Land And Water Quality Division’s Performance Measure “Monitoring Well Destruction Project 2005”

Mark McPherson, Chief
Land and Water Quality Division
Department of Environmental Health
mark.mcpherson@sdcounty.ca.gov
858.495.5572
Underground Storage Tanks can leak and pollute the groundwater and soil.
Example of how UST’s can release contaminants
The State of California defines the term ‘monitoring well’ in the Water Quality Control Act, Division 7, Chapter 10, Article 2, Section 13712 as:

“Any artificial excavation by any method for the purpose of monitoring fluctuations in groundwater levels, quality of underground waters, or the concentration of contaminants in underground waters.”
Monitoring Wells, the Good the Bad, and the Ugly

**Good**

- Determine the horizontal and vertical extent of contaminants from leaking UST’s or other hazardous substance releases.
- Determine direction of groundwater flow and thus contaminant movement.

**Bad**

- Poorly contracted or abandoned MW’s can serve as a conduit for surface contaminants, further degrading the groundwater.

**Ugly**

- Abandoned MW’s can pose safety hazards for humans and animals.
- Contaminants can enter receptors via MW’s and cause explosive conditions.
Properly maintained Monitoring Wells

Notice the perimeter seals and secure covers
Poorly maintained Monitoring Wells

Surface water accumulation

Cracks
Poorly maintained Monitoring Wells

- Trash and other debris
- Cracks in perimeter seal
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005
Statistics

• Total Monitoring Wells installed in San Diego County 23,000 since 1986
• Total Monitoring Wells destroyed 6,000
• Total Monitoring Wells that remain 17,000
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005

• Choose three beneficial use basins in selected population centers
• Tally the number of MW’s in those basins
• Select three baselines and reduce those wells by 25% each Fiscal Year
### Well Destruction Project 2005

**905.41 - Ramona Sub Area**

<table>
<thead>
<tr>
<th>Process Type</th>
<th>#Permits</th>
<th>#Wells</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR-SPARGING</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>BORING</td>
<td>24</td>
<td>127</td>
</tr>
<tr>
<td>DESTRUCTION</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>DUAL-PHASE EXTRACTION</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>HYDROPUNCH</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>MONITORING WELL</td>
<td>55</td>
<td>174</td>
</tr>
<tr>
<td>TEMPORARY WELL POINT</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>VAPOR WELL</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>98</strong></td>
<td><strong>353</strong></td>
</tr>
</tbody>
</table>

---

**Ramona Sub Basin**
Otay Valley Sub Basin

<table>
<thead>
<tr>
<th>Activity</th>
<th># Permits</th>
<th># Wells</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR-SPARGING</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>BORING</td>
<td>64</td>
<td>267</td>
</tr>
<tr>
<td>CONE PENETROMETER</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>DESTRUCTION</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>GROUNDWATER EXTRACTION</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>HYDROPUNCH</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>MONITORING WELL</td>
<td>94</td>
<td>248</td>
</tr>
<tr>
<td>OTHER</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>PIEZOMETER</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>VAPOR WELL</td>
<td>12</td>
<td>44</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>209</td>
<td>685</td>
</tr>
</tbody>
</table>
903.11 - Mission Hydrologic Sub Area

Mission
Sub Basin

# Permits # Wells
BORING 44 184
DESTRUCTION 27 94
MONITORING WELL 72 205
OTHER 1 4
TEMPORARY WELL POINT 1 1
UNKOWN 2 0
VAPOR WELL 1 1
TOTAL: 148 489
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005
Effective July 1st, 2005

• Covers three beneficial use basins
• Basins selected are sensitive aquifers
• Basins supply present and future drinking water supplies
• MWDP will consist of two phases
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005
Objective and Goal

• Phase I
  1. MW’s installed in the 1980’s
  2. Not associated with a SAM site
  3. Most likely in disrepair and abandoned
  4. Greatest threat to groundwater
  5. Analyze Quarterly
  6. 25 % reduction each Fiscal Year

• Phase II
  1. Monitoring wells associated with SAM sites
  2. Focus on MW’s with existing closed SAM sites
  3. MW’s with open SAM sites are closed when cleanup is completed
  4. Commence after completion of Phase I
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005
Baselines  Phase I
DASHBOARD

Reduce MW's at non-SAM sites by 25% each FY

Baseline

Goal

Otay
Ramona
Mission
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005 Deliverables

Access database created to measure progress for the three sub basins.
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005 Deliverables...cont

Each individual MW in the sub basin will be tracked.
The database is shared so there is no duplication.
Performance Measure
“Monitoring Well Destruction Project (MWDP) 2005
Deliverables...cont

- New fee adjustment effective July 2003 requires new MW installation permit holders to pay an annual maintenance fee. This encourages the destruction of the well when the site is cleaned up.
- MW’s installed before 2004 were permitted once for construction - no annual maintenance fee was required.
- SAM Project Manager will not issue “No Further Action” letters for SAM sites unless MW destruction permit application is received.
- Quarterly review of reduction goal will be conducted.
- SAM staff to spend approximately 4 hours each week.
Protecting San Diego’s Precious Water Resources