Groundwater Level Monitoring

[Image of groundwater monitoring equipment and data charts]

State of California
The Resources Agency of California
Department of Water Resources

Well Data

<table>
<thead>
<tr>
<th>STATE WELL NUMBER</th>
<th>COUNTY</th>
<th>TOWN</th>
<th>RANGE</th>
<th>SECT.</th>
<th>LOT</th>
<th>NO.</th>
<th>BM</th>
<th>R. G.</th>
<th>BASIN</th>
<th>REFERENCE POINT ELEVATION</th>
<th>AGENCY SUPPLYING DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>22N 1E 9B</td>
<td>BUTTE</td>
<td>BUTTE COUNTY</td>
<td>BRANCH</td>
<td>AGENCY WELL NUMBER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No Measurement

- Measurement discontinued
- Pumping
- Pump house locked
- Tape hung up
- Can’t get tape in casing
- Unable to locate well
- Well has been destroyed
- Special
- Casing leaking or wet
- Temporarily inaccessible

Questionable Measurement

- Caved or deepened
- Pumping
- Nearby pump operating
- Casing leaking or wet
- Pumped recently
- Air or pressure gauge measurement
- Other
- Recharge operation at or nearby well
- Oil in casing

<table>
<thead>
<tr>
<th>DATE</th>
<th>N. Q.</th>
<th>TAPE READING AT R.P.</th>
<th>TAPE READING AT W.S.</th>
<th>R. P. TO W.S.</th>
<th>ELEVATION OF W.S.</th>
<th>OBSERVER</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/09/01</td>
<td>1460</td>
<td>125</td>
<td>335</td>
<td></td>
<td></td>
<td>EWH</td>
<td></td>
</tr>
<tr>
<td>06/09/01</td>
<td>1460</td>
<td>175</td>
<td>335</td>
<td></td>
<td></td>
<td>EWH</td>
<td></td>
</tr>
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<td>07/09/01</td>
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<td></td>
</tr>
</tbody>
</table>

Map overlay

[Map of Northern California with various locations marked]

DWR, Northern District
Groundwater Levels
Measurement Equipment
## Groundwater Levels
### Data Collection

![Image of file folders and data sheet]

The following table provides data on groundwater levels:

<table>
<thead>
<tr>
<th>TOWN</th>
<th>RANGE</th>
<th>SECLOT</th>
<th>NO.</th>
<th>BM</th>
<th>BASIN</th>
<th>REFERENCE ELEVATION</th>
<th>AGENCY SUPPLYING DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUTTE COUNTY</td>
<td>E</td>
<td>9</td>
<td>B</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**No Measurement**

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**Questionable Measurement**

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<tr>
<th>DATE</th>
<th>MQ</th>
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<th>Q</th>
<th>M</th>
<th>TAPE READING AT R.P.</th>
<th>TAPE READING AT W.S.</th>
<th>R.P. TO W.S.</th>
<th>ELEVATION OF W.S.</th>
<th>OBSERVER REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>125</td>
<td>335</td>
<td>1.3</td>
<td>USE THIS ONE</td>
<td>SWT</td>
</tr>
<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>110</td>
<td>75</td>
<td>335</td>
<td>1.2</td>
<td>SWT</td>
<td></td>
</tr>
<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>133</td>
<td>0</td>
<td>336</td>
<td>1.2</td>
<td>SWT</td>
<td></td>
</tr>
<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>133</td>
<td>0</td>
<td>336</td>
<td>1.2</td>
<td>SWT</td>
<td></td>
</tr>
<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>45</td>
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<td>4.2</td>
<td>1.3</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>80</td>
<td>4.3</td>
<td>4.5</td>
<td>1.7</td>
<td>74</td>
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<tr>
<td>05/09/01</td>
<td>9</td>
<td>0</td>
<td>4</td>
<td>50</td>
<td>6.8</td>
<td>4.3</td>
<td>2</td>
<td>74</td>
<td></td>
</tr>
</tbody>
</table>
Groundwater Levels
Data Collection - Qualification

NO MEASUREMENT
0. Measurement discontinued
1. Pumping
2. Pump house locked
3. Tape hung up
4. Can't get tape in casing
5. Unable to locate well
6. Well has been destroyed
7. Special
8. Casing leaking or wet
9. Temporarily inaccessible

QUESTIONABLE MEASUREMENT
0. Caved or deepened
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4. Pumped recently
5. Air or pressure gauge measurement
6. Other
7. Recharge operation at or nearby well
8. Oil in casing
Hydrographs and Data on Water Data Library

Welcome to the new and improved Department of Water Resources Water Data Library. The site has been upgraded and includes a new data module, Surface Water, and new functions and reports, making data searching and retrieval powerful. The site provides access to data collected by the Division of Planning and Local Assistance and other organizations.

Select from one of the following data modules:
- Water Quality Data
- Groundwater Data
- Surface Water Data
- Climatology Data (Prototype)
- Climatology Data (New Development Site - Coming Soon)

Select one of the following data retrievals:
- Historical Data by Well
  - Map Interface
  - Form Interface
    - Data by Groundwater Basin
    - Data by Township
- Continuous Groundwater Level Data
- Contour Data by Basin (form interface)
- Seasonal Data by Basin (form interface)
- Special Projects Pages
  - Deer Creek Project
- Data Download
  - Data by Groundwater Basin
  - Data for an entire Basin (DWR clients only)
  - Data by DWR District (DWR clients only)
- WDL Groundwater Administration Functions (DWR clients only - new)
Hydrographs and Data on Water Data Library

[Graph showing elevation of water surface over time and depth to water below land surface with data readings for specific dates and years.]
Groundwater Data Analysis

Groundwater Elevation Hydrograph ~

A historical record of groundwater conditions in a single well.
Groundwater Data Analysis

Groundwater Elevation Contour Maps ~

Regional “Snap-shot” of groundwater conditions.

Sacramento Valley
Groundwater Elevation Map
Spring 2001

Well Location
Line of Equal Groundwater Elevation
(dashed where uncertain)
Contour Interval = 10 & 20 feet
10 foot Contour Line
20 foot Contour Line
Direction of Groundwater Flow
Groundwater Data Analysis

Groundwater Elevation CHANGE Contour Maps

Regional look at the change in groundwater conditions between two sets of measurements.

Sacramento Valley
Groundwater Level Change
Spring - Summer 2001

+ Well Location
Change in Groundwater Level Contour
(dashed where uncertain)
Contour Interval = 5 feet
Groundwater Level Data

- **Collected** at wells using steel tapes or electric tapes (sounders).
- “Continuous” data collected using data loggers.
- **Recorded** with Qualification if necessary.
- **Available** on Water Data Library to view as tabular data and hydrographs.
- **Analyzed** by creating Hydrographs or Contour Maps.