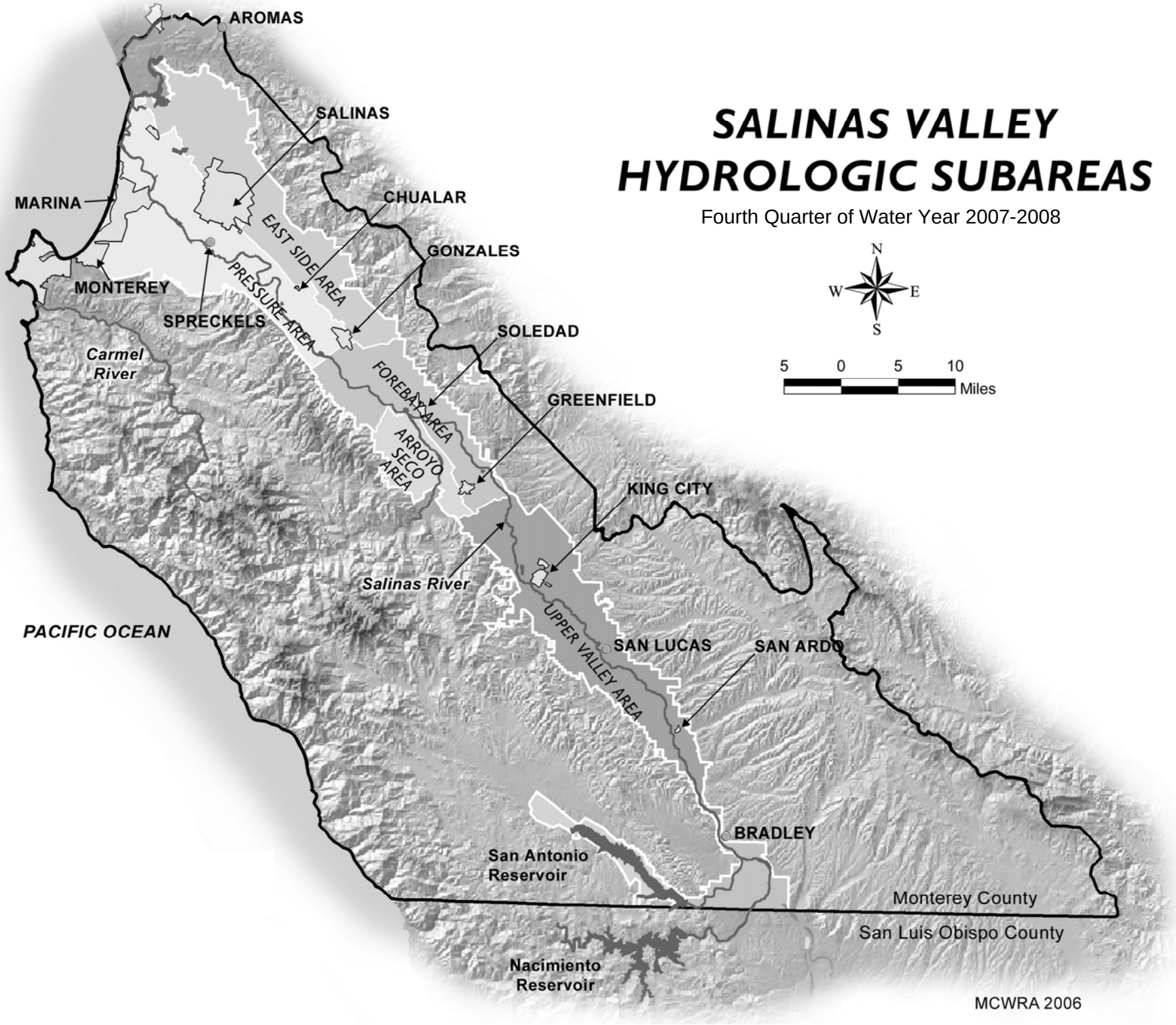
1-3-2019

2008 - Salinas Valley Hydrologic Subareas, 4th Quarter Water Conditions


SALINAS VALLEY
HYDROLOGIC SUBAREAS
Fourth Quarter of Water Year 2007-2008
N
W
E
S
5 0 5 10
Miles
AROMAS
SALINAS
MARINA
CHUALAR
GONZALES
EAST SIDE AREA
PRESSURE 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
MCWRA 2006

MONTEREY COUNTY WATER RESOURCES AGENCY
BOARD OF DIRECTORS

MEETING DATE:	October 27, 2008	**AGENDA ITEM:**	
AGENDA TITLE:	RECEIVE REPORT ON SALINAS VALLEY WATER CONDITIONS FOR THE FOURTH QUARTER OF WATER YEAR 2007-2008		
Consent (X) **Action ( )** **Information ( )**			
SUBMITTED BY: **PHONE:**	ROBERT JOHNSON 755-4860	**PREPARED BY:** **PHONE:**	PETER KWIEK, JOHN ROITZ 755-4860
DEADLINE FOR BOARD ACTION:	October 27, 2008		

RECOMMENDED BOARD ACTION:

Receive report on Salinas Valley water conditions for the fourth quarter of Water Year 2007-2008.

PRIOR RELEVANT BOARD ACTION:

A report was last presented to the Board on July 28, 2008, covering the third quarter of Water Year 2007-2008.

DISCUSSION/ANALYSIS:

This report covers the fourth quarter of Water Year 2007-2008 (WY08), July through September 2008. 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 little rainfall for the months of July, August and September. For reference, long term rainfall averages for these months are 0.02, 0.03, and 0.23 inches, respectively. No rain fell in July or August and 0.01 inches fell in September. The total rainfall for water year 2007-2008 at the Salinas Airport was 11.07 inches, or approximately 82 percent of the total rainfall for a normal water year.

Dry conditions also prevailed at King City throughout the fourth quarter, in accordance with long-term average rainfall data. No rain fell there in July, August, or September. King City's total rainfall for water year 2007-2008 was 9.13 inches, or approximately 84 percent of the total rainfall 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 data 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 7,415 acre feet higher than September 2007 while storage in San Antonio Reservoir is 52,195 acre feet lower than last year.

Reservoir	September 30, 2008 (WY08) Storage in acre feet	September 30, 2007 (WY07) Storage in acre feet	Difference in acre feet
Nacimiento	122,755	115,340	7,415
San Antonio	194,685	246,880	-52,195

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 (WY07), 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 decreased in all subareas with the exception of the Pressure 400-Foot Aquifer where water levels began to recover. By September, water levels were recovering in all subareas except the Forebay and Upper Valley.

The change in average water levels over the previous month ranged from a one-foot decrease in the Upper Valley to a four-foot increase in the East Side Subarea.

Compared to September 2007, average ground water levels decreased by two feet in the Pressure 180-Foot and Pressure 400-Foot Aquifers and the East Side Subarea, and one foot in the Upper Valley Subarea. Average ground water levels were unchanged in the Forebay Subarea.

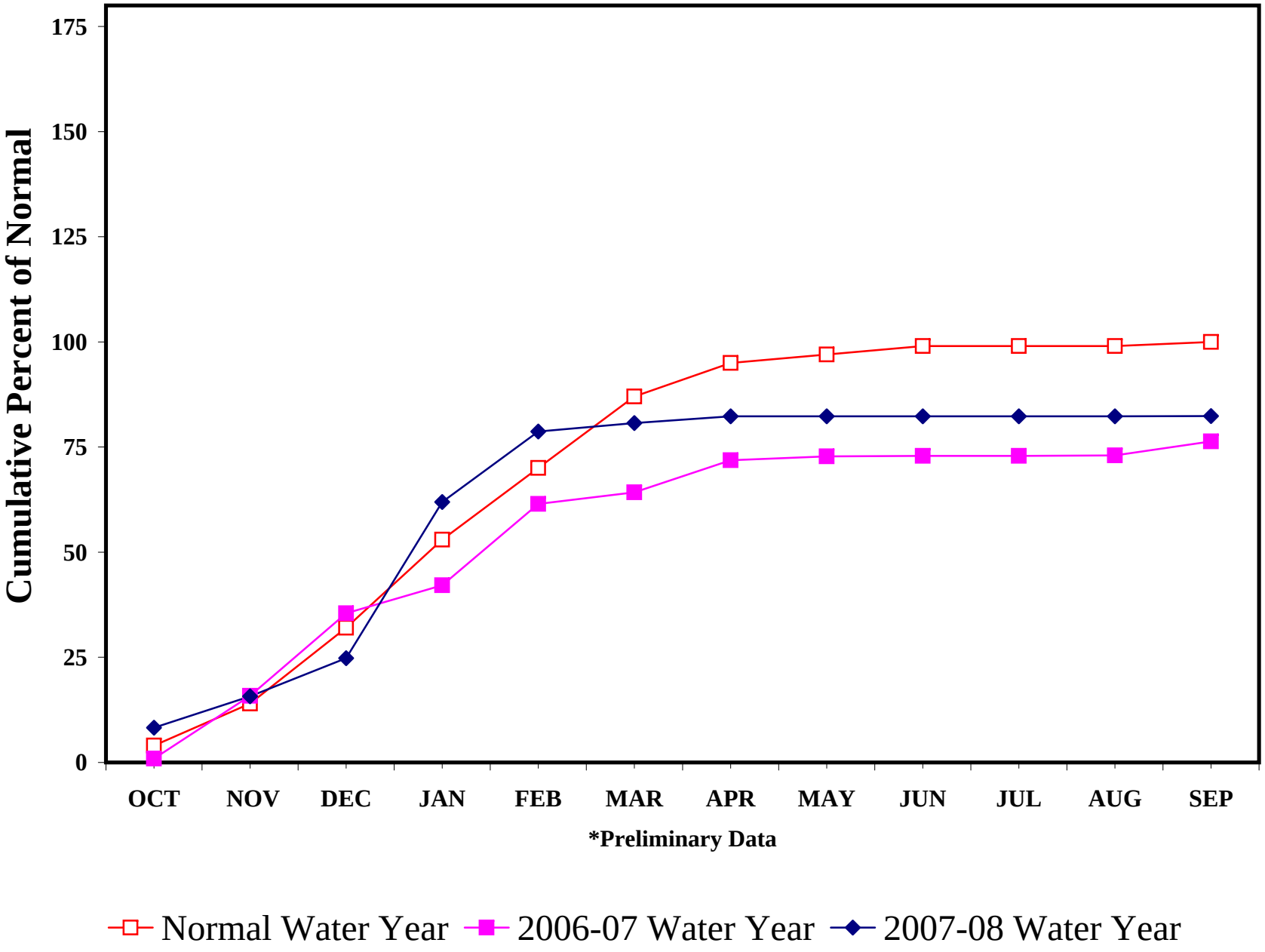
When compared to Water Year 1985, which is considered to be a year of near-normal ground water conditions, current water level changes range from an increase of five feet in the Pressure 400-Foot Aquifer to a decrease of fifteen feet in the East Side Subarea. Water levels in the Pressure 180-Foot Aquifer are five feet lower, while water levels in the Forebay Subarea are three feet higher than in WY 1985. Average ground water levels were unchanged in The Upper Valley Subarea.

Average ground water levels for the fourth quarter of WY08 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

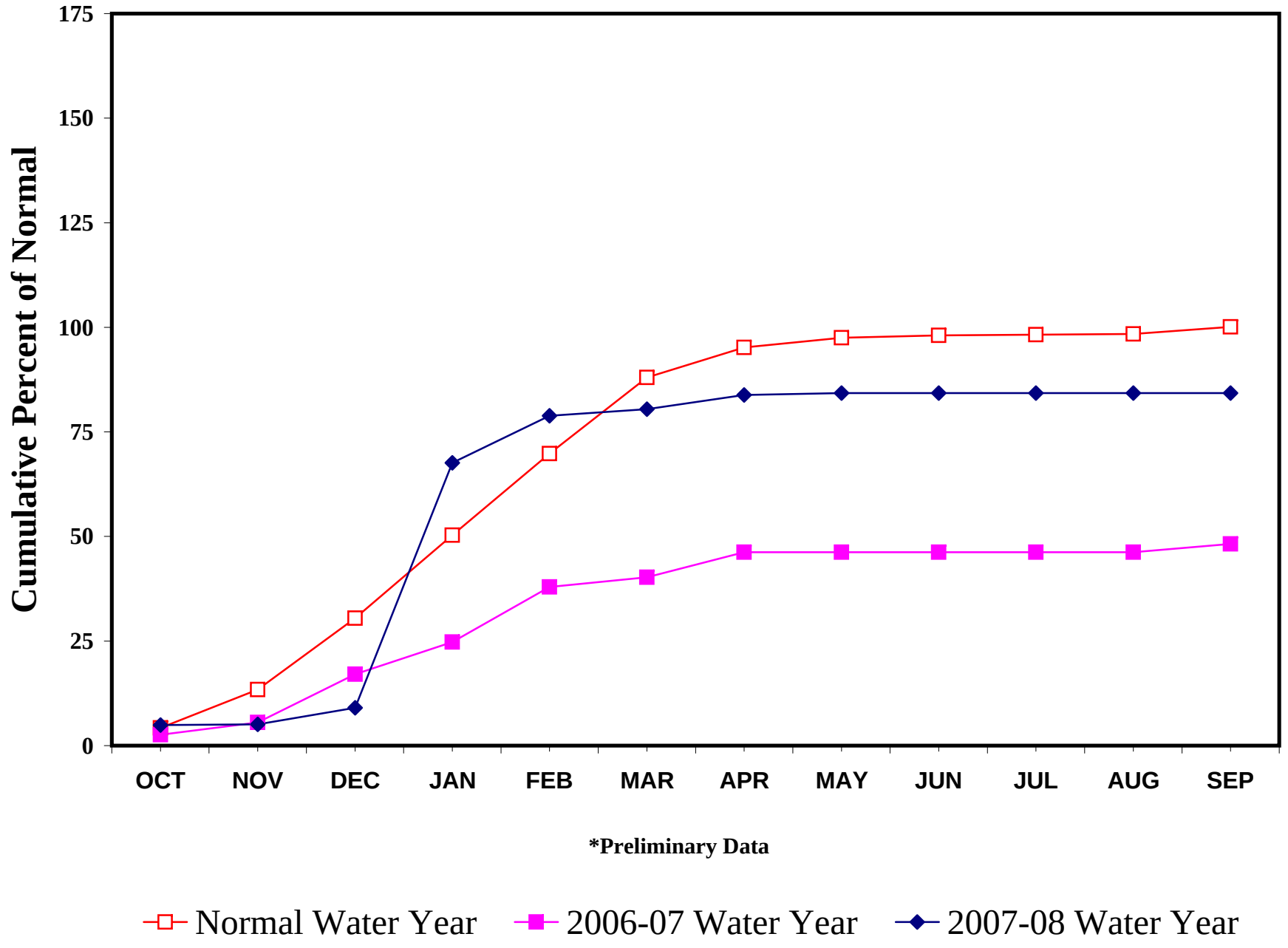
Water Year 2007-08



ATTACHMENT A

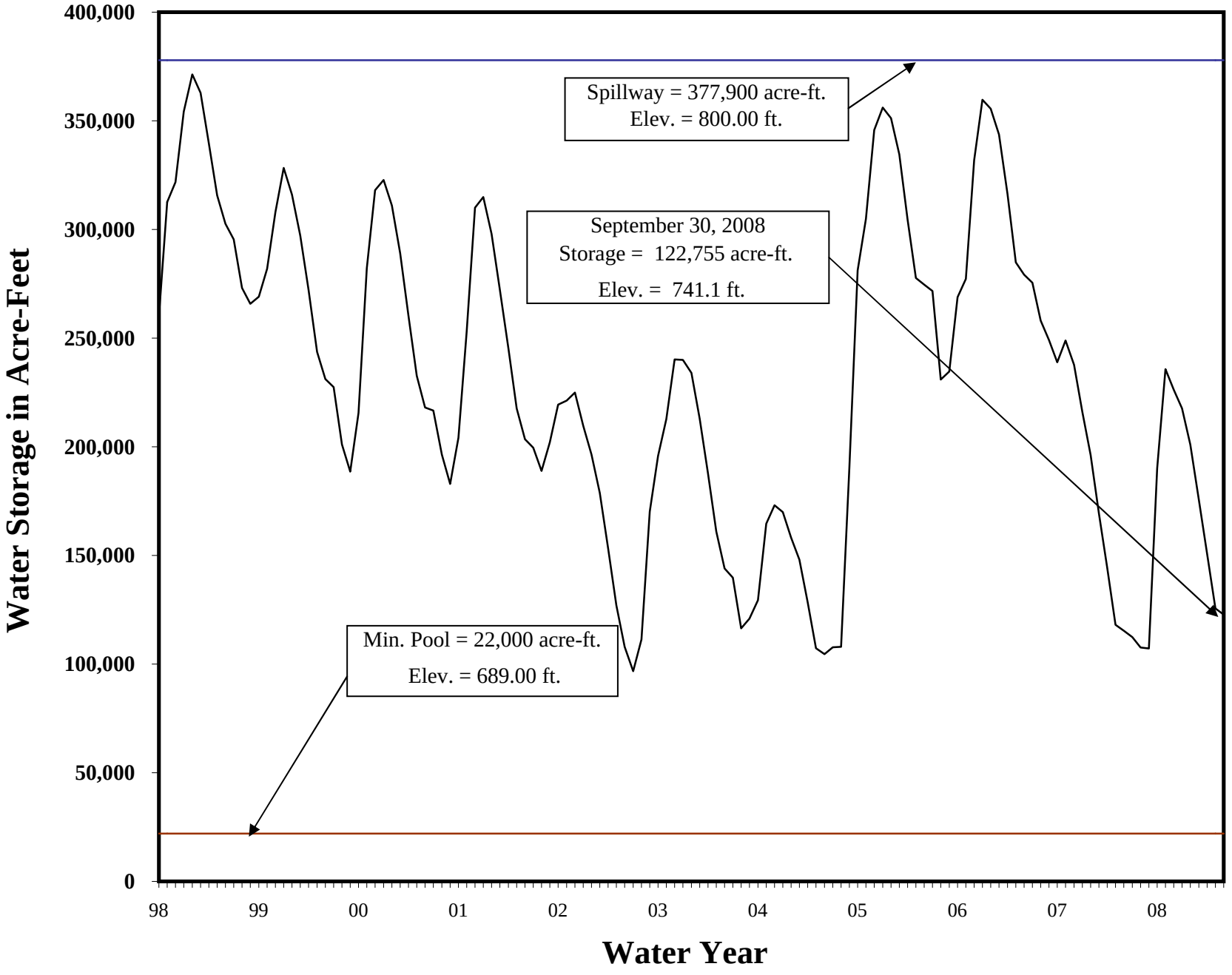
KING CITY RAINFALL

Water Year 2007-08



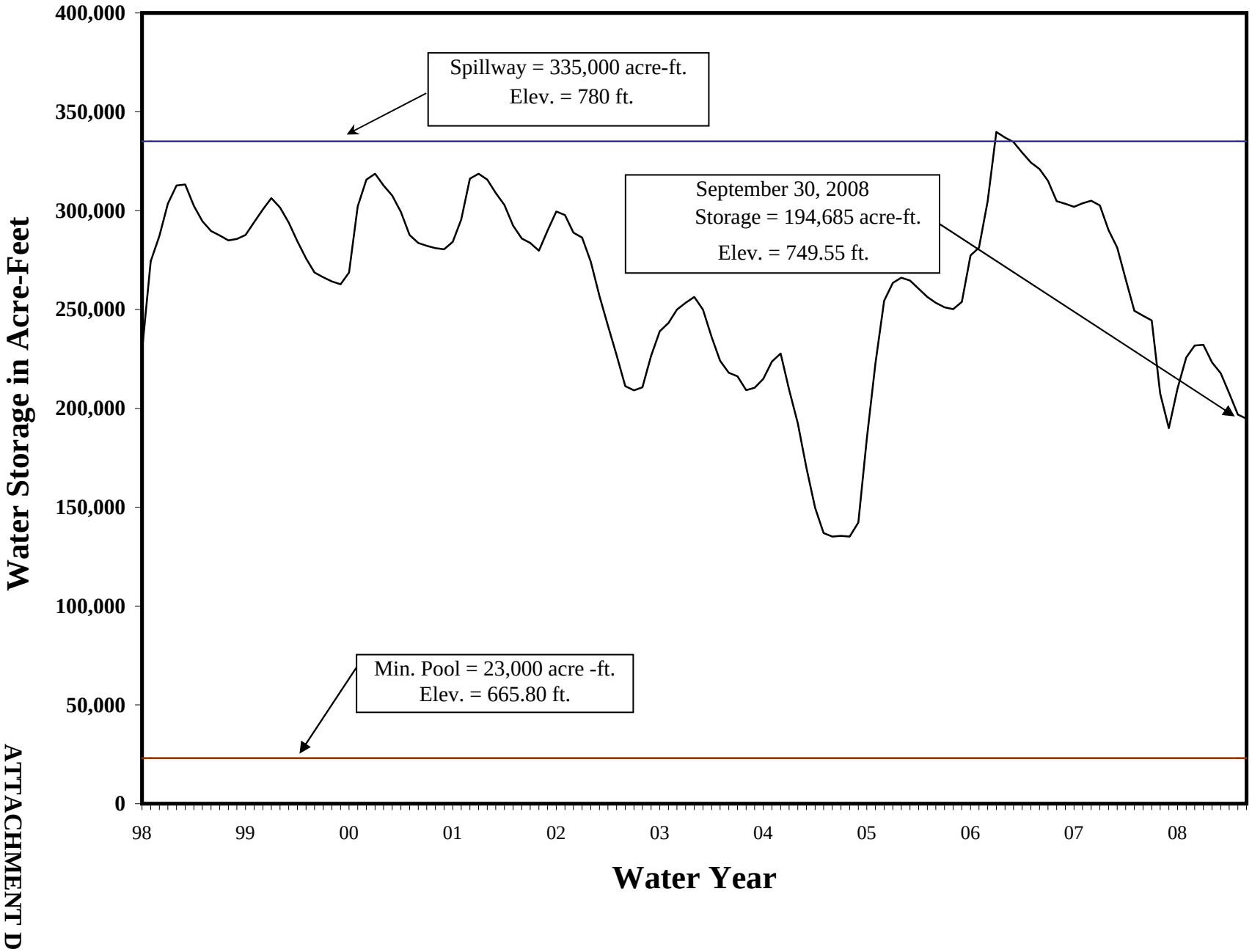
ATTACHMENT B

NACIMIENTO RESERVOIR
END OF MONTH STORAGE



ATTACHMENT C

SAN ANTONIO RESERVOIR
END OF MONTH STORAGE

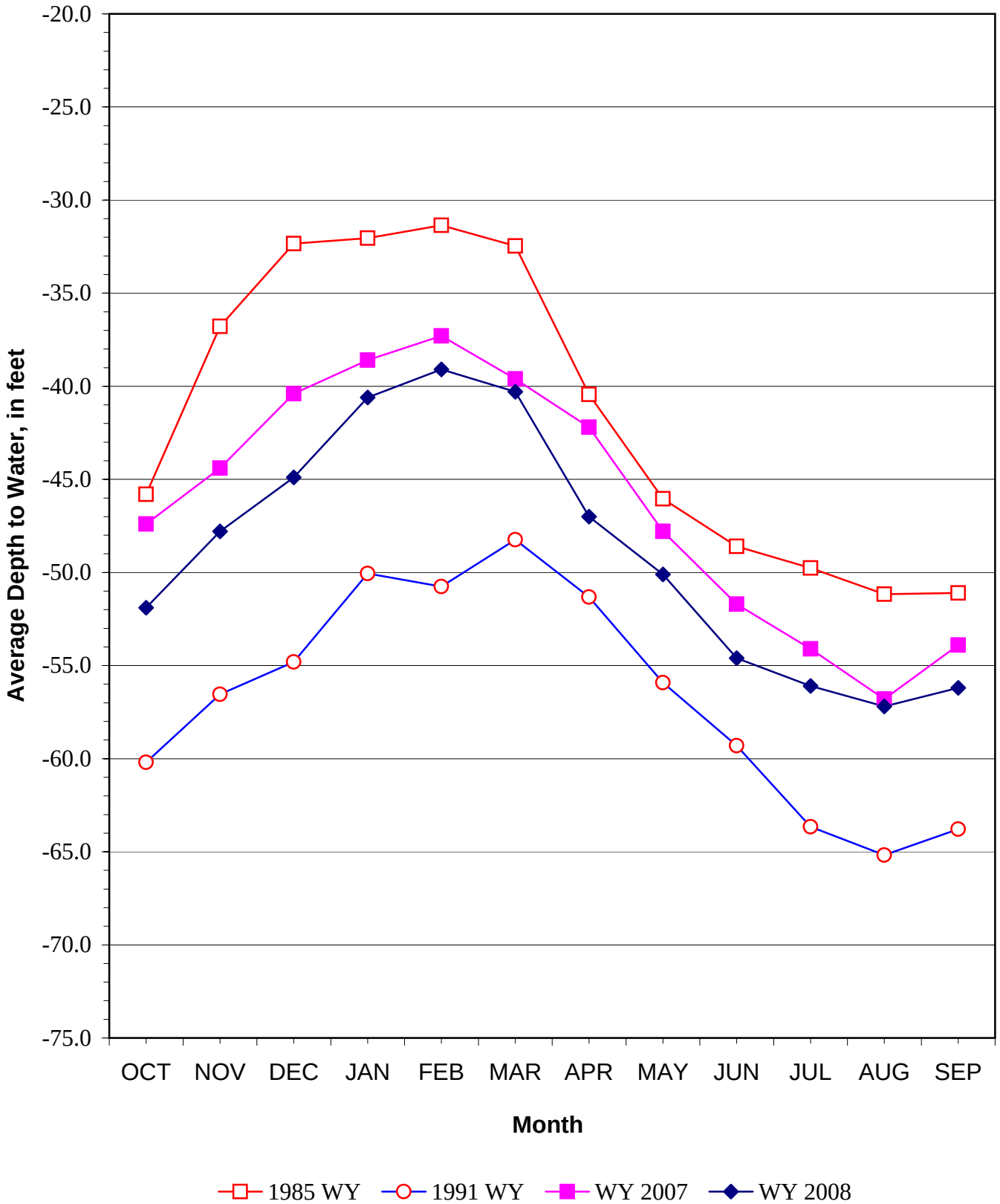


ATTACHMENT D

HISTORIC GROUND WATER TRENDS

PRESSURE AREA-180 FOOT AQUIFER

5 Wells

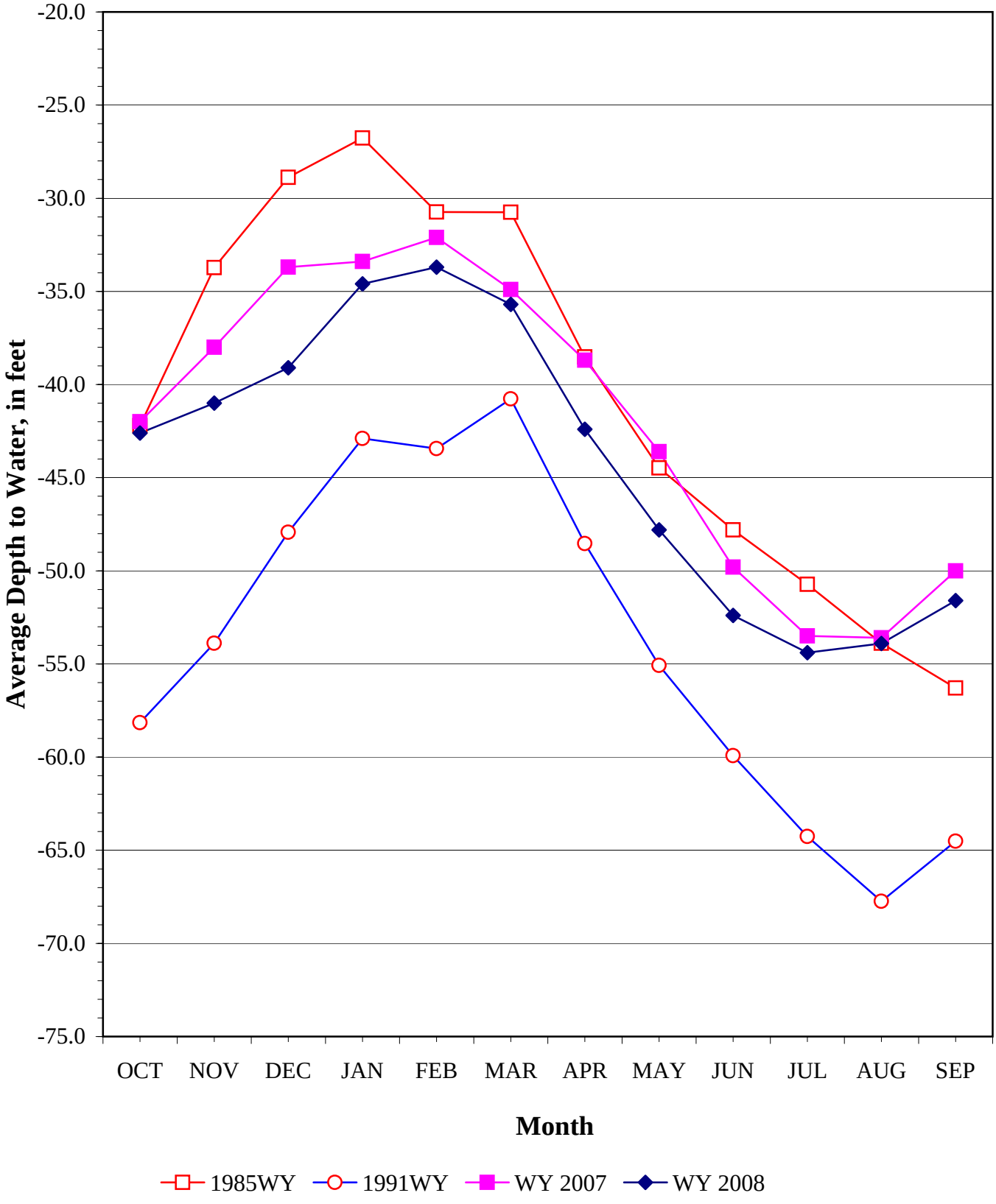


ATTACHMENT E

HISTORIC GROUND WATER TRENDS

PRESSURE AREA-400 FOOT AQUIFER

11 Wells

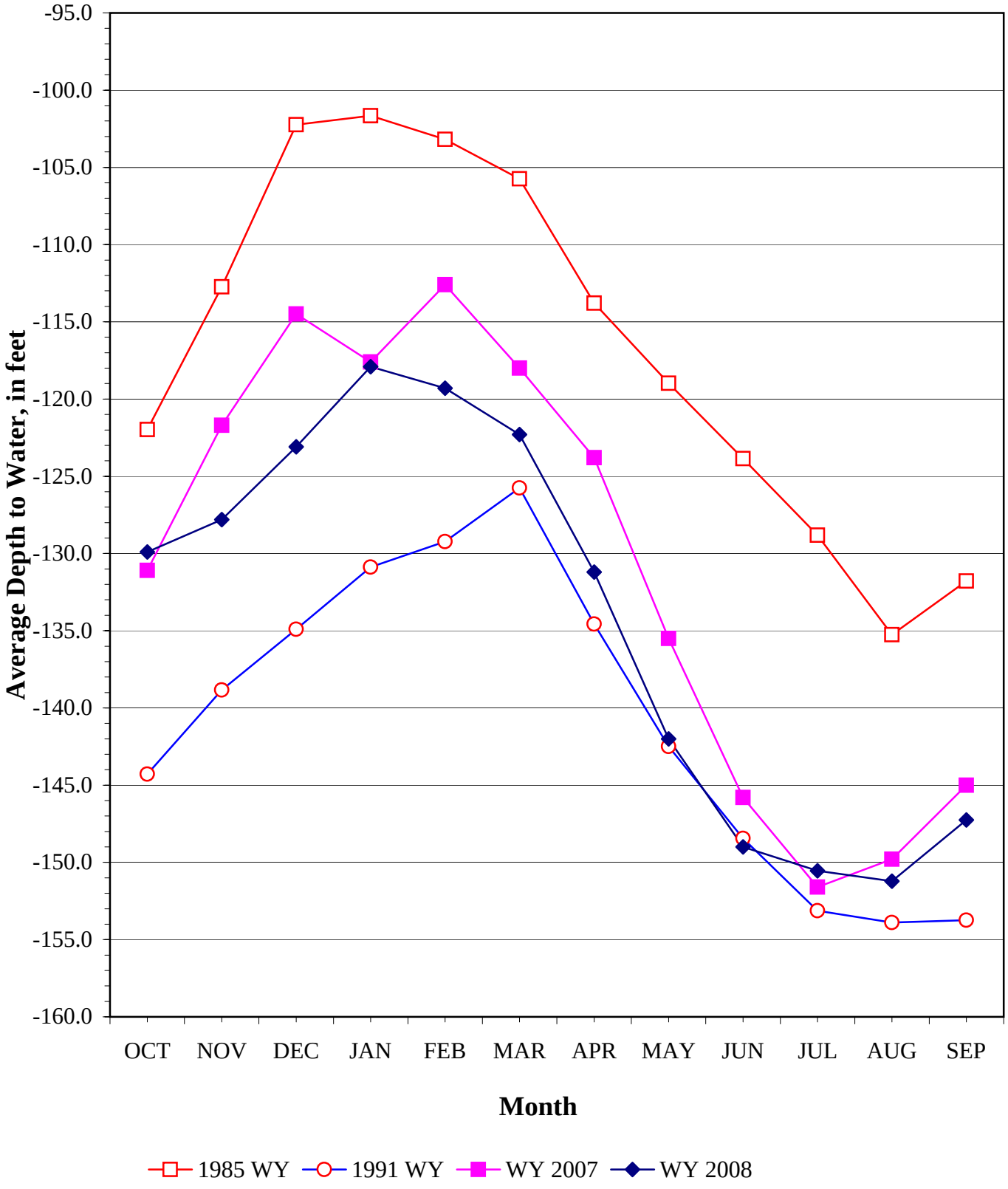


ATTACHMENT F

HISTORIC GROUND WATER TRENDS

EAST SIDE AREA

11 Wells

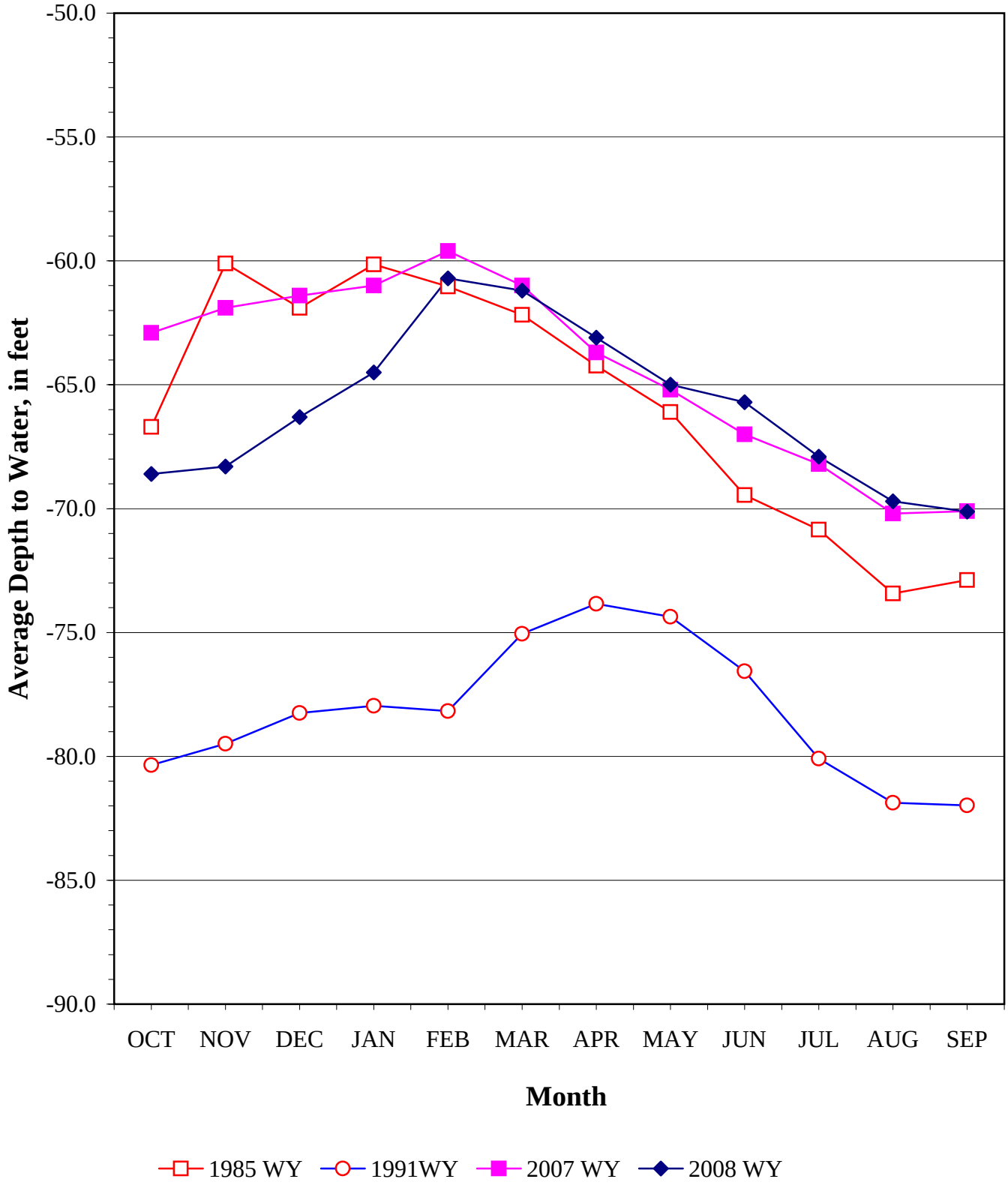


ATTACHMENT G

HISTORIC GROUND WATER TRENDS

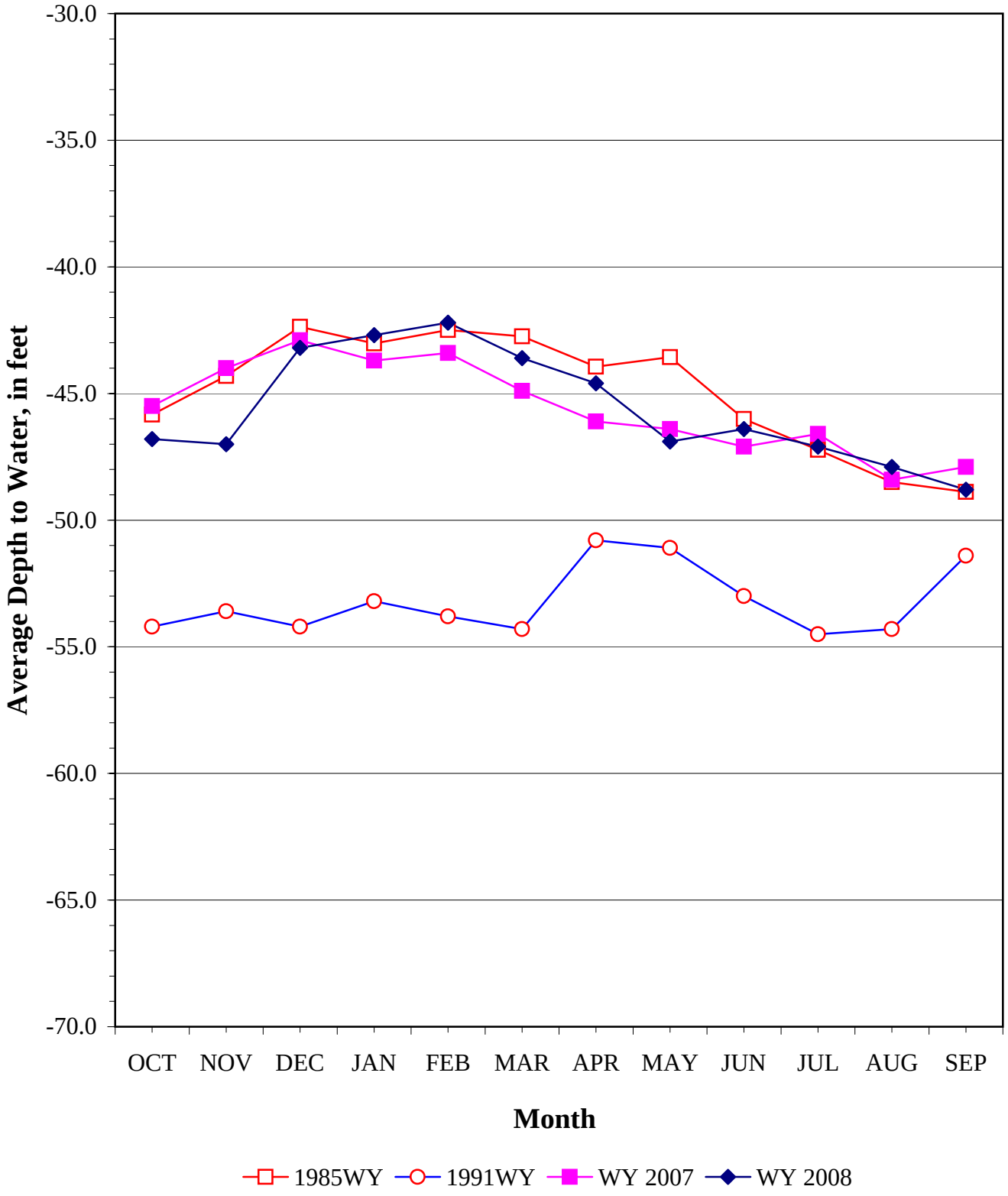
FOREBAY AREA

10 Wells



ATTACHMENT H

HISTORIC GROUND WATER TRENDS
UPPER VALLEY AREA
9 Wells



ATTACHMENT I

Generalized Ground Water Trends

September 2008

AREA	September 2008 Depth to Water	1 Year Change	Change From WY 1985	1 Month Change
180' Aquifer in Pressure Area	56'	down 2'	down 5'	up 1'
400' Aquifer in Pressure Area	52'	down 2'	up 5'	up 2'
East Side Area	147'	down 2'	down 15'	up 4'
Forebay Area	70'	no change	up 3'	no change
Upper Valley Area	49'	down 1'	no change	down 1'

September water levels, compared to last year, range from no change to 2' lower.

September water levels, compared to WY 1985, range from 15' lower to 5' higher.

September changes in water levels over the last month range from 1' lower to 4' higher.

ATTACHMENT J