

1-3-2019

## 2005 - Salinas Valley Hydrologic Subareas, 4th Quarter Water Conditions

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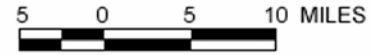
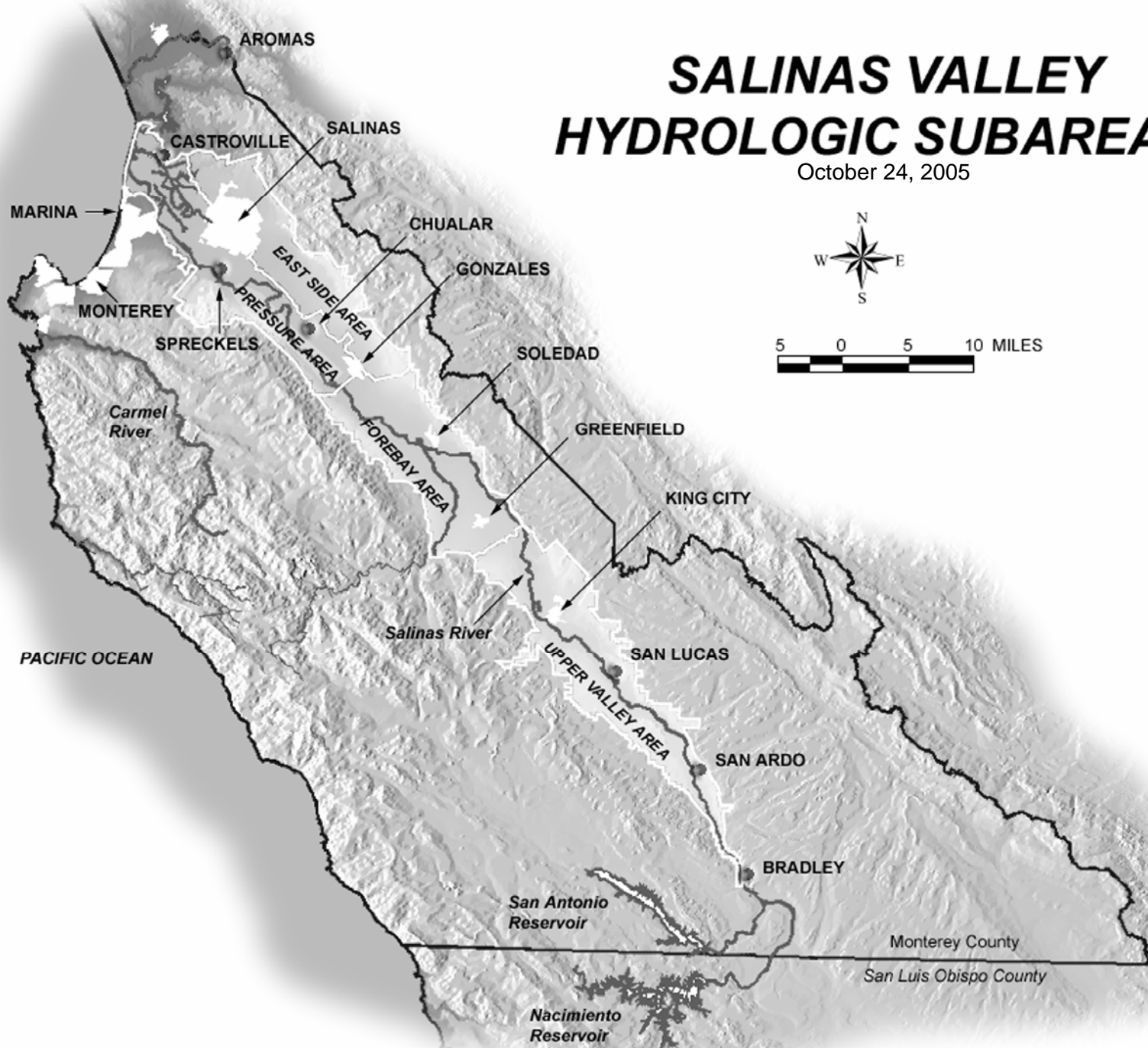
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# SALINAS VALLEY HYDROLOGIC SUBAREAS

October 24, 2005



**MONTEREY COUNTY WATER RESOURCES AGENCY  
BOARD OF DIRECTORS**

<b>MEETING DATE:</b>	October 24, 2005	<b>AGENDA ITEM:</b>	
<b>AGENDA TITLE:</b>	RECEIVE REPORT ON SALINAS VALLEY WATER CONDITIONS FOR THE FOURTH QUARTER OF WATER YEAR 2004-2005		
<b>Consent ( X )</b>	<b>Action ( )</b>	<b>Information ( )</b>	
<b>SUBMITTED BY:</b>	ROBERT JOHNSON	<b>PREPARED BY:</b>	PETER KWIEK
<b>PHONE:</b>	755-4860	<b>PHONE:</b>	755-4860
<b>DEADLINE FOR BOARD ACTION:</b>	October 24, 2005		

**RECOMMENDED BOARD ACTION:**

Receive report on Salinas Valley water conditions for the fourth quarter of Water Year 2004-2005.

**PRIOR RELEVANT BOARD ACTION:**

A report was last presented to the Board on July 25, 2005, covering the third quarter of Water Year 2004-2005.

**DISCUSSION/ANALYSIS:**

This report covers the fourth quarter of Water Year 2004-2005 (WY05), July 2005 through September 2005. It provides a brief overview of water conditions in the Salinas Valley with discussion on precipitation, reservoir storage, and ground water trends. Data for each of these components are included as graphs and tables in Attachments A through J.

**Precipitation** - The Salinas Airport received no rainfall for the months of July, August or September. For reference, long term rainfall averages for these months are 0.02, 0.03, and 0.23 inches, respectively. The total rainfall for water year 2004-2005 at the Salinas Airport was 18.23 inches or approximately 135 percent of the total rainfall for a normal water year.

Dry conditions also prevailed at King City for the entire fourth quarter period, in accordance with long-term average rainfall data. No rain fell there in July. In August, King City registered 0.03 inches and again no rain fell there in September. King City's total rainfall for water year 2004-2005 was 18.14 inches or approximately 167 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 both reservoirs increased significantly compared to September 2004.

<b>Reservoir</b>	<b>September 30, 2005 (WY2005) Storage in acre feet</b>	<b>Sept 30, 2004 (WY2004) Storage in acre feet</b>	<b>Difference in acre feet</b>
Nacimiento	274,580	104,575	+170,005
San Antonio	253,350	135,167	+118,183

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 fluctuations. Data from approximately 50 of these wells are 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 (WY04), 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 within the Pressure 180 Foot and Pressure 400 Foot Aquifers. Levels within the East Side and Upper Valley Aquifers continued to decline through August but began recovering in September. In the Forebay subarea, water levels declined throughout the fourth quarter.

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

Compared to September 2004, average ground water levels in all of the hydrologic subareas are between one and seven feet higher. The largest one-year change is seen in the East Side, with an average increase of seven feet.

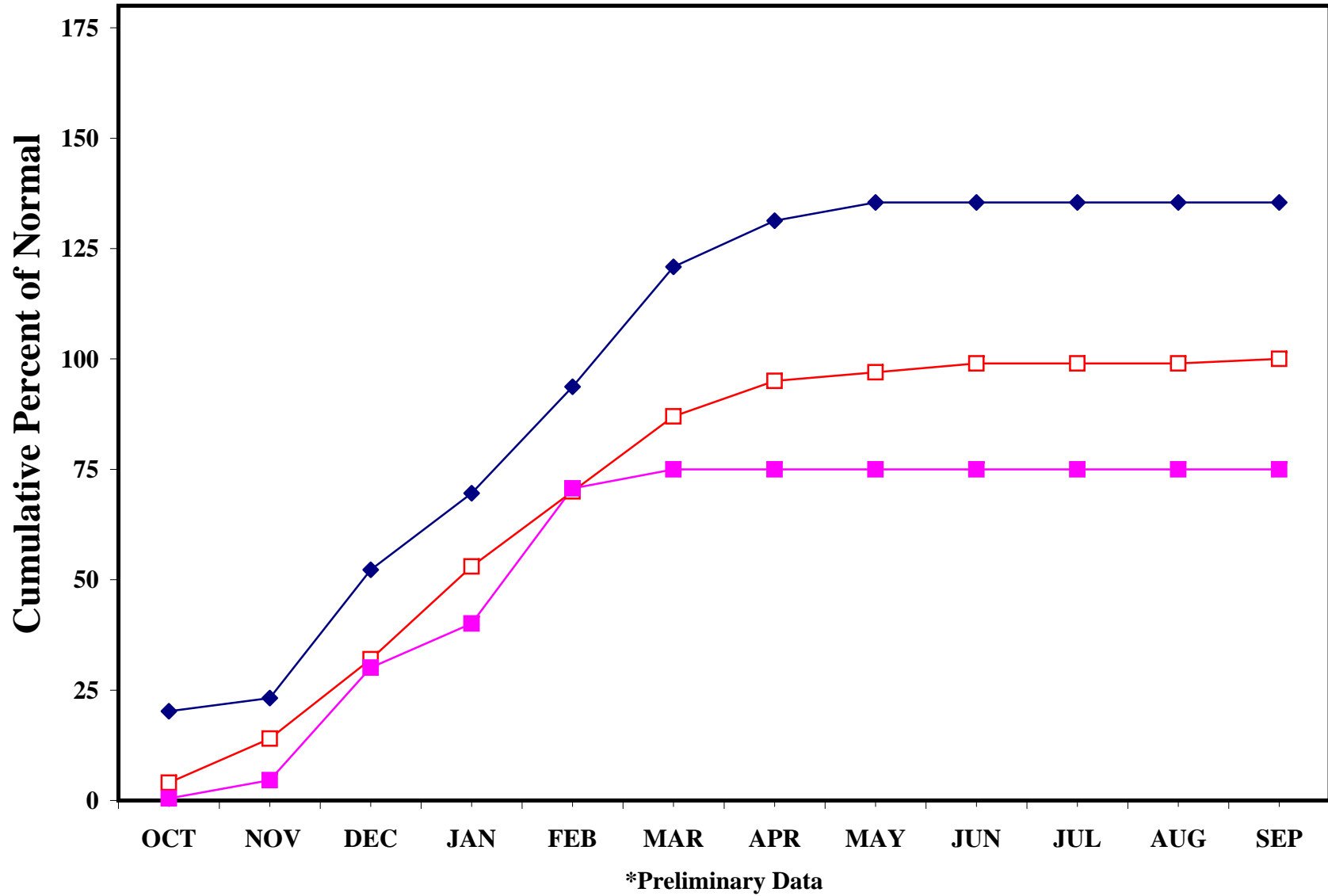
When compared to Water Year 1985, which is considered to be a year of near normal ground water conditions, current water level changes range from an increase of nine feet to a decrease of thirteen feet. Pressure 180 Foot Aquifer ground water levels are three feet lower while in the Pressure 400 Foot Aquifer they are nine feet higher than in WY85. East Side water levels registered the largest change, decreasing thirteen feet when compared to WY85 levels. Average water levels in the Forebay have risen by eight feet and Upper Valley levels experienced a two foot increase relative to WY85 values.

Average ground water levels for the fourth quarter of WY05 remain well above WY91 values in all of the hydrologic subareas.

<b>FINANCIAL IMPACT:</b>	<b>YES ( )</b> <b>NO ( X )</b>
<b>FUNDING SOURCE:</b>	
<b>COMMITTEE REVIEW AND RECOMMENDATION:</b>	None
<b>ATTACHMENTS:</b>	<ol style="list-style-type: none"> <li>1. Salinas Valley Hydrologic Subareas Map</li> <li>2. Salinas and King City Precipitation Graphs</li> <li>3. Nacimiento and San Antonio Reservoir Graphs</li> <li>4. Salinas Valley Monthly Water Level Graphs for Each Subarea, Attachments E through I</li> <li>5. Generalized Ground Water Trends, Attachment J.</li> </ol>
<b>APPROVED:</b>	<hr/> <b>General Manager</b> <b>Date</b>

# SALINAS AIRPORT RAINFALL

## Water Year 2004-05

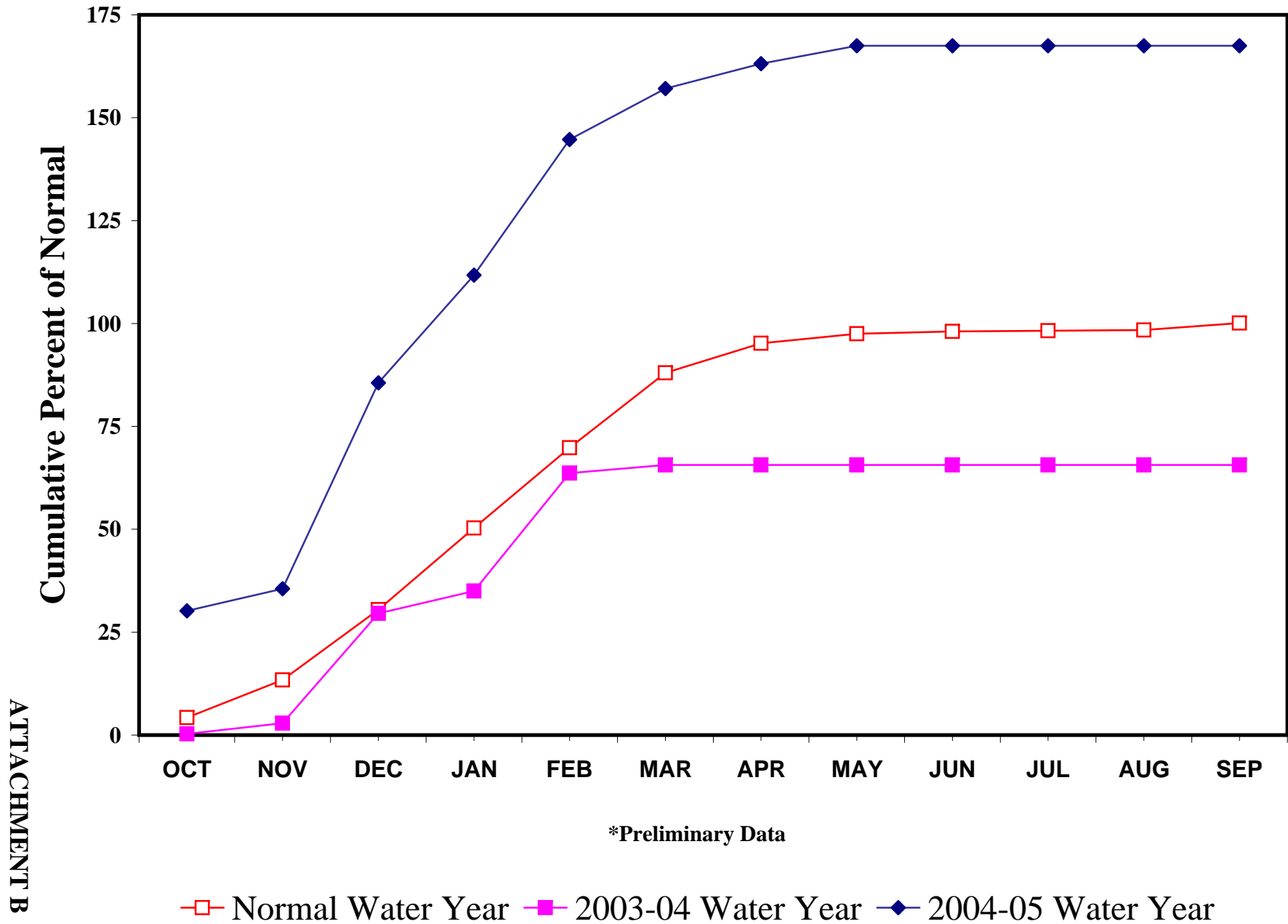


—□— Normal Water Year —■— 2003-04 Water Year —◆— 2004-05 Water Year

ATTACHMENT A

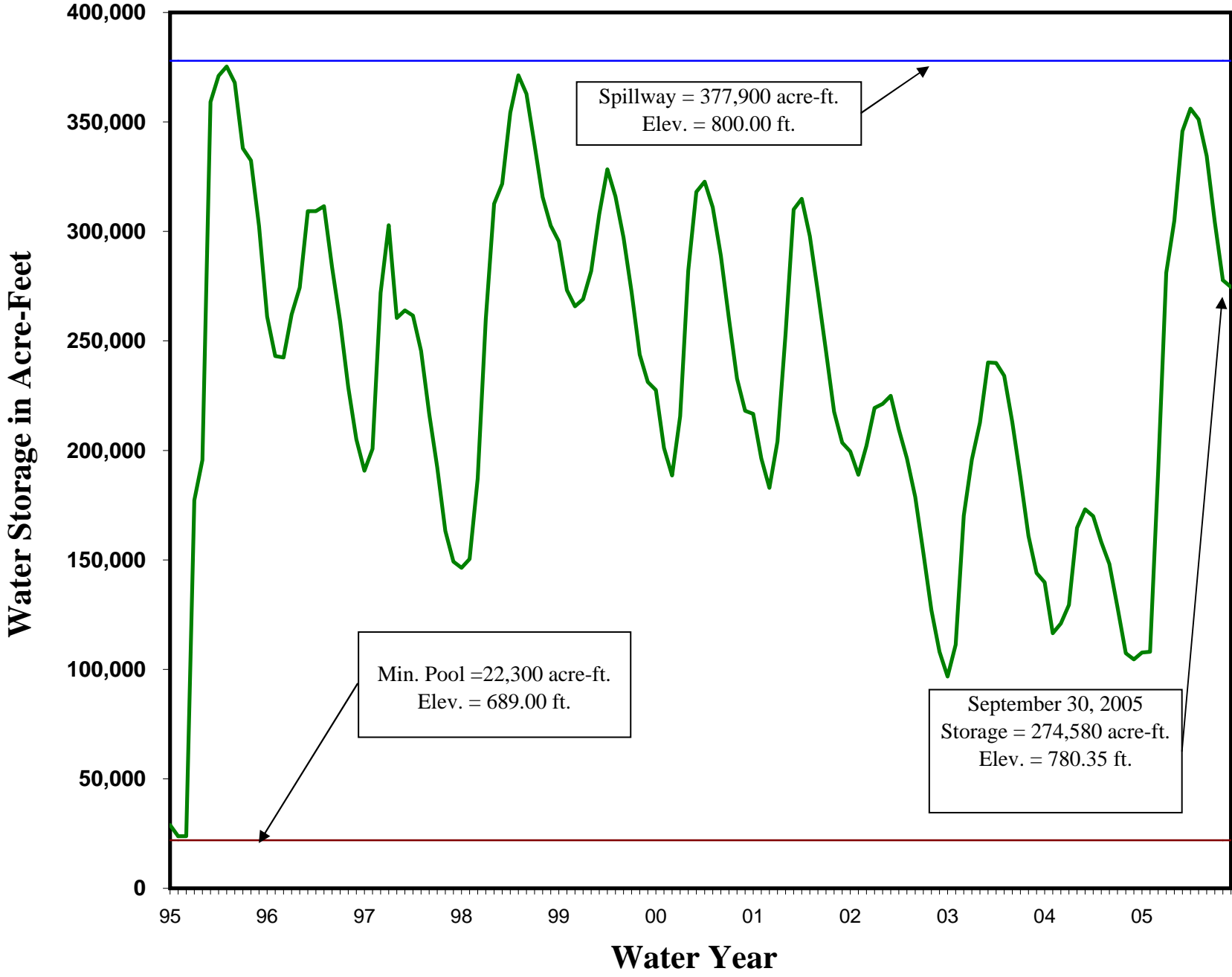
# KING CITY RAINFALL

Water Year 2004-05



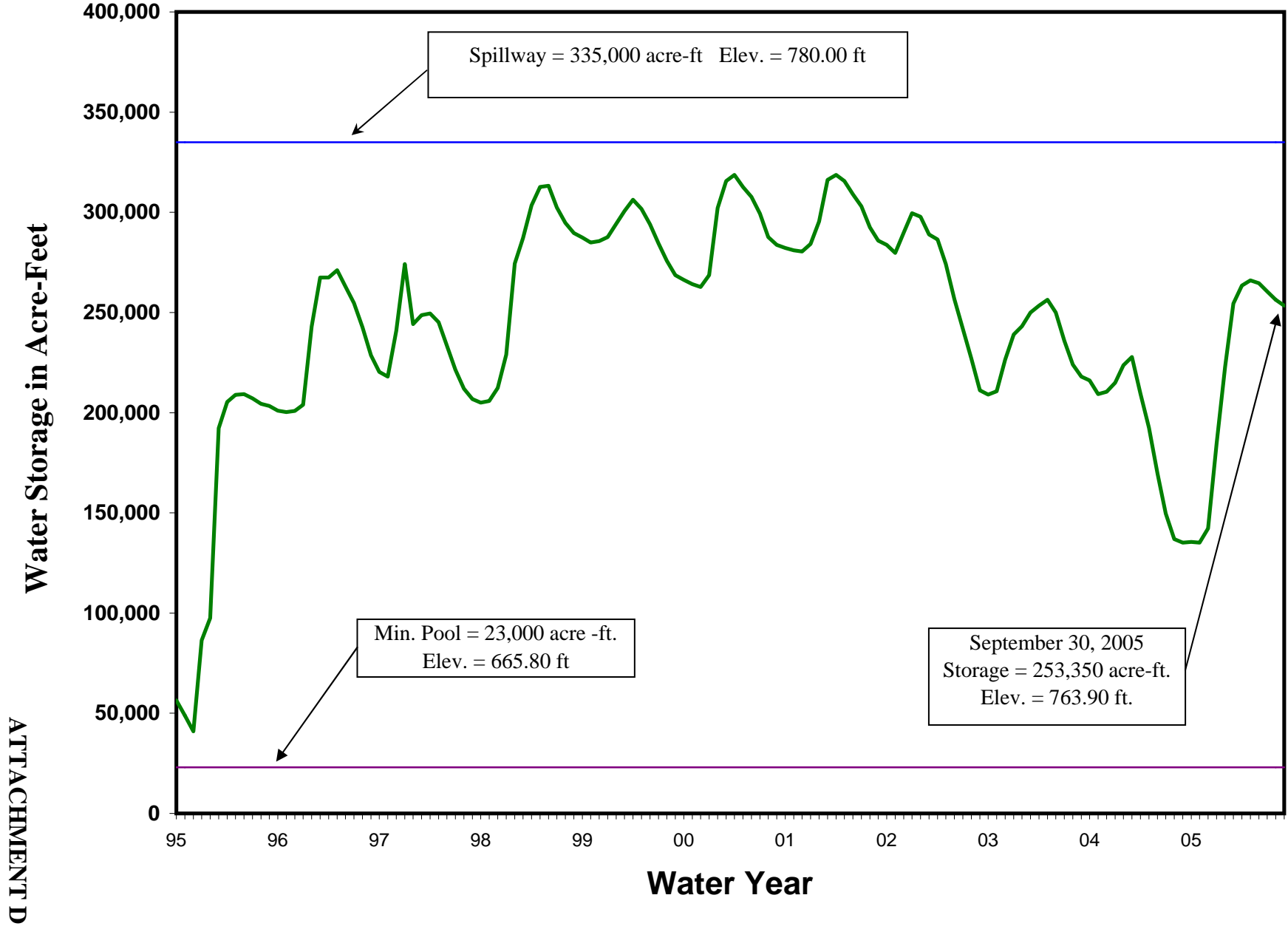
# NACIMIENTO RESERVOIR

## END OF MONTH STORAGE

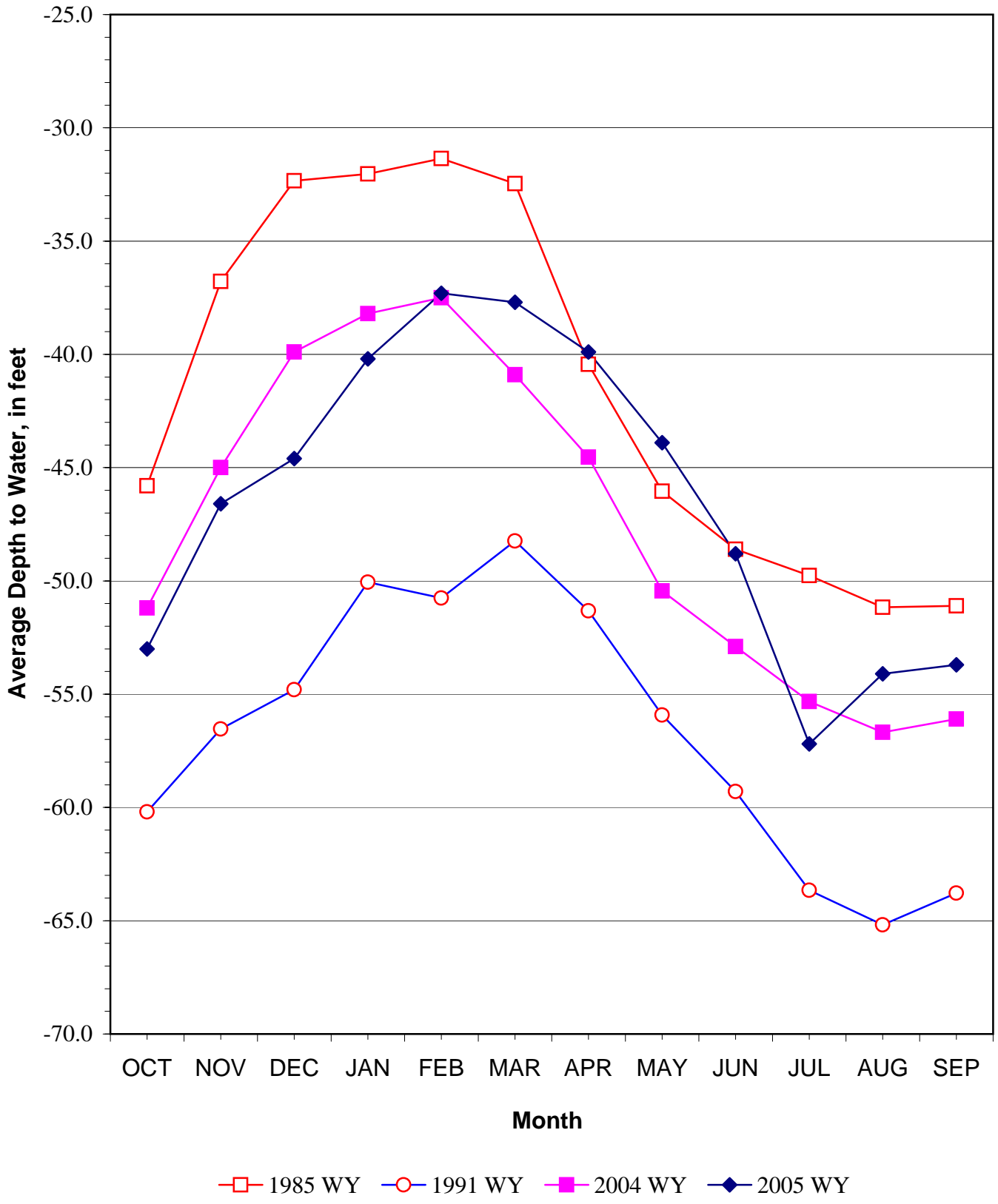




# SAN ANTONIO RESERVOIR END OF THE MONTH STORAGE



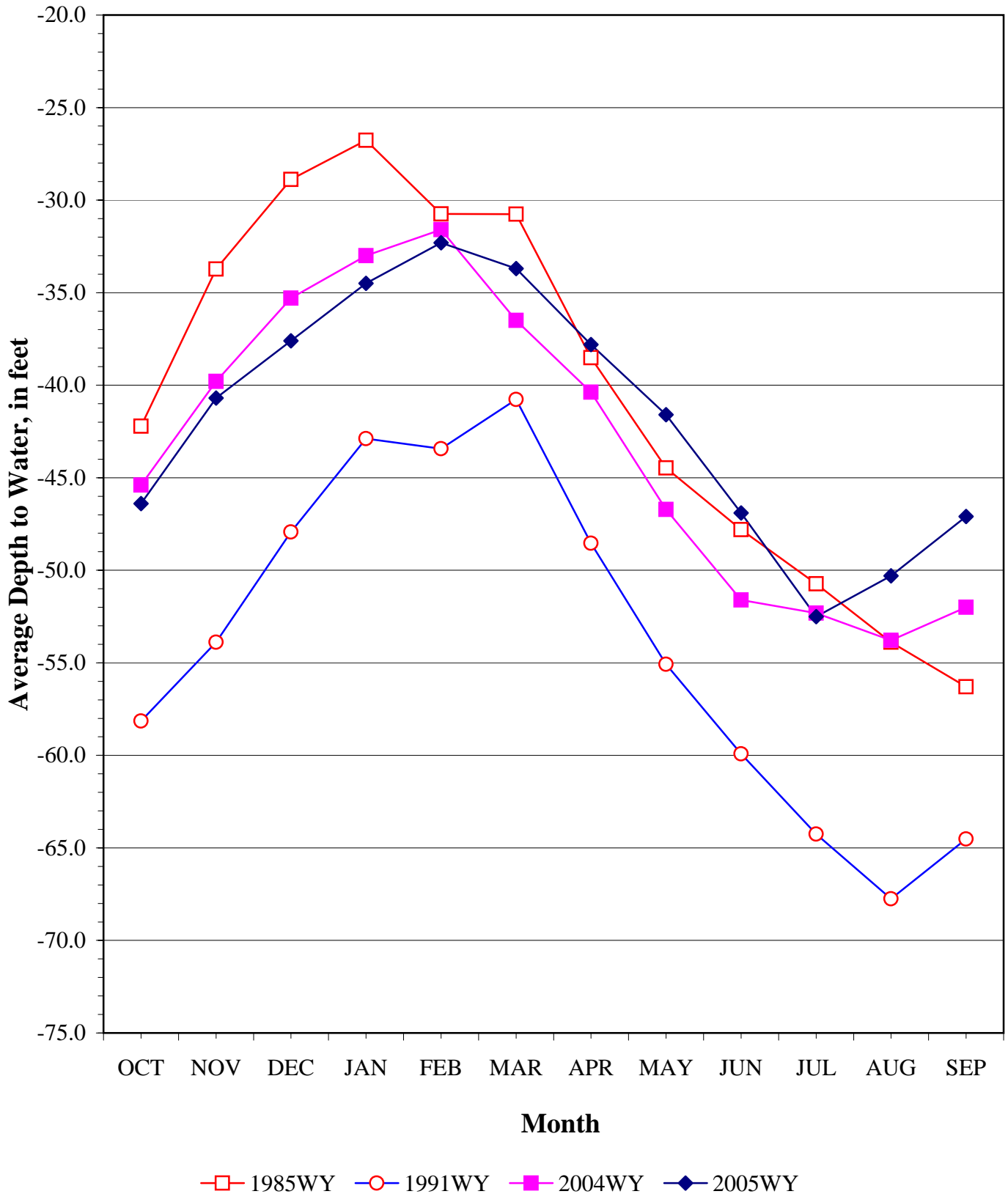
# HISTORIC GROUND WATER TRENDS PRESSURE AREA-180 FOOT AQUIFER 5 Wells



# HISTORIC GROUND WATER TRENDS

## PRESSURE AREA-400 FOOT AQUIFER

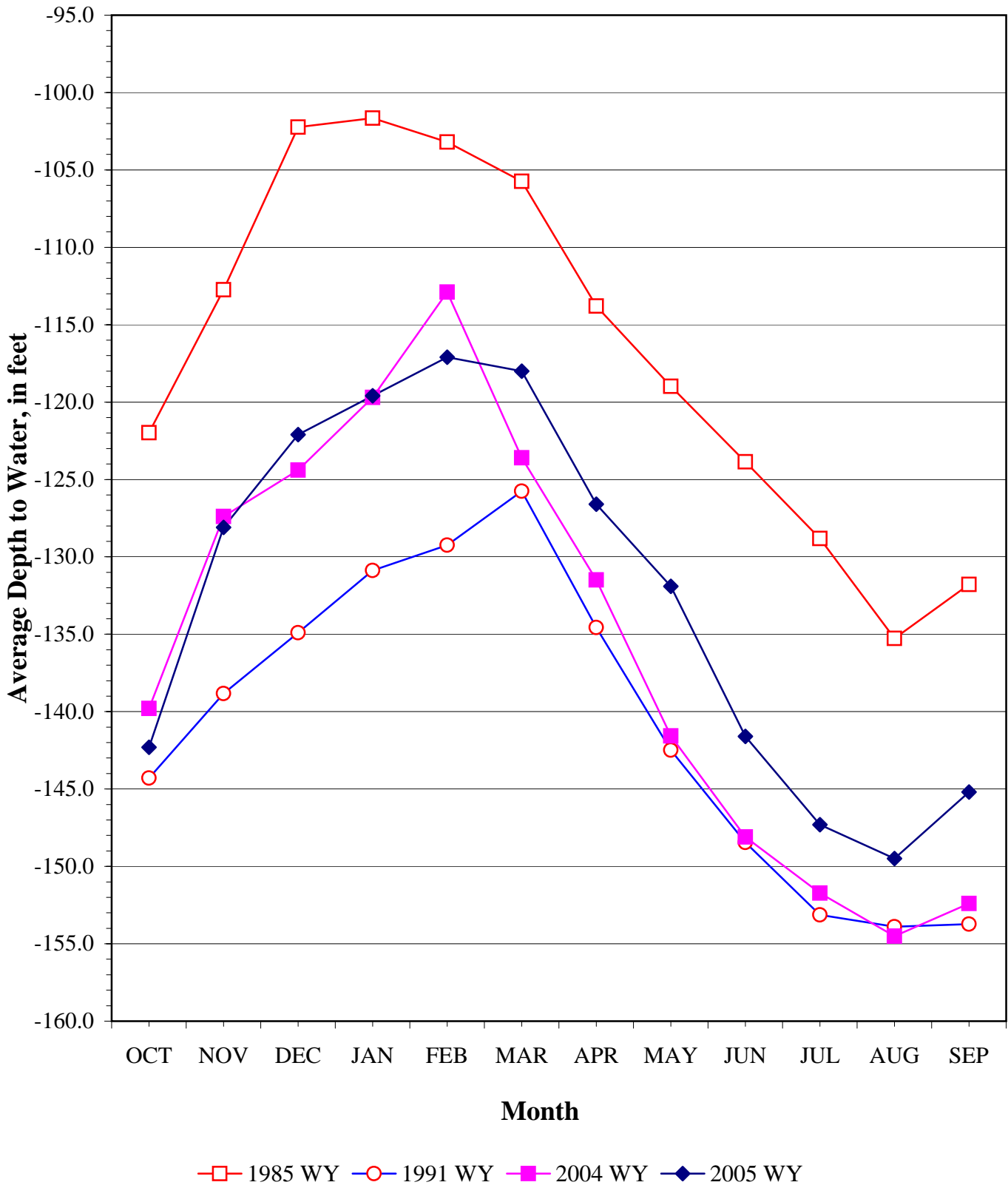
### 11 Wells



# HISTORIC GROUND WATER TRENDS

## EAST SIDE AREA

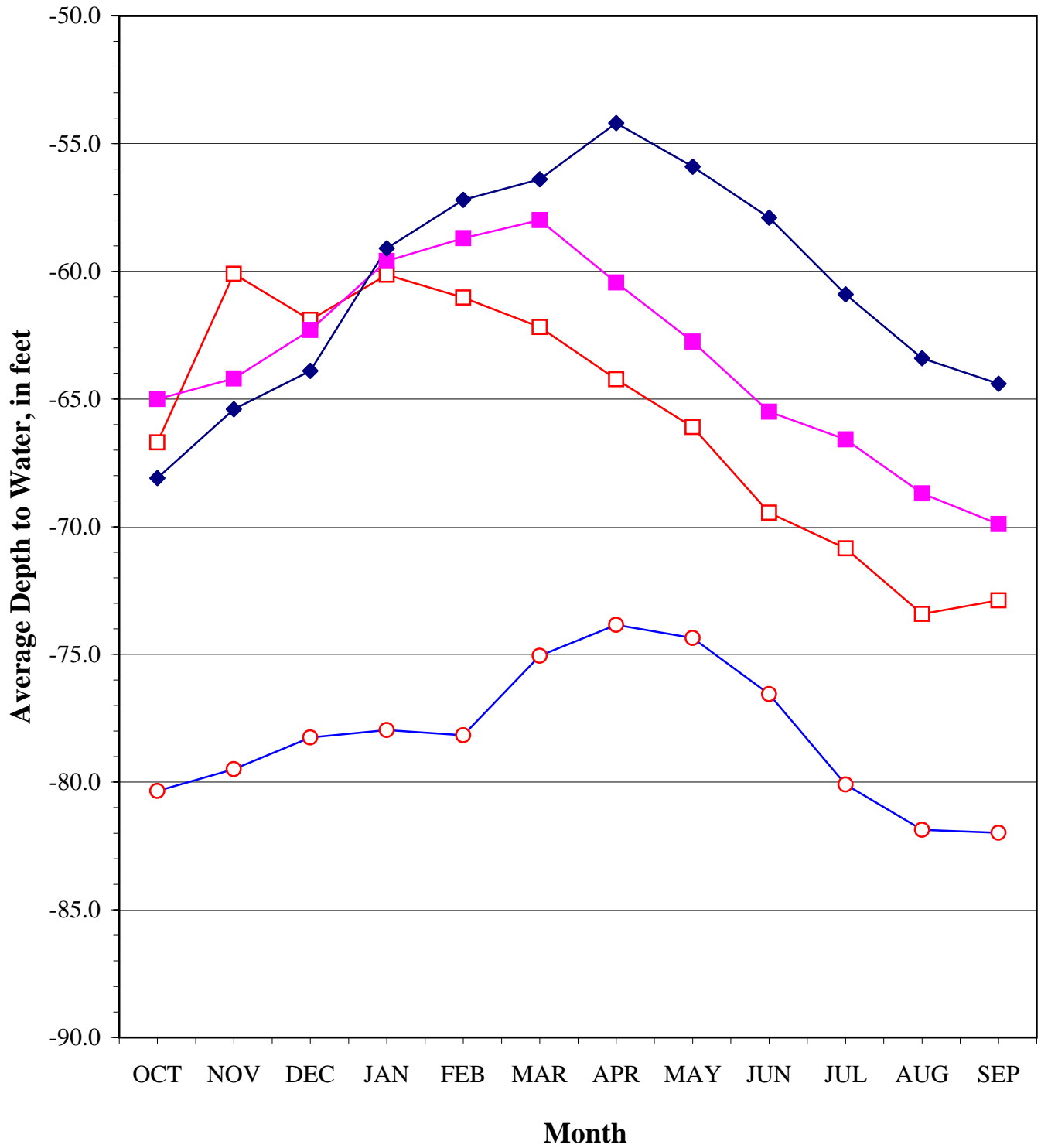
### 11 Wells



# HISTORIC GROUND WATER TRENDS

## FOREBAY AREA

### 10 Wells

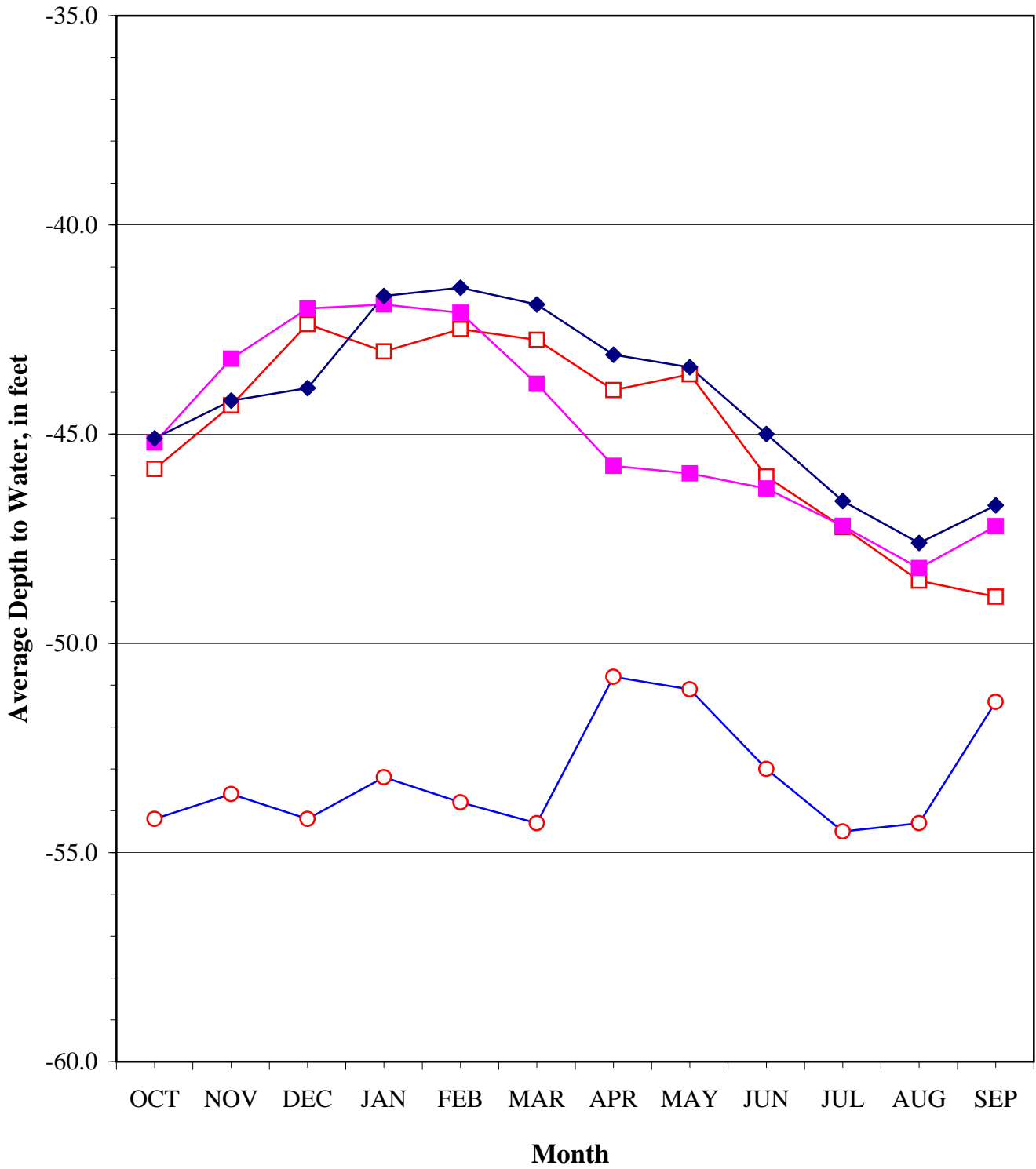


—□— 1985 WY   
 —○— 1991 WY   
 —■— 2004 WY   
 —◆— 2005 WY

# HISTORIC GROUND WATER TRENDS

## UPPER VALLEY AREA

9 Wells



□ 1985 WY   
 ○ 1991 WY   
 ■ 2004 WY   
 ◆ 2005 WY

## Generalized Ground Water Trends

September 2005

<b>AREA</b>	<b>September 2005 Depth to Water</b>	<b>1 Year Change</b>	<b>Change From WY 1985</b>	<b>1 Month Change</b>
<b>180' Aquifer in Pressure Area</b>	<b>54'</b>	<b>up 2'</b>	<b>down 3'</b>	<b>no change</b>
<b>400' Aquifer in Pressure Area</b>	<b>47'</b>	<b>up 5'</b>	<b>up 9'</b>	<b>up 3'</b>
<b>East Side Area</b>	<b>145'</b>	<b>up 7'</b>	<b>down 13'</b>	<b>up 4'</b>
<b>Forebay Area</b>	<b>64'</b>	<b>up 6'</b>	<b>up 8'</b>	<b>down 1'</b>
<b>Upper Valley Area</b>	<b>47'</b>	<b>up 1'</b>	<b>up 2'</b>	<b>up 1'</b>

September water levels, compared to last year, range from 1' higher to 7' higher.

September water levels, compared to WY 1985, range from 13' lower to 9' higher.

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