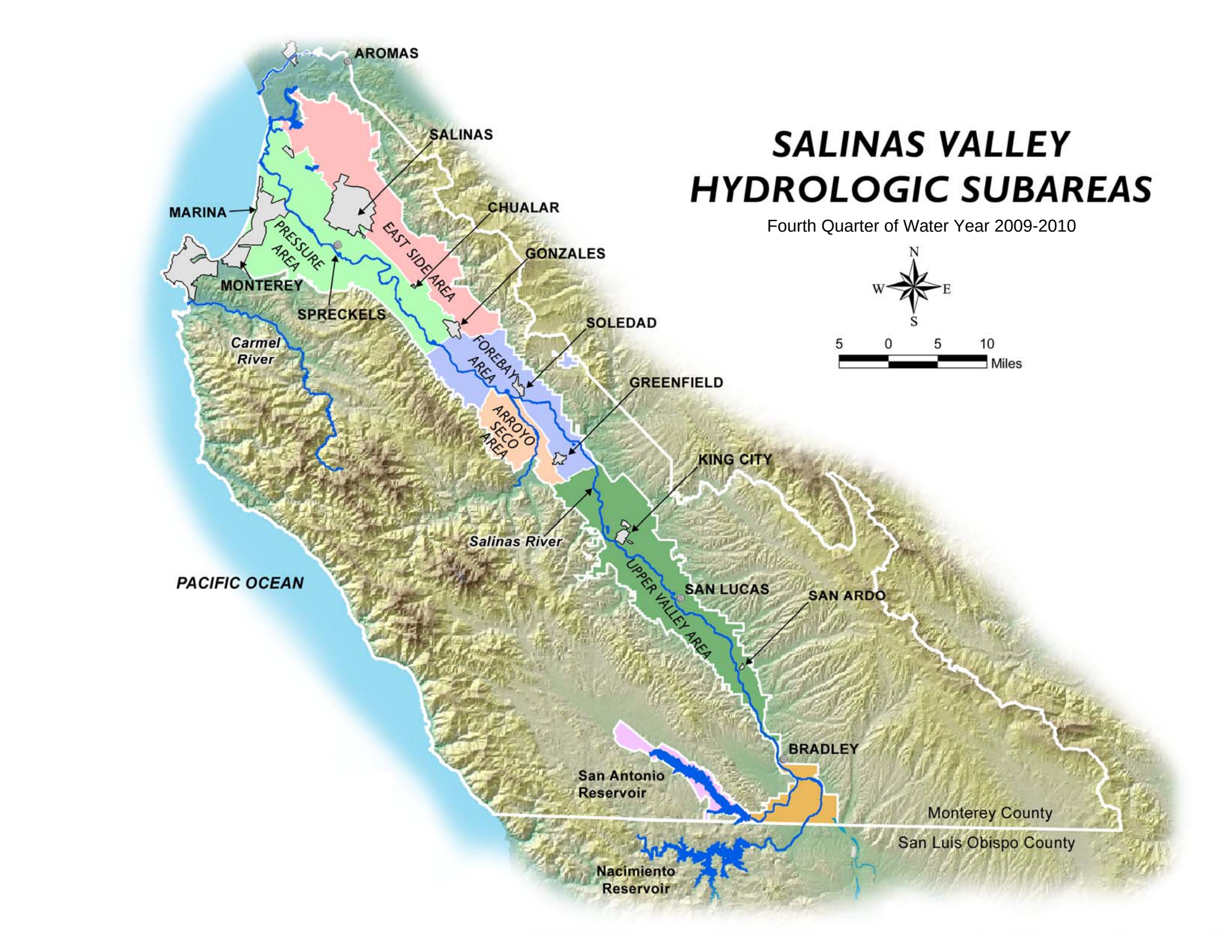
1-3-2019

2010 - Salinas Valley Hydrologic Subareas, 4th Quarter Water Conditions


SALINAS VALLEY
HYDROLOGIC SUBAREAS
Fourth Quarter of Water Year 2009-2010
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Miles
AROMAS
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MARINA
CHUALAR
GONZALES
PRESSURE AREA
EAST SIDE AREA
MONTEREY
SPRECKELS
SOLEDAD
Carmel River
FOREBAY AREA
GREENFIELD
ARROYO SECO AREA
KING CITY
Salinas River
PACIFIC OCEAN
UPPER VALLEY AREA
SAN LUCAS
SAN ARDO
BRADLEY
San Antonio Reservoir
Monterey County
San Luis Obispo County
Nacimiento Reservoir

MONTEREY COUNTY WATER RESOURCES AGENCY
BOARD OF DIRECTORS

MEETING DATE:	OCTOBER 25, 2010	**AGENDA ITEM:**	
AGENDA TITLE:	RECEIVE REPORT ON SALINAS VALLEY WATER CONDITIONS FOR THE FOURTH QUARTER OF WATER YEAR 2009-2010		
Consent (X) **Action ( )** **Information ( )**			
SUBMITTED BY: **PHONE:**	ROBERT JOHNSON (831) 755-4860	**PREPARED BY:** **PHONE:**	J. BARRERAS, L. LIPPERT (831) 755-4860
DEADLINE FOR BOARD ACTION:	OCTOBER 25, 2010		

RECOMMENDED BOARD ACTION:

Receive report on Salinas Valley water conditions for the fourth quarter of Water Year 2009-2010.

PRIOR RELEVANT BOARD ACTION:

A report was last presented to the Board on July 26, 2010, covering the third quarter of Water Year 2009-2010.

DISCUSSION/ANALYSIS:

This report covers the fourth quarter of Water Year 2009-2010 (WY10), July through September 2010. It provides a brief overview of water conditions in the Salinas Valley with discussion on precipitation, reservoir storage, and ground water level trends. Data for each of these components are included as graphs and tables in Attachments A through J.

Precipitation – The Salinas Airport received near average rainfall for the months of July and August, and less than average rainfall in September. For reference, long term rainfall averages for these months are 0.04, 0.05, and 0.21 inches, respectively. This year, no rain fell in July, while 0.03 inches fell in August and 0.02 inches fell in September. The total rainfall for WY10 at the Salinas Airport was 16.97 inches, or approximately 132 percent of the average rainfall total for a water year.

Dry conditions prevailed at King City throughout the fourth quarter. No rain fell there in July, August, or September. Average rainfall for these months is 0.01, 0.05, and 0.18 inches, respectively. King City's total rainfall for WY10 was 12.18 inches, or approximately 101 percent of the rainfall total for a normal water year.

Attachments A and B are graphs showing cumulative monthly precipitation data for both stations. Current data is plotted and compared with last year and with normal conditions.

Rainfall data for King City and Salinas should be considered preliminary until verified by National Weather Service at a later date.

Reservoirs - The following table compares fourth quarter storage at Nacimiento and San Antonio reservoirs for the past two years. Storage in Nacimiento Reservoir is 107,415 acre-feet greater than September 2009 while storage in San Antonio Reservoir is 54,603 acre-feet greater than last year.

Reservoir	September 30, 2010 (WY10) Storage in acre-feet	September 30, 2009 (WY09) Storage in acre-feet	Difference in acre-feet
Nacimiento	150,440	43,025	107,415
San Antonio	161,653	107,050	54,603

Graphs for each reservoir showing end-of-month storage for the last ten years are included as Attachments C and D.

Ground Water Levels – More than 80 wells are measured monthly throughout the Salinas Valley to monitor seasonal ground water level fluctuations. Data from approximately 50 of these wells is used in the preparation of this report. The measurements are categorized by hydrologic subarea and then averaged and plotted on graphs to compare current water levels with selected past conditions. These conditions include the prior year (WY09), dry conditions (WY91), and near normal conditions (WY85). Each of these comparisons is shown in Attachments E through I, along with a summary of the comparisons shown in Attachment J.

Fourth quarter monthly ground water level measurements indicate that water levels in all hydrologic subareas continued to decline in July. In August, water levels began to recover in all subareas except for the Forebay Subarea, where they continued to decline. In September, water levels did not change in the Upper Valley Subarea, but continued to recover in all other subareas except for the Forebay Subarea, where water levels declined slightly.

Compared to September 2009, average ground water levels increased everywhere except for the Upper Valley Subarea, where they were unchanged. Water levels were up by seven feet in the Pressure 180-Foot Aquifer, six feet in both the Pressure 400-Foot Aquifer and East Side Subarea, and five feet in the Forebay Subarea.

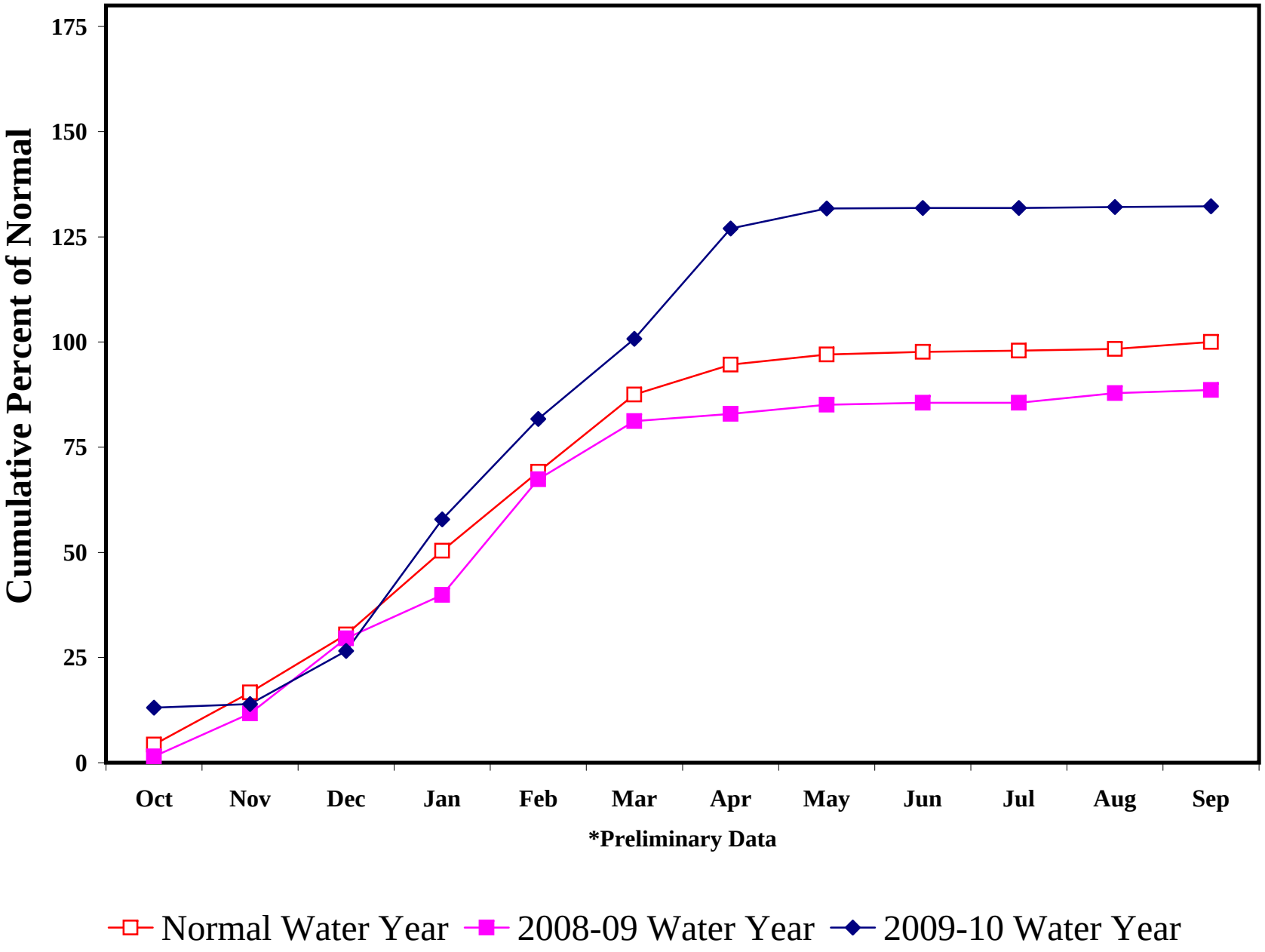
When compared to WY85, which is considered to be a year of near-normal ground water conditions, current water levels range from ten feet higher in the Pressure 400-Foot Aquifer to 12 feet lower in the East Side Subarea. Water levels in the Pressure 180-Foot Aquifer are one foot lower than in WY85, while water levels are six feet higher in the Forebay Subarea, and one foot higher in the Upper Valley Subarea.

Average ground water levels for the fourth quarter of WY10 remain well above WY91 values in all of the hydrologic subareas.

FINANCIAL IMPACT:	**YES ( )** **NO (X)**
FUNDING SOURCE:	
COMMITTEE REVIEW AND RECOMMENDATION:	None
ATTACHMENTS:	1. Salinas Valley Hydrologic Subareas Map 2. Salinas and King City Precipitation Graphs 3. Nacimiento and San Antonio Reservoir Graphs 4. Salinas Valley Monthly Water Level Graphs for Each Subarea, Attachments E through I 5. Generalized Ground Water Trends, Attachment J.
APPROVED:	_____ **General Manager** **Date**

SALINAS AIRPORT RAINFALL

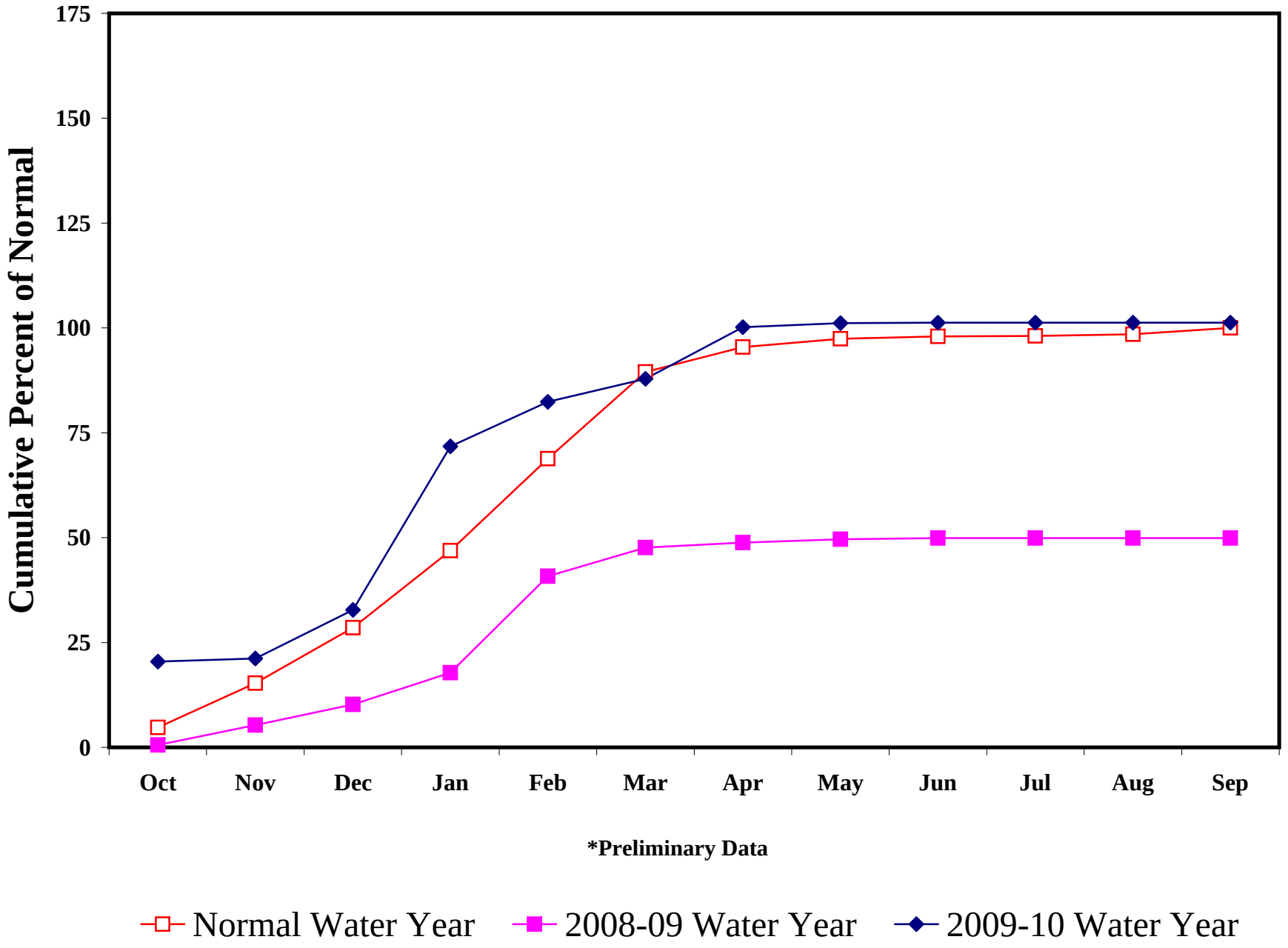
Water Year 2009-10



ATTACHMENT A

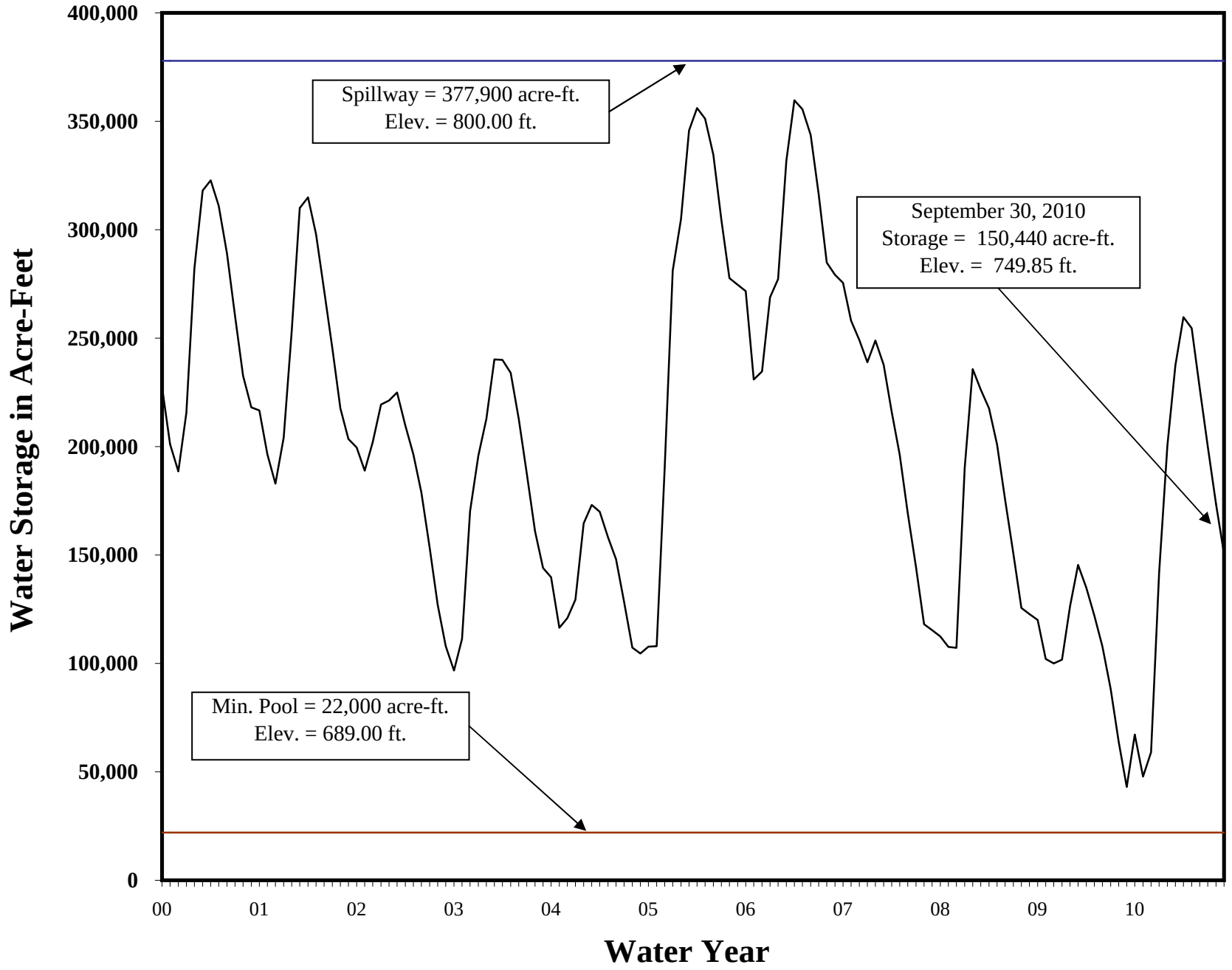
KING CITY RAINFALL

Water Year 2009-10



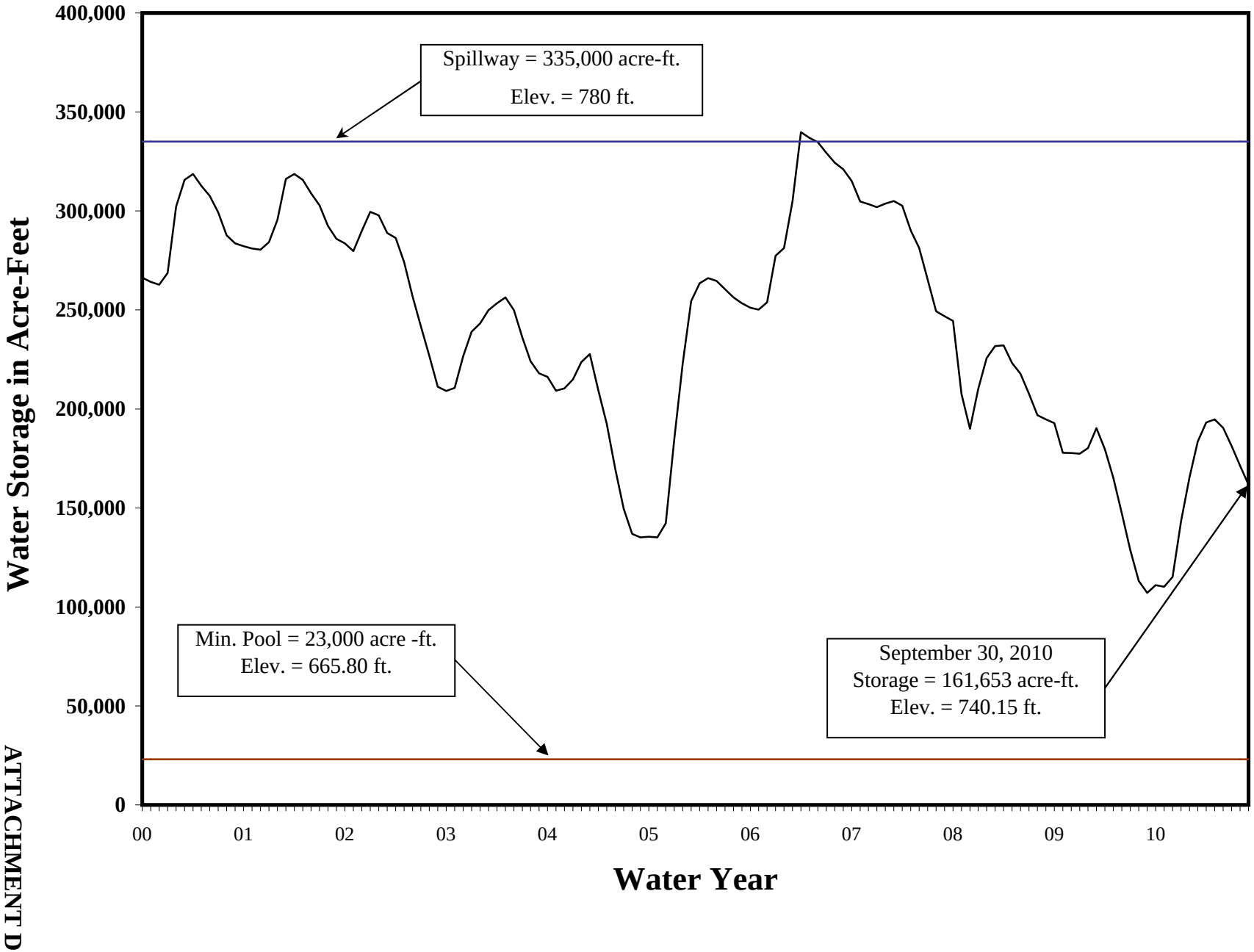
ATTACHMENT B

NACIMIENTO RESERVOIR
END OF MONTH STORAGE



ATTACHMENT C

SAN ANTONIO RESERVOIR
END OF MONTH STORAGE

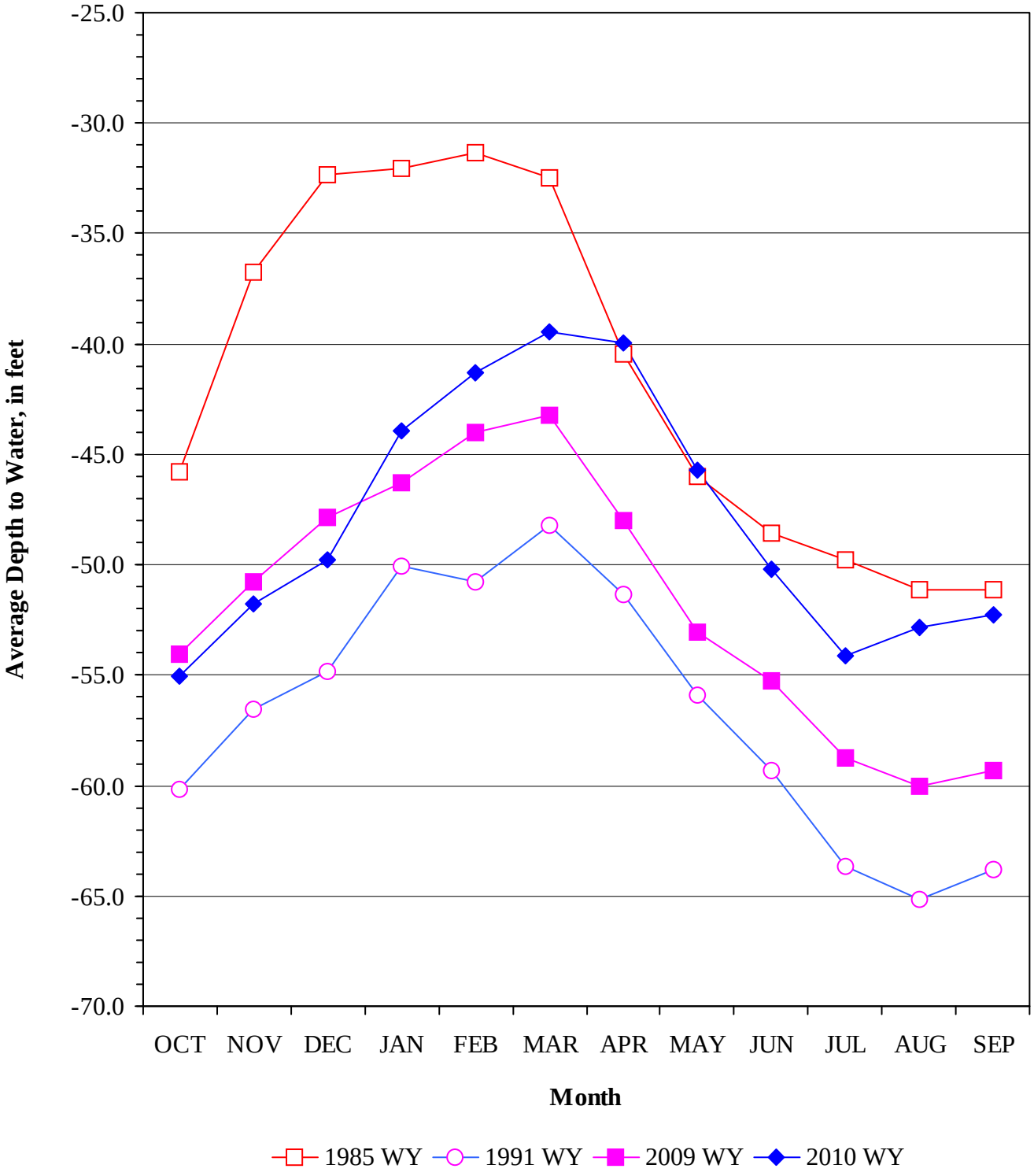


ATTACHMENT D

HISTORIC GROUND WATER TRENDS

PRESSURE 180-FOOT AQUIFER

5 Wells

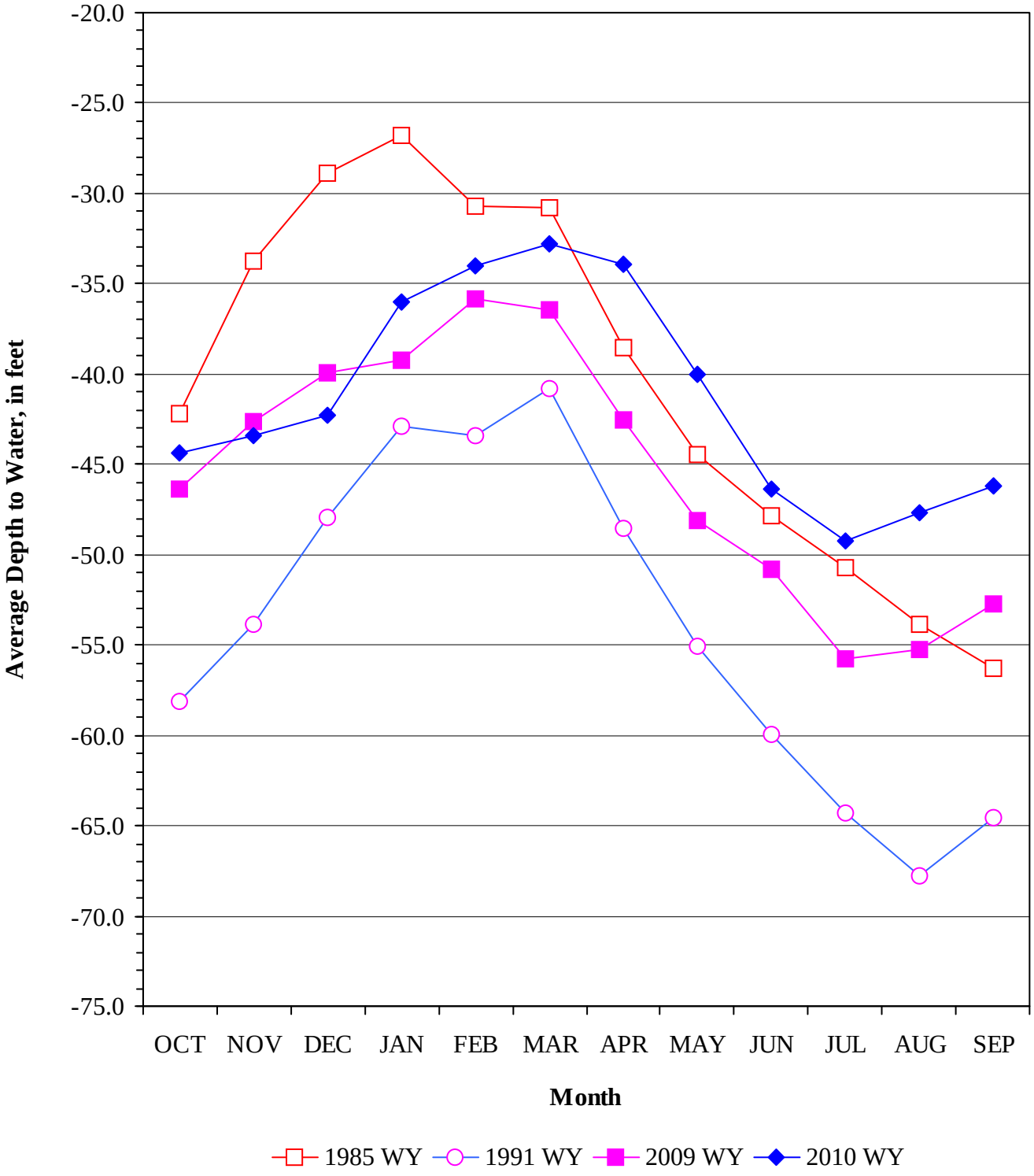


ATTACHMENT E

HISTORIC GROUND WATER TRENDS

PRESSURE 400-FOOT AQUIFER

11 Wells

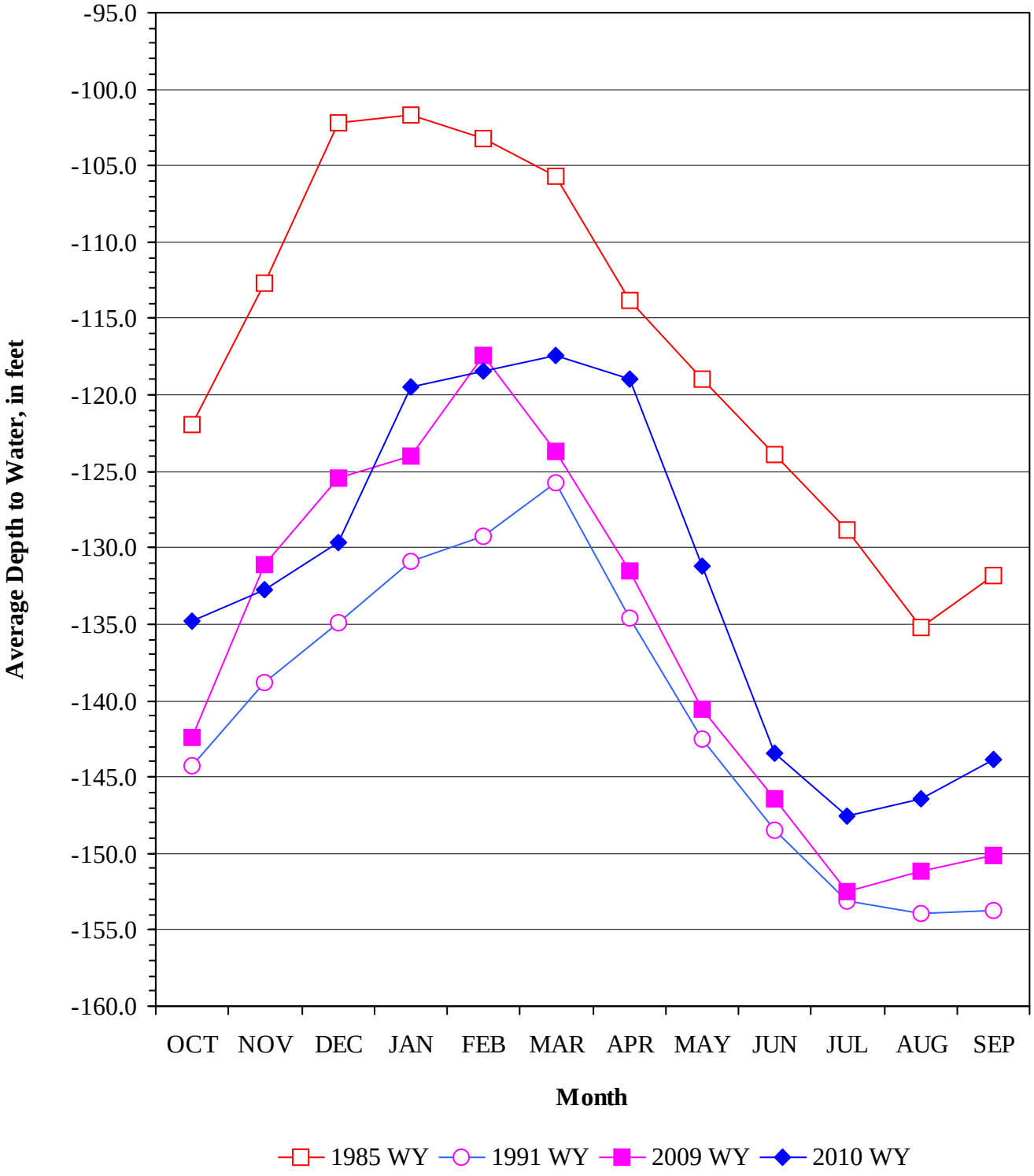


ATTACHMENT F

HISTORIC GROUND WATER TRENDS

EAST SIDE SUBAREA

11 Wells

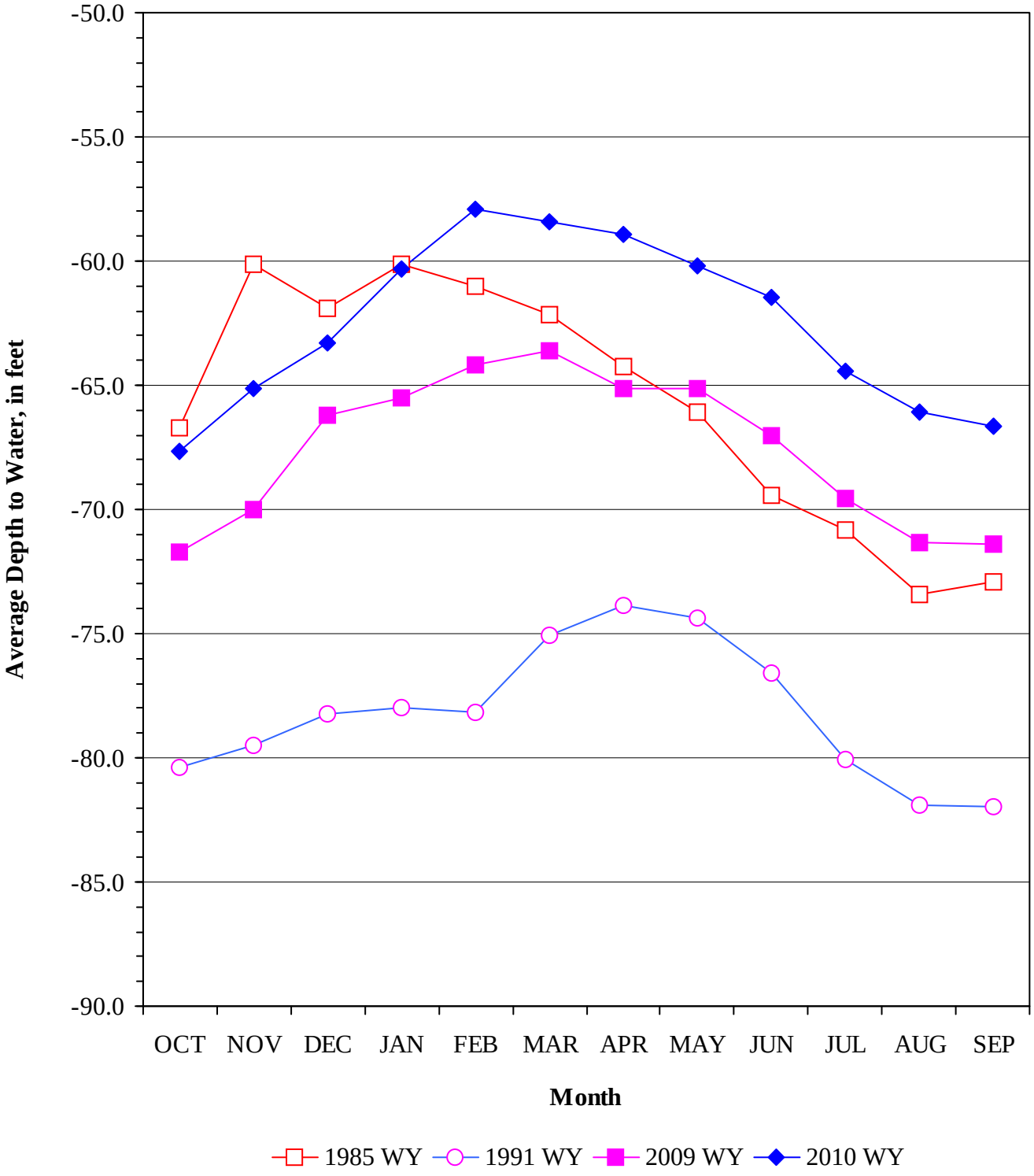


ATTACHMENT G

HISTORIC GROUND WATER TRENDS

FOREBAY SUBAREA

10 Wells

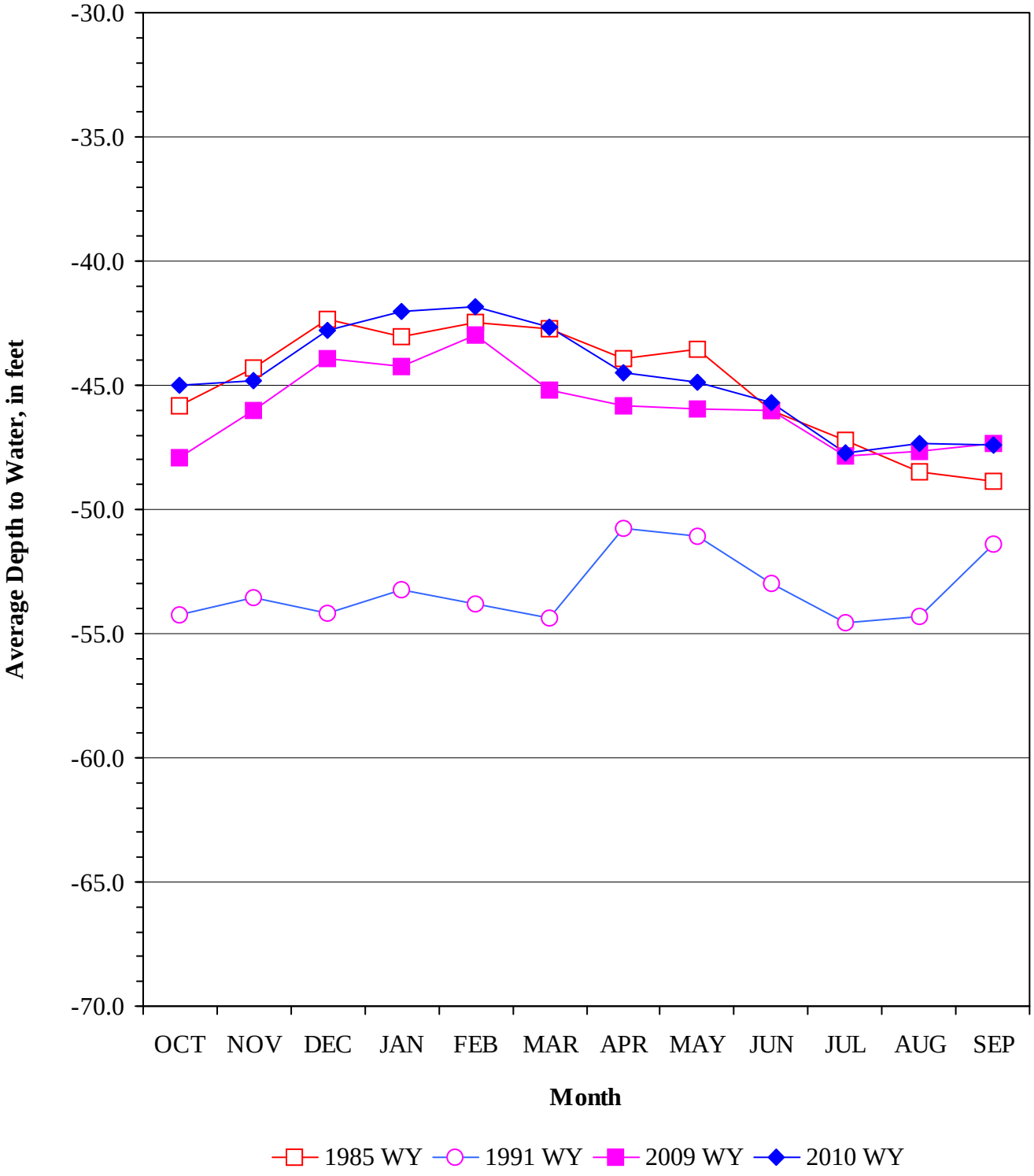


ATTACHMENT H

HISTORIC GROUND WATER TRENDS

UPPER VALLEY SUBAREA

9 Wells



ATTACHMENT I

Generalized Ground Water Trends
September 2010

Area	September 2010 Depth to Water	1 Year Change	Change From WY 1985	1 Month Change
Pressure 180-Foot Aquifer	52'	up 7'	down 1'	up 1'
Pressure 400-Foot Aquifer	46'	up 6'	up 10'	up 1'
East Side Subarea	144'	up 6'	down 12'	up 3'
Forebay Subarea	67'	up 5'	up 6'	down 1'
Upper Valley Subarea	47'	no change	up 1'	no change

September water levels, compared to last year, range from no change to 7' higher.

September water levels, compared to WY 1985, range from 12' lower to 10' higher.

September changes in water levels over the last month range from 1' lower to 3' higher.

ATTACHMENT J