**WELL SUMMARY REPORT**

**WELL NAME:** WESTERN COLUMBIA COUNTY OREGON

**GAS FIELD:** REFUGIO LANGFORD

**API #:** 36-009-00182

**DRILL & EVALUATE**

**SUL:** 633.88' S & 164.09' W OF NE CORNER, SEC 35, T6S, R2W, WARM, COLUMBIA COUNTY, OREGON

**ARCO OIL AND GAS COMPANY** 1,000,000

**SPOD:** 8-16-86

**Pumps:** 2230 HOURS

**Ground Elevation:** 742.32' **All measurements KB = 11' above GL**

**Total Depth:** 1585' **PDH:** 1433' **Plugs:** 1585' - 1570' (OH) **Junk:** None 1570' - 1433' (Cement)

### Casing Details:

<table>
<thead>
<tr>
<th>Casing Size</th>
<th>Top of Casing</th>
<th>Shoe Depth</th>
<th>Weight</th>
<th>Grade</th>
<th>New (A)/Used (B)</th>
<th>Hole Size</th>
<th>SX/CF Cement</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-3/8&quot;</td>
<td>11'</td>
<td>30'</td>
<td>489</td>
<td>X-55 STC B</td>
<td>As Conductor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-5/8&quot;</td>
<td>11'</td>
<td>442'</td>
<td>53.5#</td>
<td>L-80 BTC A &amp; B</td>
<td>12-1/4&quot;</td>
<td>203 sx</td>
<td></td>
</tr>
<tr>
<td>5-1/2&quot;</td>
<td>11'</td>
<td>1570'</td>
<td>170</td>
<td>K-55 LTC A</td>
<td>8-1/2&quot;</td>
<td>393 sx</td>
<td></td>
</tr>
<tr>
<td>2-3/8&quot;</td>
<td>11'</td>
<td>1196'</td>
<td>4.7#</td>
<td>J-55 EOR A</td>
<td>8-1/2&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*2 jts 9-5/8" 369 X-55 STC at surface with second jts BTC to STC XO Jc*

### Perforation Details:

<table>
<thead>
<tr>
<th>Casing Size</th>
<th>From</th>
<th>To</th>
<th>Perforation Size/Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-1/2&quot;</td>
<td>1273'</td>
<td>1279'</td>
<td>4 SPF using 1-11/16&quot; Enner jet gun with 0° phasing</td>
</tr>
</tbody>
</table>

**E-Logs:** DIL/SP, FDC/CNL/OR, Sonic, Dipmeter, Check Shots, CBI/CEI

**Formations:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>MD</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1585'</td>
<td></td>
<td>PDH</td>
</tr>
<tr>
<td>1433'</td>
<td></td>
<td>PDH</td>
</tr>
</tbody>
</table>

1630 Hours Rubbing (15) 8-21-86 Rotary (H & C O.G.)

**Gas:** Single

### Flowing Well Details:

- **Operator:** ARCO OIL AND GAS COMPANY
- **Well:** 8-16-86
- **Producing:** 1273' - 1279' Gas
- **Gravity:** 32.4# MCF
- **Date:** 9/2/86

**Signature:**

R. L. THOMAS

*For more information about this project, please contact ARCO Oil and Gas Company, 123 Main St, Longview, WA 98632.*

**Division of ARCO Oil and Gas Company**

**Number of daily well development projects:** 1532

**Monthly production report for each field area:**

**Number of wells drilled:** 253

**Number of wells completed:** 135

**Number of wells abandoned:** 120

**Number of wells presently producing:** 98