Groundwater Report

Spring 2018

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 2018 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

Morada Area Association

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 2018 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^-) by Fruit Growers Laboratory, Inc., 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 are 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 as well as the station located in Tracy, has pertinent data beginning in 1940. The Lodi Station and Camp Pardee Station started collecting data in 1949.

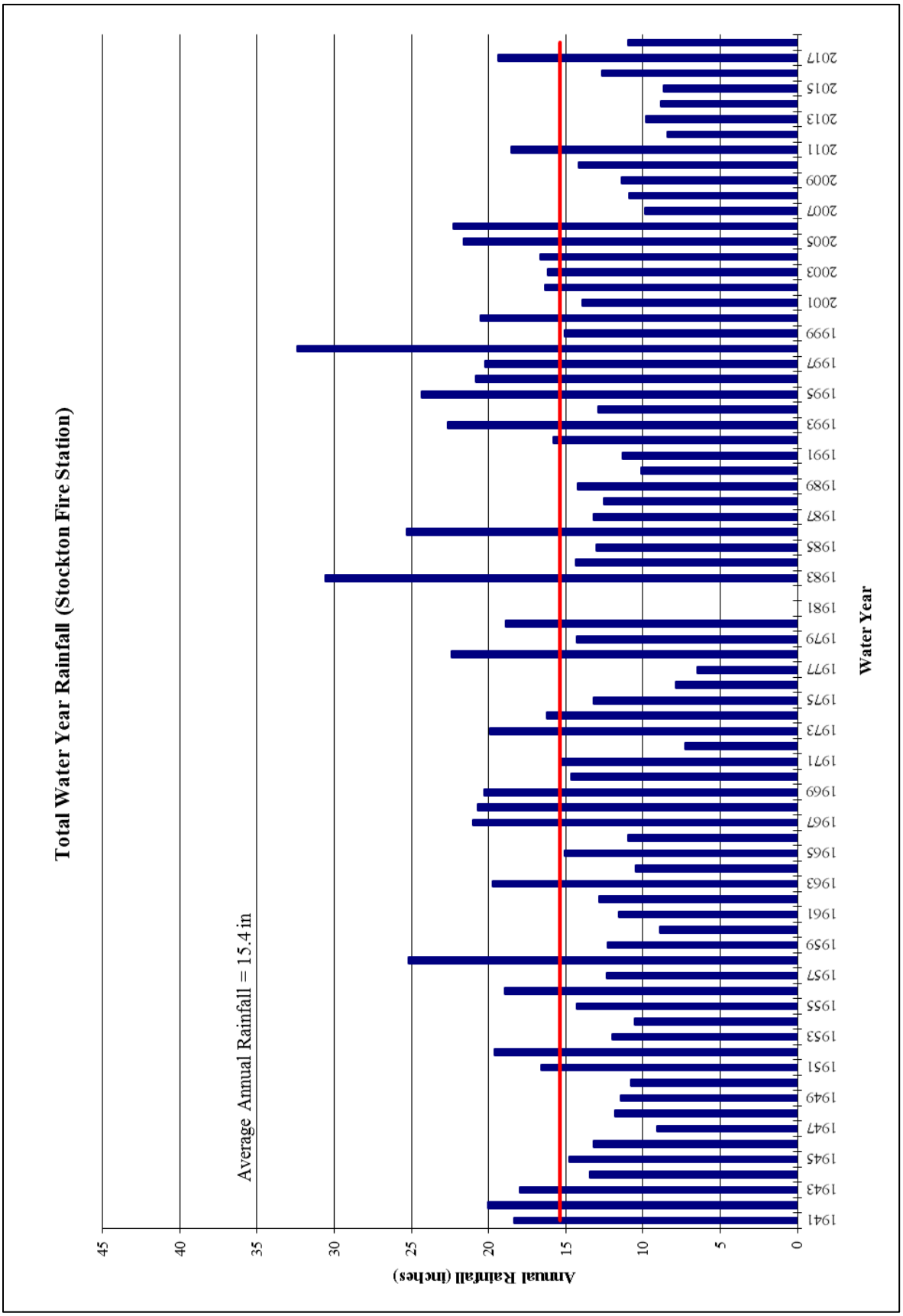

Figure 1-1 Total Annual Rainfall (Stockton Fire Station 4)

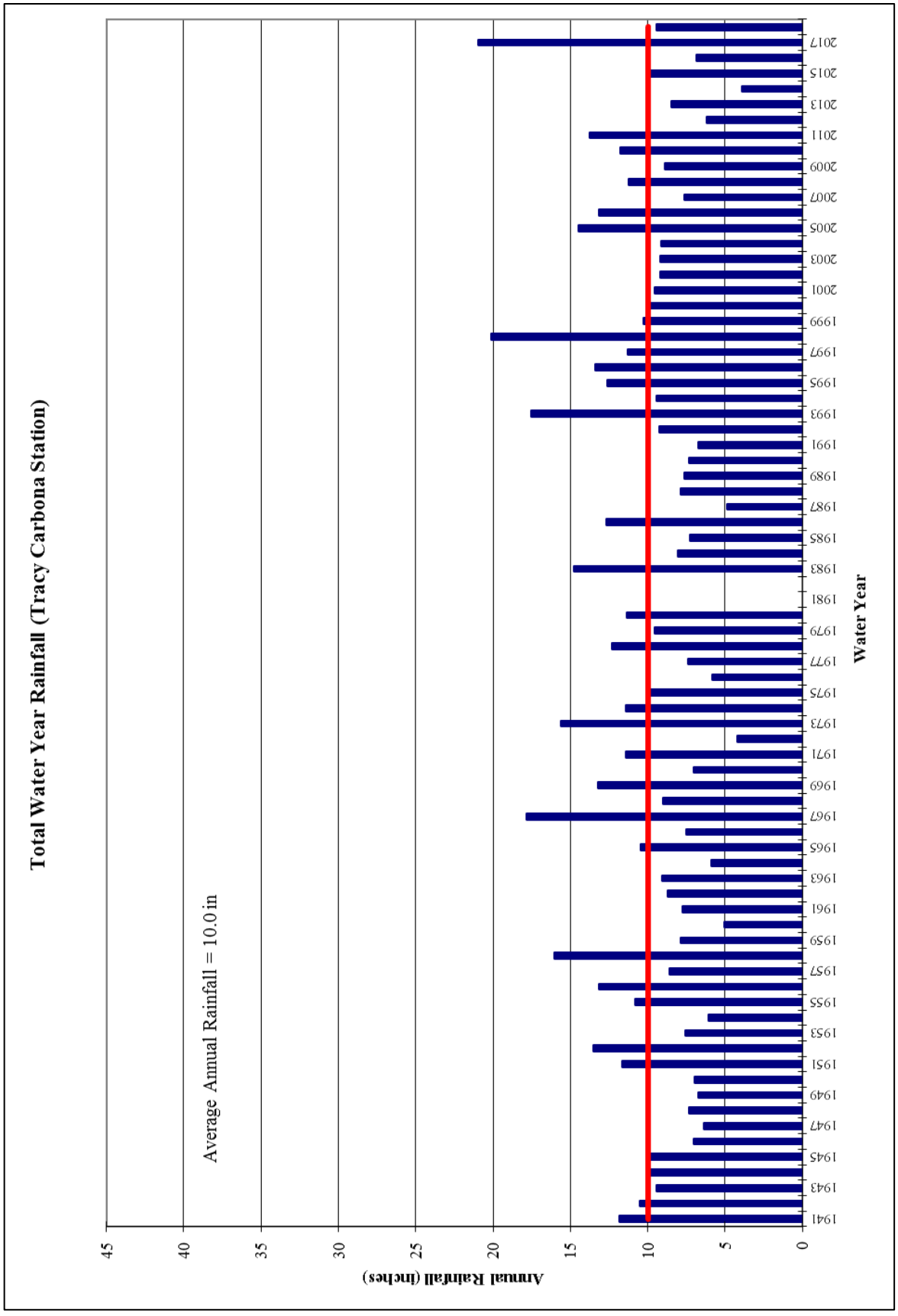

Figure 1-2 Total Annual Rainfall (Tracy Carbona Station)

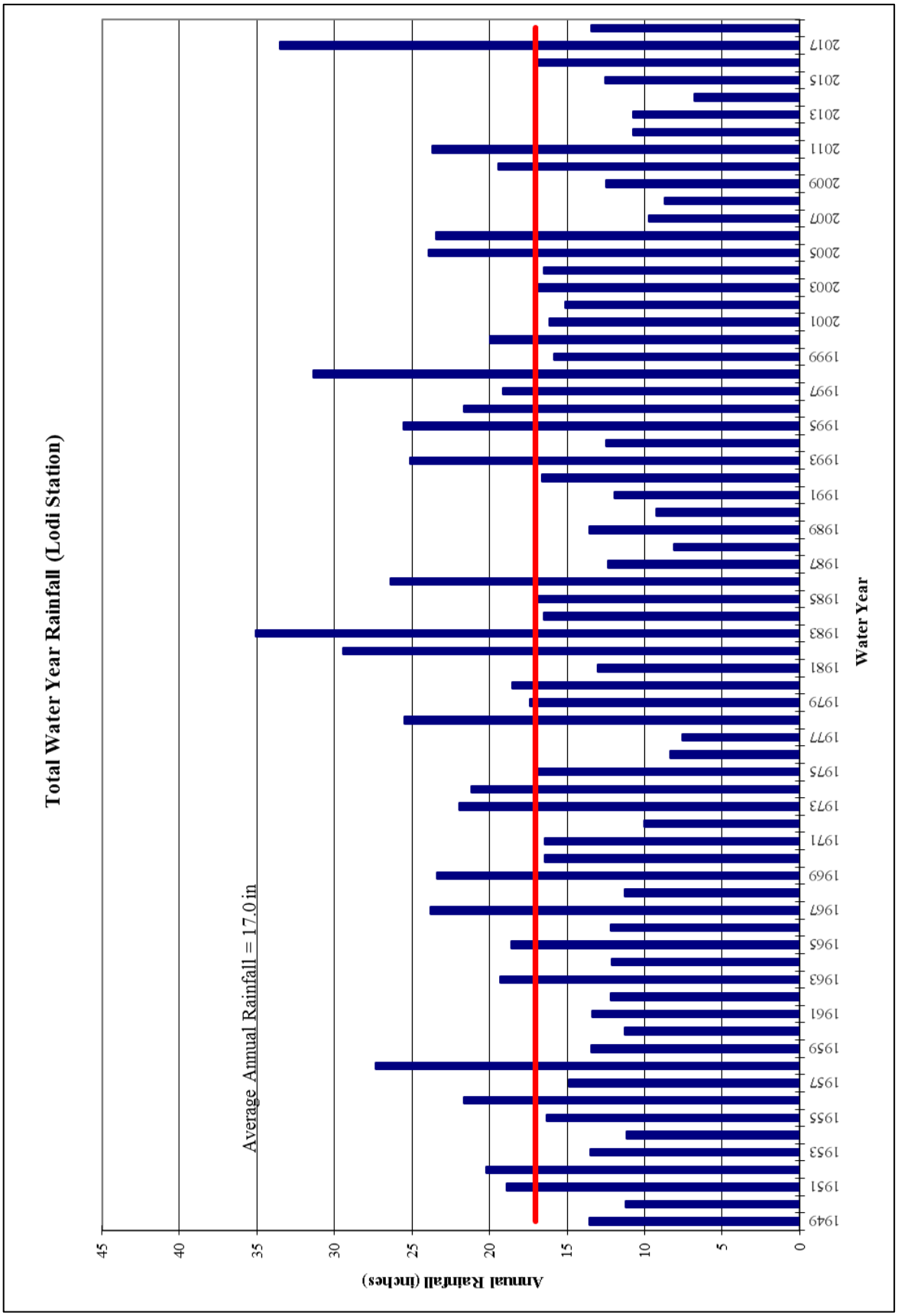

Figure 1-3 Total Annual Rainfall (Lodi Station)

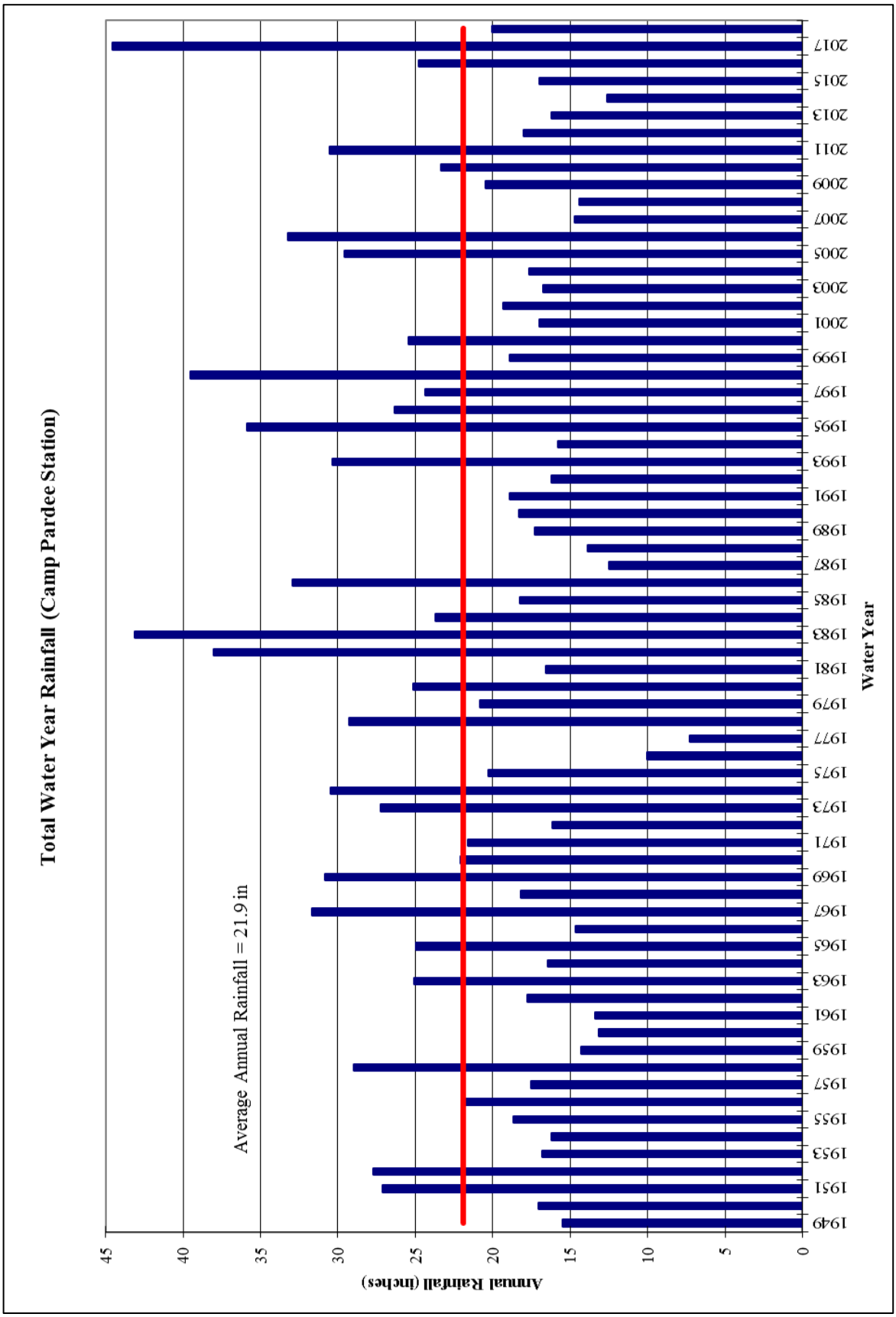

Figure 1-4 Total Annual Rainfall (Camp Pardee Station)

Monthly Rainfall Distribution

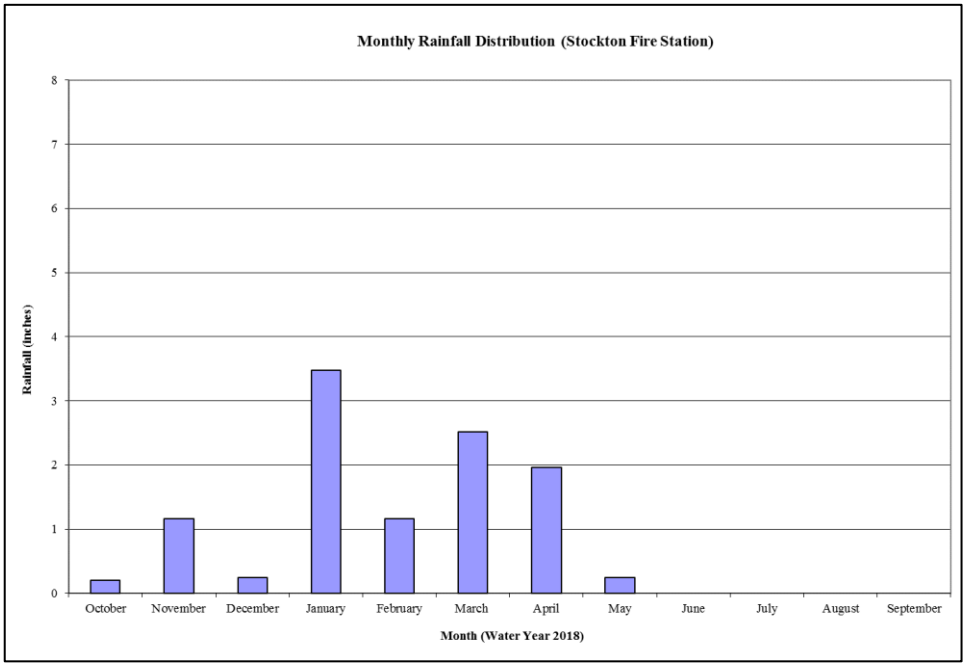

Figure 1-5 Monthly Rainfall Distribution (Stockton Fire Station 4)

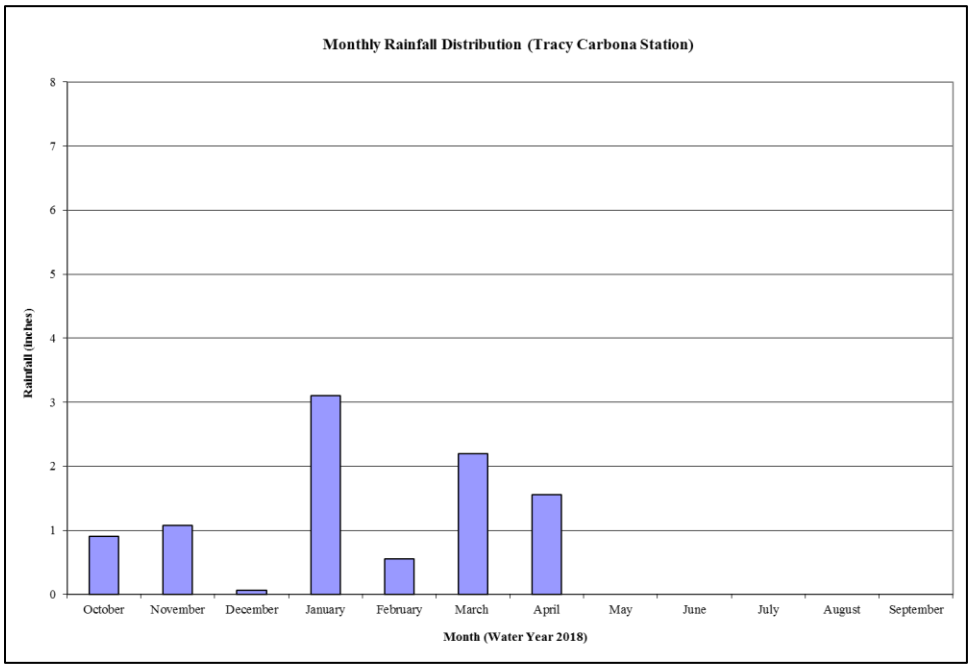

Figure 1-6 Monthly Rainfall Distribution (Tracy Carbona Station)

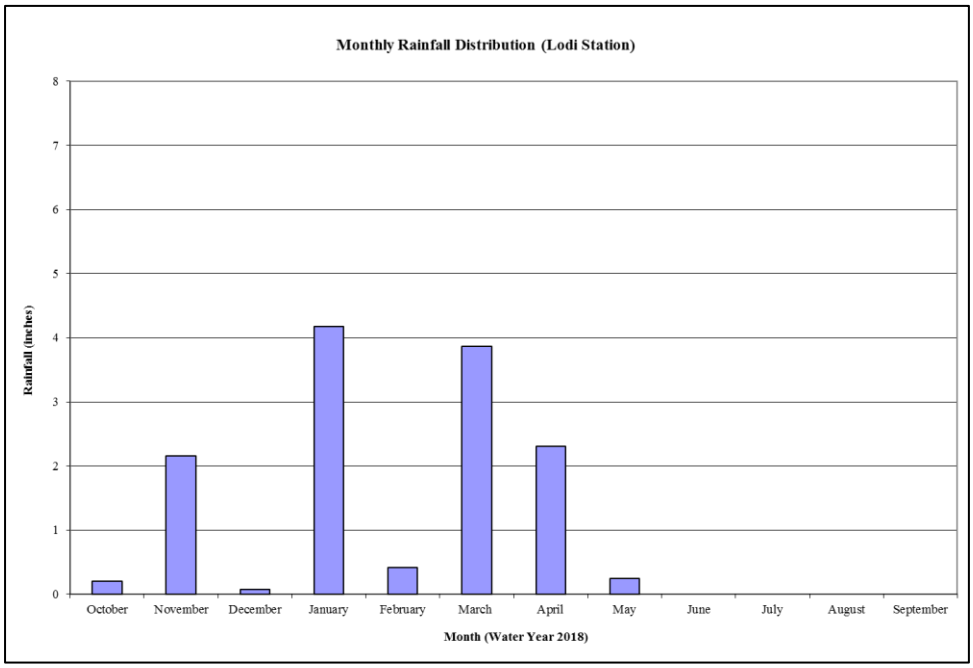

Figure 1-7 Monthly Rainfall Distribution (Lodi Station)

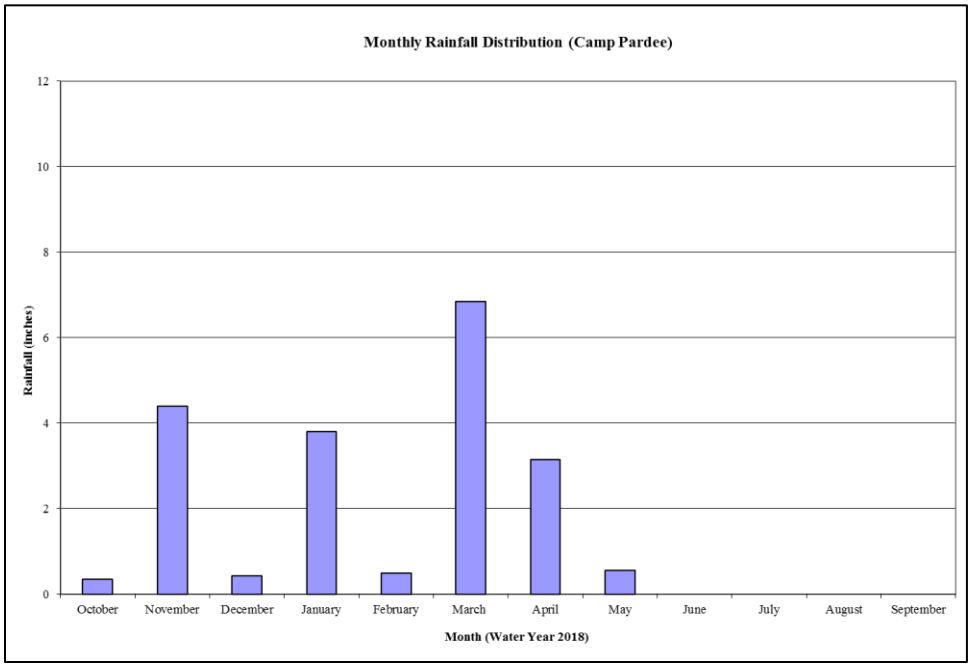

Figure 1-8 Monthly Rainfall Distribution (Camp Pardee Station)

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Section 2 - Groundwater Elevation Monitoring

Summary of Groundwater Elevations

The information contained in the Spring 2018 Groundwater Report is summarized as follows

GROUNDWATER LEVELS

Central San Joaquin Water Conservation District (CSJWCD) – Fifty-seven (57) wells are monitored in CSJWCD. Sixteen (16) wells were able to be compared. Eleven (11) show decreases in groundwater levels. Five (5) wells show increases in groundwater levels. No wells had no change in groundwater elevation.

North San Joaquin Water Conservation District (NSJWCD) – One hundred fifty-five (155) wells are monitored in NSJWCD. Twenty-six (26) wells were able to be compared. Seven (7) wells decreased in groundwater levels. Eighteen (18) wells increased in groundwater levels. No change was observed in one (1) well.

Oakdale Irrigation District (OID) – Two (2) wells are monitored in the OID area. The wells were unable to be compared.

Stockton East Water District (SEWD) – One hundred fifty (150) wells are monitored in SEWD. Fifty-three (53) wells were able to be compared. Twenty-seven (27) wells decreased in groundwater levels. Twenty-two (22) wells show increases in groundwater levels. Four (4) wells had no change in groundwater elevations.

South San Joaquin Irrigation District (SSJID) – Forty (40) wells are monitored in the SSJID area. Seven (7) wells were able to be compared. Two (2) wells show decreases in groundwater levels. Three (3) wells show increases in groundwater levels. No change was observed in two (2) wells.

Southwest County Areas – Nineteen (19) wells are monitored across the Southwest Area of the County. Nine (9) wells were able to be compared. Nine (9) wells decreased in groundwater levels. No wells increased in groundwater level. No wells had no change in groundwater elevation.

Woodbridge Irrigation District (WID) – Thirty-two (32) wells are monitored in the WID area. Twenty-four (24) wells were able to be compared. Fourteen (14) wells decreased in groundwater levels. Ten (10) wells show increases in groundwater levels. No wells had no change in groundwater elevation.

Table 2-1 Comparison of CSJWCD Water Levels

StateWellID	Spring 2018	Spring 2017	Change
01N07E11L001	-70.00	*	*
01N07E13J002	*	*	*
01N07E14J002	-42.60	*	*
01N07E24A001	*	*	*
01N07E24R001	*	*	*
01N07E26H003	-41.00	-38.00	-3.00
01N07E32A001	*	-18.39	*
01N08E09L001	*	-57.96	*
01N08E11L001	-64.00	*	*
01N08E13J001	*	*	*
01N08E15J001	*	-49.23	*
01N08E16G001	-63.70	-49.70	-14.00
01N08E16H002	-77.00	-51.50	-25.50
01N08E16P001	*	-48.25	*
01N08E18A002	-60.50	-57.50	-3.00
01N08E22J001	-40.50	*	*
01N08E26A002	-34.30	*	*
01N08E27R002	-40.00	*	*
01N08E29M002	-65.00	*	*
01N08E35F001	-69.90	-56.90	-13.00
01N08E36F001	-53.00	*	*
01N09E05J001	*	*	*
01N09E06N001	*	*	*
01N09E13D001	13.00	*	*
01N09E15B002	*	*	*
01N09E17D001	-30.50	-42.50	12.00
01N09E17M001	-43.50	-38.00	-5.50
01N09E19C001	-69.00	-58.00	-11.00
01N09E22G002	-34.40	*	*
01N09E26A001	*	5.37	*
01N09E29R001	-16.50	-19.50	3.00
01N09E30C005	-33.70	*	*
01N09E31J001	*	*	*
01N09E35K001	*	1.18	*
01S07E01J001	-40.60	-45.60	5.00
01S07E02J001	*	*	*
01S07E12H001	*	*	*
01S07E13J001	*	*	*
01S08E04R001	*	*	*
01S08E05A001	-79.40	*	*
01S08E05R001	-58.80	-55.80	-3.00

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
01S08E06D001	-38.10	-32.10	-6.00
01S08E09Q001	-41.90	-32.90	-9.00
01S08E11F001	-23.90	*	*
01S08E12B001	*	*	*
01S08E14B001	-21.20	-32.70	11.50
01S08E15P001	*	*	*
01S08E20B001	-18.70	*	*
01S08E23A001	8.50	*	*
01S09E02R001	*	*	*
01S09E05H002	*	*	*
01S09E07A001	-32.30	*	*
01S09E07N001	-31.30	*	*
01S09E09R001	-16.70	-0.70	-16.00
01S09E11J002	*	17.20	*
01S09E18R003	*	*	*
01S09E19Q002	9.00	-1.00	10.00

Total Number of Wells	**57**
Total Number of Comparable Wells	**16**
Number of Wells with Decrease	**11**
Number of Wells with Increase	**5**
Number of Wells with No Change	**0**
Range of Change	**-25.50 to 12.00**
Average Change	**-4.22**

Table 2-2 Comparison of NSJWCD Water Levels

StateWellID	Spring 2018	Spring 2017	Change
03N06E04C001	*	4.36	*
03N06E23A003	*	-27.47	*
03N06E24M003	*	*	*
03N06E25C001	*	-32.95	*
03N06E25H015	*	*	*
03N06E36N001	*	*	*
03N07E03R001	-24.80	-25.30	0.50
03N07E05D005	*	29.17	*
03N07E08B012	*	-17.75	*
03N07E08E002	-25.00	-25.00	0.00
03N07E09C001	-23.70	-24.70	1.00
03N07E09C003	*	-20.78	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
03N07E09P002	*	-31.58	*
03N07E10L004	*	*	*
03N07E12P001	*	-45.25	*
03N07E15C004	-36.50	-37.50	1.00
03N07E17A006	*	*	*
03N07E17D003	*	-25.73	*
03N07E17D004	-24.40	-27.40	3.00
03N07E17K002	*	*	*
03N07E18D012	-25.00	-28.00	3.00
03N07E18M002	*	-28.83	*
03N07E19J004	-77.00	-46.00	-31.00
03N07E19Q012	*	-37.38	*
03N07E20C012	*	-37.74	*
03N07E21L003	*	*	*
03N07E22C011	*	-43.10	*
03N07E23C002	*	-46.00	*
03N07E23K011	*	-49.94	*
03N07E25G001	*	*	*
03N07E26G012	*	-51.47	*
03N07E32Q012	*	-48.85	*
03N07E33G002	-66.00	*	*
03N08E04Q001	*	-42.97	*
03N08E05K011	*	*	*
03N08E07J001	*	*	*
03N08E17B001	*	-48.57	*
03N08E17Q011	*	-51.87	*
03N08E19C001	-41.30	*	*
03N08E19M003	*	-51.27	*
03N08E22A001	*	*	*
04N06E02R011	*	*	*
04N06E03A012	*	4.50	*
04N06E06N012	*	*	*
04N06E12C004	-32.50	-43.00	10.50
04N06E12N002	-24.80	-28.80	4.00
04N06E15B002	-7.20	-12.70	5.50
04N06E16A011	*	-3.56	*
04N06E16C001	*	4.12	*
04N06E16K011	*	15.94	*
04N06E23D004	*	-11.61	*
04N06E23K00	0.00	-5.00	5.00
04N06E24D012	*	-16.10	*
04N06E24F001	-14.00	-17.00	3.00
04N06E25B001	*	-11.40	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
04N06E25R001	1.00	-1.00	2.00
04N06E27D002	8.70	19.20	-10.50
04N06E27Q012	*	30.48	*
04N06E36J012	*	15	*
04N07E01B011	*	*	*
04N07E02R001	*	-40.14	*
04N07E04B012	*	-44.05	*
04N07E04Q012	*	-42.41	*
04N07E07A001	*	*	*
04N07E07H011	*	-38.84	*
04N07E11D012	*	-41.13	*
04N07E12E001	*	*	*
04N07E12G012	*	*	*
04N07E14P011	*	-34.11	*
04N07E15B012	*	*	*
04N07E16D001	*	-38.74	*
04N07E17J013	*	*	*
04N07E17N001	-36.30	-33.30	-3.00
04N07E19K001	-20.10	-18.60	-1.50
04N07E19R011	*	-19.61	*
04N07E20H003	*	-98.70	*
04N07E21F001	-26.80	-28.30	1.50
04N07E23J012	*	-28.73	*
04N07E24N002	*	-28.33	*
04N07E25G015	*	-19.94	*
04N07E27C002	-22.50	-12.50	-10.00
04N07E28J002	-17.70	-18.70	1.00
04N07E28P011	*	9.43	*
04N07E29N012	*	-3.92	*
04N07E31Q031	*	26.49	*
04N07E32F011	*	9.97	*
04N07E33H001	*	37.50	*
04N07E34K011	*	-6.93	*
04N07E35C002	*	*	*
04N07E35E013	*	*	*
04N07E36L001	-26.50	-27.10	0.60
04N08E01K001	*	44.13	*
04N08E02E011	*	-12.57	*
04N08E04P014	*	-47.37	*
04N08E06C002	*	*	*
04N08E06N002	*	*	*
04N08E11M012	*	-10.77	*
04N08E12A011	*	77.13	*
04N08E12B011	*	50.03	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
04N08E12N001	*	21.93	*
04N08E14B011	*	-4.17	*
04N08E14K001	-9.10	-12.10	3.00
04N08E15D011	*	-23.27	*
04N08E15J011	*	-17.57	*
04N08E17A001	*	*	*
04N08E17J001	-34.00	-33.50	-0.50
04N08E21M001	-37.10	-37.60	0.50
04N08E22C015	*	-22.97	*
04N08E26A012	*	*	*
04N08E27J011	*	-22.57	*
04N08E28E001	*	*	*
04N08E32N001	-48.10	-41.10	-7.00
04N08E34Q011	*	-36.96	*
04N09E05E099	*	160.73	*
04N09E06H098	*	177.73	*
04N09E06H099	*	207.03	*
04N09E06J098	*	207.73	*
04N09E06J099	*	166.83	*
04N09E06K097	*	113.63	*
04N09E06K099	*	124.33	*
04N09E06L011	*	117.43	*
04N09E07B098	*	154.03	*
04N09E07B099	*	153.73	*
04N09E07D012	*	84.73	*
04N09E07E011	*	87.63	*
04N09E08N096	*	176.63	*
04N09E08N097	*	172.33	*
04N09E08N098	*	169.13	*
04N09E08N099	*	173.33	*
04N09E08P099	*	180.33	*
04N09E08R099	*	*	*
04N09E16D099	*	187.93	*
04N09E16Q002	*	158.33	*
04N09E17A099	*	176.03	*
04N09E17E001	*	142.73	*
04N09E17E099	*	159.13	*
04N09E17F099	*	165.43	*
04N09E17G099	*	167.53	*
04N09E18A011	*	*	*
04N09E18D002	*	52.53	*
04N09E18N011	*	24.13	*
04N09E20M001	*	111.44	*
04N09E21A001	*	*	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
04N09E28C002	*	183.24	*
05N06E36R001	-22.80	-36.30	13.50
05N07E31J001	-53.00	-56.00	3.00
05N07E34G001	*	*	*
05N07E34Q001	*	*	*
05N08E24Q011	*	55.63	*
05N08E25P011	*	52.33	*
05N08E32R011	*	-37.17	*
05N08E35K012	*	-1.17	*
05N09E30C011	*	160.63	*
05N09E30M011	*	144.43	*
05N09E31L011	*	126.83	*

Total Number of Wells	**155**
Total Number of Comparable Wells	**26**
Number of Wells with Decrease	**7**
Number of Wells with Increase	**18**
Number of Wells with No Change	**1**
Range of Change	**-31.00 to 13.50**
Average Change	**-0.07**

Table 2-3 Comparison of OID Water Levels

StateWell ID	Spring 2018	Spring 2017	Change
01S09E14K001	*	31.11	*
01S09E21J002	*	*	*

Total Number of Wells	**2**
Total Number of Comparable Wells	**-**
Number of Wells with Decrease	**-**
Number of Wells with Increase	**-**
Number of Wells with No Change	**-**
Range of Change	**-**
Average Change	**-**

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

Table 2-4 Comparison of SEWD Water Levels

StateWellID	Spring 2018	Spring 2017	Change
01N06E01J001	*	-28.50	*
01N06E01M001	*	-33.00	*
01N06E02C001	*	-17.33	*
01N06E04J003	-10.43	-12.43	2.00
01N06E04J004	-6.17	-6.57	0.40
01N06E04J005	-1.91	-0.91	-1.00
01N06E05H001	*	-3.49	*
01N06E05M004	*	-7.50	*
01N06E12A001	*	-21.00	*
01N06E12F001	*	-46.00	*
01N06E12K003	*	-9.00	*
01N06E27R002	*	-6.20	*
01N06E36C003	-11.8	-11.50	-0.30
01N06E36C004	-7.50	-5.00	-2.50
01N06E36C005	-5.70	-3.00	-2.70
01N07E01A002	*	*	*
01N07E01M002	-54.00	-67.00	13.00
01N07E02G001	*	*	*
01N07E03D002	*	*	*
01N07E03D003	*	*	*
01N07E03D004	*	*	*
01N07E03D005	*	*	*
01N07E03L001	*	*	*
01N07E03M001	-11.00	*	*
01N07E04R001	-20.00	*	*
01N07E08B001	*	*	*
01N07E08P001	*	-32.50	*
01N07E09E004	-34.00	*	*
01N07E09H001	*	*	*
01N07E09Q003	-35.00	-55.00	20.00
01N07E10D001	*	-40.00	*
01N07E10G001	*	*	*
01N07E17D002	*	-39.50	*
01N07E18B001	*	-34.00	*
01N07E18D001	*	-17.00	*
01N07E18E002	*	-23.00	*
01N07E18E003	*	-25.00	*
01N07E18L001	*	-23.00	*
01N07E19G001	*	*	*
01N07E20G001	*	-24.00	*
01N07E21R001	-25.00	*	*
01N08E03P001	*	*	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
01S06E01C002	-3.00	3.00	-6.00
01S06E02D004	*	-0.79	*
01S06E02G002	*	1.73	*
01S06E10G001	*	10.20	*
01S07E06M002	-4.00	2.00	-6.00
01S07E08J002	*	1.00	*
02N05E01A002	-25.04	-27.54	2.50
02N05E01A003	-15.01	-15.51	0.50
02N05E01A004	-12.56	-11.06	-1.50
02N05E01A005	-11.24	-10.04	-1.20
02N05E01A006	-9.88	-6.58	-3.30
02N06E03A003	-27.30	-31.80	4.50
02N06E06C002	*	*	*
02N06E08N001	-22.08	-23.98	1.90
02N06E08N002	-20.42	-21.02	0.60
02N06E08N003	-17.91	-17.91	0.00
02N06E11H004	*	-45.40	*
02N06E11H005	*	-45.87	*
02N06E11H006	*	-39.92	*
02N06E11H007	*	-45.85	*
02N06E13R002	*	*	*
02N06E19H001	-17.22	*	*
02N06E19H002	-16.44	*	*
02N06E19H003	-15.91	*	*
02N06E20E001	-14.40	-15.00	0.60
02N06E20E002	*	-13.50	*
02N06E20E003	-12.20	-12.00	-0.20
02N06E22B001	*	-36.00	*
02N06E24F001	-31.50	-31.50	0.00
02N06E24J002	-29.30	*	*
02N06E27L001	*	-47.00	*
02N06E32G001	*	-6.09	*
02N06E35B001	*	-22.00	*
02N06E36A001	*	-24.00	*
02N06E36F001	*	-35.50	*
02N06E36R003	*	-23.00	*
02N07E03D001	-51.00	-70.00	19.00
02N07E06P002	*	-40.80	*
02N07E07G002	-44.60	*	*
02N07E07G003	-42.70	*	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
02N07E08D001	-56.20	-51.20	-5.00
02N07E08K003	-54.00	-69.00	15.00
02N07E08R002	*	-55.04	*
02N07E10F002	*	*	*
02N07E11F001	-95.00	-87.00	-8.00
02N07E11R002	-75.00	-58.00	-17.00
02N07E12A003	*	-55.75	*
02N07E15C001	*	-58.30	*
02N07E16F002	-63.44	-59.94	-3.50
02N07E16L001	-76.30	-56.30	-20.00
02N07E18H002	*	-49.70	*
02N07E20N002	-35.00	-44.00	9.00
02N07E21A002	-62.81	-62.81	0.00
02N07E21K002	-61.00	-56.50	-4.50
02N07E21N001	-80.00	*	*
02N07E23B001	-83.00	-66.00	-17.00
02N07E24B001	-59.10	-60.10	1.00
02N07E24Q001	-95.00	*	*
02N07E26H003	*	*	*
02N07E26N001	*	-69.20	*
02N07E28K002	-64.00	-71.00	7.00
02N07E28N004	-41.00	-52.00	11.00
02N07E28P001	-58.00	*	*
02N07E29B001	-59.50	-55.50	-4.00
02N07E29M002	-30.00	-39.00	9.00
02N07E30E001	*	*	*
02N07E30H001	*	-38.50	*
02N07E31M001	*	*	*
02N07E32J002	-31.00	*	*
02N07E32M002	-12.00	*	*
02N07E32R001	-15.60	-15.60	0.00
02N07E33L001	-31.00	*	*
02N07E34R001	-58.50	*	*
02N07E35L001	*	*	*
02N07E36H001	*	*	*
02N08E03G002	-56.70	-61.70	5.00
02N08E04C001	-72.50	-57.50	-15.00
02N08E05C001	-82.50	-68.50	-14.00
02N08E08N001	-81.50	-66.50	-15.00
02N08E09G002	36.00	-33.00	69.00
02N08E10H002	*	-62.10	*
02N08E13K001	*	-47.60	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
02N08E14C001	-63.00	-62.00	-1.00
02N08E15M002	-61.20	*	*
02N08E16D001	-88.10	-78.10	-10.00
02N08E18C001	-89.70	-58.70	-31.00
02N08E20F001	*	*	*
02N08E24J001	*	-82.10	*
02N08E24P001	*	*	*
02N08E28H002	-40.60	-42.60	2.00
02N08E32L002	*	*	*
02N08E33E001	-57.60	*	*
02N09E03A001	*	*	*
02N09E04H001	*	*	*
02N09E05H001	*	*	*
02N09E05N001	*	-28.19	*
02N09E08N001	*	*	*
02N09E09D001	*	-45.80	*
02N09E18Q001	*	-52.60	*
02N09E22D001	*	*	*
02N09E28N001	-22.30	-61.10	38.80
03N07E28K012	*	-50.16	*
03N07E35C002	-64.80	-55.80	-9.00
03N07E35L001	-79.50	-55.50	-24.00
03N07E36J001	-68.30	-53.30	-15.00
03N08E27R001	*	-64.00	*
03N09E25R001	87.00	74.00	13.00
03N09E36G001	*	71.20	*

Total Number of Wells	**150**
Total Number of Comparable Wells	**53**
Number of Wells with Decrease	**27**
Number of Wells with Increase	**22**
Number of Wells with No Change	**4**
Range of Change	**-31.00 to 69.00**
Average Change	**0.13**

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

Table 2-5 Comparison of SSJID Water Levels

StateWellID	Spring 2018	Spring 2017	Change
01S07E09Q001	*	-5.07	*
01S07E14M001	*	-15.10	*
01S07E14P003	*	*	*
01S07E15F002	-6.60	-18.60	12.00
01S07E18L001	*	6.67	*
01S07E21G001	*	8.15	*
01S07E25E001	1.00	1.00	0.00
01S07E25R001	*	7.55	*
01S07E26G001	*	1.00	*
01S07E27K001	*	5.00	*
01S07E30R001	*	11.46	*
01S07E36D001	*	9.95	*
01S08E19R001	*	*	*
01S08E25Q001	*	*	*
01S08E29K001	-6.00	*	*
01S08E30C002	-2.00	*	*
01S08E34Q001	*	13.96	*
01S08E35R002	*	21.57	*
01S09E29M002	22.50	*	*
01S09E33J002	*	46.02	*
01S09E33P001	*	43.41	*
01S09E34A001	*	*	*
02S07E07D002	9.00	9.00	0.00
02S07E07Q001	*	22.26	*
02S07E08R001	*	23.26	*
02S07E10B002	*	21.86	*
02S07E11N002	24.00	28.00	-4.00
02S07E12R001	*	21.85	*
02S07E19H001	*	22.00	*
02S07E22N002	*	24.85	*
02S08E04M001	17.50	*	*
02S08E06J001	16.00	15.00	1.00
02S08E07R001	*	*	*
02S08E08A001	21.00	23.00	-2.00
02S08E08E001	19.20	18.20	1.00
02S08E09J001	*	32.26	*
02S08E12D001	*	34.67	*
02S09E03K001	*	*	*

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

StateWellID	Spring 2018	Spring 2017	Change
02S09E12R001	*	65.95	*
02S09E19B002	*	57.60	*

Total Number of Wells	**40**
Total Number of Comparable Wells	**7**
Number of Wells with Decrease	**2**
Number of Wells with Increase	**3**
Number of Wells with No Change	**2**
Range of Change	**-4.00 to 12.00**
Average Change	**1.14**

Table 2-6 Comparison of South West County Area Water Levels

StateWellID	Spring 2018	Spring 2017	Change
01S05E31R002	1.00	2.60	-1.60
01S06E04J001	*	*	*
01S06E14F001	*	-5.60	*
01S06E15F001	*	6.71	*
01S06E23C003	*	8.63	*
01S06E26K001	*	5.14	*
02S04E15R001	50.00	53.00	-3.00
02S05E08B001	-0.30	1.30	-1.60
02S05E13N001	*	*	*
02S06E10K001	4.00	9.00	-5.00
02S06E25J001	14.50	18.50	-4.00
02S06E26B001	*	*	*
02S06E27E001	*	*	*
02S06E31N001	49.00	52.88	-3.88
02S07E31N001	13.20	17.00	-3.80
03S05E04H001	*	*	*
03S06E03F002	*	*	*
03S06E23C001	14.80	16.80	-2.00
03S06E27N001	62.80	65.63	-2.83

Total Number of Wells	**19**
Total Number of Comparable Wells	**9**
Number of Wells with Decrease	**9**
Number of Wells with Increase	**0**
Number of Wells with No Change	**0**
Range of Change	**-5.00 to -1.60**
Average Change	**-3.08**

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

Table 2-7 Comparison of WID Water Levels

StateWellID	Spring 2018	Spring 2017	Change
03N05E13L001	*	*	*
03N05E14C001	-2.80	2.20	-5.00
03N06E04P012	*	-4.66	*
03N06E05N003	-5.00	-8.50	3.50
03N06E07D013	*	-1.88	*
03N06E07H003	-8.00	-13.00	5.00
03N06E10D001	4.10	1.60	2.50
03N06E15C004	*	*	*
03N06E17A004	-14.70	-18.70	4.00
03N06E18M003	*	-8.60	*
03N06E20D002	-9.50	-14.50	5.00
03N06E26P002	-27.70	-31.70	4.00
03N06E27E001	-26.20	-30.20	4.00
03N06E29C001	-24.30	-20.80	-3.50
03N06E30R001	-18.00	-19.50	1.50
03N06E32R001	-19.00	-20.50	1.50
04N05E10K001	-4.50	3.50	-8.00
04N05E13C012	*	14.17	*
04N05E13H001	2.50	11.50	-9.00
04N05E13R004	4.00	9.00	-5.00
04N05E14B002	1.10	11.10	-10.00
04N05E14P001	1.00	7.50	-6.50
04N05E22H001	*	0.50	*
04N05E24J004	4.90	10.40	-5.50
04N05E26F001	2.70	8.20	-5.50
04N05E36H003	2.50	5.50	-3.00
04N06E17G004	5.50	14.50	-9.00
04N06E19R012	*	8.42	*
04N06E29N002	2.80	4.10	-1.30
04N06E30E001	7.20	12.70	-5.50
04N06E34J002	24.90	-2.60	27.50
05N05E28L003	-1.50	3.00	-4.50

Total Number of Wells	**32**
Total Number of Comparable Wells	**24**
Number of Wells with Decrease	**14**
Number of Wells with Increase	**10**
Number of Wells with No Change	**0**
Range of Change	**-10.00 to 27.50**
Average Change	**-0.95**

*Measurement not taken due to one or more of the following reasons: pumping, pump house locked, unable to get tape in casing, insects or dogs.

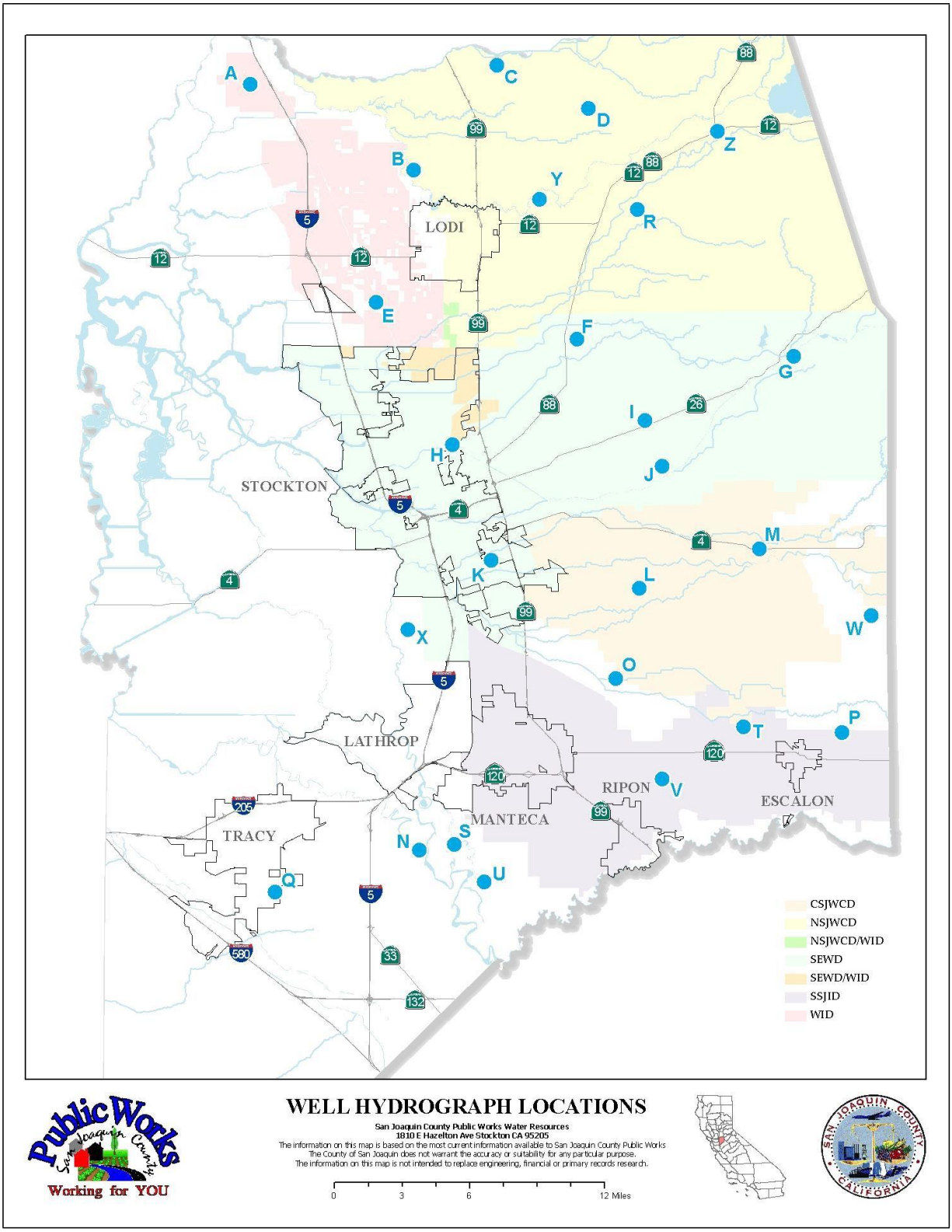

Figure 2-1 Well Hydrograph Locations

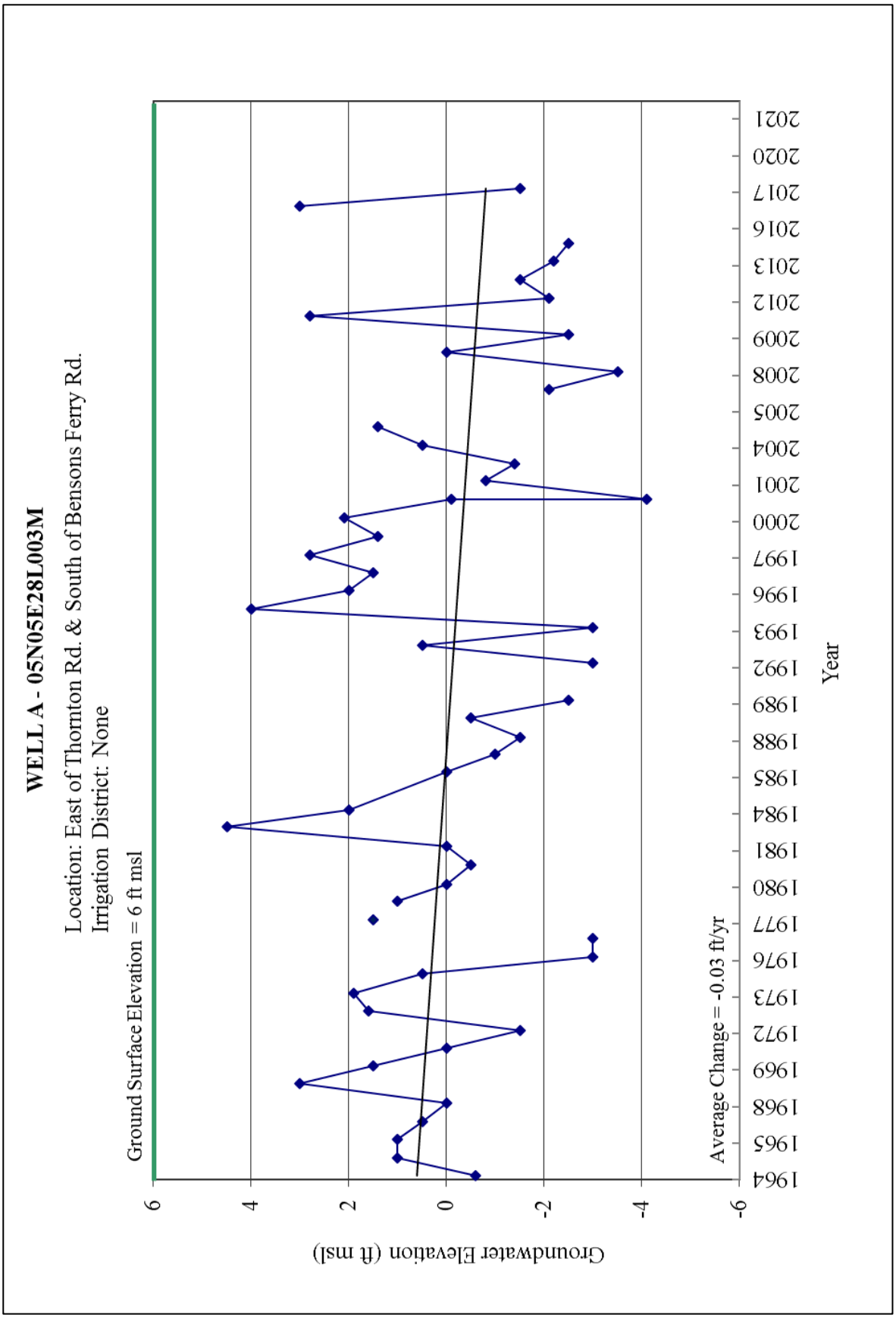

Figure 2-2 Spring Hydrograph Well A

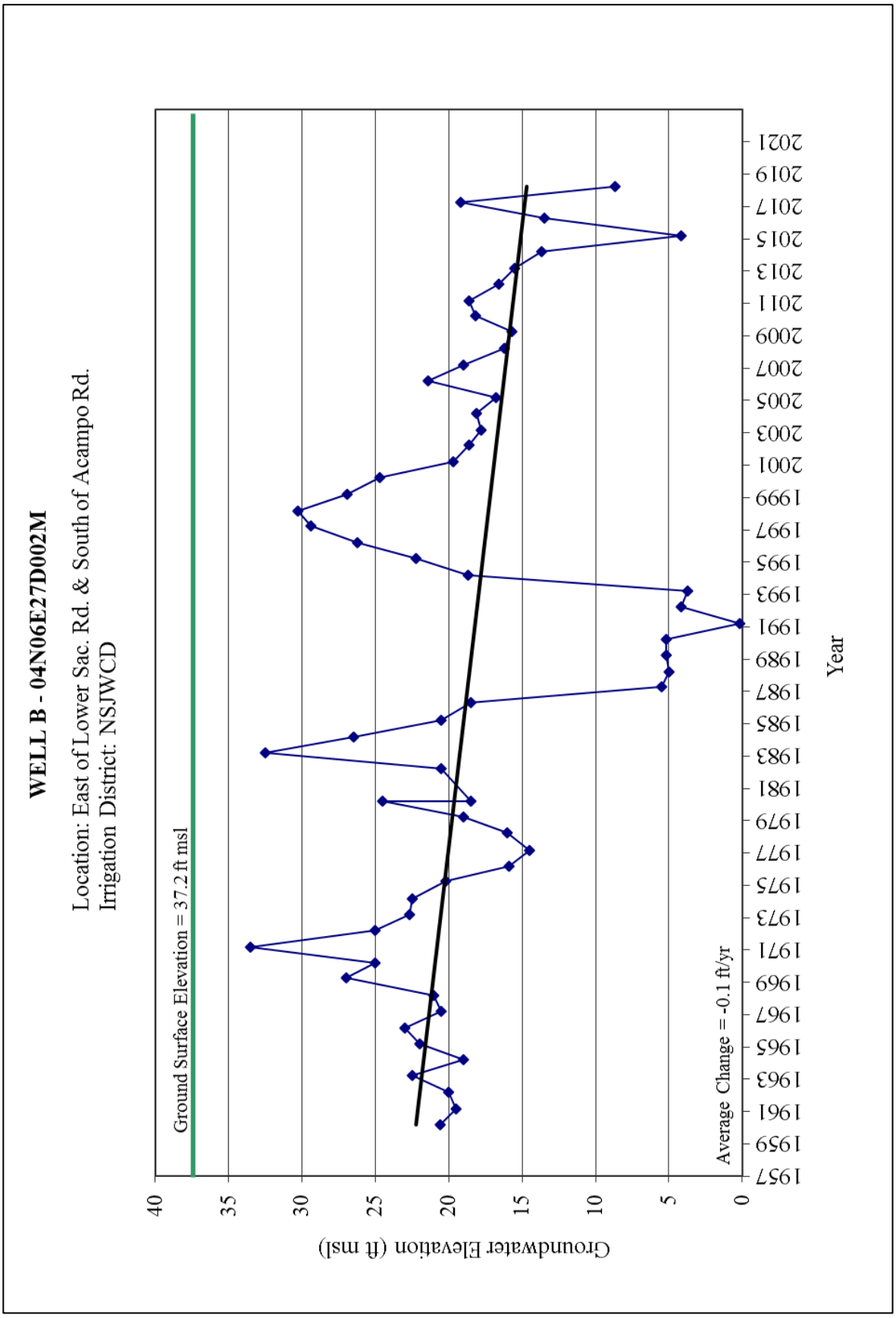

Figure 2-3 Spring Hydrograph Well B

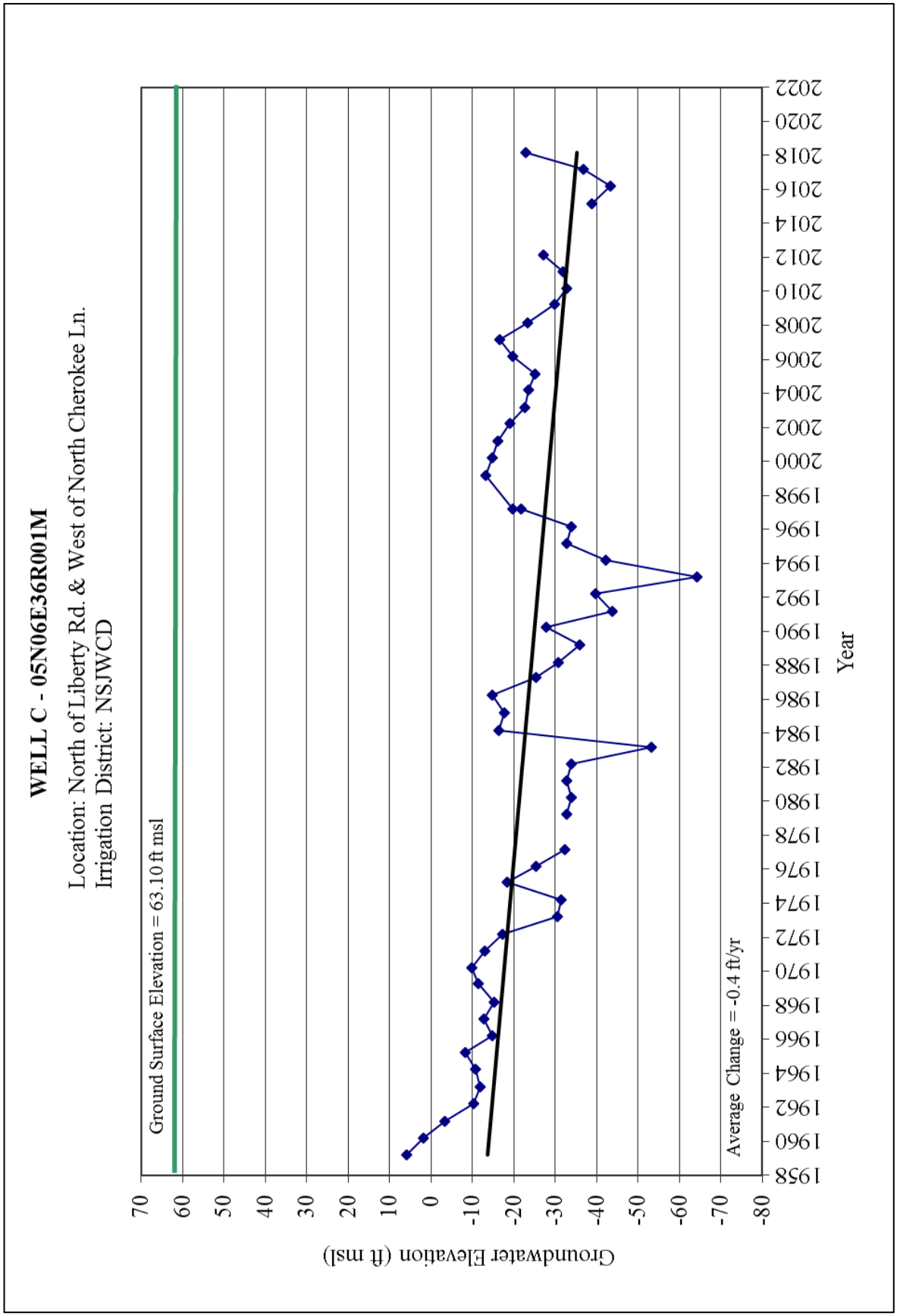

Figure 2-4 Spring Hydrograph Well C

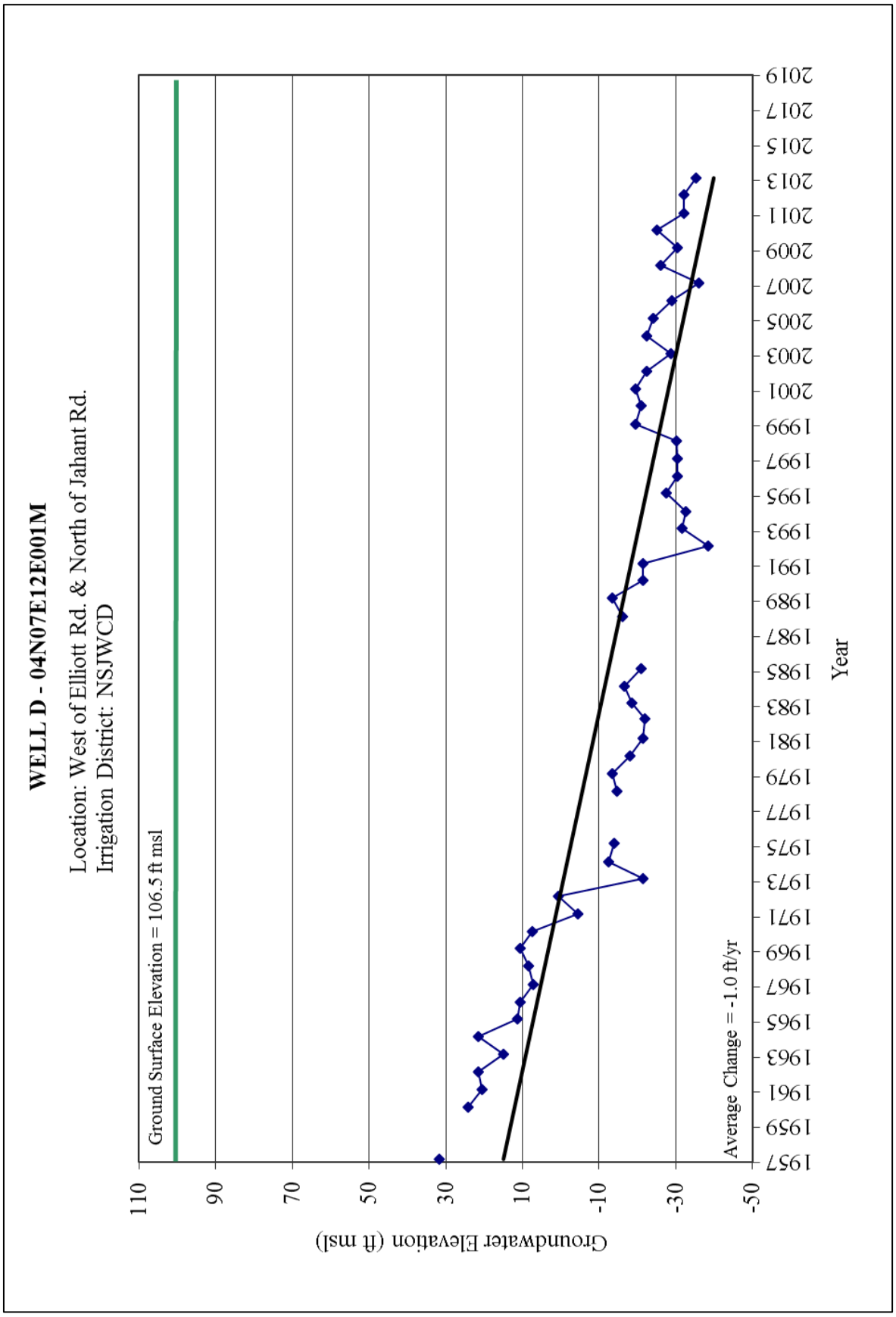

Figure 2-5 Spring Hydrograph Well D

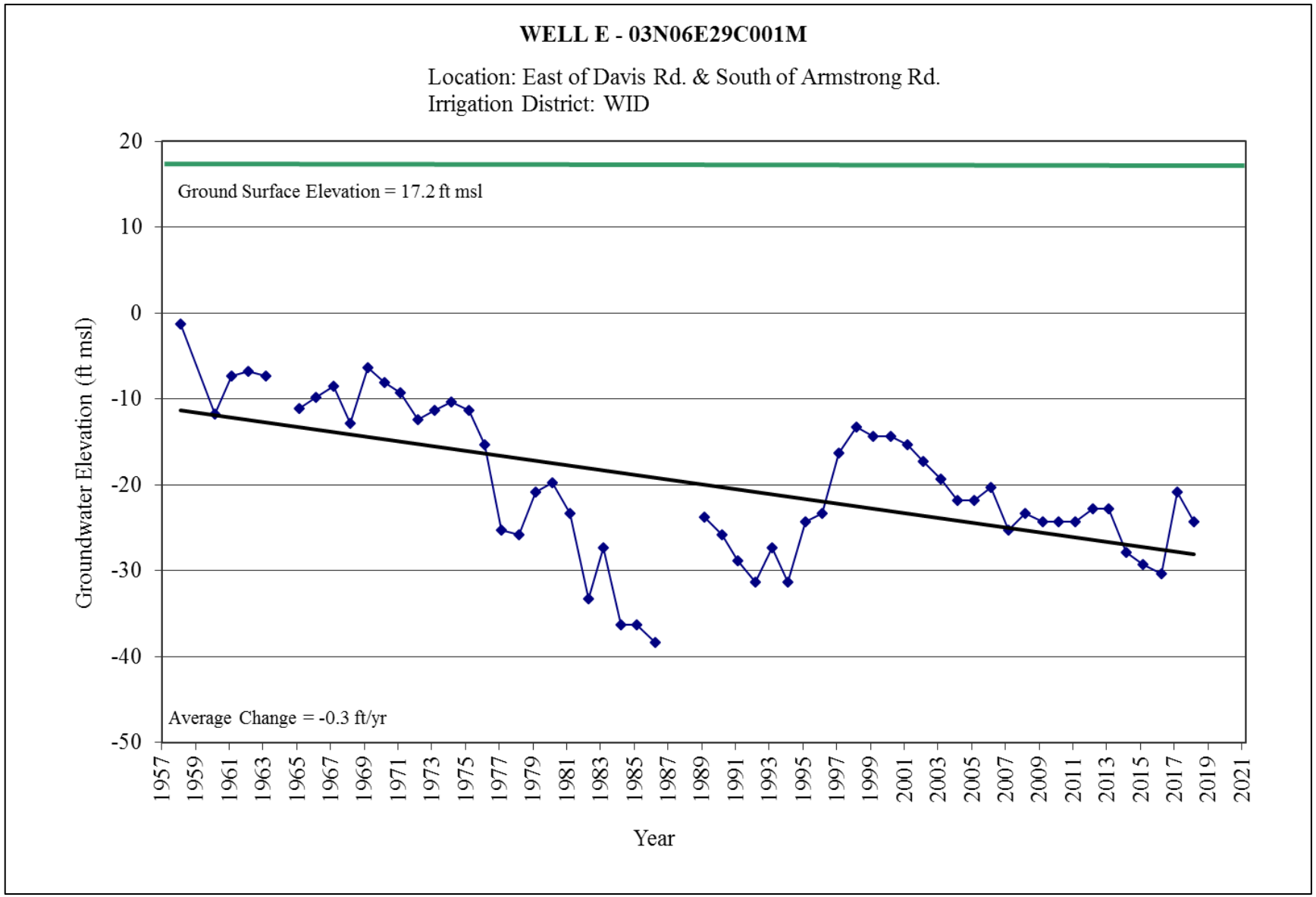

Figure 2-6 Spring Hydrograph Well E

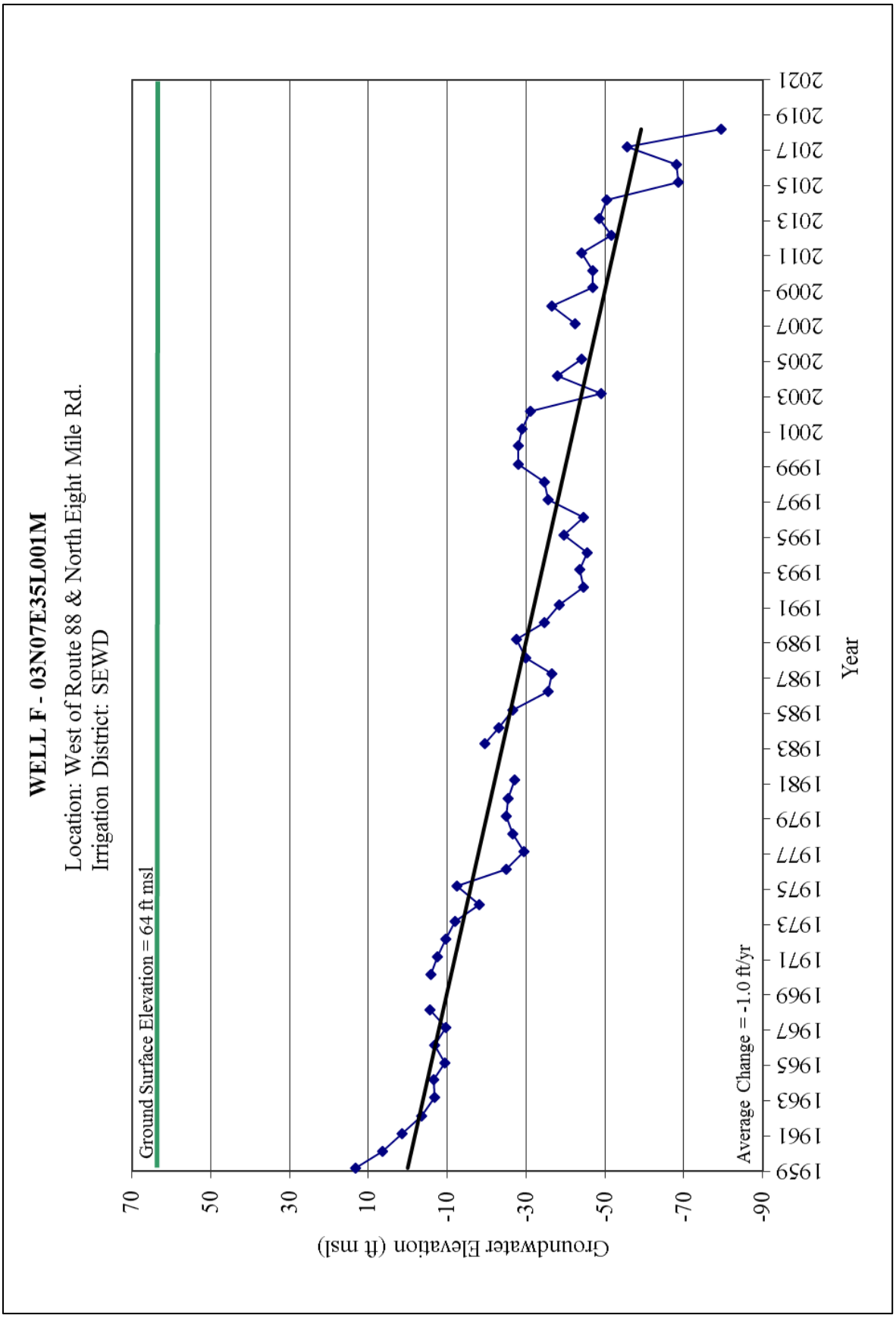

Figure 2-7 Spring Hydrograph Well F

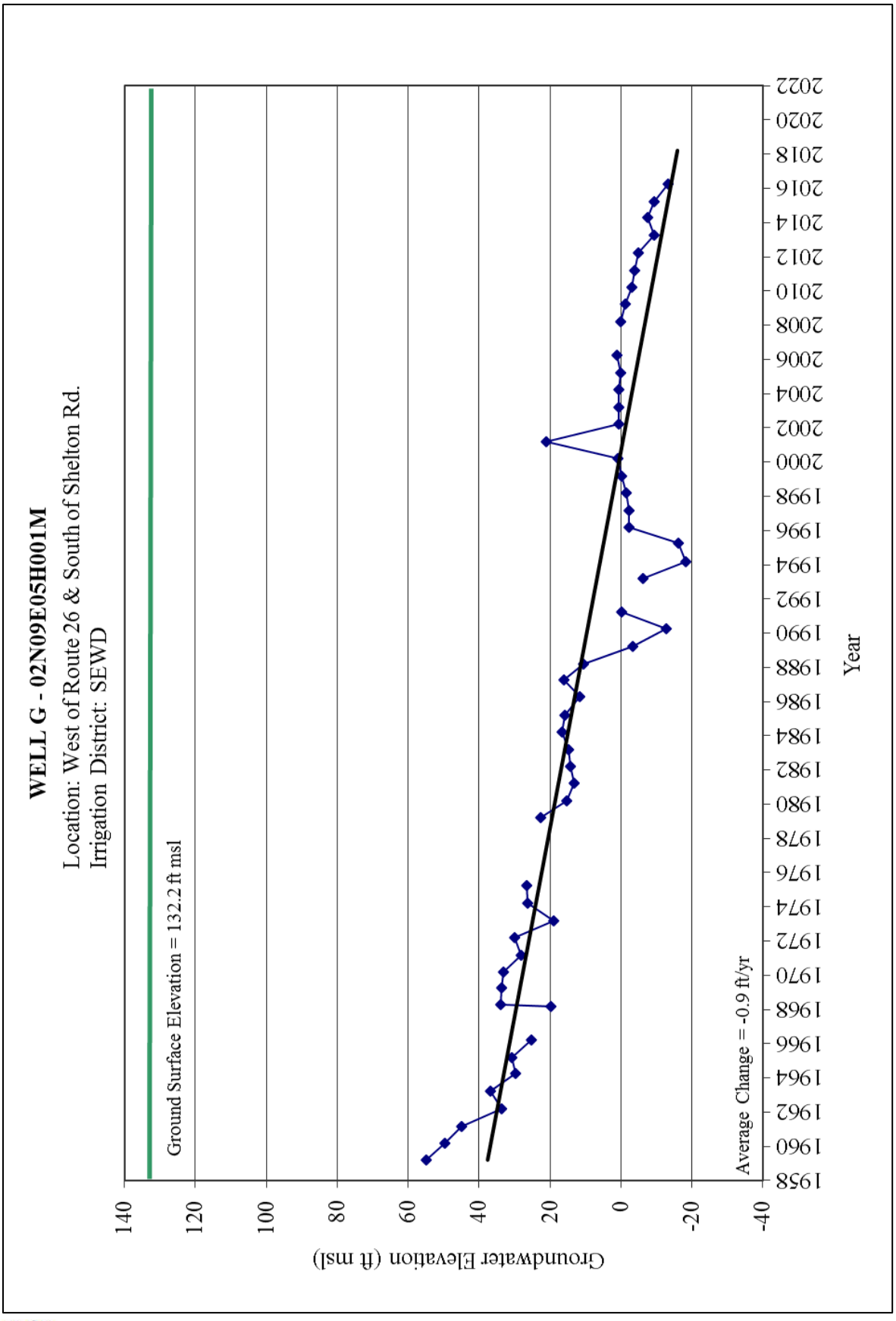

Figure 2-8 Spring Hydrograph Well G

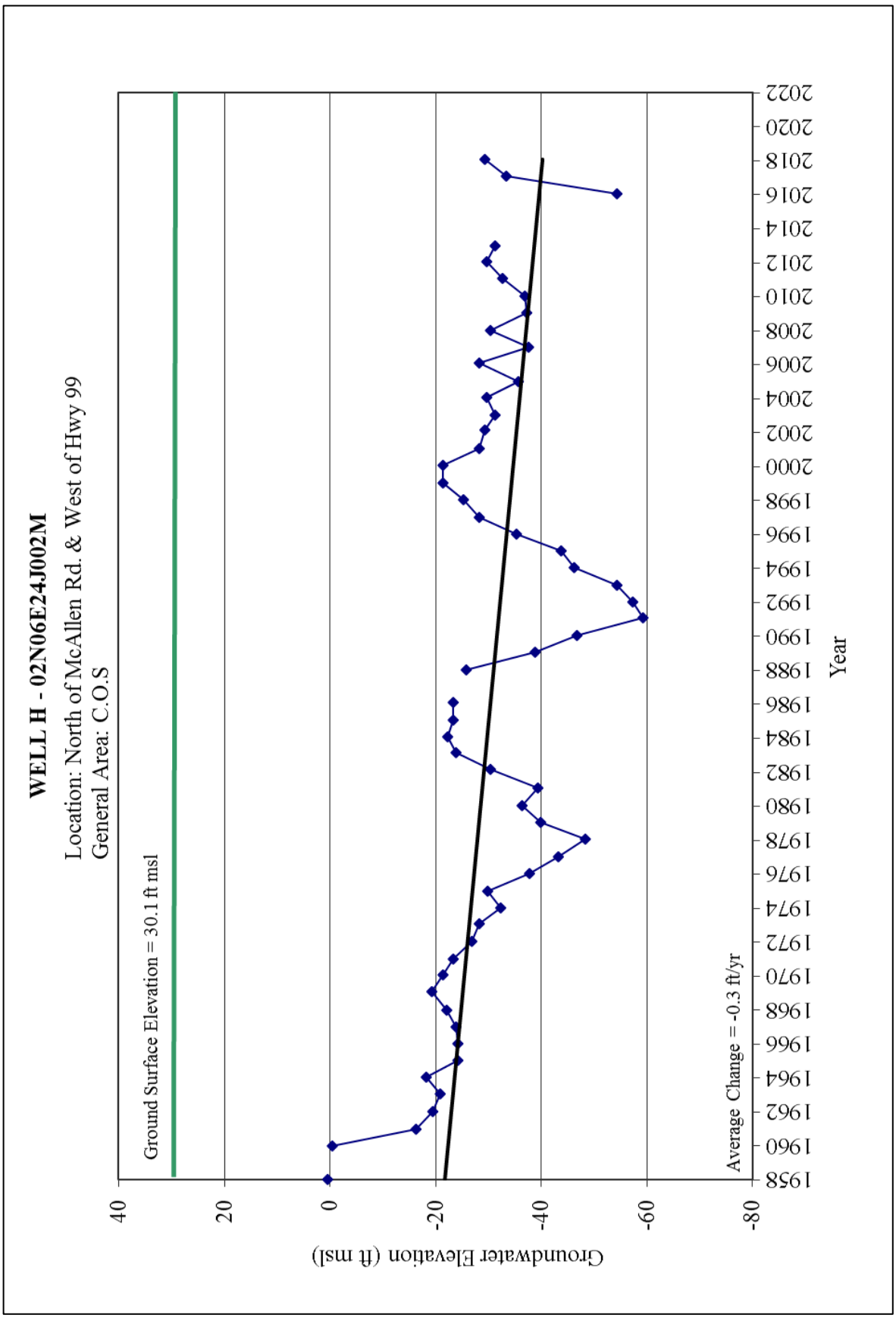

Figure 2-9 Spring Hydrograph Well H

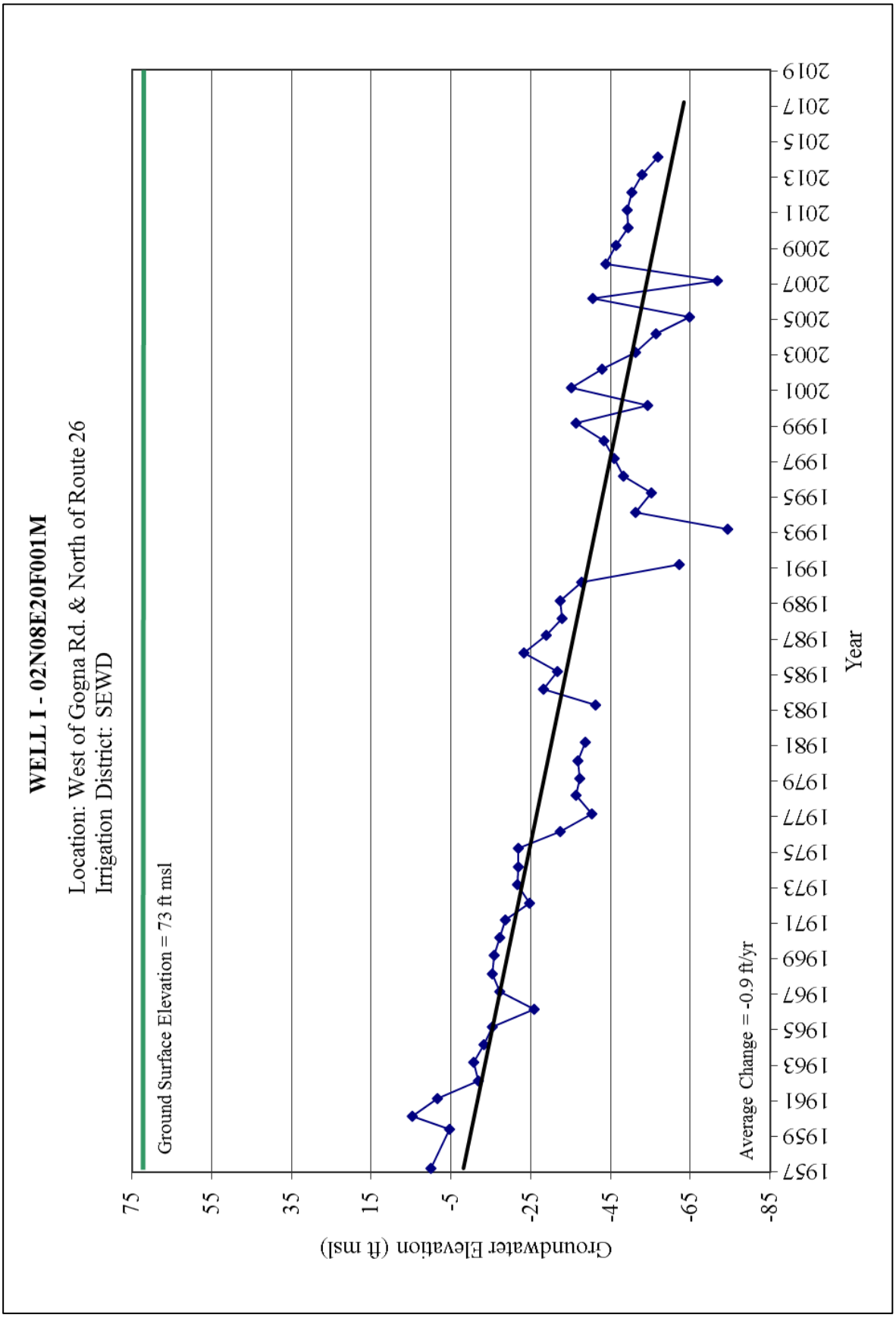

Figure 2-10 Spring Hydrograph Well I

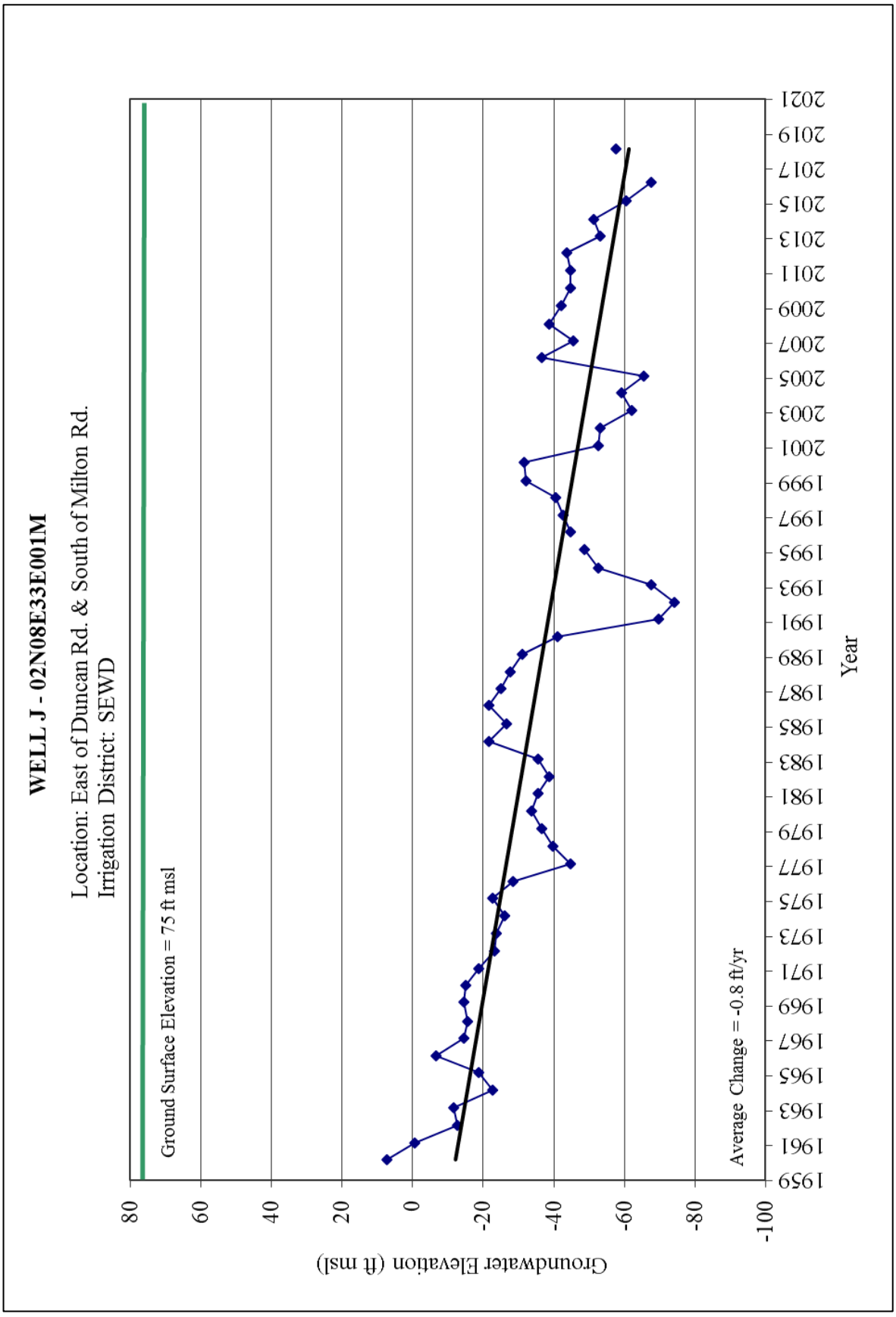

Figure 2-11 Spring Hydrograph Well J

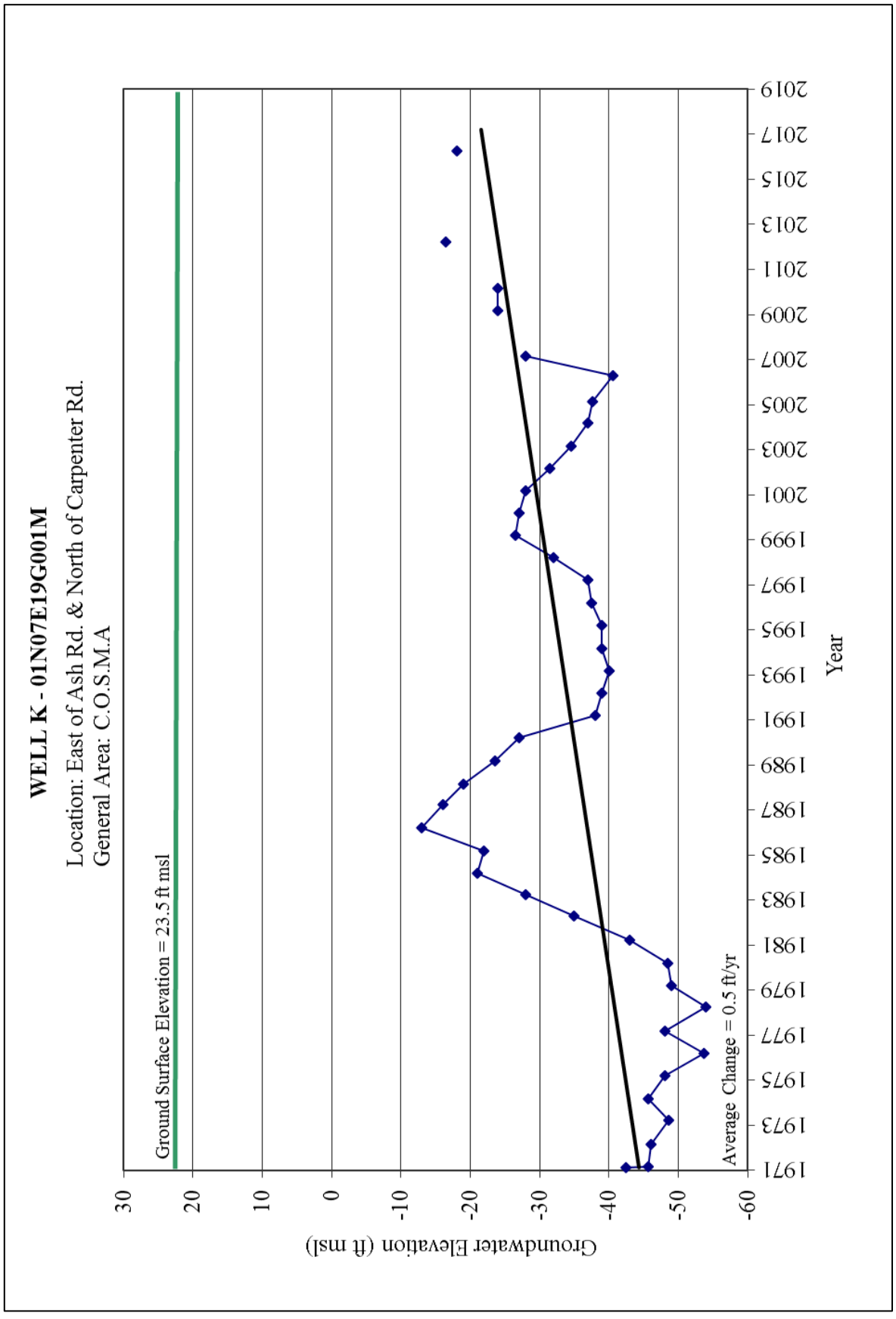

Figure 2-12 Spring Hydrograph Well K

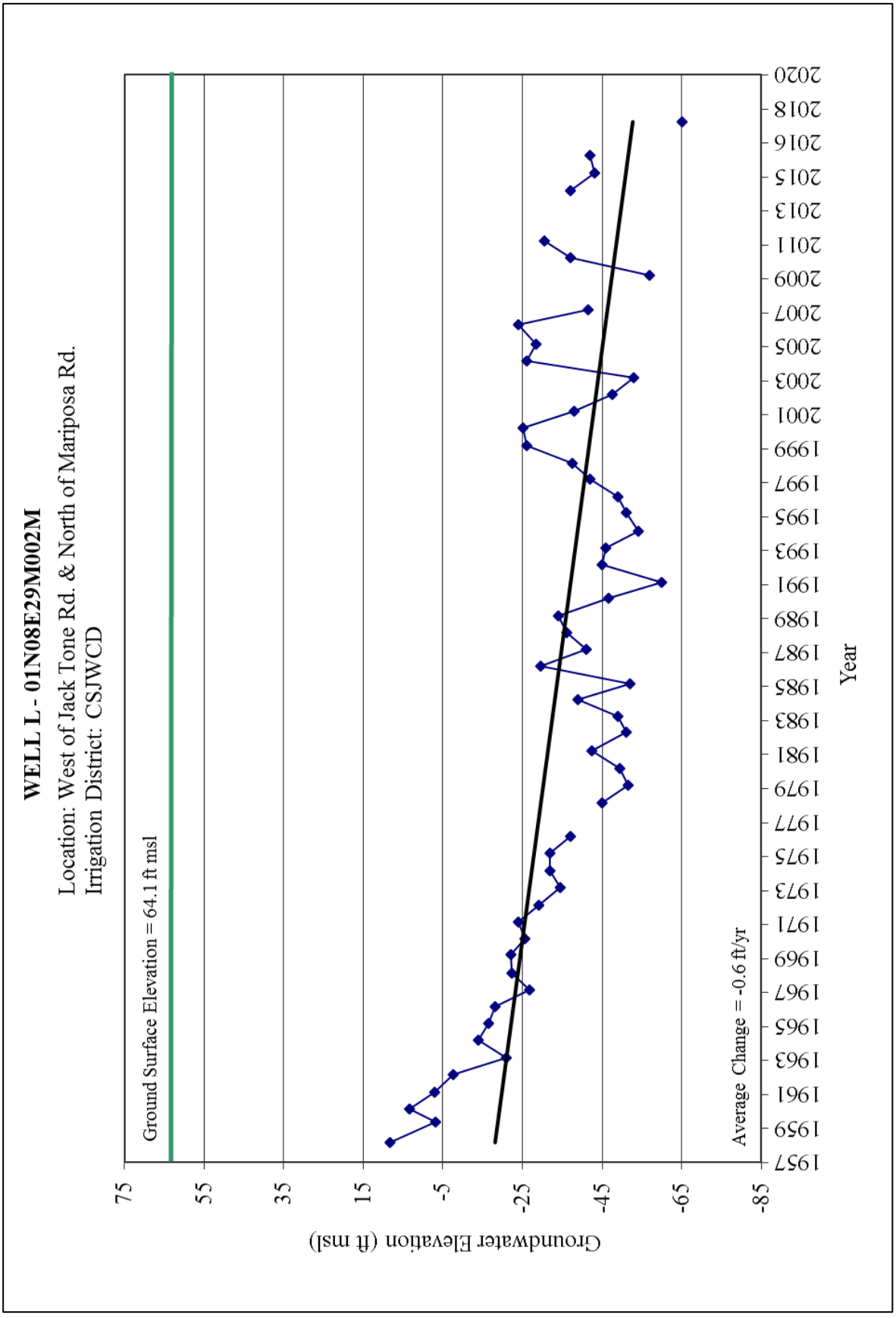

Figure 2-13 Spring Hydrograph Well L

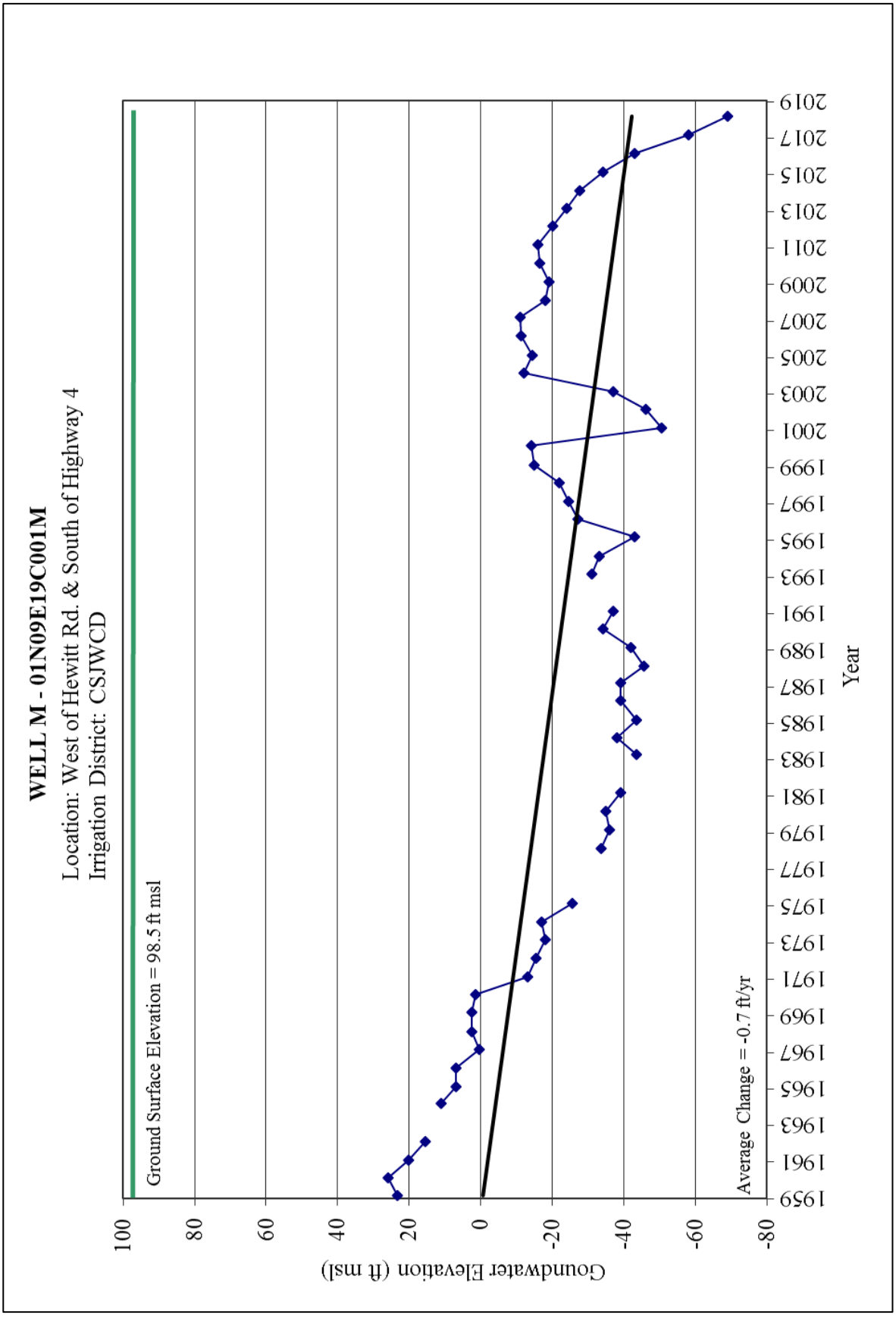

Figure 2-14 Spring Hydrograph Well M

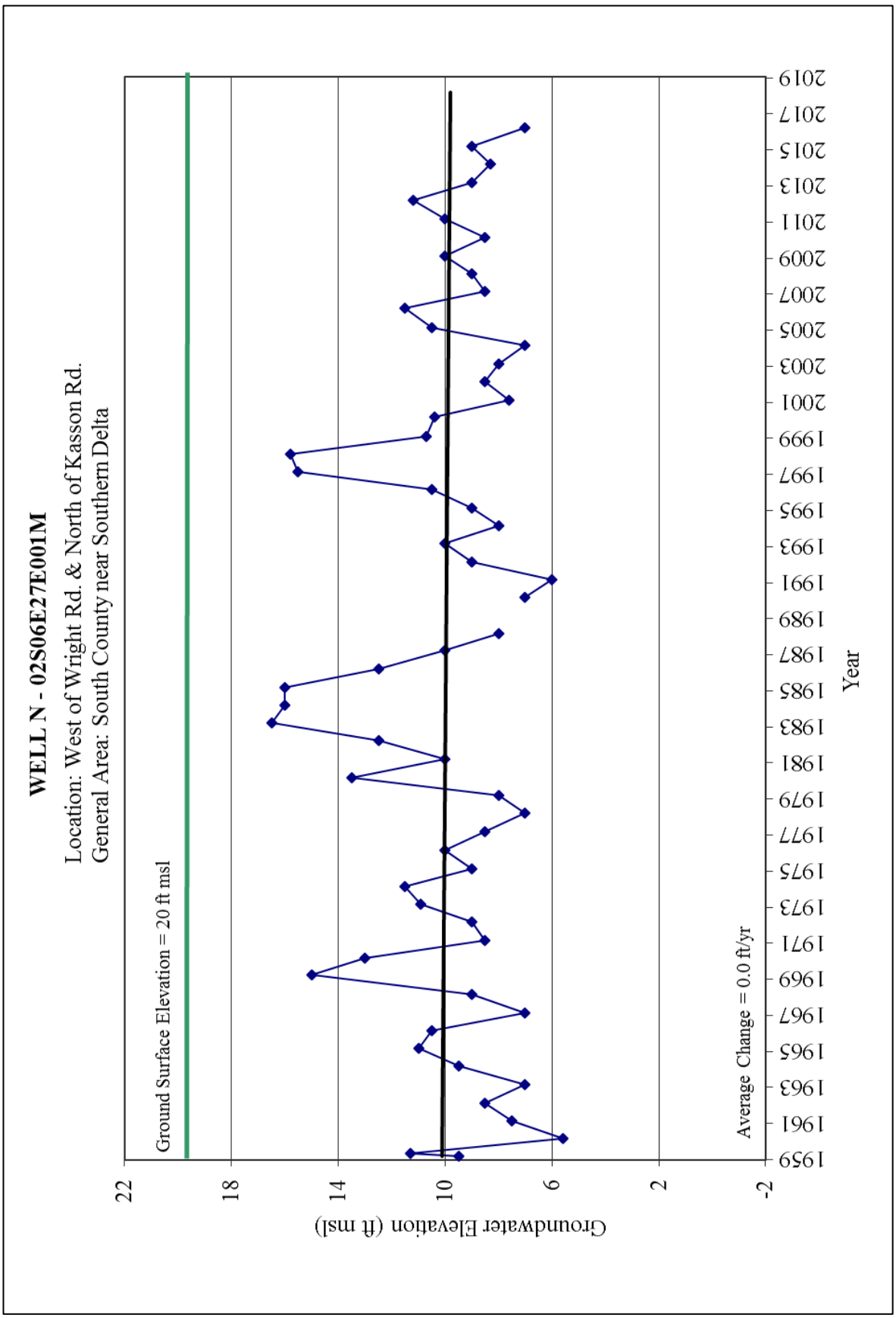

Figure 2-15 Spring Hydrograph Well N

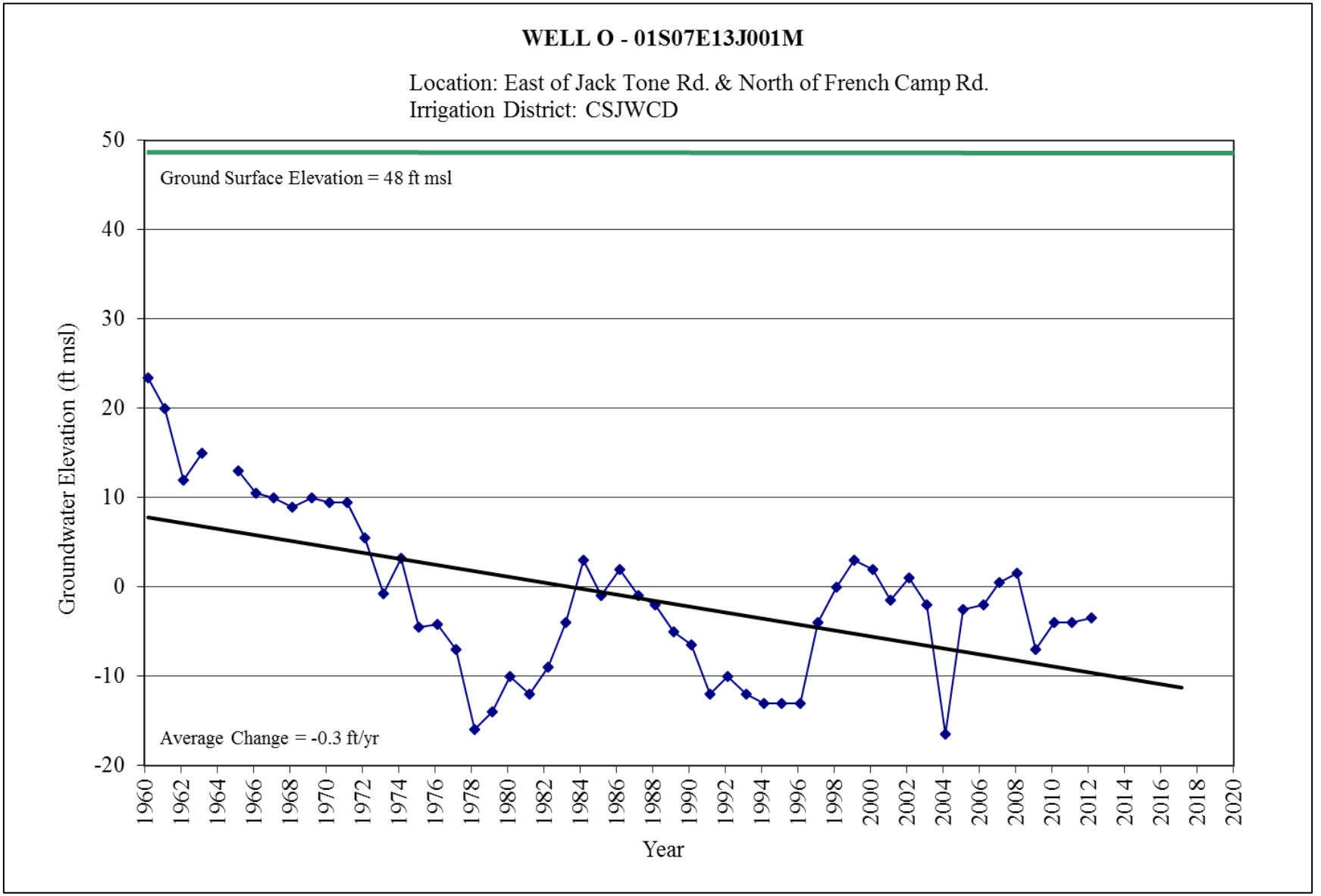

Figure 2-16 Spring Hydrograph Well O

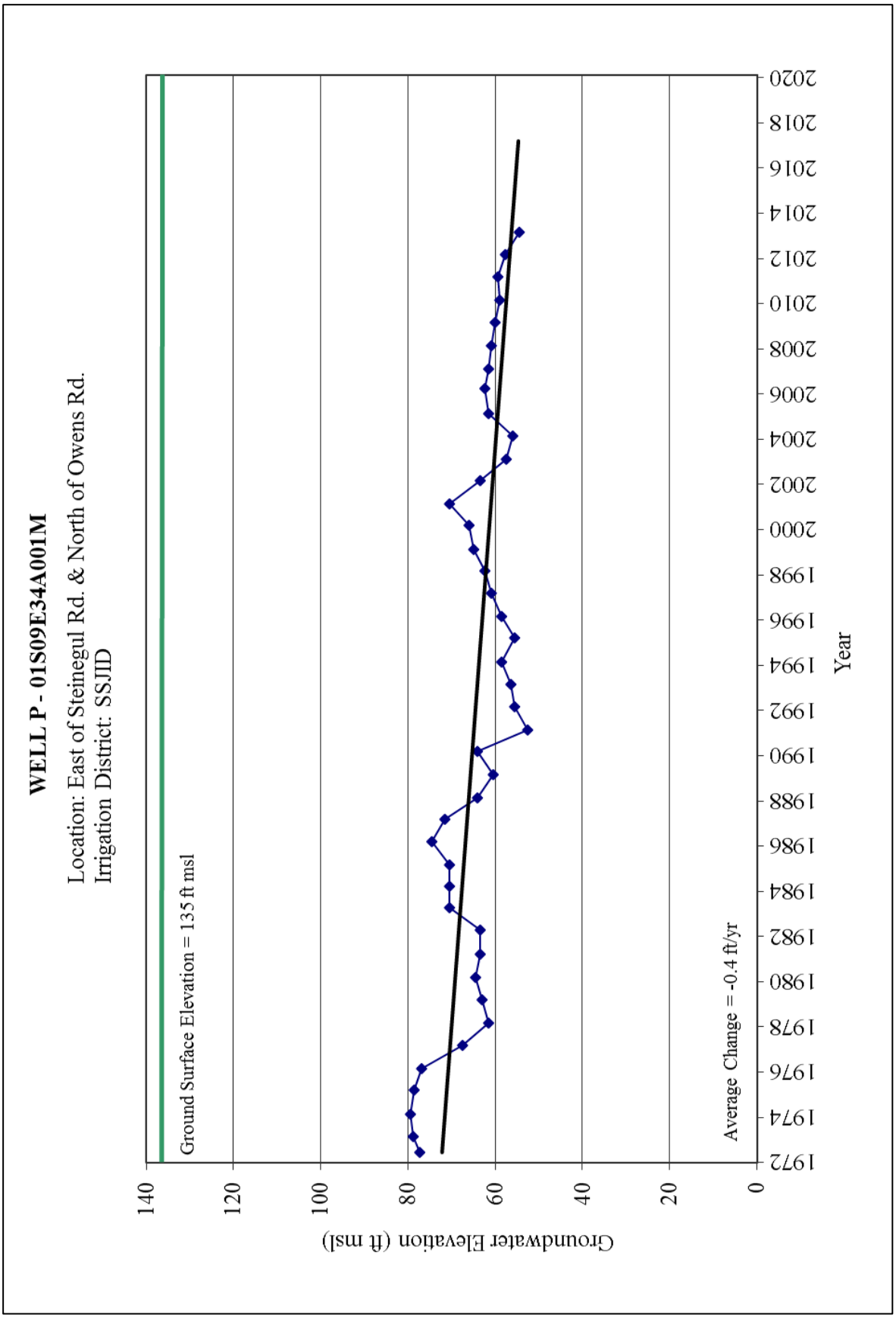

Figure 2-17 Spring Hydrograph Well P

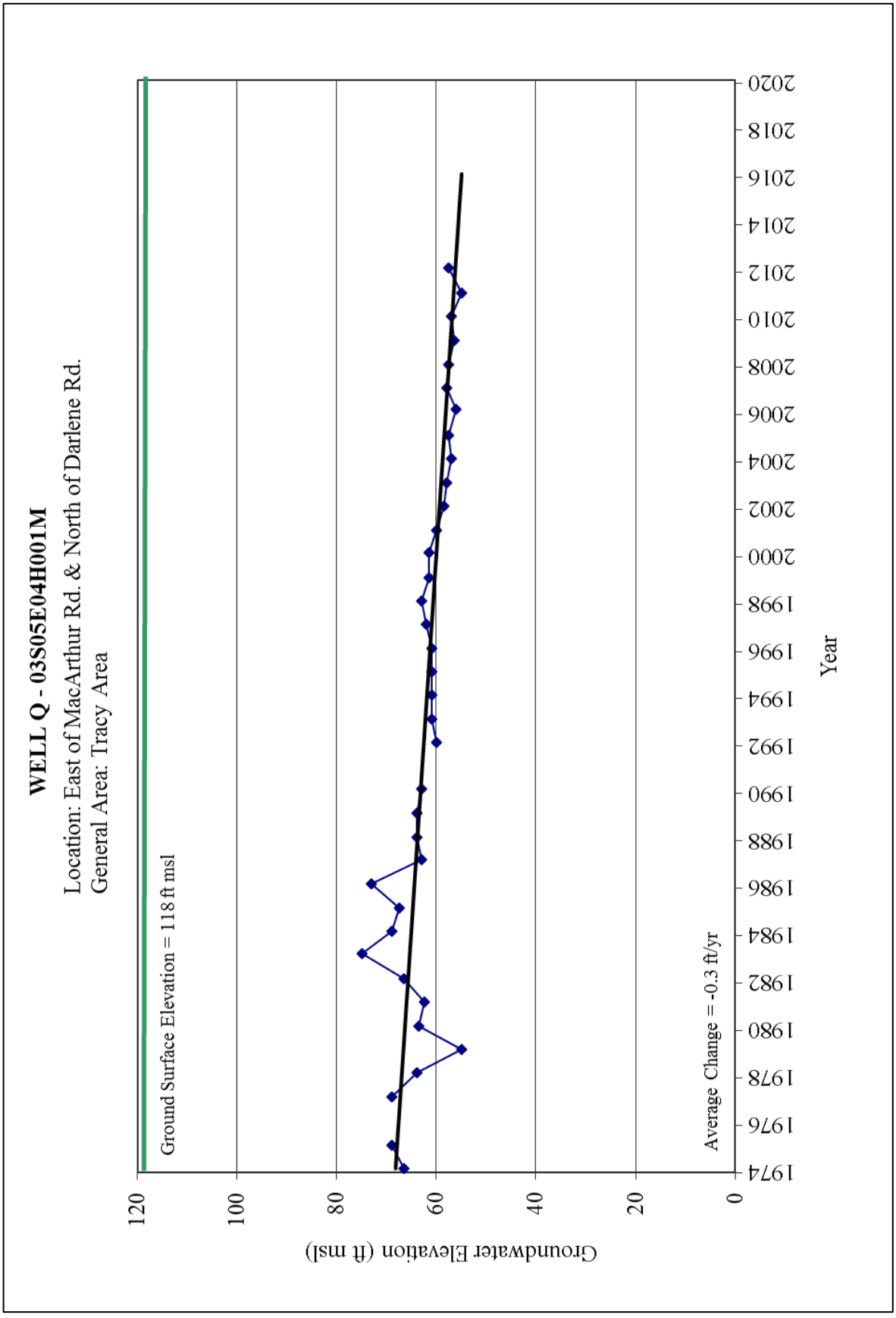

Figure 2-18 Spring Hydrograph Well Q

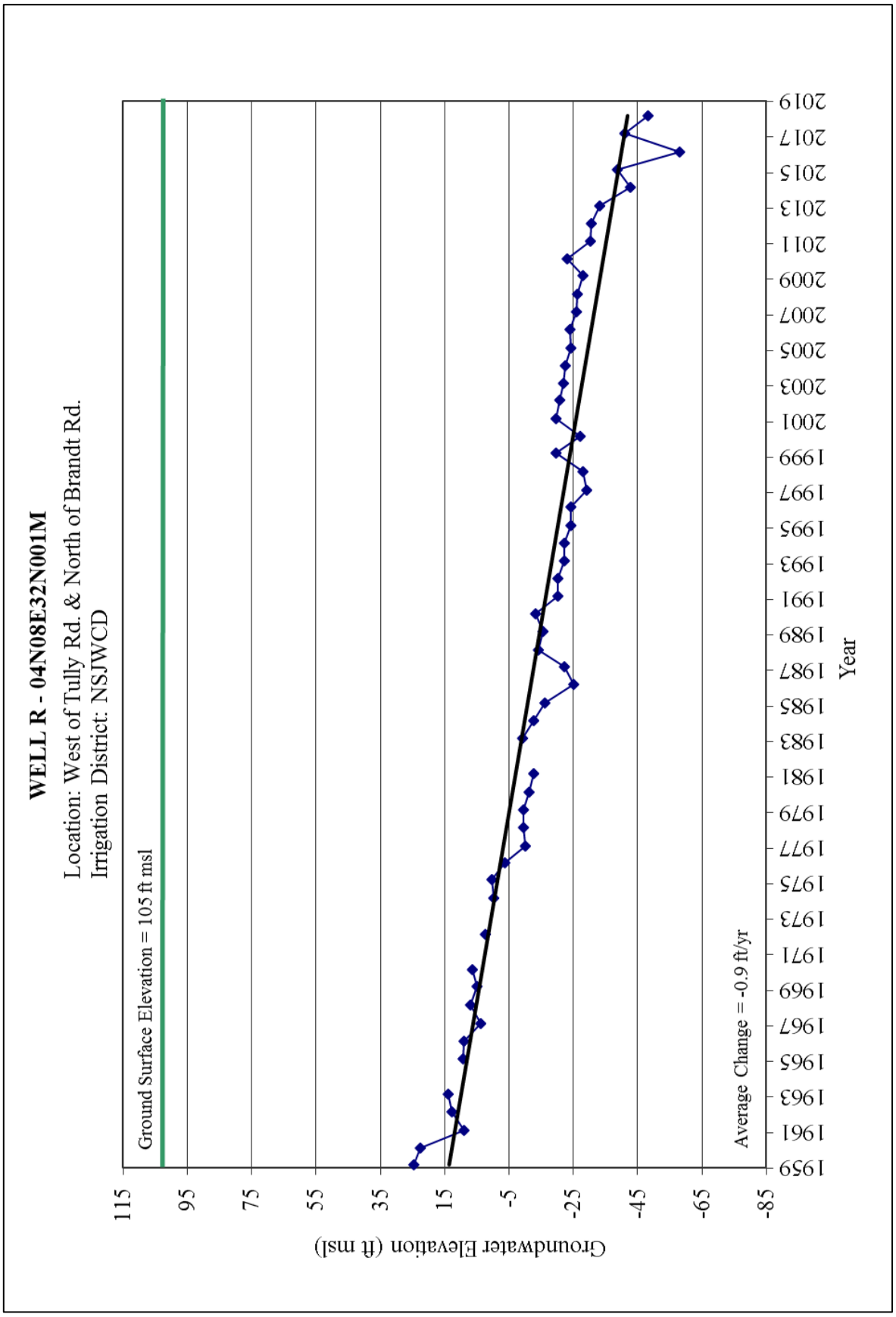

Figure 2-19 Spring Hydrograph Well R

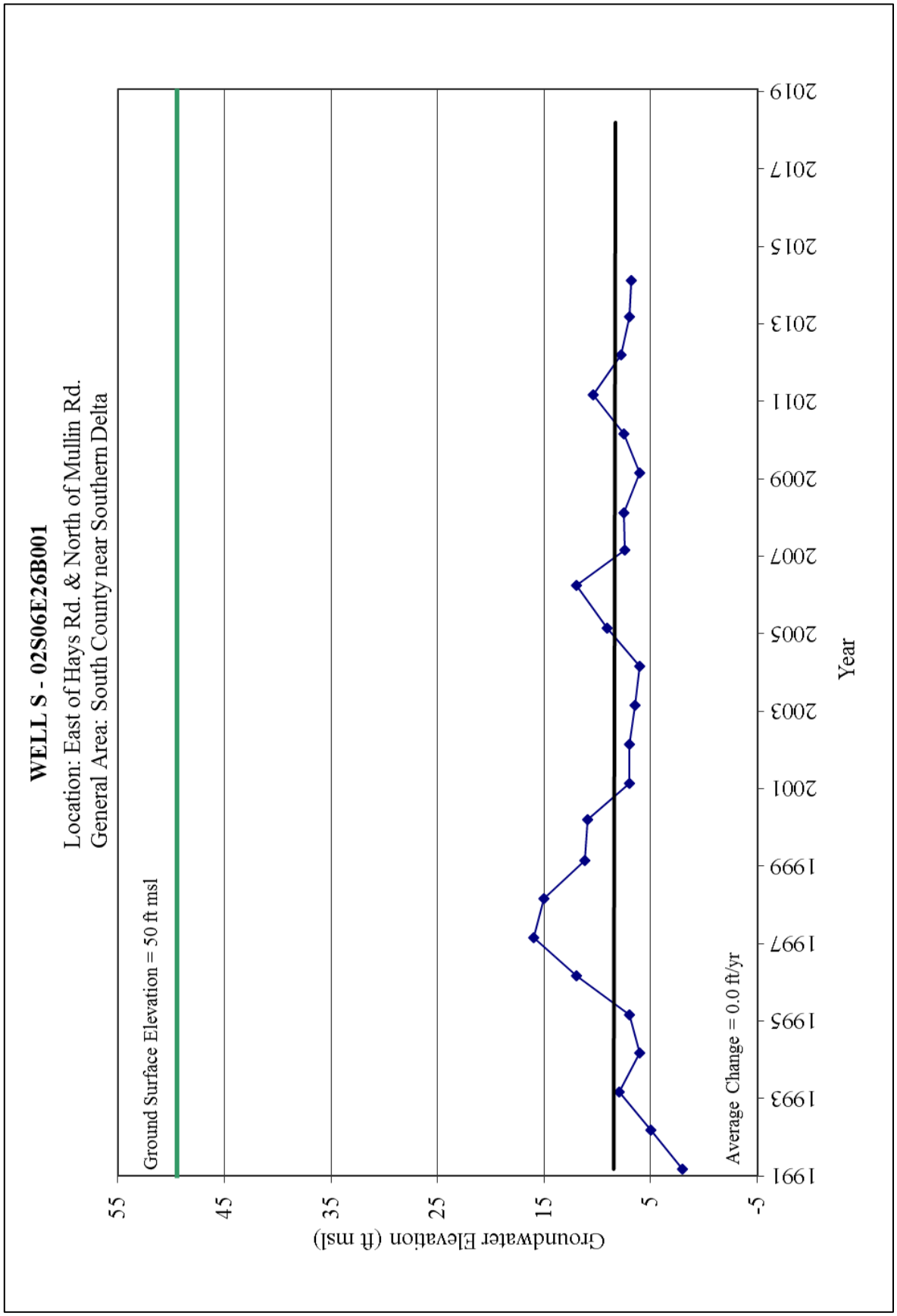

Figure 2-20 Spring Hydrograph Well S

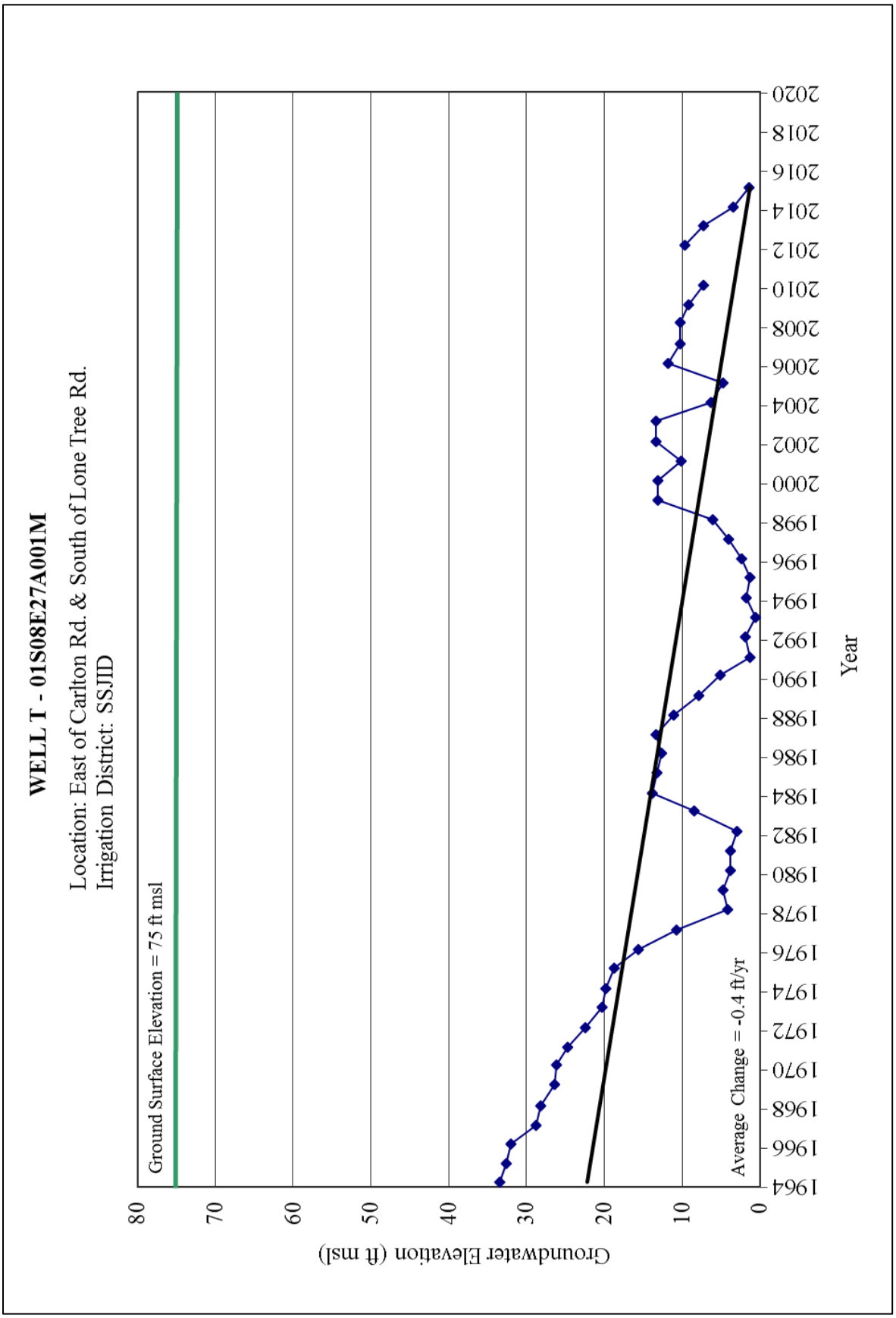

Figure 2-21 Spring Hydrograph Well T

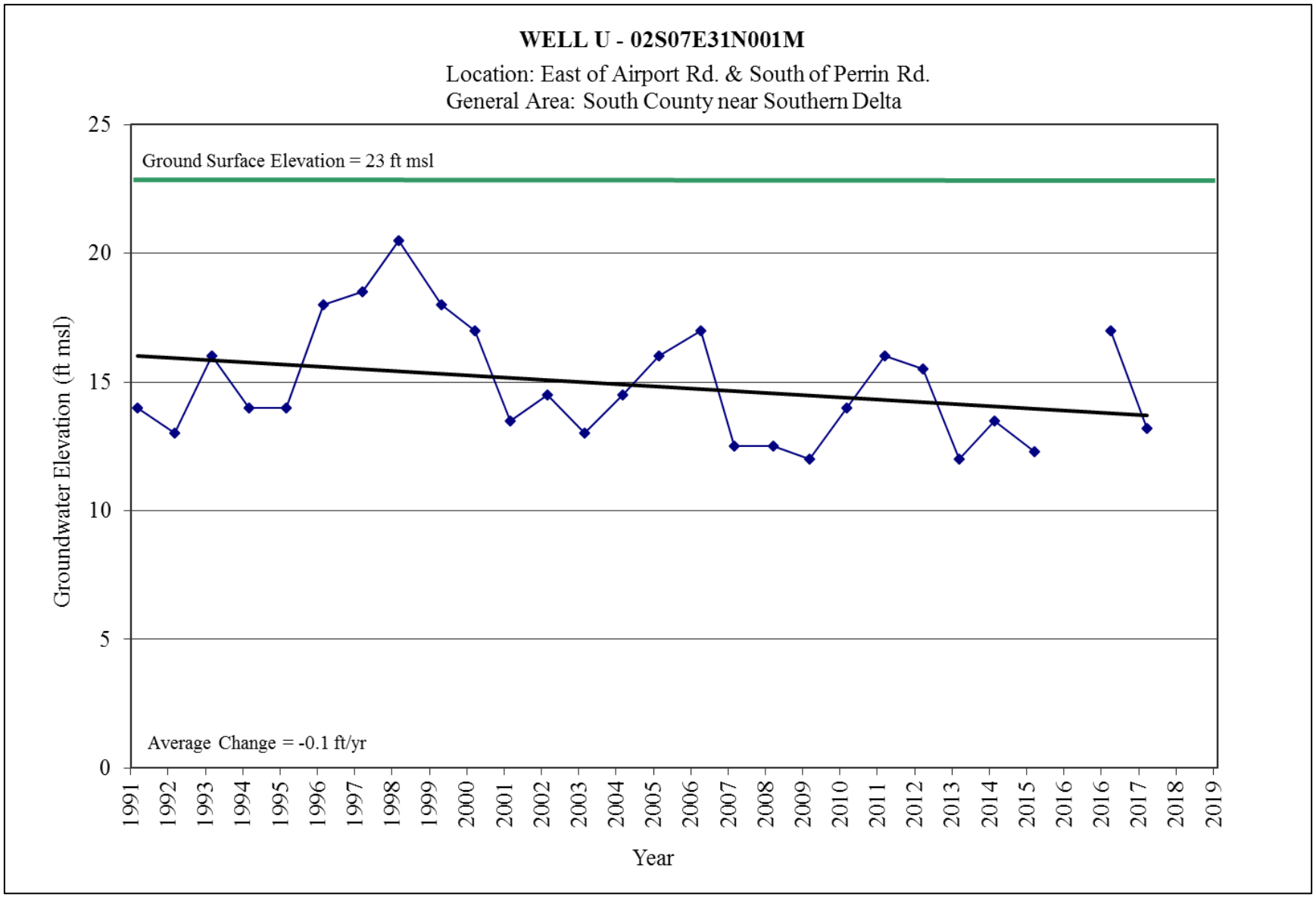

Figure 2-22 Spring Hydrograph Well U

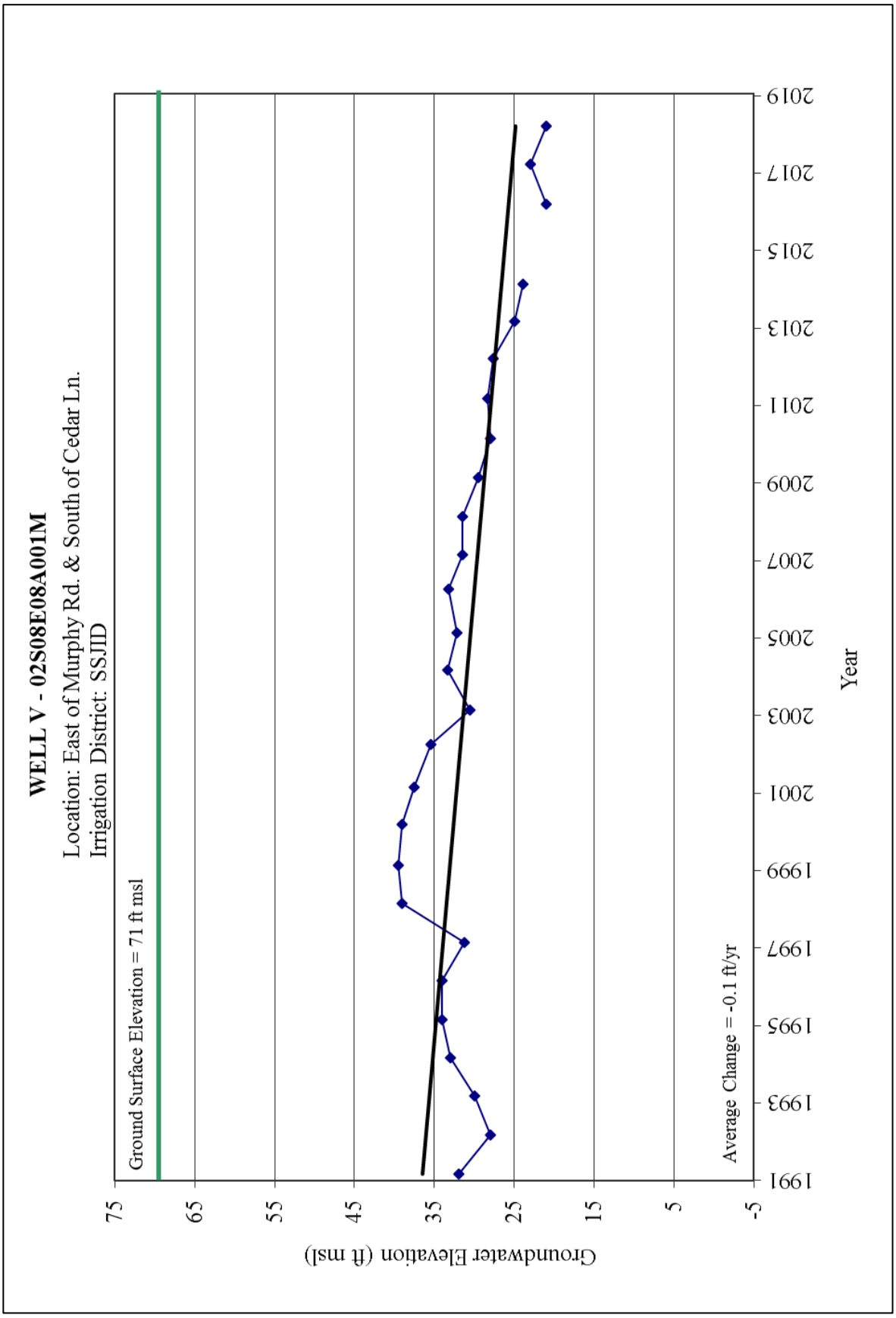

Figure 2-23 Spring Hydrograph Well V

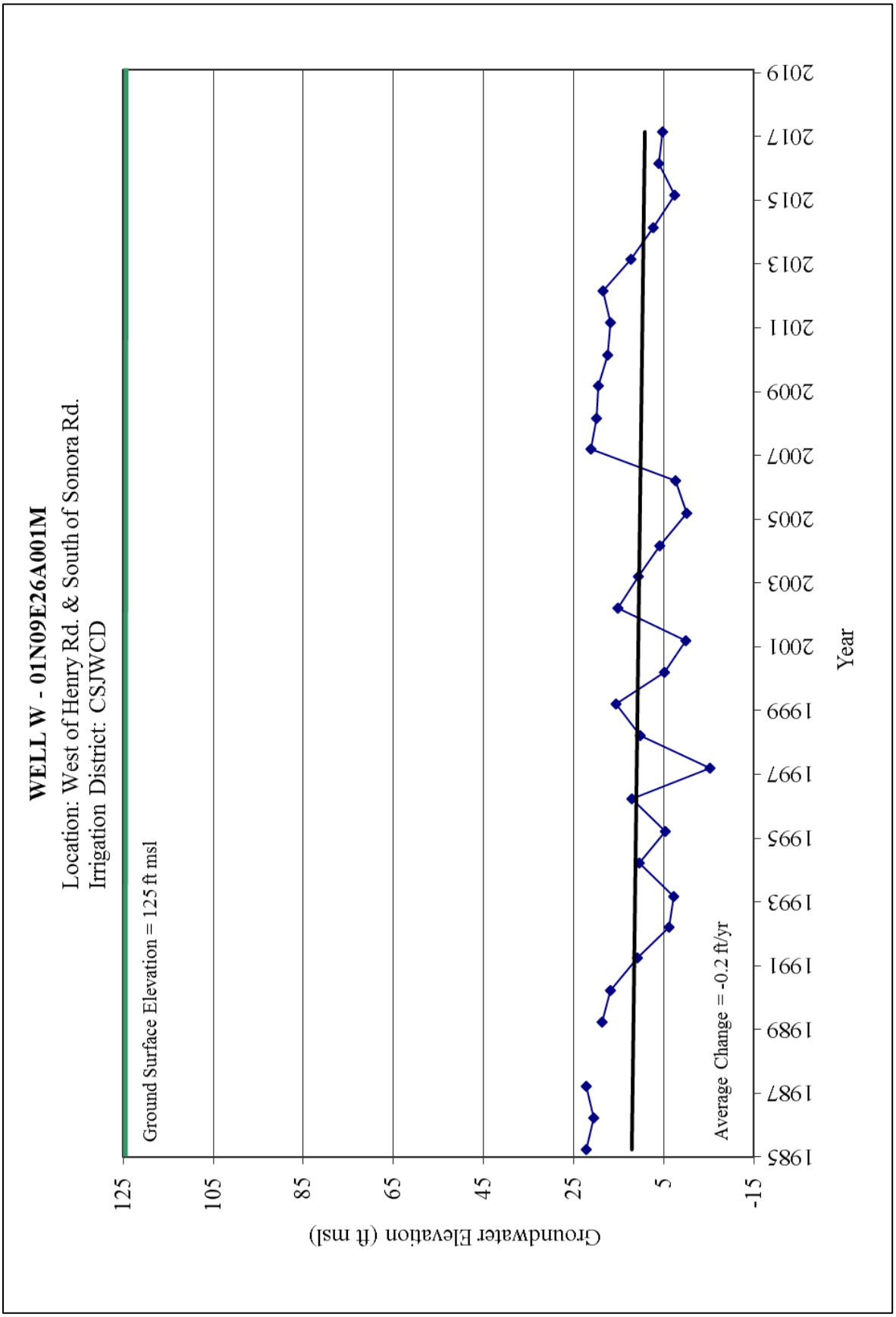

Figure 2-24 Spring Hydrograph Well W

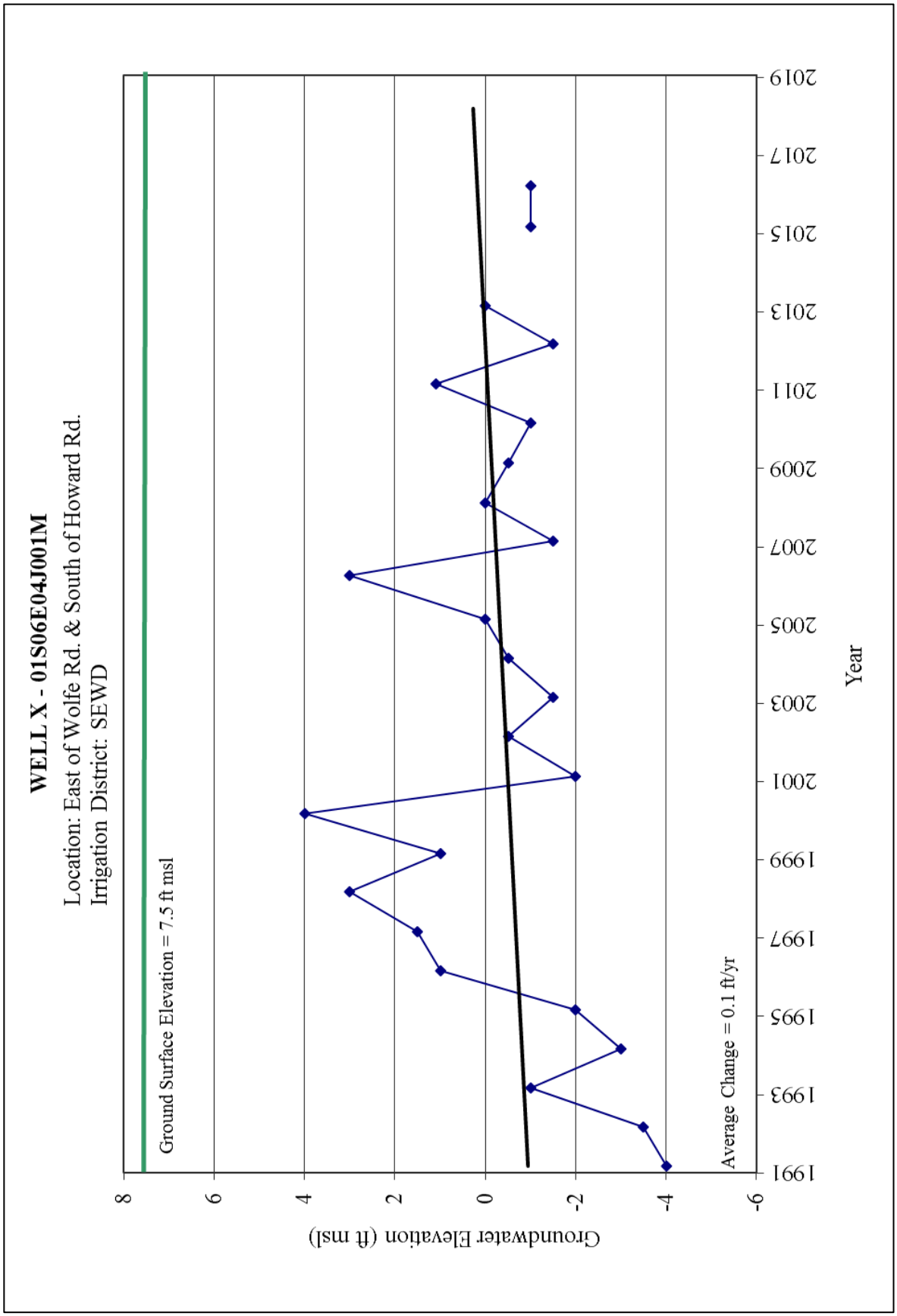

Figure 2-25 Spring Hydrograph Well X

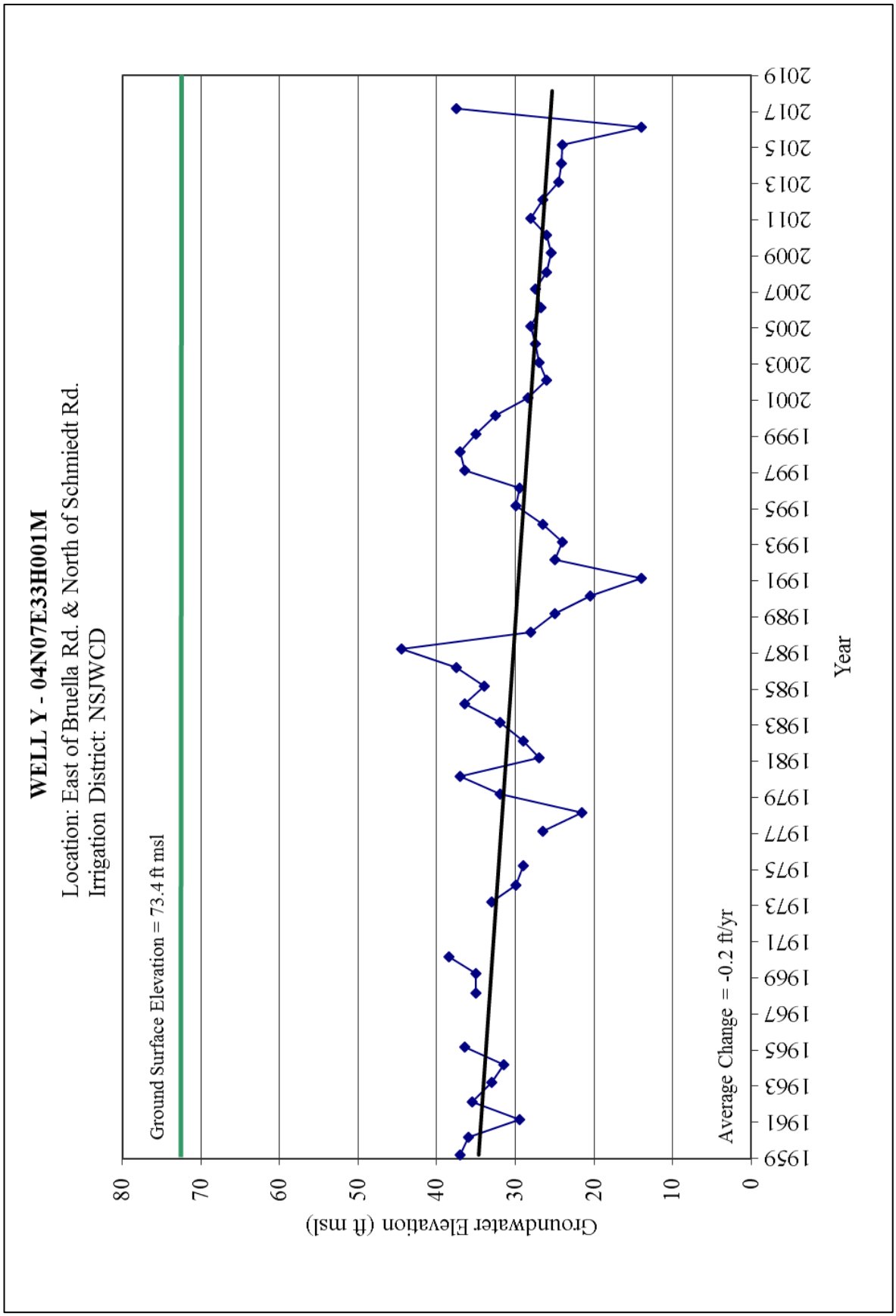

Figure 2-26 Spring Hydrograph Well Y

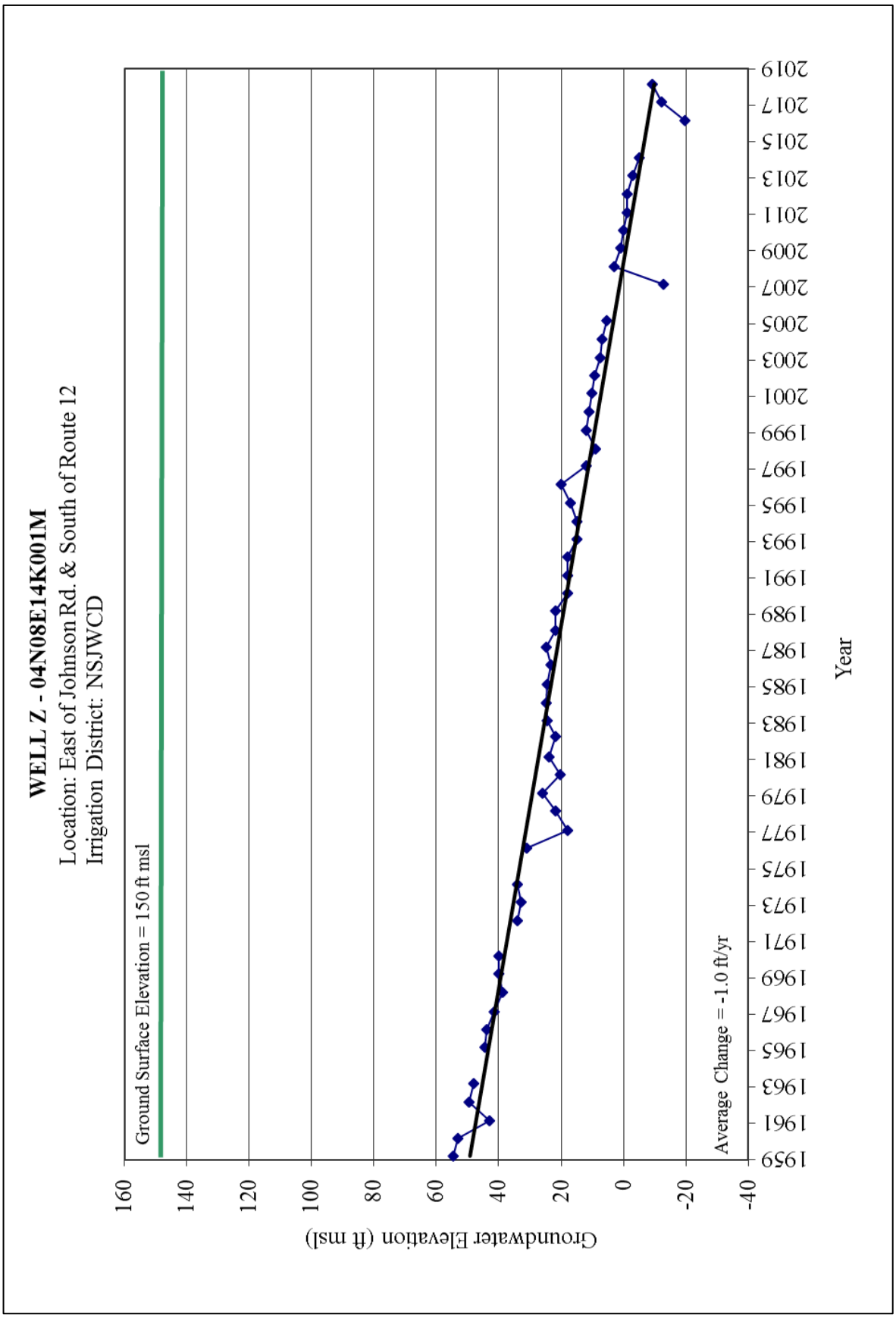

Figure 2-27 Spring Hydrograph Well Z

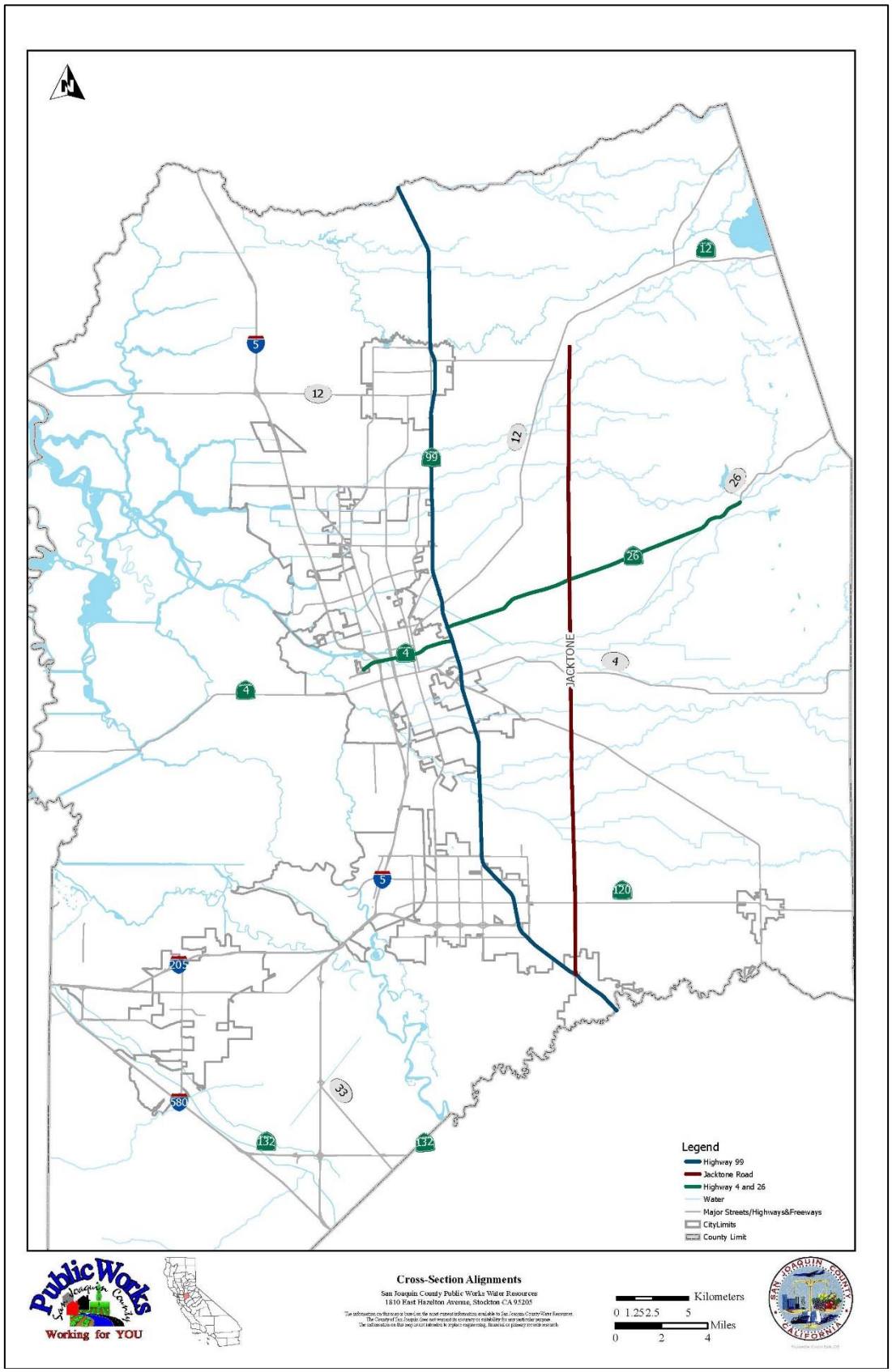
JACKTONE
Legend
Highway 99
Jacktone Road
Highway 4 and 26
Water
Major Streets/Highways&Freeways
CityLimits
County Limit
Cross-Section Alignments
San Joaquin County Public Works Water Resources
1810 East Hazelton Avenue, Stockton CA 95205
Kilometers
0 1.252.5 5
Miles
0 2 4
Public Works
Working for YOU

Figure 2-28 Cross Section Alignments

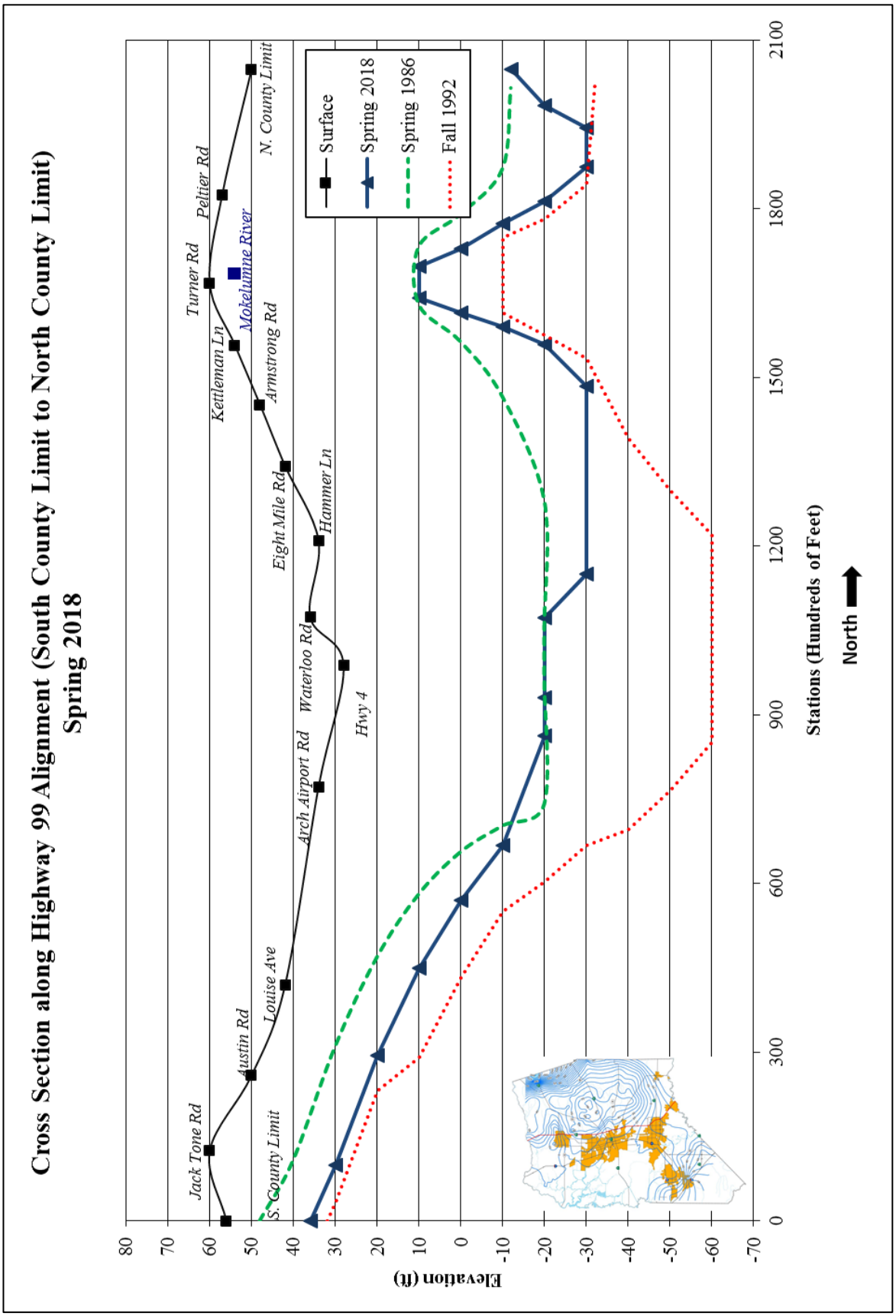

Figure 2-29 Highway 99 Cross Section Spring 2018

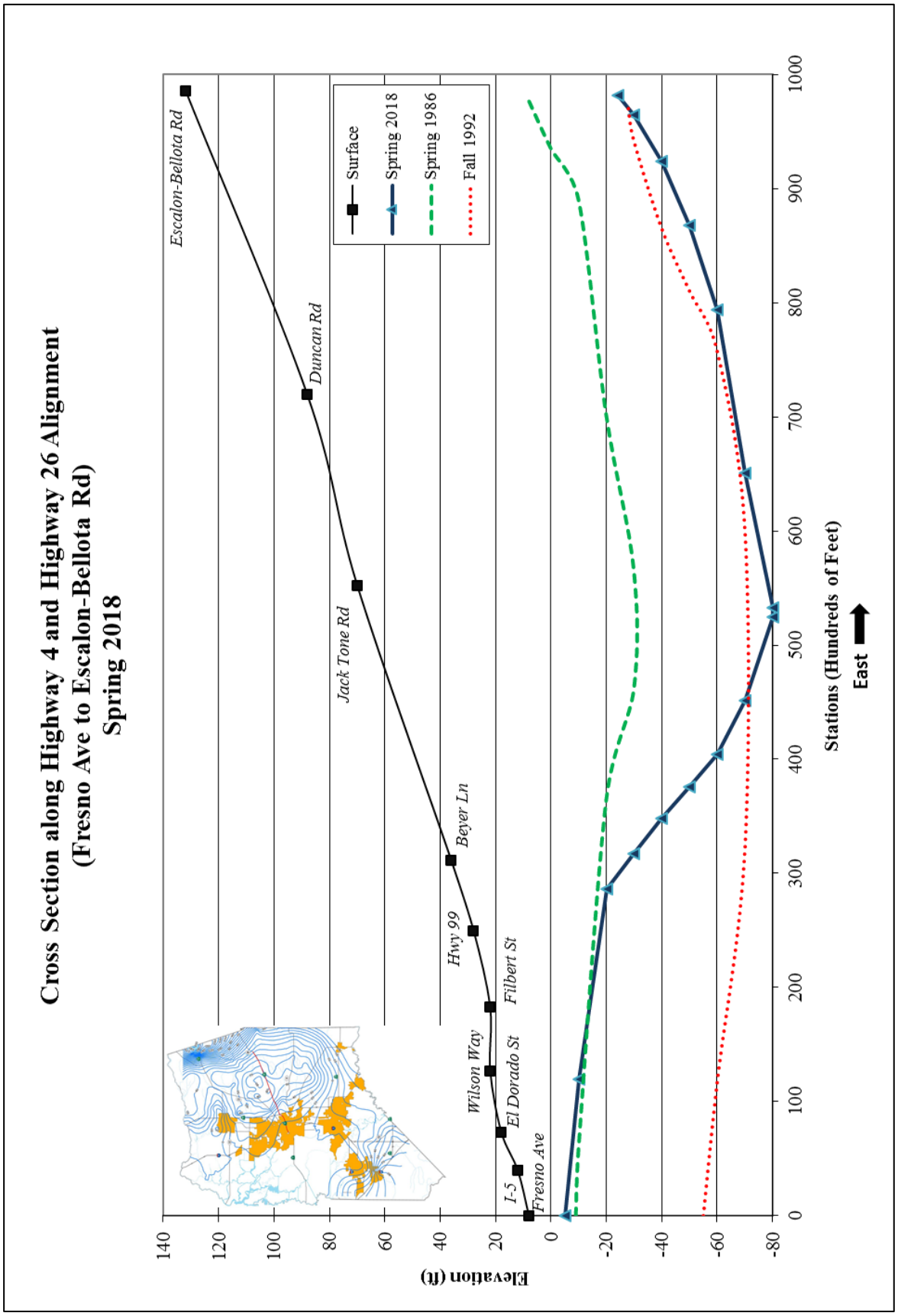

Figure 2-30 Highway 4 & Highway 26 Cross Section Spring 2018

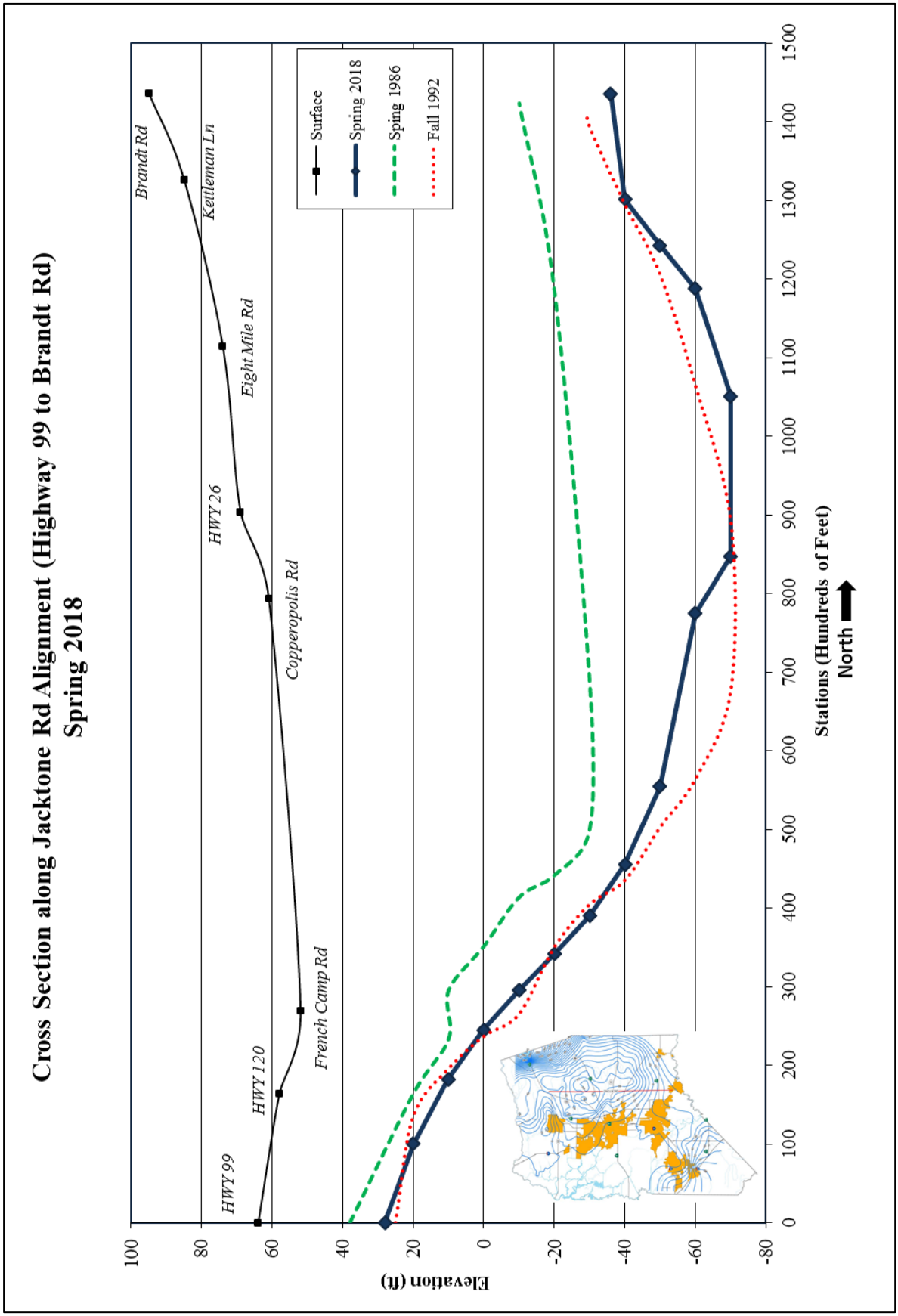

Figure 2-31 Jack Tone Rd Cross Section Spring 2018

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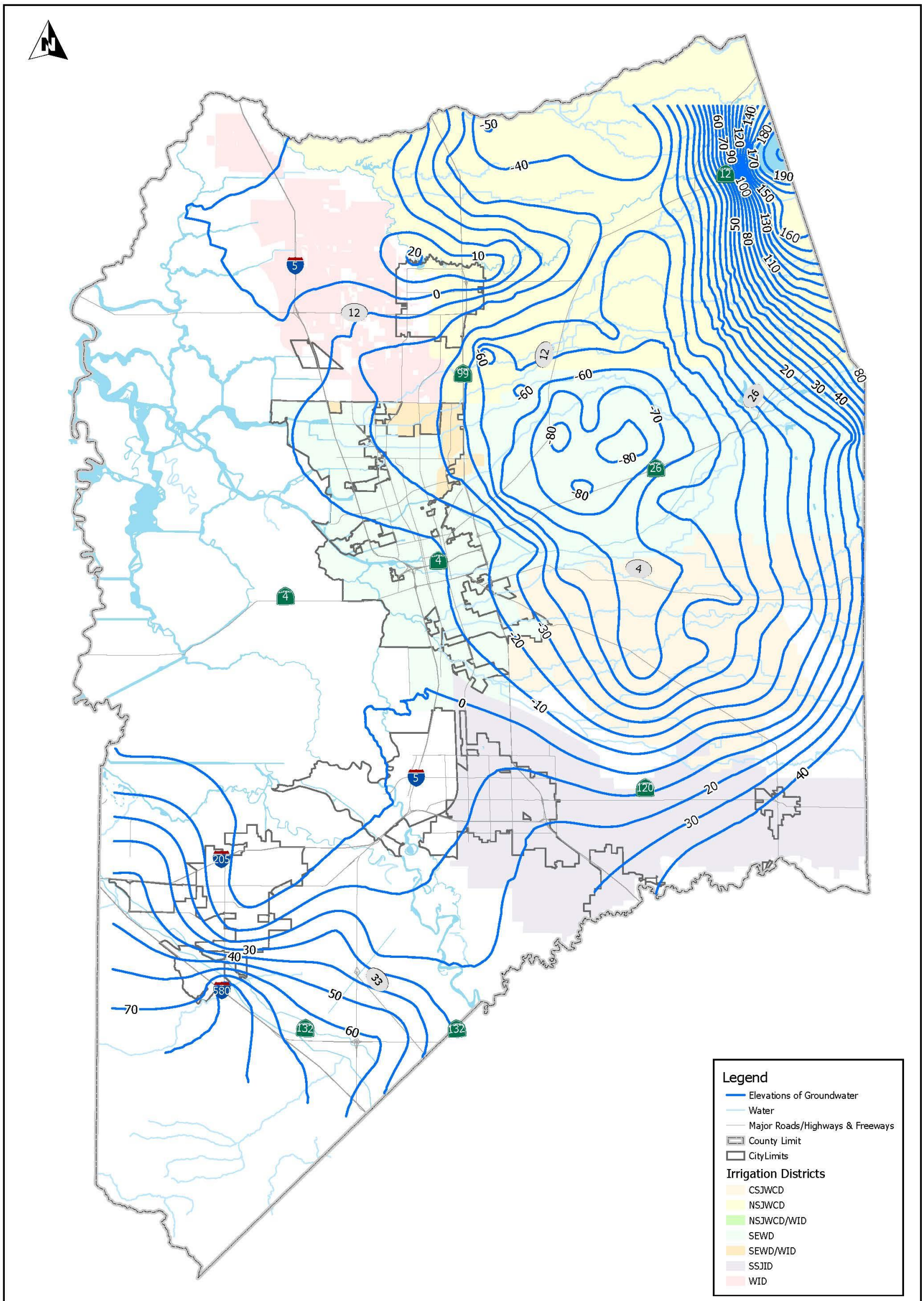

Figure 2-32 Lines of Equal Elevation of Groundwater Spring 2018

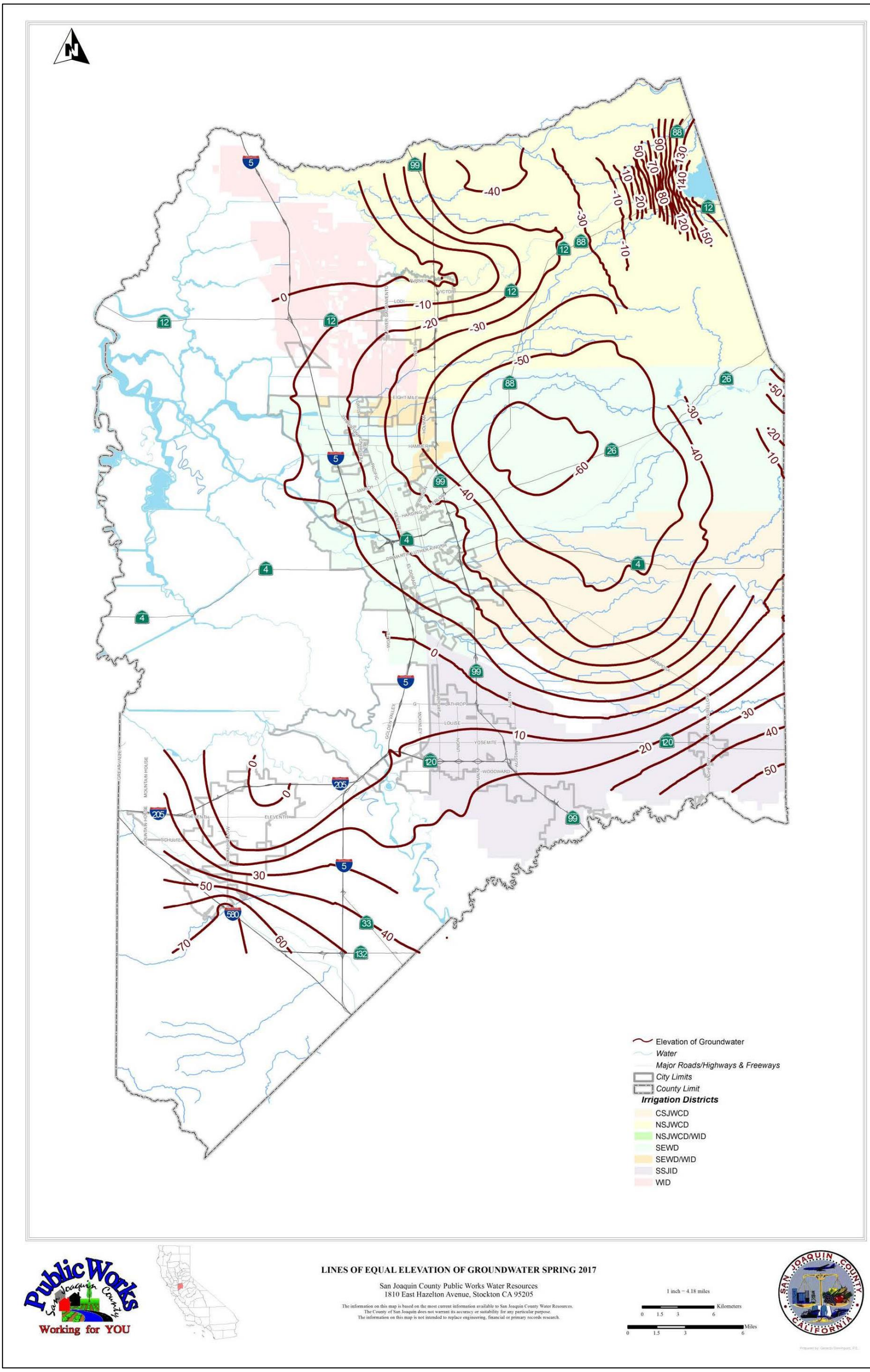

Figure 2-33 Lines of Equal Elevation of Groundwater Spring 2017

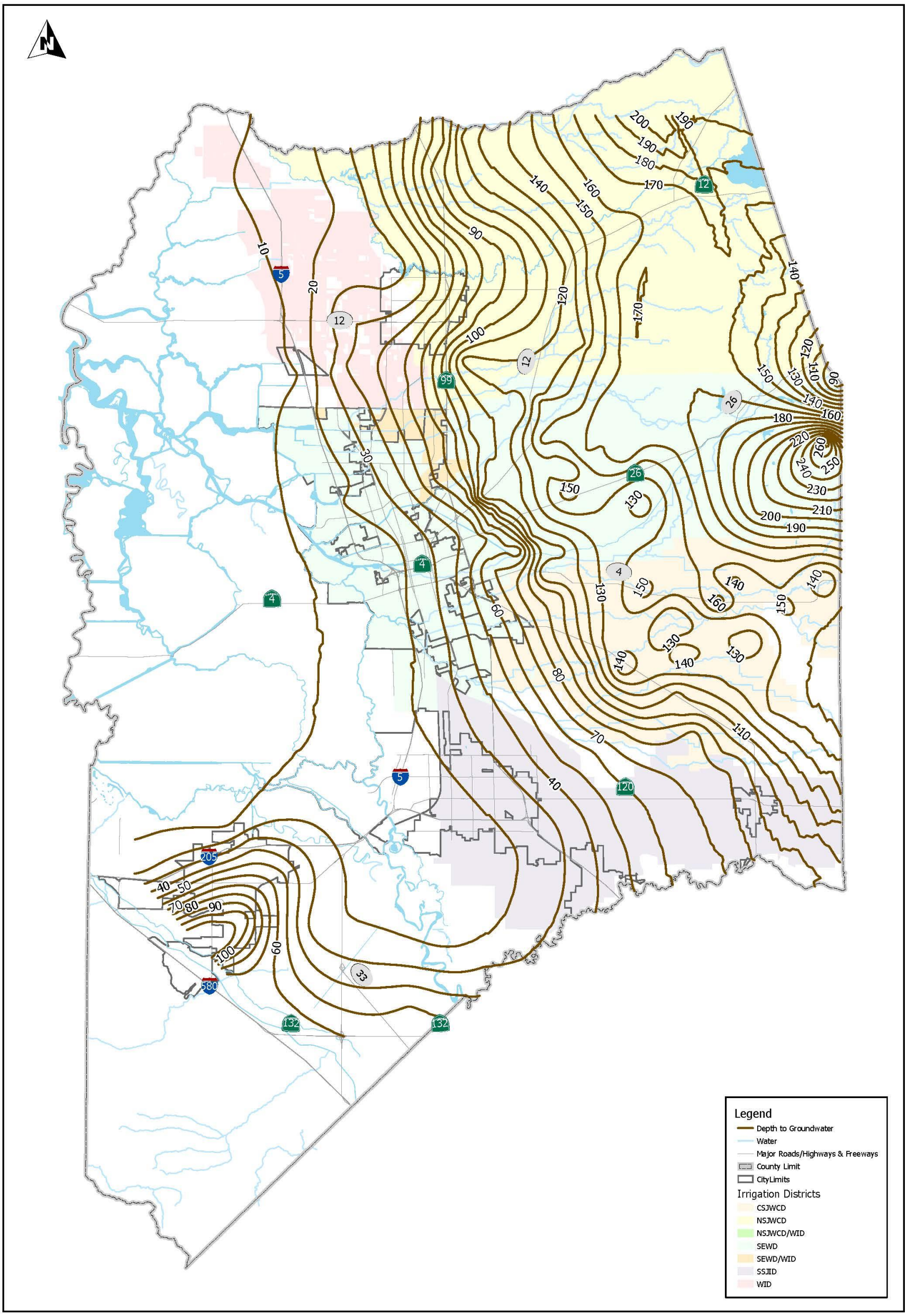

Figure 2-34 Lines of Equal Depth to Groundwater Spring 2018

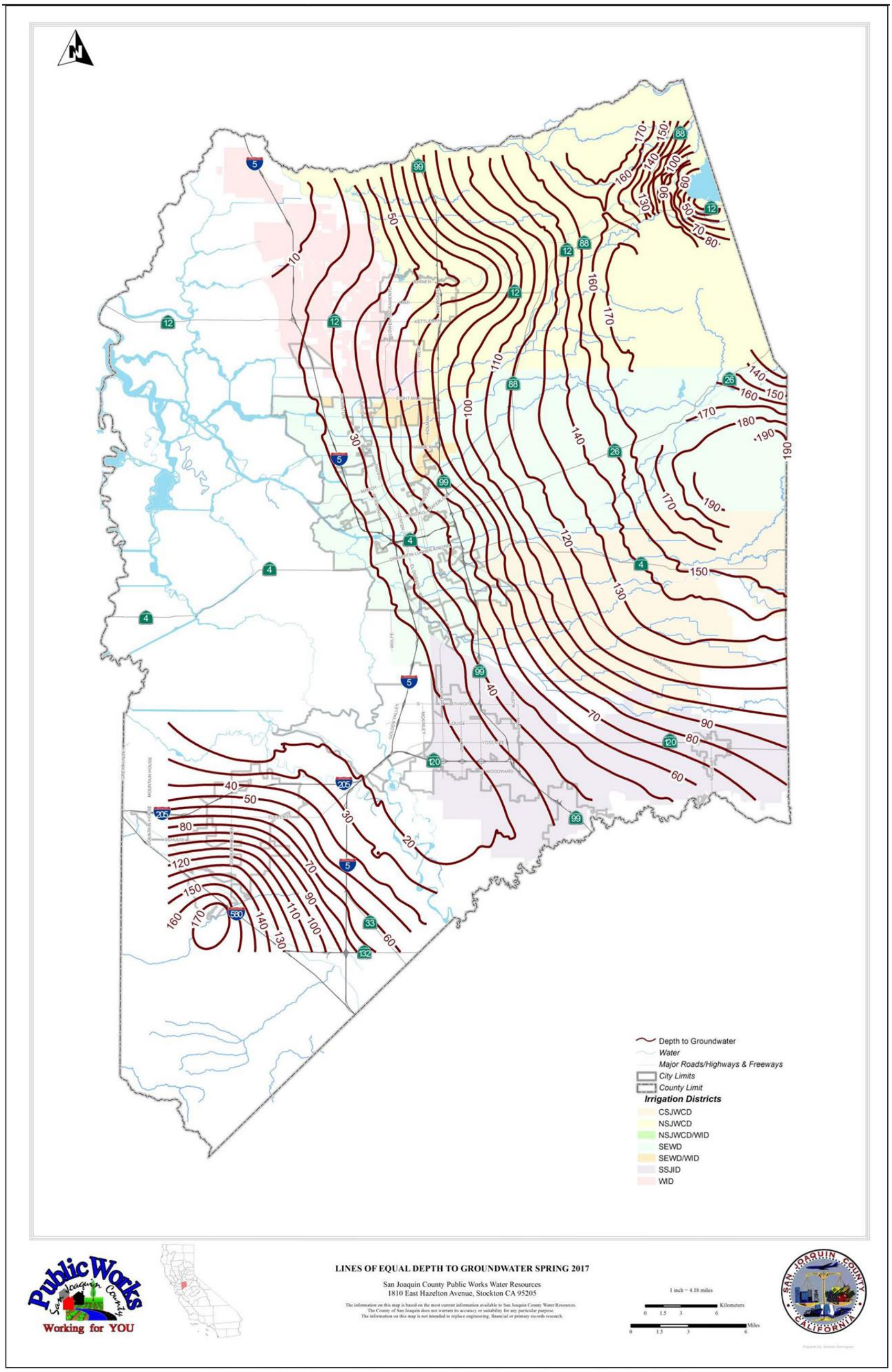

Figure 2-35 Lines of Equal Depth to Groundwater Spring 2017