

**Basin Management Objective
Butte County
Sub Area – WESTERN CANAL
Western Canal Water District
Calendar Year -2006**

Butte County Water Advisory Committee Member – Ted Trimble

Contact Information:

ADDRESS: PO Box 190 Richvale, CA 95974

PHONE NUMBER: (530) 342-5083

EMAIL ADDRESS: tedtrim@aol.com

Aquifer Systems Identified In Sub Area:

Alluvial Aquifer System

Upper Tuscan (Formation Unit C) Aquifer System

Lower Tuscan (Formation Unit B) Aquifer System

Management Objective –

To maintain sufficient volumes of groundwater in storage within the Upper and Lower Tuscan Formation aquifer systems to provide an adequate and affordable irrigation water supply, of adequate quality for agriculture purposes, including during periods of extended drought and to assure that groundwater in storage is not depleted over time. It is the intent of this management objective to assure a sustainable agricultural water supply now and into the future and to assure the water supply can be utilized without injuring groundwater quality or inducing land subsidence. The management objective is also to assure an adequate supply for groundwater from the alluvial aquifer system for all domestic users in the sub-area.

Location of Basin Management Objective Key Wells:

Groundwater Levels – See attached map of monitoring wells

Groundwater Quality – To be completed in 2007

Land Subsidence – See attached map of monitoring wells

Groundwater Level Monitoring Network(s):

Department of Water Resources

Western Canal Water District

Groundwater Quality Network(s):

To be completed in 2007

Land Subsidence Monitoring Network(s):

Department of Water Resources

Monitoring Frequency:

Groundwater Levels – Department of Water Resources – Spring measurements

Groundwater Quality – To be completed in 2007

Land Subsidence – Department of Water Resources – Continuously

Well Numbering System(s):

Groundwater Levels – Department of Water Resources (State Well Numbering System)

Groundwater Quality – To be completed in 2007

Land Subsidence – Department of Water Resources (State Well Numbering System)

Basin Management Objective Key Wells and Compliance Methodology for Groundwater Levels:

Well ID	Aquifer System	Well Type	Stage 1 & 2 Alerts**		Stage 3 Alerts**	
			Elev. (ft)	Depth (ft)	Elev. (ft)	Depth (ft)
20N02E16P01M	Unknown	Irrigation	117.12	12.38	112.12	17.38
20N02E28N01M	Alluvial	Domestic	111.54	9.56	106.54	14.56
20N01E35C01M	Alluvial	Domestic	91.88	8.12	86.88	13.12
19N01E09Q01M	Lower Tuscan	Irrigation	82.15	7.85	77.15	12.85
20N01E18L01M	Lower Tuscan	Monitoring	111.54	3.53	106.54	8.53
20N01E18L02M	Upper Tuscan	Monitoring	98.37	10.53	93.37	15.53
20N01E18L03M	Alluvial	Monitoring	98.73	8.57	93.73	13.57

* - See Staff Report for description of method.

** - See attached hydrographs.

The methodology for establishing the groundwater level Basin Management Objective in the Western Canal Sub Area was to utilize the spring groundwater levels data from the wells identified above. From this data the average spring groundwater level was calculated. The stage 1 & 2 Alert levels were then established by subtracting 5.0 feet from the average spring groundwater level. The stage 3 Alert was then established by subtracting 10.0 feet from the average spring groundwater level.

Basin Management Objective Key Wells and Compliance Methodology for Groundwater Quality:

To Be Completed in 2007

Basin Management Objective Key Wells and Compliance Methodology for Land Subsidence:

State Well Number 20N01E18L03M

Maximum annual inelastic land subsidence shall not exceed 0.01 feet per year.

BMO Alert Stage Definitions:

The Western Canal Sub Area will use the following guidelines in the management of the groundwater resources. The groundwater level and land subsidence management objectives are intended to trigger predetermined voluntary Ground Water Management Actions, as defined below, to remedy declining ground water levels that are not recovering to compliance levels for each index well. The groundwater quality BMO management actions will be defined in 2007.

Groundwater Levels:

Stage 1: The first year that spring groundwater levels fall five feet below the average spring groundwater level established for the well.

Stage 2: Stage 2 is reached if spring groundwater levels, for a second consecutive year, remain five feet below the average groundwater level established for the well.

Stage 3: Stage 3 is reached if the spring groundwater levels fall ten feet below the average spring groundwater level established for the well.

Groundwater Quality:

To be done in 2007

Land Subsidence:

Stage 1. When the annual elastic subsidence exceeds the average annual elastic subsidence measured over the period of record of the extensometer.

Stage 2. When the annual elastic subsidence exceeds the maximum recorded elastic subsidence over the period of record for the extensometer.

Stage 3. When inelastic subsidence occurs.

BMO Compliance Evaluation Procedure:

Compliance with the BMO will be determined by the Butte County Water Commission's Technical Advisory Committee following the spring measurement period. The groundwater surface elevation at each monitoring well will be compared against the corresponding compliance graph and stage definition criteria to determine if the groundwater surface elevations are above or below specific alert trigger levels. The Technical Advisory Committee of the Butte County Water Commission will perform this

evaluation and report the results of the evaluation to the Butte County Water Advisory Committee and Water Commission.

Ground Water Management Actions:

Stage 1. Groundwater management actions to be undertaken following a Stage 1 noncompliance shall be informational. The Butte County Water Advisory Committee (WAC) and Water Commission (WC) will be advised of the noncompliance.

Stage 2. Groundwater management actions to be undertaken following a Stage 2 noncompliance shall be investigational. Upon identification of the Stage 2 noncompliance, the noncompliance will be reported to the WAC and the WC. Following review and concurrence, the WAC shall direct the TAC to initiate an investigation to determine the cause(s) of the noncompliance and make recommendations as how to correct the noncompliance. The TAC shall report their findings and recommendations back to the WAC and WC within 30 days.

Stage 3. Groundwater management actions to be undertaken following a Stage 3 noncompliance shall be actionable. Upon identification of the Stage 3 noncompliance, the noncompliance will be reported to the WAC and the WC. Following review and concurrence, the WAC shall direct the TAC to initiate an investigation to determine the cause(s) of the noncompliance and make recommendations as how to correct the noncompliance. The TAC shall report back their findings and recommendations back to the WAC and WC within 30 days. The WAC will then work with the locals in the sub area to implement needed water management activities necessary to correct the problem. Such water management activities shall include, but not be limited to, voluntary water conservation measures, redistribution of groundwater extraction, reduction of groundwater extraction, or other measure(s) identified and approved by the WAC, WC, and the Butte County Board of Supervisors.

Future Monitoring Recommendations:

Efforts will be made to identify several domestic wells that could be added to the existing monitoring well network in sub-area to allow development of management objectives for the alluvial aquifer system. Efforts will also be made to identify more wells in all aquifers which meet the criteria developed.

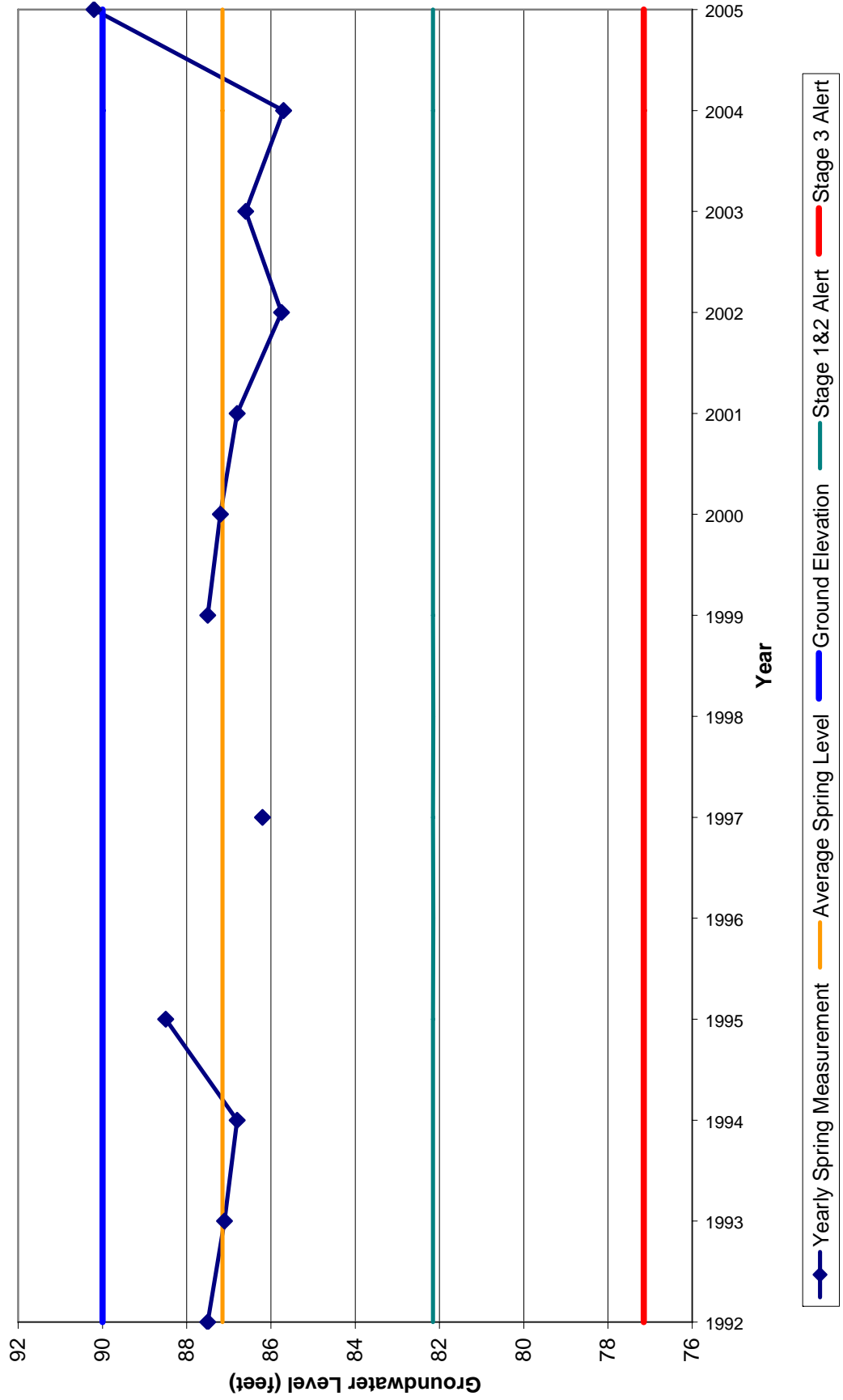
Supporting Data:

See attached hydrographs

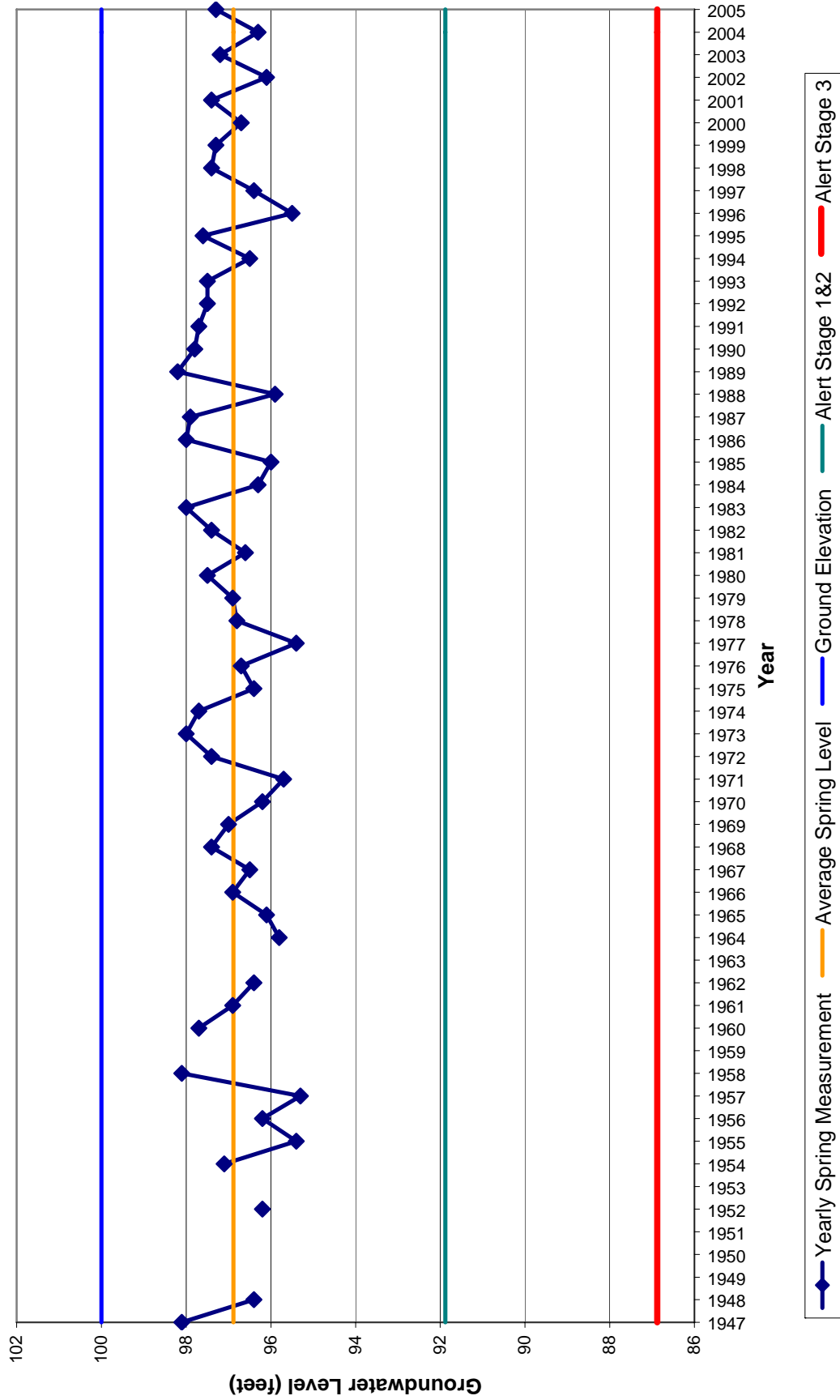
See attached map of existing monitoring wells

See attached map of Sub-Unit Boundaries

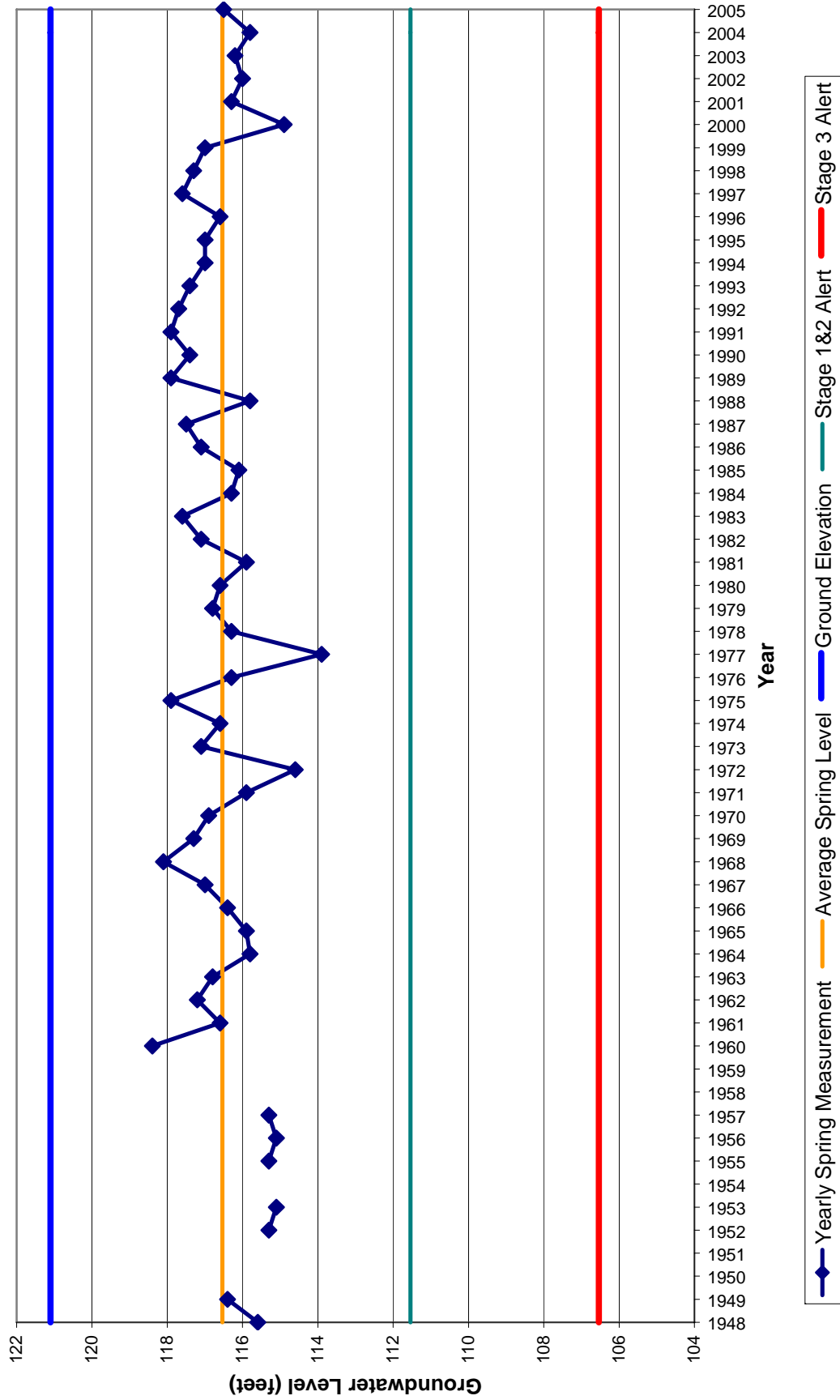
**Spring Groundwater Levels
WCWD - 19N01E09Q01M**



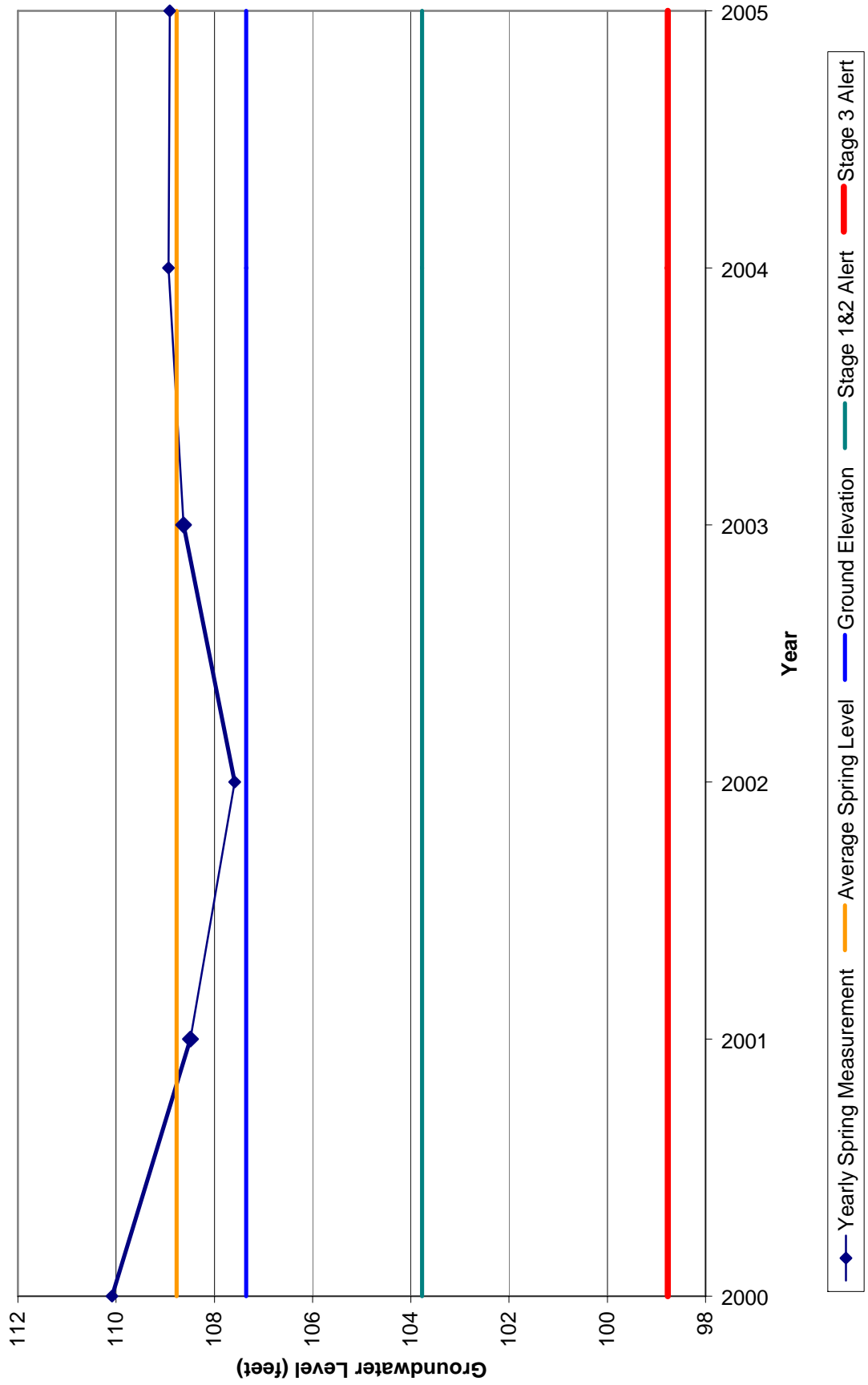
**Spring Groundwater Levels
WCWD - 20N01E35C01M**



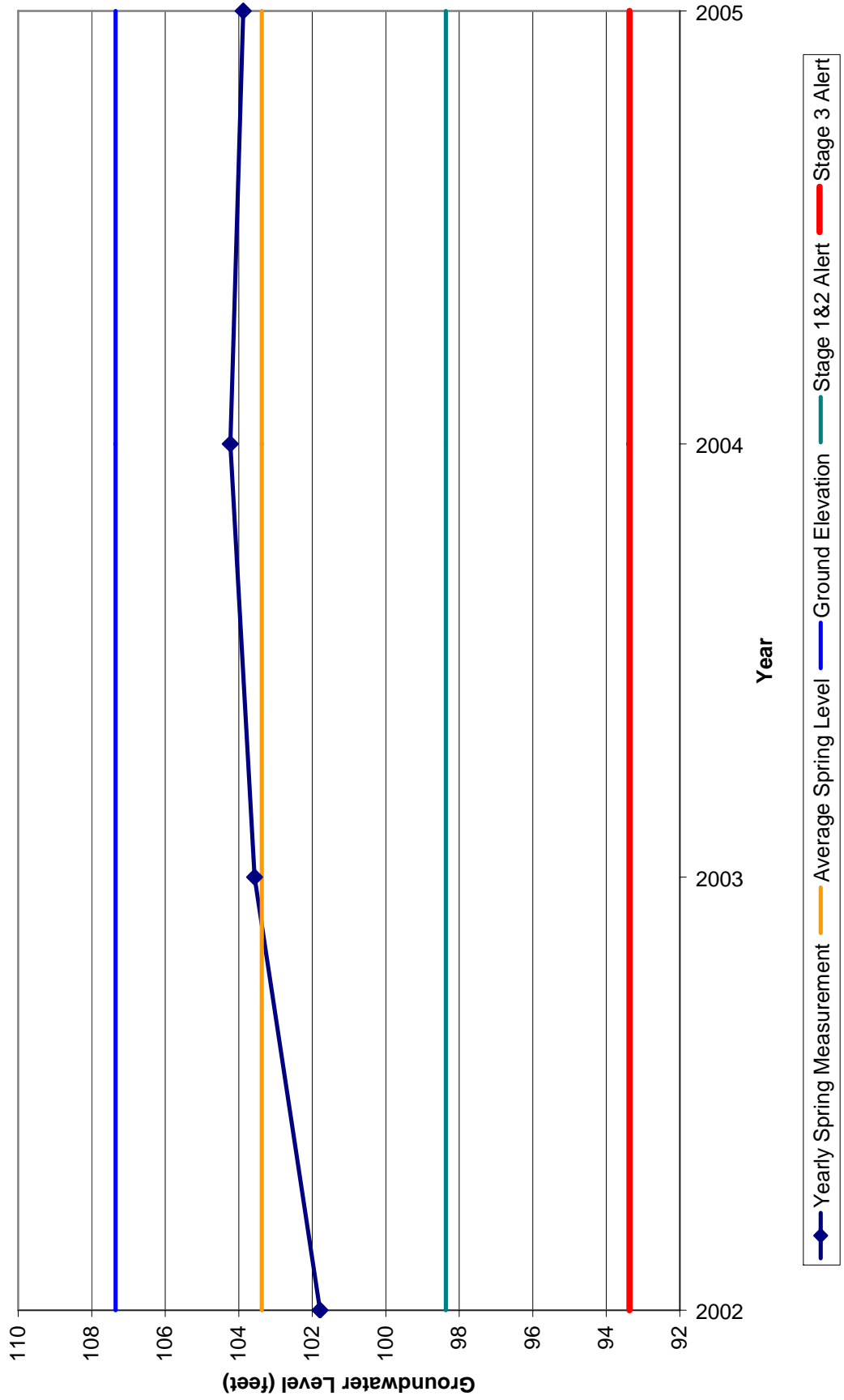
**Spring Groundwater Levels
WCWD - 20N02E28N01M**



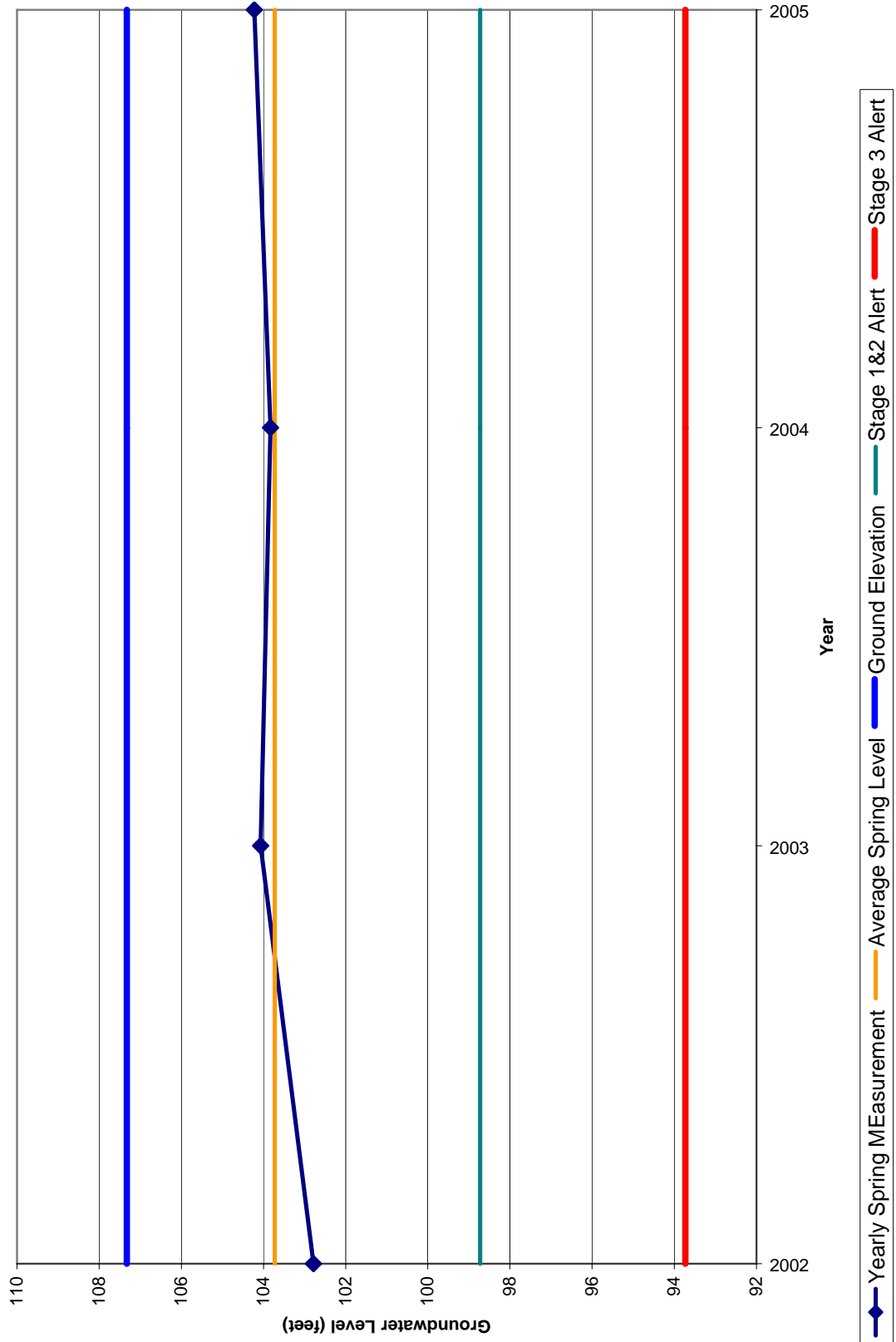
Spring Groundwater Levels
WCWD - 20N01E18L01M



**Spring Groundwater Levels
WCWD - 20N01E18L02M**



**Spring Groundwater Levels
WCWD - 20N01E18L03M**



**Spring Groundwater Levels
WCWD - 20N02E16P01M**

