—
	5/26/1999	ENER	—	12.2	—	0.987	—	—	—	—	—	—
	6/9/1999	ENER	—	12.6	—	0.920	—	—	—	—	—	—
	7/26/1999	ENER	8.07	11.6	15.2	0.880	5.25	< 0.200	—	—	—	—
	8/24/1999	ENER	—	12.5	—	1.15	—	—	—	—	—	—
	9/30/1999	ENER	—	14.0	—	0.842	—	—	—	—	—	—
	10/20/1999	ENER	—	14.4	—	0.940	—	—	—	—	—	—
	11/10/1999	ENER	—	11.3	—	0.840	—	—	—	—	—	—
M4	4/27/1999	ENER	—	5.62	—	0.431	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
M4	10/13/1999	ENER	8.28	4.98	5.93	0.375	4.99	< 0.200	—	—	—	—
M5	2/4/1999	ENER	7.94	2.60	3.51	0.589	8.05	< 0.200	< 1.000	0.0500	< 0.0100	< 0.200
	2/4/1999	ENER	# 7.94	# 2.50	# 3.83	# 0.577	# 10.6	# < 0.200	# < 1.000	# 0.0500	# < 0.0100	# < 0.200
	5/10/1999	ENER	7.80	3.10	2.32	0.753	11.6	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
	8/17/1999	ENER	7.75	2.50	1.57	0.620	7.41	0.400	< 1.000	< 0.0500	< 0.0100	< 0.200
	11/4/1999	ENER	7.88	2.03	1.59	0.547	5.72	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
MO	1/19/1999	ENER	—	0.374	—	0.0930	—	—	—	—	—	—
	1/19/1999	ENER	—	# 0.376	—	# 0.0930	—	—	—	—	—	—
	7/21/1999	ACZ	# 7.70	# 0.343	# 0.0200	# 0.0710	# 10.2	# 0.140	—	—	—	—
	7/21/1999	ENER	7.71	0.355	< 0.0300	0.0830	11.0	< 0.200	—	—	—	—
	7/21/1999	ENER	# 7.69	# 0.353	# < 0.0300	# 0.0800	# 10.4	# < 0.200	—	—	—	—
MQ	10/20/1999	ENER	—	0.965	0.300	0.133	—	—	—	—	—	—
MR	10/20/1999	ENER	—	0.648	0.0300	0.111	7.11	—	—	—	—	—
MS	10/20/1999	ENER	—	0.150	< 0.0300	0.0320	—	—	—	—	—	—
MT	11/2/1999	ENER	—	0.335	—	0.223	13.4	—	—	—	—	—
MU	10/20/1999	ENER	—	0.124	< 0.0300	0.0430	56.5	—	—	—	—	—
MX	11/2/1999	ENER	—	# 0.0330	# 0.0300	# 0.0070	—	—	—	—	—	—
	11/2/1999	ENER	—	0.0330	0.0300	0.0110	—	—	—	—	—	—
MY	11/2/1999	ENER	—	0.0240	0.0300	0.0230	—	—	—	—	—	—
N	5/12/1999	ENER	—	0.0932	—	0.122	—	—	—	—	—	—
	10/19/1999	ENER	8.18	0.106	< 0.0300	0.107	16.5	< 0.200	—	—	—	—
NC	1/20/1999	ENER	—	0.0151	—	0.0550	—	—	—	—	—	—
	4/27/1999	ENER	7.87	0.0160	< 0.0300	0.0570	3.44	0.400	—	—	—	—
	7/7/1999	ENER	—	0.0270	—	0.0700	—	—	—	—	—	—
	10/19/1999	ENER	8.08	0.0170	< 0.0300	0.0620	4.02	< 0.200	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
ND	8/18/1999	ENER	8.05	0.0520	< 0.0300	0.0710	1.14	< 0.200	—	—	—	—
	8/18/1999	ENER	# 8.27	# 0.0439	# < 0.0300	# 0.0720	# 1.18	# 0.400	—	—	—	—
O	5/12/1999	ENER	8.04	0.0288	< 0.0300	0.233	4.13	< 0.200	—	—	—	—
	10/19/1999	ENER	—	0.0390	—	0.249	—	—	—	—	—	—
P	3/2/1999	ENER	7.87	0.0350	< 0.0300	0.139	8.08	0.400	< 1.000	—	< 0.0100	< 0.200
	3/2/1999	ACZ	# 7.50	# 0.0315	# < 0.0100	# 0.150	# 7.90	# 0.470	# 0.560	# < 0.0100	# < 0.0050	# 0.100
	5/10/1999	ENER	# 7.88	# 0.0313	# < 0.0300	# 0.154	# 7.73	# < 0.200	# < 1.000	# < 0.0500	# < 0.0100	# 0.200
	5/10/1999	ACZ	# 7.50	# 0.0281	# < 0.0100	# 0.0120	# 7.60	# 0.330	# 1.20	# < 0.0100	# 0.0090	# 0.0200
	5/10/1999	ENER	7.96	0.0324	< 0.0300	0.155	7.45	0.400	< 1.000	< 0.0500	< 0.0100	< 0.200
	9/15/1999	ENER	7.68	0.0358	< 0.0300	0.189	9.65	0.400	—	—	—	—
	11/4/1999	ENER	7.73	0.0322	< 0.0300	0.174	8.88	0.500	< 1.000	< 0.0500	< 0.0100	0.200
P1	1/21/1999	ENER	7.74	0.0366	< 0.0300	0.224	10.5	0.300	2.30	—	< 0.0100	< 0.200
	1/21/1999	ENER	# 7.85	# 0.0372	# < 0.0300	# 0.227	# 10.2	# < 0.200	# < 1.000	—	# < 0.0100	# < 0.200
P2	2/3/1999	ENER	7.79	0.0451	< 0.0300	0.194	10.4	< 0.200	< 1.000	—	< 0.0100	< 0.200
	5/11/1999	ENER	# 7.91	# 0.0383	# < 0.0300	# 0.209	# 10.4	# < 0.200	—	—	—	—
	5/11/1999	ENER	8.00	0.0370	< 0.0300	0.194	10.6	< 0.200	—	—	—	—
	8/18/1999	ENER	7.81	0.0384	< 0.0300	0.212	11.7	< 0.200	< 1.000	—	< 0.0100	< 0.200
	11/2/1999	ENER	7.67	0.0360	< 0.0300	0.200	12.6	1.80	—	—	—	—
PM	2/4/1999	ENER	8.00	0.584	0.400	0.171	18.8	0.800	< 1.000	—	< 0.0100	< 0.200
	5/12/1999	ENER	—	0.543	—	0.181	—	—	—	—	—	—
	8/18/1999	ENER	7.96	0.417	0.370	0.135	10.9	0.700	< 1.000	< 0.0500	< 0.0100	< 0.200
	11/5/1999	ENER	—	0.342	—	0.104	—	—	—	—	—	—
Q	3/2/1999	ENER	7.75	0.0588	< 0.0300	0.210	9.34	0.500	< 1.000	—	< 0.0100	< 0.200
R	5/20/1999	ENER	7.77	0.0294	< 0.0300	0.395	12.8	0.300	< 1.000	—	< 0.0100	< 0.200
S	5/11/1999	ENER	—	63.3	—	4.66	—	—	—	—	—	—
	11/5/1999	ENER	8.57	25.5	84.3	4.04	5.83	< 0.200	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
S2	7/8/1999	ENER	7.76	26.6	20.6	1.77	7.09	< 0.200	—	—	—	—
S3	2/2/1999	ENER	7.82	12.5	9.62	0.476	4.34	0.400	< 1.000	—	< 0.0100	< 0.200
	5/10/1999	ENER	7.81	12.4	9.34	0.385	3.41	< 0.200	< 1.000	< 0.0500	< 0.0100	0.300
	8/18/1999	ENER	7.86	10.7	9.63	0.506	4.27	< 0.200	< 1.000	< 0.0500	< 0.0100	0.400
	11/4/1999	ENER	7.72	11.1	9.74	0.204	2.50	< 0.200	< 1.000	< 0.0500	< 0.0100	0.200
S4	2/2/1999	ENER	7.72	6.50	3.80	0.165	1.03	0.600	< 1.000	—	< 0.0100	< 0.200
	5/11/1999	ENER	7.64	6.90	0.780	0.0640	0.190	1.000	< 1.000	< 0.0500	< 0.0100	0.200
	8/18/1999	ENER	7.76	5.80	0.290	0.0360	< 0.100	0.700	< 1.000	< 0.0500	< 0.0100	0.200
	8/18/1999	ENER	# 7.82	# 8.50	# 0.290	# 0.0360	# < 0.100	# 1.10	# < 1.000	# < 0.0500	# < 0.0100	# < 0.200
	11/4/1999	ENER	7.77	6.40	0.390	0.0300	< 0.100	1.000	< 1.000	< 0.0500	< 0.0100	0.200
	11/4/1999	ENER	# 7.86	# 7.00	# 0.380	# 0.0340	# < 0.100	# 0.800	# < 1.000	# < 0.0500	# < 0.0100	# 0.200
S5	1/20/1999	ENER	—	8.21	—	0.756	—	—	—	—	—	—
	2/18/1999	ENER	—	4.90	—	0.426	—	—	—	—	—	—
	3/23/1999	ENER	—	6.85	—	0.416	—	—	—	—	—	—
	4/20/1999	ENER	—	9.34	—	0.476	—	—	—	—	—	—
	5/26/1999	ENER	—	8.85	—	0.502	—	—	—	—	—	—
	6/9/1999	ENER	—	8.20	—	0.471	—	—	—	—	—	—
	7/26/1999	ENER	7.82	9.00	8.58	0.530	8.01	< 0.200	—	—	—	—
	8/24/1999	ENER	—	9.60	—	0.492	—	—	—	—	—	—
	9/30/1999	ENER	—	10.2	—	0.471	—	—	—	—	—	—
	10/20/1999	ENER	—	11.0	—	0.518	—	—	—	—	—	—
	11/10/1999	ENER	—	8.45	—	0.454	—	—	—	—	—	—
	12/8/1999	ENER	—	11.3	—	0.490	—	—	—	—	—	—
S6	2/22/1999	ENER	—	27.3	—	9.01	—	—	—	—	—	—
	3/24/1999	ENER	—	24.6	—	0.768	—	—	—	—	—	—
S11	10/27/1999	ENER	—	0.0204	—	0.448	38.0	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
S12	10/26/1999	ENER	—	2.26	2.23	0.434	—	—	—	—	—	—
	11/1/1999	ENER	—	2.12	1.69	0.370	—	—	—	—	—	—
	11/3/1999	ENER	—	2.35	1.79	0.372	—	—	—	—	—	—
	11/5/1999	ENER	—	1.64	1.29	0.250	—	—	—	—	—	—
	11/8/1999	ENER	—	1.68	1.42	0.250	—	—	—	—	—	—
	11/10/1999	ENER	—	1.63	1.58	0.250	—	—	—	—	—	—
	11/12/1999	ENER	—	1.91	1.91	0.293	—	—	—	—	—	—
	11/15/1999	ENER	—	1.78	1.93	0.264	—	—	—	—	—	—
	11/19/1999	ENER	—	1.50	1.91	0.231	—	—	—	—	—	—
	12/2/1999	ENER	—	1.82	1.54	0.240	—	—	—	—	—	—
	12/9/1999	ENER	—	1.67	1.60	0.222	—	—	—	—	—	—
SA	1/22/1999	ENER	—	18.2	—	0.988	—	—	—	—	—	—
	2/22/1999	ENER	—	18.2	—	0.947	—	—	—	—	—	—
	3/24/1999	ENER	—	16.3	—	0.834	—	—	—	—	—	—
	5/26/1999	ENER	—	15.0	—	0.855	—	—	—	—	—	—
	6/9/1999	ENER	—	17.1	—	0.835	—	—	—	—	—	—
	7/26/1999	ENER	7.98	14.0	19.5	0.800	5.16	< 0.200	—	—	—	—
	8/26/1999	ENER	—	14.6	—	0.795	—	—	—	—	—	—
	9/30/1999	ENER	—	15.8	—	0.771	—	—	—	—	—	—
	10/20/1999	ENER	—	15.7	—	0.757	—	—	—	—	—	—
	11/10/1999	ENER	—	12.6	—	0.757	—	—	—	—	—	—
	12/8/1999	ENER	—	14.0	—	0.662	—	—	—	—	—	—
SB	1/22/1999	ENER	—	13.1	—	0.439	—	—	—	—	—	—
	2/22/1999	ENER	—	14.4	—	0.458	—	—	—	—	—	—
	3/24/1999	ENER	—	14.1	—	0.493	—	—	—	—	—	—
	4/20/1999	ENER	—	15.1	—	0.541	—	—	—	—	—	—
	5/26/1999	ENER	—	15.1	—	0.588	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
SB	6/9/1999	ENER	—	19.3	—	0.517	—	—	—	—	—	—
	8/26/1999	ENER	—	25.8	—	0.677	—	—	—	—	—	—
SC	1/22/1999	ENER	—	24.1	—	1.32	—	—	—	—	—	—
	2/22/1999	ENER	—	26.4	—	1.32	—	—	—	—	—	—
	3/24/1999	ENER	—	25.2	—	1.24	—	—	—	—	—	—
	4/20/1999	ENER	—	24.8	—	1.34	—	—	—	—	—	—
	5/26/1999	ENER	—	25.4	—	1.48	—	—	—	—	—	—
	6/14/1999	ENER	—	28.9	—	1.46	—	—	—	—	—	—
	7/26/1999	ENER	8.34	21.5	44.5	1.46	11.0	0.500	—	—	—	—
	8/26/1999	ENER	—	26.5	—	1.38	—	—	—	—	—	—
	9/30/1999	ENER	—	27.7	—	1.54	—	—	—	—	—	—
	10/20/1999	ENER	—	29.2	—	1.40	—	—	—	—	—	—
	11/10/1999	ENER	—	23.7	—	1.20	—	—	—	—	—	—
SE4	10/26/1999	ENER	—	0.190	0.0700	< 0.0050	—	—	—	—	—	—
	10/29/1999	ENER	—	0.233	0.110	< 0.0050	—	—	—	—	—	—
	11/1/1999	ENER	—	0.191	0.0700	< 0.0050	—	—	—	—	—	—
	11/3/1999	ENER	—	0.163	0.0600	< 0.0050	—	—	—	—	—	—
	11/5/1999	ENER	—	0.110	0.0400	< 0.0050	—	—	—	—	—	—
	11/8/1999	ENER	—	0.105	0.0400	< 0.0050	—	—	—	—	—	—
	11/10/1999	ENER	—	0.0680	0.0300	< 0.0050	—	—	—	—	—	—
	11/12/1999	ENER	—	0.114	< 0.0300	< 0.0050	—	—	—	—	—	—
	11/15/1999	ENER	—	0.0770	< 0.0300	< 0.0050	—	—	—	—	—	—
	12/2/1999	ENER	—	0.151	< 0.0300	< 0.0050	—	—	—	—	—	—
	12/9/1999	ENER	—	0.135	< 0.0300	< 0.0050	—	—	—	—	—	—
SO	5/12/1999	ENER	—	13.8	—	0.594	—	—	—	—	—	—
	11/5/1999	ENER	7.84	1.75	3.14	0.0360	< 0.100	< 0.200	—	—	—	—
SQ	1/22/1999	ENER	—	21.0	—	0.938	—	—	—	—	—	—

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
SQ	2/22/1999	ENER	—	24.8	—	0.870	—	—	—	—	—	—
	3/24/1999	ENER	—	23.8	—	0.857	—	—	—	—	—	—
	4/20/1999	ENER	—	21.9	—	0.944	—	—	—	—	—	—
	5/26/1999	ENER	—	23.1	—	0.992	—	—	—	—	—	—
	6/14/1999	ENER	—	27.9	—	1.17	—	—	—	—	—	—
	7/26/1999	ENER	8.66	18.6	44.0	1.31	11.6	0.300	—	—	—	—
	8/26/1999	ENER	—	20.9	—	1.09	—	—	—	—	—	—
	9/30/1999	ENER	—	23.3	—	1.16	—	—	—	—	—	—
	10/20/1999	ENER	—	24.3	—	1.14	—	—	—	—	—	—
	11/10/1999	ENER	—	20.4	—	1.06	—	—	—	—	—	—
SS	1/22/1999	ENER	—	5.24	—	0.476	—	—	—	—	—	—
	2/22/1999	ENER	—	9.20	—	0.803	—	—	—	—	—	—
	3/23/1999	ENER	—	9.54	—	0.676	—	—	—	—	—	—
	4/20/1999	ENER	—	9.76	—	0.754	—	—	—	—	—	—
	5/24/1999	ENER	—	12.7	—	0.842	—	—	—	—	—	—
	6/9/1999	ENER	—	12.8	—	0.835	—	—	—	—	—	—
	7/21/1999	ENER	8.11	13.0	23.6	0.897	6.97	< 0.200	—	—	—	—
	8/24/1999	ENER	—	14.4	—	1.18	—	—	—	—	—	—
	9/15/1999	ENER	—	16.2	—	0.758	—	—	—	—	—	—
	10/20/1999	ENER	—	17.0	—	0.666	—	—	—	—	—	—
	11/10/1999	ENER	—	18.2	26.5	0.800	—	—	—	—	—	—
	12/8/1999	ENER	—	19.5	—	0.885	—	—	—	—	—	—
ST	1/22/1999	ENER	—	7.38	—	0.727	—	—	—	—	—	—
	2/22/1999	ENER	—	6.87	—	0.699	—	—	—	—	—	—
	2/22/1999	ACZ	—	# 6.31	—	# 0.590	—	—	—	—	—	—
	3/23/1999	ENER	—	6.97	—	0.588	—	—	—	—	—	—
	4/20/1999	ENER	—	7.21	—	0.637	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
ST	5/24/1999	ENER	—	7.81	—	0.727	—	—	—	—	—	—
	6/9/1999	ENER	—	8.26	—	0.700	—	—	—	—	—	—
	7/21/1999	ENER	8.16	6.50	6.14	0.510	4.55	< 0.200	—	—	—	—
	8/24/1999	ENER	—	6.36	—	0.560	—	—	—	—	—	—
	9/15/1999	ENER	—	6.18	—	0.517	—	—	—	—	—	—
	10/20/1999	ENER	—	6.58	—	0.533	—	—	—	—	—	—
	11/10/1999	ENER	—	6.07	5.50	0.480	—	—	—	—	—	—
	12/8/1999	ENER	—	4.92	—	0.422	—	—	—	—	—	—
SV	1/26/1999	ENER	8.35	19.5	32.4	1.11	11.9	4.70	—	—	—	—
	7/8/1999	ENER	—	29.2	—	1.01	—	—	—	—	—	—
T	1/22/1999	ENER	—	5.33	—	1.20	—	—	—	—	—	—
	2/22/1999	ENER	—	5.67	—	1.25	—	—	—	—	—	—
	2/22/1999	ACZ	—	# 5.36	—	# 1.36	—	—	—	—	—	—
	3/23/1999	ENER	—	6.22	—	1.23	—	—	—	—	—	—
	5/11/1999	ENER	—	6.00	—	1.42	—	—	—	—	—	—
	6/14/1999	ENER	—	5.88	—	1.60	—	—	—	—	—	—
	11/2/1999	ENER	7.77	4.39	8.37	0.658	2.74	0.400	—	—	—	—
TA	1/22/1999	ENER	—	7.79	—	4.04	—	—	—	—	—	—
	2/22/1999	ENER	—	5.30	—	3.83	—	—	—	—	—	—
	3/23/1999	ENER	—	8.16	—	3.58	—	—	—	—	—	—
	4/20/1999	ENER	—	7.84	—	3.67	—	—	—	—	—	—
	7/26/1999	ENER	7.82	7.10	7.42	3.44	16.3	< 0.200	—	—	—	—
	8/26/1999	ENER	—	6.97	—	3.04	—	—	—	—	—	—
	9/15/1999	ENER	—	6.83	—	3.03	—	—	—	—	—	—
	12/14/1999	ENER	—	10.5	—	5.88	—	—	—	—	—	—
W	3/23/1999	ENER	—	0.0680	—	0.0110	—	—	—	—	—	—
	9/15/1999	ENER	7.86	0.0830	< 0.0300	< 0.0050	< 0.100	< 0.200	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
WR7	1/20/1999	ENER	—	0.303	—	0.0090	—	—	—	—	—	—
	4/27/1999	ENER	7.62	0.212	0.0800	0.0080	1.66	0.200	< 1.000	—	< 0.0100	0.200
	4/27/1999	ACZ	# 7.30	# 0.212	# 0.0800	# 0.0060	# 1.94	—	—	—	# < 0.0050	—
	4/27/1999	ENER	# 7.63	# 0.213	# 0.0800	# 0.0110	# 1.58	# 0.500	# < 1.000	—	# < 0.0100	# 0.200
	7/8/1999	ENER	—	0.219	—	0.0090	—	—	—	—	—	—
	10/19/1999	ENER	7.91	0.173	0.0600	0.0080	2.16	< 0.200	< 1.000	—	< 0.0100	< 0.200
WR9	2/4/1999	ENER	—	0.0865	—	0.0220	—	—	—	—	—	—
	8/19/1999	ENER	7.86	0.0867	< 0.0300	0.0170	1.80	< 0.200	—	—	—	—
WR11	1/20/1999	ENER	—	0.275	—	0.0720	—	—	—	—	—	—
	4/27/1999	ENER	7.95	0.263	< 0.0300	0.0630	1.16	< 0.200	< 1.000	—	< 0.0100	0.200
	7/21/1999	ENER	—	0.222	—	0.0800	—	—	—	—	—	—
	10/19/1999	ENER	8.12	0.338	< 0.0300	0.0500	0.960	0.300	< 1.000	—	< 0.0100	< 0.200
	10/19/1999	ENER	# 8.19	# 0.338	# < 0.0300	# 0.0470	# 0.830	# < 0.200	# < 1.000	—	# < 0.0100	# 0.300
WR16	10/27/1999	ENER	—	0.257	0.180	0.364	—	—	—	—	—	—
WR17	10/27/1999	ENER	—	0.0908	< 0.0300	0.0120	—	—	—	—	—	—
	10/27/1999	ENER	—	# 0.0883	# < 0.0300	# 0.0120	—	—	—	—	—	—
WR18	10/27/1999	ENER	—	0.0109	< 0.0300	< 0.0050	—	—	—	—	—	—
WR19	10/27/1999	ENER	—	3.41	0.110	0.530	—	—	—	—	—	—
WR20	10/27/1999	ENER	—	0.0668	< 0.0300	0.0350	—	—	—	—	—	—
WR21	10/27/1999	ENER	—	0.122	< 0.0300	0.134	—	—	—	—	—	—
WR22	10/27/1999	ENER	—	0.167	—	0.130	43.2	—	—	—	—	—
WR23	10/27/1999	ENER	—	0.164	—	0.0830	15.3	—	—	—	—	—
WR24	10/21/1999	ENER	—	0.204	—	0.123	15.9	—	—	—	—	—
	10/21/1999	ENER	—	# 0.196	—	# 0.112	# 17.3	—	—	—	—	—
X	1/19/1999	ENER	—	0.504	0.936	0.0460	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-2. WATER QUALITY ANALYSES FOR HOMESTAKE'S ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
X	2/2/1999	ENER	7.73	0.601	0.920	0.0440	1.48	< 0.200	< 1.000	< 0.0500	0.0400	< 0.200
	3/23/1999	ENER	—	0.578	0.910	0.0480	—	—	—	—	—	—
	4/19/1999	ENER	—	0.586	1.000	0.0510	—	—	—	—	—	—
	5/10/1999	ENER	7.82	0.581	0.880	0.0530	1.80	0.500	< 1.000	< 0.0500	0.0400	0.300
	6/8/1999	ENER	—	0.631	1.000	0.0480	—	—	—	—	—	—
	7/21/1999	ENER	7.77	0.600	0.930	0.0510	1.72	< 0.200	—	—	—	—
	8/11/1999	ENER	7.53	0.676	0.910	0.0480	1.87	< 0.200	< 1.000	< 0.0500	0.0500	0.200
	9/15/1999	ENER	—	0.670	0.980	0.0480	—	—	—	—	—	—
	10/12/1999	ENER	7.95	0.932	1.62	0.123	1.84	< 0.200	< 1.000	< 0.0500	0.0400	0.200
	11/12/1999	ENER	—	0.679	1.08	0.0440	—	—	—	—	—	—
	12/1/1999	ENER	—	0.780	1.16	0.0350	—	—	—	—	—	—
Y	1/19/1999	ENER	—	7.42	13.1	0.922	—	—	—	—	—	—
	2/2/1999	ENER	7.91	5.00	9.56	0.831	4.25	0.200	< 1.000	< 0.0500	< 0.0100	< 0.200
	2/2/1999	ENER	# 7.90	# 5.10	# 10.2	# 0.815	# 4.48	# < 0.200	# < 1.000	# < 0.0500	# < 0.0100	# < 0.200
	3/23/1999	ENER	—	6.40	12.7	1.25	—	—	—	—	—	—
	4/19/1999	ENER	—	6.29	14.3	1.40	—	—	—	—	—	—
	5/10/1999	ENER	7.74	5.50	10.4	1.000	4.65	0.600	< 1.000	< 0.0500	< 0.0100	0.200
	6/8/1999	ENER	—	8.24	14.1	1.43	—	—	—	—	—	—
	7/21/1999	ENER	7.91	7.70	11.1	1.44	4.61	< 0.200	—	—	—	—
	8/11/1999	ENER	7.58	7.10	11.6	1.36	4.79	< 0.200	< 1.000	< 0.0500	0.0100	0.200
	9/15/1999	ENER	—	7.40	10.7	1.51	—	—	—	—	—	—
	10/12/1999	ENER	7.65	5.58	10.9	1.58	4.26	< 0.200	< 1.000	< 0.0500	< 0.0100	< 0.200
	11/12/1999	ENER	—	6.10	12.2	1.66	—	—	—	—	—	—
	12/1/1999	ENER	—	6.80	12.8	1.87	—	—	—	—	—	—

Signifies Quality Control Sample

B.4-3 WATER QUALITY ANALYSES FOR THE SUBDIVISION ALLUVIAL WELLS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
0446	11/16/1999	ENER	223	65.4	6.40	287	536	< 1.000	213	715	1900	* 2541	0.981
0451	5/17/1999	ENER	227	63.0	5.40	257	556	< 1.000	199	642	1890	—	0.989
0453	3/3/1999	ENER	—	—	—	—	—	—	—	670	1850	* 2855	—
	9/14/1999	ENER	216	67.6	10.1	280	547	< 1.000	217	753	1850	* 2998	0.934
0490	3/3/1999	ENER	235	64.7	6.30	275	571	< 1.000	217	733	1910	* 3287	0.948
	10/13/1999	ENER	—	—	—	—	—	—	—	719	1870	* 3309	—
0492	3/3/1999	ENER	225	58.7	5.40	278	519	< 1.000	196	758	1900	* 3195	0.948
0496	8/31/1999	ENER	—	—	—	—	—	—	—	736	1820	* 3147	—
0497	8/31/1999	ENER	—	—	—	—	—	—	—	748	1930	* 3397	—
0688	5/18/1999	ENER	—	—	—	—	—	—	—	845	1930	* 3113	—
	11/9/1999	ENER	236	51.0	5.70	293	444	< 1.000	170	769	1890	* 2462	1.03
0802	11/29/1999	ENER	191	51.6	4.50	323	560	< 1.000	204	630	1840	—	0.995
0804	5/18/1999	ENER	285	63.7	4.90	287	365	< 1.000	195	973	2160	* 3404	1.01
0844	5/20/1999	ENER	213	57.8	4.00	453	505	< 1.000	222	1000	2380	* 4191	0.994
	11/9/1999	ENER	—	—	—	—	—	—	—	1110	2410	* 3228	—
0845	7/29/1999	ENER	—	—	—	—	—	—	—	746	1940	* 3426	—
CW44	10/28/1999	ENER	—	—	—	—	—	—	—	826	1970	—	—
SUB1	11/16/1999	ENER	242	67.3	6.40	292	550	< 1.000	209	770	1980	* 2624	0.984
SUB2	4/28/1999	ENER	—	—	—	—	—	—	—	727	1840	* 3276	—
	9/15/1999	ENER	216	62.9	4.30	257	571	< 1.000	187	669	1890	—	0.953

* Signifies Specific Conductivity from HMC

B.4-4 WATER QUALITY ANALYSES FOR THE SUBDIVISION ALLUVIAL WELLS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
0446	11/16/1999	ENER	7.69	0.0744	< 0.0300	0.0050	2.04	0.300	—	—	—	—
0451	5/17/1999	ENER	7.95	0.0350	< 0.0300	0.0200	1.61	0.300	—	< 0.0500	—	—
0453	3/3/1999	ENER	—	0.0204	—	0.0070	—	—	—	—	—	—
	9/14/1999	ENER	7.77	0.0179	< 0.0300	0.0280	1.86	< 0.200	—	—	—	—
0490	3/3/1999	ENER	7.82	0.325	0.140	0.0190	1.70	< 0.200	—	—	—	—
	10/13/1999	ENER	—	0.287	—	0.0270	—	—	—	—	—	—
0492	3/3/1999	ENER	8.04	0.362	< 0.0300	0.0360	1.98	< 0.200	—	—	—	—
0496	8/31/1999	ENER	—	0.780	—	0.0960	—	—	—	—	—	—
0497	8/31/1999	ENER	—	1.22	—	0.0560	—	—	—	—	—	—
0688	5/18/1999	ENER	—	0.0464	—	0.0190	—	—	—	—	—	—
	11/9/1999	ENER	7.77	0.0430	< 0.0300	0.0100	1.23	< 0.200	—	—	—	—
0802	11/29/1999	ENER	7.78	1.52	< 0.0300	0.0240	1.87	< 0.200	—	—	—	—
0804	5/18/1999	ENER	7.89	0.0522	< 0.0300	0.0940	2.88	< 0.200	—	—	—	—
0844	5/20/1999	ENER	7.93	0.0798	< 0.0300	0.0260	6.40	< 0.200	—	—	—	—
	11/9/1999	ENER	—	0.0670	—	0.0200	—	—	—	—	—	—
0845	7/29/1999	ENER	—	0.0609	—	0.0130	—	—	—	—	—	—
CW44	10/28/1999	ENER	—	1.02	—	0.0960	—	—	—	—	—	—
SUB1	11/16/1999	ENER	7.68	0.271	< 0.0300	0.0120	2.24	< 0.200	—	—	—	—
SUB2	4/28/1999	ENER	—	0.166	—	0.0100	—	—	—	—	—	—
	9/15/1999	ENER	7.86	0.223	< 0.0300	0.0120	2.16	< 0.200	—	—	—	—

TABLE B.4-5. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
0531	9/30/1999	ENER	—	—	—	—	—	—	—	781	1810	* 2434	—
0532	3/3/1999	ENER	101	35.6	3.50	40.1	273	< 1.000	34.3	194	590	—	1.03
	3/3/1999	ACZ	# 88.5	# 33.8	# 2.70	# 41.9	# 233	# < 2.00	# 30.0	# 180	# 500	—	# 1.07
0631	3/30/1999	ENER	152	36.7	5.70	312	207	< 1.000	93.5	814	1650	* 2779	1.06
	3/31/1999	ENER	154	36.9	5.70	310	212	< 1.000	93.2	816	1640	* 2699	1.05
	10/28/1999	ENER	—	—	—	—	—	—	—	820	1570	—	—
0632	3/25/1999	ENER	156	36.1	6.00	320	201	< 1.000	114	823	1710	* 2942	1.05
	3/26/1999	ENER	156	35.9	6.00	316	199	< 1.000	113	824	1690	* 2920	1.04
	10/28/1999	ENER	—	—	—	—	—	—	—	874	1650	—	—
0633	8/5/1999	ENER	236	63.3	8.90	267	458	< 1.000	184	756	1970	* 3181	1.01
0634	8/5/1999	ENER	243	66.6	9.20	279	509	< 1.000	189	780	2080	* 3399	1.00
0640	7/22/1999	ENER	—	—	—	—	—	—	—	702	1860	* 3164	—
0641	7/22/1999	ENER	—	—	—	—	—	—	—	674	1810	* 3115	—
0642	7/22/1999	ENER	—	—	—	—	—	—	—	697	1820	* 3148	—
0643	10/19/1999	ENER	—	—	—	—	—	—	—	791	1910	* 3332	—
0644	10/19/1999	ENER	—	—	—	—	—	—	—	961	1840	* 3162	—
0646	10/19/1999	ENER	—	—	—	—	—	—	—	896	1700	* 2926	—
0647	7/21/1999	ENER	—	—	—	—	—	—	116	662	1510	* 2544	—
0648	7/21/1999	ENER	—	—	—	—	—	—	61.8	421	1030	* 1836	—
	10/28/1999	ENER	—	—	—	—	—	—	—	487	1110	—	—
0649	7/21/1999	ACZ	—	—	—	—	—	—	—	# 540	# 1220	—	—
	7/21/1999	ENER	—	—	—	—	—	—	—	554	1180	* 1966	—
	7/21/1999	ENER	—	—	—	—	—	—	—	# 577	# 1190	* 1966	—
	10/28/1999	ENER	—	—	—	—	—	—	—	559	1150	—	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-5. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
0652	10/19/1999	ENER	—	—	—	—	—	—	—	624	1270	* 2239	—
0654	8/4/1999	ENER	247	67.3	9.30	281	505	< 1.000	187	799	2130	* 3396	1.00
	9/28/1999	ENER	265	69.8	8.70	284	509	< 1.000	179	871	2090	—	0.999
0655	8/5/1999	ENER	245	66.7	9.10	280	488	< 1.000	188	781	2020	* 3288	1.02
0657	8/5/1999	ENER	180	48.2	6.70	164	326	< 1.000	91.3	550	1350	* 2239	1.04
	10/28/1999	ENER	—	—	—	—	—	—	—	640	1420	—	—
0658	4/13/1999	ENER	183	41.6	4.80	167	323	< 1.000	69.5	604	1340	—	1.00
	10/28/1999	ENER	—	—	—	—	—	—	—	650	1280	—	—
0659	8/5/1999	ENER	244	66.4	9.40	278	500	< 1.000	198	791	2070	* 3371	0.990
0683	9/29/1999	ENER	—	—	—	—	—	—	—	165	528	* 703	—
	9/29/1999	ENER	—	—	—	—	—	—	—	# 166	# 520	*# 703	—
0684	9/30/1999	ENER	—	—	—	—	—	—	—	554	1240	* 1921	—
0685	9/29/1999	ENER	—	—	—	—	—	—	—	762	1720	* 2841	—
0686	9/29/1999	ENER	—	—	—	—	—	—	—	563	1640	* 2920	—
0687	9/29/1999	ENER	—	—	—	—	—	—	—	748	1690	* 2730	—
0689	7/27/1999	ENER	—	—	—	—	—	—	—	139	556	* 925	—
0692	7/26/1999	ENER	—	—	—	—	—	—	—	595	1450	* 2617	—
0846	5/20/1999	ENER	# 322	# 79.3	# 5.40	# 412	# 359	# < 1.000	# 113	# 1450	# 2880	*# 4262	# 1.03
	5/20/1999	ENER	328	79.4	5.60	404	359	< 1.000	116	1480	2850	* 4262	1.02
	11/9/1999	ENER	—	—	—	—	—	—	—	1560	2920	* 3470	—
0848	7/26/1999	ENER	—	—	—	—	—	—	—	663	1640	* 2817	—
0851	9/1/1999	ENER	—	—	—	—	—	—	—	888	1630	* 1236	—
0855	9/1/1999	ENER	—	—	—	—	—	—	—	754	1590	* 2824	—
0861	8/31/1999	ENER	—	—	—	—	—	—	—	816	1660	* 2843	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-5. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
0862	9/1/1999	ENER	—	—	—	—	—	—	—	756	1890	* 3354	—
0863	9/1/1999	ENER	—	—	—	—	—	—	—	776	1950	* 3417	—
0864	9/1/1999	ENER	—	—	—	—	—	—	—	817	1890	* 3252	—
0865	8/31/1999	ENER	—	—	—	—	—	—	—	986	2040	* 3398	—
0866	8/31/1999	ENER	—	—	—	—	—	—	—	821	1980	* 3434	—
	8/31/1999	ENER	—	—	—	—	—	—	—	# 782	# 1970	—	—
0867	8/31/1999	ENER	—	—	—	—	—	—	—	808	1680	* 2908	—
0868	9/1/1999	ENER	—	—	—	—	—	—	—	690	1680	* 2786	—
0869	9/2/1999	ENER	—	—	—	—	—	—	—	912	1890	* 3260	—
0876	9/1/1999	ENER	—	—	—	—	—	—	—	926	2010	* 3407	—
0881	9/28/1999	ENER	—	—	—	—	—	—	—	892	2110	* 3426	—
0882	9/28/1999	ENER	—	—	—	—	—	—	—	831	1610	* 2625	—
0883	9/28/1999	ENER	—	—	—	—	—	—	—	1210	2400	* 3756	—
0884	9/30/1999	ENER	—	—	—	—	—	—	—	1270	2550	* 4001	—
0885	9/28/1999	ENER	—	—	—	—	—	—	—	785	1850	* 3101	—
	9/28/1999	ENER	—	—	—	—	—	—	—	# 760	# 1830	—	—
0886	9/28/1999	ENER	—	—	—	—	—	—	—	1110	2400	* 3845	—
0888	9/28/1999	ENER	—	—	—	—	—	—	—	1150	2400	* 3822	—
0890	3/10/1999	ENER	256	64.4	8.40	264	472	< 1.000	187	863	1960	* 3227	0.960
	3/11/1999	ENER	259	65.5	8.50	269	474	< 1.000	185	875	2000	* 3231	0.968
	9/28/1999	ENER	—	—	—	—	—	—	—	837	1990	* 3257	—
0893	9/28/1999	ENER	—	—	—	—	—	—	—	760	18500	* 3146	—
0895	9/29/1999	ENER	—	—	—	—	—	—	—	1010	1890	* 2770	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-5. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
0896	9/29/1999	ENER	---	---	---	---	---	---	---	1030	1940	* 3058	---
0899	9/28/1999	ENER	---	---	---	---	---	---	---	511	1220	* 2052	---
	9/28/1999	ENER	---	---	---	---	---	---	---	# 519	# 1210	*# 2052	---
0905	5/18/1999	ENER	164	38.8	4.30	134	302	< 1.000	49.4	486	1140	---	1.05
0909	5/18/1999	ENER	---	---	---	---	---	---	---	856	1660	* 2699	---
0910	5/18/1999	ENER	163	42.3	4.60	62.4	337	< 1.000	40.1	333	908	---	1.06
0914	5/19/1999	ENER	87.0	19.2	2.20	292	25.0	< 1.000	103	732	1320	* 2054	1.00
0916	5/20/1999	ENER	5.40	1.30	< 1.000	126	249	< 1.000	26.0	43.8	331	---	1.02
0917	5/19/1999	ENER	85.8	8.90	1.20	106	226	< 1.000	52.4	185	620	* 1177	1.06
0920	5/19/1999	ENER	440	78.3	9.10	224	229	< 1.000	68.4	1500	2750	* 3816	1.04
0921	5/19/1999	ENER	380	68.4	8.30	287	227	< 1.000	85.8	1420	2640	* 3766	1.04
0922	5/19/1999	ENER	2.60	< 1.000	1.40	349	322	30.2	77.6	378	1040	* 2000	0.944
0935	9/30/1999	ENER	---	---	---	---	---	---	---	773	1780	* 2995	---
0942	5/18/1999	ENER	158	38.9	3.60	236	445	< 1.000	57.1	561	1390	* 2238	1.04
0947	7/26/1999	ENER	---	---	---	---	---	---	---	617	1800	* 3154	---
0996	9/29/1999	ENER	---	---	---	---	---	---	---	683	1470	* 2423	---
	9/29/1999	ENER	---	---	---	---	---	---	---	# 642	# 1430	*# 2423	---
0999	11/10/1999	ENER	156	38.8	3.60	57.2	394	< 1.000	22.4	263	822	* 1060	1.08

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.4-6. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
0531	9/30/1999	ENER	—	0.167	—	0.0450	2.65	—	—	—	—	—
0532	3/3/1999	ENER	7.98	0.0064	< 0.0300	0.0080	3.65	0.200	—	—	—	—
	3/3/1999	ACZ	# 7.50	# 0.0060	# < 0.0100	# 0.0090	# 3.83	# 0.0400	—	—	—	—
0631	3/30/1999	ENER	7.90	0.0233	< 0.0300	0.282	2.17	< 0.200	< 1.000	—	< 0.0100	0.600
	3/31/1999	ENER	7.93	0.0228	< 0.0300	0.265	2.02	< 0.200	1.10	—	< 0.0100	1.10
	10/28/1999	ENER	—	0.0284	—	0.250	—	—	—	—	—	—
0632	3/25/1999	ENER	7.66	0.0236	< 0.0300	0.330	2.48	0.200	< 1.000	—	< 0.0100	< 0.200
	3/26/1999	ENER	7.73	0.0237	< 0.0300	0.327	2.48	< 0.200	< 1.000	—	< 0.0100	< 0.200
	10/28/1999	ENER	—	0.0229	—	0.331	—	—	—	—	—	—
0633	8/5/1999	ENER	8.02	0.194	< 0.0300	0.0490	3.52	< 0.200	< 1.000	—	< 0.0100	< 0.200
0634	8/5/1999	ENER	7.93	0.313	< 0.0300	0.0580	2.55	< 0.200	< 1.000	—	< 0.0100	< 0.200
0640	7/22/1999	ENER	—	0.0421	< 0.0300	0.0050	—	—	—	—	—	—
0641	7/22/1999	ENER	—	0.125	< 0.0300	0.0100	—	—	—	—	—	—
0642	7/22/1999	ENER	—	0.617	< 0.0300	0.0220	—	—	—	—	—	—
0643	10/19/1999	ENER	—	1.05	—	0.0920	—	—	—	—	—	—
0644	10/19/1999	ENER	—	0.0212	—	0.385	—	—	—	—	—	—
0646	10/19/1999	ENER	—	0.0204	—	0.356	—	—	—	—	—	—
0647	7/21/1999	ENER	—	0.149	< 0.0300	0.0570	5.26	—	—	—	—	—
0648	7/21/1999	ENER	—	0.0861	< 0.0300	0.0280	2.97	—	—	—	—	—
	10/28/1999	ENER	—	0.0533	—	0.0530	—	—	—	—	—	—
0649	7/21/1999	ACZ	—	# 0.0145	—	# 0.0200	—	—	—	—	—	—
	7/21/1999	ENER	—	0.0129	—	0.0240	—	—	—	—	—	—
	7/21/1999	ENER	—	# 0.0132	—	# 0.0230	—	—	—	—	—	—
	10/28/1999	ENER	—	0.0160	—	0.0240	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-6. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
0652	10/19/1999	ENER	—	0.0227	—	0.0840	—	—	—	—	—	—
0654	8/4/1999	ENER	7.98	0.339	< 0.0300	0.0670	3.63	< 0.200	< 1.000	—	< 0.0100	< 0.200
	9/28/1999	ENER	7.79	0.365	< 0.0300	0.0650	4.12	< 0.200	—	—	—	—
0655	8/5/1999	ENER	7.73	0.260	< 0.0300	0.0550	3.38	< 0.200	< 1.000	—	< 0.0100	< 0.200
0657	8/5/1999	ENER	7.99	0.0450	< 0.0300	0.0340	1.79	< 0.200	< 1.000	—	< 0.0100	< 0.200
	10/28/1999	ENER	—	0.0726	—	0.0440	—	—	—	—	—	—
0658	4/13/1999	ENER	8.10	0.0073	< 0.0300	0.0200	0.440	< 0.200	2.30	—	< 0.0100	< 0.200
	10/28/1999	ENER	—	0.0101	—	0.0350	—	—	—	—	—	—
0659	8/5/1999	ENER	7.93	0.301	< 0.0300	0.0610	3.44	< 0.200	< 1.000	—	< 0.0100	< 0.200
0683	9/29/1999	ENER	—	0.0037	—	0.0040	1.87	—	—	—	—	—
	9/29/1999	ENER	—	# 0.0037	—	# 0.0040	# 1.88	—	—	—	—	—
0684	9/30/1999	ENER	—	0.0172	—	0.0370	2.23	—	—	—	—	—
0685	9/29/1999	ENER	—	0.182	—	0.0500	3.00	—	—	—	—	—
0686	9/29/1999	ENER	—	0.123	—	0.0130	20.1	—	—	—	—	—
0687	9/29/1999	ENER	—	0.219	—	0.0660	7.23	—	—	—	—	—
0689	7/27/1999	ENER	—	0.0034	—	< 0.0050	—	—	—	—	—	—
0692	7/26/1999	ENER	—	0.0278	—	0.0160	—	—	—	—	—	—
0846	5/20/1999	ENER	# 7.93	# 0.0523	# < 0.0300	# 0.0690	# 11.9	# 0.500	—	—	—	—
	5/20/1999	ENER	7.88	0.0531	< 0.0300	0.0700	11.7	0.600	—	—	—	—
	11/9/1999	ENER	—	0.0530	—	0.0600	—	—	—	—	—	—
0848	7/26/1999	ENER	—	0.0404	—	0.170	—	—	—	—	—	—
0851	9/1/1999	ENER	—	0.102	—	0.140	—	—	—	—	—	—
0855	9/1/1999	ENER	—	0.0273	—	0.283	—	—	—	—	—	—
0861	8/31/1999	ENER	—	0.340	—	0.245	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-6. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
0862	9/1/1999	ENER	—	0.417	—	0.0800	—	—	—	—	—	—
0863	9/1/1999	ENER	—	1.29	—	0.0820	—	—	—	—	—	—
0864	9/1/1999	ENER	—	0.943	—	0.143	—	—	—	—	—	—
0865	8/31/1999	ENER	—	0.460	—	0.306	—	—	—	—	—	—
0866	8/31/1999	ENER	—	2.12	—	0.101	—	—	—	—	—	—
	8/31/1999	ENER	—	# 2.13	—	# 0.103	—	—	—	—	—	—
0867	8/31/1999	ENER	—	0.0400	—	0.284	—	—	—	—	—	—
0868	9/1/1999	ENER	—	0.0800	—	0.0880	—	—	—	—	—	—
0869	9/2/1999	ENER	—	0.408	—	0.190	—	—	—	—	—	—
0876	9/1/1999	ENER	—	0.628	—	0.295	—	—	—	—	—	—
0881	9/28/1999	ENER	—	0.426	—	0.0710	4.04	—	—	—	—	—
0882	9/28/1999	ENER	—	0.0200	—	< 0.0050	< 0.100	—	—	—	—	—
0883	9/28/1999	ENER	—	0.0409	—	0.0800	—	—	—	—	—	—
0884	9/30/1999	ENER	—	0.576	—	0.213	14.6	—	—	—	—	—
0885	9/28/1999	ENER	—	0.0965	—	0.0320	1.42	—	—	—	—	—
	9/28/1999	ENER	—	# 0.0960	—	# 0.0300	# 1.60	—	—	—	—	—
0886	9/28/1999	ENER	—	0.693	—	0.112	7.52	—	—	—	—	—
0888	9/28/1999	ENER	—	0.659	—	0.134	7.84	—	—	—	—	—
0890	3/10/1999	ENER	7.78	0.250	< 0.0300	0.0630	3.13	0.700	< 1.000	—	< 0.0100	< 0.200
	3/11/1999	ENER	8.04	0.254	< 0.0300	0.0550	< 0.100	0.200	< 1.000	—	< 0.0100	< 0.200
	9/28/1999	ENER	—	0.274	—	0.0550	—	—	—	—	—	—
	9/28/1999	ENER	—	—	—	—	3.27	—	—	—	—	—
0893	9/28/1999	ENER	—	0.111	—	0.0290	1.67	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.4-6. WATER QUALITY ANALYSES FOR THE REGIONAL ALLUVIAL WELLS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
0895	9/29/1999	ENER	—	0.0256	—	0.0060	0.580	—	—	—	—	—
0896	9/29/1999	ENER	—	0.0349	—	0.107	5.39	—	—	—	—	—
0899	9/28/1999	ENER	—	0.0897	—	0.0560	6.40	—	—	—	—	—
	9/28/1999	ENER	—	# 0.0820	—	# 0.0540	# 6.17	—	—	—	—	—
0905	5/18/1999	ENER	8.06	0.0191	< 0.0300	0.0270	4.02	< 0.200	—	—	—	—
0909	5/18/1999	ENER	—	0.0257	—	0.318	—	—	—	—	—	—
0910	5/18/1999	ENER	7.97	0.0125	< 0.0300	0.0200	4.72	< 0.200	—	—	—	—
0914	5/19/1999	ENER	7.30	0.0013	< 0.0300	0.0140	< 0.100	< 0.200	—	—	—	—
0916	5/20/1999	ENER	8.25	0.0152	< 0.0300	0.0160	4.39	0.200	—	—	—	—
0917	5/19/1999	ENER	7.93	0.0261	< 0.0300	0.0290	5.25	< 0.200	—	—	—	—
0920	5/19/1999	ENER	7.63	0.186	< 0.0300	0.478	14.5	0.300	—	—	—	—
0921	5/19/1999	ENER	7.67	0.236	< 0.0300	0.631	15.2	< 0.200	—	—	—	—
0922	5/19/1999	ENER	9.22	0.0042	0.0400	0.0080	< 0.100	< 0.200	—	—	—	—
0935	9/30/1999	ENER	—	0.296	—	0.0770	7.14	—	—	—	—	—
0942	5/18/1999	ENER	7.96	0.0744	< 0.0300	0.0130	2.49	0.200	—	—	—	—
0947	7/26/1999	ENER	—	0.0821	—	0.0090	—	—	—	—	—	—
0996	9/29/1999	ENER	—	0.0754	—	0.0530	3.08	—	—	—	—	—
	9/29/1999	ENER	—	# 0.0670	—	# 0.0540	# 3.12	—	—	—	—	—
0999	11/10/1999	ENER	7.78	0.0122	0.0400	< 0.0050	3.07	< 0.200	—	—	—	—

Signifies Quality Control Sample

TABLE B.5-1. WATER QUALITY ANALYSES FOR THE CHINLE AQUIFERS.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
0446	11/16/1999	ENER	223	65.4	6.40	287	536	< 1.000	213	715	1900	* 2541	0.981
0493	3/3/1999	ENER	10.4	2.10	2.60	473	274	4.20	99.5	752	1510	* 2869	0.924
	10/13/1999	ENER	—	—	—	—	—	—	—	710	1450	* 2817	—
	10/13/1999	ENER	—	—	—	—	—	—	—	# 696	# 1440	* 2817	—
0494	3/3/1999	ENER	242	65.2	6.70	279	559	< 1.000	213	756	1940	* 3323	0.961
	10/13/1999	ENER	—	—	—	—	—	—	—	722	1900	* 3298	—
0853	6/3/1999	ENER	—	—	—	—	—	—	—	692	1420	* 2148	—
0859	6/3/1999	ENER	—	—	—	—	—	—	—	923	2070	* 3281	—
0909	5/18/1999	ENER	—	—	—	—	—	—	—	856	1660	* 2699	—
0929	3/23/1999	ENER	8.10	1.10	1.70	545	383	< 1.000	99.3	811	1680	* 3052	0.933
	9/14/1999	ENER	7.60	< 1.000	1.000	594	387	4.56	97.3	769	1700	* 3026	1.04
0930	7/27/1999	ENER	—	—	—	—	—	—	—	628	1470	* 2759	—
0931	4/20/1999	ENER	2.90	< 1.000	< 1.000	439	128	10.0	211	554	1340	* 2815	0.972
	9/14/1999	ENER	3.60	< 1.000	3.90	454	253	< 1.000	220	535	1340	* 2698	0.934
0934	4/20/1999	ENER	6.60	1.000	1.000	543	380	12.1	117	705	1660	* 3113	0.978
	9/14/1999	ENER	6.50	< 1.000	< 1.000	563	395	< 1.000	82.5	730	1590	* 2901	1.04
0945	4/19/1999	ENER	12.2	1.60	1.50	675	379	< 1.000	444	697	2120	* 3844	0.906
	9/14/1999	ENER	12.4	1.50	1.70	714	383	< 1.000	433	768	2080	* 4025	0.923
0960	7/22/1999	ENER	—	—	—	—	—	—	—	809	1690	—	—
CE1	6/23/1999	ENER	218	55.8	7.10	409	385	< 1.000	140	1160	2350	* 3390	0.971
CE2	6/23/1999	ENER	208	54.6	5.00	382	532	< 1.000	203	903	2210	* 3042	0.950
	8/13/1999	ENER	—	—	—	—	—	—	—	915	2190	—	—
	8/24/1999	ENER	—	—	—	—	—	—	—	930	2200	* 2942	—
	9/17/1999	ENER	—	—	—	—	—	—	—	907	2160	* 2730	—
	10/19/1999	ENER	—	—	—	—	—	—	—	979	2170	* 2887	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.5-1. WATER QUALITY ANALYSES FOR THE CHINLE AQUIFERS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
CE2	11/2/1999	ENER	—	—	—	—	—	—	—	943	2170	* 2975	—
	12/8/1999	ENER	—	—	—	—	—	—	—	975	2190	* 3065	—
CW2	2/4/1999	ENER	16.2	2.10	1.60	466	256	< 1.000	41.8	850	1750	* 3267	0.922
	5/20/1999	ENER	—	—	—	—	—	—	—	665	1290	* 2434	—
	8/17/1999	ENER	8.70	1.10	1.50	360	293	< 1.000	40.9	561	1240	* 2255	0.918
	11/4/1999	ENER	—	—	—	—	—	—	—	810	1510	* 1962	—
CW3	2/3/1999	ENER	14.5	2.90	1.40	463	350	< 1.000	46.7	757	1520	* 2795	0.925
	5/11/1999	ENER	—	—	—	—	—	—	—	757	1450	* 2791	—
	8/17/1999	ENER	13.9	2.70	1.80	448	351	< 1.000	45.3	716	1540	* 2777	0.931
	11/9/1999	ENER	—	—	—	—	—	—	—	771	1500	* 2220	—
CW4R	2/3/1999	ENER	152	40.4	3.40	231	365	< 1.000	87.8	700	1550	* 2782	0.912
	5/11/1999	ENER	—	—	—	—	—	—	—	772	1700	* 2952	—
	6/8/1999	ENER	—	—	—	—	—	—	—	777	1810	* 2503	—
	8/17/1999	ENER	189	53.2	5.30	273	510	< 1.000	168	708	1890	* 3210	0.926
	9/17/1999	ENER	—	—	—	—	—	—	—	755	1830	* 2449	—
	10/19/1999	ENER	—	—	—	—	—	—	—	762	1810	* 2466	—
	11/2/1999	ENER	—	—	—	—	—	—	—	751	1820	* 2549	—
CW9	9/15/1999	ENER	28.7	6.20	1.80	271	123	< 1.000	73.3	485	976	* 1896	0.969
CW15	6/3/1999	ENER	—	—	—	—	—	—	—	835	1600	* 2983	—
CW17	6/1/1999	ENER	—	—	—	—	—	—	—	1880	1620	* 4599	—
CW18	7/22/1999	ENER	—	—	—	—	—	—	—	697	1920	* 3806	—
CW25	6/1/1999	ENER	—	—	—	—	—	—	—	679	1880	* 3091	—
CW26	6/3/1999	ENER	—	—	—	—	—	—	—	754	1610	* 2754	—
	6/3/1999	ENER	—	—	—	—	—	—	—	# 733	# 1660	*# 2754	—
CW27	6/3/1999	ENER	—	—	—	—	—	—	—	842	1790	* 2841	—

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.5-1. WATER QUALITY ANALYSES FOR THE CHINLE AQUIFERS. (cont.)

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/c	Ion_B (ratio)
CW28	7/26/1999	ENER	—	—	—	—	—	—	—	# 473	# 1330	* # 2644	—
	7/26/1999	ENER	—	—	—	—	—	—	—	458	1380	* 2656	—
CW29	6/3/1999	ENER	—	—	—	—	—	—	—	526	1140	* 2044	—
CW30	6/3/1999	ENER	—	—	—	—	—	—	—	830	1620	* 3600	—
CW31	6/2/1999	ENER	—	—	—	—	—	—	—	878	3140	* 2612	—
CW32	6/2/1999	ENER	—	—	—	—	—	—	—	1800	7130	* 6699	—
CW33	6/2/1999	ENER	—	—	—	—	—	—	—	2070	3980	* 5560	—
CW35	6/1/1999	ENER	—	—	—	—	—	—	—	626	6900	* 3494	—
CW37	6/2/1999	ENER	—	—	—	—	—	—	—	1140	2010	* 3274	—
CW40	3/2/1999	ENER	11.5	1.70	2.00	665	706	< 1.000	186	715	1990	* 3736	0.936
	9/14/1999	ENER	11.6	1.50	1.40	685	716	< 1.000	191	739	1930	* 3740	0.938
	9/14/1999	ENER	# 11.8	# 1.50	# 1.20	# 716	# 716	# < 1.000	# 185	# 684	# 1980	* # 3740	# 1.02
CW42	9/2/1999	ENER	—	—	—	—	—	—	—	957	1990	* 3372	—
CW43	9/29/1999	ENER	—	—	—	—	—	—	—	433	1040	* 1934	—
CW44	10/28/1999	ENER	—	—	—	—	—	—	—	826	1970	—	—
CW45	9/29/1999	ENER	—	—	—	—	—	—	—	778	1860	* 3192	—
	9/29/1999	ENER	—	—	—	—	—	—	—	# 826	# 1860	* # 3192	—
CW46	9/29/1999	ENER	—	—	—	—	—	—	—	877	1870	* 2998	—
WCW	5/11/1999	ACZ	# 229	# 2.00	# 1.50	# 464	# 262	# 10.00	# 49.0	# 740	# 1420	* # 2815	# 1.49
	5/11/1999	ENER	10.9	2.20	1.60	460	312	5.70	50.7	691	1430	* 2815	0.984

Signifies Quality Control Sample
* Signifies Specific Conductivity from HMC

TABLE B.5-2. WATER QUALITY ANALYSES FOR THE CHINLE AQUIFERS.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
0446	11/16/1999	ENER	7.69	0.0744	< 0.0300	0.0050	2.04	0.300	—	—	—	—
0493	3/3/1999	ENER	8.43	0.0562	< 0.0300	0.231	1.77	< 0.200	—	—	—	—
	10/13/1999	ENER	—	0.0552	—	0.261	—	—	—	—	—	—
	10/13/1999	ENER	—	# 0.0560	—	# 0.240	—	—	—	—	—	—
0494	3/3/1999	ENER	7.83	0.374	0.0900	0.0350	1.77	< 0.200	—	—	—	—
	10/13/1999	ENER	—	0.283	—	0.0260	—	—	—	—	—	—
0853	6/3/1999	ENER	—	0.0263	—	0.212	—	—	—	—	—	—
0859	6/3/1999	ENER	—	0.182	—	0.110	—	—	—	—	—	—
0909	5/18/1999	ENER	—	0.0257	—	0.318	—	—	—	—	—	—
0929	3/23/1999	ENER	8.29	0.0213	< 0.0300	0.0220	0.110	0.800	—	—	—	—
	9/14/1999	ENER	8.32	0.345	< 0.0300	0.0360	< 0.100	0.600	—	—	—	—
0930	7/27/1999	ENER	—	0.0064	—	< 0.0050	—	—	—	—	—	—
0931	4/20/1999	ENER	9.14	0.0007	0.0300	< 0.0050	< 0.100	< 0.200	—	—	—	—
	9/14/1999	ENER	8.27	0.0031	0.0300	0.0140	< 0.100	< 0.200	—	—	—	—
0934	4/20/1999	ENER	8.75	0.0096	< 0.0300	0.0080	< 0.100	< 0.200	—	—	—	—
	9/14/1999	ENER	8.20	0.0287	< 0.0300	0.0250	0.150	< 0.200	—	—	—	—
0945	4/19/1999	ENER	8.25	0.0281	0.0500	0.0070	< 0.100	< 0.200	—	—	—	—
	9/14/1999	ENER	8.22	0.0320	0.0500	0.0160	0.190	< 0.200	—	—	—	—
0960	7/22/1999	ENER	—	0.0246	—	0.303	—	—	—	—	—	—
CE1	6/23/1999	ENER	7.89	2.06	1.08	0.278	0.540	0.800	—	—	—	—
CE2	6/23/1999	ENER	7.82	1.97	0.520	0.206	2.15	< 0.200	—	—	—	—
	8/13/1999	ENER	—	1.41	0.380	0.222	—	—	—	—	—	—
	8/24/1999	ENER	—	1.18	—	0.207	—	—	—	—	—	—
	9/17/1999	ENER	—	1.29	—	0.200	—	—	—	—	—	—
	10/19/1999	ENER	—	1.45	—	0.215	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.5-2. WATER QUALITY ANALYSES FOR THE CHINLE AQUIFERS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
CE2	11/2/1999	ENER	—	1.14	—	0.205	—	—	—	—	—	—
	12/8/1999	ENER	—	1.11	—	0.224	—	—	—	—	—	—
CW2	2/4/1999	ENER	8.14	0.0129	< 0.0300	0.0050	< 0.100	< 0.200	< 1.000	—	< 0.0100	< 0.200
	5/20/1999	ENER	—	0.0130	—	0.0080	—	—	—	—	—	—
	8/17/1999	ENER	8.24	0.0145	< 0.0300	0.0080	< 0.100	< 0.200	< 1.000	—	< 0.0100	< 0.200
	11/4/1999	ENER	—	0.0100	—	0.0070	—	—	—	—	—	—
CW3	2/3/1999	ENER	7.97	0.0328	< 0.0300	< 0.0050	< 0.100	< 0.200	< 1.000	—	< 0.0100	< 0.200
	5/11/1999	ENER	—	0.0307	—	< 0.0050	—	—	—	—	—	—
	8/17/1999	ENER	8.24	0.0320	< 0.0300	< 0.0050	< 0.100	< 0.200	< 1.000	—	< 0.0100	< 0.200
	11/9/1999	ENER	—	0.0250	—	< 0.0050	—	—	—	—	—	—
CW4R	2/3/1999	ENER	7.84	0.425	0.140	0.0240	< 0.100	< 0.200	< 1.000	—	< 0.0100	< 0.200
	5/11/1999	ENER	—	0.440	—	0.0900	—	—	—	—	—	—
	6/8/1999	ENER	—	0.519	—	0.134	—	—	—	—	—	—
	8/17/1999	ENER	7.85	0.550	0.130	0.0830	1.31	< 0.200	< 1.000	—	< 0.0100	< 0.200
	9/17/1999	ENER	—	0.491	—	0.0750	—	—	—	—	—	—
	10/19/1999	ENER	—	0.473	—	0.0640	—	—	—	—	—	—
	11/2/1999	ENER	—	0.395	—	0.0610	—	—	—	—	—	—
CW9	9/15/1999	ENER	7.48	0.0111	0.0800	< 0.0050	< 0.100	0.500	—	—	—	—
CW15	6/3/1999	ENER	—	0.0330	—	0.0140	—	—	—	—	—	—
CW17	6/1/1999	ENER	—	0.141	—	0.0730	—	—	—	—	—	—
CW18	7/22/1999	ENER	—	0.0647	< 0.0300	0.0360	—	—	—	—	—	—
CW25	6/1/1999	ENER	—	0.191	0.140	0.0280	—	—	—	—	—	—
CW26	6/3/1999	ENER	—	0.0219	—	0.364	—	—	—	—	—	—
	6/3/1999	ENER	—	# 0.0217	—	# 0.360	—	—	—	—	—	—
CW27	6/3/1999	ENER	—	0.0200	—	0.436	—	—	—	—	—	—

Signifies Quality Control Sample

TABLE B.5-2. WATER QUALITY ANALYSES FOR THE CHINLE AQUIFERS. (cont.)

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
CW28	7/26/1999	ENER	—	# 0.0647	—	# 0.0320	—	—	—	—	—	—
	7/26/1999	ENER	—	0.0610	—	0.0320	—	—	—	—	—	—
CW29	6/3/1999	ENER	—	0.0123	—	0.0200	—	—	—	—	—	—
CW30	6/3/1999	ENER	—	0.499	—	0.274	—	—	—	—	—	—
CW31	6/2/1999	ENER	—	0.0140	—	< 0.0050	—	—	—	—	—	—
CW32	6/2/1999	ENER	—	0.0010	—	0.0180	—	—	—	—	—	—
CW33	6/2/1999	ENER	—	0.0040	—	0.0140	—	—	—	—	—	—
CW35	6/1/1999	ENER	—	0.185	—	0.520	—	—	—	—	—	—
CW37	6/2/1999	ENER	—	0.0270	—	0.0860	—	—	—	—	—	—
CW40	3/2/1999	ENER	8.22	0.0332	< 0.0300	0.0280	1.63	0.300	—	—	—	—
	9/14/1999	ENER	8.20	0.0310	< 0.0300	0.0370	1.30	< 0.200	—	—	—	—
	9/14/1999	ENER	# 8.22	# 0.0280	# < 0.0300	# 0.0310	# 1.48	# < 0.200	—	—	—	—
CW42	9/2/1999	ENER	—	1.01	—	0.220	—	—	—	—	—	—
CW43	9/29/1999	ENER	—	0.0315	—	0.0130	—	—	—	—	—	—
CW44	10/28/1999	ENER	—	1.02	—	0.0960	—	—	—	—	—	—
CW45	9/29/1999	ENER	—	1.88	—	0.176	—	—	—	—	—	—
	9/29/1999	ENER	—	# 1.95	—	# 0.167	—	—	—	—	—	—
CW46	9/29/1999	ENER	—	0.0598	—	0.287	—	—	—	—	—	—
WCW	5/11/1999	ACZ	# 8.30	# 0.0181	# < 0.0100	# 0.0030	# 0.100	# 0.0600	—	—	—	—
	5/11/1999	ENER	8.51	0.0230	< 0.0300	0.0140	< 0.100	< 0.200	—	—	—	—

Signifies Quality Control Sample

TABLE B.6-1. WATER QUALITY ANALYSES FOR THE SAN ANDRES AQUIFER.

Ca THROUGH ION_BAL

Sample Point Name	Date	Lab	Ca (mg/l)	Mg (mg/l)	K (mg/l)	Na (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	Cl (mg/l)	SO4 (mg/l)	TDS (mg/l)	Cond(calc.) (micromhos/	Ion_B (ratio)
#1 Deepwell	2/3/1999	ENER	---	---	---	---	---	---	---	811	1820	* 3081	---
	5/11/1999	ENER	---	---	---	---	---	---	---	752	2070	* 31.0	---
	8/17/1999	ENER	---	---	---	---	---	---	---	722	1980	* 2969	---
	11/2/1999	ENER	164	65.9	12.6	267	469	< 1.000	224	763	2040	* 3160	0.854
#2 Deepwell	2/3/1999	ENER	---	---	---	---	---	---	---	732	1780	* 2619	---
	5/11/1999	ENER	---	---	---	---	---	---	---	693	1810	* 2806	---
	8/17/1999	ENER	---	---	---	---	---	---	---	704	1790	---	---
	11/2/1999	ENER	161	64.4	11.7	226	384	< 1.000	197	684	1800	* 3055	0.898
0928	8/26/1999	ENER	---	---	---	---	---	---	---	836	1640	---	---
	8/26/1999	ENER	---	---	---	---	---	---	---	# 848	# 1660	---	---
0943	9/2/1999	ENER	---	---	---	---	---	---	---	1170	2070	* 3919	---
	9/2/1999	ENER	---	---	---	---	---	---	---	# 1100	# 2020	*# 3919	---
0951	8/19/1999	ENER	---	---	---	---	---	---	---	333	842	---	---
	9/17/1999	ENER	---	---	---	---	---	---	---	313	855	* 1185	---
	10/19/1999	ENER	---	---	---	---	---	---	---	335	838	* 1221	---
	11/2/1999	ENER	---	---	---	---	---	---	---	335	857	* 1222	---
	12/10/1999	ENER	---	---	---	---	---	---	---	350	861	* 1200	---

Signifies Quality Control Sample

* Signifies Specific Conductivity from HMC

TABLE B.6-2 WATER QUALITY ANALYSES FOR THE SAN ANDRES AQUIFER.

pH THROUGH Th-230

Sample Point Name	Date	Lab	pH (std. units)	Unat (mg/l)	Mo (mg/l)	Se (mg/l)	NO3 (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Cr (mg/l)	V (mg/l)	Th230 (pCi/l)
#1 Deepwell	11/2/1999	ENER	8.25	0.0087	< 0.0300	< 0.0100	0.380	< 0.200	---	< 0.0500	---	---
#2 Deepwell	11/2/1999	ENER	8.16	0.0106	< 0.0300	< 0.0100	2.05	< 0.200	---	< 0.0500	---	---
0928	8/26/1999	ENER	---	0.0945	---	0.0300	---	---	---	---	---	---
	8/26/1999	ENER	---	# 0.0896	---	# 0.0290	---	---	---	---	---	---
0943	9/2/1999	ENER	---	0.0024	---	0.0060	---	---	---	---	---	---
	9/2/1999	ENER	---	# < 0.0003	---	# 0.0070	---	---	---	---	---	---
0951	8/19/1999	ENER	---	0.0250	---	0.0030	---	---	---	---	---	---
	9/17/1999	ENER	---	0.0256	---	0.0050	---	---	---	---	---	---
	10/19/1999	ENER	---	0.0248	---	< 0.0050	---	---	---	---	---	---
	11/2/1999	ENER	---	0.0230	---	0.0030	---	---	---	---	---	---
	12/10/1999	ENER	---	0.0204	---	0.0060	---	---	---	---	---	---

Signifies Quality Control Sample