Groundwater Report

Spring 2012

San Joaquin County
Flood Control and Water Conservation District

San Joaquin County
Flood Control and Water Conservation District

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Copies of the Spring 2012 Groundwater Report may be purchased for $30 and 36"X48" Contour Maps for $25 each from:

San Joaquin County Department of Public Works
P.O. Box 1810
Stockton, California 95201
Make checks payable to: San Joaquin County Department of Public Works

Acknowledgements

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This Groundwater Report is a product of the commitment that the San Joaquin County Flood Control and Water Conservation District together with many other interested agencies made to sustain and enhance the groundwater resources of the Eastern San Joaquin Basin. The District extends thanks to…

California Water Service

City of Lathrop

City of Lodi

City of Manteca

City of Stockton Municipal Utilities Department

East Bay Municipal Utility District

Libby-Owens-Ford, Lathrop

Morada Area Association

Newark Sierra Paperboard Company

Pacific Gas and Electric Company

San Joaquin County Department of Public Works

State of California, Department of Water Resources, Central District

Stockton East Water District

United States Bureau of Reclamation

United States Geological Survey

Most of all, we would like to thank all of the individual well owners, who give us access to their wells and in some cases some of their time.

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San Joaquin County Flood Control and Water Conservation District
Spring 2012 Groundwater Report

Introduction

Since the fall of 1971, the San Joaquin County Flood Control and Water Conservation District has monitored groundwater levels and groundwater quality and has published the data in the Semi-annual Groundwater Report. This report utilizes data from federal, state and local government agencies as well as non-governmental sources.

Water level data is collected on a semi-annual basis, during the months of April and October, to observe groundwater levels before and after peak groundwater pumping conditions. Over 550 wells, of which 270 are measured by County staff, are included in the Monitoring Program. The exact number of wells varies from year to year, depending on circumstances such as destructions, new well construction, well accessibility, and well condition.

Purpose

The purpose of the Semi-annual Groundwater Report is to provide information on groundwater conditions in San Joaquin County and to publish the results of the groundwater monitoring program which consists of the following:

1. Monitor groundwater quality along a North-South line from the north of the City of Stockton to the City of Lathrop.
2. Measure groundwater levels on a County-wide basis.

In general, water quality data is more meaningful after peak production which usually occurs during the summer months. Therefore, groundwater quality data will be published only in the fall report. The groundwater depth and elevation data will be published both in the spring and fall.

Saline intrusion from the west is a continuing concern affecting the quality of groundwater in the Basin. Groundwater quality analysis is completed on an annual basis, from approximately 18 municipal and domestic supply wells (exact number varies from year to year) located in proximity to the saline front.

Procedure

Groundwater quality sampling is conducted on an annual basis during the month of October, along with the Fall Measurements. Approximately 18 wells are currently sampled. The exact number of wells may vary depending on well access and other conditions. Replicate groundwater samples (two) are analyzed for Chloride (Cl^-) using the Thomas Scientific 675 pH/ISE meter in conjunction with the ISE Cl^- Combination Electrode, and analyzed for Electrical Conductivity (EC) using DiST 3 by Hanna Instruments. Total Dissolved Solids (TDS) are calculated using the formula: TDS = 0.64 X EC (umhos). Data is then stored in a database for accessibility and reporting requirements.

Water Level Measurements are performed with the use of either a steel chain or sounder. Data is then immediately recorded in field books and then stored in a database for accessibility and reporting requirements.

Section 1– Annual Rainfall Distribution

Summary of Annual Rainfall Distribution

The groundwater basin in San Joaquin County responds to changes in annual precipitation. There are four total annual precipitation graphs and four monthly precipitation graphs included in this report (Figures 1-1 through 1-8). These graphs reflect three areas located across San Joaquin County and one area in Calaveras County. The station located at the Stockton Fire Station No. 4 as well as the station located in Tracy, has pertinent beginning in 1940. Lodi station has data from 1949 to 2012. The Camp Pardee station has data available from 1949 to 2012.

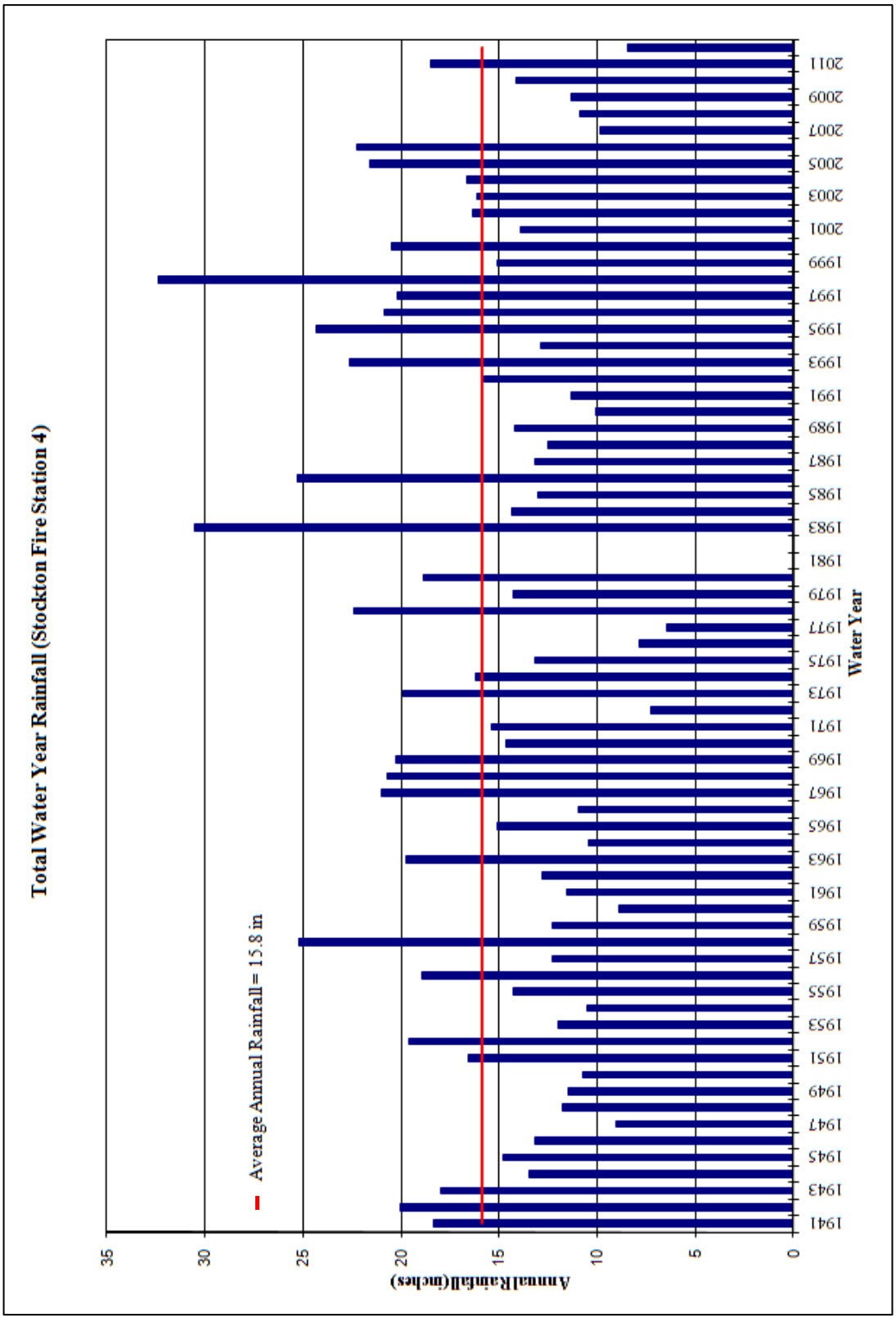

Figure 1-1 Total Annual Rainfall (Stockton Fire Station 4)

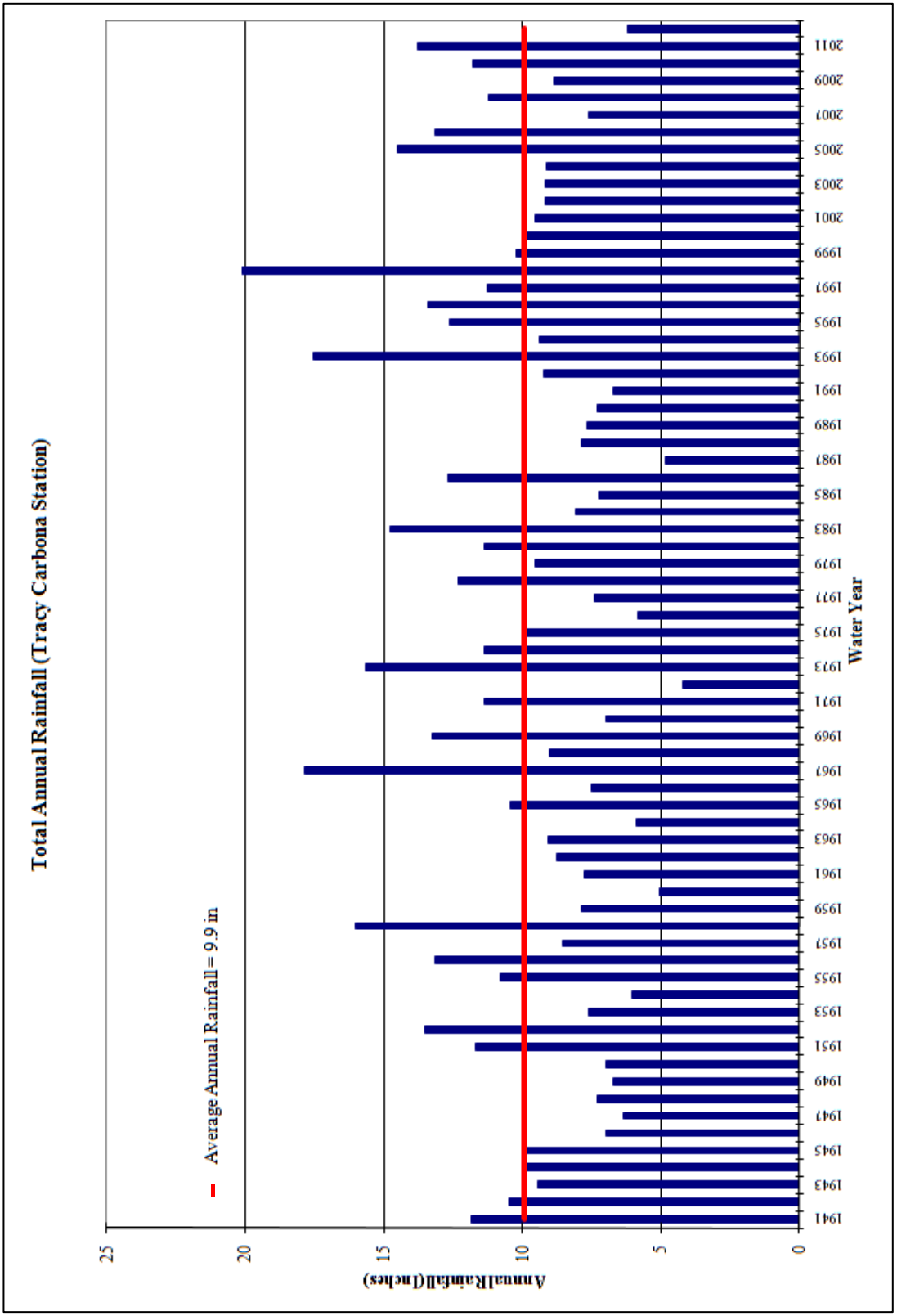

Figure 1-2 Total Annual Rainfall (Tracy Carbona Station)

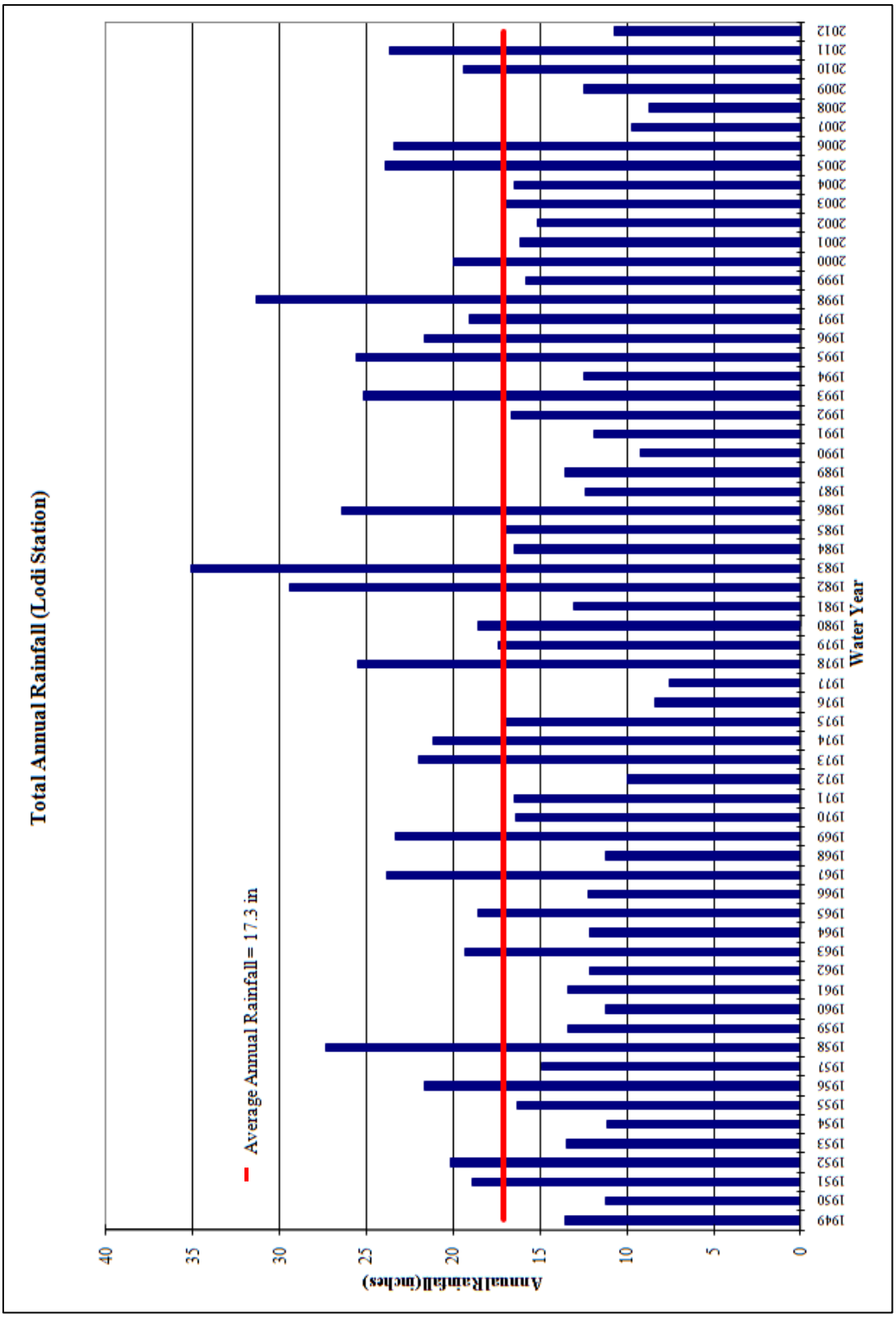

Figure 1-3 Total Annual Rainfall (Lodi Station)

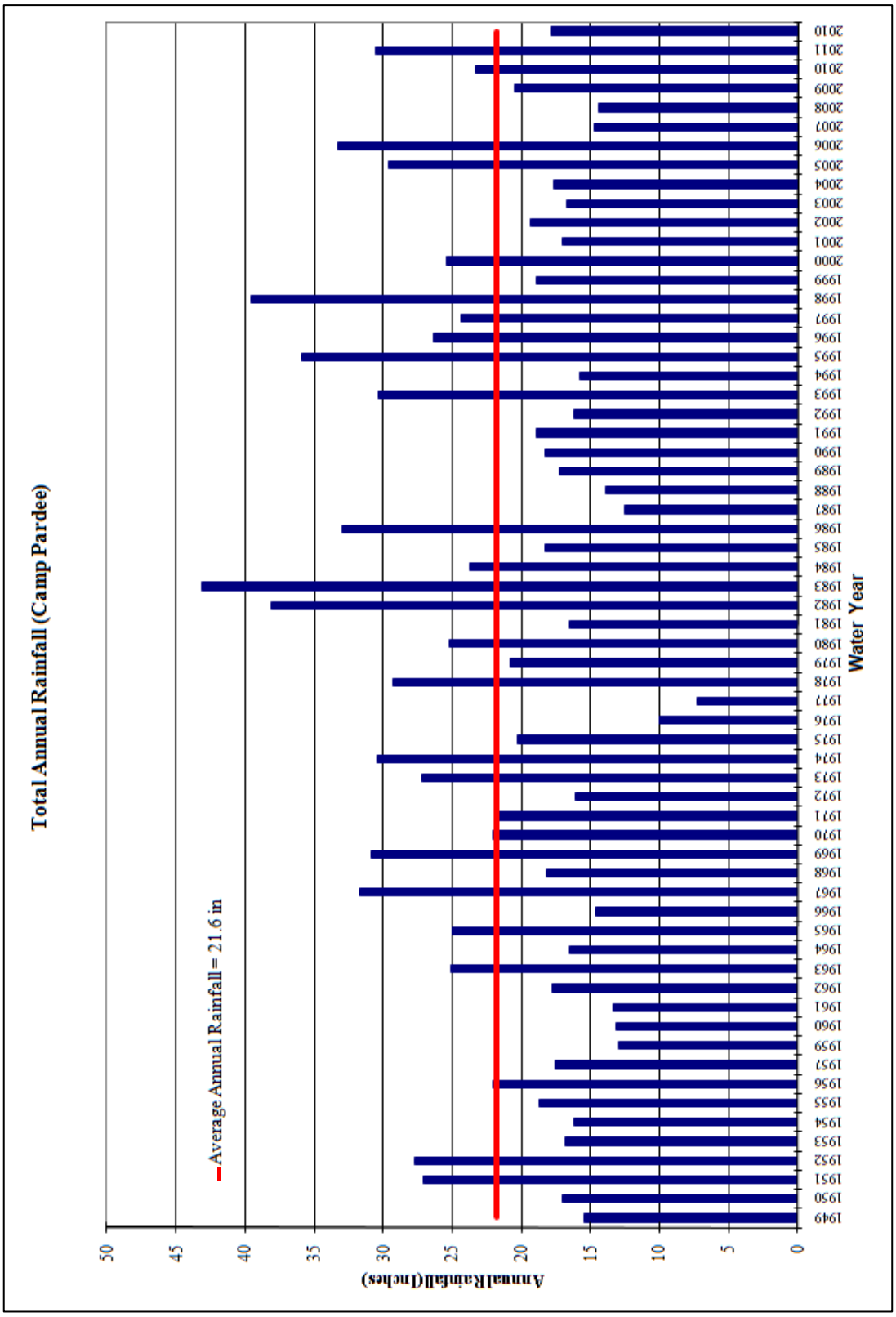

Figure 1-4 Total Annual Rainfall (Camp Pardee)

Monthly Rainfall Distribution

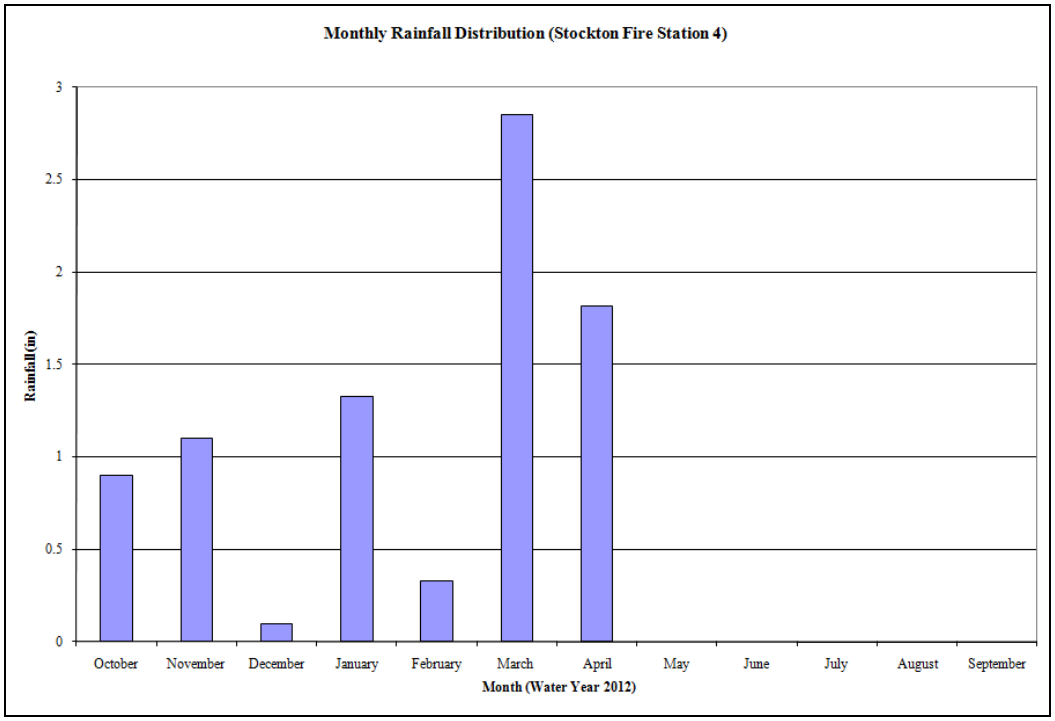

Figure 1-5 Monthly Rainfall Distribution (Stockton Fire Station 4)

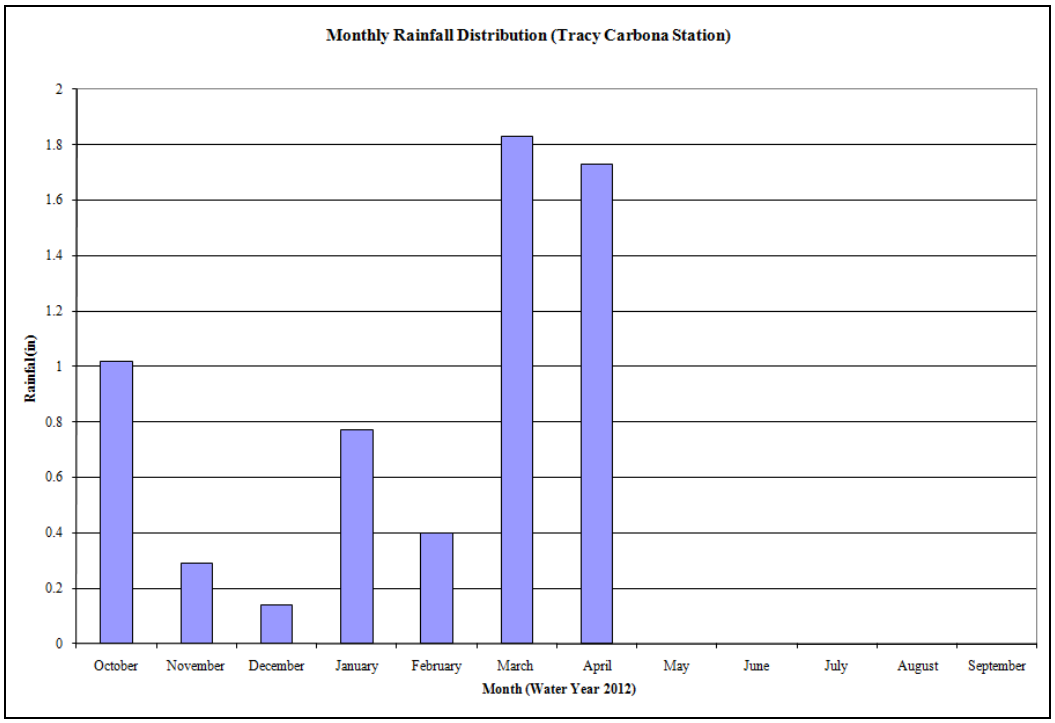

Figure 1-6 Monthly Rainfall Distribution (Tracy Carbona Station)

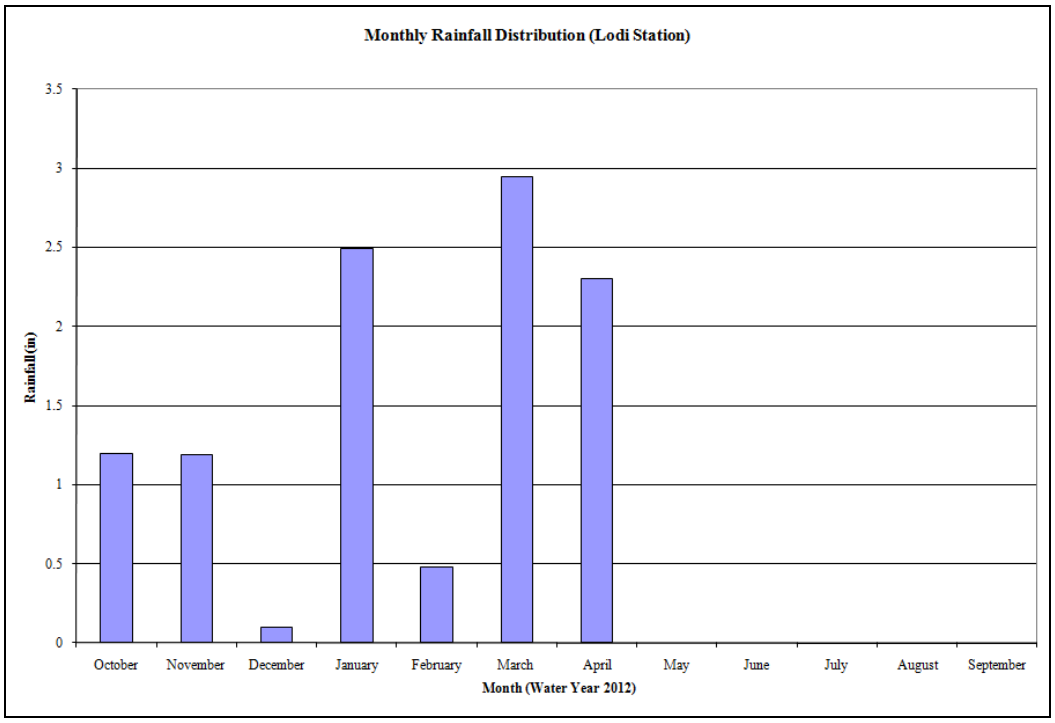

Figure 1-7 Monthly Rainfall Distribution (Lodi Station)

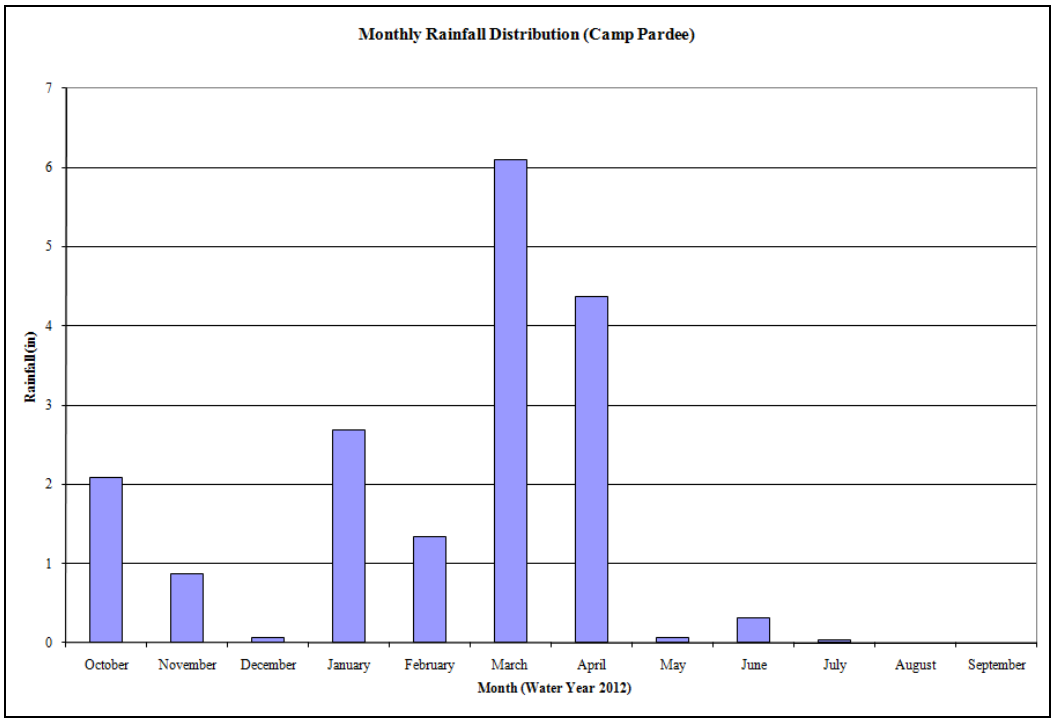

Figure 1-8 Monthly Rainfall Distribution (Camp Pardee)

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Section 2 – Groundwater Elevation Monitoring

Summary of Groundwater Elevations

The information contained in the Spring 2012 Groundwater Report is summarized as follows

GROUNDWATER LEVELS

Central San Joaquin Water Conservation District (CSJWCD) – Seventy-one wells are monitored in CSJWCD. Fifty-seven wells were able to be compared. Twenty-nine show decreases in groundwater levels. Twenty-seven wells show an increase in groundwater levels. One well's groundwater level remained constant.

North San Joaquin Water Conservation District (NSJWCD) – One-hundred fifty-two wells are monitored in NSJWCD. One-hundred thirty-three wells were able to be compared. Eighty-four wells decreased in groundwater levels. Forty-four wells increased in groundwater levels. Five wells experienced no change in groundwater level.

Oakdale Irrigation District (OID) – Five wells are monitored in the OID area. Two wells were able to be compared. One well shows a decrease in groundwater levels. One well increased in groundwater levels.

Stockton East Water District (SEWD) – One-hundred four wells are monitored in SEWD. Eighty-one wells were able to be compared. Thirty-eight wells decreased in groundwater levels. Forty-four wells show increases in groundwater levels. One well experienced no change in groundwater level.

South San Joaquin Irrigation District (SSJID) – Fifty-three wells are monitored in the SSJID area. Forty-five wells were able to be compared. Thirteen wells show decreases in groundwater levels. Thirty wells show increases in groundwater levels. Two wells experienced no change in groundwater level.

Woodbridge Irrigation District (WID) – Forty-three wells are monitored in the WID. Thirty-nine wells were able to be compared. Eighteen wells decreased in groundwater levels. Twenty wells show increases in groundwater levels. No change was observed in one well.

Southwest County Areas – Seventeen wells are monitored across the Southwest are of the County. Fifteen wells were able to be compared. Eight wells descended in groundwater levels. Seven wells increased in groundwater levels.

Table 2-1 Comparison of CSJWCD Water Levels

StateWellID	Spring 2012	Spring 2011	Change
01N07E11L001	-31.5	-41.0	9.5
01N07E11M001	-31.3	-35.5	4.2
01N07E13J002	-44.5	-41.8	-2.7
01N07E14J002	-34.6	-36.1	1.5
01N07E14L001	-36.6	-38.8	2.2
01N07E15M002	-26.1	-30.1	4.0
01N07E24A001	-35.6	-40.6	5.0
01N07E24R001	-38.5	-38.5	0.0
01N07E26H003	-30.2	-31.3	1.1
01N07E32A001	18.7	*	*
01N08E02B001	-33.3	-35.0	1.7
01N08E02J001	-31.0	-32.4	1.4
01N08E07M001	-45.1	-44.9	-0.2
01N08E09L001	-44.6	*	*
01N08E11L001	-38.0	*	*
01N08E13J001	-20.6	-17.7	-2.9
01N08E15J001	-31.7	-34.4	2.7
01N08E16G001	-33.9	-34.5	0.6
01N08E16H002	-32.3	-32.6	0.3
01N08E16P001	-31.6	-33.3	1.8
01N08E18A002	-35.0	-35.5	0.5
01N08E22J001	-30.7	-29.7	-1.0
01N08E26A002	-19.2	-17.3	-1.9
01N08E27R002	-24.2	-23.6	-0.6
01N08E28K001	-25.7	-34.9	9.2
01N08E29M002	*	-30.5	*
01N08E35F001	-18.4	-18.0	-0.4
01N08E35R002	-22.0	-18.5	-3.5
01N08E36F001	-13.1	-12.4	-0.7
01N09E01C001	15.4	15.6	-0.2
01N09E05J001	-8.6	-8.2	-0.4
01N09E06N001	-26.5	*	*
01N09E13D001	18.6	19.0	-0.4
01N09E15B002	6.4	*	*
01N09E17D001	-16.2	-15.0	-1.2
01N09E17M001	-15.9	-15.5	-0.4
01N09E19C001	-20.0	-16.0	-4.0
01N09E29R001	-0.5	2.5	-3.0
01N09E30C005	-8.7	-7.9	-0.8
01N09E31J001	-1.2	-1.5	0.3
01S07E01J001	-19.8	-21.1	1.3

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
01S07E02J001	-22.7	-23.5	0.8
01S07E12H001	*	*	*
01S08E04R001	-19.5	-19.8	0.3
01S08E05A001	*	-22.4	*
01S08E05R001	-22.2	-22.8	0.6
01S08E06D001	-21.8	-22.6	0.8
01S08E09Q001	-11.9	-11.4	-0.5
01S08E11F001	-10.0	-9.1	-0.9
01S08E12B001	-4.2	*	*
01S08E14B001	-3.7	-0.2	-3.5
01S08E15A001	-9.6	*	*
01S08E15P001	-3.6	-3.7	0.1
01S08E20B001	-3.2	-4.2	1.0
01S08E23A001	*	3.0	*
01S08E27A001	9.7	0.0	9.7
01S09E05H002	8.0	9.0	-1.0
01S09E07A001	2.7	3.8	-1.1
01S09E07N001	6.7	8.1	-1.4
01S09E09R001	20.3	20.8	-0.5
01S09E18R003	16.4	18.4	-2.0
01S09E19Q002	20.0	20.5	-0.5
01N09E21J001	*	*	*
01N09E22G002	4.4	4.6	-0.2
01N09E26A001	18.6	16.9	1.7
01N09E35K001	6.3	*	*
01N09E36P001	*	0.0	*
01S07E10A001	-7.9	-11.1	3.2
01S07E13J001	-3.4	-4.0	0.6
01S09E02R001	35.3	35.7	-0.4
01S09E11J002	40.9	41.0	-0.1

Total Number of Wells	**71**
Total Number of Comparable Wells	**57**
Number of Wells with Decrease	**29**
Number of Wells with Increase	**27**
Number of Wells with No Change	**1**
Range of Change	**-4.0 to 9.6**
Average Change	**0.52**

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

Table 2-2 Comparison of NSJWCD Water Levels

StateWellID	Spring 2012	Spring 2011	Change
03N06E04C001	1.2	-1.5	2.7
03N06E24M003	-26.8	-29.7	2.9
03N06E25C001	-30.8	-31.0	0.2
03N06E25H015	-35.1	-33.5	-1.6
03N06E36N001	*	-32.8	*
03N07E02G003	-18.2	-19.7	1.5
03N07E03R001	-22.8	-17.8	-5.0
03N07E05D005	18.7	18.7	0.0
03N07E08B012	-16.2	-15.9	-0.3
03N07E08E002	-20.6	-20.8	0.2
03N07E09C001	-20.2	-19.4	-0.8
03N07E10L004	-28.5	-27.1	-1.4
03N07E12P001	-33.1	-35.6	2.5
03N07E15C004	-29.5	-29.4	-0.1
03N07E17A006	-27.6	-26.0	-1.6
03N07E17D004	-23.7	-24.6	0.9
03N07E17K002	-31.7	-30.4	-1.3
03N07E18D012	-25.0	-26.3	1.3
03N07E18M002	-31.1	-27.2	-3.9
03N07E19J004	-38.0	-38.0	0.0
03N07E20C012	-33.5	-32.8	-0.7
03N07E21L003	-35.0	-33.6	-1.4
03N07E22C011	-37.5	-36.6	-0.9
03N07E23C002	-35.5	*	*
03N07E23K011	-42.0	-41.5	-0.5
03N07E25G001	*	*	*
03N07E26G012	-44.3	-42.6	-1.7
03N07E32Q012	-41.3	-40.0	-1.3
03N07E33G002	-43.2	-42.8	-0.4
03N08E04Q001	-33.6	-33.0	-0.6
03N08E05K011	-33.4	-33.0	-0.4
03N08E07D002	-32.3	-33.9	1.6
03N08E07J001	*	*	*
03N08E17B001	-39.9	-38.4	-1.5
03N08E17Q011	-42.6	-41.2	-1.4
03N08E19C001	*	-40.8	*
03N08E19M003	-43.0	-41.2	-1.8
03N08E22A001	-41.6	-40.8	-0.8
03N09E05D001	*	*	*

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
04N06E02R011	-18.1	-21.6	3.5
04N06E03A012	-5.3	2.3	-7.6
04N06E05Q001	-1.7	2.7	-4.4
04N06E06N012	2.4	0.9	1.5
04N06E12C004	-27.6	-29.1	1.5
04N06E12N002	*	-23.1	*
04N06E15B002	-6.9	-10.7	3.8
04N06E16A011	-2.9	-5.8	2.9
04N06E16C001	*	2.3	*
04N06E16K011	4.6	5.4	-0.8
04N06E23D004	-12.7	-12.7	0.0
04N06E23K00	-5.0	-2.0	-3.0
04N06E24F001	-13.5	-19.0	5.5
04N06E25B001	-7.6	-9.2	1.6
04N06E25R001	0.0	-1.0	1.0
04N06E27B012	*	8.0	*
04N06E27D002	16.6	18.6	-2.0
04N06E27Q012	14.9	16.7	-1.8
04N07E01B011	-32.0	-31.8	-0.2
04N07E02R001	-31.8	-31.8	0.0
04N07E04B012	-35.8	*	*
04N07E04Q012	-35.0	-34.8	-0.2
04N07E07A001	*	*	*
04N07E07H011	-32.0	*	*
04N07E11D012	-32.7	-32.8	0.1
04N07E12E001	-32.0	-32.1	0.1
04N07E12G012	-29.5	-30.4	0.9
04N07E14P011	-26.2	-26.0	-0.2
04N07E15B012	*	-30.5	*
04N07E16D001	-31.7	-30.2	-1.5
04N07E17J013	-24.9	-25.6	0.7
04N07E17N001	-26.1	-26.8	0.7
04N07E19K001	-16.6	-17.6	1.0
04N07E19R011	-15.2	-16.3	1.1
04N07E20H003	-29.0	-22.0	-7.0
04N07E21F001	-21.3	-21.3	0.0
04N07E23J012	-22.3	-21.7	-0.6
04N07E24N002	-21.9	-21.0	-0.9
04N07E25G015	-19.1	-18.7	-0.4
04N07E27C002	-19.0	-16.0	-3.0
04N07E28J002	-15.2	-12.7	-2.5

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
04N07E33H001	26.5	28.1	-1.6
04N07E34K011	-5.9	-5.4	-0.5
04N07E35C002	*	-8.2	*
04N07E35E013	-10.4	-8.7	-1.7
04N07E36L001	-20.7	-19.4	-1.3
04N08E01K001	50.2	49.9	0.3
04N08E02E011	-6.7	-6.0	-0.7
04N08E04P014	-23.9	-23.1	-0.8
04N08E06C002	-31.3	-31.5	0.2
04N08E06N002	-33.1	-35.2	2.1
04N08E11M012	-3.3	-3.8	0.5
04N08E12A011	77.0	77.9	-0.9
04N08E12B011	51.8	51.5	0.3
04N08E12N001	29.3	28.2	1.1
04N08E14B011	6.9	2.2	4.7
04N08E14K001	-1.1	-1.3	0.2
04N08E15D011	-14.1	-13.8	-0.3
04N08E15J011	-10.0	-9.6	-0.4
04N08E17A001	-22.3	-21.3	-1.0
04N08E17J001	-23.3	-23.1	-0.2
04N08E21M001	-27.2	-26.9	-0.3
04N08E22C015	-15.5	-14.9	-0.6
04N08E26A012	-8.4	-6.6	-1.8
04N08E27J011	-16.5	-14.8	-1.7
04N08E28E001	-24.5	-25.9	1.4
04N08E32N001	-30.7	-30.4	-0.3
04N08E34Q011	-28.6	-28.1	-0.5
04N08E36P001	*	-32.6	*
04N09E05E099	159.7	161.2	-1.5
04N09E06H098	180.7	181.0	-0.3
04N09E06H099	209.0	207.4	1.6
04N09E06J098	208.0	206.8	1.2
04N09E06J099	166.3	167.4	-1.1
04N09E06K097	107.5	110.0	-2.5
04N09E06K099	121.5	121.9	-0.4
04N09E06L011	113.1	113.4	-0.3
04N09E06Q098	133.1	132.9	0.2
04N09E07B098	157.1	156.5	0.6
04N09E07B099	152.9	154.1	-1.2
04N09E07D012	84.4	85.0	-0.6
04N09E07E011	90.5	90.3	0.2

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
04N09E08N096	173.0	175.4	-2.4
04N09E08N097	169.4	171.5	-2.1
04N09E08N098	168.0	168.7	-0.7
04N09E08N099	171.2	172.3	-1.1
04N09E08P099	176.7	178.9	-2.2
04N09E08R099	179.5	181.2	-1.7
04N09E16D099	183.5	186.5	-3.0
04N09E16Q002	*	166.2	*
04N09E17A099	175.1	175.7	-0.6
04N09E17E001	141.4	141.8	-0.4
04N09E17E099	157.5	158.3	-0.8
04N09E17F099	164.7	163.4	1.3
04N09E17G099	164.7	165.4	-0.7
04N09E18A011	154.3	154.8	-0.5
04N09E18D002	55.0	55.7	-0.7
04N09E18N011	27.2	28.0	-0.8
04N09E20M001	116.0	*	*
04N09E21A001	170.6	170.2	0.4
04N09E28C002	185.9	185.4	0.5
04N09E31M001	-16.1	*	*
05N06E36R001	-27.1	-31.9	4.8
05N07E31J001	*	*	*
05N07E31Q001	*	*	*
05N07E34G001	-41.2	-40.3	-0.9
05N07E34Q001	-39.0	-38.3	-0.7
05N08E24Q011	53.3	54.7	-1.4
05N08E25P011	50.5	51.4	-0.9
05N08E32R011	-29.0	-28.4	-0.6
05N08E35K012	2.8	3.7	-0.9
05N09E30C011	159.5	159.7	-0.2
05N09E30M011	144.8	144.2	0.6
05N09E31L011	127.9	127.3	0.6

Total Number of Wells	**152**
Total Number of Comparable Wells	**133**
Number of Wells with Decrease	**84**
Number of Wells with Increase	**44**
Number of Wells with No Change	**5**
Range of Change	**-7.5 to 5.5**
Average Change	**0.4**

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

Table 2-3 Comparison of OID Water Levels

StateWellID	Spring 2012	Spring 2011	Change
01S09E14K001	43.9	44.3	-0.4
01S09E21J002	41.8	41.7	0.1
01S09E23N001	51.9	*	*
01S09E24R001	*	*	*
01S09E28M002	*	41.2	*

Total Number of Wells	**5**
Total Number of Comparable Wells	**2**
Number of Wells with Decrease	**1**
Number of Wells with Increase	**1**
Number of Wells with No Change	**0**
Range of Change	**-0.40 to 0.10**
Average Change	**-0.15**

Table 2-4 Comparison of SEWD Water Levels

StateWellID	Spring 2012	Spring 2011	Change
01N06E05M004	*	*	*
01N06E23J001	-7.6	-8.0	0.4
01N06E27R002	-5.6	-4.7	-0.9
01N07E01A002	*	*	*
01N07E01M002	-45.2	-52.0	6.8
01N07E02G001	-38.1	-44.2	6.1
01N07E03L001	*	*	*
01N07E03M001	*	12.5	*
01N07E04R001	-11.8	-14.0	2.2
01N07E08B001	*	-30.0	*
01N07E09E004	-21.5	-25.0	3.5
01N07E09H001	-23.0	-27.7	4.7
01N07E09Q003	-35.5	-30.0	-5.5
01N07E10D001	-18.6	-21.0	2.4
01N07E10G001	-28.5	-31.7	3.2
01N07E19G001	-16.5	*	*
01N07E20G001	-19.8	-22.5	2.7
01N07E21R001	-25.0	-27.9	2.9
01N08E03P001	-39.0	-39.3	0.3
01N08E04E001	-44.0	-43.5	-0.5
01N09E05B001	-14.5	-15.9	1.4
01S06E01C002	-4.4	-4.1	-0.3

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
01S06E02D004	*	-5.8	*
01S06E02G002	-3.3	-4.0	0.7
01S06E04J001	-1.5	1.1	-2.6
01S06E10G001	-14.0	*	*
01S06E11E001	-1.4	-2.5	1.1
01S06E12P001	-0.6	-0.6	0.0
01S06E14F001	-0.6	1.4	-2.0
01S07E05A001	*	0.0	*
01S07E06M002	-2.7	-3.3	0.6
01S07E08J002	-0.8	-3.0	2.2
02N06E11L001	*	0.0	*
02N06E13R002	*	-36.0	*
02N06E24F001	-28.5	-32.5	4.0
02N06E24J002	-29.7	-32.7	3.0
02N06E32G001	-8.6	-10.9	2.3
02N07E03D001	-50.5	-50.9	0.4
02N07E08D001	-49.2	-43.7	-5.5
02N07E08K003	-50.9	-49.3	-1.6
02N07E08R002	-44.3	-46.7	2.4
02N07E10F002	*	*	*
02N07E11F001	-46.5	-44.0	-2.5
02N07E11R002	-49.0	-47.0	-2.0
02N07E12A003	-41.9	-42.3	0.5
02N07E15C001	-52.8	-53.8	1.0
02N07E16F002	-51.2	-49.7	-1.5
02N07E16L001	-50.3	-48.9	-1.4
02N07E20N002	-38.0	-39.0	1.0
02N07E21A002	-52.4	-53.0	0.6
02N07E21K002	-46.0	-46.5	0.5
02N07E21N001	*	-40.0	*
02N07E23B001	-53.9	-48.0	-5.9
02N07E24B001	-49.7	-48.7	-1.0
02N07E24J001	*	0.0	*
02N07E24Q001	-58.8	-51.0	-7.8
02N07E26H003	*	-62.0	*
02N07E26N001	-46.4	-48.7	2.3
02N07E28K002	-45.6	-39.0	-6.6
02N07E28N004	-37.4	-42.6	5.2
02N07E28P001	-42.0	-45.0	3.0
02N07E29B001	-39.3	-40.5	1.2

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
02N07E29M002	-33.0	-35.2	2.2
02N07E30E001	-29.7	-31.8	2.1
02N07E30H001	-33.7	-35.5	1.8
02N07E31M001	-19.8	-23.8	4.0
02N07E32J002	-33.5	-28.0	-5.5
02N07E32M002	-25.5	-21.0	-4.5
02N07E32R001	-25.1	-18.1	-7.0
02N07E33L001	-28.0	-32.0	4.0
02N07E34R001	-25.6	-30.2	4.6
02N07E35L001	*	*	*
02N07E36H001	-51.5	-52.3	0.8
02N07E36P002	-44.9	-48.0	3.1
02N08E03G002	-37.1	-35.2	-1.9
02N08E04C001	-46.9	-43.9	-3.0
02N08E05C001	-49.0	-48.5	-0.5
02N08E08N001	-49.5	-46.0	-3.5
02N08E09G002	-50.0	*	*
02N08E10H002	-42.6	-41.5	-1.1
02N08E12C002	*	-29.4	*
02N08E13K001	*	-32.6	*
02N08E14C001	-40.5	-41.0	0.5
02N08E15M002	-44.3	-43.5	-0.8
02N08E16D001	-48.6	-44.6	-4.0
02N08E18C001	-63.7	-63.2	-0.5
02N08E20F001	-50.4	-49.2	-1.2
02N08E24J001	*	-42.1	*
02N08E24P001	-34.2	-33.9	-0.3
02N08E28H002	-49.1	-45.9	-3.2
02N08E32L002	-46.8	-45.7	-1.1
02N08E33E001	-43.6	-44.6	1.0
02N09E03A001	60.8	61.6	-0.8
02N09E04H001	*	52.6	*
02N09E05H001	-4.8	-3.9	-0.9
02N09E05N001	-15.9	-17.5	1.6
02N09E08N001	-23.4	*	*
02N09E09D001	*	-4.8	*
02N09E18Q001	-35.9	-35.9	0.0
02N09E22D001	9.6	*	*
02N09E28N001	-9.0	-8.2	-0.8
02N09E32D001	*	0.0	*
03N07E35C002	-48.8	-48.3	-0.5

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
03N07E35L001	-51.5	-44.0	-7.5
03N07E36J001	-45.3	-39.8	-5.5
03N08E27R001	-41.8	-39.9	-1.9
03N08E32P001	-42.4	-43.0	0.6
03N09E25R001	85.7	83.0	2.7
03N09E36G001	*	*	*

Total Number of Wells	**104**
Total Number of Comparable Wells	**81**
Number of Wells with Decrease	**38**
Number of Wells with Increase	**44**
Number of Wells with No Change	**1**
Range of Change	**-7.8 to 6.8**
Average Change	**-0.1**

Table 2-5 Comparison of SSJID Water Levels

StateWellID	Spring 2012	Spring 2011	Change
01S06E15F001	0.0	2.4	-2.4
01S06E23C003	4.7	4.9	-0.2
01S06E26K001	*	1.4	*
01S07E09Q001	4.2	1.6	2.6
01S07E14M001	2.4	2.5	-0.1
01S07E14P003	1.7	1.2	0.5
01S07E15F002	1.8	0.6	1.2
01S07E17N002	*	6.2	*
01S07E18L001	6.4	3.2	3.2
01S07E21G001	15.6	13.8	1.8
01S07E25E001	12.5	12.0	0.5
01S07E25R001	16.9	14.5	2.4
01S07E26G001	11.5	11.6	-0.1
01S07E27K001	11.8	12.3	-0.5
01S07E28D001	12.9	*	*
01S07E30R001	13.1	10.5	2.6
01S07E33H001	20.4	18.5	1.9
01S07E36D001	20.4	17.8	2.5
01S08E19R001	6.8	6.5	0.3
01S08E25Q001	25.0	*	*
01S08E29K001	10.0	10.0	0.0
01S08E30C002	8.4	8.3	0.1
01S08E34Q001	22.4	20.8	1.6

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
01S08E35R002	30.9	28.4	2.5
01S09E29M002	33.2	33.0	0.2
01S09E33J002	56.3	53.5	2.8
01S09E33P001	52.9	52.0	0.9
01S09E34A001	57.7	59.5	-1.8
02S07E07D002	9.9	10.5	-0.6
02S07E07Q001	*	24.5	*
02S07E08R001	29.0	27.0	2.0
02S07E10B002	*	25.9	*
02S07E11N002	34.6	34.5	0.1
02S07E12G001	*	29.8	*
02S07E12R001	27.4	26.4	1.0
02S07E12R002	31.5	28.8	2.7
02S07E19H001	20.0	21.0	-1.0
02S07E20R002	25.5	23.0	2.5
02S07E22N002	*	25.9	*
02S07E24R002	37.9	33.2	4.7
02S07E26B001	30.9	30.6	0.3
02S08E04M001	24.0	24.5	-0.5
02S08E06J001	22.9	23.1	-0.2
02S08E07R001	34.5	34.6	-0.1
02S08E08A001	27.6	28.3	-0.7
02S08E08E001	26.7	26.7	0.0
02S08E09J001	37.2	35.0	2.2
02S08E12D001	41.4	39.3	2.1
02S08E14E001	48.8	47.5	1.3
02S09E03K001	61.2	60.5	0.7
02S09E07D001	42.4	40.4	2.0
02S09E11K001	75.8	*	*
02S09E12R001	70.0	70.2	-0.3
02S09E19B002	59.3	55.3	4.0

Total Number of Wells	**53**
Total Number of Comparable Wells	**45**
Number of Wells with Decrease	**13**
Number of Wells with Increase	**30**
Number of Wells with No Change	**2**
Range of Change	**-2.39 to 4.65**
Average Change	**1.0**

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

Table 2-6 Comparison of WID Water Levels

StateWellID	Spring 2012	Spring 2011	Change
02N06E03A003	-32.1	-29.8	-2.3
02N06E06C002	-13.9	-12.8	-1.1
03N05E13L001	-9.5	-8.0	-1.5
03N05E14C001	-4.8	-1.6	-3.2
03N05E24L001	-4.1	-4.1	0.0
03N06E05C002	0.2	-2.9	3.1
03N06E05N003	-9.0	*	*
03N06E07D013	-5.8	-6.2	0.4
03N06E07H003	-12.3	-11.9	-0.4
03N06E10D001	-11.4	-9.8	-1.6
03N06E15C004	-21.8	-19.3	-2.5
03N06E17A004	-21.7	-21.7	0.0
03N06E18M003	-13.1	-12.6	-0.5
03N06E20D002	-16.5	-17.0	0.5
03N06E26P002	-28.1	-28.9	0.8
03N06E27E001	-28.2	-28.7	0.5
03N06E29C001	-22.8	-24.3	1.5
03N06E30R001	-20.4	-21.0	0.6
03N06E32R001	-20.5	-22.0	1.5
03N06E35P002	-26.8	-29.8	3.0
04N05E03D003	-2.1	-0.7	-1.4
04N05E09D001	*	-2.8	*
04N05E10K001	-4.2	2.4	-6.6
04N05E13C012	1.8	2.1	-0.3
04N05E13H001	0.5	-0.5	1.0
04N05E13R004	0.1	-0.3	0.4
04N05E14B002	0.6	1.6	-1.0
04N05E14P001	0.0	3.0	-3.0
04N05E22H001	-5.0	-1.1	-3.9
04N05E24J004	3.2	2.7	0.5
04N05E26F001	0.4	3.4	-3.0
04N05E36H003	0.9	0.4	0.5
04N06E17G004	4.0	0.0	4.0
04N06E18R012	3.8	1.4	2.4
04N06E19F001	6.6	6.8	-0.2
04N06E19R012	4.1	2.1	2.0
04N06E21D001	11.8	11.7	0.1
04N06E29A001	*	*	*
04N06E29N002	0.3	-0.7	1.0

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2012	Spring 2011	Change
04N06E30E001	5.2	3.2	2.0
04N06E34J002	19.8	19.2	0.6
05N05E28L003	-2.1	2.8	-4.9
05N05E32M001	*	*	*

Total Number of Wells	**43**
Total Number of Comparable Wells	**39**
Number of Wells with Decrease	**18**
Number of Wells with Increase	**20**
Number of Wells with No Change	**1**
Range of Change	**6.6 to 4.0**
Average Change	**-0.3**

Table 2-7 Comparison of South West County Area Water Levels

StateWellID	Spring 2012	Spring 2011	Change
01S05E31R002	1.1	1.0	0.1
02S04E15R001	54.5	54.6	-0.1
02S05E08B001	-0.7	0.0	-0.7
02S05E13N001	14.3	12.3	2.0
02S06E10K001	3.5	7.0	-3.5
02S06E11J001	16.8	*	*
02S06E25J001	15.8	16.3	-0.5
02S06E26B001	7.8	10.4	-2.6
02S06E27E001	11.2	10.0	1.2
02S06E31N001	55.5	53.5	2.0
02S07E31N001	15.5	16.0	-0.5
03S05E04H001	57.5	55.0	2.5
03S06E03F002	16.0	17.5	-1.5
03S06E23C001	*	26.8	*
03S06E27N001	72.6	73.0	-0.4
03S07E05J001	24.6	22.2	2.4
03S07E06Q001	18.9	16.5	2.4

Total Number of Wells	**17**
Total Number of Comparable Wells	**15**
Number of Wells with Decrease	**8**
Number of Wells with Increase	**7**
Number of Wells with No Change	**0**
Range of Change	**-3.5 to 2.5**
Average Change	**0.2**

*Measurement wasn't able to be completed due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

HYDROGRAPHS

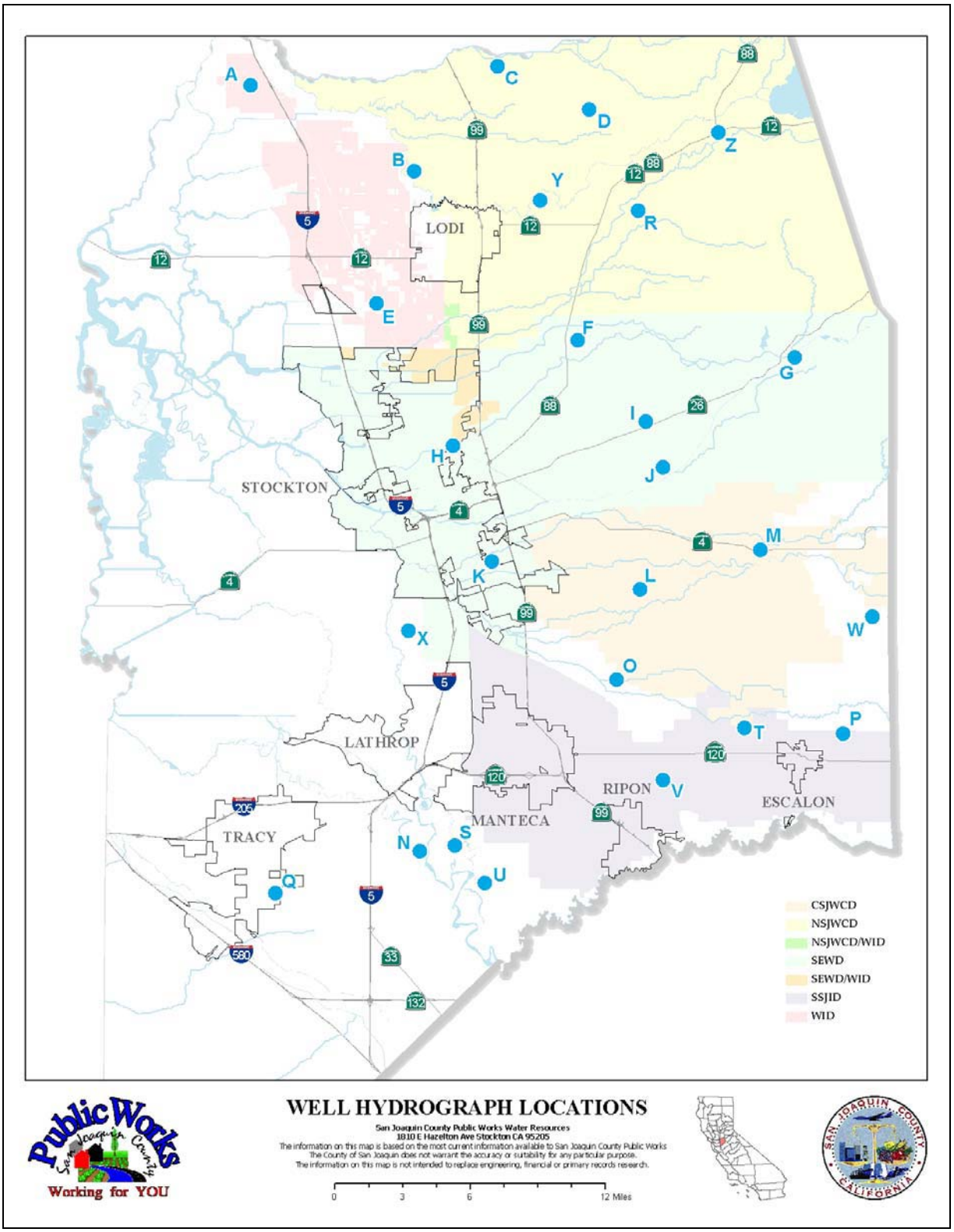

Figure 2-1 Well Hydrograph Locations

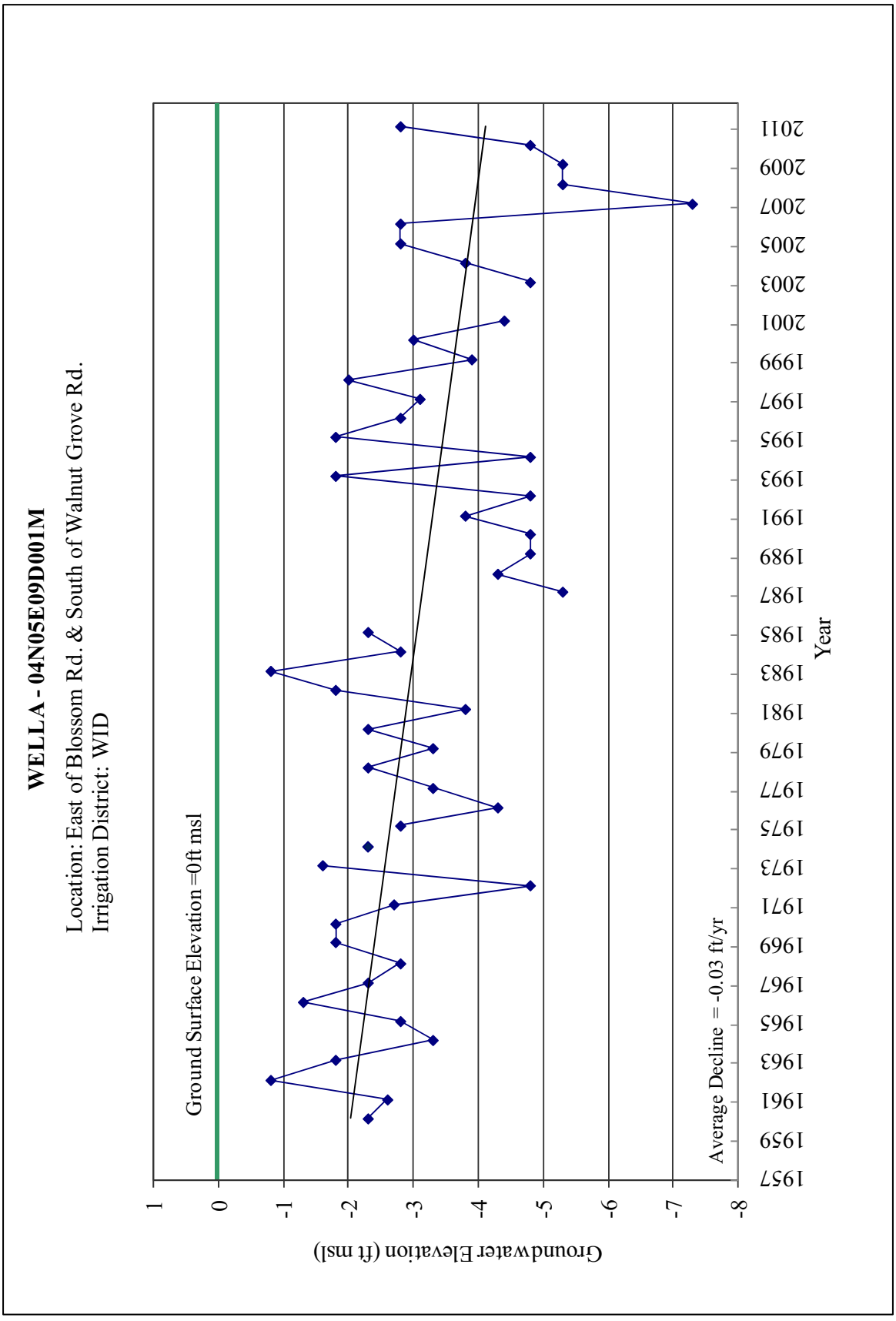

Figure 2-2 Spring Hydrograph Well A

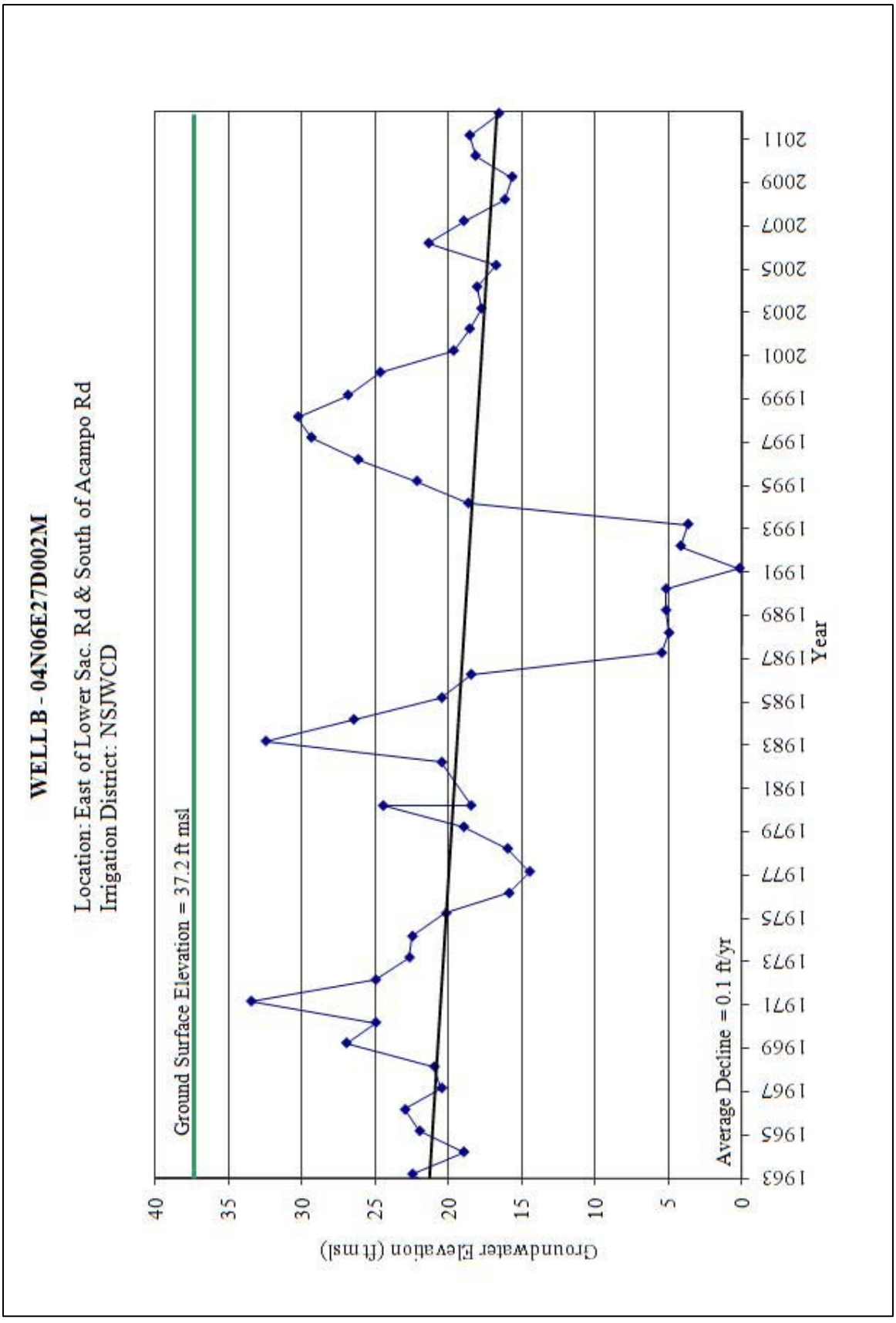

Figure 2-3 Spring Hydrograph Well B

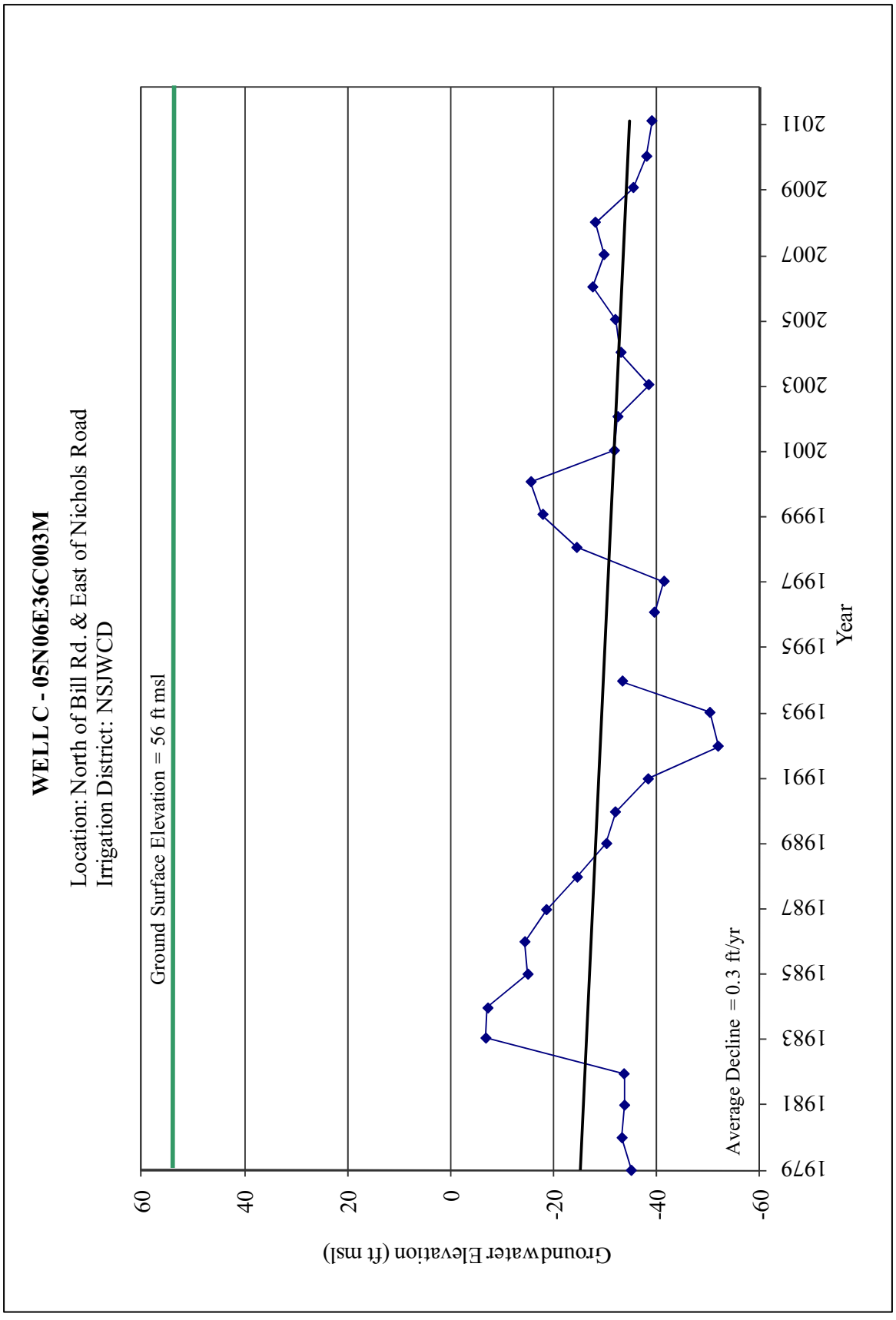

Figure 2-4 Spring Hydrograph Well C

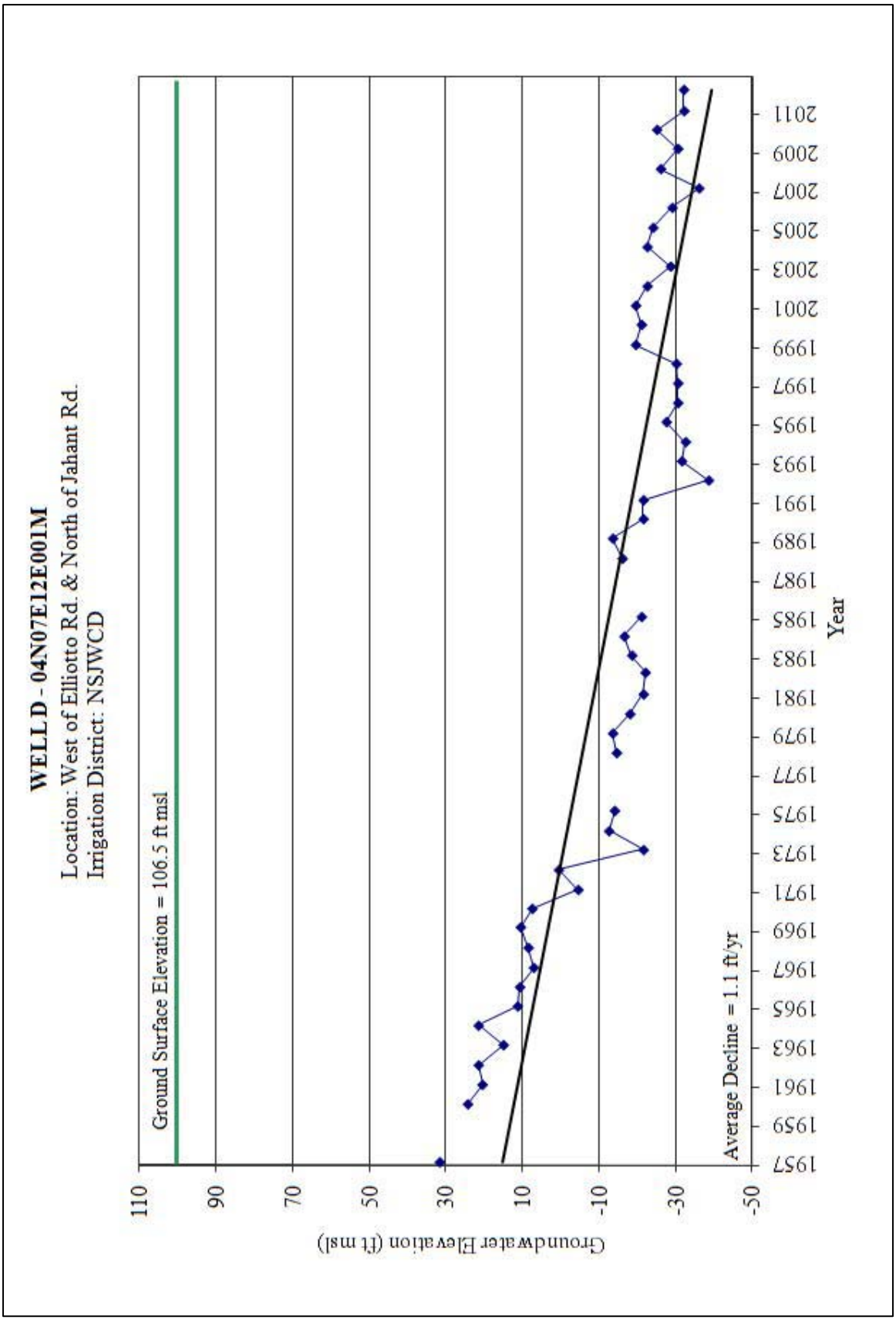

Figure 2-5 Spring Hydrograph Well D

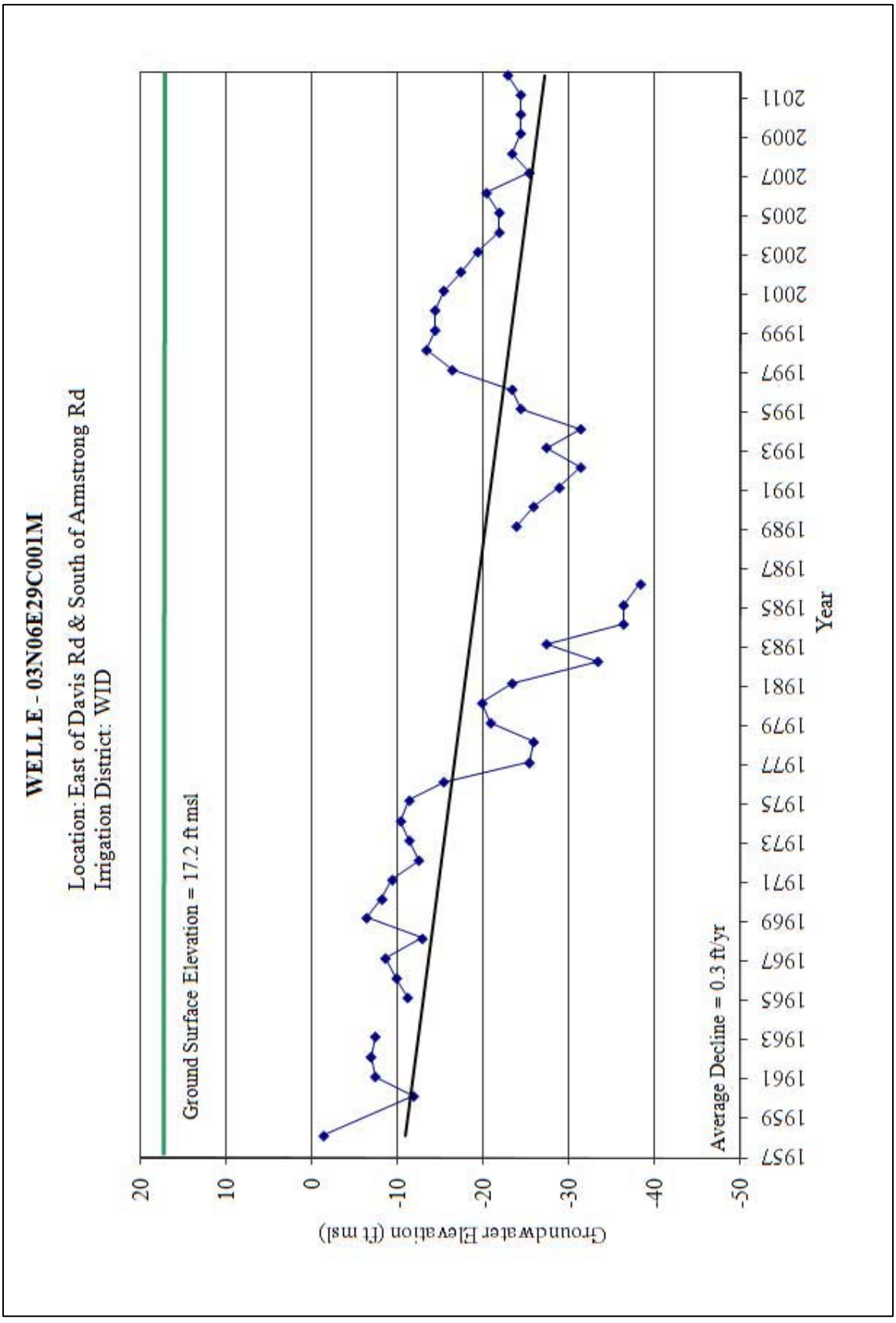

Figure 2-6 Spring Hydrograph Well E

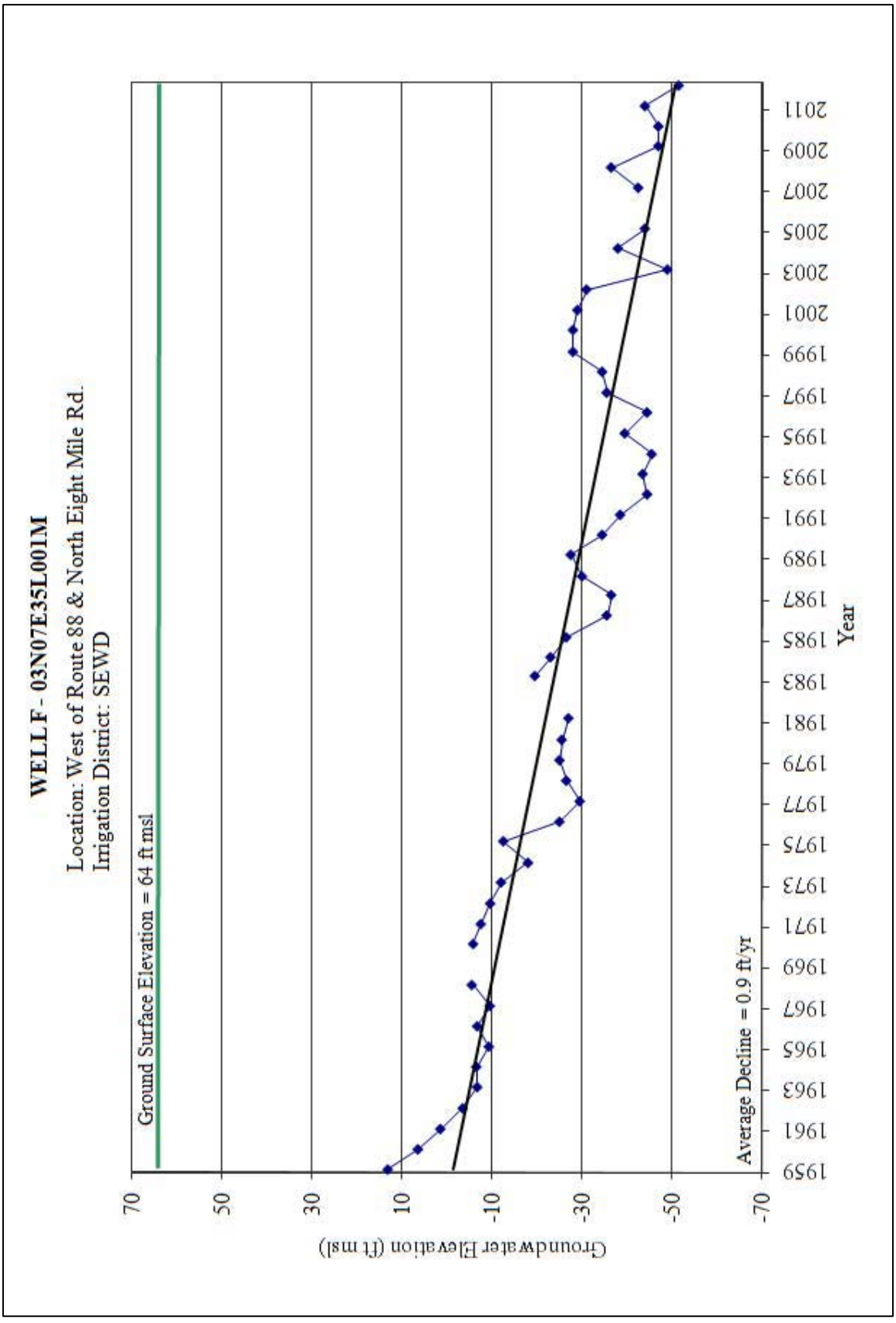

Figure 2-7 Spring Hydrograph Well F

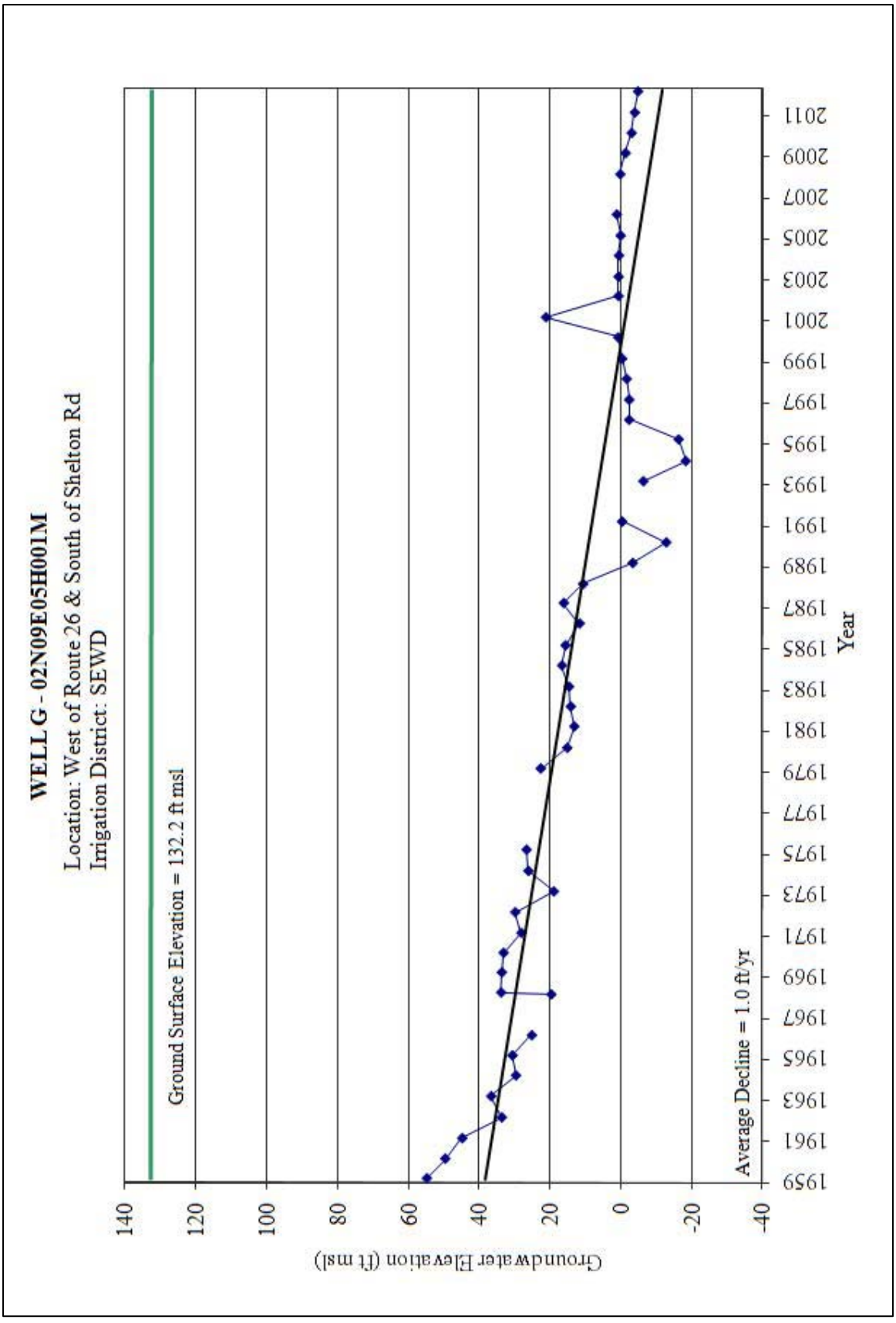

Figure 2-8 Spring Hydrograph Well G

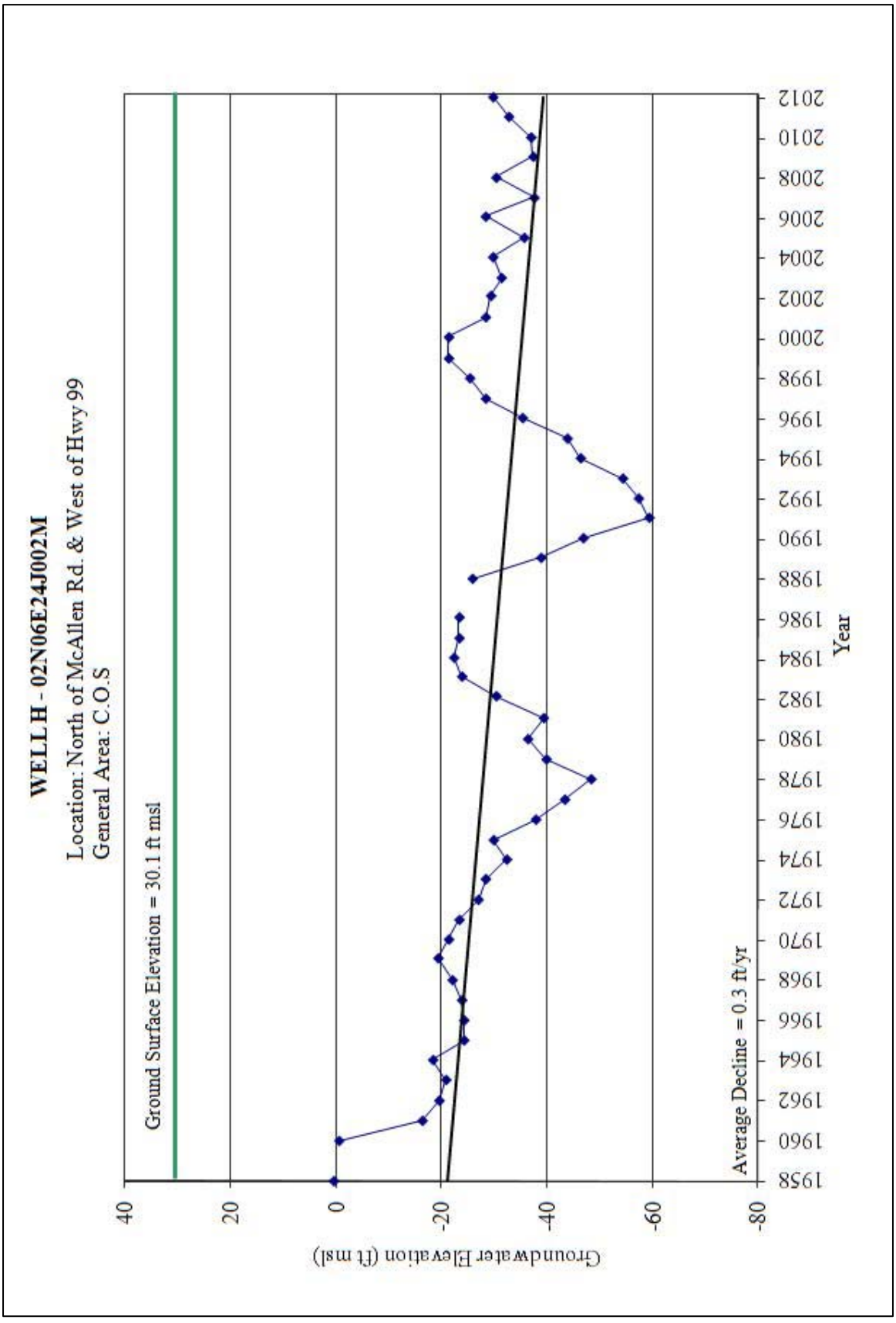

Figure 2-9 Spring Hydrograph Well H

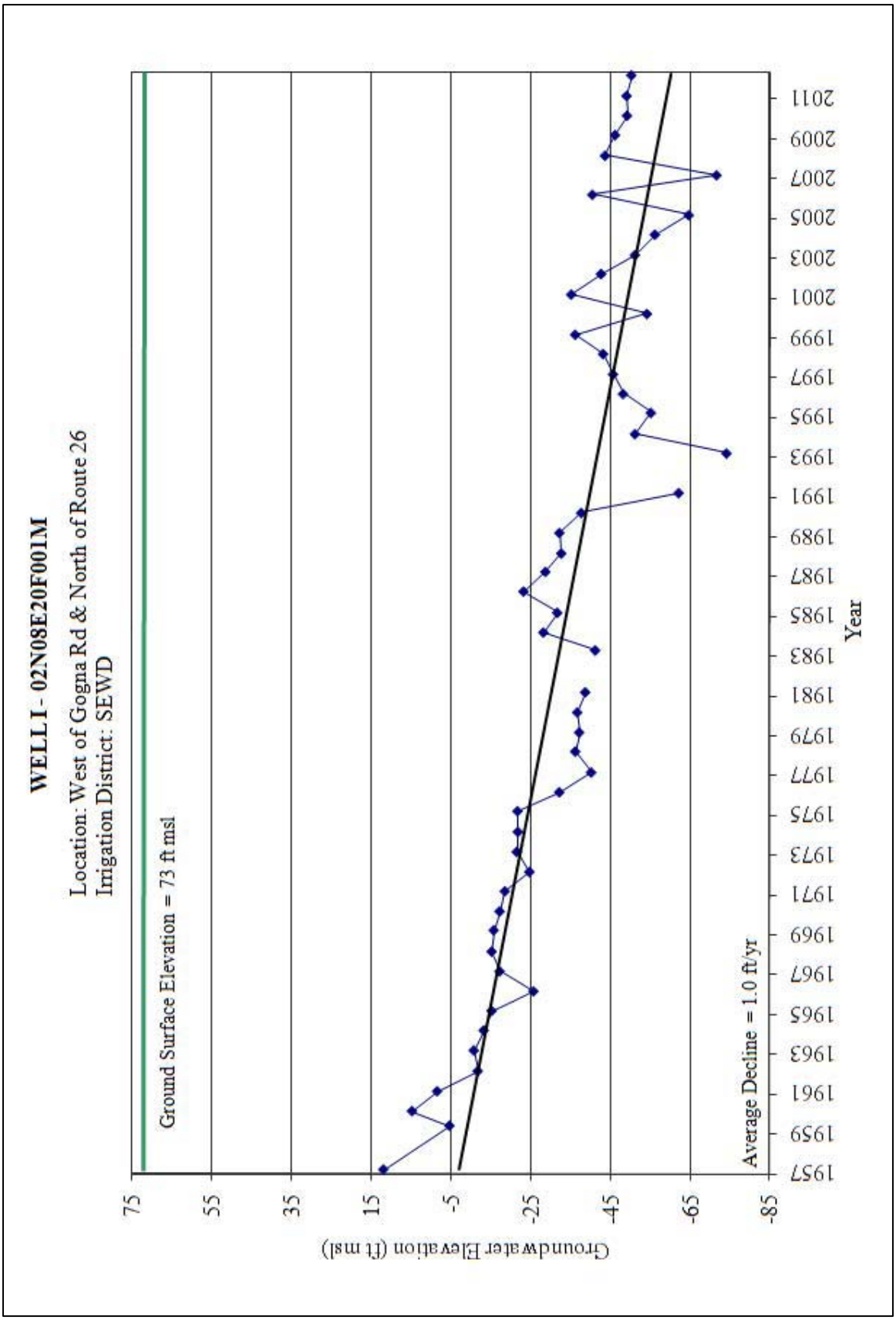

Figure 2-10 Spring Hydrograph Well I

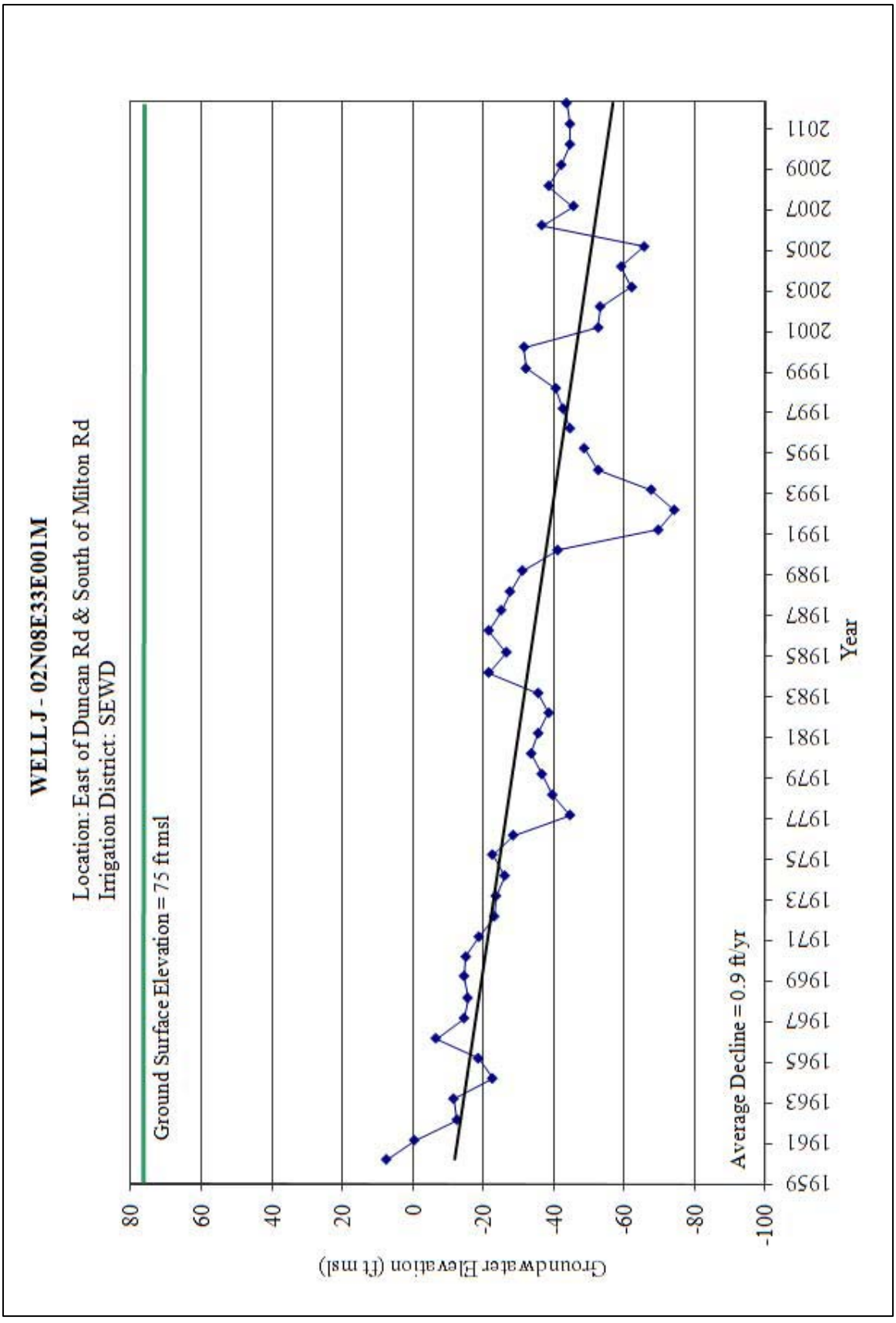

Figure 2-11 Spring Hydrograph Well J

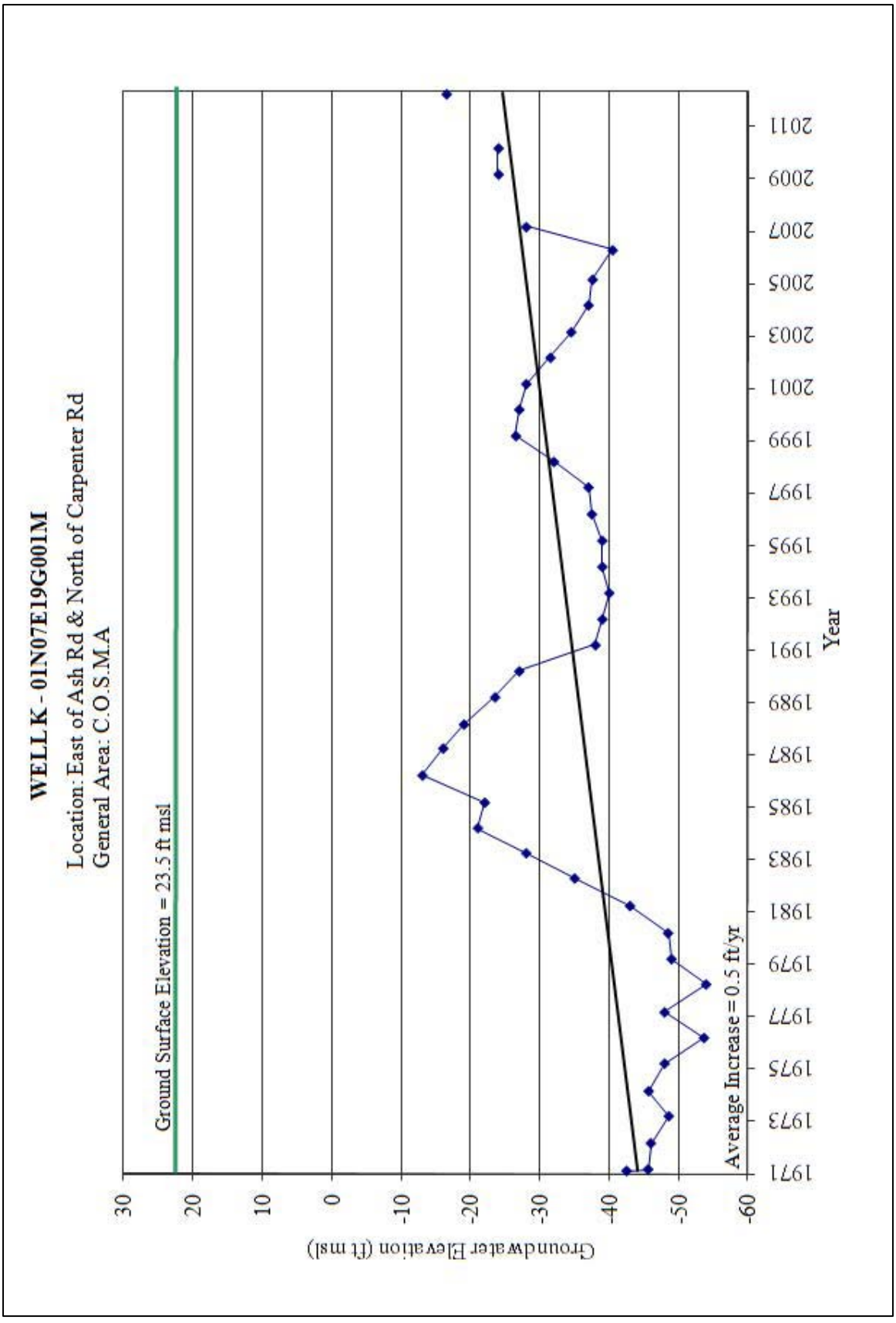

Figure 2-12 Spring Hydrograph Well K

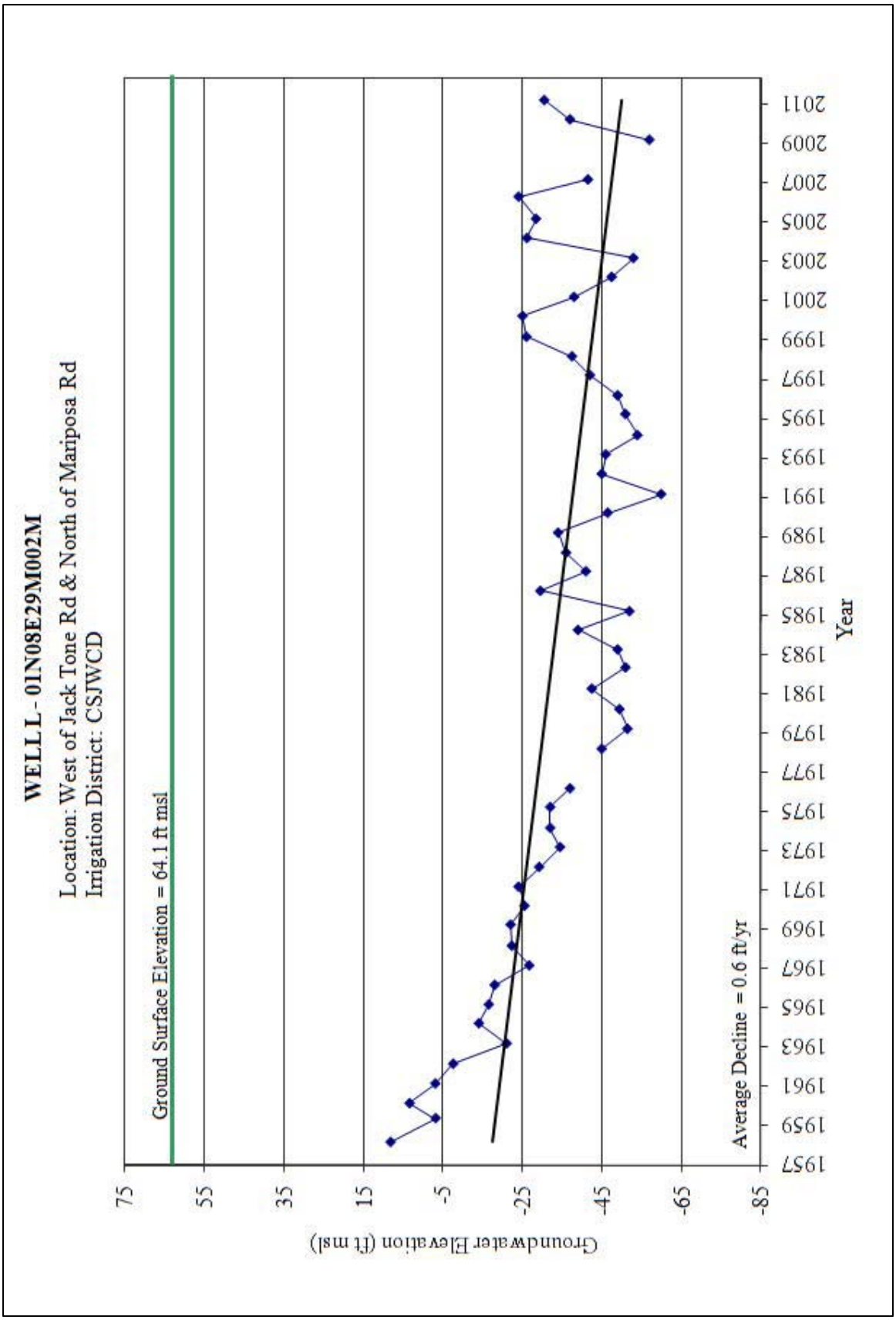

Figure 2-13 Spring Hydrograph Well L

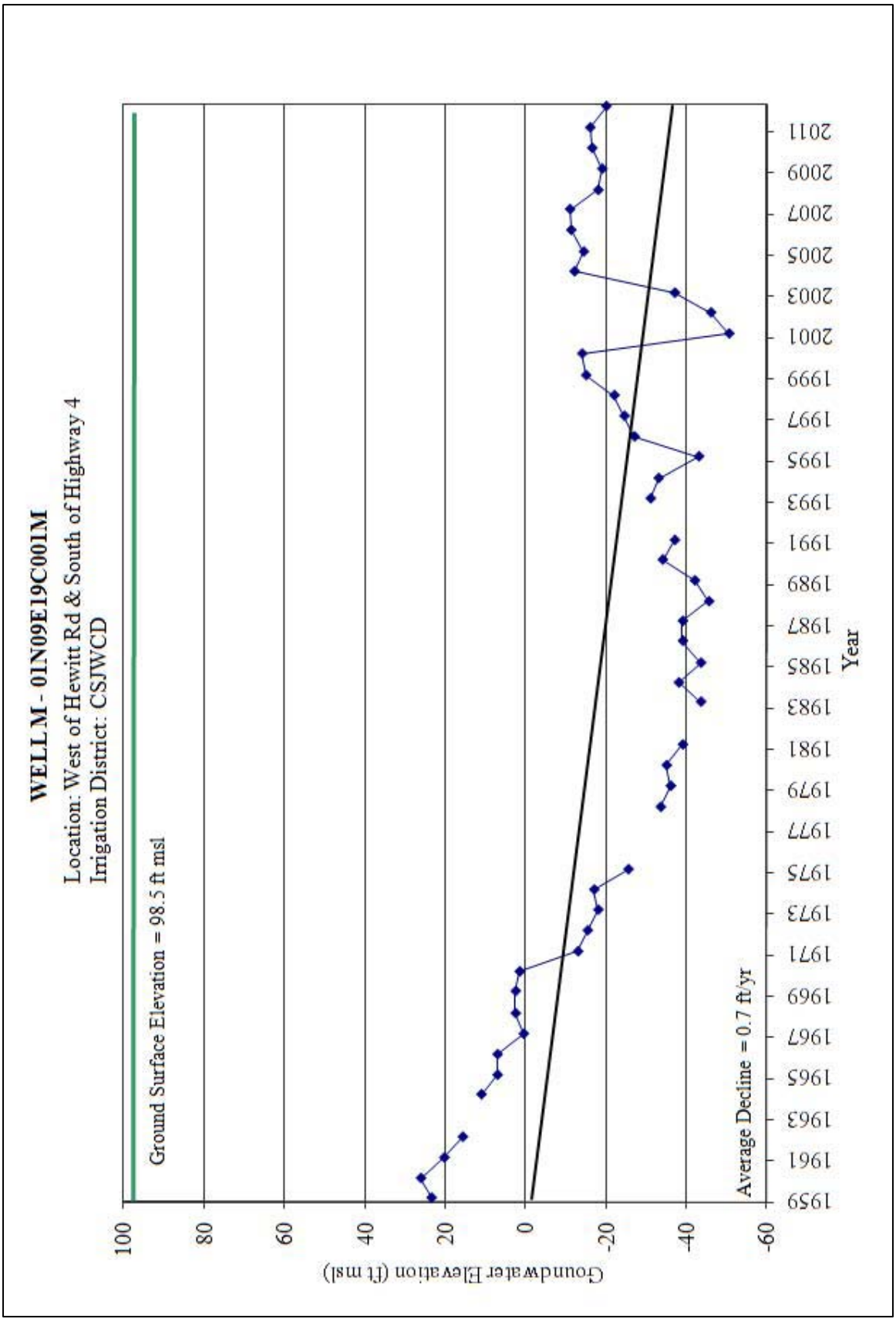

Figure 2-14 Spring Hydrograph Well M

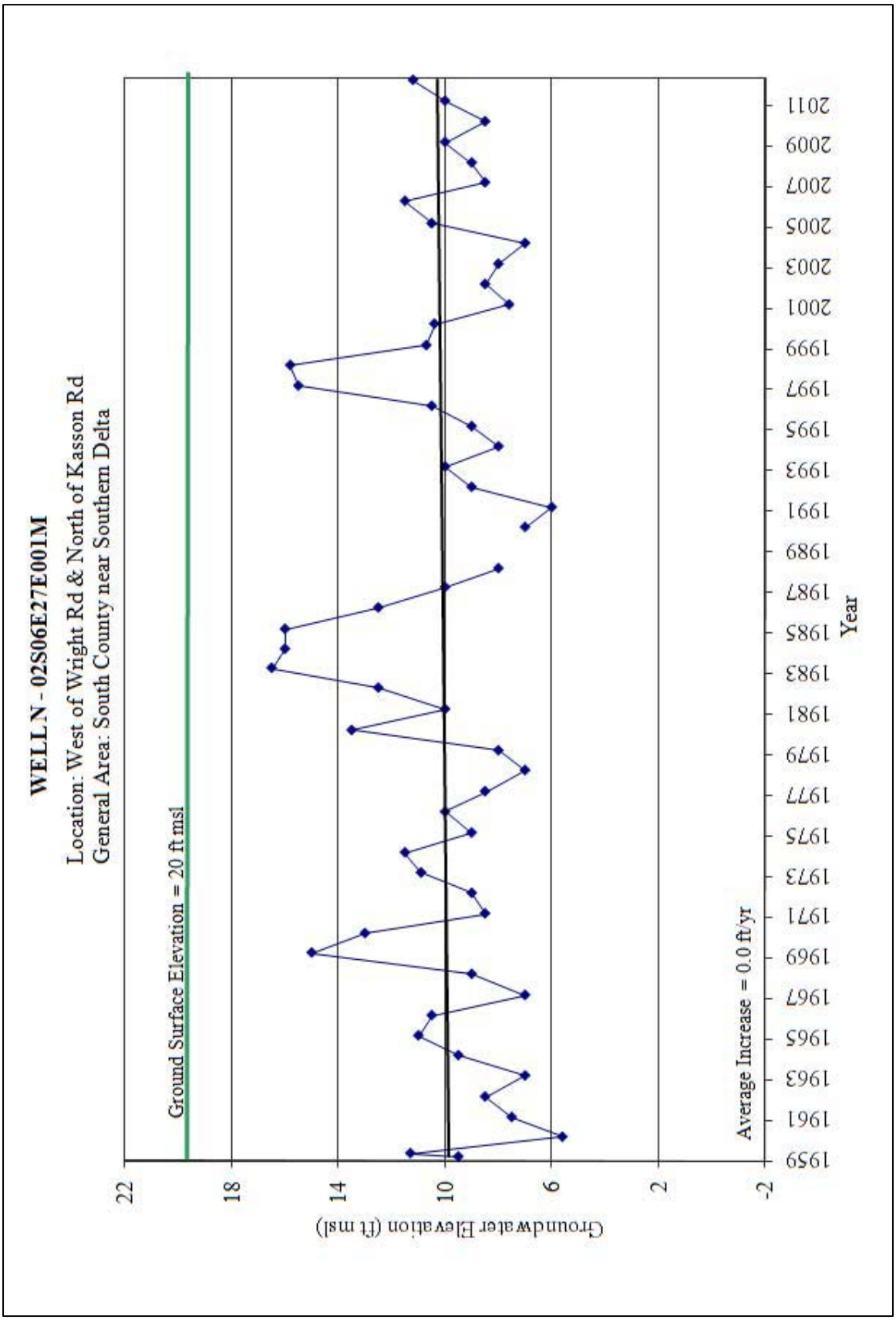

Figure 2-15 Spring Hydrograph Well N

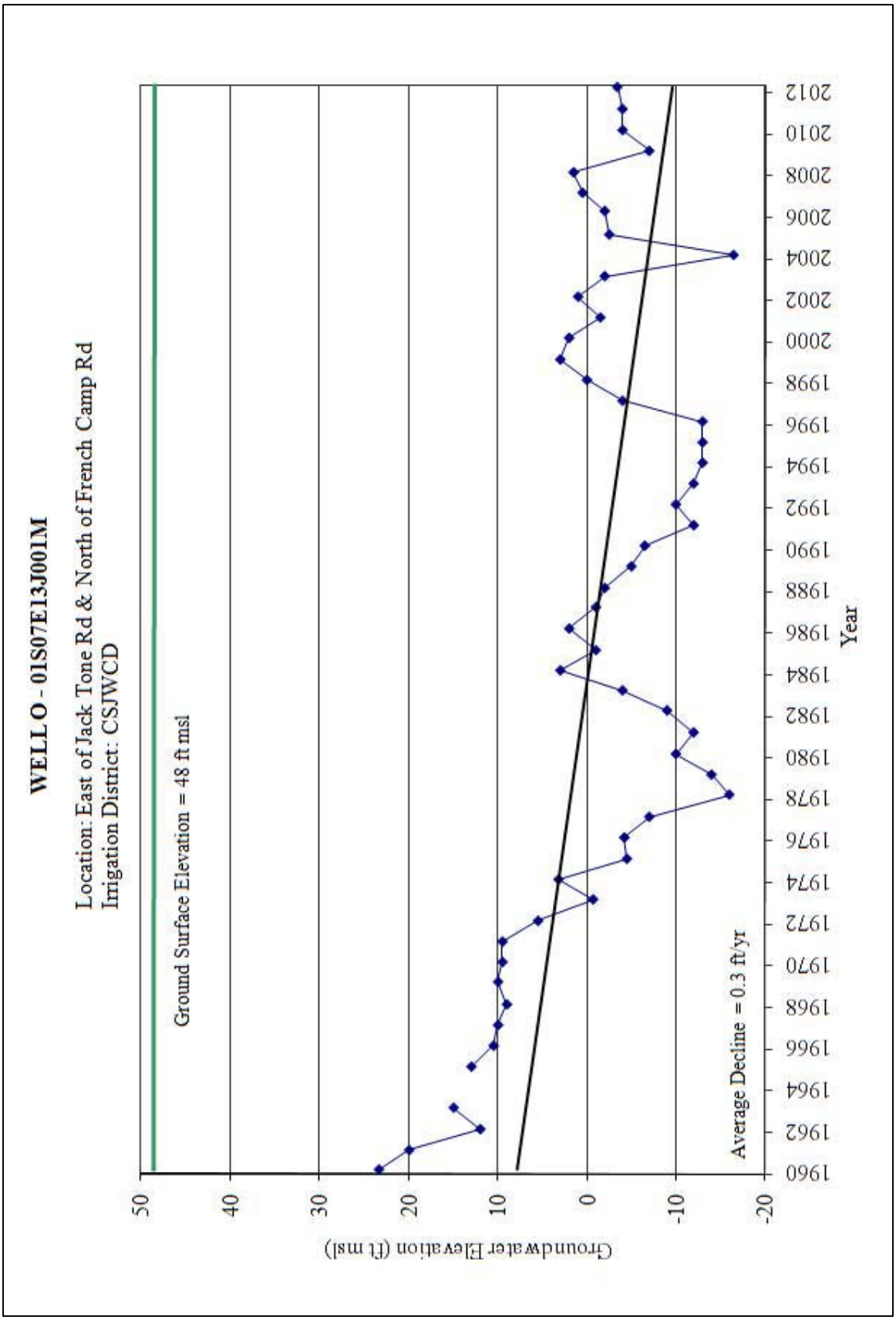

Figure 2-16 Spring Hydrograph Well O

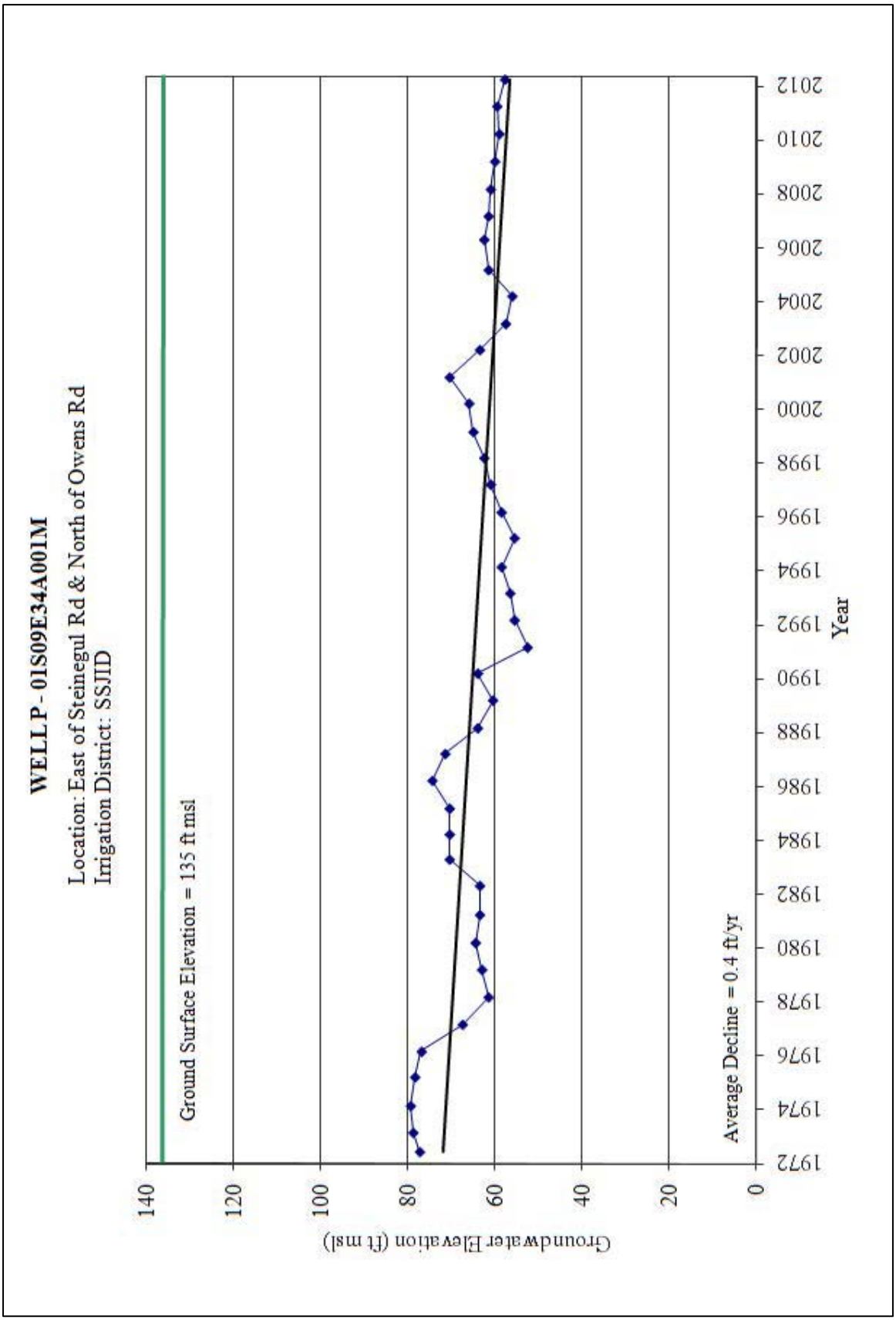

Figure 2-17 Spring Hydrograph Well P

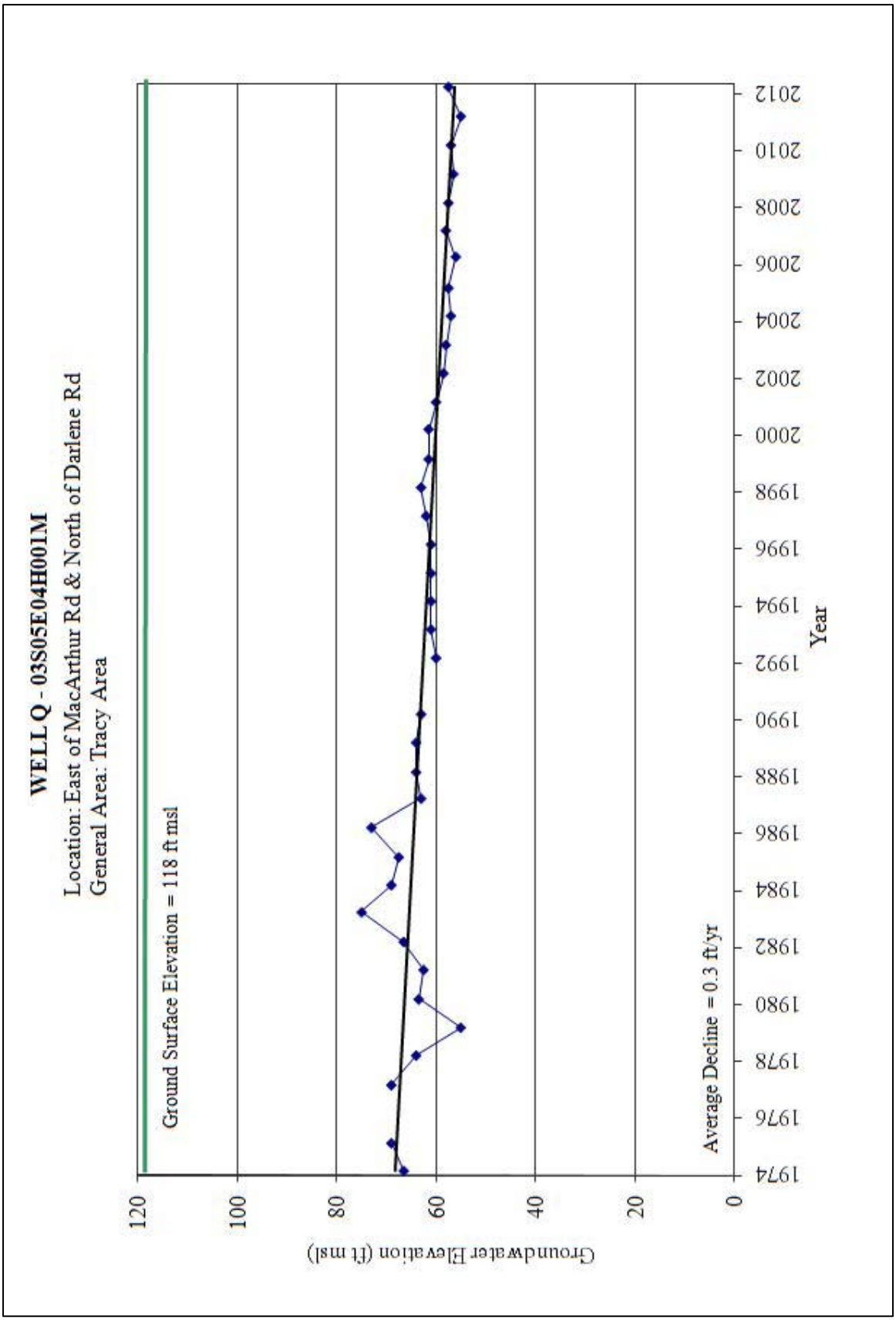

Figure 2-18 Spring Hydrograph Well Q

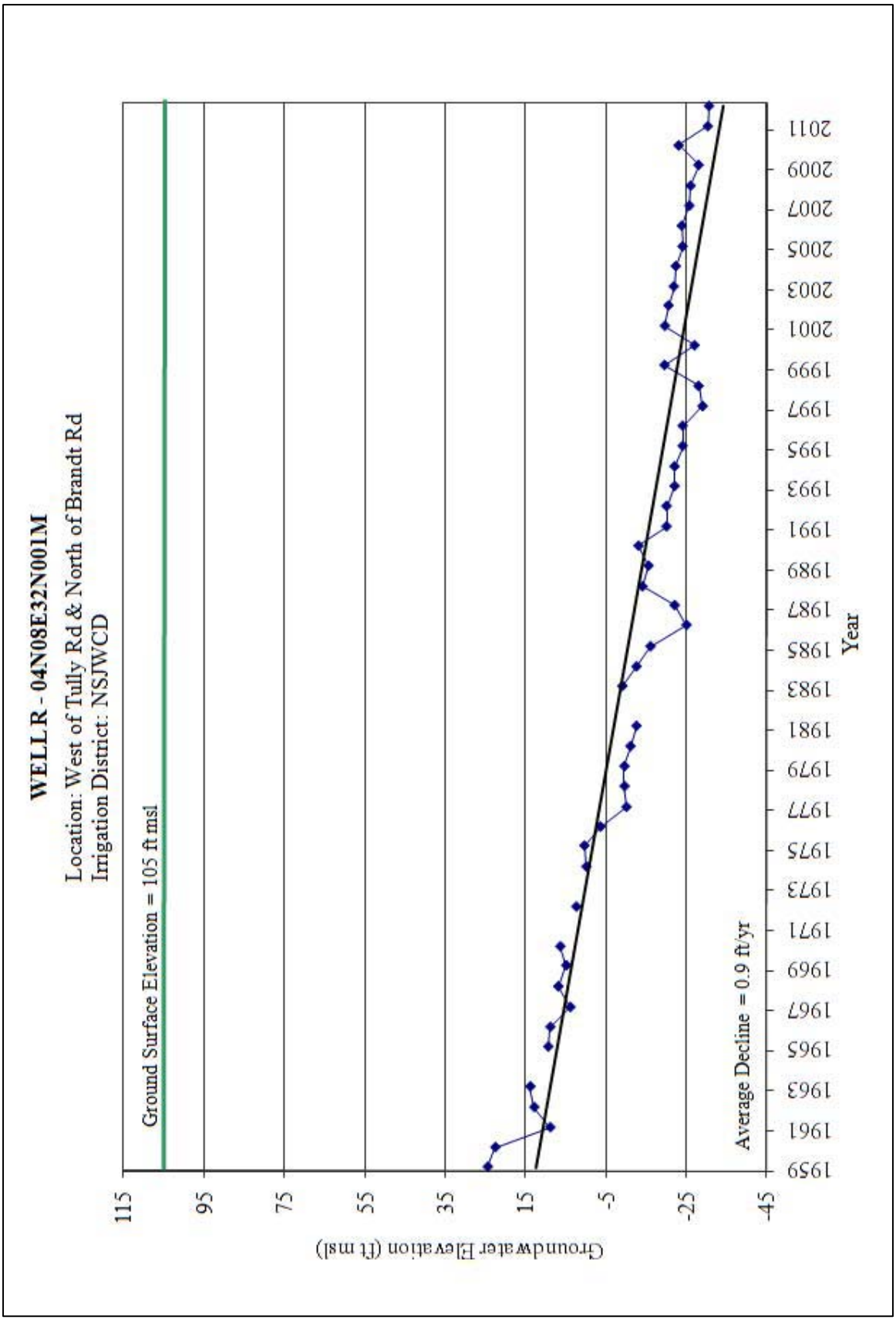

Figure 2-19 Spring Hydrograph Well R

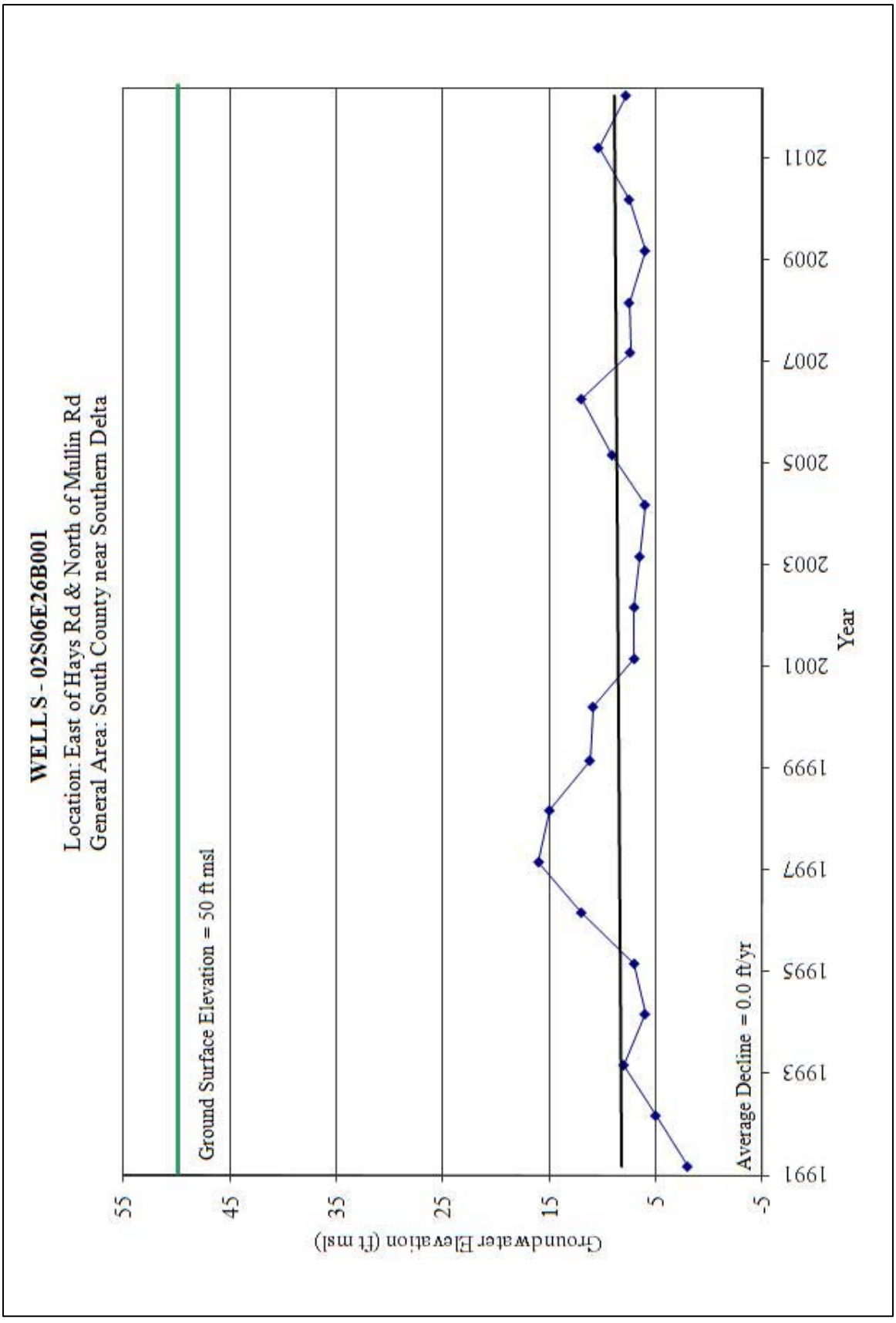

Figure 2-20 Spring Hydrograph Well S

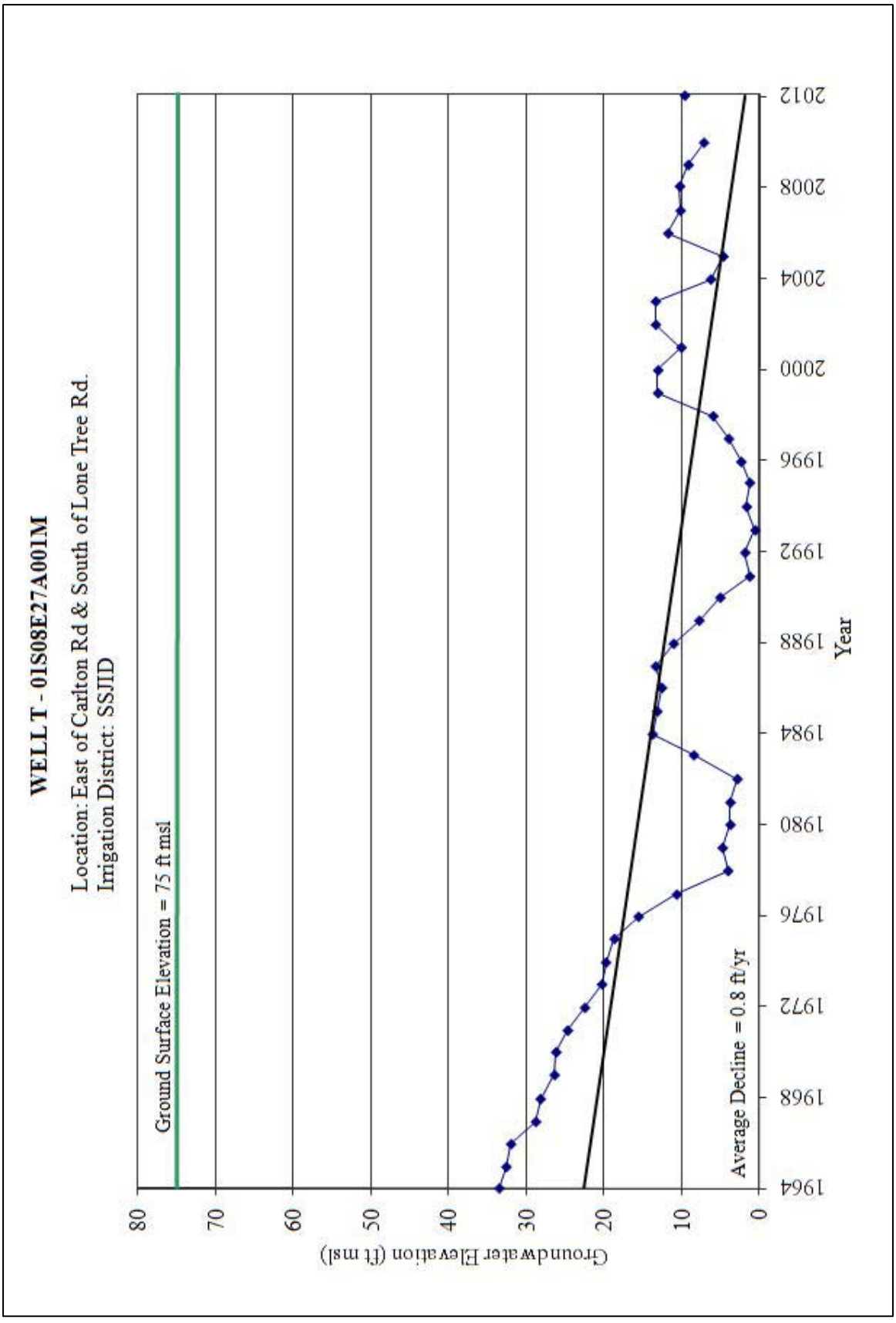

Figure 2-21 Spring Hydrograph Well T

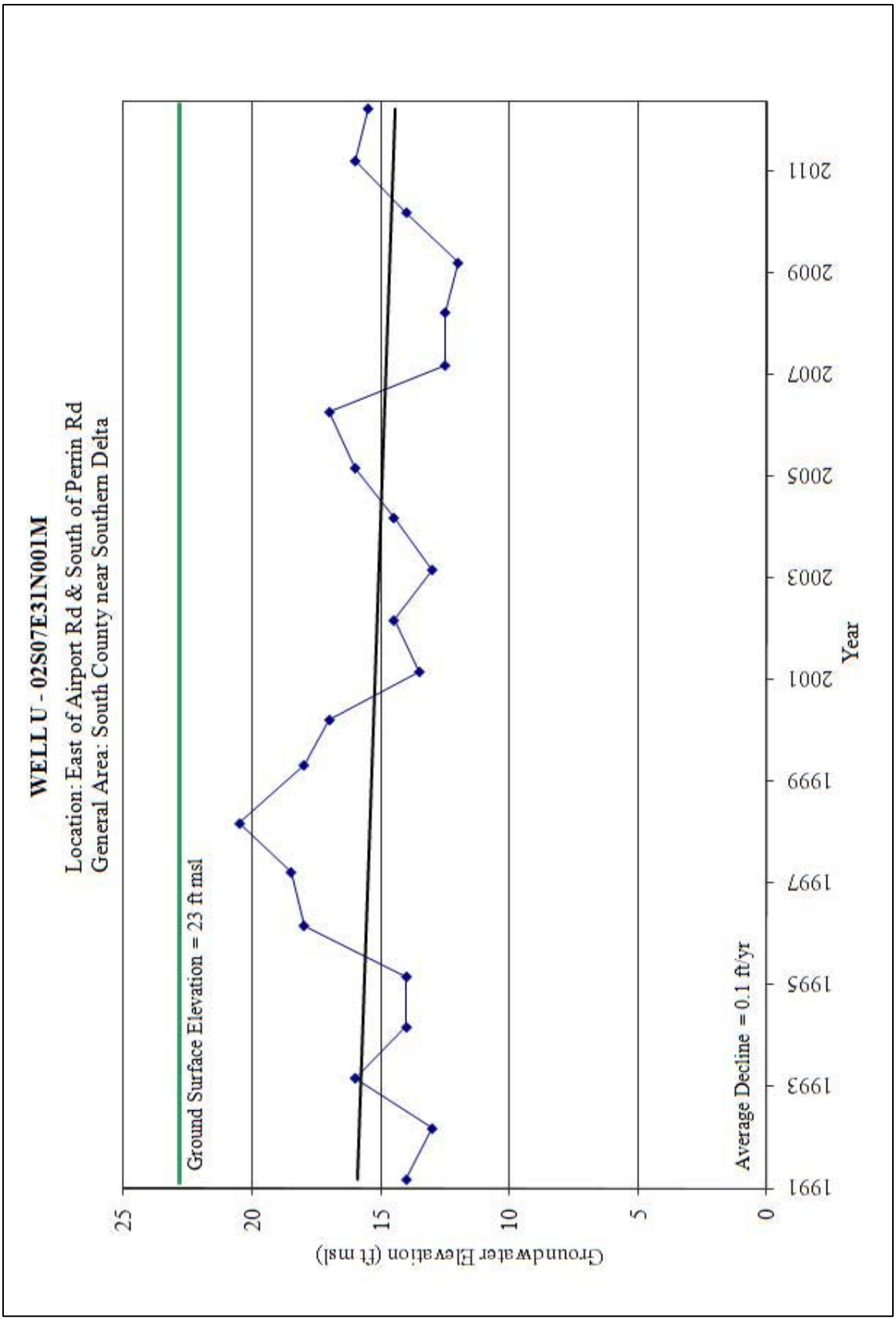

Figure 2-22 Spring Hydrograph Well U

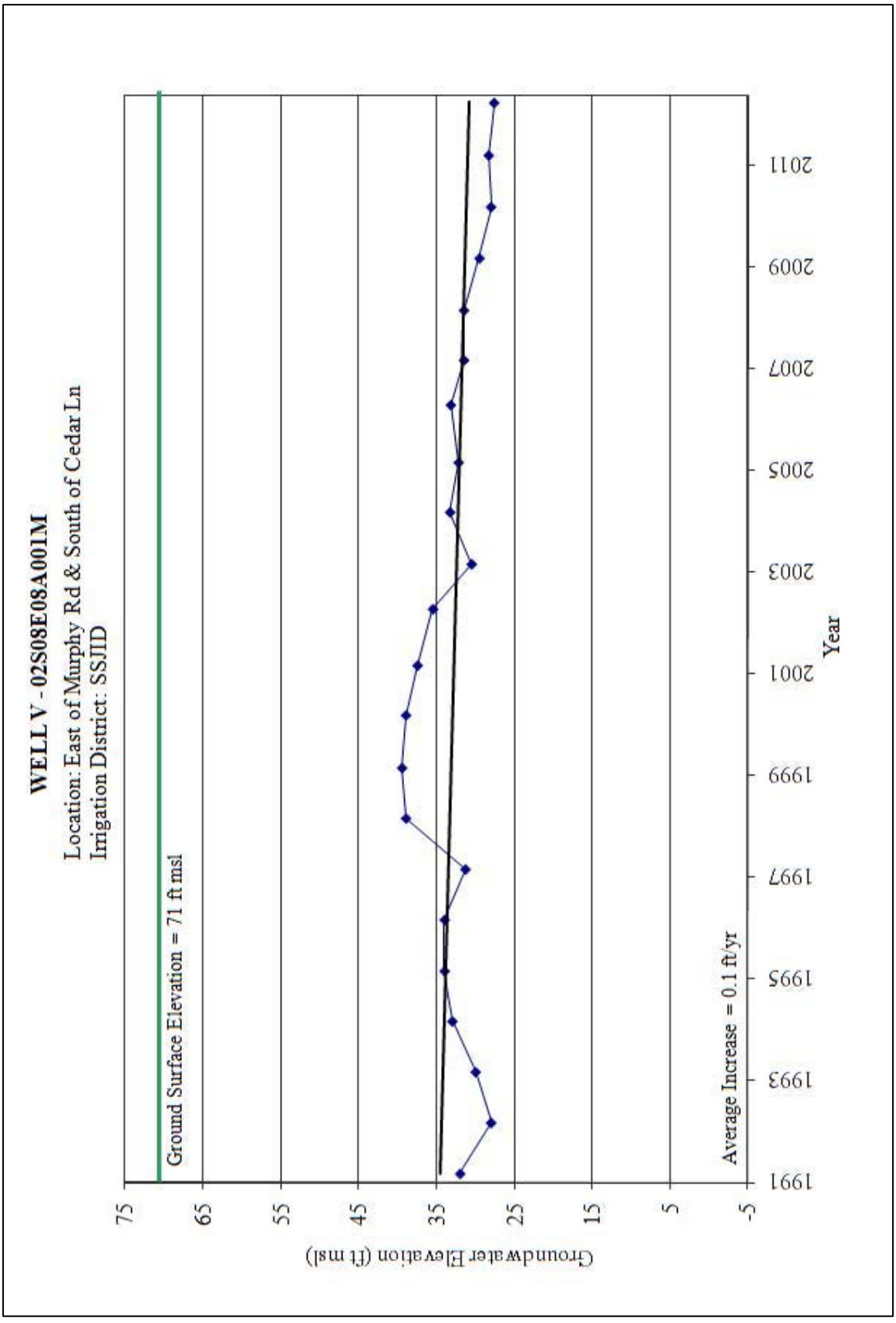

Figure 2-23 Spring Hydrograph Well V

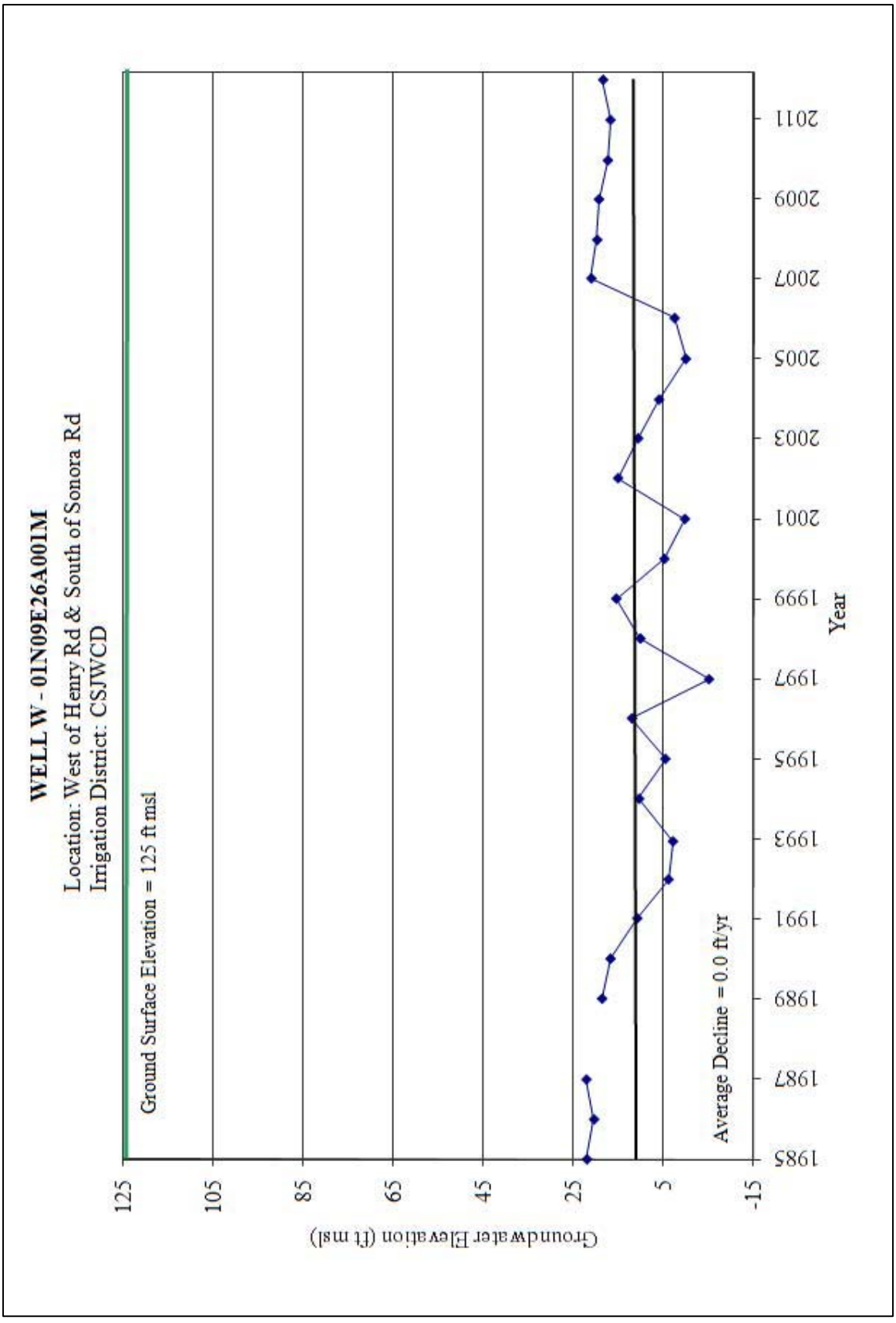

Figure 2-24 Spring Hydrograph Well W

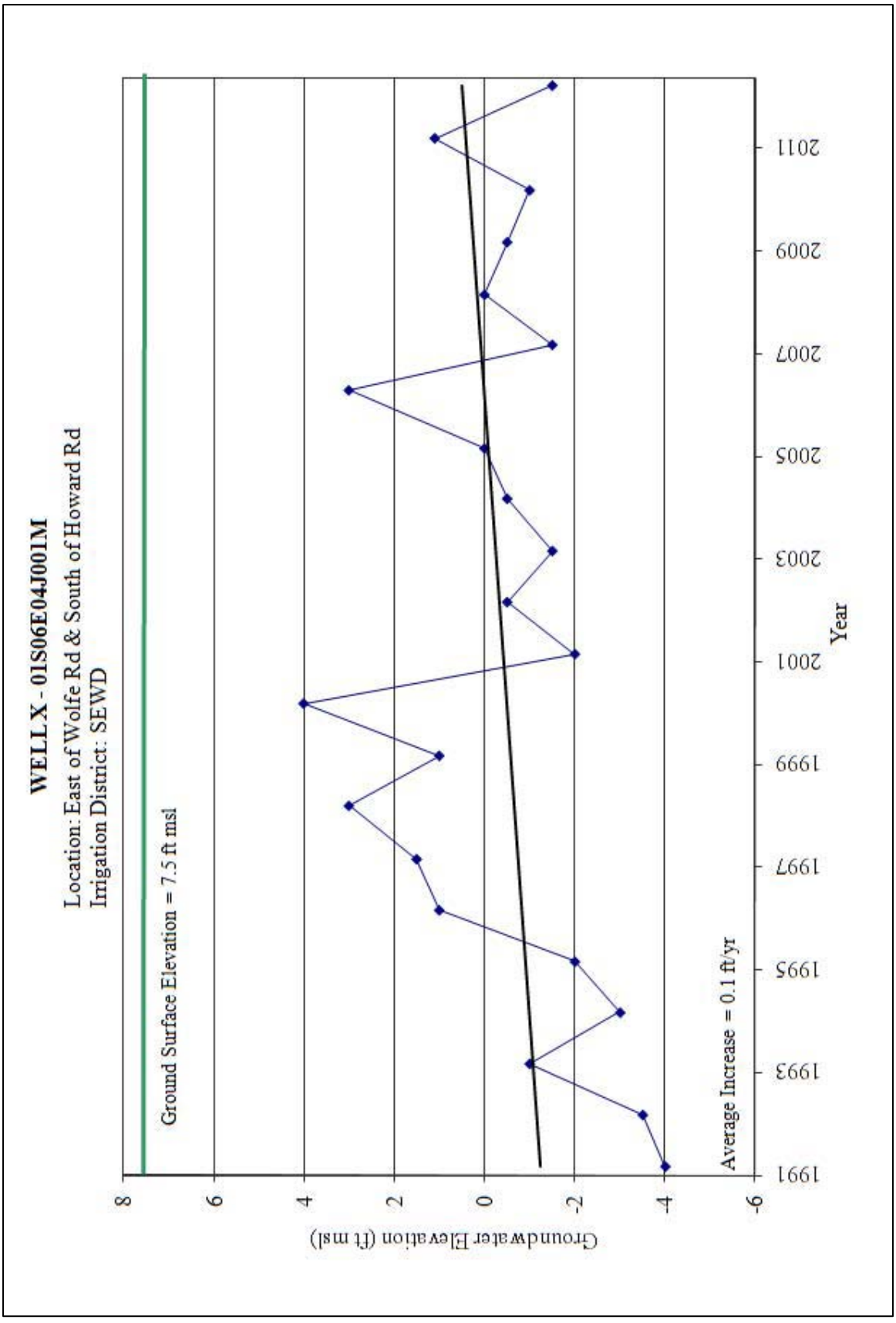

Figure 2-25 Spring Hydrograph Well X

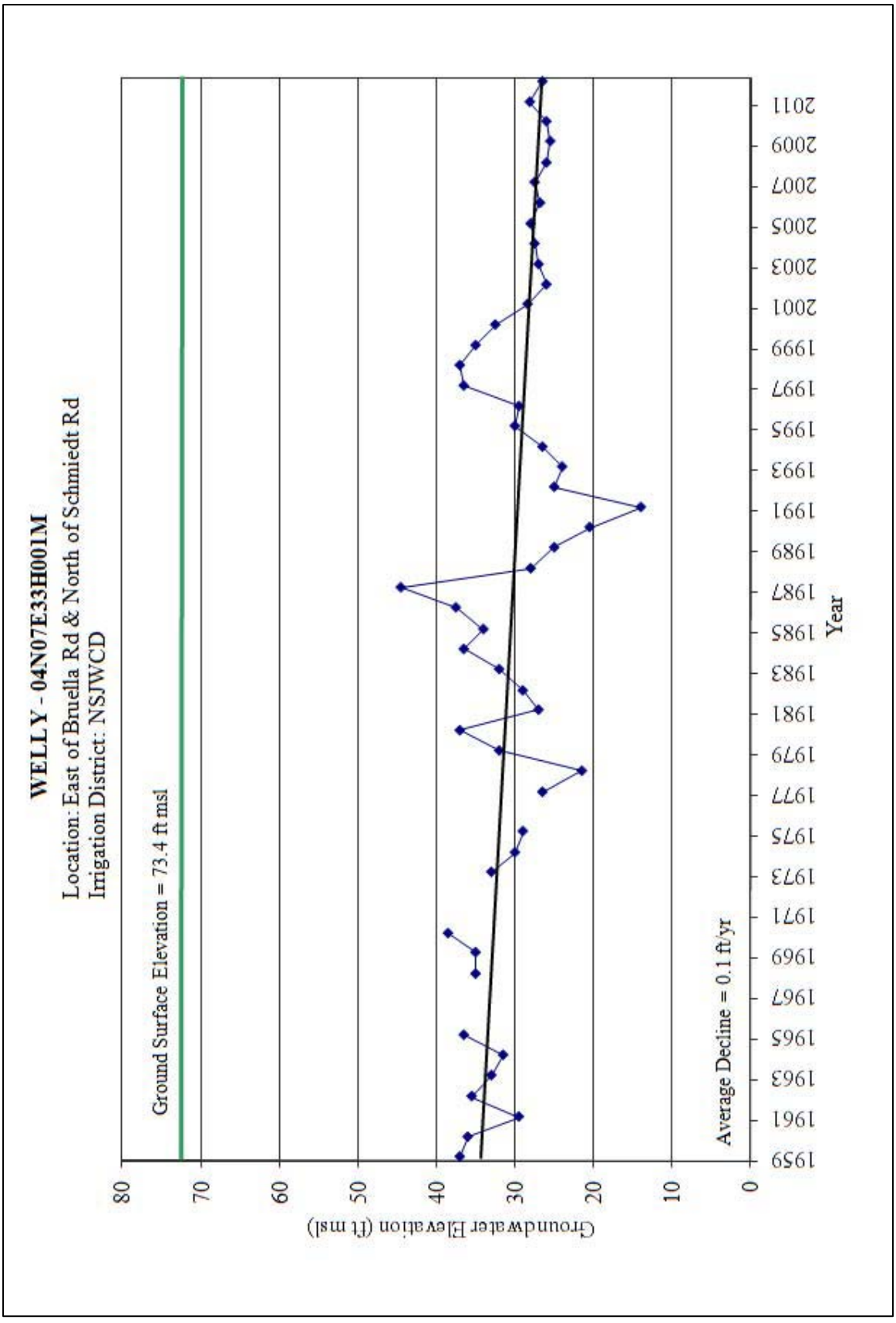

Figure 2-26 Spring Hydrograph Well Y

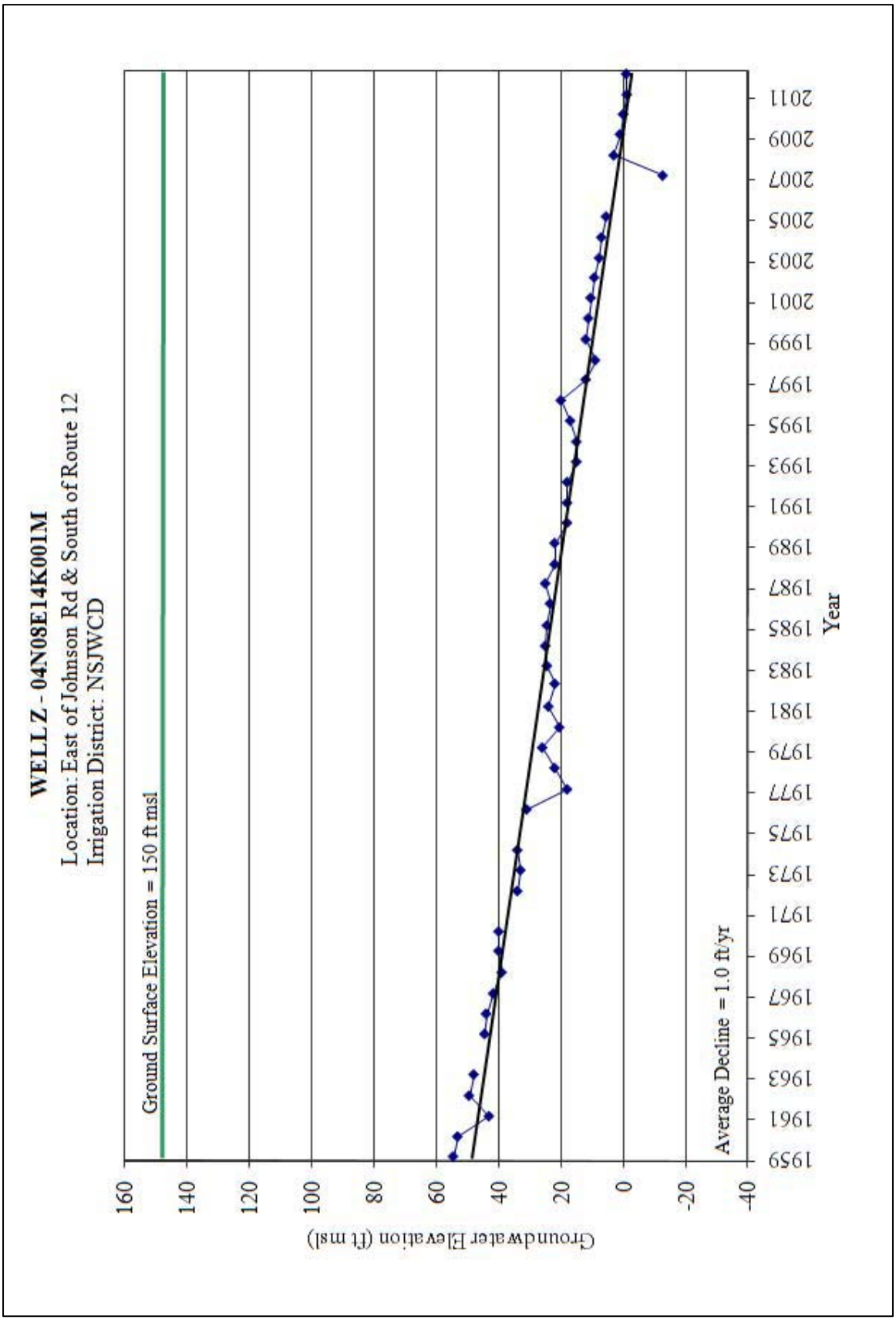

Figure 2-27 Spring Hydrograph Well Z

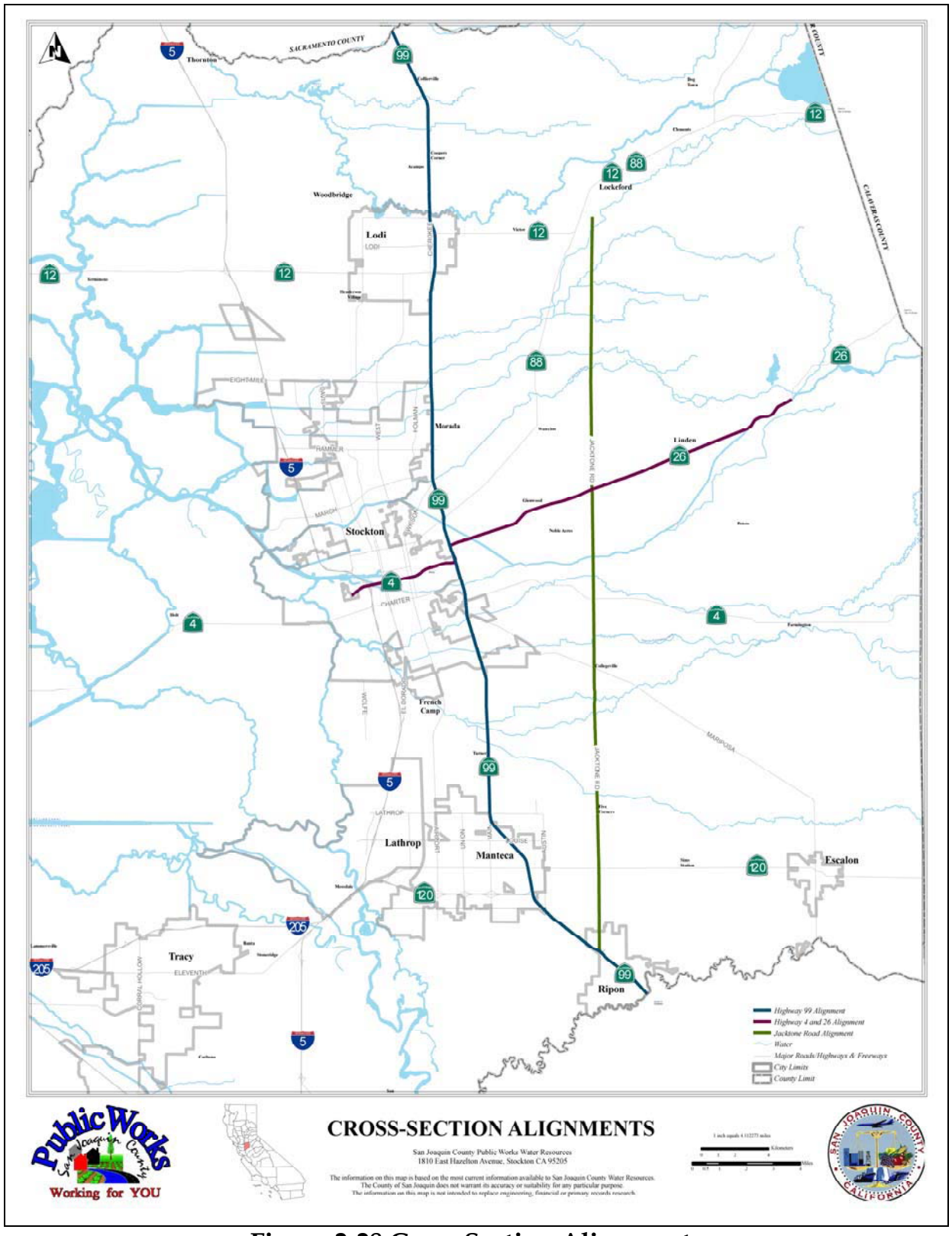

Figure 2-28 Cross Section Alignments

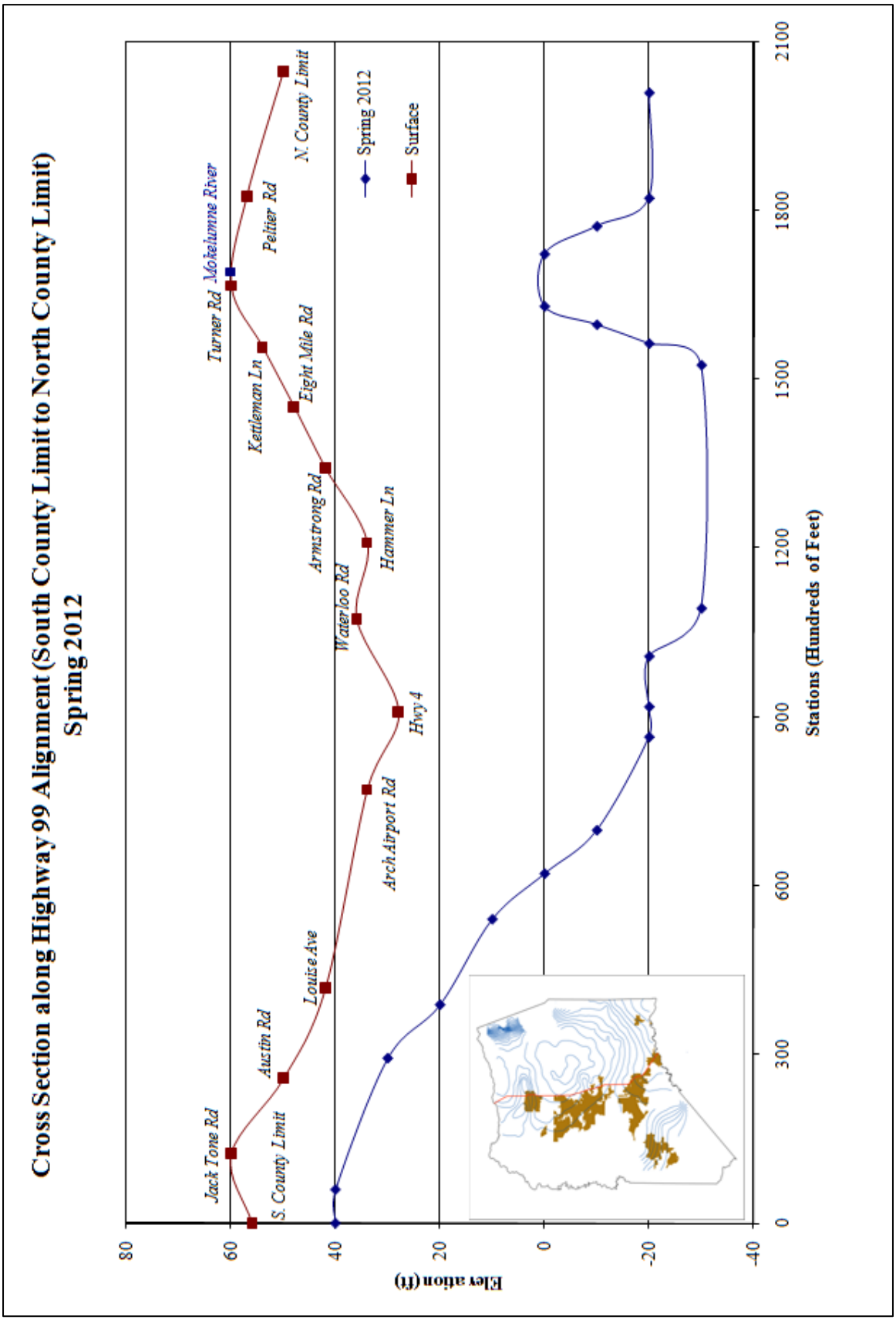

Figure 2-29 Highway 99 Cross Section Spring 2012

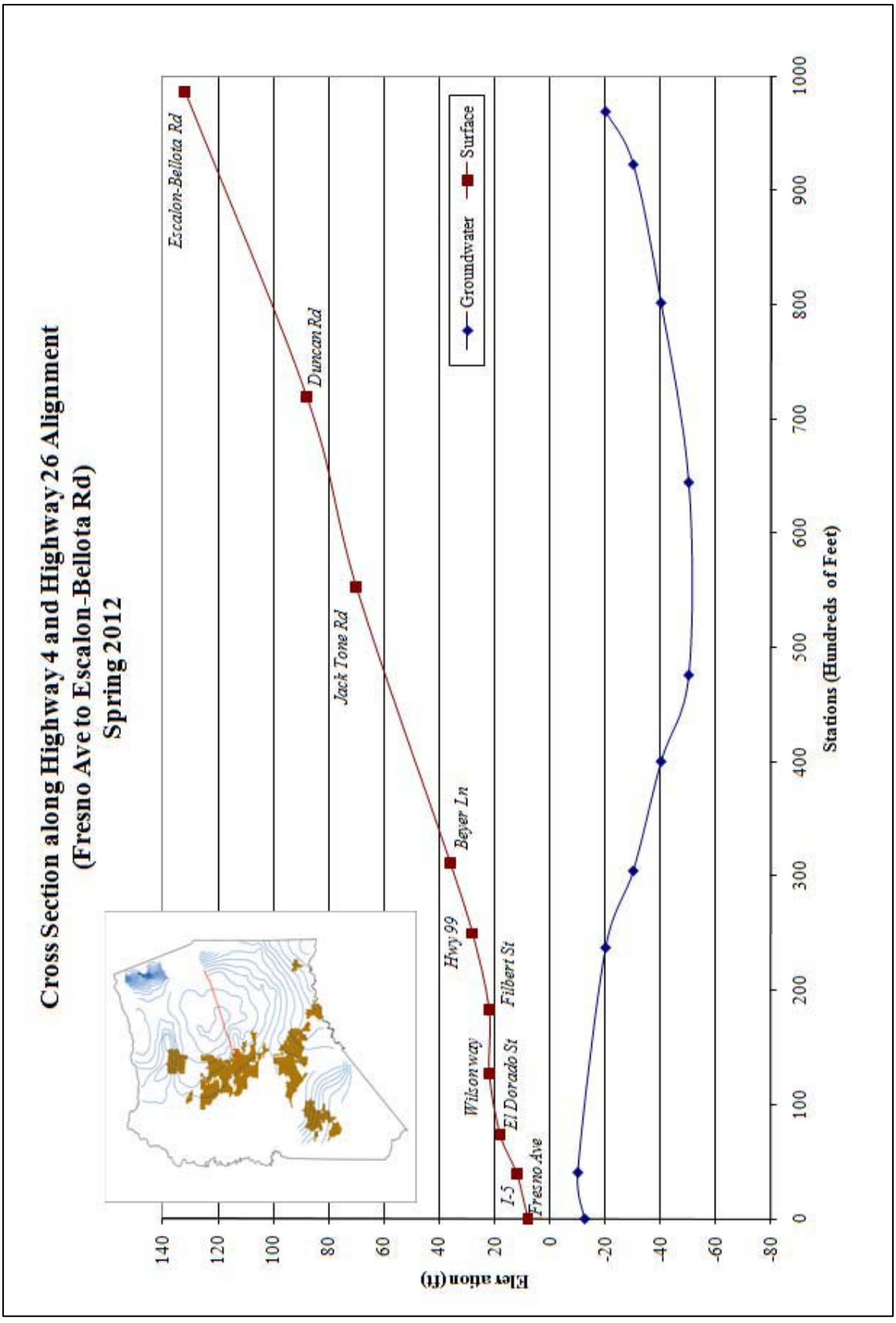

Figure 2-30 Highway 4 & Highway 26 Cross Section Spring 2012

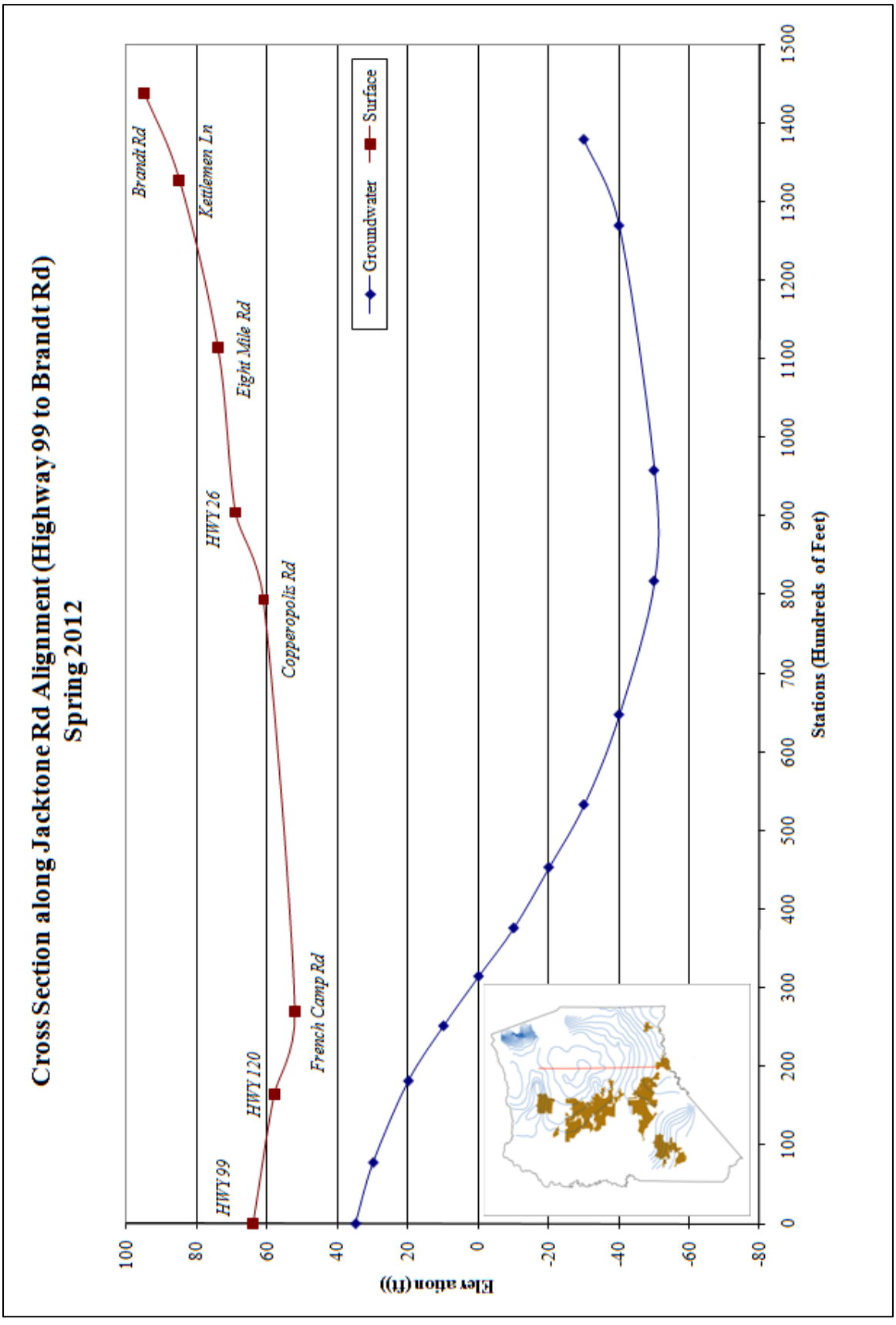

Figure 2-31 Jacktone Rd Cross Section Spring 2012

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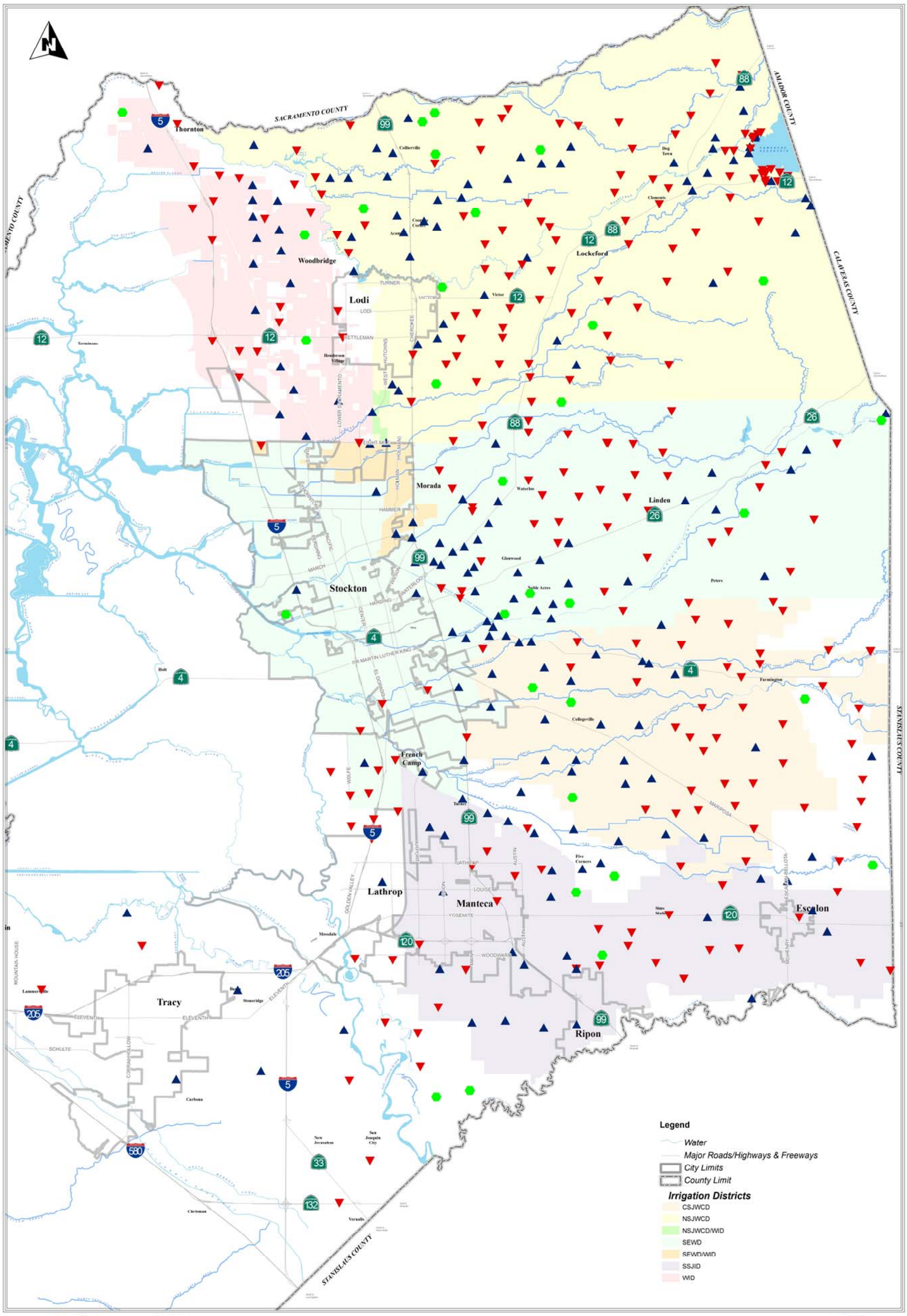
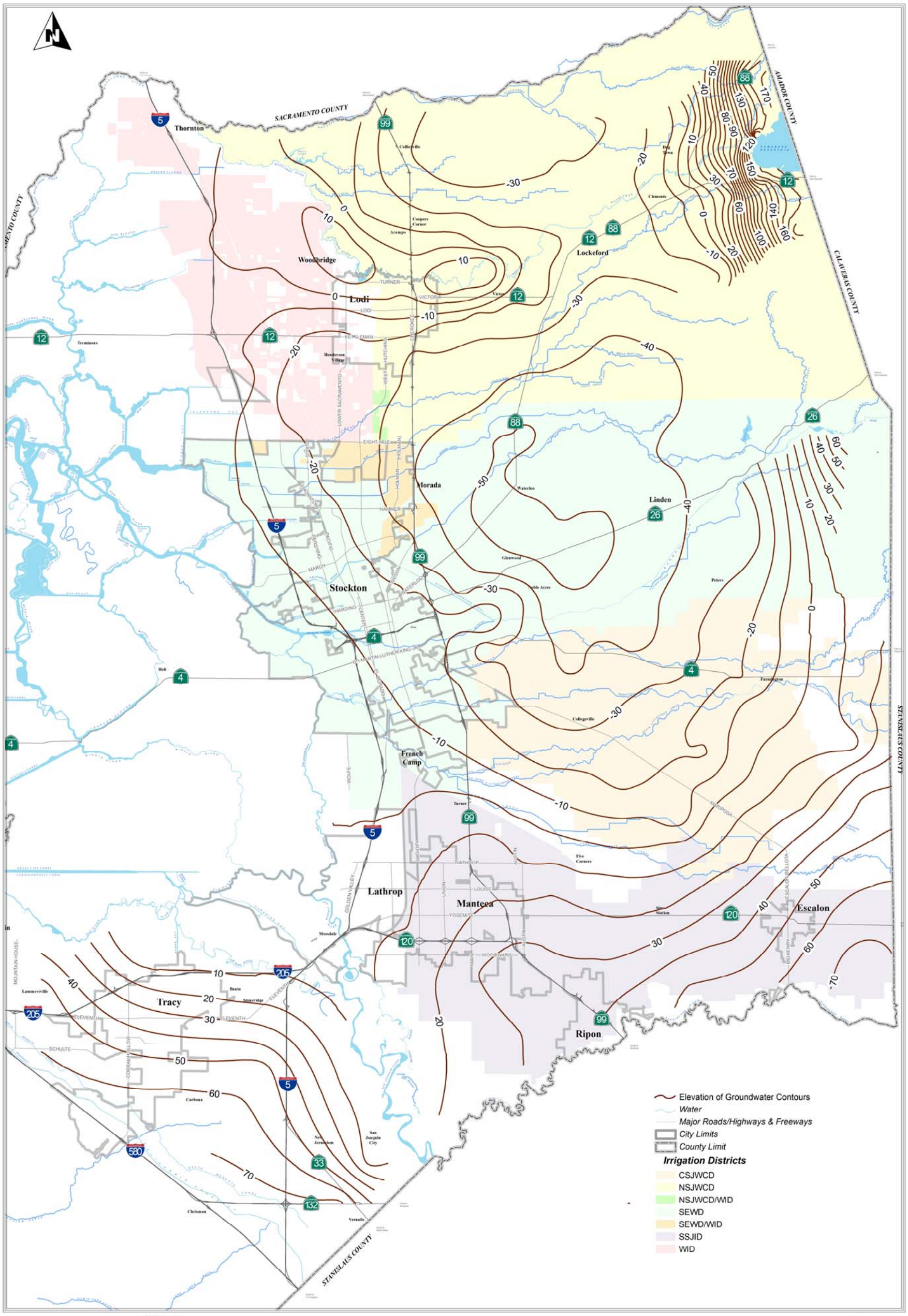


Figure 2-32 Differences in Groundwater Elevations Spring 2012 (Spring 2012 and Spring 2011 Comparisons)



LINES OF EQUAL ELEVATION OF GROUNDWATER SPRING 2012

San Joaquin County Public Works Water Resources
1810 East Hazelton Avenue, Stockton CA 95205

The information on this map is based on the most current information available to San Joaquin County Water Resources. The County of San Joaquin does not warrant its accuracy or suitability for any particular purpose. The information on this map is not intended to replace engineering, financial or primary records research.

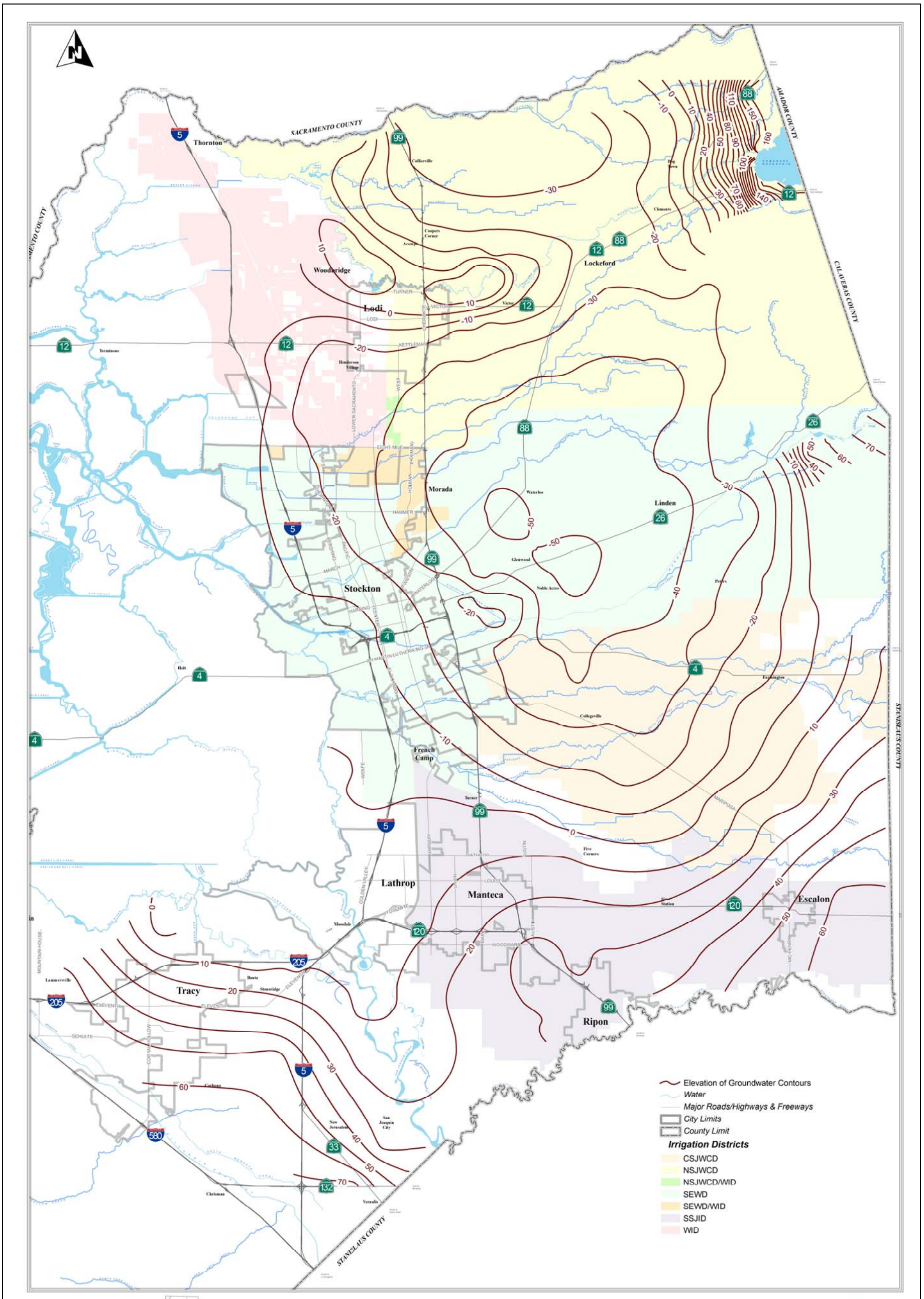
Datum: North American of 1983

1 inch = 3.27 miles

Kilometers 0 1.25 2.5 5

Miles 0 1.25 2.5 5

Figure 2-33 Lines of Equal Elevation of Groundwater Spring 2012



Datum: North American of 1983

Figure 2-34 Lines of Equal Elevation of Groundwater Spring 2011

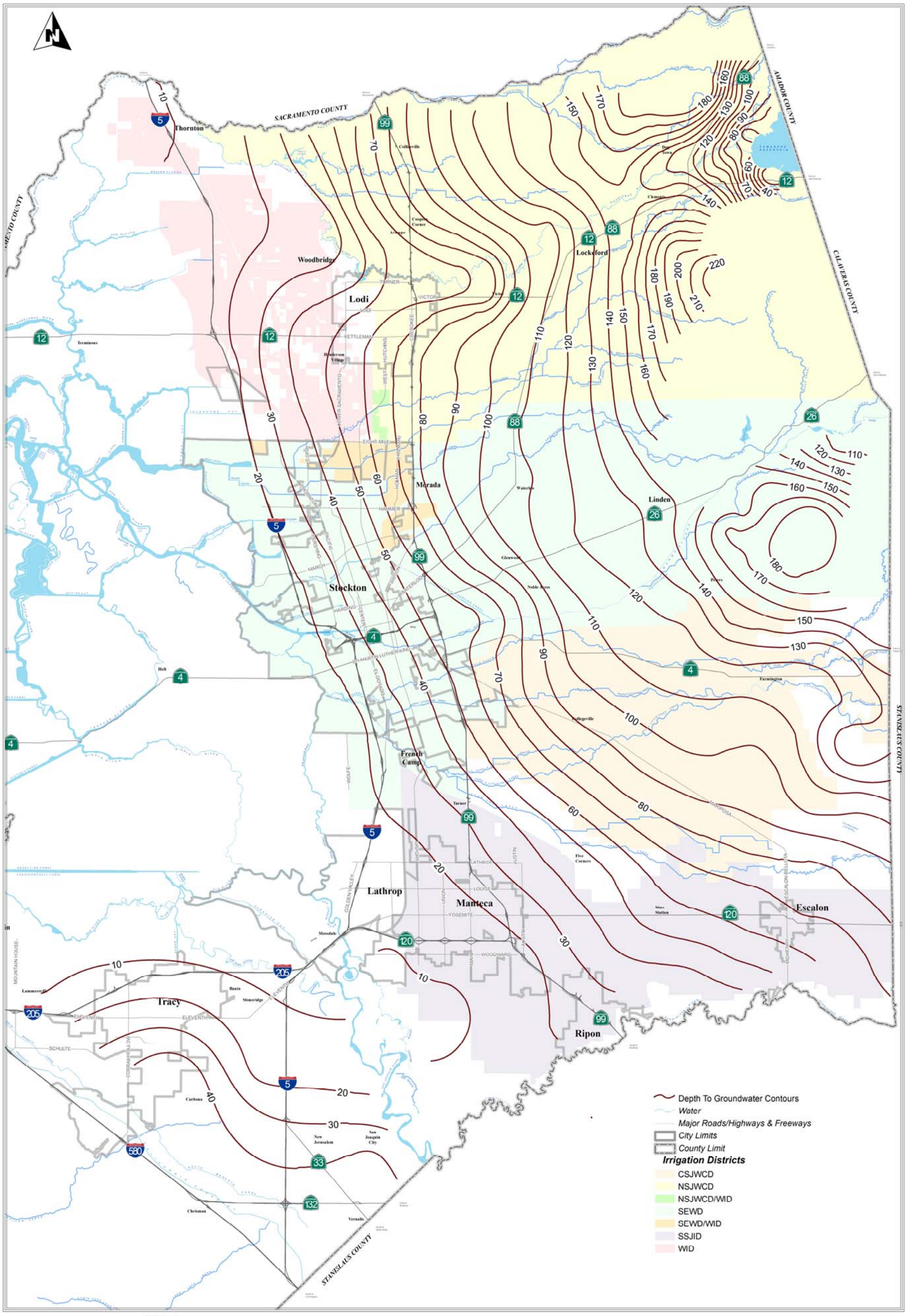


Figure 2-35 Lines of Equal Depth to Groundwater Spring 2012

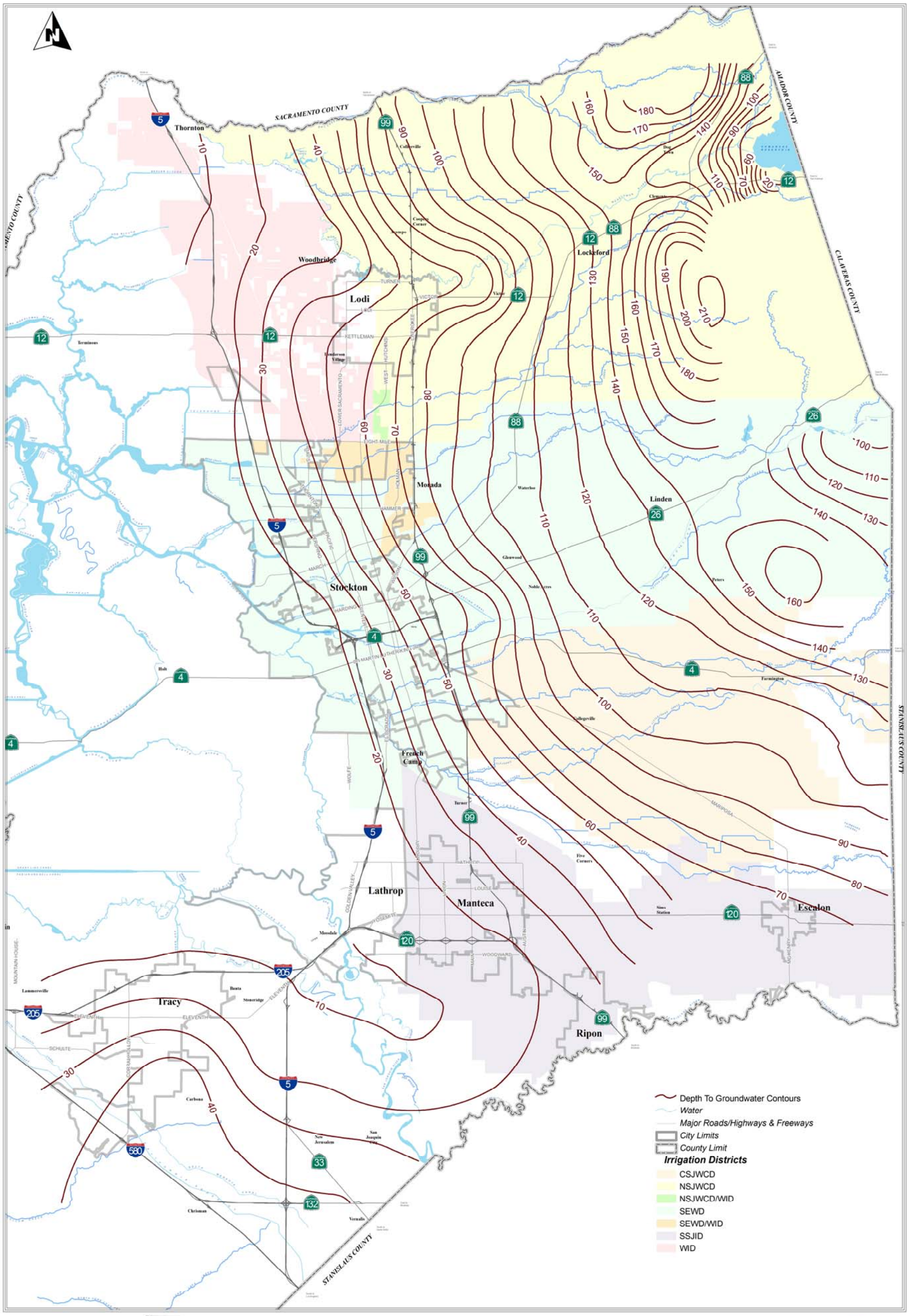


Figure 2-36 Lines of Equal Depth to Groundwater Spring 2011