DIVISION OF OIL AND GAS

Subsequent Work Report

OPERATOR: Union Oil Company of California
FIELD: Long Beach

Well No.: Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated July 18, 1941, was filed.

Date: September 27, 1944
Title: Division Engineer
(Signed: Henry E. Winter)
(Chairman, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

Casing Record at Beginning of Work:

13-3/8" C 757'
8-5/8" C 4005' O.K.
1572' 4-3/4" C 5376'
Perf. and Reperf. 5113-5158', 5168-5173', and 5280-5350'
(565' 6-5/8" L 4408', inc. 60' Perf.
(Behind 4-3/4")
C.P. 4344' - Reperf. 4348-4399')

1944
Depth
Effective
Remarks

8-7
5379
Plug 5361
Moved in and rigged up to reperforate.

8-12
5379
C.O. 5360
Cleaned out sand from 5325 to 5360' with 2-7/8" bailer. Fluid level 3561

8-14
5379
Perforated and reperforated 4-3/4" casing with 1/2" Lane-Wells gun
holes as follows: 5350-5282' with 34 holes, 5235-5168' with 120 holes,
and 5158-5113' with 21 holes.

8-22
5379
C.O. 5361
Checked top of oil at 3520'; top of water at 5325' and hole open to 5361

8-25
5379
Ran rods and 2-1/2" plain and upset tubing to 5329' overall. Put well to

PRODUCTION DATA

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<tr>
<th>Hours</th>
<th>Gross</th>
<th>Net</th>
<th>Gravity</th>
<th>Cut</th>
<th>Remarks</th>
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<td>24</td>
<td>14</td>
<td>9</td>
<td>26.2</td>
<td>38.0</td>
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</table>
Mr. W. S. Eggleston

Los Angeles 14, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to plug & alter casing Well No. "Oil Operators" 14, Section 13, T. 4 S., R. 13 W., S.B. & M., Long Beach Field, Los Angeles County, dated July 15, 1944, received July 17, 1944, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS: The condition of the well is as stated in the notice.

THE NOTICE STATES:

"The present condition of the well is as follows:
1. Complete casing record.
   Total depth 5379' - plug 5361'.
   13-3/8" cmt. 757'.
   8-5/8" cmt. 4005'. O.K.
   (565' 6-5/8" landed 4408', inc. 60' perf. C.P. 43-1/4'. Perf. 4005-4028, 4070-4130' - deepened through)
   1572' 4-3/4" cmt. 5376' - perf. and re-perf. 5113-5158', 5168-5175', 5230-5350'.
2. July, 1944 produced 87 (Net Oil) 26.2 (Gravity) 40.0 - 29 days."

PROPOSAL:

"The proposed work is as follows:
1. Add perforations 5175-5235' and re-perforate present perforations.
2. If wet or no fluid, plug to 5090' and test by Division of Oil and Gas.
3. Perforate 4850-4920' and test. If unsuccessful, test higher.
4. If any test is unsuccessful, plug to 20' above perforations and test by Division of Oil and Gas."

DECISION:

THE PROPOSAL IS APPROVED.

ERMA:OH

cc - F. A. W.
H. E. Winter
Long Beach

R. D. BUSH
State Oil and Gas Supervisor

By
Blanket bond No. 99071
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given fifteen days before work begins when possible

Santa Fe Springs  Calif.  July 15  1944

DIVISION OF OIL AND GAS

Los Angeles  Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, plugging or altering casing at well No. Oil Operators #4

Sec. 13, T. 4-S, R. 13-W, S. B. B. & M.

Long Beach  Field,  Los Angeles  County.

The present condition of the well is as follows:

1. Complete casing record.

Total depth 5379' - plug 5361'
13-3/8' cmt. 757'
8-5/8' cmt. 4005' O.K.
(565' 6-5/8' landed 4408', inc. 60' perf. C8Fe 4344'. Perf. 4005-4028,
4070-4130' - deepened through)
1572' 4-3/4' cmt. 5376'  - perf. and re-perf. 5113-5158', 5168-5175',
5280-5350'

July, 1944

2. Source  Produced  87  26.2  40-0 - 29 days.

(Date)  (Net Oil)  (Gravity)  (Cst)

The proposed work is as follows:

1. Add perforations 5175-5235' and re-perforate present perforations.
2. If wet or no fluid, plug to 5090' and test by Division of Oil and Gas.
3. Perforate 4850-4920' and test. If unsuccessful, test higher.
4. If any test is unsuccessful, plug to 20' above perforations and test by Division of Oil and Gas.

Union Oil Company of California
(Name of Operator)

By  Henry L. White
Division Engineer.

Address Notice to Division of Oil and Gas in District Where Well is Located
### Subsequent Work Report

**Operator:** Union Oil Company of California  
**Field:** Long Beach  
**Well No.:** Oil Operators No. 4  
**Sec.:** 13  
**T.:** 4-S  
**R.:** 13-W  
**S.B.:** B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38.

**Date:** July 18, 1941  
**Title:** DIVISION ENGINEER

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
<td>3-19</td>
<td>4408</td>
<td>Pulled rods and tubing.</td>
</tr>
<tr>
<td></td>
<td>3-21</td>
<td>4407</td>
<td>Drilled out cement plug.</td>
</tr>
<tr>
<td></td>
<td>3-22</td>
<td>4408</td>
<td>Drilled out lead seal and bottom of liner.</td>
</tr>
<tr>
<td></td>
<td>3-23</td>
<td>4500</td>
<td>Drilled with 5-5/8&quot; bits.</td>
</tr>
<tr>
<td></td>
<td>3-24</td>
<td>4555</td>
<td>Cored with 5-5/8&quot; wire line core barrel.</td>
</tr>
<tr>
<td></td>
<td>3-28</td>
<td>5112</td>
<td>Drilled with 5-5/8&quot; bits.</td>
</tr>
<tr>
<td></td>
<td>4-2</td>
<td>5379</td>
<td>Cored with 5-5/8&quot; core barrel. Ran Schlumberger electric log and inclinometer from 4408' to 5375'. Co-ordinates at 5370', 155'S, 195'E.</td>
</tr>
<tr>
<td></td>
<td>4-9</td>
<td>5379</td>
<td>Underreamed with Grant hydraulic underreamer from 4112' to 5377'.</td>
</tr>
<tr>
<td></td>
<td>4-10</td>
<td>5379</td>
<td>Ran in 5752' 4-3/4&quot; 16#, Grade &quot;C&quot; seamless second-hand liner, including 8-5/8&quot; x 4-3/4&quot; Burns liner hanger and adapter. Landed at 5376' with Baker float shoe on bottom and Baker float collar at 5361'. Cemented with 200 sacks by displacement method.</td>
</tr>
<tr>
<td></td>
<td>4-11</td>
<td>5379</td>
<td>Found top of cement at 3680' and drilled out to 3804' with 7-5/8&quot; bit.</td>
</tr>
</tbody>
</table>
DIVISION OF OIL AND GAS

Subsequent Work Report

Operator: Union Oil Company of California
Field: Long Beach

Well No.: Oil Operators No. 4, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38, was filed.

Signed: [Signature]

Date: July 18, 1941
Title: DIVISION ENGINEER

(Principal, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamized, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

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<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-13</td>
<td>5379</td>
<td>Plg. 5361</td>
<td>Drilled out cement with 3-7/8&quot; bit and 4-3/4&quot; casing scraper from 3804' to 3814' and from 5305' to 5361'.</td>
</tr>
<tr>
<td>4-14</td>
<td>5379</td>
<td></td>
<td>Bailed mud with 6-5/8&quot; bailer to 3093' and checked bottom with bailer. After 8 hours no rise in fluid as witnessed by Corwin of Division of Oil &amp; Gas, and casing splice approved.</td>
</tr>
<tr>
<td>4-15</td>
<td></td>
<td></td>
<td>Perforated 4-3/4&quot; casing with Lane-Wells gun, shooting .45 caliber bullets from 513-5137' with 48 holes, 5280-5322' with 85 holes.</td>
</tr>
<tr>
<td>4-16</td>
<td></td>
<td></td>
<td>Landed 2½ upset tubing at 5167'.</td>
</tr>
<tr>
<td>4-18</td>
<td></td>
<td></td>
<td>Swabbed fluid, ran in pump and rods, installed pumping unit, and put on production.</td>
</tr>
</tbody>
</table>

**PRODUCTION DATA**

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<td>4-18</td>
<td>72</td>
<td>54</td>
<td>-</td>
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<td>36</td>
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<td>23.2</td>
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<td>4-20</td>
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<td>19</td>
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<td>6.0</td>
<td>10</td>
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</table>
**Subsequent Work Report**

**Operator:** Union Oil Company of California  
**Field:** Long Beach

Well No. Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

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**Signed:** [Signature]

**Date:** July 18, 1941  
**Title:** DIVISION ENGINEER  
(President, Secretary or Agent)

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</tr>
</thead>
<tbody>
<tr>
<td>5-2</td>
<td>5379</td>
<td>Plg. 5361</td>
<td>Pulled rods and tubing.</td>
</tr>
<tr>
<td>5-1</td>
<td></td>
<td></td>
<td>Bailed and swabbed perforations.</td>
</tr>
<tr>
<td>5-2</td>
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<td></td>
<td>Reperforated 4-3/4&quot; liner with Lane-Wells gun, shooting .45 caliber bullets from 5114' to 5140', with 26 holes. 5280' to 5325', with 45 holes. Ran 2-3/4&quot; tubing to 5290'. Ran in pump and rods. Connected pumping unit. Put on production.</td>
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<th>Date</th>
<th>Gross Bbls.</th>
<th>Net Bbls.</th>
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<th>Hours Produced</th>
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<td>12 (Run pressure bomb)</td>
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DISTRIBUTION OF OIL AND GAS

Subsequent Work Report

Operator: Union Oil Company of California

Field: Long Beach

Well No.: Oil Operators #4, Sec. 13, T. 4 S., R. 13–W, S.B. B. & M.

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Signed: [Signature]

Date: July 18, 1941

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Date

<table>
<thead>
<tr>
<th>1941</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–2</td>
<td>5379</td>
<td>P1g. 5361</td>
<td>Pulled rods and tubing.</td>
</tr>
<tr>
<td>6–5</td>
<td></td>
<td></td>
<td>Ran 2½' tubing to 5100'.</td>
</tr>
<tr>
<td>6–6</td>
<td></td>
<td></td>
<td>Swabbing through tubing. Well flows by heads part time.</td>
</tr>
</tbody>
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PRODUCTION DATA

<table>
<thead>
<tr>
<th>Bbls.</th>
<th>Bbls.</th>
<th>A.P.L. Gravity</th>
<th>Cut</th>
<th>Hours Produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross</td>
<td>Net</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–7</td>
<td>52</td>
<td>51</td>
<td>26.0</td>
<td>19 (Flowing and swabbing)</td>
</tr>
<tr>
<td>6–8</td>
<td>99</td>
<td>97</td>
<td>23.2</td>
<td>17 (Ran in rods and put on pump)</td>
</tr>
<tr>
<td>6–9</td>
<td>103</td>
<td>101</td>
<td>21.5</td>
<td>24</td>
</tr>
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<td>6–10</td>
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</tr>
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<td>49</td>
<td>48</td>
<td>26.0</td>
<td>24</td>
</tr>
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<td>6–12</td>
<td>47</td>
<td>46</td>
<td>26.0</td>
<td>24</td>
</tr>
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<td>6–13</td>
<td>45</td>
<td>44</td>
<td>26.4</td>
<td>19</td>
</tr>
<tr>
<td>6–14</td>
<td>60</td>
<td>59</td>
<td>26.4</td>
<td>24</td>
</tr>
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</tr>
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<td>6–17</td>
<td>54</td>
<td>53</td>
<td>26.4</td>
<td>24</td>
</tr>
<tr>
<td>6–21</td>
<td>7</td>
<td>7</td>
<td>26.4</td>
<td>3 (Pull rods)</td>
</tr>
</tbody>
</table>

Perforations washed with Yowell Type "S" washer.

6–28

Ran 2½' upset tubing to 5384', ran in rods and pump, and put on production.
SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Subsequent Work Report

OPERATOR: Union Oil Company of California
FIELD: Long Beach

Well No.: Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38, was filed.

Date: July 16, 1941

Title: DIVISION ENGINEER

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started; size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

Date: 1941

Depth | Eff. Depth | Remarks
----- | ---------- | -----
5379  | 5361       |      

PRODUCTION DATA

<table>
<thead>
<tr>
<th>Bbls.</th>
<th>A.P.I. Gravity</th>
<th>Cut</th>
<th>Hours Pumped</th>
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<td>Gross</td>
<td></td>
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<tr>
<td>6-28</td>
<td>26.4</td>
<td>32.0</td>
<td>10</td>
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<td>6-29</td>
<td>26.4</td>
<td>20.3</td>
<td>24</td>
</tr>
<tr>
<td>6-30</td>
<td>-</td>
<td>-</td>
<td>0 (Pump sanded) (Pulled rods &amp; tubing)</td>
</tr>
<tr>
<td>7-1</td>
<td>26.4</td>
<td>14.0</td>
<td>13 (Ran tubing, rods &amp; pump)</td>
</tr>
<tr>
<td>7-2</td>
<td>26.4</td>
<td>14.0</td>
<td></td>
</tr>
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<td>7-3</td>
<td>26.4</td>
<td>10.5</td>
<td></td>
</tr>
<tr>
<td>7-4</td>
<td>26.4</td>
<td>5.9</td>
<td></td>
</tr>
<tr>
<td>7-5</td>
<td>26.4</td>
<td>5.4</td>
<td></td>
</tr>
<tr>
<td>7-6</td>
<td>26.4</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>7-7</td>
<td>26.4</td>
<td>3.3</td>
<td>24 (Sanded) (Pulled rods &amp; tubing)</td>
</tr>
<tr>
<td>7-10</td>
<td>26.4</td>
<td>4.8</td>
<td>24 (and re-ran)</td>
</tr>
<tr>
<td>7-11</td>
<td>26.4</td>
<td>4.8</td>
<td>24</td>
</tr>
<tr>
<td>7-12</td>
<td>26.4</td>
<td>4.2</td>
<td>24</td>
</tr>
<tr>
<td>7-13</td>
<td>26.4</td>
<td>3.0</td>
<td>24</td>
</tr>
<tr>
<td>7-14</td>
<td>26.4</td>
<td>4.8</td>
<td>24</td>
</tr>
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<td>7-15</td>
<td>26.4</td>
<td>4.8</td>
<td>24</td>
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<td>7-16</td>
<td>26.4</td>
<td>4.2</td>
<td>24</td>
</tr>
<tr>
<td>7-17</td>
<td>26.4</td>
<td>3.0</td>
<td>24</td>
</tr>
<tr>
<td>7-18</td>
<td>26.4</td>
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</tr>
</tbody>
</table>

MEASUREMENT DATUM

All measurements from top of rotary table which is 18" above top of derrick floor, or 31" above top of cement foundation piers.
## LOG AND CORE RECORD OF OIL OR GAS WELL

**Operator:** Union Oil Company of California  
**Field:** Long Beach  
**Well No.:** Oil Operators No. 4  
**Sec.:** 13  
**T.:** 4-S  
**R.:** 13-W  
**S.B.:** B. & M.

### FORMATIONS PENETRATED BY WELL

<table>
<thead>
<tr>
<th>DEPTH TO</th>
<th>Top of Formation</th>
<th>Bottom of Formation</th>
<th>Thickness</th>
<th>Drilled or Cored</th>
<th>Recovery</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4408</td>
<td>4545</td>
<td>137</td>
<td>Drilled</td>
<td></td>
<td>Sand and shale.</td>
</tr>
<tr>
<td></td>
<td>4545</td>
<td>4555</td>
<td>10</td>
<td>Cored</td>
<td></td>
<td>Sand. (See Core Record)</td>
</tr>
<tr>
<td></td>
<td>4555</td>
<td>5112</td>
<td>557</td>
<td>Drilled</td>
<td></td>
<td>Sand and shale.</td>
</tr>
<tr>
<td></td>
<td>5112</td>
<td>5379</td>
<td>267</td>
<td>Cored</td>
<td></td>
<td>Sand and shale. (See Core Record)</td>
</tr>
</tbody>
</table>

**TOTAL DEPTH - 5379 ft.**
<table>
<thead>
<tr>
<th>Date</th>
<th>Core No.</th>
<th>Drill Size &amp; Type</th>
<th>From</th>
<th>To</th>
<th>Total Rec.</th>
<th>Shale</th>
<th>Oil Sand</th>
<th>Gray Sand</th>
<th>Shell</th>
<th>Description of Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-23-41</td>
<td>5-5/8&quot;</td>
<td>4500</td>
<td>4510</td>
<td>4520</td>
<td>0.8</td>
<td>0.4</td>
<td>0.4</td>
<td></td>
<td></td>
<td>Mixed burnt shale and oil sand.</td>
</tr>
<tr>
<td>3-23-41</td>
<td>&quot;</td>
<td>4510</td>
<td>4520</td>
<td>2.6</td>
<td>0.5</td>
<td>0.1</td>
<td>2.0</td>
<td></td>
<td></td>
<td>Hard fine to medium oil sand. Carbon particles. Good odor and fair cut. Hard burnt shale. Mixed mud and fine oil sand. Slight odor and fair amber cut.</td>
</tr>
<tr>
<td>3-23-41</td>
<td>&quot;</td>
<td>4520</td>
<td>4530</td>
<td>1.3</td>
<td>0.8</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
<td>Hard sandstone shell (probably at 4527' by driller). Loose mixed oil sand and mud. Fair odor and cut.</td>
</tr>
<tr>
<td>3-23-41</td>
<td>&quot;</td>
<td>4530</td>
<td>4535</td>
<td>0.7</td>
<td>0.7</td>
<td>0.5</td>
<td></td>
<td>1.5</td>
<td>2.0</td>
<td>Pieces of hard calcareous fine to medium grayish brown oil sand (carbonaceous). Fair odor and light amber cut. One piece has irregular vertical shale sand contact (possibly fault gouge).</td>
</tr>
<tr>
<td>3-23-41</td>
<td>&quot;</td>
<td>4535</td>
<td>4545</td>
<td>2.0</td>
<td>0.5</td>
<td>1.5</td>
<td></td>
<td>2.0</td>
<td>2.0</td>
<td>Hard slightly calcareous grayish brown oil sand. Fair odor and light cut. 1/2&quot; pieces of firm fine to medium oil sand. Fair odor and amber cut. Oil sand has few grayish spots.</td>
</tr>
<tr>
<td>3-24-41</td>
<td>&quot;</td>
<td>4545</td>
<td>4555</td>
<td>0.6</td>
<td>0.3</td>
<td>0.3</td>
<td></td>
<td>0.6</td>
<td>0.6</td>
<td>Pieces of hard calcareous grayish brown oil sand. One piece has small shale streak at approximately 75°. Possibly fault gouge. Fair odor and light cut. Soft fine brown oil sand. (Mud striations). Good odor and light amber ether cut.</td>
</tr>
<tr>
<td>3-24-41</td>
<td>&quot;</td>
<td>4555</td>
<td>4565</td>
<td>2.6</td>
<td>1.0</td>
<td>0.7</td>
<td>0.7</td>
<td></td>
<td>0.2</td>
<td>Mixed shale and oil sand and mud. (free oil)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.9</td>
<td>Hard brown shale. One apparent dip of 20°.</td>
</tr>
</tbody>
</table>

Henry E. Wint
<table>
<thead>
<tr>
<th>Date</th>
<th>Core No.</th>
<th>Driller</th>
<th>Size &amp; Type of Barrel</th>
<th>From</th>
<th>To</th>
<th>Total Rec.</th>
<th>Shale</th>
<th>Oil Sand</th>
<th>Gray Sand</th>
<th>Shell</th>
<th>Description of Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-24-41</td>
<td>5-5/8&quot;</td>
<td>4565</td>
<td>4575</td>
<td>1.8</td>
<td>0.1</td>
<td>0.7</td>
<td>1.0</td>
<td>0.7</td>
<td>1.1</td>
<td></td>
<td>Hard brown shale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Barrett</td>
<td>Robishaw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fine mushy brown oil sand. Good odor and amber cut.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pieces of hard brown shale, badly broken by coring. Coring became hard at 4572'.</td>
</tr>
<tr>
<td>3-28-41</td>
<td></td>
<td>4575</td>
<td>5112</td>
<td>0.3</td>
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<td>0.3</td>
<td>2.0</td>
<td>0.3</td>
<td>2.0</td>
<td></td>
<td>Hard calcareous shale</td>
</tr>
<tr>
<td>3-28-41</td>
<td></td>
<td>5117</td>
<td>5122</td>
<td>2.9</td>
<td>0.6</td>
<td>4.6</td>
<td>0.3</td>
<td>2.0</td>
<td>1.2</td>
<td>2.0</td>
<td>Hard brown shale. Very poor possible dip of 45°.</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fine brown oil sand, fair odor, good greenish cut.</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Firm brown shale.</td>
</tr>
<tr>
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<td></td>
<td>5122</td>
<td>5132</td>
<td>3.7</td>
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<td>2.3</td>
<td>0.3</td>
<td>0.5</td>
<td>1.2</td>
<td>2.0</td>
<td>Sandy brown shale</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Soft mushy fine to medium brown oil sand; fair odor, greenish amber cut.</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Muzzle could be from rain.</td>
</tr>
<tr>
<td>3-28-41</td>
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<td>5132</td>
<td>5142</td>
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<td>Sandy brown shale</td>
</tr>
<tr>
<td>3-28-41</td>
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<td>5142</td>
<td>5147</td>
<td>4.5</td>
<td>0.4</td>
<td>4.1</td>
<td>0.7</td>
<td>2.5</td>
<td>4.1</td>
<td></td>
<td>Chunks of oily brown shale.</td>
</tr>
<tr>
<td></td>
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<td>NO RECOVERY</td>
</tr>
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<td>5147</td>
<td>5155</td>
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<td>1.1</td>
<td>0.4</td>
<td>4.1</td>
<td>1.5</td>
<td>1.1</td>
<td>Hard slightly calcareous brownish-black shale.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard to firm, fine to medium, brown oil sand. Fair odor, good amber cut.</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Trade free oil on core.</td>
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<tr>
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<td></td>
<td>Sandy brown shale (Shell by driller at 5148').</td>
</tr>
<tr>
<td>3-29-41</td>
<td></td>
<td>5155</td>
<td>5156</td>
<td>0.0</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Fine light brown oil sand, fair odor, dark greenish amber cut.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Firm brownish-black shale, possible suggestion of 40° dip (?).</td>
</tr>
<tr>
<td>3-29-41</td>
<td></td>
<td>5156</td>
<td>5166</td>
<td>0.7</td>
<td>0.3</td>
<td>0.4</td>
<td>0.4</td>
<td>0.5</td>
<td>1.5</td>
<td>1.1</td>
<td>No recovery.</td>
</tr>
<tr>
<td>3-29-41</td>
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<td>5166</td>
<td>5171</td>
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<td>0.5</td>
<td>1.0</td>
<td>1.4</td>
<td>1.1</td>
<td></td>
<td></td>
<td>Chunks brown shale scattered through 6' of mud.</td>
</tr>
<tr>
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<td></td>
<td>Sandy brown shale.</td>
</tr>
<tr>
<td>3-29-41</td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td>Chunks sandy brown shale with 2 seams fine brown oil sand. Greenish amber cut, free oil in fractures.</td>
</tr>
<tr>
<td>DATE</td>
<td>CORE NO.</td>
<td>DRILLER SIZE &amp; TYPE</td>
<td>FROM</td>
<td>TO</td>
<td>TOTAL</td>
<td>SHALE</td>
<td>OIL</td>
<td>GRAY</td>
<td>SHELL</td>
<td>DESCRIPTION OF CORE</td>
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<td>-------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>5-5/8&quot;</td>
<td>Barrett-Robishaw</td>
<td>5171</td>
<td>5175</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td>Hard brown shale.</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>&quot;</td>
<td></td>
<td>5175</td>
<td>5185</td>
<td>2.6</td>
<td>1.0</td>
<td>0.8</td>
<td>0.1</td>
<td>0.2</td>
<td>Medium to slightly coarse with pebbles, firm, light brown oil sand, good greenish-amber cut.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard brownish-black sandy shale.</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Medium hard brown sandy shale.</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Soft, fine, light brown oil sand.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Good odor, good greenish cut.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Medium hard brownish-black shale.</td>
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<td></td>
<td></td>
<td>Suggestion of 45° dip. Possible fracture at 60°.</td>
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<td></td>
<td></td>
<td></td>
<td>Firm brown sandy shale.</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td>Soft fine light brown oil sand.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Good odor.</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>&quot;</td>
<td></td>
<td>5185</td>
<td>5192</td>
<td>4.4</td>
<td>0.6</td>
<td></td>
<td></td>
<td>0.7</td>
<td>Fine to medium, firm to soft, light brown oil sand; fair odor.</td>
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<td></td>
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<td></td>
<td></td>
<td>5199</td>
<td>5205</td>
<td>0.3</td>
<td>0.3</td>
<td></td>
<td>X</td>
<td>Fine, firm, light brown oil sand.</td>
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<td></td>
<td></td>
<td>Dark amber cut. (Looks residual).</td>
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<td></td>
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<td></td>
<td></td>
<td>Fine to medium with few pebbles, firm to soft, light brown oil sand, fair odor, light greenish-amber cut.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 Hard gray sandstone shell</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.7</td>
<td>Fine to medium with few pebbles, firm to soft, light brown oil sand, fair odor, light greenish-amber cut.</td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard gray sandstone shell.</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>&quot;</td>
<td></td>
<td>5192</td>
<td>5199</td>
<td>2.8</td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td>Firm, fine to medium, light brown oil sand, poor odor, dark greenish-amber cut.</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>&quot;</td>
<td></td>
<td>5199</td>
<td>5205</td>
<td>0.3</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td>Firm, fine, light brown oil sand with streaks gray sand. Poor odor, dark amber cut.</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Looks residual).</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>&quot;</td>
<td></td>
<td>5205</td>
<td>5211</td>
<td>6.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td>3.0</td>
<td>Soft to firm, fine, light brown oil sand, poor odor, dark greenish cut.</td>
<td></td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Firm, biscuity, fine light brown oil sand, fair odor, dark cut.</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Core No.</td>
<td>Driller Size &amp; Type</td>
<td>From</td>
<td>To</td>
<td>Total Recur.</td>
<td>Shale</td>
<td>Oil Sand</td>
<td>Gray Sand</td>
<td>Shell</td>
<td>Description of Core</td>
<td></td>
</tr>
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<td>-----------</td>
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<td>-------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td>5-5/8&quot;</td>
<td>5211</td>
<td>5217</td>
<td>5217</td>
<td>4.5</td>
<td>0.2</td>
<td>0.3</td>
<td>1.4</td>
<td>2.6</td>
<td>Firm to soft, fine to medium-fine gray sand. No odor. Hard black shale with possible fractures at 45° and 60°. Firm, fine, light brown oil sand with gray cast. No odor. Firm, fine to medium, light brown oil sand with fair odor. Good greenish-amber cut.</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td></td>
<td>5217</td>
<td>5223</td>
<td>5223</td>
<td>1.0</td>
<td>1.0</td>
<td>0.1</td>
<td></td>
<td></td>
<td>Soft to firm, fine to medium-coarse with pebbles, brown oil sand with small streaks gray sand.</td>
<td></td>
</tr>
<tr>
<td>3-29-41</td>
<td></td>
<td>5223</td>
<td>5229</td>
<td>5229</td>
<td>2.1</td>
<td>2.0</td>
<td>0.1</td>
<td></td>
<td></td>
<td>Firm, fine to medium, brown oil sand with grayish cast. Dark cut. Hard brownish-black shale.</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5229</td>
<td>5235</td>
<td>5235</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td>Firm to soft, fine to medium fine, brown oil sand with grayish cast. Medium amber cut. Free oil on core and in breaks.</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5235</td>
<td>5241</td>
<td>5241</td>
<td>5.0</td>
<td>2.3</td>
<td>0.1</td>
<td>0.4</td>
<td>0.4</td>
<td>Firm to soft, fine to medium-fine, brown oil sand with dark ether cut. Fair odor. Free oil on core and in breaks. Hard brownish-black slightly sandy shale. Firm, fine to medium brown oil sand with free oil on core. Hard brownish-black shale Soft, mushy, fine, light brown oil sand. Hard brownish black shale Soft fine light brown oil sand. Hard, burnt, black shale.</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5241</td>
<td>5245</td>
<td>5245</td>
<td>2.0</td>
<td>0.4</td>
<td></td>
<td>0.4</td>
<td></td>
<td>Firm gray sandy shale with narrow seams gray sand at 40°. Hard brownish-black shale with fracture at 45°. Mud with hunks dark brown shale. Hard dark brown burnt shale.</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5245</td>
<td>5246</td>
<td>5246</td>
<td>0.9</td>
<td>0.9</td>
<td></td>
<td>0.9</td>
<td>0.9</td>
<td>Hard dark brownish-black shale.</td>
<td></td>
</tr>
<tr>
<td>DATE</td>
<td>CORE NO.</td>
<td>DRILLER SIZE &amp; TYPE BARREL</td>
<td>FROM</td>
<td>TO</td>
<td>TOTAL RECT.</td>
<td>SHALE</td>
<td>OIL SAND</td>
<td>GRAY SAND</td>
<td>SHELL</td>
<td>DESCRIPTION OF CORE</td>
<td></td>
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<td>-------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td>5-5/8&quot;</td>
<td>5246 5251 5251 1.0 1.0</td>
<td>0.9</td>
<td>0.9</td>
<td>2.5</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Firm brownish-black shale with a narrow seam of fine gray sand.</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5251 5259 5259 4.0 1.5</td>
<td></td>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mud with hunks fairly soft brownish-black shale. Hard, well-cut, dark brownish-black shale.</td>
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</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5259 5264 5264 5.0 5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard well-cut dark brownish-black shale. Shows no bedding but gives consistent fracture at 45° when broken.</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td></td>
<td>5264 5270 5270 3.0 3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mud interspersed with soft pieces dark brownish-black shale. Slightly sandy in spots.</td>
<td></td>
</tr>
<tr>
<td>3-31-41</td>
<td></td>
<td>5270 5276 5276 0.0 0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
<td></td>
</tr>
<tr>
<td>1-31-41</td>
<td></td>
<td>5276 5280 5280 0.0 0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
<td></td>
</tr>
<tr>
<td>1-31-41</td>
<td></td>
<td>5280 5281 5281 0.0 0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
<td></td>
</tr>
<tr>
<td>DATE</td>
<td>CORE NO.</td>
<td>DRILLER SIZE &amp; TYPE BARREL</td>
<td>FROM</td>
<td>TO</td>
<td>TOTAL REC'D.</td>
<td>SHALE</td>
<td>OIL SAND</td>
<td>GRAY SAND</td>
<td>SHELL</td>
<td>DESCRIPTION OF CORE</td>
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<td>------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>3-31-41</td>
<td>5281</td>
<td>5-5/8&quot; Barrett-Robishaw</td>
<td>5282</td>
<td>5282</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
<td></td>
</tr>
<tr>
<td>3-31-41</td>
<td>5282</td>
<td>5-5/8&quot; Gauthey</td>
<td>5282</td>
<td>5295</td>
<td>12.2</td>
<td>2.8</td>
<td>0.2</td>
<td>0.5</td>
<td>6.5</td>
<td>Hard brownish-black shale with slickensides on 23° fractures. Apparent bedding approximately 45°. Soft to firm, fine light brown oil sand streaked with drilling mud. Good amber cut. Soft to firm brown sandy shale. Firma, fine, argillaceous light brown oil sand; good odor, dark greenish amber cut. Occasional fine striations of sandy shale with bedding dip of approximately 35°. (At 5287', a streak of 0.05' firm gray sand and black shale. Sand had light amber cut and strong gassy odor). Hard brown shale, slightly sandy. Firma, fine light brown oil sand. Good odor. Hard brownish-black shale. Sand shale contact at approximately 35°. Firma, fine light brown oil sand. Dark greenish amber cut. Good odor. Hard brownish-black shale.</td>
<td></td>
</tr>
<tr>
<td>4-1-41</td>
<td></td>
<td></td>
<td>5295</td>
<td>5310</td>
<td>1.1 (6.0)</td>
<td>0.7</td>
<td>0.4</td>
<td>1.1</td>
<td>5.0</td>
<td><em>(Drilling mud with fragments hard brown black shale scattered through it. One fragment gray sandstone shell recovered)</em>. Soft muddy dark brown shale. Firm sandy shale with inter-bedded lenses of gray sand. May be burnt.</td>
<td></td>
</tr>
<tr>
<td>4-1-41</td>
<td></td>
<td></td>
<td>5310</td>
<td>5325</td>
<td>1.2</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</td>
<td>Hard brownish-black shale, broken up by coring. Firma, fine to medium-fine light brown oil sand. Good greenish-amber ether cut, fair odor. Soft to firm, muddy, black shale. Soft, mushy, fine to medium light brown oil sand. Firma, fine to medium-fine light brown oil sand. Hard gray sandstone shell. Soft, medium light brownish-gray sand with mud striations.</td>
<td></td>
</tr>
</tbody>
</table>

*Signature: Henry Winter*
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER SIZE &amp; TYPE</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1-41</td>
<td>5-5/8&quot;</td>
<td>Gauthey</td>
<td>5325</td>
<td>5340</td>
<td>0.5</td>
<td>1.3</td>
<td>0.5</td>
<td>1.2</td>
<td>1.4</td>
<td>No recovery</td>
</tr>
<tr>
<td>4-1-41</td>
<td></td>
<td></td>
<td>5340</td>
<td>5346</td>
<td>5.7</td>
<td>1.3</td>
<td>0.5</td>
<td>1.2</td>
<td>1.4</td>
<td>Firma, fine to medium-fine, with pebbles, light brown oil sand. Fair odor, good greenish-amber cut. Firma, fine to medium-fine, brown oil sand. Good odor, good greenish-amber cut. Firma, fine to medium with pebbles, light brown oil sand. Fair odor, good greenish-amber cut. Firma, fine to medium-fine with few pebbles, light brown oil sand. Good greenish-amber cut. Fracture at 5344' showed slickensides at 12' dip. Firma, fine to medium, slightly coarse with many pebbles, light brown oil sand. Firma, fine to medium, brown oil sand. Good odor, dark greenish-amber cut.</td>
</tr>
<tr>
<td>4-2-41</td>
<td>5-5/8&quot;</td>
<td>Hughes</td>
<td>5346</td>
<td>5364</td>
<td>2.6</td>
<td>2.6</td>
<td>0.5</td>
<td>0.3</td>
<td>1.8</td>
<td>Rotary mud with a few streaks soft black shale and gray sand. Firma, medium-fine, light brown oil sand. Good odor, good greenish-amber cut. Soft, fine to medium, brown oil sand. Hard gray sandstone shell.</td>
</tr>
<tr>
<td>4-2-41</td>
<td></td>
<td></td>
<td>5364</td>
<td>5379</td>
<td>1.5</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td>Soft-firm, fine-medium brown oil sand. (Grayish cast). Fair, but burnt odor, dark greenish cut. Whole core slightly burnt.</td>
</tr>
</tbody>
</table>
This is to acknowledge the receipt of logs and similar records of wells on Sec. 19, T. 43.

R. D. Bush, State Oil and Gas Supervisor

R. Bush, State Oil and Gas Supervisor

Duplicate

Form 127: 8037 6-42 1940 TRIP
Special Report on Operations Witnessed

No. T. 1-39382

Los Angeles, Calif. April 25, 1941.

Mr. W. S. Eggleson,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Operations at your well No. "OIL OPERATORS" 4 Sec. 13, T. 4S., R. 13W. S. B. B. & M., Long Beach Field, in Los Angeles County, were witnessed by Chas. Corwin, Inspector, on April 14, 1941. There was also present E. G. Trostel, Engineer, W. A. Megginis, Driller.

Casing Record: 13-3/8" cem. 757', 8-5/8" cem. 4005'.

W. S. O.; 6-5/8" liner 14. 3843'-4408', c. p. 4344'.

perf. 4408'-4348', 4130'-4070' and 4028'-4005'; 4-3/4" liner cem. 3804'-5376'. T. D. 5379'. plugged with cement 5376'-5361'.

Junk None

The operations were performed for the purpose of demonstrating that no fluid has access to the well between the 4-3/4" and 8-5/8" casings.

The Inspector arrived at the well at 5:00 P. M. and Mr. Trostel reported the following:

1. The hole was cleaned out to 4408'.
2. A 6-5/8" rotary hole was drilled from 4408' to 5379'.
3. Mud fluid was circulated 3-1/2 hr. before cementing the casing.
4. Electrical core readings showed the top of the Brown Zone 4650'.
5. On April 10, 1941, 1572' of 4-3/4" - 16 lb. casing was cemented at 5376' with 200 sacks of Colton cement.
6. Cement was drilled out of the 8-5/8" casing from 3680' to 3804' and out of the 4-3/4" casing from 3804' to 5361', equivalent to 35 and 118 sacks, respectively.
7. On April 14, 1941, at 9:00 a.m. the fluid in the hole was bailed to 3039'.

The Inspector noted the following:

1. No fluid entered the well while standing 8 hr. for test.
2. The hole was open below 3915'.

The test was completed at 5:50 p.m.

The operations as witnessed and reported are approved as indicating that fluid does not have access to the well between the 4-3/4" and 8-5/8" casings.

cc: H. E. Winter

Long Beach

R. D. BUSH
State Oil and Gas Supervisor

By [Signature] Deputy
STATE OF CALIFORNIA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS  

Report on Proposed Operations  

No. P1-35934  

Los Angeles, Calif. January 13, 1941.  

Mr. W. S. Eccleston,  

Los Angeles, Calif.  

Agent for UNION OIL COMPANY OF CALIFORNIA  

Dear Sir:  

Your proposal to deepen "OIL OPERATORS"  

Section 13, T12 S., R13 W., S.E. B. & M., Long Beach Field, Los Angeles County,  
dated Jan. 9, 1941, received Jan. 10, 1941, has been examined in conjunction with records filed in this office.  

Present conditions as shown by the records and the proposal are as follows:  

RECORDS: The condition of the well is as stated in the notice:  

THE NOTICE STATES:  

The present condition of the well is as follows:  
Total depth 4,408' - Plug 4,305'  
13-3/8" C 757'  
8-5/8" C 4,005' C.E.  
565' 6-5/8" L 4,408', inc. 60' perf. C.P. 4,341'  
Reperf. 4,348-4,399' and perf. 4,005-4,023 and 4,070-4,130'.  

It is proposed to deepen the well as a lease offset to Hilldon F.C. #4.  
Last production - 1,472 oil, 19,124 water - 31 days.  

PROPOSAL:  
The proposed work is as follows:  
1. Clean out to 4,408' and deepen to approximately 5,400'.  
2. Cement 4-3/4" blank liner on bottom and gun perforate the top of the "S" zone and the top of the "T" Zone for production.  
3. Test on production.  

DECISION:  
The proposal is approved provided that:  
1. Mud fluid consistent with good drilling practice shall be used and the column of mud fluid maintained at all times, particularly while pulling the drill pipe.  
2. Any hole to be sidetracked in any oil zone shall be filled with cement, if possible.  
3. This division shall be notified to examine cores and/or electrical log before running the 4-3/4" casing.  
4. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:  
   (a) A test after drilling out the cement to within 50' of the cementing point to demonstrate that no fluid has access to the well between the 4-3/4" and 6-5/8" casings.  
   (b) A production test within 10 days after the well has been placed on production.  

cc- H. E. Winter  
Long Beach  

R. D. BUSH  
State Oil and Gas Supervisor  

By [Signature] Deputy
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given fifteen days before work begins when possible

Santa Fe Springs Cal. January 9 1941

Mr. E. HUGUENIN, 
Deputy State Oil and Gas Supervisor

Los Angeles, Cal.

DEAR SIR:

In compliance with Section 17, Chapter 718, Statutes of 1913, as amended, notice is hereby given that it is our intention to commence the work of deepening, redeepling, or altering well No. Oil Operators 4

Oil Field, Los Angeles County.

Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

The present condition of the well is as follows:

Total depth 4408' - Plug 4305'

13-3/8" C 757'  
8-5/8" C 4005' O.K.  
565' 6-5/8" L 4408', inc. 60' perf. C.P. 4344'  
Reperf. 4348-4399' and perf. 4005-4028 and 4070-4130'

It is proposed to deepen the well as a lease offset to Hilldon F.C. #4. 
Last production - 1472 oil, 19,124 water - 31 days

The proposed work is as follows:

1. Clean out to 4408' and deepen to approximately 5400'.
2. Cement 4-3/4" blank liner on bottom and gun perforate the top of the "S" Zone and the top of the "T" Zone for production.
3. Test on production.

Respectfully yours

UNION OIL COMPANY OF CALIFORNIA
Name of Company or Operator

By: Division Engineer.

ADDRESS NOTICE TO DEPUTY STATE OIL AND GAS SUPERVISOR IN CHARGE OF DISTRICT WHERE WELL IS LOCATED
### Division of Oil and Gas

**Subsequent Work Report**

**Operator:** Union Oil Company of California  
**Field:** Long Beach

**Well No.:** Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, SB B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated March 21, 1938, was filed.

**Signed:** Henry E. Winter

**Date:** April 4, 1938  
**Title:** District Engineer (President, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date and position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailings.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-17</td>
<td>4408</td>
<td>Took out pumping unit and pulled rods and tubing.</td>
</tr>
<tr>
<td>3-19</td>
<td>4408</td>
<td>Cleaned out liner to 4397'. Dumped 24 sacks of Victor construction cement in stages from 4397'.</td>
</tr>
<tr>
<td>3-20</td>
<td>4408 Plug 4305</td>
<td>Located top of cement plug at 4305'. Perforated 6-5/8&quot; casing from 4150 to 4070 with 33 holes and 4088 to 4005 with 36 holes, using Lane-Wells 5-3/4&quot; 12 shot gun with .45 caliber shells.</td>
</tr>
<tr>
<td>3-21</td>
<td>4408 &quot; 4305</td>
<td>Landed 3&quot; upset tubing at 3979.27'. Put well on pump at 1:00 PM 3-21-38, 180 gross, 127 net, 21.7 grav., 29.4% cut - P 11 hrs.</td>
</tr>
<tr>
<td>3-22</td>
<td>452 &quot; 360 22.1 20.4</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-23</td>
<td>523 506 22.1 3.2</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-24</td>
<td>545 534 23.6 2.0</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-25</td>
<td>565 556 23.6 1.2</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-26</td>
<td>531 525 23.6 1.1</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-27</td>
<td>506 499 23.6 1.4</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-28</td>
<td>493 488 23.6 1.1</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-29</td>
<td>477 472 23.6 1.0</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-30</td>
<td>465 459 23.6 1.2</td>
<td>P 24 &quot;</td>
</tr>
<tr>
<td>3-31</td>
<td>449 445 23.6 1.0</td>
<td>P 24 &quot;</td>
</tr>
</tbody>
</table>
LOG OF OIL OR GAS WELL

Operator: Union Oil Company of California
Field: Long Beach

Well No.: Oil Operators #4
Sec. 13, T. 4-S, R. 13-W, B. & M. 348° S.W. ly along the prolongation of the center line of San Antonio Drive from its intersection with the center line of Riverside Drive, thence N.B.W. ly - 53.86' at right angles 550'.

Location:

In compliance with the provisions of Chapter 718, Statutes of 1915, as amended, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date: 2-21-56

(Signed) Henry Edmin.

(Engineer or Geologist)

Reference to Site of Data

(B) F

(Supervisor)

(District Engineer)

(Superintendent)

(President, Secretary or Agent)

Comquartered: January 1, 1956

Completed drilling

Drilling tools: Cable and

Rotary

Total depth: 4406

Plugged depth: 4406

GEOLOGICAL MARKERS

Waller Shale: 3543-3655

Alamitos Shale: 3794-3842

H:

J:

K:

4005

4306

4348

DEPHT

 commencement producing: 2-28-56

Flowing/gas lift/pumping:

(date)

(Cross out unnecessary words)

Initial production:

16 bbl.

Production after 30 days:

16 bbl.

16 bbl.

Casing Record (Present Hole)

Size of Casing

13-3/8

8-5/8

6-5/8

Depth of Shoe

757

4005

4408

Top of Casing

Surface

" 32/ & 36/ New & Used

3843

Weight of Casing

45.97#/ New Seamless Slip-join 17"

32#/ New

26#

Grade of Casing

C 12.5"

C

9-5/8 U.R. 125

500

Size of Hole Casing landed in

Number of Sacks of Cement

Depth of Cementing if through perforations

Casing Pressure

Takig Pressure

Gas Mcf. per day

100

21.2

7.8

Casing Pressure

Takig Pressure

Gas Mcf. per day

Initial production

16 bbl.

Production after 30 days

16 bbl.

16 bbl.

Casing Record (Present Hole)

Size of Casing

13-3/8

8-5/8

6-5/8

Depth of Shoe

757

4005

4408

Top of Casing

Surface

" 32/ & 36/ New & Used

3843

Weight of Casing

45.97#/ New Seamless Slip-join 17"

32#/ New

26#

Grade of Casing

C 12.5"

C

9-5/8 U.R. 125

500

Size of Hole Casing landed in

Number of Sacks of Cement

Depth of Cementing if through perforations

Casing Pressure

Takig Pressure

Gas Mcf. per day

Initial production

16 bbl.

Production after 30 days

16 bbl.

16 bbl.

Casing Record (Present Hole)

Size of Casing

13-3/8

8-5/8

6-5/8

Depth of Shoe

757

4005

4408

Top of Casing

Surface

" 32/ & 36/ New & Used

3843

Weight of Casing

45.97#/ New Seamless Slip-join 17"

32#/ New

26#

Grade of Casing

C 12.5"

C

9-5/8 U.R. 125

500

Size of Hole Casing landed in

Number of Sacks of Cement

Depth of Cementing if through perforations

Casing Pressure

Takig Pressure

Gas Mcf. per day

Initial production

16 bbl.

Production after 30 days

16 bbl.

16 bbl.

Casing Record (Present Hole)

Size of Casing

13-3/8

8-5/8

6-5/8

Depth of Shoe

757

4005

4408

Top of Casing

Surface

" 32/ & 36/ New & Used

3843

Weight of Casing

45.97#/ New Seamless Slip-join 17"

32#/ New

26#

Grade of Casing

C 12.5"

C

9-5/8 U.R. 125

500

Size of Hole Casing landed in

Number of Sacks of Cement

Depth of Cementing if through perforations

Casing Pressure

Takig Pressure

Gas Mcf. per day

Initial production

16 bbl.

Production after 30 days

16 bbl.

16 bbl.

Casing Record (Present Hole)

Size of Casing

13-3/8

8-5/8

6-5/8

Depth of Shoe

757

4005

4408

Top of Casing

Surface

" 32/ & 36/ New & Used

3843

Weight of Casing

45.97#/ New Seamless Slip-join 17"

32#/ New

26#

Grade of Casing

C 12.5"

C

9-5/8 U.R. 125

500

Size of Hole Casing landed in

Number of Sacks of Cement

Depth of Cementing if through perforations

Casing Pressure

Takig Pressure

Gas Mcf. per day

Initial production

16 bbl.

Production after 30 days

16 bbl.

16 bbl.

Casing Record (Present Hole)

Size of Casing

13-3/8

8-5/8

6-5/8

Depth of Shoe

757

4005

4408

Top of Casing

Surface

" 32/ & 36/ New & Used

3843

Weight of Casing

45.97#/ New Seamless Slip-join 17"

32#/ New

26#

Grade of Casing

C 12.5"

C

9-5/8 U.R. 125

500

Size of Hole Casing landed in

Number of Sacks of Cement

Depth of Cementing if through perforations

Casing Pressure

Takig Pressure

Gas Mcf. per day

Initial production

16 bbl.

Production after 30 days

16 bbl.

16 bbl.
STATE OF CALIFORNIA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS  

LOG OF OIL OR GAS WELL—CONTINUED

FIELD: Union Oil Company of California  
COMPANY: Long Beach

Sec. 13, T. 4-5, R. 13-W, S.B. B & M.  
Well No. Oil Operators #4

FORMATIONS PENETRECTED BY WELL

<table>
<thead>
<tr>
<th>Depth To</th>
<th>Thickness</th>
<th>Name of Formation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>170</td>
<td>Surface clay</td>
</tr>
<tr>
<td>170</td>
<td>364</td>
<td>Sand and gravel</td>
</tr>
<tr>
<td>364</td>
<td>388</td>
<td>Sand and clay</td>
</tr>
<tr>
<td>388</td>
<td>713</td>
<td>Hard sand</td>
</tr>
<tr>
<td>713</td>
<td>760</td>
<td>Shale</td>
</tr>
<tr>
<td>760</td>
<td>1577</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>1577</td>
<td>1893</td>
<td>Hard sand</td>
</tr>
<tr>
<td>1893</td>
<td>2975</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>2975</td>
<td>3286</td>
<td>Sand</td>
</tr>
<tr>
<td>3286</td>
<td>3990</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3990</td>
<td>3112</td>
<td>Sand and streaks of shale</td>
</tr>
<tr>
<td>3112</td>
<td>3114</td>
<td>Shell</td>
</tr>
<tr>
<td>3114</td>
<td>3193</td>
<td>Sand and streaks of shale</td>
</tr>
<tr>
<td>3193</td>
<td>3195</td>
<td>Shell</td>
</tr>
<tr>
<td>3195</td>
<td>3230</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3230</td>
<td>3231</td>
<td>Shell</td>
</tr>
<tr>
<td>3231</td>
<td>3371</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3371</td>
<td>3372</td>
<td>Shell</td>
</tr>
<tr>
<td>3372</td>
<td>3525</td>
<td>Shale and sand</td>
</tr>
<tr>
<td>3525</td>
<td>3530</td>
<td>Hard sand</td>
</tr>
<tr>
<td>3530</td>
<td>3560</td>
<td>Shale and sand</td>
</tr>
<tr>
<td>3560</td>
<td>3564</td>
<td>Sand and streaks of shale</td>
</tr>
<tr>
<td>3564</td>
<td>3730</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3730</td>
<td>3890</td>
<td>Hard sand</td>
</tr>
<tr>
<td>3890</td>
<td>3961</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3961</td>
<td>3963</td>
<td>Shell</td>
</tr>
<tr>
<td>3963</td>
<td>4015</td>
<td>Shale and streaks of sand (See Core Record)</td>
</tr>
<tr>
<td>4015</td>
<td>4408</td>
<td>Shale and sand   (See Core Record)</td>
</tr>
</tbody>
</table>
**History of Oil or Gas Well**

**Operator:** Union Oil Company of California  
**Field:** Long Beach

**Well No.:** Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

**Signed:** Henry E. White

**Date:** 3-21-38  
**Title:** District Engineer

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It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plunger or bailer was put in to test for water, state kind of material used, position and results of pumping or bailging.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>1.00</td>
<td>1.00</td>
<td>Spudded in with 18-5/8&quot; rotary bit and drilled to 50'. Cemented 18-5/8 conductor pipe at 50' with 46 sax Velo cement.</td>
</tr>
<tr>
<td>1.00</td>
<td>758</td>
<td>758</td>
<td>Drilled with 17&quot; rotary bit to 758. Cemented new 13-3/8-45.97 National Seamless slip joint casing at 758 with 550 sax Velo treated cement. Cementing operations witnessed and approved by Karmelich of D.O.G.</td>
</tr>
<tr>
<td>1.00</td>
<td>911</td>
<td>911</td>
<td>Found top of cement at 754. Cleaned out cement and plugs and drilled ahead with 12½ bits.</td>
</tr>
<tr>
<td></td>
<td>4015</td>
<td>4015</td>
<td>Drilled with 12½ bits to 3955 and cored with 7-5/8 core barrels to 4015. Ran Schlumberger Survey.</td>
</tr>
<tr>
<td>1.22</td>
<td>4015</td>
<td>4015</td>
<td>Reamed out core hole with 12½ bit to 4005. Cemented 8-5/8 - 32½ Grade C (1263 of 8-5/8 - 36½ on bottom) 8 thread round seamless casing at 4005 with 400 sax cement (200 sax Victor Oil Well and 200 sax Victor Construction)</td>
</tr>
<tr>
<td>1.22</td>
<td>4070</td>
<td>4070</td>
<td>Found top of cement at 3978. Drilled out cement and plugs to 4005 and cleaned out to 4010. Water Shut Off test on 8-5/8 casing at 4005 witnessed and approved by Corwin of D.O.G. Drilled with 7-5/8 bit to 4070.</td>
</tr>
<tr>
<td>2.3</td>
<td>4408</td>
<td>4408</td>
<td>Cored with 7-5/8 core barrels to 4408. Ran Schlumberger Survey.</td>
</tr>
<tr>
<td>2-5</td>
<td>4408</td>
<td>4408</td>
<td>Under-reamed hole to 8½&quot; from 4007 to 4408. Landed 565' of 6-5/8 - 26½ Grade C casing at 4408 including 60' of (16-2-6) 120 mesh Kobe perforated on bottom. Cemented liner through ports of Baker Whirler basket at 4344 with 125 sax of Victor Oil Well cement.</td>
</tr>
</tbody>
</table>
It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-11</td>
<td>4406</td>
<td>4406</td>
<td>Drilled out cement to 4343 and cleaned out to bottom of liner, landed 3&quot; upset tubing at 4518 including 521' of Baasch-Ross insert tubing on bottom.</td>
</tr>
<tr>
<td>2-17</td>
<td>&quot;</td>
<td>&quot;</td>
<td>Changed from mud to water and swabbed fluid to 3000'. Very little oil or gas. Pulled tubing. Alternate between running 6-5/8 swab past perforations as agitator, and bailing mud from bottom. Landed 3&quot; upset tubing at 4524. Installed pumping unit and started well pumping at 7 P.M., 2-17-38.</td>
</tr>
<tr>
<td>2-18</td>
<td></td>
<td></td>
<td>43 gross</td>
</tr>
<tr>
<td>2-19</td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>2-20</td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>2-21</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2-22</td>
<td></td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>2-23</td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2-26</td>
<td></td>
<td></td>
<td>4406 Open 4402</td>
</tr>
<tr>
<td>3-1</td>
<td></td>
<td></td>
<td>128 gross</td>
</tr>
<tr>
<td>3-2</td>
<td></td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>3-3</td>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>3-4</td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
</tbody>
</table>
Division of Oil and Gas

History of Oil or Gas Well

Operator: Union Oil Company of California
Field: Long Beach

Well No.: Oil Operators #4
Sec.: 13
T.: 4-S
R.: 13-W
S.R.: B. & M.

Date: 3-21-32
Title: District Engineer

It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or casing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>21</td>
<td>19</td>
<td>21 gross, 19 gross, 21.2 grav. 10.2% cut</td>
</tr>
<tr>
<td>3-6</td>
<td>21</td>
<td>19</td>
<td>21.2 8.2 P24 hrs.</td>
</tr>
<tr>
<td>3-7</td>
<td>19</td>
<td>16</td>
<td>21.7 15.3 P24</td>
</tr>
<tr>
<td>3-8</td>
<td>18</td>
<td>15</td>
<td>21.7 27.5 P24</td>
</tr>
<tr>
<td>3-9</td>
<td>16</td>
<td>13</td>
<td>21.7 25.6 P24</td>
</tr>
<tr>
<td>3-10</td>
<td>16</td>
<td>13</td>
<td>21.7 24.2 P24</td>
</tr>
<tr>
<td>3-11</td>
<td>16</td>
<td>14</td>
<td>21.7 24.4 P24</td>
</tr>
<tr>
<td>3-12</td>
<td>17</td>
<td>14</td>
<td>21.7 17.8 P24</td>
</tr>
<tr>
<td>3-13</td>
<td>17</td>
<td>14</td>
<td>21.7 17.8 P24</td>
</tr>
<tr>
<td>3-14</td>
<td>17</td>
<td>14</td>
<td>21.7 16.5 P24</td>
</tr>
<tr>
<td>3-16</td>
<td>17</td>
<td>14</td>
<td>21.7 18.4 P24</td>
</tr>
<tr>
<td>3-17</td>
<td>8</td>
<td>6</td>
<td>21.7 17.2 P10</td>
</tr>
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</table>

4408 Open 4402
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>CORE SIZE</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL REC.</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
<th>APPT. DIP</th>
<th>ANGLE OF MOLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-21-36</td>
<td>1</td>
<td>7-5/8&quot;Sai</td>
<td>3955</td>
<td>3970</td>
<td>7.3</td>
<td>2.5</td>
<td>1.8</td>
<td>0.2</td>
<td>1.3</td>
<td>Pima Soft Fine Gray Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard Dark Brown Shale, sandy in parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Firm, very Fine Silty Gray Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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Signature: Henry E. Winter
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<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
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| 1-23-38 | 8        | 7-5/8" Driller - Robishaw | 4092 | 4100  | 1.5        | 0.2   | 0.8      | 0.5       | 1.3   | Hard Dark Brown Shale  
Firm Soft Fine to Medium Brown Oil Sand. Good Odor and Dark Amber Cut  
Firm Fine Silty Argillaceous Brown Oil Sand. Good Odor and Amber Cut. Parting 51° |
| 1-29-38 | 9        | "                | 4100 | 4109  | 0.1        | 0.1   |          |           |       | Hard Dark Brown Silty Shale  
Firm Soft Fine to Medium Brown Oil Sand. Good Odor and Dark Amber Cut  
Firm Soft coarse Pebble Brown Oil Sand  
Firm Soft Medium to coarse Brown Oil Sand  
Firm Fine Silty Argillaceous Brown Oil Sand. Good Odor and Dark Amber Cut. Dip 18°  
Firm Soft Medium to coarse Brown Oil Sand  
Hard Dark Brown Shale  
Firm Fine Silty Argillaceous Brown Oil Sand - Dip 17°  
Firm Soft coarse Brown Oil Sand  
Firm Fine Silty Argillaceous Brown Oil Sand - Dip 17°  
Soft coarse Brown Oil Sand. Good Odor and Dark Amber Cut  
Firm Fine Silty Argillaceous Brown Oil Sand with streaks of Hard Brown Shale. Bottom 0.5 mixed with mud  
0.3 Hard, slightly Calcareous Shale  
Firm Soft Fine Brown Oil Sand, grading to Medium at bottom. Good Odor and Dark Amber Cut  
Hard Dark Brown Shale  
0.5 Shale 0.5 from top |
| 1-29-38 | 10       | 7-5/8" Soil      | 4109 | 4124  | 14.2       | 2.0   | 1.1      | 3.0       | 0.5   | Hard Dark Brown Shale  
Firm Soft Fine to Medium Brown Oil Sand. Good Odor and Dark Amber Cut  
Firm Soft coarse Pebble Brown Oil Sand  
Firm Soft Medium to coarse Brown Oil Sand  
Firm Fine Silty Argillaceous Brown Oil Sand. Good Odor and Dark Amber Cut. Dip 18°  
Firm Soft Medium to coarse Brown Oil Sand  
Hard Dark Brown Shale  
Firm Fine Silty Argillaceous Brown Oil Sand - Dip 17°  
Firm Soft coarse Brown Oil Sand  
Firm Fine Silty Argillaceous Brown Oil Sand - Dip 17°  
Soft coarse Brown Oil Sand. Good Odor and Dark Amber Cut  
Firm Fine Silty Argillaceous Brown Oil Sand with streaks of Hard Brown Shale. Bottom 0.5 mixed with mud  
0.3 Hard, slightly Calcareous Shale  
Firm Soft Fine Brown Oil Sand, grading to Medium at bottom. Good Odor and Dark Amber Cut  
Hard Dark Brown Shale  
0.5 Shale 0.5 from top |

Signature: [Henry E White]
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*Henry E. White*
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<td>4310 4319</td>
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<td>Hard broken and fractured Black Shale, badly mixed with mud</td>
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<td>Inclusions of Fine Gray Sand in bottom 0.4</td>
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<td>4319 4329</td>
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<td>Hard Broken and fractured, Dark Brown to Black Shale. Top 2.3 badly</td>
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<td>fractured with vertical fractures.</td>
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<td>Soft Mushy Fine Brown Oil Sand. Good Odor and Dark Amber Cut</td>
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<td>4337 4346</td>
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<td>vertical Fractures 2.3 from bottom</td>
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<td>4346 4355</td>
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<td>Hard Black Shale. Dip 25°. Fracture</td>
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<td>Soft Mushy Fine Silty Argillaceous</td>
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<td>Brown Oil Sand, mixed with mud. Fair Odor and Amber Cut</td>
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<td>Soft Medium to coarse Brown Oil Sand.</td>
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<td>Fair Odor and Dark Amber Cut</td>
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<td>&quot;</td>
<td>4355 4364</td>
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[Signature] Henry C. White
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<th>Date</th>
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<th>Core Size</th>
<th>Core Type</th>
<th>From</th>
<th>To</th>
<th>Total Rec.</th>
<th>Shale</th>
<th>Oil Sand</th>
<th>Gray Sand</th>
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<td>Soft Fine Silty Argillaceous Brown Oil Sand, mixed with mud</td>
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<td>Firm, very Silty Brown Shale</td>
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<td>Oil Sand as above, Fair Odor and Dark Amber Cut</td>
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<td>Hard Fractured Silty Black Shale with streaks of Fine Brown Oil Sand. Fractures</td>
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<td>Firm Soft Fine to Medium Brown Oil Sand. Fair Odor and Amber Cut</td>
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<td>2-2-38</td>
<td>32</td>
<td>&quot; Small</td>
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<td>4382</td>
<td>4397</td>
<td>15.0</td>
<td>0.4</td>
<td>1.0</td>
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<td>Hard Fractured and Broken Dark Brown to Black Silty Shale. Streaks of Fine</td>
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<td>Firm Soft Fine Brown Oil Sand. Good Odor</td>
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<td>Firm Soft to Firm, Medium to coarse Brown Oil Sand, grading to coarse</td>
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<td>Pebbly in bottom 4.0. Bottom 4.0 has a Grayish cast, probably due to Gray</td>
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<td>Pebbles. Good Odor and Amber Cut</td>
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<td>Hole corrected for depth</td>
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<td>2-3-38</td>
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<td></td>
<td>4398</td>
<td>4408</td>
<td>8.6</td>
<td>3.6</td>
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<td>3.6</td>
<td>3.6</td>
<td>Firm Soft coarse Pebbly Brown Oil Sand with streaks of Fine Brown Oil Sand.</td>
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<td>Good Odor and Dark Amber Cut</td>
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Total Depth - 4408
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T1-33997

Los Angeles, Calif. March 30, 1938.

Mr. W. S. Eggleston,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Operations at your well No. "OIL OPERATORS" 4 Sec. 13, T. 14 S., R. 13 W., S.E. B. & M., Long Beach Field, in Los Angeles County, were witnessed by F. J. Karmelich, Inspector, representative of the supervisor, on March 20, 1938. There was also present E. Winter, Engineer, and L. O. Mitchell, Driller.

Casing Record L13-3/8" casing, 757'; 8-5/8" casing, 4005'.
W. S. O.; 6-5/8" liner landed 3674'; 4408', c. p. 3674'.
perf. 4348'-4408'; T.D. 4408', plugged with cement
4397'-4305'.

The operations were performed for the purpose of testing the location and hardness of a cement plug proposed to be placed from 4408' to 4320' in the process of plugging back, and the data and conclusions are as follows:

THE INSPECTOR ARRIVED AT THE WELL AT 9:00 A.M. AND MR. WINTER REPORTED THE FOLLOWING:
1. The 6-5/8" liner was cleaned out to 4397'.
2. On March 13 and 19, 1938, 24 sacks of Victor oil well cement was dumped, beginning at 4397'.

THE INSPECTOR NOTED THAT the bailer could not be spudded below 4305' and brought up a sample of set cement.
The test was completed at 9:30 A.M.

THE LOCATION AND HARDNESS OF THE CEMENT PLUG AT 4305' ARE APPROVED.

c- H. E. Winter
Long Beach
FUK: OH

R. D. BUSH
State Oil and Gas Supervisor
By

Deputy
Mr. Ed Jussen, Jr.,

Los Angeles, Calif.,

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your supplementary proposal to drill Well No. "OIL OPERATORS" 4, Section 13, T.35S., R. 13W., S. B. & M., Long Beach Field, Los Angeles County, dated Mar. 18, 1938, received Mar. 21, 1938, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:
"The present condition of the well is as follows:
4408 deep
13-3/8" C 757'
8-5/8" C 400'- Ok
565' 6-5/8" L 4408', inc. 60' perf. C. P. 4344'
Reperf. 4348-4399
The well has been tested on the pump since March 1, 1938 with an average daily production of 18 gross, 16 net, 21.7 gravity."

PROPOSAL:
"The proposed work is as follows:
1. C. S. to 4408 and plug with cement under hydrostatic head to 4320'.
2. Test plug by Division of Oil & Gas.
4. Test for production."

DECISION:
THE PROPOSAL IS APPROVED.

cc- H. E. Winter
Long Beach

R. D. BUSH
State Oil and Gas Supervisor

By

Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given fifteen days before work begins when possible

Santa Fe Springs, Cal. March 18, 1938

Mr. E. Huguenin,
Deputy State Oil and Gas Supervisor

Los Angeles, Cal.

DEAR SIR:

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at well No. Oil Operators #4

Long Beach Oil Field, Los Angeles County.

The present condition of the well is as follows:

4408 deep
13-3/8" C 757'
8-5/8" C 4005' OK
665' 8-5/8" L 4408', inc. 60' perf. C.P. 4344'
Reperf 4348-4399

The well has been tested on the pump since March 1, 1938 with an average daily production of 18 gross, 16 net, 21.7 gravity.

The proposed work is as follows:

1. C.O. to 4408 and plug with cement under hydrostatic head to 4320'.
2. Test plug by Division of Oil & Gas.
4. Test on production.

Respectfully yours

UNION OIL COMPANY OF CALIFORNIA

ADDRESS NOTICE TO DEPUTY STATE OIL AND GAS SUPERVISOR IN CHARGE OF DISTRICT WHERE WELL IS LOCATED
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
LOS ANGELES
Calif. 7/10/1938

Name of Operator
UNION OIL COMPANY, CALIF.

Address
LOS ANGELES

This is to acknowledge the receipt of logs and similar records of wells on Sec. 13, T. 15 S.

R. 13
W. 29 N.
B. & M., as herewith enumerated by well numbers.

Logs:

History:
Core record:
Subsequent work: Drilling - "All Operators" 4 - 7/3/38

R. D. BUSH, State Oil and Gas Supervisor

DUPPLICATE

FORM 127. 46819 7-37 SH
DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T 1-33847

Los Angeles, Calif. February 24, 1938

Mr. Ed Jussen, Jr.

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Operations at your well No. "OIL OPERATORS" 2, Sec. 13, T. 48 S., R. 13 W., S. E. B. & M., Long Beach field, in Los Angeles County, were witnessed by F. J. Karmelich, Inspector, representative of the supervisor, on Feb. 10, 1938. There was also present, R. Rampton, Engineer, and H. Robinson, Superintendent.

Casing Record: 13-3/8" com. 757'; 6-5/8" com. 4005'.

L. S. O. 6-5/8" Id. 337' - 4408', c. p. 4-1/8", perf. 4-1/8" - 4408', T. D. 4408', plugged with cement 4-1/8" - 3951'.

The operations were performed for the purpose of demonstrating that fluid does not have access to the well between the 8-5/8" and 6-5/8" casings.

The inspector arrived at the well at 11:00 a.m. and Mr. Rampton reported the following:

1. A 7-5/8" rotary hole was drilled from 4005' to 1408'.
2. On February 5, 1938, 565' of 6-5/8" - 26 lb. casing, including 60' of perforated, was landed at 4408' and was cemented through perforations at 4-1/8" with 125 sacks of Victor oil well cement.
3. Cement was drilled out of the 8-5/8" and 6-5/8" casings from 3676' to 3951' (equivalent to 62 sacks) and the casing was cleaned out to 3951'.
4. On February 11, 1938, at 3:00 a.m., the fluid was bailed to 2535'.

The inspector noted the following:

1. No fluid entered the well while standing 8 hr. for test.
2. The fluid was located at 2535'.
3. The sample of fluid from bottom tasted fresh.
4. The hole was open to 3951'.

The test was completed at 12:00 noon.

The operations as witnessed and reported are approved as indicating that fluid does not have access to the well between the 8-5/8" and 6-5/8" casings.

cc: H. B. Winter
Long Beach

R. D. BUSH
State Oil and Gas Supervisor

By: [Signature] Deputy
DIVISION OF OIL AND GAS

Report on Test of Water Shut-off

No. T. 1-33775

Los Angeles, Calif. February 9, 1936.

Mr. Ed. Jussen, Jr.,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your well No. "OIL OPERATORS" 4, Sec. 13, T. 4 S., R. 13 W., S.E. B. & M., Long Beach Field, in Los Angeles County, was tested for shut-off of water on January 26, 1936, by Mr. Chas. Gorwin, as designated by the supervisor, was present as prescribed in Section 19, Chapter 718, Statutes 1915, as amended, and there were also present H. Rampton, Engineer,

H. Robinson, Superintendent.

Location of water tested above 4005 ft. and normal fluid level not determined.

Depth and manner of water shut-off:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Manner</th>
</tr>
</thead>
<tbody>
<tr>
<td>1263 ft. of 8-5/8 in.</td>
<td>casing was 1-23-X5 cemented in shale formation</td>
</tr>
<tr>
<td>2742 ft. of 8-5/8 in.</td>
<td>Victor construction oil well</td>
</tr>
</tbody>
</table>

at 4005 ft. with 200 sacks of cement by casing method.

Water string was landed in 121/2" rotary hole.

Casing record of well 13-3/8" cemented 757 ft.; 8-5/8" as above.

Reported total depth of hole 4015 ft. Hole bridged from XX ft. to XX ft. Hole cleaned out to XX ft. for this test.

At time of test depth of hole measured XX ft. and bailer brought up sample of XXXX.

At time and date XXXX, oil bailed to XXXX ft., drilling fluid bailed swabbed to XXXX ft.

At time and date XXXX, top of fluid found at XXXX ft., top of fluid found at XXXX ft.

THE INSPECTOR ARRIVED AT THE WELL AT 3:15 p.m. AND MR. RAMPTON REPORTED THE FOLLOWING:

1. A 121/2" rotary hole was drilled from 757 ft. to 4015 ft.
2. Mud fluid was circulated for 1/2 hr. before cementing the casing.
3. Electrical core readings showed shale 3971 ft. - 4005 ft. (H 1)
4. No casing test was made.
5. 27" of set cement was drilled out of the 8-5/8" casing (equivalent to 8 sacks).
6. The Johnston tester was run into the hole on 4" drill pipe.
7. The wall packer was set at 3991 ft.
8. The tester valve was opened at 1:58 p.m. and remained open for 30 minutes. During this interval there was a good, steady blow throughout the test.

THE INSPECTOR NOTED THE FOLLOWING:

1. When the drill pipe was removed 1550 ft. of fluid was found in the drill pipe above the tester, consisting of the following: 20' drilling fluid, 1230' gas and oil, 100' oil sand, equivalent to 22 bbl.

R. D. BUSH

State Oil and Gas Supervisor

By (CONTINUED ON PAGE 2) Deputy
2. The fluid sample taken from the bottom of the drill pipe tasted fresh.
3. The recording pressure bomb chart was torn, but could observe that the valve had been opened.

The test was completed at 4:20 p.m.

THE SHUT-OFF IS APPROVED.

cc—H. E. Winter
Long Beach

CC: CH

R. D. BUSH
State Oil and Gas Supervisor

[Signature] Deputy
629 South Hill Street
Los Angeles, California
January 15, 1935.

Union Oil Company of California,
Santa Fe Springs, Calif.

Gentlemen: Attention Mr. Henry E. Winter.

This will acknowledge receipt of and thank you for your letter of January 13, 1935, giving the elevation of well No. "Oil Operators" 4, Sec. 13, T. 4 S., R. 13 W., S. B. B. & W., Long Beach field, as 53.83' U. S. G. S.

We are correcting our records accordingly.

Yours truly,

[Signature]

WJC:EMS Deputy Supervisor.

CC - Mr. R. E. Bush (2)
Long Beach
Santa Fe Springs, Calif. Jan. 13, 1939

Mr. E. Huguenin, Deputy Supv.,
Division of Oil & Gas,
Los Angeles, Calif.

Dear Sir:

The elevation of the Union Oil
Company well "Oil Operators #4", in the Long
Beach Field, (Section 13, 4-S, 13-W), is 53.88
U.S.G.S.

The location is the same as
in the original notice to drill.

Very truly yours,

H. W. W. (Signature)
District Engineer.
Santa Fe Springs, Calif. Jan. 13, 1938

Mr. E. Huguenin, Deputy Supv.,
Division of Oil & Gas,
Los Angeles, Calif.

Dear Sir:

The elevation of the Union Oil Company well "Oil Operators #4", in the Long Beach Field, (Section 13, 4-S, 13-W), is 53.88 U.S.G.S.

The location is the same as in the original notice to drill.

Very truly yours,

Henry E. West
District Engineer.
DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T. 1-33650


Mr. Ed. Jussin, Jr.,

Los Angeles, Calif.

Dear Sir:

Operations at your well No. "OIL OPERATORS" 4 Sec. 13, T. 4 S., R. 13 W., S. E. B. & M., Long Beach Field, in Los Angeles County, were witnessed by F. J. Karmelich, representative of the supervisor, on January 4, 1935. There was also present R. Rampton, Engineer.

P. T. Shores, Driller.

Casing Record 13-5/8" cem. 50'; 13-3/8" cem. 757'; Junk XXXX

T. D. 758'.

The operations were performed for the purpose of demonstrating that the known surface waters are adequately protected,

and the data and conclusions are as follows:

The inspector arrived at the well at 4:00 P. M. and Mr. Rampton reported the following:

1. A 17" rotary hole was drilled from 50' to 758'.
2. 757' of 13-3/8" = 45 lb. casing was run into the hole to 757'.

The inspector noted the following:

1. The 13-3/8" casing was cemented at the reported depth of 757' with 350 sacks of Velo 24 hour cement.
2. The cement was displaced from the casing with 673 cubic feet of drilling fluid.
3. The final pressure was 500 lb.

The operations were completed at 4:42 a. m.

The cementing operations as witnessed and reported are approved as indicating that the known surface waters are adequately protected.

cc: H. E. Winter
Long Beach
FJK:OH

R. D. Bush
State Oil and Gas Supervisor
By [Signature] Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Proposed Operations

No. P1-31816

Los Angeles, Calif. December 23, 1937

Mr. Ed. Jussen, Jr.,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to drill Well No. M, Section 13, T. 4 S., R. 13 W., S.B. B. & M., Long Beach Field, Los Angeles County, dated Dec. 20, 1937, received Dec. 21, 1937, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:
"The well is 965 feet N.-W.'ly along the center line of Pacific Electric R.R. from the intersection with the center line of Bixby Road (Proj.) and thence 289' S.-W.'ly at right angles.
The elevation of the derrick floor above sea level will be determined later (Approx. 58').
We estimate that the first productive oil or gas sand should be encountered at a depth of about 53,88 / U.S.G.S. (Correction letter 1-18-38)

PROPOSAL:
"We propose to use the following strings of casing, either cementing or landing them as herein indicated:
<table>
<thead>
<tr>
<th>Size of Casing</th>
<th>Weight</th>
<th>Grade and Type</th>
<th>Depth</th>
<th>Landed or Cemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-3/8</td>
<td>46#</td>
<td>New</td>
<td>700</td>
<td>Cemented</td>
</tr>
<tr>
<td>8-5/8</td>
<td>36#</td>
<td>New</td>
<td>4000</td>
<td>Cemented</td>
</tr>
<tr>
<td>6-5/8 liner</td>
<td>26#</td>
<td>New</td>
<td>4400</td>
<td>Cemented</td>
</tr>
</tbody>
</table>

The 6-5/8" liner to be a combination splice liner to be cemented through perforations at the base of the "JK" shale.
Well is to be drilled with rotary tools.
It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing."

DECISION:

THE PROPOSAL IS APPROVED PROVIDED THAT:
1. (a) Mud fluid of not less than 70 lb. per cubic foot shall be used in the drilling of the well and the column of mud fluid shall be maintained at all times to the surface, particularly while pulling the drill pipe.
(b) Adequate blow-out prevention equipment shall be provided and ready for operation at all times.
2. Any hole to be sidetracked at any time during the drilling of this well shall be completely filled with cement.
3. The formations to be left back of the 8-5/8" casing shall be mudded in a manner consistent with good drilling practice.
4. This division shall be notified to examine cores and/or electrical log before running the 8-5/8" casing.
5. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
(a) The cementing of the 13-3/8" surface casing.
(b) A test of the effectiveness of the 8-5/8" shut-off.
(c) A test after drilling out the cement to within 50' of the cementing point to demonstrate that no fluid has access to the well between the 8-5/8" and 6-5/8" casings.

R. D. BUSH
State Oil and Gas Supervisor

By ______________________________ Deputy

cc: H. E. Winter
Long Beach
WJO:GKH
DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well
This notice must be given and surety bond filed before drilling begins 037-06415

General Exploration Co.
Santa Fe Springs, Calif. Dec. 20, 1937

DIVISION OF OIL AND GAS

Los Angeles, Calif.

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of drilling well No. "Oil Operators" 4, Sec. 13, T.4-S, R. 13-W, S.B. B & M., Long Beach Field, Los Angeles County.

Lease consists of N-Wly along the center line of Pacific Electric L. & R. from the intersection with the centerline of Sixty Road (Proj.) The well is 965 feet N-Wly, and 50 feet E. or W. from and Chance 265 E-Wly at right angles (approx. 54°). The elevation of the derrick floor above sea level is 53.88' U.S.G.S. (Correction letter 1-12-38)

We estimate that the first productive oil or gas sand should be encountered at a depth of about 700 feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

<table>
<thead>
<tr>
<th>Size of Casing, Inches</th>
<th>Weight, Lb. Per Foot</th>
<th>Grade and Type</th>
<th>Depth</th>
<th>Landed or Cemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-3/8</td>
<td>46#</td>
<td>New</td>
<td>700</td>
<td>Cemented</td>
</tr>
<tr>
<td>8-5/8</td>
<td>36#</td>
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<td>4000</td>
<td>Cemented</td>
</tr>
<tr>
<td>6-5/8 liner</td>
<td>26#</td>
<td>New</td>
<td>4400</td>
<td>Cemented</td>
</tr>
</tbody>
</table>

The 6-5/8" liner to be a combination splice liner to be cemented through perforations at the base of the "JK" shale.

Well is to be drilled with rotary tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

Address: Santa Fe Springs

Telephone number: Whittier 426-87

By: Henry Elliott

District/Engineer

ADDRESS NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED
Mr Mark Pender  
C.R.G. Properties, LTD (C0250)  
149 S. Barrington Ave. #804  
Los Angeles, CA 90049

Your report of abandonment of well “Nwlbu” 8-4, A.P.I. No. 037-06415, Section 13, T. 04S, R. 13W, SB B.&M., Long Beach field, Los Angeles County, dated 2/9/2014, received 3/6/2014, has been examined in conjunction with records filed in this office. We have determined that all of the requirements of this Division have been fulfilled relative to plugging and abandonment of the well, removal of well equipment and junk, and filing of well records.


2. Site inspection made and approved on 3/21/2014.

3. This well has been abandoned in compliance with Division permit number 113-0597 issued on 7/19/2013.

Blanket Bond

Steven Bohlen  
State Oil and Gas Supervisor

By  
Daniel J. Dudak, District Deputy
REPORT ON OPERATIONS

Mr Mark Pender
C.R.G. Properties, LTD (C0250)
149 S. Barrington Ave. #804
Los Angeles, CA 90049

Cypress, California
July 13, 2015

Your operations at well "NwIbu" 8-4, A.P.I. No. 037-06415, Sec. 13, T. 04S, R. 13W, SB B.&M., Long Beach field, in Los Angeles County, were witnessed on 2/11/2014, by Michael Okafor, a representative of the supervisor.

The operations were performed for the purpose of plugging and abandonment.

DECISION: APPROVED

NOTE: The required Class II2M blowout prevention equipment was inspected and approved on 1/23/2014.

DEFICIENCIES NOTED AND CORRECTED: None

MO/epm

Steven Bohlen
State Oil and Gas Supervisor

By
For
Darrel J. Dudak, District Deputy
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CEMENTING/PLUGGING MEMO

Operator: C.R.G. Properties
Well No. "Nwlbu" 8-4
API No. 037-06415
Sec. 13
T. 14S
R. 13W
SB B&M
Field: Long Beach, County: Los Angles
Mr. / Ms. Michael N. Okafor, representative of the supervisor, was present from 1000 to 1200.

There were also present

Casing record of well: 18 5/8" cem 50'; 13 3/8 cem 757'; 8 5/8" cem 4005' WSO, drilled thru 3165', cp 2465', pulled fr 220'; 5-1/2" cem 3017'-5924', perf 4375' WSO, perfs 5712'-5776'. TD (present hole) 5925'. Plugged w/cem 5925'-2805', w/245 cf cem below 2217', w/cem 2217'-2117'±, 210'-0'.

The operations were performed for the purpose of: Abandon (1)

☐ The plugging/cementing operations as witnessed and reported are approved.
☐ The location and hardness of the cement plug @ are approved.

Hole size: 17" fr. 50' To 757' 12 1/4" To 4005' & 7 5/8" To 5925'

<table>
<thead>
<tr>
<th>Casing</th>
<th>Cemented</th>
<th>Top of Fill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Wt.</td>
<td>Top Bottom</td>
</tr>
<tr>
<td>5-1/2&quot;</td>
<td>15.5#</td>
<td>3017' 5924'</td>
</tr>
<tr>
<td>8-5/8&quot;</td>
<td>32/36#</td>
<td>0 4005'</td>
</tr>
</tbody>
</table>


Junk (in hole):

Hole fluid (bailed to) at Witnessed by

<table>
<thead>
<tr>
<th>Mudding</th>
<th>Date</th>
<th>bbls</th>
<th>Displaced</th>
<th>Poured</th>
<th>Fill</th>
<th>Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>80/30</td>
<td>1/28/14</td>
<td>25</td>
<td>2805'</td>
<td>2400</td>
<td>5875'</td>
<td>C.L. Cullum</td>
</tr>
<tr>
<td>72/30</td>
<td>1/30/14</td>
<td>120</td>
<td>2117'</td>
<td>100</td>
<td>5875'</td>
<td>J. Collender</td>
</tr>
</tbody>
</table>

Note: BOPI Class II M 1/23/14 CLC c/o 5875'

<table>
<thead>
<tr>
<th>Cement Plugs</th>
<th>Placing</th>
<th>Placing Witnessed</th>
<th>Top Witnessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Sx/cf</td>
<td>MO &amp; Depth</td>
<td>Time</td>
</tr>
<tr>
<td>1/27/2014</td>
<td>446 cf</td>
<td>T@ 5875'</td>
<td>1000</td>
</tr>
<tr>
<td>1/29/2014</td>
<td>245 cf</td>
<td>T@ 2475'</td>
<td>0800</td>
</tr>
<tr>
<td>1/30/2014</td>
<td>34 cf</td>
<td>T@ 2217'</td>
<td>1100</td>
</tr>
<tr>
<td>2/3/2014</td>
<td>225 cf</td>
<td>T@ 210'</td>
<td>1100</td>
</tr>
<tr>
<td>2/10/2014</td>
<td>23 cf</td>
<td>T@ 20'</td>
<td>1530</td>
</tr>
</tbody>
</table>

OGD10 (957) Printed on recycled paper.
CONTRACTOR: allenco

UNCORRECTABLE DEFICIENCIES: None

DEFICIENCIES NOTED AND CORRECTED: None
## DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

### CHECK LIST – RECORDS RECEIVED AND WELL STATUS

**Company:** C.R.G. Properties, LTD  
**API#:** 037-06415  
**County:** Los Angeles  
**Well:** NWLBU 8-4  
Sec. 13, T. 4S, R. 13W. S. B. B. & M.  
**Field:** Long Beach

<table>
<thead>
<tr>
<th>RECORDS RECEIVED</th>
<th>DATE</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Summary (Form OG100)</td>
<td>3/6/2014 (2)</td>
<td></td>
</tr>
<tr>
<td>History (Form OG103)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Record (Form OG101)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directional Survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewell Samples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date final records received.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Logs:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WELL TYPE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
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<tr>
<td>Gas</td>
<td></td>
</tr>
<tr>
<td>Water Source</td>
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<tr>
<td>Observation</td>
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<tr>
<td>Exploratory</td>
<td></td>
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<tr>
<td>Dry Hole</td>
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<td>Waterflood</td>
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<tr>
<td>Water Disposal</td>
<td></td>
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<tr>
<td>Cyclic Steam</td>
<td></td>
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<tr>
<td>Steam Flood</td>
<td></td>
</tr>
<tr>
<td>Fire Flood</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**EFFECTIVE DATE:** 2-12-14  
**REMARKS:**

### ENGINEERS CHECK LIST

- Summary, History & Core Record (Dupl.)
- Electric Log
- Operator's Name
- Signature
- Well Designation
- Location
- Elevation
- Notices
- "T" Reports
- Casing Record
- Plugs
- Directional Survey
- Production/Injection (FAP Codes: 4120300)
- Well on Prod., enter EDP
- Surface Inspection Required: 3/21/14 AB 0C
- Surface inspection Waived (Island): 3/21/14 AB 0C
- Well site restoration deferred (common cellar)
- Final Letter Required: AB: ☑ REAB: ☐
- Other:

**FIELD CHECK LIST**

- Date Surface Inspection Completed: 3/21/14 AB 0C
- Other:

### CLERICAL CHECK LIST

- Location change
- Elevation change
- Form OGD121
- Form OGD150b (Release of Bond)
- Duplicate logs to archives
- Notice of Records Due
- EDP
- District Date Base
- Final Letter (OG159)
- Update Center

**RECORDS NOT APPROVED**

(Reason:)

**RECORDS APPROVED**

(Signature)

RELEASE BOND

Date Eligible

(Use date last needed records received.)

MAP AND MAP BOOK

OGD2 1/16/14 CYPRESS
History of Oil or Gas Well

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment, with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, killing tests, and initial production data.

01-23-14 M.I.R.U. - Installed and tested BOPE - Witnessed by C. Cullum w/DOGGR - Secured Well

01-24-14 R.I.H. W/5 1/2" Scraper on 2 7/8" Tubing tagged fill at 5850' - Circ. with water w/returns of oily water and gas - P.O.H. - Witnessed by E. Tabor w/DOGGR - Secured well

01-27-14 R.I.H.W/Tbg. Tagged at 5875' - Mixed and pumped 446 cu/ft. (391 sxs) class G cement Witnessed by Z. Amilhussin w/DOGGR - Secured well.

01-28-14 R.I.H. Tagged cement at 2805' - Pumped 25 bbls. 73# mud Prs. Tested casing at 500 psi good - P.O.H. R.I.H. W/ 8 5/8" scraper to 2800' - P.O.H. - R.I.H. W/CBL - Perforated from 2475' to 2465' - P.O.H. Witnessed by C. Cullum w/DOGGR - Secured well

01-29-14 R.I.H. w/tbg.tail at 2475' mixed and pumped 245 cu/ft.(215 sxs) class G cement - Squeezed away 134 cu/ft. prs. At 1000 psi. - Witnessed by Z. Amilhussin w/ DOGGR - secured well

01-30-14 R.I.H. Tagged cement at 2217' = 67' low - Pumped 120 bbls. 73# mud - prs. Tested csg. 500# good - mixed and pumped 34 cu/ft.(30 sxs) class G cement - P.O.H. - R.I.H. Cut 8 5/8" at 220' Witnessed by J. Collender w/DOGGR - secured well

01-31-14 Removed B.O.P.E. Pulled 220' of 8 5/8" casing - Witnessed by Z. Amilhussin w/DOGGR - secured well

02-03-14 R.I.H. W/tbg. Tail at 210' mixed and pumped 225 cu/ft.(197 sxs) class G cement - cement to surface - P.O.H. Witnessed by C. Collum w/DOGGR - R.D.M.O.

02-10-14 Dug down around well and cut casing 5' below surface - Topped off surface plug w/ 23 cu/ft.(20xs) class G cement Witnessed by P. Kaufman w/DOGGR - Secured well

02-12-14 Z. Amilhussin w/DOGGR witnessed surface tag and welding of I.D. Plate - Backfilled well location - Job complete.
OPERATION: Testing (Inspecting) the blowout prevention equipment and installation. Critical well? Y ☑ N ☐

DECISION: The blowout prevention equipment and its installation on the 8 5/8 casing are approved.

### CASING RECORD OF BOPE ANCHOR STRING

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight(s)</th>
<th>Grade(s)</th>
<th>Shoe at</th>
<th>CP at</th>
</tr>
</thead>
<tbody>
<tr>
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### BOP STACK

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### ACTUATING SYSTEM

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<thead>
<tr>
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<td>Accum. Manufacturer</td>
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<td>Capacity</td>
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<td>Precharge</td>
<td>psi</td>
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<tr>
<td>Fill-up Line</td>
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</tr>
<tr>
<td>Kill Line</td>
<td></td>
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<tr>
<td>Control Valve(s)</td>
<td></td>
</tr>
<tr>
<td>Check Valve(s)</td>
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<tr>
<td>Aux. Pump Cnct.</td>
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<tr>
<td>Choke Line</td>
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<tr>
<td>Control Valve(s)</td>
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<tr>
<td>Pressure Gauge</td>
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<tr>
<td>Adjastble Choke(s)</td>
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<tr>
<td>Bleed Line</td>
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<td>Upper Kelly Cock</td>
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<tr>
<td>Lower Kelly Cock</td>
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<tr>
<td>Standpipe Valve</td>
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<tr>
<td>Standpipe Pres. Gau.</td>
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<tr>
<td>Pipe Safety Valve</td>
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### AUXILIARY EQUIPMENT

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<th>Size (in.)</th>
<th>Rated Press</th>
<th>Weld</th>
<th>Flange</th>
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<td>Standpipe Pres. Gau.</td>
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### HOLE FLUID MONITORING EQUIPMENT

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<td>Pit Level Indicator</td>
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<td>Pump Stroke Counter</td>
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<tr>
<td>Pit Level Recorder</td>
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<td>Flow Sensor</td>
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<td>Mud Totalizer</td>
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<td>Calibrated Trip Tank</td>
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<td>Other</td>
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**Remarks and Deficiencies:** Two of the valves on the kill line need handles.
Mr Mark Pender, Agent
C.R.G. Properties, LTD (C0250)
149 S. Barrington Ave. #804
Los Angeles, CA 90049

Your proposal to Abandon well "NWLB" 8-4, A.P.I. No. 037-06415, Section 13, T. 04S, R. 13W, SB B. & M., Long Beach field, Northwest Extension area, Brown pool, Los Angeles County, dated 7/10/2013, received 7/10/2013 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:
1. Blowout prevention equipment, as defined by this Division’s publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
   a. Class III M, with hydraulic controls, during abandonment operations.
   b. A 3M lubricator for wireline operations.
2. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
3. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
4. All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu.ft and a minimum gel shear strength of 25 lbs/100 sq. ft.
5. The proposed cement plug from 3878' to 3480' shall extend from 3878' to at least 2817'.
6. Prior to shooting any perforations braidedhead squeezes, a pressure test of the 3-5/8" casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a retainer or pecker is required for squeeze operations.
7. The well location shall be surveyed prior to burying the well, and the survey shall be filed with this office. Latitude and longitude shall be in decimal degrees, to six decimal places, in NAD83.
8. All casing must be removed from between 5' and 10' below ground level.
9. Well site restoration shall be completed within 60 days following the completion of plugging operations.
10. No program changes are made without prior Division approval.
11. THIS DIVISION SHALL BE NOTIFIED TO:
   a. Inspect the installed blowout prevention equipment prior to commencing downhole operations.

(Continued on page 2)

No Bond Required Bond
cc: Update
    EDP
    AllenCo.
    DOGGR - Dist. 1 (Cypress)

Tim Kustic
State Oil and Gas Supervisor

Curran Moser
Office (714) 816-6847

By For: Daniel J. Dudak, District Deputy

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator’s responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

OG111 (revised 8/2011)
Page 1 of 2
b. Witness the clean-out depth at 5878'.
c. Witness the placing, location and hardness of the cement plug from 5878' to 2817'.
d. Witness the mudding operations.
e. Witness a pressure test of the 8-5/8" casing.
f. Witness the cement squeeze through the perforations at 2465' or through a retainer or packer (if casing integrity is not demonstrated).
g. Witness the placing, location and hardness of the cement plug from 2475' to 2150'.
h. Witness the cement squeeze through the perforations at 200' through a retainer or packer (if casing integrity is not demonstrated).
i. Witness the placing, location and hardness of the cement plug from 210' to surface', including all annular spaces.
j. Inspect the restored well site.

NOTE:
1. Upon completion of the proposed work, a History of Oil or Gas Well (form OG103) shall be submitted to this office.
2. The well abandonment history (History of Oil or Gas Well - form OG103), must include a description of the removal or abandonment of the well flowline and any associated piping.
3. Hydrogen sulfide gas (H₂S) is known to be present in this area, adequate safety precautions shall be taken prior to and during well operations.
4. The operator shall isolate the following zones:
   a. Base of the Freshwater Sand at 2250'.
   b. Top of the Upper Gas Zone at 2475'.
   c. Top of the Wilbur Zone at 3680'.
   d. Top of the Alamitos Zone at 3882'.
   e. Top of the Brown Zone at 4400'.
Failure to achieve adequate zonal isolation may have negative impacts on current and future operations. In addition, failure to achieve adequate zonal isolation will also be noted on the Report of Operations (OG 109).
Mr Mark Pender, Agent
C.R.G. Properties, LTD (C0250)
149 S. Barrington Ave. #804
Los Angeles, CA 90049

Your proposal to Abandon well "NWLBU" 8-4, A.P.I. No. 037-06415, Section 13, T. 04S, R. 13W, SB B. & M., Long Beach field, Northwest Extension area, Brown pool, Los Angeles County, dated 7/10/2013, received 7/10/2013 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:
1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
   a. Class II3M, with hydraulic controls, during abandonment operations.
   b. A 3M lubricator for wireline operations.
2. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
3. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
4. All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu.ft and a minimum gel shear strength of 25 lbs./100 sq. ft.
5. The proposed cement plug from 5878' to 3480' shall extend from 5878' to at least 2317'.
6. Prior to shooting any perforations braidenhead squeezes, a pressure test of the 8-5/8" casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a retainer or packer is required for squeeze operations.
7. The well location shall be surveyed prior to burying the well, and the survey shall be filed with this office. Latitude and longitude shall be in decimal degrees, to six decimal places, in NAD83.
8. All casing must be removed from between 5' and 10' below ground level.
9. Well site restoration shall be completed within 60 days following the completion of plugging operations.
10. No program changes are made without prior Division approval.
11. THIS DIVISION SHALL BE NOTIFIED TO:
   a. Inspect the installed blowout prevention equipment prior to commencing downhole operations.

(Continued on page 2)

No Bond Required Bond
cc: Update
    EDP
    AlienCo.
    DGGR — Dist. 1 (Cypress)

Engineer Ellen Plaza Moser
Office (714) 816-6647

EPM/epm

Tim Kustic
State Oil and Gas Supervisor

By [Signature]
For: Daniel J. Dudak, District Deputy

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.
b. Witness the clean-out depth at 5878'.
c. Witness the placing, location and hardness of the cement plug from 5878' to 2817'.
d. Witness the mudding operations.
e. Witness a pressure test of the 8-5/8” casing.
f. Witness the cement squeeze through the perforations at 2465' or through a retainer or packer (if casing integrity is not demonstrated).
g. Witness the placing, location and hardness of the cement plug from 2475' to 2150'.
h. Witness the cement squeeze through the perforations at 200' through a retainer or packer (if casing integrity is not demonstrated).
i. Witness the placing, location and hardness of the cement plug from 210' to surface’, including all annular spaces.
j. Inspect the restored well site.

NOTE:
1. Upon completion of the proposed work, a History of Oil or Gas Well (form OG103) shall be submitted to this office.
2. The well abandonment history (History of Oil or Gas Well - form OG103), must include a description of the removal or abandonment of the well flowline and any associated piping.
3. Hydrogen sulfide gas (H₂S) is known to be present in this area, adequate safety precautions shall be taken prior to and during well operations.
4. The operator shall isolate the following zones:
   a. Base of the Freshwater Sand at 2250'.
   b. Top of the Upper Gas Zone at 2475'.
   c. Top of the Wilbur Zone at 3660'.
   d. Top of the Alamitos Zone at 3882'.
   e. Top of the Brown Zone at 4400'.
Failure to achieve adequate zonal isolation may have negative impacts on current and future operations. In addition, failure to achieve adequate zonal isolation will also be noted on the Report of Operations (OG 109).
Mr. Mark Pender, Agent
C.R.G. Properties, LTD (C0250)
149 S. Barrington Ave. #804
Los Angeles, CA 90049

Your proposal to Abandon well "Nwlbu" 6-4, A.P.I. No. 037-06415, Section 13, T 04S, R. 13W, SB B. & M., Long Beach field, Northwest Extension area, Brown pool, Los Angeles County, dated 7/10/2013, received 7/10/2013 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
   a. Class II3M, hydraulic controls during abandonment operations.
   b. A 3M lubricator for wireline operations.
2. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
3. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
4. All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu.ft and a minimum gel shear strength of 25 lbs./100 sq. ft.
5. Prior to shooting any perforations, braidedhead squeezer, a pressure test of the 8-5/8" casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a retainer or packer is required for squeeze operations.
6. The well location shall be surveyed prior to burying the well, and the survey shall be filed with this office.
7. Latitude and longitude shall be in decimal degrees, to six decimal places, in NAD83.
8. All casing must be removed from between 5' and 10' below ground level.
9. Well site restoration shall be completed within 60 days following the completion of plugging operations.
10. THIS DIVISION SHALL BE NOTIFIED TO:
   a. Inspect the installed blowout prevention equipment prior to commencing downhole operations.
   b. Witness the clean-out depth at 5676'.

(Continued on page 2)

No Bond Required Bond
cc: Update
EDP
AllenCo
DOG3R – Dist. 1 (Cypress)

Engineer: Ellen Plaza Moser
Office (714) 816-8847

EPM/epm

Tim Kustic
State Oil and Gas Supervisor

By MAC
For: Daniel J. Dudak, District Deputy

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

OG111 (revised 6/2011)
c. Witness the placing, location and hardness of the cement plug from 5678' to 3480'.
d. Witness the mudding operations.
e. Witness a pressure test of the 8-5/8" casing.
f. Witness the cement squeeze through the perforations at 2465' or through a retainer or packer (if casing integrity is not demonstrated).
g. Witness the placing, location and hardness of the cement plug from 2475' to 2150'.
h. Witness the cement squeeze through the perforations at 200' through a retainer or packer (if casing integrity is not demonstrated).
i. Witness the placing, location and hardness of the cement plug from 210' to surface', including all annular spaces.
j. Inspect the restored well site.

NOTE:
1. Upon completion of the proposed work, a History of Oil or Gas Well (form OG103) shall be submitted to this office.
2. The well abandonment history (History of Oil or Gas Well - form OG103), must include a description of the removal or abandonment of the well flowline and any associated piping.
3. Hydrogen sulfide gas (H₂S) is known to be present in this area, adequate safety precautions shall be taken prior to and during well operations.
4. The operator shall isolate the following zones:
   a. Base of the Freshwater Sand at 2250'.
   b. Top of the Upper Gas Zone at 2475'.
   c. Top of the Wilbur Zone at 3680'.
   d. Top of the Alamitos Zone at 3882'.
   e. Top of the Brown Zone at 4400'.
Failure to achieve adequate zonal isolation may have negative impacts on current and future operations. In addition, failure to achieve adequate zonal isolation will also be noted on the Report of Operations (OG 109).
NOTICE OF INTENTION TO ABANDON / RE-ABANDON WELL

In compliance with Section 3229, Division 3, Public Resources Code, notice is hereby given that it is our intention to abandon ☒ / re-abandon ☐ well "Nwfiu" 0-4, API No. 037-06415, Sec. 13, T. 4s, R. 13w, S.B., B&M, Long Beach Field, Los Angeles County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

See Attachment

The total depth is: 5925 feet. The effective depth is: 5878 feet.

Present completion zone(s): see attachment. Present zone pressure: N/A psi.

Oil or gas shows: see attachment feet. Depth to base of fresh water: 2250 feet.

Top of uppermost hydrocarbon zone (which may be behind unperforated casing): see attachment feet.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes ☒ No ☐

The proposed work is as follows: (A complete program is preferred and may be attached.)

See Attachment

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator
C.R.G. Properties, Ltd

Address
2109 GUNDRY AVE.

City/State
SIGNAL HILL

Zip Code
90755

Name of Person Filing Notice
MICK BEYER

Telephone Number:
562 989-6100

Signature
M. B.

Date
07-10-13

Individual to contact for technical questions:
MICK BEYER

Telephone Number:
310 505-9787

E-Mail Address:
Mbeyer@allancoca.com

This notice must be filed, and approval given, before plugging and abandonment operations begin. If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

OG108 (1/09)

[Stamp: JUL 10 2013]

[Stamp: to Edna 7/13]
CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
   (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
   (B) Any airport runway.

(2) 100 feet of the following:
   (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
   (B) Any navigable body of water or watercourse perennially covered by water;
   (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
   (D) Any officially recognized wildlife preserve.

This form may be printed from the DOGGR website at www.conservation.ca.gov/dogr/
EXHIBIT A – Attachment II (continued)
WELL CONDITIONS AND ABANDONMENT SPECIFICATIONS

C.R.G. Properties, Ltd.  Well “Nwilbu” 8-4 (037-06415), Sec.13, Twn. 4S, Rge. 13W, S.B. B&M, Long Beach Oil Field

According to Division records, the present condition of the well is as follows:
1. Location: See map Exhibit A - Attachment II
2. Accessibility:
3. Status: Idle deserted
4. Total Depth: 5925', Effective Depth: 5878'. Elevation of Kelly Bushing (KB) above sea level: 60'.
5. Casing: 18-5/8" casing cemented 50', 13-3/8" 36# casing cemented 75' with estimated top of cement behind pipe at 124' +/-; 8-5/8" cemented 400' with estimated top of cement behind pipe at 2880', WSO: 5-1/2" cemented 3017'-5925', perfs. 4375' WSO, 5712'-5730', 5734'-5754', 5761'-5776'.
6. Tubing: Unknown
7. Base of Fresh Water (BFW): 2250'
8. Producing Zone(s): Brown
9. Hole Fluid: Unknown
10. Junk: Unknown
11. Plugs: 5878' to 5925',
12. Comments: Top of Brown zone 4400', top of Alamitos zone 3882', top of Wilbur zone 3680', and top of Upper Gas zone 2475'.

The following operations are necessary to plug and abandon the well:

1. A Notice of Intention to Abandon (form OG 108) is to be filed with this Division at least 10 days prior to commencing work. Work is not to begin until a Permit to Conduct Well Operations (Form OG 111) has been issued. All well operations are to be witnessed by a representative of this Division as directed in the Permit to Conduct Well Operations.

2. The abandonment contractor will review job safety programs (JSP) with all crewmembers prior to work startup and/or if conditions change. Monitor well for any leaking gas. Position gas monitors and ventilation fans, if warranted before moving in any other equipment or personnel.

3. Adequate blowout prevention equipment, as defined in Division's publication No. M07, shall be installed and maintained in operating condition at all times. The minimum requirements are:
   a. A 3M rod Reagan or equivalent BOPE for pulling rods and pump operations.
   b. A Class IIIM, with hydraulic controls, during abandonment operations.
   c. A 3M lubricator for wire line operations.

4. All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu.ft and a minimum gel shear strength of 25 lbs. /100 sq. ft. All cement plugs are to have a minimum compressive strength of 1000 psi and maximum liquid permeability of 0.1 md. All depths noted are from the KB.

5. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.

6. Kill well. Install and function test rod Reagan or equivalent BOPE. Pull out of the hole with rods and pump.
EXHIBIT A – Attachment II (continued)
WELL CONDITIONS AND ABANDONMENT SPECIFICATIONS

7. Remove rod Reagan. Install and function test Class II3M BOPE (function test BOPE each day thereafter).

8. Pull out all production tubing.

9. Use appropriate combination tools to clean out to 5878'.

10. Run in scraper. Scrape the 8-5/8” and 5 1/2” casings.

11. Run in hole with tubing (if tag high, clean out fill to 5878').

12. The well shall be plugged with cement from 5878' to 3480'

13. Prior to shooting any perforations for braidenhead squeezes, a pressure test of the casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a packer is required for squeeze operations.

14. The 8-5/8” casing shall be perforated from 2475 to 2465’. Get an injection rate or a breakdown.

15. Sufficient cement shall be squeezed into the perforations to fill to 2150’ outside the 8-5/8’ casing.

16. The well shall be plugged with cement from 2475’ to 2150’.

17. The 8-5/8” casing shall be cut and pulled from 210’.

18. The 13” casing shall be perforated from 210' to 200'. Sufficient cement shall be squeezed into the perforations to fill to surface.

19. The well shall be plugged with cement from 210' to surface.

20. All casing must be removed from between 5' and 10' below ground level.

21. A steel plate, at least as thick as the outer well casing and bearing the last five digits of the API number, shall be tack welded around the top of the outer casing.

22. Cellar, production pads and pipelines shall be removed and the resulting excavations filled with earth and compacted properly to prevent settling.

23. Remaining buried pipelines that cannot be removed shall be purged with clean water. Abandon line by pumping approved cement slurry mixture, weld steel cap on both ends of the line and bury.

24. All equipment, casing, or junk that requires removal to implement restoration to lawful conditions shall be removed and properly disposed of in accordance with environmental laws and in accordance with instructions from the Division of Oil and Gas. All liquid wastes shall be removed and properly disposed.

25. A well History (Form OG 103) shall be filed in duplicate with the Division within 60 days of completing the work and must include a description of the removal or abandonment of the well flow line and any associated piping.
STATE OF CALIFORNIA
NATURAL RESOURCES AGENCY
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

REVISED

FORMAL ORDER TO:
PLUG AND ABANDON WELLS &
RESTORE LEASE CONDITIONS

NO. 1032
Dated: October 18, 2012
Operator: C.R.G. Properties, Ltd. (C0250)

BY
Tim Kustic
STATE OIL AND GAS SUPERVISOR

ORDER NO. 1032
Order to Plug and Abandon Wells & Restore Lease Conditions
DEPARTMENT OF CONSERVATION
Legal Office
801 K Street
Sacramento, California
Telephone (916) 323-6733
Facsimile (916) 445-9916

STATE OF CALIFORNIA
NATURAL RESOURCES AGENCY
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOThERMAl RESOURCES

FORMAL ORDER TO:
PLUG AND ABANDON WELLS &
RESTORE LEASE CONDITIONS

NO. 1032
Dated: October 17, 2012
Operator: C.R.G. Properties, Ltd. (C0250)

BY
Tim Kustic
STATE OIL AND GAS SUPERVISOR

ORDER NO. 1032
Order to Plug and Abandon Wells & Restore Lease Conditions
See Sheet 1

WINDOR MILLED 3163-7164 FOR 5, 7. (see sheet 3)

T.O. C: 3144 (4 1/2)
T.O.C. 3645 (6 5)

CEM 3696-4634 100 5x
6/15/67

C/E 2001x (2100x)
5371

RD 1 - Rework (sleeping 1/10 5, 7)
BFW 2250'
UFP GAS (A) 2475'
OIL 3680'
ALAMITAS LOWER 3882'
BROWN 4406'

T.O.L. 3017 (6/20/67)

PIPS: 5712 - 5776 6/23/67
6/20/67 CEM 5790F 5925
Float collar plug at 5878 6/22/67

RDZ
# REPORT OF PROPERTY AND WELL TRANSFER

**Field or County:** Long Beach  
**District:** District 1 (Cypress, California)  
**Former owner:** Pacific Energy Res.  
**Date:** July 26, 2000

<table>
<thead>
<tr>
<th>Well Name</th>
<th>API Number</th>
<th>Section Township Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Nwibu&quot; 5-2</td>
<td>037-00397</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 5-3</td>
<td>037-09796</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 5-4</td>
<td>037-09787</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 8-3</td>
<td>037-06496</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td><strong>&quot;Nwibu&quot; 8-4</strong></td>
<td><strong>037-06415</strong></td>
<td><strong>Sec. 13-4S-13W</strong></td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 8-7</td>
<td>037-22512</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 9-2</td>
<td>037-13525</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 9-3</td>
<td>037-09791</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 9-4</td>
<td>037-00392</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 9-5</td>
<td>037-00142</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwibu&quot; 9-6</td>
<td>037-00393</td>
<td>Sec. 13-4S-13W</td>
</tr>
</tbody>
</table>

Description of the land upon which the well (s) is (are) located:
See above

<table>
<thead>
<tr>
<th>Date of transfer</th>
<th>New owner</th>
<th>Type of organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 9, 2000</td>
<td>C.R.G. Properties, Ltd. C0250</td>
<td>Corp./Ltd.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(310) 808-9071</td>
</tr>
</tbody>
</table>

Reported by OG34A received 6/2/2000 signed by both parties
Confirmed by Same as above

New operator new status: PA  
Designation of Agent: Mark Pender

Old operator new status: PA  
Remarks: See operator file for C.R.G. Properties, Ltd. for details

## OPERATOR STATUS ABBREVIATIONS

<table>
<thead>
<tr>
<th>Status</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA - Producing Active</td>
<td>PA</td>
</tr>
<tr>
<td>NPA - No potential, Active</td>
<td>NPA</td>
</tr>
<tr>
<td>NPI - No potential, Inactive</td>
<td>NPI</td>
</tr>
<tr>
<td>Abandoned or No More Wells</td>
<td>Ab</td>
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</tbody>
</table>

## FORM AND RECORD CHECK LIST

<table>
<thead>
<tr>
<th>Record Type</th>
<th>Form or Record</th>
<th>Initials</th>
<th>Date</th>
<th>Form or Record</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Records</td>
<td>OGD 121</td>
<td>N/A</td>
<td>7/27/2000</td>
<td>Bond Status</td>
<td>7/20/2000</td>
<td></td>
</tr>
<tr>
<td>Log Records</td>
<td>OGD 121</td>
<td>N/A</td>
<td>7/21/2000</td>
<td>EDP</td>
<td>7/21/2000</td>
<td></td>
</tr>
</tbody>
</table>
WELL TRANSFER NOTICE

EFFEC MAY 9, 1994, PETRO RESOURCES, INC.
TRANS LONG BEACH NWLBU WELLS
TO PACIFIC ENERGY CORP.
SEE OGD156 DATED 5-13-94
REPORT OF PROPERTY AND WELL TRANSFER

Field or county | District
---|---
Long Beach | 1

Former owner | Name and location of well(s) | Date
---|---|---

NWLBU 5-1 (037-09795) | NWLBU 8-1 (037-09792) | NWLBU 9-3 (037-09791)
NWLBU 5-2 (037-00397) | NWLBU 8-2 (037-09793) | NWLBU 9-4 (037-00392)
NWLBU 5-3 (037-09796) | NWLBU 8-3 (037-06496) | NWLBU 9-5 (037-00142)
NWLBU 5-4 (037-09797) | NWLBU 8-4 (037-06415) | NWLBU 9-6 (037-00393)
NWLBU 6-1 (037-09788) | NWLBU 8-7 (037-22512) | 
NWLBU 6-2 (037-09789) | NWLBU 9-2 (037-13525) | 

Description of the land upon which the well(s) is (are) located:

Date of transfer, sale, assignment, conveyance, or exchange | New owner | Type of organization
---|---|---
May 1, 1983 | Petro Resources, Inc. | Corp.

Address
4200 Easton Drive, Suite 16
Bakersfield, CA 94309

Telephone No.
805/323-4118

Reported by Letter from Sun Exploration & Production Co. dated 5-16-83.


New operator new status (status abbreviation) | Request designation of agent
---|---
PA | Joe D. Rose, same address.

Old operator new status (status abbreviation) | Remarks
---|---
PA | 

Deputy Supervisor | Signature
---|---
V. F. Gaede | 

FORM AND RECORD CHECK LIST

<table>
<thead>
<tr>
<th>Form or record</th>
<th>Initials</th>
<th>Date</th>
<th>Form or record</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map and book</td>
<td></td>
<td></td>
<td>Notice to be cancelled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bond status</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New well cards</td>
<td>CP 1-1-83</td>
<td></td>
<td>Well records Update</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric logs</td>
<td>CP 1-7-83</td>
<td></td>
<td>Production reports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conservation Committee</td>
<td></td>
<td></td>
<td>L. A. Assessors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OPERATOR STATUS ABBREVIATIONS

PA - Producing Active
NPA - No Potential, Active
PI - Potential Inactive
NP1 - No Potential, Inactive
Ab - Abandoned or No More Wells
Name change from Sun Oil Co. to SUN EXPLORATION & PRODUCTION CO.
1-1-82, Form 156 dated 1-21-82. See ownership file.
STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Long Beach, California
Oct. 4, 1979

Mr. L. B. Carroll, Jr., Agent
Sun Oil Co.,
23928 Lyons Ave.
Newhall, CA 91321

DEAR SIR:

Your request dated March 19, 1979, relative to change in designation of well(s) in Sec. 13, T. 4S, R. 13W, S.B.B. & M., Long Beach field, Los Angeles County, District No. 1, has been received; and in accordance with Section 3203, Public Resources Code, reading in part as follows:

"* * * The number or designation by which any well heretofore drilled has been known, and the number or designation specified for any well in a notice filed as required by Section 3203, shall not be changed without first obtaining a written consent of the Supervisor."

the proposed change in designation is hereby authorized as follows:

<table>
<thead>
<tr>
<th>Old Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Oil Operators&quot;</td>
</tr>
<tr>
<td>&quot;Pool&quot;</td>
</tr>
<tr>
<td>&quot;Amebco&quot;</td>
</tr>
<tr>
<td>&quot;Flood Control&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>API</th>
<th>New Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>037-09792</td>
<td>NWLB 8-1</td>
</tr>
<tr>
<td>037-09793</td>
<td>NWLB 8-2</td>
</tr>
<tr>
<td>037-06496</td>
<td>NWLB 8-3</td>
</tr>
<tr>
<td>037-06415</td>
<td>NWLB 8-4</td>
</tr>
<tr>
<td>037-09795</td>
<td>NWLB 5-1</td>
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<tr>
<td>037-00397</td>
<td>NWLB 5-2</td>
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<tr>
<td>037-09786</td>
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<tr>
<td>037-09797</td>
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<tr>
<td>037-09788</td>
<td>NWLB 6-1</td>
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<tr>
<td>037-09789</td>
<td>NWLB 6-2</td>
</tr>
<tr>
<td>037-13525</td>
<td>NWLB 9-2</td>
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<tr>
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<tr>
<td>037-00392</td>
<td>NWLB 9-4</td>
</tr>
<tr>
<td>037-00142</td>
<td>NWLB 9-5</td>
</tr>
<tr>
<td>037-00393</td>
<td>NWLB 9-6</td>
</tr>
</tbody>
</table>

RWS: sc

cc: Update Center
    EDP
    Conservation Committee

By

M. G. Mefford
State Oil and Gas Supervisor

John L. Matthews, Jr.
Acting Deputy Superintendent

R. A. Ybarra
# REPORT OF PROPERTY AND WELL TRANSFER

**Field or county:** Long Beach  
**Former owner:** General Exploration Co.  
**District:** 1  
**Date:** February 15, 1979

<table>
<thead>
<tr>
<th>Sec. 11-4S-13W</th>
<th>Sec. 13-4S-13W</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Dominguez&quot; 2-10 (037-11859)</td>
<td>&quot;Flood Control&quot; 6 (037-00393)</td>
</tr>
<tr>
<td>&quot;Amecbo&quot; 1 (037-09788)</td>
<td>&quot;Oil Operators&quot; 1 (037-09792)</td>
</tr>
<tr>
<td>&quot;Amecbo&quot; 2 (037-09789)</td>
<td>&quot;Oil Operators&quot; 2 (037-09793)</td>
</tr>
<tr>
<td>&quot;Flood Control&quot; 2 (037-13525)</td>
<td>&quot;Oil Operators&quot; 3 (037-06496)</td>
</tr>
<tr>
<td>&quot;Flood Control&quot; 3 (037-09791)</td>
<td>&quot;Oil Operators&quot; 4 (037-06415)</td>
</tr>
<tr>
<td>&quot;Flood Control&quot; 4 (037-00392)</td>
<td>&quot;Pool&quot; 1 (037-09795)</td>
</tr>
<tr>
<td>&quot;Flood Control&quot; 5 (037-00142)</td>
<td>&quot;Pool&quot; 2 (037-00397)</td>
</tr>
</tbody>
</table>

**Description of the land upon which the well(s) is (are) located:**

<table>
<thead>
<tr>
<th>Sec. 14-4S-13W</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Dominguez&quot; 1 (037-11858)</td>
<td></td>
</tr>
</tbody>
</table>

**Date of transfer, sale, assignment, conveyance, or exchange:** Dec. 1, 1978  
**New owner:** Sun Oil Company  
**Address:** 23928 Lyons Avenue, Newhall, CA 91321

**Reported by:** Former operator

**Confirmed by:** New operator

**New operator new status (status abbreviation):** PA  
**Old operator new status (status abbreviation):** AB

**Remarks:**

**OPERATOR STATUS ABBREVIATIONS:**

- **PA:** Producing Active
- **NPA:** No Potential, Active
- **FI:** Potential Inactive
- **NPI:** No Potential, Inactive
- **Ab:** Abandoned, or Not in Use
- **An:** Abandoned, or Not in Use
- **Ac:** Active
- **Elec:** Electric logs
- **Pro:** Production records

**FORM AND RECORD CHECK LIST:**

<table>
<thead>
<tr>
<th>Form or record</th>
<th>Initials</th>
<th>Date</th>
<th>Form or record</th>
<th>Initials</th>
<th>Date</th>
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<tbody>
<tr>
<td>OGD121</td>
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<td>OGD48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Made out book&quot;</td>
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<td>&quot;2-16-79&quot;</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Deputy Supervisor:**

**Signature:** Ernest Brink

**Telephone No:**

**Conservation Committee update Center:**

**OGD15 or OGD20:**

**OGD15 or OGD20:**
**WORK PERFORMED:**
- Drill
- Redrill
- Deepen
- Plug
- Alter casing
- Water flood
- Water disposal
- Abandon
- Other

**STATUS:**
- Producing
- Recomp. prod.
- Water flood
- Water disposal
- Abandoned
- Other

**MAP AND BOOK:** NC

**RECORDS FILED & DATE:** Clerk

- Summary (dup.)
- Log & Core (dup.)
- History (dup.) 10/4/67
- E-log (2) 3/19-5/30 2/6/67
- Radio log
- D. Survey
- Other

\(\checkmark\) Surface inspection

\(\checkmark\) Data needed None

**RECORDS & REQUIREMENTS CHECKED:** Eng.

- Request records
- Correct records
- (Specify)

**CARDS:** NC

#1410633 dated 6-1-67

**BOND:**

- Hold
- Reason
- Release
- Date elig. 10-4-67

End premium year

Release requested
- Bond superseded
- Well abandoned

**FINAL LETTER**

and

**FILE CLEARED**

F-150b

F-159

F-121

**OTHER:**
- If production reports not received, make notation and inform Sr. Steno. when rec'd.
- If stimulation or disposal well:
  - Form 121
  - Folder
  - Form 19-A
DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR: General Exploration Company
FIELD: Long Beach

Well No.: "Oil Operators" 4, Sec. 13, T. 4 S., R. 13 W., S.B.B. & M.

Date: September 11, 1967
Signed: R. S. Ballantyne, Jr.

417 S. Hill St., Los Angeles 628-2156
Title: Vice President

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date
1967
8/8
Flowed 50 bbl. net 26.2° oil, 0.2% cut, 40-55#/pk.
8/9
Moved in Blackwell & Sunde production rig. Opened bypass on packer and filled hole with salt water. Pulled tubing and packer (laid down 53 joints of 2-7/8" tubing). Go-Western jet perforated four 1/2" holes per foot as follows: 4612-4560', 4489-4449', and 4435-4395'.
8/10
Ran 127 joints of 2-7/8" Armco seal lock tubing with pump shoe and gas anchor 3960' and 3990', respectively. Ran rods and put well on pump. (Production not separated from other wells until 9/5)
8/12
45 bbl. net.
8/14
50 bbl. net.
9/5
36 bbl. net, 24,1°, 0.5%.
9/12
32 bbl. net, 24°, 0.5%.
9/13
Moved in Blackwell & Sunde production rig. Ran 100 bbl. salt water into annulus. Installed BOPE. Pulled rods and tubing. Go Western found sticky bottom at 5845' and jet perforated four 1/2" holes per foot from 4805-4760'. Ran 139 joints of Armco 2-7/8" seal lock tubing with pump shoe and gas anchor at 4335' and 4365', respectively. Put well on pump.
9/14
56 bbl. gross, 38 bbl. net, 32.2%.
9/17
53 bbl. gross, 47 bbl. net, 11.3%.
9/26
67 bbl. gross, 66 bbl. net, 1.5%, 24.7°.

CASING RECORD AT COMPLETION OF WORK:
(Depths from present KB of 60') T.D. 5925'.
13-3/8' C 763'
8-5/8' C 3163'

Sidetracked:
8-5/8' C 4011', top 3194'. Plug 3194' (and open hole up to 3165')
(6-5/8' L 4414' incl. 60' pfs, C 4350, top 3849', Perfs 4011-4034', 4076-4136'. Reperf 4354-4403', cemented off behind 4-3/4'.)
4-3/4' & 6-5/8' Perf 4146-4231'

DIVISION OF OIL AND GAS
RECEIVED
OCT 4 1967
INGLEWOOD, CALIFORNIA
History of Oil or Gas Well

Operator: General Exploration Company of Calif.
Field: Long Beach

Well No.: "Oil Operators" 4, Sec. 13, T. 4 S., R. 13 W., S.B.B. & M.

Date: July 3, 1967

417 S. Hill St., Los Angeles 628-2156

Title: Vice President

Note: Depth measurements taken from present K.B. elevation of 60' which is 6' higher than original datum. Ground elevation is 48'.

1967

6/6-7
Moved in, rigged up drilling equipment, installed base flange and B.O.P.(Graham Drilling Company).

6/8
Ran 7-5/8" bit on 3-1/2" drill pipe, located top of 4-3/4" liner at 3804' and filled hole with mud. Ran 940' stinger of 2-3/8" tubing on drill pipe and circulated from 4550' to solid fill at 4650'. Laid 100-sack class C cement plug from 4634'. Ran 7-5/8" bit and found cement at 3696' (witnessed by D.O.G.). Tested 8-5/8" casing and B.O.P. satisfactorily at 10500' for 15 minutes.

6/9-10
Ran two Yann mills and cut section in 8-5/8" casing from 3163' to 3168'. Ran two Servco mills and cut section to 3194'. Opened interval 3163'-3194' to 12-3/4". Ran 310' stinger of 2-7/8" tubing on drill pipe to 3260' and laid 80 sacks of class G cement (including 20% sand) treated with 0.5% CFR-2. Pulled tubing to 2720', backscutted, squeezed cement with 1100# and pressure dropping to 950# in 5 minutes. Ran 7-5/8" bit and 8-5/8" casing scraper, found cement at 2992' and drilled out to 3165'. Drilled 7-5/8" hole to 3296' with DynaDrill.

6/12-16
Drilled 7-5/8" hole to 4845' using a Dyna Drill from 4299'-4463'. Ran Schlumberger X.E.S. from 4844' to 3163'.

6/16-19
Drilled 7-5/8" hole to 5900'. Ran Schlumberger X.E.S. from 5900' to 4844' and C.D.M. from 5900' to 4000'.

6/20
Drilled 7-5/8" hole to 5925' (T.D.). Ran 2907' (including Burna liner hanger), 68 joints, 5-1/2", 15.5#, J-55 casing on drill pipe. Cemented at 5924' with 579 C.F. of 1:1 class G cement poumix with 2% gel and 0.5% CFR-2 and 12% mix water. Backscutted small amount of cement from inside top of 5-1/2" liner. Ran 7-5/8" bit and 8-5/8" casing scraper to top of liner at 3017'.

6/21
Pressure tested casing at 1000# and lap took Fluid. Ran Baker shoe squeeze tool on drill pipe and set at 2925'. Squeezed 52 sacks of 75 sacks class G cement mixed into lap at 3017' with a final pressure of 2000#. Ran 7-5/8" bit and 8-5/8" casing scraper, found top of cement at 2940' and drilled out to 3017'.

6/22
Ran 4-3/4" bit and 5-1/2" casing scraper on 2940' of 2-7/8" Armco (seal Lok) tubing below drill pipe. Cleaned out cement to 3037' and ran to float collar at 5878'. Satisfactorily pressure tested lap with 1000#. Ran Johnston tester and set packer at 2992' with tail to 3008'. Open 63 minutes. Recovered 10' of drilling fluid.

Charts showed tester open. W.S.O. on lap approved by D.O.G. Ran Go-Western cement bond log from 5878' to 3900' and perforated four 1/2" jet holes at 4375'. Ran Johnston tester and set packer at 4342' with tail to 4358'. Open 1 hour. Recovered 45' of drilling fluid. Charts showed tester open. W.S.O. at 4375' approved by D.O.G.

6/23
Ran open end tubing to 5874'. Changed over to 68# salt water. Laid down drill pipe. Ran Go-Western 4" steel carrier and jet perforated four 1/2" holes per foot as follows: 5776'-5761', 5754'-5734' and 5730'-5712'. Ran Guiberson packer on 179 joints of 2-7/8" Armco (seal Lok) tubing and set at 5615'. Landed tubing with 16,000# on packer.
History of Oil or Gas Well

Operator: General Exploration Company of Calif.
Field: Long Beach

Well No.: "Oil Operators" 4, Sec. 13, T. 4 S, R. 13 W, S.B.B. & M.

Date: July 3, 1967
Signed: R. S. Ballantyne, Jr.

Address: 417 S. Hill St., Los Angeles
Telephone Number: 628-2156
Title: Vice President

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date

6/24
Removed B.O.F.E. Installed surface equipment. Swabbed well into production at 10:00 A.M. Flowed 74 bbl. net/20 hrs., 81 B.D rate, 27.2°, 0.1%, 65 Mcf/D, 20-230#/pkr. 22/64" beam.

6/25
80 bbl. net, 27.0°, 0.1%, 65 Mcf, 20-160#/pkr., 22/64".

6/26
82 bbl. net, 27.2°, 0.1%, 58 Mcf, 20-150#/pkr., 22/64".

6/27
80 bbl. net, 27.2°, 0.2%, 63 Mcf, 20-170#/pkr., 22/64".

Casing Record at Completion of Work:
(Depths from present KB of 60') T.D. 5925'.
13-3/8" C 763'
8-5/8" C 3163'
5-1/2" C 5924, top 3017' (splice OK). Perfs. 4375' (WSD), 5712-5730', 5734-5734', 5761-5776'. Plug 5878'.

Sidetracked:
8-5/8" C 4011', top 3194'. Plug 3194' (and open hole up to 3165')
(6-5/8" L 4414' incl. 60' pfs, C 4350, top 3849', Perfs 4011-4034', 4076-4136', Reperf 4354-4405', cemented off behind 4-3/4'.)
4-3/4" @ 6-5/8" Perf 4146-4231'.
Mr. C. G. Willis
417 So. Hill Street
Los Angeles, California 90013

Inglewood, Calif.
June 28, 1967

Agent for GENERAL EXPLORATION CO. OF CALIF.

Dear Sirs:

(307-06415)

Your well No. "Oil Operators" 4, Sec. 13, T. 4 S., R. 13 W., S.E. B & M. Long Beach Field, in Los Angeles County, was tested for water shut-off on June 22, 1967. Mr. R. Johnson, Engineer, designated by the supervisor was present from 8:00 p.m. to 9:00 p.m. as prescribed by law; there were also present R. Willis, Engineer

Shut-off data: 5½ in. 15.5 lb. casing was cemented from 3017' to 5925 ft. on June 20, 1967 in 7-5/8 in. hole with 579 cu. ft. of cement slurry (1:1 pozmix, 7% gel) filling behind casing to 3017 ft. below surface.

Casing record of well: 18-5/8" cem. 50'; 13-3/8" cem. 757'; 8-5/8" cem. 4005', window 3163' - 3194' sidetracked @ 3165'; 5-1/2" cem. 3017' - 5925', perf. 4358' WSO, TD 1st hole 5379'.

Present depth 5925 ft. cmt. bridge 5925 ft. to 5880 ft. Cleaned out cmt. ---- ft. to ---- ft. for test. A Johnston tester was run into the hole on 3½ & 2-7/8 in. drill pipe with ---- ft. of water-mud cushion, and packer set at 4342 ft. with tailpiece to 4358 ft. Tester valve, with 3/4 in. bean, was open for 1 hr. and ---- min. During this interval there was a light blow for 2 minutes & no blow thereafter.

Mr. Willis reported that the 5-1/2" casing was jet-perforated with four, 3/8" holes at 4358'.

THE ENGINEER NOTED:
1. When the drill pipe was removed, 45' of drilling fluid was found above the tester.
2. The pressure charts indicated the tester tool functioned properly.

THE 5-1/2" SHUT-OFF AT 4358' IS APPROVED.

RJtw

cc Company

E. R. MURRAY-AARON
State Oil and Gas Supervisor

By /s/ C. Bailey Deputy
Special Report on Operations Witnessed

No. T 167-575

Mr. C. G. Willis
417 So. Hill Street
Los Angeles, California 90013

Inglewood, Calif.
June 28, 1967

Agent for
GENERAL EXPLORATION CO. OF CALIF.

DEAR SIR:

Operations at well No. "Oil Operators" 4, Sec. 13, T. 4 S, R. 13 W, S.B. B & M. Long Beach Field, in Los Angeles County, were witnessed on June 22, 1967, Mr. S. Cordova, Engineer, representative of the supervisor was present from 11:30 a.m. to 12:15 p.m. There were also present R. Willis, Engineer & C. D. Martin, Drilling Foreman.

Present condition of well: 18-5/8" cement 50'; 13-3/8" cement 757'; 8-5/8" cement 4005' window 3163' - 3194', sidetracked @ 3165'; 5-1/2" cement 3017' - 5925'. TD 5925'. TD 1st hole 5379'.

The operations were performed for the purpose of demonstrating the effectiveness of the seal between the 8-5/8" and 5-1/2" casings.

Mr. Willis reported:

1. A window was milled in the 8-5/8" casing from 3163' to 3194' and the hole was opened to 13' in that interval.
2. On June 10, 1967, 80 sacks of cement mixed with 20% sand was pumped into the hole through 3-1/2" drill pipe hanging at 3260'.
3. Cement was drilled out of the hole from 2992' to 3165'.
4. A 7-5/8" hole was redrilled from 3165' to 5925'.
5. On June 20, 1967, 2908' of 5-1/2", 15.5 lb. casing was cemented from 3017' to 5925' with 579 cubic feet of cement slurry (1:1 portland, 2% gel), filling behind the 5-1/2" casing to 3017'.
6. Excess cement was backcutted from above the 5-1/2" casing.
7. On June 21, 1967, the annulus between the 8-5/8" and 5-1/2" casings was recemented with 75 sacks of cement of which 50 sacks was squeezed away under a final pressure of 2000 psi.
8. The hole was cleaned out to the float collar at 5880'.
9. A Johnston tester was run into the hole on 3-1/2" drill pipe, and packer set at 2993', with tailpiece to 3008'.
10. The tester valve with 3/4" bean was open for 1 hr. During this interval there was a light blow for 3 minutes and no blow thereafter.

THE ENGINEER NOTED:
1. When the drill pipe was removed, 10' of drilling fluid was found above the tester.
2. The pressure charts indicated the tester tool functioned properly.

THE OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED and indicate that no fluid has access to the well from the annulus between the 8-5/8" and 5-1/2" casings.

SC: uw

cc Company

E. R. MURRAY-AARON
State Oil and Gas Supervisor

By
Deputy
Special Report on Operations Witnessed

Mr. C. G. Willis
417 So. Hill Street
Los Angeles, California 90013

July 14, 1967

Inglewood, Calif.

Agent for GENERAL EXPLORATION CO. OF CALIF.

DEAR SIR:

Operations at well No. "Oil Operators" 4, Sec. 13, T. 4 S, R. 13 W S.B. B & M. Long Beach Field, in Los Angeles County, were witnessed on June 8, 1967. Mr. M. Mefferd, Engineer, representative of the supervisor was present from 9:30 a.m. to 10:30 p.m. There were also present C. Martin, Drilling Foreman & L. Saxton, Driller.

Present condition of well: 18-5/8" cem. 50'; 13-3/8" cem. 757'; 3-5/8" cem. 4005', WSD; 6-5/8" Id. 3843'-4408', cp 4344', perf. 4005'-4028', 4070'-4130', & 4140'-4225'; 4-3/4" cem. 3804'-5376', perfs. 4140'-4225', 4488'-4528', 4565'-4591', 4630'-4670', 4805'-4835', 4850'-4920', 5113'-5158', 5168'-5235', & 5280'-5350', TD 5379', plugged w/cem. 5376'-5361' & 4634'-3696'.

The operations were performed for the purpose of testing the location and hardness of a cement plug placed from 4634' to 3696' in the process of plugging back to redrill.

Mr. Martin reported:
1. The hole was cleaned out to solid fill at 4650'.
2. On June 8, 1967, 100 sacks of cement was pumped into the hole through 2-3/8" tubing hanging at 4634', filling to 3696'.

THE ENGINEER NOTED THAT the cement plug at the reported depth of 3696' supported 1/4 of the weight of the drill pipe.

THE LOCATION AND HARDNESS OF THE CEMENT PLUG AT 3696' ARE APPROVED.

cc Company

E. R. MURRAY-AARON
State Oil and Gas Supervisor

By [Signature]
Deputy
Mr. C. G. Willis
417 So. Hill Street
Los Angeles, California 90013

Inglewood, Calif.
June 6, 1967

Agent for GENERAL EXPLORATION CO. OF CALIF.

Dear Sir:

Your proposal to redrill Well No. "OIl Operators" 4,
Section 13, T. 4 S., R. 13 W., S.B. B. & M., Long Beach Field, Los Angeles County,
dated June 2, 1967, received June 2, 1967, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS IN ADDITION TO, OR AT VARIANCE WITH, THOSE SHOWN IN THE NOTICE.
Plugged w/cem. 5376' - 5361'.

THE NOTICE STATES
"The present condition of the well is as follows:
1. Total depth. 5379'
2. Complete casing record, including plugs:
   13-3/8" C 757', 8-5/8" C 4005' OK
   4-3/4" C 5376', top 3804', Pfs. 4488-4528', 4565-4591', 4630-4670', 4805-4835',
   4850-4920', 5113-5158', 5168-5235' and 5280-5350'.
   Pl. 5365'. Sand bridge 4690'.
   (6-5/8" L 4408' incl. 60' pfs. C 4344', top 3843', Pf 4005-4028', 4070-4130';
    Repf 4348-4399', cemented off behind 4-3/4').
   4-3/4" & 6-5/8" PF 4140-4225'.
3. Last produced 10/14/64

PROPOSAL
"The proposed work is as follows:
1. Move in drilling equipment, install B.O.P.E. and fill hole with mud.
2. Lay cement plug from top of sand at approximately 4650' back to 3700'
   (top 4-3/4" liner at 3804'). Locate top of plug. Pressure test 8-5/8" casing
   and B.O.P.E. with 1000#.
3. Mill out 30-foot section of 8-5/8" casing near 3100', underream the window to 13",
   lay cement plug from 100' below section back above top of window and level off
   plug 5' into section.
4. Sidetrack cased hole through section and drill 7-5/8" hole to approximately 4800'.
5. Run and cement 5-1/2" liner, effect W.S.O. at lap of 8-5/8" casing and above pro-
   ductive horizon.
6. Complete well."

DECISION
THE PROPOSAL IS APPROVED PROVIDED:
1. Fluid consistent with good drilling practice shall be used, and the column of fluid
   maintained at all times to the surface, particularly while pulling the drill pipe.
2. Adequate blowout prevention equipment shall be installed and maintained in operating
   condition at all times.
3. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
   a. The location and hardness of the cement plug at 3700'.
   b. A test, after cleaning out below the top of the liner to demonstrate that no fluid
      has access to the well from the
      annulus between the 8-5/8" and 5-1/2"
      casings.
   c. A test of the effectiveness of the 5½ shut-off. MLI:uw Bond No. 1410633, 6/1/67

E. R. MURRAY-AARON, State Oil and Gas Supervisor
Deputy Dated
BLANKET BOND
DIVISION OF OIL AND GAS

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only


INGLEWOOD, CALIFORNIA

DIVISION OF OIL AND GAS

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at Well No. "Oil Operators" 4

(Cross out unnecessary words)

Sec. 13, T. 4S, R. 13W, S.B.B. & M.
Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 5379'

2. Complete casing record, including plugs:

13-3/8" C 757'
8-5/8" C 4005' OK
Pl. 5365'. Sand bridge 4650'.
(6-5/8" L 4408' incl. 60' pfs. C 4344', top 3843', P 4005-4028', 4070-4130'; Repf 4348-4399', cemented off behind 4-3/4'.)
4-3/4" & 6-5/8" P 4140-4225'.

3. Last produced. 10/14/64

The proposed work is as follows:

1. Move in drilling equipment, install B.O.P.E. and fill hole with mud.
2. Lay cement plug from top of sand at approximately 4650' back to 3700' (top 4-3/4" liner at 3804'). Locate top of plug. Pressure test 8-5/8" casing and B.O.P.E. with 1000#.
3. Mill out 30-foot section of 8-5/8" casing near 3100',underream the window to 13", lay cement plug from 100' below section back above top of window and level off plug 5' into section.
4. Siderack cased hole through section and drill 7-5/8" hole to approximately 4800'.
5. Run and cement 5-1/2" liner, effect W.S.O. at lap of 8-5/8" casing and above productive horizon.
6. Complete well.

417 S. Hill St., Los Angeles 90013

GENERAL EXPLORATION COMPANY OF CALIFORNIA

(Address) 628-2156

By: R. S. Ballantyne, Vice President

(Name of Operator)

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED.

7-4-67 8-2-67 10-0-67 6-1-67
REPORT OF PROPERTY AND WELL TRANSFER

Field or County: Long Beach
Former Owner: Union Oil Co. of California
Description of Property: Sec. 13, T. 4 S., R. 13 W., S. 1/2, E. 1/2

List of Wells: "Oil Operators" 1, "Oil Operators" 2, "Oil Operators" 3 and "Oil Operators" 4. (All other wells are inactive)

Date of Transfer: January 1, 1961
New Owner: General Exploration Co. of California
Address: 730 Subway Terminal Building, 417 South Hill Street, Los Angeles 13, Calif.

Type of Organization: Corporation
Reported by: Union Oil Co. of California (Letter of January 6, 1961)
Confirmed by: General Exploration Co. of California (Letter of January 11, 1961)
New Operator New Status: PA
Old Operator New Status: PA

Remarks:

ab
CC: Mr. D. H. Hammer
Prod. Dept.
Conservation Committee

[Signature]
Deputy Supervisor

LEGEND
PA—Producing Active
NPA—Non Potential Active
PI—Potential Inactive
NPI—Non Potential Inactive
Ab—Abandoned or No More Wells
Nc—No Change If Transfer Does Not Change Overall Status

Form 121
New Well Cards
Well Records
Electric Logs
Production Reports
Map and Book
Form 148
Notice to be cancelled

INITIALS

DATE
Form 10

Date Received: 11-6-59

CLERK

RECEIPT FOR

Form 100 101 103 New Well Records

Elec. Log Radio Log Subsequent Work

Direct. Surv. Other Data

Location

Well Summary

Drillers Log

Core Record

Elevation Clerk

History

Prod. Repts. Clerk

Other

Completed-Producing On 8-27-59

ABANDONED ON

ENGINEER

BOND Blanket Release Date Elig. 15Ob

End Prem. year Release Requested Superseded:

Aband. Redrill

HOLD BOND Reason Deepen

Plug

Data Needed Alter Csg.

Final Letter Eng. Abandon
**REPAIR REPORT**

**WELL NO.** Oil Operators #4

**FIELD** Long Beach

**COUNTY** Los Angeles

**SEC.** 13, T. 4 S, R. 13 W, S.B. & M.

**DATE** August 27, 1959

**REMARKS**

**CHARGE:** Work for 55900 Job 528

**PROPOSED WORK:** Add perforations in the Alamitos Zone.

**PRODUCTION BEFORE REPAIR:** Idle

**ZERO POINT FOR THIS JOB:** 8.5' above pad.

**CASING RECORD AT START OF WORK:**

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<td>4850-4920'</td>
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<td>5280-5350'</td>
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<td>(565' 6.5/8&quot; L 4408' incl. 60' p.f.)</td>
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<td>6.5/8&quot;</td>
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<td>3.1/4&quot;</td>
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**CASING RECORD AT COMPLETION OF WORK:**

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<td>6.5/8&quot;</td>
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<tr>
<td>3.1/4&quot;</td>
<td>4348-4399'</td>
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Perforated 4-3/4" and 6-5/8" liners from 4225-4140' with two 1/2" jet holes per foot and two 1/2" bullets per foot. Fluid level (mod) rose from 3600' at start to 1400' at end. Light blow while shooting. Ran in with 2-7/8" Cavins sand pump and bailed at 5331'. Started running tubing.

Kan in and landed tubing with gas anchor at 4200'. Ran rods and pump, but well on production. Contractor moved out.

**NAMES OF DRILLERS/HEAD WELL PULLERS:**

Terminal Drilling Co. - Contractor

**DISTRICT ENGINEER:**

[Signature]
**Production Data**

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Well down due to bad leak in oil line.

**Names of Drillers/Head Well Pullers:**

[Signature]

**District Engineer:**

[Signature]
Mr. C. F. Bowden
P. O. Box 7690
Los Angeles 54, California
Agent for UNION OIL COMPANY OF CALIFORNIA

Inglewood 3, Calif.
September 1, 1959

DEAR SIR:

Your proposal to alter casing, Well No. "Oil Operators" 4,

Section 13, T. 4 S., R. 13 W., S.B. B. & M., Long Beach Field, Los Angeles County,
dated August 25, 1959, received August 28, 1959 has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS IN ADDITION TO, OR AT VARIANCE WITH, THOSE SHOWN IN THE NOTICE.
18-5/8" cement. 50' - 8-5/8" cement 4005', W.S.O. - 6-5/8" perf. 4348'-4408', plugged with cement 5376'-5361'.

THE NOTICE STATES
"The present condition of the well is as follows:
1. Total depth. 5379'
   Plug 5361'
2. Complete casing record.
   13-3/8" C 757'
   8-5/8" C 4005' OK
   4348-4399' -----Cemented off behind 4-3/4".
   1572' 4-3/4" C 5376', plug 5361'; Pf 4488-4525, 4565-4591, 4630-4670,
   4805-4835, 4830-4920, 5113-5235, 5280-5350'.
3. Last produced. January, 1958 (Date) 2 (Net Oil) 21.1 (Gravity) 75.0% (Cut)"

PROPOSAL
"The proposed work is as follows:
1. Pull rods and tubing. Install blow-out preventer equipment.
2. Check condition of casing.
3. Bullet and jet perforate 4-3/4" and 6-5/8" casings with four holes per foot from 4140-4225'.
4. Run tubing, pump and rods.
5. Test well on production."

DECISION
THE PROPOSAL IS APPROVED.

FY:

cc- Mr. Vaughn S. Moyer

E. H. MUSSER, State Oil and Gas Supervisor

By

Deputy
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Santa Fe Springs  Calif.  August 25, 1959

DIVISION OF OIL AND GAS

Inglewood  Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at Well No. Oil Operators #4

Sec. 13  T. 4-S  R. 13-W  S.B. B. & M.

Long Beach  Field,  Los Angeles  County.

The present condition of the well is as follows:

1. Total depth  5379'
   Plug  5361'

2. Complete casing record.
   13-3/8' C 757'
   8-5/8' C 4005' OK
   565' 6-5/8' L 4408' inc. 60' perf.; CP 4344'; Pf. 4005-4028, 4070-4130, 4348-4399' ---- Cemented off behind 4-3/4'.
   1572' 4-3/4' C 5376', plug 5361'; Pf 4488-4525, 4565-4591, 4630-4670, 4805-4835, 4830-4820, 5113-5235, 5280-5350'.

3. Last produced.

   January, 1958  2  21.1  75.0%
   (Date)  (Net Oil)  (Gravity)  (Cst)

The proposed work is as follows:

1. Pull rods and tubing. Install blow-out preventer equipment.
2. Check condition of casing.
3. Bullet and jet perforate 4-3/4" and 6-5/8" casings with four holes per foot from 4140-4225'.
4. Run tubing, pump and rods.
5. Test well on production.

Union Oil Co. of Calif.

(Name of Operator)

By  

Address one copy of Notice to Division of Oil and Gas in District where well is located.
**Proposed Work:** Perforate interval from 4605' to 4835' with two 3/8" holes per foot.

**Production:** 7 B/D net = 18.7% - 21.5%

California Production Service - Contractors, moved in and pulled rods, pump and tubing. Ran 2-7/8" Cavins sand pump bailer to 5350'.

Cleaned out with ditto bailer to 5360'. Ran 2-3/4" impression block to 5130'. Indicated rough perforation holes. Ran 3-1/2" impression block to 5360', O.K. Ran in and shot 4-3/4" casing at intervals from 4630-4670', 4805-4835' with 1/0 1/2" McCullough bullets, using 3-1/2" o.d. x 10' (20-shot) gun. Checked top of 4-3/4" casing at 3802'. Fluid level at start 3990'. Fluid level at finish 3520'. Evidence of fine sand and mud on guns and sand line during shooting from 4630-4670'. Light gas blow during entire period of shooting.

**Production Data**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Gross</th>
<th>Net</th>
<th>Cut</th>
<th>Cray</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>28</td>
<td>26</td>
<td>8.0</td>
<td>21.5</td>
<td></td>
</tr>
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<td>18</td>
<td>10.0</td>
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<td>6</td>
<td>6</td>
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</tr>
</tbody>
</table>
## REPAIR REPORT

### Portable Hoist - Contract

**Tools:**

**Field:** Long Beach  
**County:** Los Angeles  
**Sec:** 4  
**T:** 3  
**R:** 1  
**S.B.:** 13

**Date Ending:** Dec. 9, 1948

### NO. TOUS Date  Depth  Effective Depth  REMARKS

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<th>Effective Depth</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>11-26 to 11-29</td>
<td>5379</td>
<td>5361</td>
<td>Plugs 5361</td>
</tr>
<tr>
<td>1</td>
<td>11-25</td>
<td>5379</td>
<td>5379</td>
<td>Plugged 5379</td>
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<tr>
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<td>5379</td>
<td>Plugged 5379</td>
</tr>
<tr>
<td>2</td>
<td>11-23</td>
<td>5379</td>
<td>5379</td>
<td>Plugged 5379</td>
</tr>
</tbody>
</table>

- **Proposed Work:** Perforate interval from 4561' to 4591' with two 1/2" holes per foot. Test on the pump.
- **Production:** 6 B/D net - 11.4% cut

- **Pulled rods, pump and tubing:** Made up 2-5/8" Cavins sand. Pump boiler.

- **Checked bottom with bailer at 5360':** Gun perforated 4-3/4" casing from 4588-4528', 4555-4591' with 132' McCullough 1/2" bullets using 3-1/2" o.d. x 20 shot gun (120 grain loads). Had strong gas blow after shooting first gun. Blow continued throughout shooting. Unable to check fluid level with gun. Guns contained some sand. Casing pressure 225# while shooting. Used 8.5' above concrete pad as zero measurement.

- **Checked bottom at 5360':** Unable to determine fluid level. Ran tubing, pump and rods. Contractors moved out.

- **Insalled gas trap**

### PRODUCTION DATA

<table>
<thead>
<tr>
<th>Hours</th>
<th>Gross</th>
<th>Net</th>
<th>Cut</th>
<th>Remarks</th>
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</thead>
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<tr>
<td>16</td>
<td></td>
<td>12</td>
<td>11</td>
<td>21.5 Pump change.</td>
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<tr>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>Bailed 5315-5360'</td>
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<td>8</td>
<td>5</td>
<td>40</td>
<td>40.0</td>
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<td>40.0</td>
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<tr>
<td>24</td>
<td>9</td>
<td>5</td>
<td>40</td>
<td>40.0</td>
</tr>
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</table>

### NOTES

- **Names of Drillers/Head Well Pullers:** Calif. Prod. Serv. Contra.

**District Engineer:**

**Received:** Feb 26, 1949  
**Los Angeles, California**
Report on Proposed Operations

Mr. W. S. Eggleston

Los Angeles 15, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to alter casing in Well No. "Oil Operators" 4,

Section 13, T. 4 S., R. 13 W., S.E. B. & M., Long Beach Field, Los Angeles County, dated Sept. 30, 1948, received Oct. 1, 1948, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS: The condition of the well is as stated in the notice.

THE NOTICE STATES:
"The present condition of the well is as follows:

1. Complete casing record.
   Total Depth 5379' - Plug 5365'
   18-5/8" C 50'
   12-5/8" C 757'
   8-5/8" C 4005' O.K.
   5651 6-5/8" L 4408' inc. 60' perf., C.F. 4344' - drilled through bottom.
   (Perf. & cmtd. 4005-4028', 4070-4130', 4070-4130')
   15721 4-3/4" C 5376', perf. 4850-4920', 5113-5158', 5168-5235', 5282-5350'

2. Last produced Aug. 1948
   (Date) 8 B/D Ave. (Net Oil) 21.50' (Gravity) 15.5% (Cut)

PROPOSAL:
"The proposed work is as follows:

1. Add perforations with two 1/2 bullet perforations per foot in the intervals from 4630-4672', 4805-4835'.
2. Test on production."

DECISION:
THE PROPOSAL IS APPROVED.

SHR: OH

cc- John R. Fraser
Long Beach

R. D. BUSH
State Oil and Gas Supervisor
By E. H. Musser

Records Filed
100
101
103 12-2-48
E. Log.

[Handwritten note: Records Filed 2-26-49. Work not proposed.]

Blanket bond.
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given fifteen days before work begins when possible

Whittier, Calif. Sept. 30, 1948

DIVISION OF OIL AND GAS

Los Angeles, Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at well No. Oil Operators #4

Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Complete casing record.
   Total Depth 5379' - Plug 5365'
   18-5/8" C 50'
   13-3/8" C 757'
   8-5/8" G 4005' O.K.
   565' 6-5/8" L 4408' inc. 60' perf., C.P. 4344' - drilled through bottom. (perf. & cmtd. 4005-4028', 4070-4130')
   1572' 4-3/4" G 5376', perf. 4850-4920', 5113-5158', 5168-5235', 5282-5350'

2. Last produced Aug. 1948
   Date
   8 E/D Ave. Net Oil
   21.5' Gravity
   15.2% Cut

The proposed work is as follows:

1. Add perforations with two 1/2" bullet perforations per foot in the intervals from 4630-4672', 4805-4835'.

2. Test on production.
STEINGRAPHER

Forms ed 103
Date Rec'd. 11-14-45
Electric Log Location
Elevation

ENGINEER

Form Needed Map Correction

Form 150b (Date of Release)

At Request of Operator Blanket
Because Abandoned
Because Request by Oper.

Remarks Sub work report of altered casing
**History of Oil or Gas Well**

**Operator:** Union Oil Company of California  **Field:** Long Beach

**Well No.:** Oil Operators 4  **Sec.:** 13  **T.:** 4-3  **R.:** 13-W  **S.B.:** B. & M.  

Signed: [Signature]  

**Date:** November 8, 1945  **Title:** Division Engineer

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, redrilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, redrilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-16</td>
<td>5379</td>
<td>Plug 5361</td>
<td>Pulled rods and tubing. Rigged up to add perforations.</td>
</tr>
<tr>
<td>8-17</td>
<td>C.O.</td>
<td>5361</td>
<td>Cleaned out sand from 5355 to 5361'. Fluid level 4410'.</td>
</tr>
<tr>
<td>8-18</td>
<td></td>
<td></td>
<td>Perforated 4-3/4&quot; casing from 4850 to 4920' with 138 Lane-Wells 1/2&quot; bullets.</td>
</tr>
<tr>
<td>8-22</td>
<td></td>
<td></td>
<td>Ran rods and 2-1/2&quot; upset tubing to 5029' over-all. Put well to pumping.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours</th>
<th>Gross</th>
<th>Net</th>
<th>Grav.</th>
<th>Cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-23</td>
<td>24</td>
<td>16</td>
<td>26.2</td>
<td>13.1</td>
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<tr>
<td>8-24</td>
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<td>16</td>
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<td>13.1</td>
</tr>
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<td>8-29</td>
<td>24</td>
<td>18</td>
<td>26.2</td>
<td>13.1</td>
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<tr>
<td>8-31</td>
<td>24</td>
<td>15</td>
<td>26.2</td>
<td>13.1</td>
</tr>
</tbody>
</table>
Report on Proposed Operations

No. F1-41022
Los Angeles 14, Calif. August 14, 1945

Mr. W. S. Egleston
Los Angeles 14, Calif.
Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to alter casing Well No. Oil Operators 14, Section 13, T. 4 S., R. 13 W., S. B. & M., Long Beach Field, Los Angeles County, dated Aug. 6, 1945, received Aug. 10, 1945, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

Records in addition to, or at variance with those shown in the notice:

The 6-5/8" casing is perforated 4348'-4408', 4130'-4070', and 4028'-4005', (sealed off by 4-3/4" casing).

THE NOTICE STATES:

"The present condition of the well is as follows:

1. Complete casing record.
   Total Depth 5379' Plug 5361'
   13-3/8" Cmtg. 757'
   8-5/8" Cmtg. 4005' OK
   1572' 4-3/4" Cmtg. 5376' Perf. 5113-5158', 5168-5235', 5280-5350'.
   (565' 6-5/8" L 4408' inc. 60' perf. CP 4344' - Drilled through)

Production has not been satisfactory since perforating in August, 1944.

2. Last produced June, 1945
   (Date) 172 (Net Oil) 26.2° (Gravity) 26.2% 29 days (Cut)"

PROPOSAL:

"The proposed work is as follows:

1. Leave present perforations (RS-T) open and add perforations 4850-4920'.
2. Test on production."

DECISION:

THE PROPOSAL IS APPROVED.

ERMA: OH

cc: F. A. W.
    H. E. Winter
    Long Beach

R. D. Bush
State Oil and Gas Supervisor

By E. H. Messer
Deputy

Records Filed
100
101
103
11/14/45
E. Log

Blanket bond No. 99071
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given fifteen days before work begins when possible

Santa Fe Springs, Calif. August 6, 1945

DIVISION OF OIL AND GAS

Los Angeles, Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of altering casing at well No. Oil Operators #4

Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Complete casing record.

   Total Depth 5379'  Plug 5361'
   13-3/8" Cmtd. 737'
   8-5/8" Cmtd. 4005' OK
   1572' 4-3/4" Cmtd. 5376' Perf. 5113-5158', 5168-5235', 5280-5350'.
   (565' 6-5/8" L 4408' inc. 60' perf. CP 4344' – Drilled through)

   Production has not been satisfactory since reperforating in August, 1944.

2. Last produced June, 1945 172 26.2" 26.2% 29 days

   (Date) (Net Oil) (Gravity) (Cut)

The proposed work is as follows:

1. Leave present perforations (R3-T) open and add perforations 4850-4920'.

2. Test on production.

[Diagram of alteration]

MAP Form
MAP Book
CANDS
BOND
114
121

Blanket
99071

UNION OIL COMPANY OF CALIFORNIA

(Name of Operator)

By

Division Engineer

ADDRESS NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED
STENOGRAPHER

Forms Filed: 102

Date Rec'd: 10-4-44

Electric Log: 

Location: 

Elevation:  

ENGINEER

Form Needed: none

Map Correction: none

Form 150b (Date of Release)

At Request of Operator
Because Abandoned
Because Request by Oper.

Remarks: Rec. for Subsequent Work Report
DIVISION OF OIL AND GAS

Subsequent Work Report

Operator: Union Oil Company of California
Field: Long Beach

Well No.: Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated July 18, 1941.

Signed: [Signature]

Date: September 27, 1944
Title: Division Engineer
(President, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

Casing Record at Beginning of Work:
- 13-3/8" C 757'
- 8-5/8" C 4005' O.K.
- 1572' 4-3/4" C 5376' -
- Perfor. and Reperf. 5113-5158', 5168-5175' and 5280-5350'
- (565' 6-5/8" L 4408', inc. 60' Perf.
  (Behind 4-3'/4')
- C.P. 434' - Reperf. 4348-4399')

Casing Record at End of Work:
- 13-3/8" C 757'
- 8-5/8" C 4005' O.K.
- 1572' 4-3/4" C 5376' -
- Perfor. and Reperf. 5113-5158', 5168-5235' and 5280-5350'
- (565' 6-5/8" L 4408', inc. 60' Perf.
  (Behind 4-3'/4')
- C.P. 434' - Reperf. 4348-4399')

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Effective Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-7</td>
<td>5379'</td>
<td>Plug 5361</td>
<td>Moved in and rigged up to reperforate.</td>
</tr>
<tr>
<td>8-12</td>
<td>5379'</td>
<td>C.O. 5360</td>
<td>Cleaned out sand from 5325 to 5360' with 2-7/8&quot; bailer. Fluid level 3561</td>
</tr>
<tr>
<td>8-14</td>
<td>5379'</td>
<td></td>
<td>Perforated and reperforated 4-3/4&quot; casing with 1/2&quot; Lane-Wells gun holes as follows: 5350-5282' with 34 holes, 5235-5168' with 120 holes, and 5158-5113' with 21 holes.</td>
</tr>
<tr>
<td>8-22</td>
<td>5379'</td>
<td>C.O. 5361</td>
<td>Checked top of oil at 3520'; top of water at 5325' and hole open to 5361</td>
</tr>
<tr>
<td>8-25</td>
<td>5379'</td>
<td></td>
<td>Ran rods and 2-1/2&quot; plain and upset tubing to 5329' overall. Put well to pumping.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Hours</th>
<th>Gross</th>
<th>Net</th>
<th>Gravity</th>
<th>Cut</th>
<th>Remarks</th>
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<td>26.2</td>
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</table>
Division of Oil and Gas

Report on Proposed Operations

Los Angeles 14, Calif. July 18, 1944

No. P.1-39835

Mr. W. S. Eggleston

Los Angeles 14, Calif. 12-1

Agent for Union Oil Company of California

Dear Sir,

Your proposal to plug & alter casing well No. "Oil Operators" 4,

Section 13, T. 14 S., R 13 W., S.B. B. & M., Long Beach Field, Los Angeles County,
dated July 15, 1944, received July 17, 1944, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

Records: The condition of the well is as stated in the notice.

The Notice States:

"The present condition of the well is as follows:

1. Complete casing record.
   Total depth 5379 ft. - plug 5361 ft.
   13-3/8" cased 757 ft.
   8-5/8" cased 4005 ft. O.K.
   (565 ft. 6-5/8" landed 4408 ft., inc. 60' perf. C.P. 434 ft. Perf. 4005-4028, 4070-4130' -
   deepened through)
   1572 ft. 4-3/4" cased 5376 ft. - perf. and re-perf. 5113-5158 ft., 5168-5175 ft., 5280-5350 ft.

2. July, 1944 produced 87 (Date) (Net Oil) 26.2 (Gravity) 40.0 - 29 days. (Cut)"

Proposal:

"The proposed work is as follows:

1. Add perforations 5175-5235 ft. and re-perforate present perforations.
2. If wet or no fluid, plug to 5090 ft. and test by Division of Oil and Gas.
3. Perforate 4850-4920 ft. and test. If unsuccessful, test higher.
4. If any test is unsuccessful, plug to 20 ft. above perforations and test by Division of Oil and Gas."

Decision:

The Proposal is Approved.

cc- P. A. W.
H. E. Winter
Long Beach

R. D. Bush
State Oil and Gas Supervisor
By [Signature]

Blanket bond No. 99071
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given fifteen days before work begins when possible

Santa Fe Springs          Calif.       July 15       1944

DIVISION OF OIL AND GAS

Los Angeles                Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at well No. Oil Operators #4

(Sec. 13, T. 4 S, R. 13 W, S.B. B. & M.

Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Complete casing record.
   Total depth 5379' = plug 5361'
   13-3/8" cmt. 757'
   8-5/8" cmt. 4005' O.K.
   (565' 6-5/8" landed 4408', inc. 60' perf. C.s.P. 4344'. Perf. 4005-4028,
   4070-4130' = deepened through)
   1572' 4-3/4" cmt. 5376' = perf. and re-perf. 5113-5158', 5168-5175', 5280-5350'

July, 1944
2.        Produced        87        26.2        40.0 - 29 days.
          (Date)        (Net Oil)        (Gravity)        (Cst)

The proposed work is as follows:

1. Add perforations 5175-5235' and re-perforate present perforations.
2. If wet or no fluid, plug to 5090' and test by Division of Oil and Gas.
3. Perforate 4850-4920' and test. If unsuccessful, test higher.
4. If any test is unsuccessful, plug to 20' above perforations and test by Division of Oil and Gas.

Union Oil Company of California

(Name of Operator)

By
Division Engineer

Address Notice to Division of Oil and Gas in District Where Well is Located
SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Subsequent Work Report

OPERATOR: Union Oil Company of California  
FIELD: Long Beach

Well No.: Oil Operators No. 4  
Sec.: 13  
T.: 4-S  
R.: 13-W  
S.B.: B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-28

was filed.

Date: July 18, 1941

Title: DIVISION ENGINEER

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started; size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailers.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-19</td>
<td>4408</td>
<td>Pulled rods and tubing.</td>
</tr>
<tr>
<td>3-21</td>
<td>4407</td>
<td>Drilled out cement plug.</td>
</tr>
<tr>
<td>3-22</td>
<td>4408</td>
<td>Drilled out lead seal and bottom of liner.</td>
</tr>
<tr>
<td>3-23</td>
<td>4500</td>
<td>Drilled with 5-5/8&quot; bits.</td>
</tr>
<tr>
<td>3-24</td>
<td>4555</td>
<td>Cored with 5-5/8&quot; wire line core barrel.</td>
</tr>
<tr>
<td>3-28</td>
<td>5112</td>
<td>Drilled with 5-5/8&quot; bits.</td>
</tr>
<tr>
<td>4-2</td>
<td>5379</td>
<td>Cored with 5-5/8&quot; core barrel. Ran Schlumberger electric log and inclinometer from 4408' to 5375'. Co-ordinates at 5370', 155'S, 195'E. Underreamed with Grant hydraulic underreamer from 4112' to 5377'.</td>
</tr>
<tr>
<td>4-9</td>
<td>5379</td>
<td>Ran in 1572' 4-3/4&quot; 16#, Grade &quot;C&quot; seamless second-hand liner, including 8-5/8&quot; x 4-3/4&quot; Burns liner hanger and adapter. Landed at 5376' with Baker float shoe on bottom and Baker float collar at 5361'. Cemented with 200 sacks by displacement method.</td>
</tr>
<tr>
<td>4-10</td>
<td>5379</td>
<td>Found top of cement at 3680' and drilled out to 3804' with 7-5/8&quot; bit.</td>
</tr>
</tbody>
</table>
DIVISION OF OIL AND GAS

Subsequent Work Report

Operator: Union Oil Company of California  Field: Long Beach

Well No.: Oil Operators No. 4  Sec.: 12  T.: 4-S  R.: 13-W  S.B.: B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38, was filed.

Signed: [Signature]

Date: July 18, 1941

Title: DIVISION ENGINEER

(President, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-13</td>
<td>5379</td>
<td>Plg. 5361</td>
<td>Drilled out cement with 3-7/8&quot; bit and 4-3/4&quot; casing scraper from 3904' to 3814' and from 5305' to 5361'.</td>
</tr>
<tr>
<td>4-14</td>
<td>5379</td>
<td></td>
<td>Bailed mud with 6-5/8&quot; bailer to 3093' and checked bottom with bailer. After 8 hours no rise in fluid as witnessed by Corwin of Division of Oil &amp; Gas, and casing splice approved.</td>
</tr>
<tr>
<td>4-15</td>
<td></td>
<td></td>
<td>Perforated 4-3/4&quot; casing with Lane-Wells gun, shooting .45 caliber bullets from 5113-5137' with 48 holes, 5280-5322' with 85 holes.</td>
</tr>
<tr>
<td>4-16</td>
<td></td>
<td></td>
<td>Landed 2½ upset tubing at 5167'.</td>
</tr>
<tr>
<td>4-18</td>
<td></td>
<td></td>
<td>Swabbed fluid, ran in pump and rods, installed pumping unit, and put on production.</td>
</tr>
</tbody>
</table>

**PRODUCTION DATA**

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<tr>
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SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Subsequent Work Report

Operator: Union Oil Company of California  
Field: Long Beach

Well No.: Oil Operators #4  
Sec.: 13,  
T.: 4-S,  
R.: 12-W,  
S.B.: B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38, was filed.

Signed: [Signature]

Date: July 18, 1941
Title: DIVISION ENGINEER
(President, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of feet of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
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<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-29</td>
<td>5379</td>
<td>Plg. 5361</td>
<td>Pulled rods and tubing.</td>
</tr>
<tr>
<td>5-1</td>
<td></td>
<td></td>
<td>Bailed and swabbed perforations.</td>
</tr>
<tr>
<td>5-2</td>
<td></td>
<td></td>
<td>Reperforated 4-3/4&quot; liner with Lane-Wells gun, shooting .45 caliber bullets from 511/4' to 5140', with 26 holes. 5280' to 5325', with 45 holes. Ran 2½&quot; tubing to 5290'. Ran in pump and rods. Connected pumping unit. Put on production.</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<td>5-16</td>
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<td>5-18</td>
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<td>3</td>
<td>23.2</td>
<td>2.5</td>
</tr>
</tbody>
</table>

(Run pressure bomb)  
(Pull pressure bomb)
DIVISION OF OIL AND GAS

Subsequent Work Report

Operator: Union Oil Company of California  Field: Long Beach

Well No. Oil Operators #4, Sec. 13, T. 4-S, R. 13-N, S.B. B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38, was filed.

Signed: [Signature]

Date: July 18, 1941  Title: DIVISION ENGINEER

(Program, Secretary or Agent)

Outline in the order of performance, together with the dates thereof, all important operations which affect the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-2</td>
<td>5379</td>
<td>Plg. 5361</td>
<td>Pulled rods and tubing.</td>
</tr>
<tr>
<td>6-4</td>
<td>&quot;</td>
<td></td>
<td>Ran Lane-Wells gun perforator, shooting .45 caliber bullets. Reperforated: 5113-5140', 28 holes; Perforated: 5140-5148', 38 holes; Perforated: 5168-5175', 15 holes; Reperforated: 5280-5325', 46 holes; Perforated: 5325-5350', 50 holes. Fluid level at 1830' by bailer after perforating.</td>
</tr>
<tr>
<td>6-5</td>
<td>&quot;</td>
<td></td>
<td>Ran 2⁴/₈&quot; tubing to 5100'.</td>
</tr>
<tr>
<td>6-6</td>
<td>&quot;</td>
<td></td>
<td>Swabbing through tubing. Well flows by heads part time.</td>
</tr>
</tbody>
</table>

**Production Data**

<table>
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<td>51</td>
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<td>19 (Flowing and swabbing)</td>
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<td>6-8</td>
<td>99</td>
<td>97</td>
<td>26.0</td>
<td>2.4</td>
<td>17 (Ran in rods and put on pump)</td>
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<td>101</td>
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<td>7</td>
<td>26.4</td>
<td>1.8</td>
<td>3 (Pull rods)</td>
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</tbody>
</table>

Perforations washed with Yowell Type "S" washer.

6-27

Ran 2⁴/₈" upset tubing to 5384', ran in rods and pump, and put on production.
**SUBMIT IN DUPLICATE**  
STATE OF CALIFORNIA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS  

---

**Subsequent Work Report**

**Operator**: Union Oil Company of California  
**Field**: Long Beach  
**Well No.**: Oil Operators #4, Sec. 13, T. 4S, R. 13W, S.B. B. & M.

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated 3-21-38, was filed.

**Signed**: Henry E. Winter  
**Date**: July 16, 1941  
**Title**: DIVISION ENGINEER  
*(President, Secretary or Agent)*

Outline in the order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamized, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

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<tr>
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<tr>
<td>1941</td>
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<td>Plg. 5361</td>
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### PRODUCTION DATA

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<td>0 (Pump sanded)</td>
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<td>14.0</td>
<td>13 (Ran tubing, rods &amp; pump)</td>
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<td>7-3</td>
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<td>10.5</td>
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<td>51</td>
<td>26.4</td>
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### MEASUREMENT DATUM

All measurements from top of rotary table which is 18" above top of derrick floor, or 31" above top of cement foundation piers.
STATE OF CALIFORNIA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL AND GAS  

LOG AND CORE RECORD OF OIL OR GAS WELL  

Operator: Union Oil Company of California  
Field: Long Beach  

Well No.: Oil Operators No. 4  
Sec: 13  
T: 4-S  
R: 13-W  
S.B: B & M  

FORMATIONS PENETRATED BY WELL  

<table>
<thead>
<tr>
<th>Depth to</th>
<th>Top of Formation</th>
<th>Bottom of Formation</th>
<th>Thickness</th>
<th>Drilled or Cored</th>
<th>Recovery</th>
<th>Description</th>
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<td>4408</td>
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<td>137</td>
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<td>4545</td>
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<td>Cored</td>
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<td>Sand. (See Core Record)</td>
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<td>557</td>
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<td>5379</td>
<td>267</td>
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TOTAL DEPTH - 5379'}
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER SIZE &amp; TYPE</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-23-41</td>
<td>5-5/8&quot;</td>
<td>Barrett Robishaw</td>
<td>4500</td>
<td>4510</td>
<td>0.8</td>
<td>0.4</td>
<td>0.4</td>
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<td>Mixed burnt shale and oil sand,</td>
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<tr>
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<td>4520</td>
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<td>Hard fine to medium oil sand. Carbon particles. Good odor and fair cut. Hard burnt</td>
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</tr>
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<td>Mixed mud and fine oil sand. Slight odor and fair amber cut.</td>
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<td>Hard sandstone shell (probably at 4527' by driller)</td>
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<td>Pieces of hard calcareous fine to medium grayish brown oil sand (carbonaceous). Fair</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>odor and light amber cut. One piece has irregular vertical shale sand contact (possibly</td>
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<td></td>
<td></td>
<td></td>
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<td>fault gouge).</td>
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</tr>
<tr>
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<td>pieces of firm fine to medium oil sand. Fair odor and amber cut. Oil sand has few</td>
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<td></td>
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<td>Pieces of hard calcareous grayish brown oil sand. One piece has small shale streak</td>
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<td>DATE</td>
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<td>DRILLER SIZE &amp; TYPE</td>
<td>FROM</td>
<td>TO</td>
<td>TOTAL RECRL.</td>
<td>SHALE</td>
<td>OIL SAND</td>
<td>GRAY SAND</td>
<td>SHELL</td>
<td>DESCRIPTION OF CORE</td>
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<td>Medium to slightly coarse with pebbles, firm, light brown oil sand, good greenish-amber cut. Hard brownish-black sandy shale. Medium hard brown sandy shale. Soft, fine, light brown oil sand. Good odor, good greenish cut. Medium hard brownish-black shale. Suggestion of 45° dip. Possible fracture at 60°. Firm brown sandy shale. Soft fine light brown oil sand. Good odor.</td>
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<td>Fine to medium, firm to soft, light brown oil sand; fair odor. Fine, firm, light brown oil sand. Dark amber cut. (Looks residual). Fine to medium with few pebbles, firm to soft, light brown oil sand, fair odor, light greenish amber ether cut. Hard gray sandstone shell.</td>
</tr>
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<td>Fine to medium, light brown oil sand, poor odor, dark greenish-amber cut. Firm, fine to medium, light brown oil sand.</td>
</tr>
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<td>Firm, fine, light brown oil sand with streaks gray sand. Poor odor, dark amber cut. (Looks residual). Soft to firm, fine, light brown oil sand, poor odor, dark greenish cut. Firm, biscuity, fine light brown oil sand, fair odor, dark cut.</td>
</tr>
<tr>
<td>Date</td>
<td>Core No.</td>
<td>Driller &amp; Size</td>
<td>From</td>
<td>To</td>
<td>Total Recr.</td>
<td>Shale</td>
<td>Oil Sand</td>
<td>Gray Sand</td>
<td>Shell</td>
<td>Description of Core</td>
</tr>
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<td>5217</td>
<td>5217</td>
<td>4.5</td>
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<td></td>
<td>0.3</td>
<td>1.4</td>
<td>Firm to soft, fine to medium-fine gray sand. No odor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Barrett-Robishaw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.6</td>
<td>Hard black shale with possible fractures at 45° and 60°.</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3</td>
<td>Firm, fine, light brown oil sand with gray cast. No odor.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.0</td>
<td>Firm, fine to medium, light brown oil sand with fair odor. Good greenish-amber cut.</td>
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<td>5217</td>
<td>5223</td>
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<td>1.0</td>
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<td>1.0</td>
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<td>Soft to firm, fine to medium-coarse with pebbles, brown oil sand with small streaks gray sand.</td>
</tr>
<tr>
<td>3-29-41</td>
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<td>5223</td>
<td>5229</td>
<td>2.1</td>
<td>2.0</td>
<td></td>
<td>0.1</td>
<td></td>
<td>Firm, fine to medium, brown oil sand with grayish cast. Dark cut.</td>
</tr>
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<td>Hard brownish-black shale.</td>
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<td>&quot;</td>
<td>5229</td>
<td>5229</td>
<td>5235</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td>0.2</td>
<td></td>
<td>Firm to soft, fine to medium fine, brown oil sand with grayish cast.</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Medium amber cut. Free oil on core and in breaks.</td>
</tr>
<tr>
<td>3-30-41</td>
<td>&quot;</td>
<td>5235</td>
<td>5235</td>
<td>5241</td>
<td>5.0</td>
<td>2.3</td>
<td></td>
<td>0.4</td>
<td></td>
<td>Firm to soft, fine to medium-fine, brown oil sand with dark ether cut. Fair odor. Free oil on core and in breaks.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Hard brownish-black slightly sandy shale.</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Firm, fine to medium brown oil sand with free oil on core.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6</td>
<td>Hard brownish-black shale.</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6</td>
<td>Soft, mushy, fine, light brown oil sand.</td>
</tr>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>0.2</td>
<td>Hard brownish black shale.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
<td>Soft fine light brown oil sand.</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.3</td>
<td>Hard, burnt, black shale.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>3-30-41</td>
<td>&quot;</td>
<td>5241</td>
<td>5241</td>
<td>5245</td>
<td>2.0</td>
<td>0.4</td>
<td></td>
<td>0.4</td>
<td></td>
<td>Firm gray sandy shale with narrow seams gray sand at 40°.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
<td>Hard brownish-black shale with fracture at 45°.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.9</td>
<td>Mud with hunks dark brown shale.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3</td>
<td>Hard dark brown burnt shale.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>

"Henry L. Winter"
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER SIZE &amp; TYPE</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL RECRT.</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-30-41</td>
<td>5246</td>
<td>5-5/8&quot;</td>
<td>5251</td>
<td>5251</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td>X</td>
<td>Hard brownish-black shale with small hunks and pieces of undergage core.</td>
</tr>
<tr>
<td>3-30-41</td>
<td>&quot;</td>
<td></td>
<td>5251</td>
<td>5253</td>
<td>0.9</td>
<td>0.9</td>
<td></td>
<td></td>
<td></td>
<td>Firm brownish-black shale with a narrow seam of fine gray sand.</td>
</tr>
<tr>
<td>3-30-41</td>
<td>&quot;</td>
<td></td>
<td>5253</td>
<td>5259</td>
<td>4.0</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td>Mud with hunks fairly soft brownish-black shale.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard, well-cut, dark brownish-black shale.</td>
</tr>
<tr>
<td>3-30-41</td>
<td>&quot;</td>
<td></td>
<td>5259</td>
<td>5264</td>
<td>5.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td>Hard well-cut dark brownish-black shale. Shows no bedding but gives consistent fracture at 45° when broken.</td>
</tr>
<tr>
<td>3-30-41</td>
<td>&quot;</td>
<td></td>
<td>5264</td>
<td>5270</td>
<td>3.0</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td>Mud interspersed with soft pieces dark brownish-black shale. Slightly sandy in spots.</td>
</tr>
<tr>
<td>3-31-41</td>
<td>&quot;</td>
<td></td>
<td>5270</td>
<td>5276</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
</tr>
<tr>
<td>1-31-41</td>
<td>&quot;</td>
<td></td>
<td>5276</td>
<td>5280</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
</tr>
<tr>
<td>1-31-41</td>
<td>&quot;</td>
<td></td>
<td>5280</td>
<td>5281</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
</tr>
<tr>
<td>DATE</td>
<td>CORE NO.</td>
<td>DRILLER SIZE &amp; TYPE BARREL</td>
<td>FROM</td>
<td>TO</td>
<td>TOTAL RECY.</td>
<td>SHALE</td>
<td>OIL SAND</td>
<td>GRAY SAND</td>
<td>SHELL</td>
<td>DESCRIPTION OF CORE</td>
</tr>
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</tr>
<tr>
<td>3-31-41</td>
<td>5-5/8&quot; 5281</td>
<td>Barrett-Robishaw</td>
<td>5281</td>
<td>5282</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No recovery.</td>
</tr>
<tr>
<td>3-31-41</td>
<td>5-5/8&quot; 5282</td>
<td>Gauthey</td>
<td>5282</td>
<td>5295</td>
<td>12.2</td>
<td>2.8</td>
<td></td>
<td></td>
<td>0.2</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
<td>6.5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4-1-41</td>
<td>&quot;</td>
<td></td>
<td>5295</td>
<td>5310</td>
<td>1.1 (6.0)</td>
<td></td>
<td>0.7</td>
<td></td>
<td>0.4</td>
<td>(Drilling mud with fragments hard brown black shale scattered through it. One fragment gray sandstone shell recovered). Soft muddy dark brown shale. Firm sandy shale with inter-bedded lenses of gray sand. May be burnt.</td>
</tr>
<tr>
<td>4-1-41</td>
<td>&quot;</td>
<td></td>
<td>5310</td>
<td>5325</td>
<td>1.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>Hard brownish-black shale, broken up by coring. Firm, fine to medium-fine light brown oil sand. Good greenish-amber ether cut, fair odor. Soft to firm, muddy, black shale. Soft, mushy, fine to medium light brown oil sand. Firm, fine to medium-fine light brown oil sand. Hard gray sandstone shell. Soft, medium light brownish-gray sand with mud striations.</td>
</tr>
</tbody>
</table>

Henry Winter
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER SIZE &amp; TYPE</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL RECY.</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1-41</td>
<td>5-5/8&quot;</td>
<td>Gauthey</td>
<td>5325</td>
<td>5340</td>
<td>0.0</td>
<td>1.3</td>
<td>0.5</td>
<td>1.2</td>
<td>1.4</td>
<td>No recovery</td>
</tr>
<tr>
<td>4-1-41</td>
<td>&quot;</td>
<td>5340</td>
<td>5346</td>
<td>5.7</td>
<td></td>
<td>1.6</td>
<td></td>
<td></td>
<td>1.0</td>
<td>Firm, fine to medium-fine, with pebbles, light brown oil sand. Fair odor, good greenish-amber cut.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
<td>Firm, fine to medium-fine, brown oil sand. Good odor, good greenish-amber cut.</td>
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<td></td>
<td>Firm, fine to medium with pebbles, light brown oil sand. Fair odor, good greenish-amber cut.</td>
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<td></td>
<td>Firm, fine to medium with few pebbles, light brown oil sand. Good greenish-amber cut.</td>
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<td></td>
<td>Fracture at 5344', showed slickensides at 12° dip.</td>
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<td></td>
<td>Firm, fine to medium, slightly coarse with many pebbles, light brown oil sand.</td>
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<td></td>
<td></td>
<td>Firm, fine to medium, brown oil sand. Good odor, dark greenish-amber cut.</td>
</tr>
<tr>
<td>4-2-41</td>
<td>5-5/8&quot;</td>
<td>Hughes</td>
<td>5346</td>
<td>5364</td>
<td>2.6 (5)</td>
<td>X</td>
<td>0.5</td>
<td>0.3</td>
<td>1.8</td>
<td>Rotary mud with a few streaks soft black shale and gray sand.</td>
</tr>
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<td></td>
<td></td>
<td>Firm, medium-fine, light brown oil sand. Good odor, good greenish-amber ether cut.</td>
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<td></td>
<td>Soft, fine to medium, brown oil sand.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.8 Hard gray sandstone shell.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Soft-firm, fine-medium brown oil sand. (Grayish cast). Fair, but burnt odor, dark greenish cut. Whole core alightl burnt.</td>
</tr>
</tbody>
</table>

*Henry S. Winter*
Mr. W. S. Eggleston,

Los Angeles,

Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Operations at your well No. "OIL OPERATORS" 4 Sec. 13, T. 4S., R. 13W. S. B. B. & M., Long Beach Field, in Los Angeles County, were witnessed by Chas. Corwin, Inspector, representative of the supervisor, on April 14, 1941. There was also present E. G. Trostel, Engineer, W. A. Meginiss, Driller.

Casing Record

13-3/8" cem. 757', 8-5/8" cem. 4005'

W. S. O; 6-5/8' liner 1d. 3843'-4408', c. p. 4344', perf. 4408'-4348', 4130'-4070' and 4028'-4005'; 4-3/4'

liner cem. 3804'-5376'. T. D. 5379', plugged with cement 5376'-5361'.

The operations were performed for the purpose of demonstrating that no fluid has access to the well between the 4-3/4" and 8-5/8" casings.

The data and conclusions are as follows:

THE INSPECTOR ARRIVED AT THE WELL AT 5:00 P. M. AND MR. TROSTEL REPORTED THE FOLLOWING:

1. The hole was cleaned out to 4408'.
2. A 6-5/8" rotary hole was drilled from 4408' to 5379'.
3. Mud fluid was circulated 3-1/2 hr. before cementing the casing.
4. Electrical core readings showed the top of the Brown Zone 4630'.
5. On April 10, 1941, 1572' of 4-3/4" - 16 lb. casing was cemented at 5376' with 200 sacks of Colton cement.
6. Cement was drilled out of the 8-5/8" casing from 3680' to 3804' and out of the 4-3/4" casing from 3804' to 5361', equivalent to 35 and 118 sacks, respectively.
7. On April 14, 1941, at 9:00 a.m. the fluid in the hole was bailed to 3039'.

THE INSPECTOR NOTED THE FOLLOWING:

1. No fluid entered the well while standing 8 hr. for test.
2. The hole was open below 3915'.

The test was completed at 5:50 p.m.

THE OPERATIONS AS WITNESS AND REPORTED ARE APPROVED AS INDICATING THAT fluid does not have access to the well between the 4-3/4" and 8-5/8" casings.

cc: H. E. Winter
Long Beach

R. D. BUSH
State Oil and Gas Supervisor

By: Deputy
Mr. W. S. Eccleston,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to deepen "OIL OPERATORS" Well No. 4, Section 13, T.13 N., R.13 W., S.E. 1/4 B. & M., Long Beach Field, Los Angeles County, dated Jan. 9, 1941, received Jan. 10, 1941, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS: The condition of the well is as stated in the notice:

THE NOTICE STATES:

The present condition of the well is as follows:

Total depth 41408' - Plug 4305'

13-3/8' O.C. 757'

2-5/8' O.C. 4005' C.K.

565' 6-5/8' L 4408', inc. 60' perf. C.F. 4314'

Reperf. 4348-4399' and perf. 4005-4028 and 4070-4130'.

It is proposed to deepen the well as a lease offset to Hilddon F.C. #4.

Last production - 11472 oil, 19,124 water - 31 days."

PROPOSAL:

The proposed work is as follows:

1. Clean out to 41408' and deepen to approximately 5400'.

2. Cement 4-3/4' blank liner on bottom and gun perforate the top of the "S" zone and the top of the "T" Zone for production.

3. Test on production."

DECISION:

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Mud fluid consistent with good drilling practice shall be used and the column of mud fluid maintained at all times, particularly while pulling the drill pipe.

2. Any hole to be sidetracked in any oil zone shall be filled with cement, if possible.

3. This division shall be notified to examine cores and/or electrical log before running the 4-3/4' casing.

4. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:

(a) A test after drilling out the cement to within 50' of the cementing point to demonstrate that no fluid has access to the well between the 4-3/4' and 6-5/8' casings.

(b) A production test within 10 days after the well has been placed on production.

cc- H. E. Winter

Long Beach

R. D. BUSH

State Oil and Gas Supervisor

By C. McGinnis Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given fifteen days before work begins when possible

Santa Fe Springs Cal. January 9 1941

Mr. E. HUGUENIN,
Deputy State Oil and Gas Supervisor

Los Angeles, Cal.

Dear Sir:

In compliance with Section 17, Chapter 718, Statutes of 1913, as amended, notice is hereby given that it is our intention to commence the work of deepening, restringing, plugging or altering the casing in well No. [Oil Operators 4]

[Cross out unnecessary words]

Sec. 13, T. 4-S, R. 13-W, S.E. B. & M. Long Beach Oil Field, Los Angeles County.

The present condition of the well is as follows:

Total depth 4408' - Plug 4305'
13-3/8" C 757'
8-5/8" C 4005' O.K.
565' 6-5/8" L 4408', inc. 60' perf. C.P. 4344'
Reperf. 4348-4399' and perf. 4005-4028 and 4070-4130'

It is proposed to deepen the well as a lease offset to Hilldon F.C. #4.

Last production = 1472 oil, 19,124 water = 31 days

The proposed work is as follows:

1. Clean out to 4408' and deepen to approximately 5400'.
2. Cement 4-3/4" blank liner on bottom and gun perforate the top of the "S" Zone and the top of the "T" Zone for production.
3. Test on production.

Respectfully yours

[Signature]

UNION OIL COMPANY OF CALIFORNIA
Name of Company or Operator

By: [Signature]
Division Engineer.

ADDRESS NOTICE TO DEPUTY STATE OIL AND GAS SUPERVISOR IN CHARGE OF DISTRICT WHERE WELL IS LOCATED
DIVISION OF OIL AND GAS

Subsequent Work Report

OPERATOR: Union Oil Company of California
FIELD: Long Beach

Well No.: Oil Operators #4, Sec. 13, T. 4-S, R. 13-W, SB

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated March 21, 1938, was filed.

Signed: Henry E. Winter

Date: April 4, 1938

Title: District Engineer

Outlines in order of performance, together with the dates thereof, all important operations which alter the condition of the well. Include such information as depth at which redrilling operations were started, size of hole redrilled or deepened; size of pipe, amount of perforations in casing, weight and length of casing landed or cemented or removed; number of sacks of cement used in cementing or plugging operations and exact position thereof. If the well was dynamited, give date and position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or batting.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4408</td>
<td>Took out pumping unit and pulled rods and tubing.</td>
</tr>
<tr>
<td>4408</td>
<td>Cleared out liner to 4397'. Dumped 24 sacks of Victor construction cement in stages from 4397'.</td>
</tr>
<tr>
<td>4408 Plug 4305</td>
<td>Located top of cement plug at 4305'. Perforated 6-5/8&quot; casing from 4130 to 4070 with 32 holes and 4028 to 4005 with 36 holes, using Lane-Wells 5-3/4&quot; 12 shot gun with .45 caliber shells.</td>
</tr>
<tr>
<td>4305 Landed 3&quot; upset tubing at 3979.27'. Put well on pump at 1:00 PM 3-21-38. 180 gross, 127 net, 21.7 grav., 29.4% cut - P 11 hrs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>452</td>
<td>360 22.1 20.4 F 24</td>
</tr>
<tr>
<td>523</td>
<td>506 22.1 3.2 F 24</td>
</tr>
<tr>
<td>545</td>
<td>534 23.6 2.0 F 24</td>
</tr>
<tr>
<td>563</td>
<td>556 23.6 1.2 F 24</td>
</tr>
<tr>
<td>551</td>
<td>525 23.6 1.1 F 24</td>
</tr>
<tr>
<td>506</td>
<td>499 23.6 1.4 F 24</td>
</tr>
<tr>
<td>493</td>
<td>488 23.6 1.1 F 24</td>
</tr>
<tr>
<td>477</td>
<td>472 23.6 1.0 F 24</td>
</tr>
<tr>
<td>465</td>
<td>459 23.6 1.2 F 24</td>
</tr>
<tr>
<td>449</td>
<td>445 23.6 1.0 F 24</td>
</tr>
</tbody>
</table>
DIVISION OF OIL AND GAS

LOG OF OIL OR GAS WELL

Operator: Union Oil Company of California
Field: Long Beach

Well No.: Oil Operators #4
Sec.: 13
T.: 4-S
R.: 13-V
S.B.: B. & M.
348' S.W. ly along the prolongation of the center line of San Antonio Drive from its intersection with the center line of Riverside Drive, thence N. 44° 27' W. 53.86

Location: at right angles 355'

In compliance with the provisions of Chapter 718, Statutes of 1915, as amended, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date: 3-21-58
Signed: [Signature]

(Engineer or Geologist) (Superintendent) (President, Secretary or Agent)

Commenced drilling: January 1, 1958
Completed drilling: 
Drilling tools: Rotary

Total depth: 4406 Plugged depth: 

Junk: Wilber Shale 3888-3853
Alamitos Shale 3784-3842
J 4005
K 4306

Commenced producing: 2-28-58
Flowing/gas lift/pumping: 

<table>
<thead>
<tr>
<th>Date</th>
<th>Initial production</th>
<th>Flowing/gas lift/pumping</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>21.2</td>
<td>7.8</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>21.7</td>
<td>16.5</td>
</tr>
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<td></td>
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</tbody>
</table>

Casing Record (Present Hole)

<table>
<thead>
<tr>
<th>Size of Casing</th>
<th>Depth of Shoe</th>
<th>Top of Casing</th>
<th>Weight of Casing</th>
<th>New or Second Hand</th>
<th>Seamles or Lapweld</th>
<th>Grade of Casing</th>
<th>Size of Hole Casing landed in</th>
<th>Number of Sacks of Cement</th>
<th>Depth of Cementing if through perforations</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-3/8</td>
<td>757</td>
<td>Surface</td>
<td>45.97#</td>
<td>New</td>
<td>Seamless</td>
<td>Slip-joint</td>
<td>17&quot;</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>8-5/8</td>
<td>4005</td>
<td>&quot;</td>
<td>32# &amp; 36#</td>
<td>New &amp; Used</td>
<td>&quot;</td>
<td>C</td>
<td>12 1/2&quot;</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>6-5/8</td>
<td>4406</td>
<td>3843</td>
<td>26#</td>
<td>&quot;</td>
<td>&quot;</td>
<td>G</td>
<td>9-5/8 U.R. 3/4</td>
<td>125</td>
<td>4344</td>
</tr>
</tbody>
</table>

Perforations

<table>
<thead>
<tr>
<th>Size of Casing</th>
<th>From</th>
<th>To</th>
<th>Size of Perforations</th>
<th>Number of Rows</th>
<th>Distance Between Centers</th>
<th>Method of Perforations</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-5/8</td>
<td>4548 ft.</td>
<td>4408 ft.</td>
<td>120 mesh</td>
<td>16</td>
<td>6</td>
<td>Kobe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reperf. 4348-4399 - 60 holes L. &amp; W. gun</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Electrical Log Depths: Schlumberger from 757 to 4408

(Attach Copy of Log)
## FORMATIONS PENETRATED BY WELL

<table>
<thead>
<tr>
<th>Top of Formation</th>
<th>Thickness</th>
<th>Name of Formation</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>170</td>
<td>Surface clay</td>
</tr>
<tr>
<td>170</td>
<td>364</td>
<td>Sand and gravel</td>
</tr>
<tr>
<td>364</td>
<td>286</td>
<td>Sand and clay</td>
</tr>
<tr>
<td>386</td>
<td>713</td>
<td>Hard sand</td>
</tr>
<tr>
<td>713</td>
<td>1577</td>
<td>Shale</td>
</tr>
<tr>
<td>760</td>
<td>1577</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>1577</td>
<td>1883</td>
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<td>1883</td>
<td>2775</td>
<td>Shale and streaks of sand</td>
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<td>2775</td>
<td>2990</td>
<td>Sand</td>
</tr>
<tr>
<td>2990</td>
<td>3112</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3112</td>
<td>3114</td>
<td>Sand and streaks of shale</td>
</tr>
<tr>
<td>3114</td>
<td>3193</td>
<td>Shell</td>
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<tr>
<td>3193</td>
<td>3195</td>
<td>Shale and streaks of shale</td>
</tr>
<tr>
<td>3195</td>
<td>3230</td>
<td>Shell</td>
</tr>
<tr>
<td>3230</td>
<td>3231</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3231</td>
<td>3371</td>
<td>Shell</td>
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<tr>
<td>3371</td>
<td>3372</td>
<td>Shale and streaks of sand</td>
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<tr>
<td>3372</td>
<td>3525</td>
<td>Shell</td>
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<td>3560</td>
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<td>3560</td>
<td>3644</td>
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<tr>
<td>3644</td>
<td>3730</td>
<td>Sand and streaks of shale</td>
</tr>
<tr>
<td>3730</td>
<td>3880</td>
<td>Shale and streaks of sand</td>
</tr>
<tr>
<td>3880</td>
<td>3951</td>
<td>Hard sand</td>
</tr>
<tr>
<td>3951</td>
<td>4015</td>
<td>Shale and sand</td>
</tr>
<tr>
<td>4015</td>
<td>4408</td>
<td>Shale and streaks of sand (See Core Record)</td>
</tr>
<tr>
<td></td>
<td>393</td>
<td>Shale and sand</td>
</tr>
</tbody>
</table>

(Continued)
It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which water began, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If other or unusual events put in to test for water, state kind of material used, position and results of pumping or oiling.

Depth  Eff. Depth  Remarks
1-1  50  Spudded in with 18-5/8” rotary bit and drilled to 50’. Cemented 18-5/8 conductor pipe at 50’ with 46 sax Velo cement.
1-4  758  Drilled with 17” rotary bit to 758. Cemented new 13-3/8-45.97# National Seamless slip-joint casing at 757 with 550 sax Velo treated cement. Cementing operations witnessed and approved by Karmelich of D.O.G.
1-5  911  Found top of cement at 754. Cleaned out cement and plugs and drilled ahead with 12½ bits.
1-22  4015  Drilled with 12½ bits to 3955 and cored with 7-5/8 core barrels to 4015. Ran Schlumberger Survey.
1-23  4015  Reamed out core hole with 12½ bit to 4005. Cemented 8-5/8 – 32# Grade C (1265 of 8-5/8 – 36# on bottom) 8 thread rounded seamless casing at 4005 with 400 sax cement (200 sax Victor Oil Well and 200 sax Victor Construction).
1-28  4070  Found top of cement at 3978. Drilled out cement and plugs to 4005 and cleaned out to 4010. Water Shut Off test on 8-5/8 casing at 4005 witnessed and approved by Corwin of D.O.G. Drilled with 7-5/8 bit to 4070.
2-3  4408  Cored with 7-5/8 core barrels to 4408. Ran Schlumberger Survey.
2-5  4408  Under-reamed hole to 83⁄8” from 4007 to 4408. Landed 565’ of 6-5/8 – 26# Grade C casing at 4408 including 60’ of (16-2-6) 120 mesh Kobe perforated on bottom. Cemented liner through ports of Baker Whirler basket at 4344 with 125 sax of Victor Oil Well cement.
History of Oil or Gas Well

Operator: Union Oil Company of California  Field: Long Beach

Well No. Oil Operators #4  Sec. 15  T. 4-S  R. 13-W  S.R. B. & M.

Signed: [Signature]

Date: 3-21-38  Title: (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Date</th>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-11</td>
<td>4408</td>
<td>4408</td>
<td>Drilled out cement to 4343 and cleaned out to bottom of liner, Landed 3&quot; upset tubing at 4318 including 521' of Baush-Ross insert tubing on bottom.</td>
</tr>
<tr>
<td>2-17</td>
<td>-</td>
<td>-</td>
<td>Changed from mud to water and swabbed fluid to 3000'. Very little oil or gas. Pulled tubing. Alternated between running 6-5/8 swab past perforations as agitator, and bailing mud from bottom. Landed 3&quot; upset tubing at 4324. Installed pumping unit and started well pumping at 7 P.M., 2-17-38.</td>
</tr>
</tbody>
</table>

| 43 gross | 42 net | 2.8% cut | P10 hrs. |
| 15       | 14     | 21.2 grav. 1.4 | P24 |
| 17       | 16     | "          | 1.0     | P24 |
| 3        | 2      | "          | 1.1     | P24 |
| 31       | 30     | "          | 1.0     | P24 |
| 28       | 27     | "          | 1.0     | P24 |
| 2-23     | 1      | 1.0        | P3 hrs. Pulled B&T |

| 2-28     | 4408  | Open 4402  | Cleared out sand to 4402. Reperforated 6-5/8 liner from 4399 to 4348 with 60 holes, using Lane-Wells 5 1/2" - 12 shot gun with .45 caliber shells. Landed 3" upset tubing at 4323. Installed pumping unit and started well pumping at 10 P.M., 2-28-38 |

| 128 gross | 0 net | 100.0% cut | P7 hrs. |
| 33       | 30     | 21.2 grav. 7.8 | P24 |
| 27       | 25     | "          | 7.8     | P24 |
| 25       | 24     | 21.2       | 2.6     | P24 |
| 22       | 20     | 21.2       | 13.3    | P24 |
**DIVISION OF OIL AND GAS**

**History of Oil or Gas Well**

**OPERATOR:** Union Oil Company of California  
**FIELD:** Long Beach

**Well No.:** Oil Operators #4  
**Sec.:** 15  
**T.:** 4-S  
**R.:** 13-W  
**S.E.:** B. & M.

**Date:** 3-21-58  
**Title:** DISTRICT ENGINEER  
(President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form in reporting the history of all important operations at the well, together with the dates thereof, prior to the first production. Include in your report such information as size of hole drilled to cementing or landing depth of casings, number of sacks of cement used in the plugging, number of sacks or number of feet of cement drilled out of casing, depth at which cement plugs started, and depth at which hard cement encountered. If the well was dynamited, give date, size, position and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position and results of pumping or bailing.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Eff. Depth</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>4408</td>
<td>Open 4402</td>
<td>21 gross</td>
</tr>
<tr>
<td>3-5</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>3-6</td>
<td>19</td>
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<td>3-7</td>
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<tr>
<td>3-15</td>
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<td>14</td>
</tr>
<tr>
<td>3-16</td>
<td>8</td>
<td>14</td>
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<td>DATE</td>
<td>CORE NO.</td>
<td>DRILLER</td>
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<tr>
<td>1-21-36</td>
<td>1</td>
<td>7-5/8&quot;</td>
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<tr>
<td>1-21-36</td>
<td>2</td>
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<tr>
<td>1-22-36</td>
<td>3</td>
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</tr>
</tbody>
</table>

Firm Soft Fine Gray Sand
Hard Dark Brown Shale, sandy in parts
Firm, very Fine Silty Gray Sand
Firm Soft Fine to Medium Gray Sand
Dip 23°
Hard Dark Brown Shale
Firm Soft Fine to Medium Gray Sand

Firm Soft Fine Gray Sand
Hard Dark Brown Shale, Dip 16°
Firm Soft Fine Gray Sand
Hard Dark Brown Shale with partings of Fine Brown Oil Sand. Streak (0.1) of Fine Brown Oil Sand 1.8' from top. Shale sandy towards bottom Fractures of 45° and 24°
Firm Soft Fine Brown Oil Sand. Good Odor
Hard Dark Brown Shale
Firm Soft Fine Brown Oil Sand
Firm Soft Fine Brown Oil Sand
Firm Soft Fine Brown Oil Sand. Good Odor and Dark Amber Cut
Hard Dark Brown Shale with inclusions of Fine Grey Sand
Firm Soft Fine Brown Oil Sand. Streak of Brown Shale (0.1) 1.2' from top. Good Odor and Dark Amber Cut

Firm Soft Fine to Medium Brown Oil Sand. Good Odor and Dark Amber Cut
Hard Dark Brown Shale, Oil in Fracture joints
Firm Soft Medium Brown Oil Sand. Good Odor
Hard Dark Brown Shale with inclusions of Fine Grey Sand. Sandy in spots
Hard Dark Brown Shale, badly broken and mixed with mud
Firm Soft, very Fine Argillaceous Silty Oil Sand, slightly mixed with sand. Hair Odor and Amber Cut
Hard Dark Brown Shale with inclusions of Fine Grey Sand
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER SIZE &amp; TYPE BARREL</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL REC.</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
<th>APPT. DIP</th>
<th>ANGLE OF HOLE</th>
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<tbody>
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<td>7-5/8&quot; Goell</td>
<td>3955</td>
<td>3970</td>
<td>7.3</td>
<td>2.5</td>
<td>1.8</td>
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<td>Firm Soft Fine Gray Sand</td>
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<td>Hard Dark Brown Shale, sandy in parts</td>
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<td>Firm, very Fine Silty Gray Sand</td>
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<td>Dip 22°</td>
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<td>&quot;</td>
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<td>3965</td>
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<td>Hard Dark Brown Shale</td>
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<td>Dip 16°</td>
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<td>Firm Soft Fine Gray Sand</td>
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<td></td>
<td></td>
<td>Hard Dark Brown Shale with partings of Fine Brown Oil</td>
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<td></td>
<td>Sand. Streak (0.1) of Fine Brown Oil Sand 1.8' from top.</td>
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<td>Shale sandy towards bottom</td>
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<td></td>
<td>Firm Soft Fine Brown Oil Sand. Good Odor</td>
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<td>Hard Dark Brown Shale</td>
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<td>Hard Dark Brown Shale</td>
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<td>Soft Fine Brown Oil Sand. Good Odor</td>
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Henry E. White
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</table>

**DESCRIPTION OF CORE**

- Firm Soft Fine Brown Oil Sand with streaks and inclusions of Fine Gray Sand. Streak of Brown Shale (0.1) 0.5 from bottom. Fair Odor and Amber Cut
- Hard Dark Brown Silty Shale
- Contact to Sand above irregular and at angle of 45°
- Apparent Dip of Shale -34°
- Hard Dark Brown Silty Shale, badly broken and mixed with mud
- Firm Soft Fine Brown Oil Sand
- Fair Odor
- Hard Dark Brown Silty Shale with streaks and partings of Fine Brown Oil Sand
- Parting Planes 18°
- Soft Fine Brown Oil Sand with streaks of Shale. Top mixed with mud
- Hard Dark Brown Silty Shale with inclusions of Fine Gray Sand. Also streaks and partings of Fine Brown Oil Sand
- Firm Soft Medium to coarse Brown Oil Sand. Fair Odor and Amber Cut. Sand looks poor
- Hard Dark Brown Silty Shale. Fracture of 35° with Slickensides along Dip
- Firm Soft Fine Brown Oil Sand
- Hard Dark Brown crushed and Flaky Shale
- Hard, slightly Calcareous Shale Shell
- Hard Dark Brown Silty Shale
- Soft Fine Grey Sand, mixed with mud
- Hard Dark Brown Silty Shale
- Soft Loose Fine Grey Sand. No Odor and light Straw Cut
<table>
<thead>
<tr>
<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER</th>
<th>SIZE &amp; TYPE</th>
<th>FROM</th>
<th>TO</th>
<th>TOTAL</th>
<th>SHALE</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
</tr>
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<tbody>
<tr>
<td>1-31-38</td>
<td>18</td>
<td>7-5/8&quot;</td>
<td>Sol1</td>
<td>4230</td>
<td>4245</td>
<td>12.6</td>
<td>0.8</td>
<td>0.4</td>
<td>1.2</td>
<td>0.5</td>
<td>Firm Soft Fine to Medium Gray Sand</td>
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<td>Hard Dark Brown Silty Shale with streaks of Fine Grey Sand in bottom</td>
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<td>0.2 - Good Dip of 21°</td>
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<td>Firm Soft Fine Grey Sand. Top 0.8</td>
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<td>Fine Silty Dark Grey, slightly Argillaceous</td>
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<td>Fine Silty Dark Grey, slightly Argillaceous</td>
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<td></td>
<td>Dark Grey Sand. Shale and Sand badly broken and mixed with mud</td>
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<td>4245</td>
<td>4260</td>
<td>15.8</td>
<td>13.6</td>
<td>1.1</td>
<td>3.3</td>
<td>13.0</td>
<td>Firm Soft Massive Medium to coarse Grey Sand. Sand poorly sorted and slightly Pebbly in spots</td>
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<td>20</td>
<td>7-5/8&quot;</td>
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<td>4260</td>
<td>4275</td>
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<td>13.0</td>
<td>1.0</td>
<td>3.0</td>
<td>13.0</td>
<td>Firm to Firm Soft Massive Fine to coarse, poorly sorted Grey Sand - Pebbly in spots</td>
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<td>1-31-38</td>
<td>21</td>
<td>7-5/8&quot;</td>
<td>Sol1</td>
<td>4275</td>
<td>4290</td>
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<td>14.1</td>
<td>0.1</td>
<td>1.1</td>
<td>14.2</td>
<td>Firm Soft to Soft Massive Fine to coarse Grey Sand. Top 0.9 badly mixed with mud, Hard Calcareous Sandstone Shell 3.6 from top</td>
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<td>2-1-38</td>
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<td>7-5/8&quot;</td>
<td>Sol1</td>
<td>4290</td>
<td>4303</td>
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<td>12.2</td>
<td>1.9</td>
<td>3.9</td>
<td>15.0</td>
<td>Firm Soft Massive Fine to coarse Grey Sand. Several fairly Hard, slightly Calcareous spots. Bottom 1.0 Fine and mixed with mud</td>
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<td>Firm Soft Medium Grey Sand. Inclusion of Silty Brown Shale 0.8 from top</td>
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<td></td>
<td>Hard Sandy Dark Brown Shale with inclusions of Grey Sand - Streaks of</td>
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<td>Grey Sand 0.5 from top</td>
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<td>Note--Bottom 2.5 of this Core was recovered in next Core bbl.</td>
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<td>DATE</td>
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<td>DRILLER SIZE &amp; TYPE</td>
<td>FROM</td>
<td>TO</td>
<td>TOTAL REC.</td>
<td>SHALE</td>
<td>OIL SAND</td>
<td>GRAY SAND</td>
<td>SHELL</td>
<td>DESCRIPTION OF CORE</td>
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<td>2-1-38</td>
<td>23</td>
<td>7-5/8&quot; Soll</td>
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<td>4310</td>
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<td>1.4</td>
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<td>0.2</td>
<td>4.7</td>
<td>Firm Soft Coarse Grey Sand</td>
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<td>Hard Silty Dark Brown Shale</td>
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<td>Dips 19° and 22°</td>
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<td></td>
<td>Hard Broken Black Silty Shale</td>
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<td>Hard Black Shale</td>
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<td>2-1-38</td>
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<td>4310</td>
<td>4319</td>
<td>2.4</td>
<td>2.4</td>
<td></td>
<td>0.3</td>
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<td>Hard broken and fractured Black Shale, badly mixed with sand</td>
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<td>Inclusions of Fine Gray Sand in bottom 0.4</td>
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<tr>
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<td>25</td>
<td>&quot;</td>
<td>4519</td>
<td>4329</td>
<td>10.0</td>
<td>9.0</td>
<td></td>
<td>0.1</td>
<td>1.0</td>
<td>Hard broken and fractured, Dark Brown to Black Shale. Top 2.3 badly</td>
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<td>fractured with vertical fractures. Dip approximately 20°</td>
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<td>2-2-38</td>
<td>26</td>
<td>&quot; Barrett-Robishaw</td>
<td>4329</td>
<td>4337</td>
<td>6.8</td>
<td>5.8</td>
<td>0.2</td>
<td>0.1</td>
<td>0.9</td>
<td>Hard Dark Brown to Black Silty Shale</td>
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<td>sandy towards bottom. Inclusions of Fine Brown Oil Sand in bottom 0.8</td>
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<td>Dip 20°</td>
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<td></td>
<td></td>
<td>Soft Mushy Fine Brown Oil Sand. Good Odor and Dark Amber Cut</td>
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<tr>
<td>2-2-38</td>
<td>27</td>
<td>&quot;</td>
<td>4337</td>
<td>4346</td>
<td>8.2</td>
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<td>0.1</td>
<td>1.8</td>
<td>Hard Dark Brown Silty Shale with inclusions of Fine Brown Oil Sand</td>
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<td>Soft Mushy Fine Brown Oil Sand. Good Odor and Dark Amber Cut</td>
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<td>2-2-38</td>
<td>28</td>
<td>&quot;</td>
<td>4346</td>
<td>4355</td>
<td>7.7</td>
<td>0.6</td>
<td>1.4</td>
<td>0.1</td>
<td>1.4</td>
<td>Hard Black Shale. Dip 25°. Fracture of 15° at bottom.</td>
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<td>Soft Mushy Fine Silty Argillaceous</td>
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<td>Brown Oil Sand, mixed with mud. Hair Odor and Amber Cut</td>
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<tr>
<td>2-2-38</td>
<td>29</td>
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<td>4355</td>
<td>4364</td>
<td>0</td>
<td>0.6</td>
<td>7.1</td>
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<td>7.1</td>
<td>Soft Medium to coarse Brown Oil Sand.</td>
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<td>Hair Odor and Dark Amber Cut</td>
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No Recovery
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<th>DATE</th>
<th>CORE NO.</th>
<th>DRILLER NAME</th>
<th>FROM</th>
<th>TO</th>
<th>OIL SAND</th>
<th>GRAY SAND</th>
<th>SHELL</th>
<th>DESCRIPTION OF CORE</th>
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<td>4564</td>
<td>4573</td>
<td>4.3</td>
<td>0.2</td>
<td>0.2</td>
<td>Soft Medium to coarse Brown Oil Sand. Hard Fractured and crushed Black Shale.</td>
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<td>Barrett-Robischaw</td>
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<td>Soft Fine Silty Argillaceous Brown Oil Sand, mixed with mud. Hard Fractured Black Shale</td>
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<td></td>
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<td>0.3</td>
<td>Oil Sand as above. Firm, very Silty Brown Shale</td>
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<td>0.2</td>
<td>Oil Sand as above. Fair Odor and Dark Amber Cut. Hard Fractured Silty Black Shale</td>
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<td>0.3</td>
<td>with streaks of Fine Brown Oil Sand. Fractures of 31° and 37°.</td>
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<td>0.2</td>
<td>Silty Oil Sand, as above. Hard Fractured Silty Black Shale with streaks of Fine Brown Oil Sand.</td>
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<td>Firm Soft Fine to Medium Brown Oil Sand. Fair Odor and Amber Cut.</td>
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<td>0.5</td>
<td>Hard Silty Black Shale. Fracture of 36° 0.3 from top</td>
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<td>2.0</td>
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<td>2-2-38</td>
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<td>&quot;</td>
<td>4572</td>
<td>4582</td>
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<td>Hard Black Silty Shale.</td>
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<tr>
<td>2-2-38</td>
<td>32</td>
<td>&quot; Sol.&quot;</td>
<td>4532</td>
<td>4597</td>
<td>15.0</td>
<td>0.6</td>
<td>0.4</td>
<td>Hard Dark Brown to Black Shale.</td>
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<td></td>
<td>1.0</td>
<td>Soft Fine Silty Argillaceous Brown Oil Sand, mixed with mud.</td>
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<td></td>
<td></td>
<td>0.2</td>
<td>Hard Fractured and Broken Dark Brown to Black Silty Shale. Streaks of Fine Silty Argillaceous Oil Sand.</td>
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<td></td>
<td></td>
<td>0.3</td>
<td>Soft Fine Brown Oil Sand. Good Odor and Dark Brown to Black Silty Shale. Dip 24°</td>
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<td></td>
<td>10.8</td>
<td>Firm Soft to Firm, Medium to coarse Brown Oil Sand, grading to coarse Pebbley in bottom 4.0. Bottom 4.0 has a Greyish cast, probably due to Gray Pebbles. Good Odor and Amber Cut.</td>
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<td></td>
<td>1.8</td>
<td>13.2</td>
<td></td>
<td>Hole corrected for depth.</td>
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<td>Total Depth - 4408</td>
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</tbody>
</table>

Handwritten Notes:
- Henry E. White
No. T.1-33997

Los Angeles, Calif. March 30, 1938.

Mr. W. S. Eggleston,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Operations at your well No. "OIL OPERATORS" 4 Sec. 13, T.4 S., R. 13 W., S.E. B. & M., Long Beach Field, in Los Angeles County, were witnessed by F. J. Karmelich, Inspector, representative of the supervisor, on March 20, 1938. There was also present E. Winter, Engineer, and L. O. Mitchell, Driller.

Casing Record: 13-3/8" cam. 757' 1/2 5-5/8" cam. 4005', Junk None.
W. S. O.: 6-5/8" liner landed 3843' 1/2-4408', c. p. 4344';
perf. 4348' 1/2-4408'; T.D. 4408', plugged with cement 4397' 1/2-4305'.

The operations were performed for the purpose of testing the location and hardness of a cement plug proposed to be placed from 4408' to 4320' in the process of plugging back, and the data and conclusions are as follows:

THE INSPECTOR ARRIVED AT THE WELL AT 9:00 A.M. AND MR. WINTER REPORTED THE FOLLOWING:
1. The 6-5/8" liner was cleaned out to 4397'.
2. On March 13 and 19, 1938, 24 sacks of Victor oil well cement was dumped, beginning at 4397'.

THE INSPECTOR NOTED THAT the bailer could not be spudded below 4305' and brought up a sample of set cement.

The test was completed at 9:30 a.m.

THE LOCATION AND HARDNESS OF THE CEMENT PLUG AT 4305' ARE APPROVED.

cc- H. E. Winter
Long Beach
FUK: OH

R. D. BUSH
State Oil and Gas Supervisor

By [Signature] Deputy
Mr. Ed Jussen, Jr.,
Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

DEAR SIR:

Your supplementary proposal to drill Well No.
Section 13, T.
W.
S.
B.
E.
B.
& M., Long Beach Field, Los Angeles County, dated Mar.
18,
19
38, received Mar.
21,
19
38, has been examined in conjunction with records filed in this office. Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:
"The present condition of the well is as follows:
4408 deep
13-3/8" C 757'
8-5/8" C 4005' OK
565' 6-5/8" L 4408', inc. 60' perf. C.P. 4344'
Reperf. 4348-4399
The well has been tested on the pump since March 1, 1938 with an average daily production of 18 gross, 16 net, 21.7 gravity."

PROPOSAL:
"The proposed work is as follows:
1. C. S. to 4408 and plug with cement under hydrostatic head to 4320'.
2. Test plug by Division of Oil & Gas.
4. Test on production."

DECISION:
THE PROPOSAL IS APPROVED.

cc- H. E. Winter
Long Beach

R. D. BUSH
State Oil and Gas Supervisor

By [Signature] Deputy
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given fifteen days before work begins when possible

Santa Fe Springs, Cal. March 18, 1938

Mr. E. Huguenin,

Deputy State Oil and Gas Supervisor

Los Angeles, Cal.

Dear Sir:

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at well No. 4. Oil Operators Oil Field, Los Angeles County.

(Cross out unnecessary words)

Long Beach, Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

The present condition of the well is as follows:

4408 deep
13-3/8" C 757'
8-5/8" C 4005' OK
665' 8-5/8" L 4408', inc. 60' perf. C.P. 4344'
Reperf. 4348-4399

The well has been tested on the pump since March 1, 1938 with an average daily production of 18 gross, 16 net, 21.7 gravity.

The proposed work is as follows:

1. C.O. to 4408 and plug with cement under hydrostatic head to 4320'.
2. Test plug by Division of Oil & Gas.
4. Test on production.

Respectfully yours

UNION OIL COMPANY OF CALIFORNIA

Name of Company or Operator

By

District Engineer.
DIVISION OF OIL AND GAS
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
LOS ANGELES

No. 2967

Name of Operator

This is to acknowledge the receipt of logs and similar records of well on Sec.

R. D. BUSH, State Oil and Gas Supervisor

Subsequent operations

DUPLICATE

FORM 127. 4/25/39 7:39 AM
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No. T 1-33847

Los Angeles, Calif. February 24, 1935

Mr. Ed Jussen, Jr.,
Los Angeles, Calif.
Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Operations at your well No. "OIL OPERATORS" Sec. 13, T. 48 S., R. 13 W., S. B. B. & M., Long Beach, Field, in Los Angeles County, were witnessed by F. J. Karmelich, Inspector, representative of the supervisor, on Feb. 10, 1935. There was also present H. Rampton, Engineer, and H. Robinson, Superintendent.

Casing Record:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 3/8&quot;</td>
<td>com. 757'</td>
</tr>
<tr>
<td>4 3/4&quot;</td>
<td>3951'</td>
</tr>
</tbody>
</table>

The operations were performed for the purpose of demonstrating that fluid does not have access to the well between the 6-5/8" and 6-5/8" casings.

and the data and conclusions are as follows:

THE INSPECTOR ARRIVED AT THE WELL AT 11:00 A. M. AND MR. RAMPTON REPORTED THE FOLLOWING:

1. A 7-5/8" rotary hole was drilled from 4005' to 4408'.
2. On February 5, 1935, 585' of 6-5/8" - 26 lb. casing, including 60' of perforated, was landed at 4408' and was cemented through perforations at 4 3/4" with 125 sacks of Victor oil well cement.
3. Cement was drilled out of the 6-5/8" and 6-5/8" casings from 3676' to 3951' (equivalent to 62 sacks) and the casing was cleaned out to 3951'.
4. On February 11, 1935, at 3:00 a.m., the fluid was bailed to 2535'.

THE INSPECTOR NOTED THE FOLLOWING:

1. No fluid entered the well while standing 8 hr. for test.
2. The fluid was located at 2535'.
3. The sample of fluid from bottom tasted fresh.
4. The hole was open to 3951'.

The test was completed at 12:00 noon.

THE OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED as indicating that fluid does not have access to the well between the 6-5/8" and 6-5/8" casings.

cc: H. B. Winter
Long Beach
FJK: G

R. D. BUSH
State Oil and Gas Supervisor
By: E. Fitzgerald
Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off

No. T. 1-33775

Los Angeles, Calif. February 9, 1938.

Mr. Ed. Jussen, Jr.

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your well No. 4, OIL OPERATORS' 4th Sec. 13, T. 14 S., R. 13 W., S.E. B. & M., Long Beach Field, in Los Angeles County, was tested for shut-off of water on January 26, 1938. Mr. Chas. Gorwin, designated by the supervisor, was present as prescribed in Section 19, Chapter 718, Statutes 1915, as amended, and there were also present R. Rampton, Engineer,

H. Robinson, Superintendent.

Location of water tested above 4005' and normal fluid level not determined.

Depth and manner of water shut-off:

- 1263 ft. of 8-5/8 in. casing was 1-23-45 cemented in shale
- 2742 ft. of 8-5/8 in. cemented in Victor construction oil well
- 200 sacks of cement by casing method.

Water string was landed in 12 1/2" rotary hole.

Casing record of well 13-3/8" cement 757'; 8-5/8" above.

Reported total depth of hole 4015 ft. Hole bridged from XX ft. to XX ft. Hole cleaned out to XX ft. for this test.

At time of test depth of hole measured XX ft. and bailer brought up sample of XXXX.

At Time and date oil bailed to XXX ft., drilling fluid swabbed to XXXX ft.

The inspector arrived at the well at 3:15 p.m. and Mr. Rampton reported the following:

1. A 12" rotary hole was drilled from 757' to 4015'.
2. Mud fluid was circulated for 1/2 hr. before cementing the casing.
3. Electrical core readings showed shale 3971' - 4005' (H-1).
4. No casing test was made.
5. 27' of set cement was drilled out of the 8-5/8" casing (equivalent to 8 sacks).
6. The Johnston tester was run into the hole on 4" drill pipe.
7. The wall packer was set at 3991'.
8. The tester valve was opened at 1:58 p.m. and remained open for 30 minutes. During this interval there was a good, steady blow throughout the test.

The inspector noted the following:

1. When the drill pipe was removed 1550' of fluid was found in the drill pipe above the tester, consisting of the following: 20' drilling fluid, 1230' gas and oil, 100' oil sand, equivalent to 22 bbl.

R. D. Bush
State Oil and Gas Supervisor

By _ (CONTINUED ON PAGE 2) _ Deputy
2. The fluid sample taken from the bottom of the drill pipe tasted fresh.
3. The recording pressure bomb chart was torn, but could observe that the valve had been opened.

The test was completed at 4:20 p.m.

THE SHUT-OFF IS APPROVED.

cc - H. E. Winter
   Long Beach
   CC: OH

R. D. BUSH
State Oil and Gas Supervisor

By [Signature] Deputy
629 South Hill Street  
Los Angeles, California  
January 16, 1938.

Union Oil Company of California,  
Santa Fe Springs, Calif.

Gentlemen: Attention Mr. Henry E. Winter.

This will acknowledge receipt of and thank you for your letter of January 13, 1938, giving the elevation of well No. "Oil Operators" 4, Sec. 13, T. 4 S., R. 13 W., S. B. B. & M., Long Beach field, as 53.85' U. S. G. S.

We are correcting our records accordingly.

Yours truly,

[Signature]

W.G.: W.S.  
Deputy Supervisor.

CC - Mr. R. D. Rush (2)  
Long Beach
Santa Fe Springs, Calif. Jan. 13, 1939

Mr. R. Huguenin, Deputy Supv.,
Division of Oil & Gas,
Los Angeles, Calif.

Dear Sir:

The elevation of the Union Oil
Company well "Oil Operators #4", in the Long
Beach Field, (Section 13, 4-S, 13-W), is 53.88
U.S.G.S.

The location is the same as
in the original notice to drill.

Very truly yours,

Henry E. Wente
District Engineer.
Mr. E. Huguenin, Deputy Supv.,
Division of Oil & Gas,
Los Angeles, Calif.

Dear Sir:

The elevation of the Union Oil Company well "Oil Operators #4", in the Long Beach Field, (Section 13, 4-S, 13-W), is 53.88 U.S.G.S.

The location is the same as in the original notice to drill.

Very truly yours,

[Signature]

Henry E. W. [Last Name]
District Engineer.
DISTRIBUTION OF OIL AND GAS

Special Report on Operations Witnessed

No. T. 1-33560

Los Angeles, Calif. January 20, 1936

Mr. Ed. Jussen, Jr.,

Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

DEAR SIR:

Operations at your well No. "OIL OPERATORS" 4 Sec. 13, T. 14 S., R. 13 W., S. E. B. & M.,

Long Beach Field, in Los Angeles County, were witnessed by

F. J. KARMELICH, representative of the supervisor,

on January 4, 1936. There was also present R. Rampton, Engineer,

F. T. Shores, Driller.

Casing Record 18-5/16" cas. 501: 13-3/8" cas. 757'1: Junk XXXX

T. D. 758'.

The operations were performed for the purpose of demonstrating that the known surface waters are adequately protected.

and the data and conclusions are as follows:

THE INSPECTOR ARRIVED AT THE WELL AT 4:00 P. M. AND MR. RAMPTON REPORTED THE FOLLOWING:

1. A 17" rotary hole was drilled from 50' to 758'.

2. 757' of 13-3/8" = 45 lb. casing was run into the hole to 757'.

THE INSPECTOR NOTED THE FOLLOWING:

1. The 13-3/8" casing was cemented at the reported depth of 757' with 350 sacks of Velo 24 hour cement.

2. The cement was displaced from the casing with 673 cubic feet of drilling fluid.

3. The final pressure was 500 lb.

The operations were completed at 4:42 a. m.

THE CEMENTING OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED AS INDICATING THAT THE KNOWN SURFACE WATERS ARE ADEQUATELY PROTECTED.

cc- H. E. Winter

Long Beach

FJR:OH

R. D. BUSH
State Oil and Gas Supervisor

By E. мяслич Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Report on Proposed Operations

No. P1-31816

Los Angeles, Calif. December 23, 1937

Mr. Ed. Jussen, Jr.,
Los Angeles, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to drill Well No. H, Section 13, T. 4 S., R. 13 W., S.B. B. & M., Long Beach Field, Los Angeles County, dated Dec. 20, 1937, received Dec. 21, 1937, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:
"The well is 965 feet N-Wly along the center line of Pacific Electric R.R. from the intersection with the center line of Bixby Road (Proj.) and thence 289' S-Wly at right angles. The elevation of the derrick floor above sea level will be determined later (Approx. 54'). We estimate that the first productive oil or gas sand should be encountered at a depth of about 53.88' U.S.G.S. (Correction letter 1-18-38)"

PROPOSAL:
"We propose to use the following strings of casing, either cementing or landing them as herein indicated: Size of Casing Weight Grade and Type Depth Landed or Cemented
13-3/8 46# New 700 Cemented
8-5/8 36# New 4000 Cemented
6-5/8 liner 26# New 4400 Cemented

The 6-5/8" liner to be a combination splice liner to be cemented through perforations at the base of the "JK" shale. Well is to be drilled with rotary tools. It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing."

DECISION:

THE PROPOSAL IS APPROVED PROVIDED THAT:
1. (a) Mud fluid of not less than 70 lb. per cubic foot shall be used in the drilling of the well and the column of mud fluid shall be maintained at all times to the surface, particularly while pulling the drill pipe.
(b) Adequate blow-out prevention equipment shall be provided and ready for operation at all times.
2. Any hole to be sidetracked at any time during the drilling of this well shall be completely filled with cement.
3. The formations to be left back of the 8-5/8" casing shall be mudded in a manner consistent with good drilling practice.
4. This division shall be notified to examine cores and/or electrical log before running the 8-5/8" casing.
5. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
(a) The cementing of the 13-3/8" surface casing.
(b) A test of the effectiveness of the 8-5/8" shut-off.
(c) A test after drilling out the cement to within 50' of the cementing point to demonstrate that no fluid has access to the well between the 8-5/8" and 6-5/8" casings.

cc- H. E. Winter
Long Beach
WJC/CH

R. D. BUSH
State Oil and Gas Supervisor

By [Signature] Deputy
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well
This notice must be given and surety bond filed before drilling begins

General Exploration Co.

Santa Fe Springs, Calif. Dec. 20, 1937

DIVISION OF OIL AND GAS
Los Angeles, Calif.

In compliance with Section 17, Chapter 718, Statutes of 1911, as amended, notice is hereby given that it is our intention to commence the work of drilling well No. Oil Operators 4, Sec. 13, T. 4 S., R. 13 W., S.B. B. & M., Long Beach Field, Los Angeles County.

Lease consists of N-Wly along the center line of Pacific Electric R.R. from the intersection with the center line of Sixty Road (Proj.)
The well is 965 feet N-Wly, and 51 feet E. or W. from and chance 665 E-Wly at right angles.

The elevation of the derrick floor above sea level is 53.88 U.S.G.S. feet.

We estimate that the first productive oil or gas sand should be encountered at a depth of about feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

<table>
<thead>
<tr>
<th>Size of Casing, Inches</th>
<th>Weight, Lb. Per Foot</th>
<th>Grade and Type</th>
<th>Depth</th>
<th>Landed or Cemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-3/8</td>
<td>46#</td>
<td>New</td>
<td>700</td>
<td>Cemented</td>
</tr>
<tr>
<td>8-5/8</td>
<td>36#</td>
<td>New</td>
<td>4000</td>
<td>Cemented</td>
</tr>
<tr>
<td>6-5/8 liner</td>
<td>26#</td>
<td>New</td>
<td>4400</td>
<td>Cemented</td>
</tr>
</tbody>
</table>

The 6-5/8" liner to be a combination splice liner to be cemented through perforations at the base of the "JK" shale

Well is to be drilled with rotary tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

Address: Santa Fe Springs

Telephone number: Whittier 426-87

UNION OIL COMPANY OF CALIFORNIA,
(Name of Operator)

By

District/Engineer
Mr. Mark Pender  
C.R.G. Properties, LTD (C0250)  
149 S. Barrington Ave. #804  
Los Angeles, CA 90049  

Your report of abandonment of well “Nwlbu” 8-3, A.P.I. No. 037-06496, Section 13, T. 04S, R. 13W, SB B.&M., Long Beach field, Los Angeles County, dated 12/15/2013, received 1/8/2014, has been examined in conjunction with records filed in this office. We have determined that the requirements of this Division have been fulfilled relative to plugging and abandonment of the well, removal of well equipment and junk, and filing of well records. The plugging and abandonment of the well is approved. 

The determination of this well plugging and abandonment is based on the following information, consistent with California Public Resources Code (PRC), and the California Code of Regulations (CCR): 

1. Surface plugging completed on 12/2/2013. 
2. Site inspection made and approved on 12/19/2013. 

Kenneth A. Harris Jr.  
State Oil and Gas Supervisor 

By Scott Walker  
For Daniel J. Dudak, District Deputy 

EPM:epm  
cc: Long Beach Dept. of Gas & Oil  

OG159
Mr Mark Pender  
C.R.G. Properties, LTD (C0250)  
149 S. Barrington Ave. #804  
Los Angeles, CA 90049

Your report of abandonment of well "Nwilbu" 8-3, A.P.I. No. 037-06496, Section 13, T. 04S, R. 13W, SB B.&M., Long Beach field, Los Angeles County, dated 12/12/2013, received 2/4/2014, has been examined in conjunction with records filed in this office. We have determined that all of the requirements of this Division have been fulfilled relative to plugging and abandonment of the well, removal of well equipment and junk, and filing of well records.


2. Site inspection made and approved on 12/19/2013.

Pat Perez  
Acting State Oil and Gas Supervisor

By  
Daniel J. Dudak, District Deputy
SITE RESTORATION MEMO

Operator: C.R.G Properties, Ltd
API No: 037-06496
Field: Long Beach
Mr. / Ms: Abdullmageed (AR) Abdulrahman

Well: "NM, BU" 8-3
Sec: 13
T: 045
R: 13W
County: Los Angeles
Date: 3/21/2014
SB: B&M
Representative of the supervisor was present 1000 to 1200

There were also present: Mick Beyer of AllenCo
Contact Number: (310) 505-9787

Email:

Surface location description: The property at 712 W. Baker Street (Baker Street / Golden Street). The property can be accessed near intersection of Magnolia Ave. and Wardlow Rd.

Date of Abandonment/Re-Abandonment: 11/01/2013

Well Accessibility
Approved: ✗
Not Approved: ☐
Corrected: ☐
Comments: Not obstruction as of the date of the inspection

Oil & Gas Field Equipment Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Oil Field Related Waste/Refuse Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Well Cellar Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Operation Sumps Removed
Approved: ☐
Not Approved: ☐
Corrected: ☐

Not Applicable

Visible Surface Oil Contamination Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Oil Field Related Power Pole(s) Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Tank(s) Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Surface Pipeline(s) Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Pad(s) Removed
Approved: ✗
Not Approved: ☐
Corrected: ☐

Photos Taken For The Final Inspection:
See the following photos.

Number of deficiencies: 1
Deficiency Letter Date: ____________
Deficiency Letter Number: ____________

Photos attached to well file: Yes ☐ No ☐
The inspection as witnessed and reported is approved. Yes ☐ No ☐

By: Abdullmageed G. Abdulrahman
Date: 6/17/2014

Dist 1, Rev 5/2014
All equipment, pipeline, casing or junk were removed from the site. All liquid wastes were removed and properly disposed. Excavations filled with earth and compacted properly to prevent settling.

Additional description of site restoration:

Discription:
# CHECK LIST – RECORDS RECEIVED AND WELL STATUS

**Company:** C.R.G. Properties, LTD  
**API#:** 037-06496  
**County:** Los Angeles

**Well:** NWLBU 8-3  
**Sec.:** 13, **T.:** 4S, **R.:** 13W  
**Field:** Long Beach

<table>
<thead>
<tr>
<th>RECORDS RECEIVED</th>
<th>DATE</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Summary (Form OG100)</td>
<td>2/4/2014</td>
<td></td>
</tr>
<tr>
<td>History (Form OG103)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Record (Form OG101)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directional Survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewall Samples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date final records received.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Logs:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WELL TYPE**

|  | Oil | Waterflood |
|  | Gas | Water Disposal |
|  | Water Source | Cyclic Steam |
|  | Observation | Steam Flood |
|  | Exploratory | Fire Flood |
|  | Dry Hole | Other |

**EFFECTIVE DATE:** 12/12/13  
**REMARKS:** Abandoned

---

## ENGINEERS CHECK LIST

- Summary, History & Core Record (Dupl.)
- Electric Log
- Operator’s Name
- Signature
- Well Designation
- Location
- Elevation
- Notices
- "T" Reports
- Casing Record
- Plugs
- Directional Survey
- Production/Injection (FAP Codes: 412-03-00)
- E Well on Prod., enter EDP
- Surface Inspection Required (Date: 12/19/13)
- Surface inspection Waived (Island)
- Well site restoration deferred (common cellar)
- Final Letter Required

**CLERICAL CHECK LIST**

- Location change
- Elevation change
- Form OGD121
- Form OGD150b (Release of Bond)
- Duplicate logs to archives
- Notice of Records Due
- EDP: MC 5-15-14
- District Date Base: 12/21/14
- Final Letter (OG159): MC 5-15-14

**FIELD CHECK LIST**

- Date Surface Inspection Completed: 12/19/13
- Other:

**RECORDS NOT APPROVED**

<table>
<thead>
<tr>
<th>Reason</th>
</tr>
</thead>
</table>

**RECORDS APPROVED**

- (Signature)  
- RELEASE BOND  
- Date Eligible  
- (Use date last needed records received.)  
- MAP AND MAP BOOK

**OGD2 1/16/14 CYPRESS**
HISTORY OF OIL OR GAS WELL

11-08-13  M.I.R.U. – Installed and tested BOPE – Witnessed by C. Cullum w/DOGGR - Secured Well

11-11-13  R.I.H.5 ½" Scraper tagged dn. @ 5842’ = 104’ above clean out depth - Circ. with water w/returns of oily water and gas - P.O.H. Witnessed by M. Okafor & Z. Amilhussin w/ DOGGR - Secured well

11-12-13  R.I.H.W/Tbg. cleaned out scale and fine sand from 5842’ to 5900’ unable to work deeper – Secured well

11-13-13  W/Tail at 5900’ mixed and pumped 247 cu/ft (217 sxss) class G cement – P.O.H. – Witness by Secured well


11-25-13  Dug down around well and cut casing 5’ below surface – Found cement low inside 10’ and outside 20’ – Secured well

12-03-13  Topped off casing’s with 36 c.f.(31 sxss) class G cement- E. Tabor w/DOGGR witnessed

12-04-13  Surface tag and welding of I.D. Plate Witnessed by P.Kaufman - Backfilled well location - Job complete.
11-08-13 M.I.R.U. - Installed and tested BOPE-Witnessed by C. Cullum w/DOGGR - Secured Well

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12-04-13 Surface tag and welding of I.D. Plate Witnessed by P. Kaufman - Backfilled well location - Job complete.
CEMENTING/PLUGGING MEMO

Operator: CRG Properties
API No. 037-06496
Sec. 13
R. 13W
T. 04S
S.B.
B&M
Field: Long Beach
County: Los Angeles
On: 12-4-13
Mr. / Ms.: J. Collender, representative of the supervisor, was present from 1115 to 1130.

There were also present Mr. Tim Parker (Allenco)

Casing record of well: 13 3/8" cem 765', cp 200'; 8 5/8" cem 3986', drilled thru 3139', cp 2,440'; 5 1/2" Id 3043-5964', cp 4393', perfs 4468-5927'. TD (present hole) 6540'. Plugged w/ cem 6540'-5964', 5878'-4067', 3875'-2773', 2450'-2171', 210'-6.5'.

The operations were performed for the purpose of **Abandonment**

- The plugging/cementing operations as witnessed and reported are approved.
- The location and hardness of the cement plug @ are approved.

<table>
<thead>
<tr>
<th>Hole size: 17</th>
<th>ft. 0</th>
<th>to 765</th>
<th>12 1/4</th>
<th>to 3139</th>
<th>&amp; 7 5/8</th>
<th>to 6540</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing</td>
<td>Cemented</td>
<td>Top of Fill</td>
<td>Squeezed Away</td>
<td>Final Pressure</td>
<td>Perforations</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Wt.</td>
<td>Top</td>
<td>Bottom</td>
<td>Date</td>
<td>MO-Depth</td>
<td>Volume</td>
</tr>
<tr>
<td>8 5/8&quot;</td>
<td>36#</td>
<td>0'</td>
<td>3,986'</td>
<td>11/18/13</td>
<td>tbg@ 2,450'</td>
<td>200 cf</td>
</tr>
<tr>
<td>13 3/8&quot;</td>
<td>46#</td>
<td>0'</td>
<td>210'</td>
<td>11/19/13</td>
<td>tbg@ 200'</td>
<td>103 cf</td>
</tr>
</tbody>
</table>

Casing/tubing recovered: "Shot/cut at __________", "Pulled fr. __________"

Junk (in hole): __________

Hole fluid (bailed to) at __________ Witnessed by __________

<table>
<thead>
<tr>
<th>Mudding</th>
<th>Date</th>
<th>bbls</th>
<th>Displaced</th>
<th>Poured</th>
<th>Fill</th>
<th>Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>83/25</td>
<td>11/14/13</td>
<td>25</td>
<td>4067'</td>
<td>3,875'</td>
<td>2,318'</td>
<td>Z. Amilhussin</td>
</tr>
<tr>
<td>73/26</td>
<td>11/19/13</td>
<td>27</td>
<td>2,773'</td>
<td>1,971'</td>
<td>1,971'</td>
<td>T. Tyler</td>
</tr>
<tr>
<td>73/40</td>
<td>11/19/13</td>
<td>120</td>
<td>2,018'</td>
<td>2,018'</td>
<td>2,018'</td>
<td>T. Tyler</td>
</tr>
</tbody>
</table>

Note (12) Class II 3M; 11/08/13; C. Welty

<table>
<thead>
<tr>
<th>Cement Plugs</th>
<th>Placing</th>
<th>Placing Witnessed</th>
<th>Top Witnessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Sx/cf</td>
<td>MO &amp; Depth</td>
<td>Time</td>
</tr>
<tr>
<td>11-13-13</td>
<td>247 cf</td>
<td>Tbg 5878'</td>
<td>0900</td>
</tr>
<tr>
<td>11-15-13</td>
<td>212 cf</td>
<td>Tbg@ 3875'</td>
<td>0830-1045</td>
</tr>
<tr>
<td>11-18-13</td>
<td>210 cf</td>
<td>Tbg@ 2450'</td>
<td>1300</td>
</tr>
<tr>
<td>11-19-13</td>
<td>73sx/84 cf</td>
<td>Tbg@200'</td>
<td>1425-1500</td>
</tr>
<tr>
<td>12/2/13</td>
<td>36 cf</td>
<td>Top 29.5</td>
<td>1030</td>
</tr>
</tbody>
</table>

* 6 stages with tbg raised from 5878' through 4313'
Mick wants a variance to start cementing at 5900'.

From: Mick Beyer [mailto:mbeyer@allencoca.com]
Sent: Tuesday, November 12, 2013 12:34 PM
To: Moser, Ellen@DOC
Subject: Well Abandonment Nwlbu 8-3

Ellen,

We tagged fill at 5842' cleaned out with water down to 5900' (we had no solid returns to surface, it seemed like cement steamers) we are hitting hard at this depth. Well history is showing cement plug at 5964' it seems we are hitting it at 5900'. We would like approval to start are cement plug at 5900'

Note: On well 9-4 we tagged hard at 9125' when clean out depth was 9151' DOGGR Allowed us to cement at 9125'
Note: On well 9-5 we tagged fill at 9410' cleaned out hard to 9420' when clean out depth was at 9454' DOGGR Allowed us to cement at 9420'

Sincerely,

Mick

Mick Beyer, Operations Manager
mbeyer@allencoca.com
AllenCo
2109 Gundry Avenue
Signal Hill, CA 90755
Phone: 562-989-6100
FAX: 562-989-6104
Cell: 310-505-9787
www.allenco-oilwellservice.com

Telecon w/M. Beyer- gravel sized chunks of cement had been brought up for some time with well fluids when circulating. Then brought up chunks of cement. Fill at 5900' is hard, push on w/ 20k#. Okayed to cement. Allenco will use 8 5/8' scrapers to liner top, then circulate before placing mud. KMA 11/12/13.

11/14/13 Okayed change in program to place one plug from 3175' to 2800'. KMA
Mr Mark Pender  
C.R.G. Properties, LTD (C0250)  
149 S. Barrington Ave. #804  
Los Angeles, CA 90049  

Cypress, California  
January 24, 2014

Your operations at well "Nwibu" 8-3, A.P.I. No. 037-06496, Sec. 13, T. 04S, R. 13W, SB B.&M., Long Beach field, in Los Angeles County, were witnessed on 11/8/2013, by Jack Collender, a representative of the supervisor.

The operations were performed for the purpose of plugging and abandonment.

DECISION:  APPROVED

NOTE: The required Class 112M blowout prevention equipment was inspected and approved on 12/4/2013.

DEFICIENCIES NOTED AND CORRECTED: NONE

KMA:dt

cc: Update

Tim Kustic  
State Oil and Gas Supervisor

By:  
Daniel J. Dudak, District Deputy

OG109 (Rev. 10/2011)
**BLOWOUT PREVENTION EQUIPMENT MEMO**

- **Operator:** C.R.G. Properties, LTD
- **Well:** "NWLB" 8-3
- **Field:** Long Beach
- **County:** L.A.
- **Spud Date:**
- **VISITS:**
  - **Date:** 11/08/13
  - **Engineer:** C. Welty
  - **Time:** 1500 to 1530
  - **Operator's Rep.:**
  - **Title:**
  - **Contractor:** Allenco
  - **Rig #:** 2
  - **Contractor's Rep. & Title:** Derick Beyer, Driller
  - **Casing record of well:** memo

**OPERATION:**
- Testing (inspecting) the blowout prevention equipment and installation. Critical well? Y \( \square \) N \( \square \)

**DECISION:**
- The blowout prevention equipment and its installation on the 8.625" casing are approved.

**PROPOSED WELL Ops:**
- Abandonment

**HOLE size:**
- "fr. to "
- "to "
- "to "

---

**CASING RECORD OF BOPE ANCHOR STRING**

<table>
<thead>
<tr>
<th>Size</th>
<th>Weight(s)</th>
<th>Grade(s)</th>
<th>Shoe at</th>
<th>CP at</th>
</tr>
</thead>
</table>

---

**BOP STACK**

- **API Symb.**
- **Bore Size (in.)**
- **Manufacturer**
- **Model or Type**
- **Vert. Bore Size (in.)**
- **Press. Rtg.**
- **Date Last Overhaul**
- **Gal. to Close**
- **Recover Time (Min.)**
- **Calc. GPM Output**
- **psi Drop to Close**
- **Secs. to Close**
- **Test Date**
- **Test Press.**

---

**ACTUATING SYSTEM**

- **Accumulator Unit(s) Working Pressure:** 1,400 psi
- **Total Rated Pump Output:** gpm
- **Distance from Well Bore:** 30 ft.
- **Fluid Level:** ok

<table>
<thead>
<tr>
<th>Accum. Manufacturer</th>
<th>Capacity</th>
<th>Precharge</th>
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<tbody>
<tr>
<td>1 Koomey type</td>
<td>20gal.</td>
<td>1000psi</td>
</tr>
<tr>
<td>2 gal.</td>
<td>psi</td>
<td></td>
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**CONTROL STATIONS**

<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>x</td>
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<td></td>
</tr>
</tbody>
</table>

**EMERG. BACKUP SYSTEM**

<table>
<thead>
<tr>
<th>Cylinders</th>
<th>Press.</th>
<th>Wkg Fluid</th>
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</thead>
<tbody>
<tr>
<td>1 L= 51</td>
<td>2280psi</td>
<td>7 gal.</td>
</tr>
<tr>
<td>2 L= 51</td>
<td>2280psi</td>
<td>7 gal.</td>
</tr>
<tr>
<td>3 L=</td>
<td>2280psi</td>
<td>gal.</td>
</tr>
<tr>
<td>4 L=</td>
<td>2280psi</td>
<td>gal.</td>
</tr>
<tr>
<td>5 L=</td>
<td>2280psi</td>
<td>gal.</td>
</tr>
<tr>
<td>6 L=</td>
<td>2280psi</td>
<td>gal.</td>
</tr>
</tbody>
</table>

**HOLE FLUID MONITORING EQUIPMENT**

<table>
<thead>
<tr>
<th>Alarm Type</th>
<th>Audible</th>
<th>Visual</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibrated Mud Pit</td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Pit Level Indicator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Stroke Counter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pit Level Recorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow Sensor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mud Totalizer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibrated Trip Tank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**REQUIRED BOPE CLASS:**

- **NI 3M C. Welty 1/8/13**

---

**REMARKS AND DEFICIENCIES:**
- Lease water.
46°

13°8' to 76°

350 x 0.25

350 x 0.0117 = 670

ETOC = 0.95

ETOC = 28°99

12°4'

drilled through C-513B

3187

3174

(WSD) 8°8' 86' to 3986

400 x 0.0117 = 4.88

3991 - 3958 inside 5°6" uses 110 cf

457 x 0.0117 = 5.47

ETOC = 28.97

(1/2) 4 1/4

5139

3532

5129

Liner + 3932

5101

4985

600

4893

4007

7°5/8' hole

TD = 6540'

7.43 cf in 5°2' x 7°5/8'

fills from 5964' to 3048'

KWA

11-6-13
PERMIT TO CONDUCT WELL OPERATIONS

CRITICAL WELL

Mr Mark Pender, Agent
C.R.G. Properties, LTD (C0250)
149 S. Barrington Ave. #804
Los Angeles, CA 90049

Your proposal to Abandon well "Nwlbu" 8-3. A.P.I. No. 037-06496, Section 13, T. 04S, R. 13W, SB B. & M., Long Beach field, Northwest Extension area, Brown pool, Los Angeles County, dated 7/10/2013, received 7/10/2013 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:
1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements.
   a. Class II3M, with hydraulic controls, during abandonment operations.
   b. A 3M lubricator for wireline operations.
2. Blowout prevention practice drills are conducted at least weekly and recorded on the tour sheet. A practice drill may be required at the time of the test/inspection.
3. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
4. All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu.ft and a minimum gel shear strength of 25 lbs./100 sq. ft.
5. Prior to shooting any perforations for braidenhead squeezes, a pressure test of the 8-5/8" casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a retainer or packer is required for squeeze operations.
6. The well location shall be surveyed prior to burying the well, and the survey shall be filed with this office. Latitude and longitude shall be in decimal degrees, to six decimal places, in NAD83.
7. All casing must be removed from between 5' and 10' below ground level.
8. Well site restoration shall be completed within 60 days following the completion of plugging operations.
9. No program changes are made without prior Division approval.
10. THIS DIVISION SHALL BE NOTIFIED TO:
    a. Inspect the installed blowout prevention equipment prior to commencing downhole operations.
    b. Witness the clean-out depth at 6540'.

No Bond Required

cc: Update
    EDP
    AllenCo.
    DOGGR – Dist. 1 (Cypress)

Engineer Ellen Plaza Moser
Office (714) 816-6847

EPM/epm

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

OG111 (revised 6/2011)
Page 1 of 2
c. Witness the placing, location and hardness of the cement plug from 6540' to 4193'.
d. Witness the mudding operations.
e. Witness the placing, location and hardness of the cement plug from 3875' to 3675'.
f. Witness the placing, location and hardness of the cement plug from 3043' to 2800'.
g. Witness a pressure test of the 8-5/8" casing.
h. Witness the cement squeeze through the perforations at 2440' through a retainer or packer (if casing integrity is not demonstrated).
i. Witness the placing, location and hardness of the cement plug from 2450' to 2190'.
j. Witness the cement squeeze through the perforations at 210' through a retainer or packer (if casing integrity is not demonstrated).
k. Witness the placing, location and hardness of the cement plug from 210' to surface', including all annular spaces.
l. Inspect the restored well site.

NOTE:
1. Upon completion of the proposed work, a History of Oil or Gas Well (form OG103) shall be submitted to this office.
2. The well abandonment history (History of Oil or Gas Well - form OG103), must include a description of the removal or abandonment of the well flowline and any associated piping.
3. Hydrogen sulfide gas (H₂S) is known to be present in this area, adequate safety precautions shall be taken prior to and during well operations.
4. The operator shall isolate the following zones:
   a. Base of the Freshwater Sand at 2260'.
   b. Top of the Upper Gas Zone at 2400'.
   c. Top of the Wilbur Zone at 3000'.
   d. Top of the Alamitos Zone at 3875'.
   e. Top of the Brown Zone at 4680'.

Failure to achieve adequate zonal isolation may have negative impacts on current and future operations. In addition, failure to achieve adequate zonal isolation will also be noted on the Report of Operations (OG 109).
NOTICE OF INTENTION TO ABANDON / RE-ABANDON WELL

In compliance with Section 3229, Division 3, Public Resources Code, notice is hereby given that it is our intention to abandon ☐ / re-abandon ☑ well "Nwibu" 8-3, API No. 037-06496, Sec. 13, T. 4s, R. 13w, S.B., B&M, Long Beach Field, Los Angeles County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

See Attachment

The total depth is: 6540 feet. The effective depth is: 5964 feet.

Present completion zone(s): see attachment. Present zone pressure: N/A psi.

Oil or gas shows: see attachment feet. Depth to base of fresh water: 2260 feet.

Top of uppermost hydrocarbon zone (which may be behind unperforated casing): see attachment feet.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes ☑ No ☐

The proposed work is as follows: (A complete program is preferred and may be attached.)

See Attachment.

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator
C.R.G. Properties, Ltd

Address
2109 SUNDRY AVE.

Name of Person Filing Notice
MICK BEYER

Telephone Number: 562 989-6100

Signature

Individual to contact for technical questions:
MICK BEYER

Telephone Number: 310 505-9787

E-Mail Address: Mbeyer@allencoca.com

This notice must be filed, and approval given, before plugging and abandonment operations begin. If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

OG108 (1/09)
CRITICAL WELL DEFINITION

As defined in the California Code of Regulations, Title 14, Section 1720 (a), "Critical well" means a well within:

(1) 300 feet of the following:
   (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
   (B) Any airport runway.

(2) 100 feet of the following:
   (A) Any dedicated public street, highway or the nearest rail of an operating railway that is in general use;
   (B) Any navigable body of water or watercourse perennially covered by water;
   (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground or any other area of periodic high-density population; or
   (D) Any officially recognized wildlife preserve.

This form may be printed from the DOGGR website at www.conservation.ca.gov/doggr/
EXHIBIT A – Attachment II (continued)
WELL CONDITIONS AND ABANDONMENT SPECIFICATIONS

C.R.G. Properties, Ltd.  Well "Nwilbu" 8-3 (037-06496), Sec.13, Twn. 4S, Rge. 13W,S.B. B&M, Long Beach Oil Field.

According to Division records, the present condition of the well is as follows:
1. **Location:** West of Pacific Place just North of the 710 freeway on ramp. See map Exhibit A - Attachment II
2. **Accessibility:**
3. **Status:** Idle deserted
4. **Total Depth:** 6640'  **Effective Depth:** 5964'  **Elevation of Kelly Bushing (KB) above sea level:** 50'
5. **Casing:** 13-3/8" 45.97# casing cemented 765' with estimated top cement behind pipe at 84°F+/-; 8-5/8" 36# casing cemented 3986' with estimated top of cement behind pipe at 2865' +/-, 'drilled thru 3193'; 5-1/2" 15.5# id 3043' – 5664'; cp 4393, estimated top of cement behind pipe at 3043, perforated from 4458' to 5827'.
6. **Tubing:** Unknown  **Rods:** Unknown
7. **Base of Fresh Water (BFW):** 2280'
8. **Producing Zone(s):** Alamitos
9. **Hole Fluid:** Unknown
10. **Junk:** Unknown
11. **Plugs:** 6540' to 6664'.
12. **Comments:** Top of Brown zone 4680', top of Alamitos zone 3875', top of Wilbur zone 3000', and top of Upper Gas zone 2400'.

The following operations are necessary to plug and abandon the well:

1. A Notice of Intention to Abandon (form OG 108) is to be filed with this Division at least 10 days prior to commencing work. Work is not to begin until a Permit to Conduct Well Operations (Form OG 111) has been issued. All well operations are to be witnessed by a representative of this Division as directed in the Permit to Conduct Well Operations.

2. The abandonment contractor will review job safety programs (JSP) with all crewmembers prior to work startup and/or if conditions change. Monitor well for any leaking gas. Position gas monitors and ventilation fans, if warranted before moving in any other equipment or personnel.

3. Adequate blowout prevention equipment, as defined in Division's publication No. M07, shall be installed and maintained in operating condition at all times. The minimum requirements are:
   a. A 3M rod Reagan or equivalent BOPE for pulling rods and pump operations.
   b. A Class II3M, with hydraulic controls, during abandonment operations.
   c. A 3M lubricator for wire line operations.

4. All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu ft and a minimum gel shear strength of 25 lbs. /100 sq. ft. All cement plugs are to have a minimum compressive strength of 1000 psi and maximum liquid permeability of 0.1 md. All depths noted are from the KB.

5. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
EXHIBIT A – Attachment II (continued)
WELL CONDITIONS AND ABANDONMENT SPECIFICATIONS

6. Kill well. Install and function test rod Reagan or equivalent BOPE. Pull out of the hole with rods and pump.

7. Remove rod Reagan. Install and function test Class II3M BOPE (function test BOPE each day thereafter).

8. Pull out all production tubing.

9. Use appropriate combination tools to clean out to 6540'.

10. Run in scraper. Scrape the 8 5/8" and the 5 1/4" casings.

11. Run in hole with tubing (if tag high, clean out fill to 6540').

12. The well shall be plugged with cement from 6540' to 4193'.

13. The well shall be plugged with cement from 4175' to 3675'.

14. The well shall be plugged with cement from 3043' to 2800'.

15. Prior to shooting any perforations for braidhead squeezes, a pressure test of the casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a retainer or packer is required for squeeze operations.

16. The 8-5/8" casing shall be perforated from 2440 to 2450'. Get an injection rate or a breakdown.

17. Sufficient cement shall be squeezed into the perforations to fill to 2490' outside the 8-5/8" casing.

18. The well shall be plugged with cement from 2450' to 2190'.

19. The 8-5/8" casing shall be perforated from 210 to 200'. Get an injection rate or a breakdown.

20. Sufficient cement shall be squeezed into the perforations to fill to surface.

21. The well shall be plugged with cement from 210' to surface.

22. The 13-3/8" X 17" annulus shall be plug with cement from 84' to surface.

23. All casing must be removed from between 5' and 10' below ground level.

24. A steel plate, at least as thick as the outer well casing and bearing the last five digits of the API number, shall be tack welded around the top of the outer casing.

25. Cellar, production pads and pipelines shall be removed and the resulting excavations filled with earth and compacted properly to prevent settling.

26. Remaining buried pipelines that cannot be removed shall be purged with clean water. Abandon line by pumping approved cement slurry mixture, weld steel cap on both ends of the line and bury.
27. All equipment, casing, or junk that requires removal to implement restoration to lawful conditions shall be removed and properly disposed of in accordance with environmental laws and in accordance with instructions from the Division of Oil and Gas. All liquid wastes shall be removed and properly disposed.

28. A well History (Form OG 103) shall be filed in duplicate with the Division within 60 days of completing the work and must include a description of the removal or abandonment of the well flow line and any associated piping.
DEPARTMENT OF CONSERVATION
Division of Oil, Gas, and Geothermal Resources
5816 Corporate Avenue, Suite 200
Cypress, California 90630
Telephone (714) 816-6847
Facsimile (714) 816-6853

STATE OF CALIFORNIA
NATURAL RESOURCES AGENCY
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

REVISED

FORMAL ORDER TO:
PLUG AND ABANDON WELLS &
RESTORE LEASE CONDITIONS

NO. 1032
Dated: October 18, 2012
Operator: C.R.G. Properties, Ltd. (C0250)

BY
Tim Kustic
STATE OIL AND GAS SUPERVISOR

ORDER NO. 1032
Order to Plug and Abandon Wells & Restore Lease Conditions
## REPORT OF PROPERTY AND WELL TRANSFER

### Field or County
Long Beach

### Former owner
Pacific Energy Res.

### District
District 1 (Cypress, California)

### Date
July 26, 2000

<table>
<thead>
<tr>
<th>Well Name</th>
<th>API Number</th>
<th>Section Township Range</th>
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<tbody>
<tr>
<td>&quot;Nwlbu&quot; 5-2</td>
<td>037-00397</td>
<td>Sec. 13-4S-13W</td>
</tr>
<tr>
<td>&quot;Nwlbu&quot; 5-3</td>
<td>037-09796</td>
<td>Sec. 13-4S-13W</td>
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<td>&quot;Nwlbu&quot; 5-4</td>
<td>037-09797</td>
<td>Sec. 13-4S-13W</td>
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<td>037-06496</td>
<td>Sec. 13-4S-13W</td>
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<td>037-06415</td>
<td>Sec. 13-4S-13W</td>
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<td>Sec. 13-4S-13W</td>
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<td>Sec. 13-4S-13W</td>
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<td>037-03092</td>
<td>Sec. 13-4S-13W</td>
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<td>037-00142</td>
<td>Sec. 13-4S-13W</td>
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<td>&quot;Nwlbu&quot; 9-6</td>
<td>037-00393</td>
<td>Sec. 13-4S-13W</td>
</tr>
</tbody>
</table>

Description of the land upon which the well (s) is (are) located.

**See above**

### Date of transfer
May 9, 2000

### New owner
C.R.G. Properties, Ltd. C0250

### Type of organization
Corp./Ltd.

### Address
15332 Antioch Street, Suite 338
Pacific Palisades, CA 90272

### Telephone
(310) 808-9071

### Reported by
OG34A received 6/2/2000 signed by both parties

### Confirmed by
Same as above

### New operator new status
PA

### Designation of Agent
Mark Pender

### Old operator new status
PA

See operator file for C.R.G. Properties, Ltd. for details.

### OPERATOR STATUS ABBREVIATIONS
- PA - Producing Active
- NPA - No potential, Active
- PI - Potential Inactive
- NPI - No potential, Inactive
- Abandoned or No More Wells

### cc:
Update; Envir Dsk; File Conservation Committee
Harold W. Bertholf, Inc.
LA County Assessor
Sacramento EDP
Cypress EDP

### FORM AND RECORD CHECK LIST

<table>
<thead>
<tr>
<th>Form or Record</th>
<th>Initials</th>
<th>Date</th>
<th>Form or Record</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form OGD121</td>
<td>N/A</td>
<td></td>
<td>Map and Book</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operator Card</td>
<td></td>
<td></td>
<td>Notice cancellations</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Well Records</td>
<td>(2)</td>
<td>7/27/2000</td>
<td>Bond Status</td>
<td>(2)</td>
<td>7/27/2000</td>
</tr>
<tr>
<td>Log Records</td>
<td>(2)</td>
<td>7/5/2000</td>
<td>EDP</td>
<td>(2)</td>
<td>7/5/2000</td>
</tr>
<tr>
<td>Production Repts</td>
<td>N/A</td>
<td></td>
<td>Data Base</td>
<td>(2)</td>
<td>7/4/2000</td>
</tr>
</tbody>
</table>

Deputy Supervisor: R. K. Baker
Signature: Floyd M. Leeson
Operations Engineer:
WELL TRANSFER NOTICE

EFFEC MAY 9, 1994, PETRO RESOURCES, INC.
TRANS LONG BEACH NWLBU WELLS
TO PACIFIC ENERGY
SEE OGD156 DATED 5-13-94
REPORT OF PROPERTY AND WELL TRANSFER

<table>
<thead>
<tr>
<th>Field or county</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Beach</td>
<td>1</td>
</tr>
</tbody>
</table>

**Former owner**

<table>
<thead>
<tr>
<th>Name and location of well(s)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Exploration &amp; Production Co.</td>
<td>June 15, 1983</td>
</tr>
</tbody>
</table>

Name and location of well(s):

- NWLBU 5-1 (037-09795)
- NWLBU 5-2 (037-00397)
- NWLBU 5-3 (037-09796)
- NWLBU 5-4 (037-09797)
- NWLBU 6-1 (037-09788)
- NWLBU 6-2 (037-09789)
- NWLBU 8-1 (037-09792)
- NWLBU 8-2 (037-09793)
- NWLBU 8-3 (037-06496)
- NWLBU 8-4 (037-06415)
- NWLBU 8-7 (037-22512)
- NWLBU 9-3 (037-09791)
- NWLBU 9-4 (037-00392)
- NWLBU 9-5 (037-00142)
- NWLBU 9-6 (037-00393)
- NWLBU 9-2 (037-13525)

Description of the land upon which the well(s) is (are) located

**Date of transfer,**

<table>
<thead>
<tr>
<th>Date</th>
<th>Name of new owner</th>
<th>Address</th>
<th>Type of organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1, 1983</td>
<td>Petro Resources, Inc.</td>
<td>4200 Easton Drive, Suite 16, Bakersfield, CA 94309</td>
<td>Corp.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>805/323-4118</td>
</tr>
</tbody>
</table>

**Reported by**

Letter from Sun Exploration & Production Co. dated 5-16-83.

**Confirmed by**


**New operator new status**

<table>
<thead>
<tr>
<th>Status</th>
<th>Request designation of agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td>Joe D. Rose, same address.</td>
</tr>
</tbody>
</table>

**Old operator new status**

<table>
<thead>
<tr>
<th>Status</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td></td>
</tr>
</tbody>
</table>

**Operator status abbreviations**

- PA - Producing Active
- NPA - No Potential, Active
- PI - Potential Inactive
- NPI - No Potential, Inactive
- Ab - Abandoned or No More Wells

**Form and record check list**

<table>
<thead>
<tr>
<th>Form or record</th>
<th>Initials</th>
<th>Date</th>
<th>Form or record</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>OGD121</td>
<td>CP</td>
<td>1-1-83</td>
<td>Map and book</td>
<td>137</td>
<td>71/12/83</td>
</tr>
<tr>
<td>OGD140</td>
<td>NONE</td>
<td></td>
<td>Notice to be cancelled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New well cards</td>
<td>CP</td>
<td>1-1-83</td>
<td>Bond status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well records</td>
<td>CP</td>
<td>1-1-83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric logs</td>
<td>CP</td>
<td>1-1-83</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Deputy Supervisor**

V. F. Gaede

**Signature**

[Signature]
Name change from Sun Oil Co. to SUN EXPLORATION & PRODUCTION CO.

1-1-82, Form 156 dated 1-21-82. See ownership file.
STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Long Beach, California
Oct. 4, 1979

Mr. L. B. Carroll, Jr., Agent
Sun Oil Co.
23928 Lyons Ave.
Newhall, CA 91321

DEAR SIR:

Your request dated March 19, 1979, relative to change in designation of well(s) in Sec. 13, T. 4S, R. 13W, S.B.B. & M., Long Beach field, Los Angeles County, District No. 1, has been received; and in accordance with Section 3203, Public Resources Code, reading in part as follows:

"* * * The number or designation by which any well heretofore drilled has been known, and the number or designation specified for any well in a notice filed as required by Section 3203, shall not be changed without first obtaining a written consent of the Supervisor."

the proposed change in designation is hereby authorized as follows:

<table>
<thead>
<tr>
<th>Old Designation</th>
<th>API</th>
<th>New Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Oil Operators&quot;</td>
<td>1. 2</td>
<td>NWLB 8-1</td>
</tr>
<tr>
<td>&quot;Pool&quot;</td>
<td>1. 2</td>
<td>NWLB 8-2</td>
</tr>
<tr>
<td>&quot;Amebco&quot;</td>
<td>1. 2</td>
<td>NWLB 8-3</td>
</tr>
<tr>
<td>&quot;Flood Control&quot;</td>
<td>2. 3</td>
<td>NWLB 8-4</td>
</tr>
<tr>
<td>&quot;            &quot;</td>
<td>4</td>
<td>NWLB 5-1</td>
</tr>
<tr>
<td>&quot;            &quot;</td>
<td>3</td>
<td>NWLB 5-2</td>
</tr>
<tr>
<td>&quot;            &quot;</td>
<td>5</td>
<td>NWLB 5-3</td>
</tr>
<tr>
<td>&quot;            &quot;</td>
<td>6</td>
<td>NWLB 5-4</td>
</tr>
</tbody>
</table>

RNS: sc

cc: Update Center
    EDP
    Conservation Committee

[Signature]
John E. Matthews, Jr.
State Oil and Gas Supervisor

[Signature]
R. A. Ybarra
Acting Deputy Supervisor

[Signature]
# REPORT OF PROPERTY AND WELL TRANSFER

**Field or county:** Long Beach

**Former owner:** General Exploration Co.

**Date:** February 15, 1979

**Name and location of well(s):**

<table>
<thead>
<tr>
<th>Section</th>
<th>Well Name</th>
<th>Location</th>
<th>Operator Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-4S-13W</td>
<td>&quot;Dominguez&quot; 2-10</td>
<td>(037-11859)</td>
<td>&quot;Flood Control&quot; 6</td>
<td>(037-00393)</td>
</tr>
<tr>
<td>13-4S-13W</td>
<td>&quot;Amebco&quot; 1</td>
<td>(037-09788)</td>
<td>&quot;Oil Operators&quot; 1</td>
<td>(037-09792)</td>
</tr>
<tr>
<td></td>
<td>&quot;Amebco&quot; 2</td>
<td>(037-09789)</td>
<td>&quot;Oil Operators&quot; 2</td>
<td>(037-09793)</td>
</tr>
<tr>
<td></td>
<td>&quot;Flood Control&quot; 2</td>
<td>(037-13525)</td>
<td>&quot;Oil Operators&quot; 3</td>
<td>(037-06496)</td>
</tr>
<tr>
<td></td>
<td>&quot;Flood Control&quot; 4</td>
<td>(037-09791)</td>
<td>&quot;Oil Operators&quot; 4</td>
<td>(037-06415)</td>
</tr>
<tr>
<td></td>
<td>&quot;Flood Control&quot; 5</td>
<td>(037-00142)</td>
<td>&quot;Pool&quot; 1</td>
<td>(037-09795)</td>
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<tr>
<td></td>
<td>&quot;Flood Control&quot; 6</td>
<td>(037-00142)</td>
<td>&quot;Pool&quot; 2</td>
<td>(037-00397)</td>
</tr>
<tr>
<td></td>
<td>&quot;Flood Control&quot; 7</td>
<td>(037-00142)</td>
<td>&quot;Pool&quot; 3</td>
<td>(037-09796)</td>
</tr>
<tr>
<td></td>
<td>&quot;Flood Control&quot; 8</td>
<td>(037-00142)</td>
<td>&quot;Pool&quot; 4</td>
<td>(037-09797)</td>
</tr>
</tbody>
</table>

**Description of the land upon which the well(s) is (are) located:**

**Sec. 14-4S-13W**

- "Dominguez" 1  
  - (037-11856)

**Date of transfer, sale, assignment, conveyance, or exchange:**

- Dec. 1, 1978

**New owner:** Sun Oil Company

**Address:** 23928 Lyons Avenue

**Newhall, CA 91321**

**Type of organization:** Corporation

**Date:** February 15, 1979

**New operator:**

- Form or record
- Initials
- Date
- Form or record
- Initials
- Date

**Old operator new status:**

- PA

**New operator new status:**

- AB

**Old operator new status:**

**Remarks:**

**OPERATOR STATUS ABBREVIATIONS**

- PA: Producing Active
- NPA: No Potential, Active
- PI: Potential Inactive
- NPI: No Potential, Inactive
- Ab: Abandoned or No More Act.
- New well logs
- Well records
- Electric logs
- Production records

**FORM AND RECORD CHECK LIST**

- OGD15b 11-37 GFRM-2U4
**DIVISION OF OIL AND GAS**

**CHECK T - RECORDS RECEIVED AND WELL STATUS**

**Company:** GENERAL EXPLORATION  
**Well No.:** Oil Operators  
**API No.:** 037-06496  
**Sec., T., R.:** 13, 45, 130  
**County:** LA  
**Field:** LONG BEACH

<table>
<thead>
<tr>
<th>RECORDS RECEIVED</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Summary (Form OG100)</td>
<td></td>
</tr>
<tr>
<td>History (Form OG103)</td>
<td>5-27-77</td>
</tr>
<tr>
<td>Core Record (Form OG101)</td>
<td></td>
</tr>
<tr>
<td>Directional Survey</td>
<td></td>
</tr>
<tr>
<td>Sidewall Samples</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Date final records received</td>
<td></td>
</tr>
<tr>
<td>Electric logs</td>
<td></td>
</tr>
</tbody>
</table>

**STATUS**

<table>
<thead>
<tr>
<th>Status Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producing - Oil</td>
<td>X Water Disposal</td>
</tr>
<tr>
<td>Idle - Oil</td>
<td>Water Flood</td>
</tr>
<tr>
<td>Abandoned - Oil</td>
<td>Steam Flood</td>
</tr>
<tr>
<td>Drilling - Idle</td>
<td>Fire Flood</td>
</tr>
<tr>
<td>Abandoned - Dry Hole</td>
<td>Air Injection</td>
</tr>
<tr>
<td>Producing - Gas</td>
<td>Gas Injection</td>
</tr>
<tr>
<td>Idle - Gas</td>
<td>CO2 Injection</td>
</tr>
<tr>
<td>Abandoned - Gas</td>
<td>LPG Injection</td>
</tr>
<tr>
<td>Gas-Open to Oil Zone</td>
<td>Observation</td>
</tr>
<tr>
<td>Water Flood Source</td>
<td>DATE 4-24-77</td>
</tr>
</tbody>
</table>

**REMARKS**

**ENGINEER'S CHECK LIST**

1. Summary, History, & Core record (dpl.)
2. Electric Log
3. Operator's Name
4. Signature
5. Well Designation
6. Location
7. Elevation
8. Notices
9. 'TH' Reports
10. Casing Record
11. Plugs
12. Surface Inspection
13. Production

**CLERICAL CHECK LIST**

1. Location change (F-OGD165)
2. Elevation change (F-OGD165)
3. Form OGD121
4. Form OGD159 (Final Letter)
5. Form OGD150b (Release of Bond)
6. Duplicate logs to archives
7. Notice of Records due (F-OGD170)

**RECORDS NOT APPROVED**

**RECORDS APPROVED**

**RELEASE BOND**

Date Eligible 5-22-77  
(Use date last needed records were received.)

**MAP AND MAP BOOK**

LONG BEACH OFFICE - USE REVERSE SIDE
History of Oil or Gas Well

**Operator**: GENERAL EXPLORATION CO.  **Field**: NORTH LONG BEACH  
**Well No.**: OIL OPERATORS 3, Sec. 13, T. 48, R. 13W, SB B. & M.  
**Date**: 5-25, 1971  
**Signed**: Production Superintendent

**4021 N. PACIFIC LONG BEACH**  
**Title**: 213-636-1629  
**Address**:  
**Telephone Number**:  
**President, Secretary or Agent**:

---

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

---

**4-16-77**  
**Rigged up well servicing unit. Pulled rods & tubing. Ran bailer and tagged fill at 5870'. Installed BOP.**

**4-17-77**  
**Ran Baker scraper and brushes in hole. Tested tubing to 5000psi. Rigged up Dresser Atlas. Ran correlation log and perforated 2 hpf as follows: 4740'-4765'; 4775' - 4707'; 4792' - 4810'.**

**4-18-77**  
**Ran scraper through new perfs. Ran wash tool with retrievematic packer to top of liner.**

**4-19-77**  
**Washed perfs with acid mixture**
A. 10 gal/ft 15% BJ One shot (15% solvent)  
B. 15 gal/ft 12-3 46C-4HF One shot (10% Solvent)  
C. 10 gal/ft #1 Diesel Fuel containing 10% EGMBE Mutual Solvent

**4-20-77**  
**Continued washing perfs. Surged perfs with wash tool, pulled out, ran in hole with suction washer.**

**4-21-77**  
**Suction washed perfs. Ran bailer, tagged fill at 5849!**

**4-22-77**  
**Ran tubing and rods. Put well on production.**

**4-23-77**  
**Well did not pump up.**

**4-24-77**  
**Pulled rods and pump. Barrel unscrewed, ran new pump. Put well back on production.**

32.2 BOPD  25.7 BWPD  45.1% GUT
History of Oil or Gas Well

Operator  GENERAL EXPLORATION CO.  Field  NORTH LONG BEACH

Well No.  OIL OPERATORS #3  Sec. 13  T. 4S  R. 13W  SB B. & M.

Date  5-3-77  Signed  Robert Sharp

4021 N. PACIFIC  213-636-1629  Title  Production Superintendent
(Address)  LONG BEACH  (Telephone Number)  (President, Secretary or Agent)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

OIL OPERATORS 3 CONTINUED

Well condition at completion of work:

TD 1st hole; 5450'; TD 2nd hole 5833' (redrilled from 3142' through 8 5/8" casing window 3139' - 3174'); TD 3rd hole, 6540' (redrilled from cement plug 5094')

Casing Detail:
13-3/8" C 765',
8-5/8" C 3139',
5-1/2" C 5964', top 3043' (lap wse), CP 4393'

Perfs 4394'-95 wsd
4407'-4444'; 4458' - 4498'; 4565' - 4616';
4740'-4765'; 4775' - 4787'; 4792' - 4810';
5397'-5430'; 5692' - 5707'; 5711' - 5728';
5733'-5752'; 5794' - 5808'; 5812' - 5827'

Date

RECEIVED
RECEIVED
May 27 12:45 PM '77
DIV. OF OIL AND GAS
LONG BEACH, CA.
Mr. R. L. Graves, Agent
GENERAL EXPLORATION CO.
4021 N. Pacific Place
Long Beach, CA 90806

Long Beach, Calif.
June 17, 1976

Dear Sir:

Your proposal to rework Well No. "Oil Operators" 3,
Section 13, T. 48, R. 13W, S.B. B. & M., Long Beach Field, Los Angeles County,
dated 4/15/76, received 6/15/76, has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment with a minimum 2000 psi working pressure shall be installed and maintained in operating condition during all stages of perforating.

2. Well records, under Sec. 3215 of the Public Resources Code, are received 60 days after recompletion of the well.

RFC:dr
Blanket Bond

5/25/72
Graves/Crowder
Work done history
will be filed

HAROLD W. BERTHOLF, State Oil and Gas Supervisor

By M.B. Allwright, Deputy
Mr. Robert L. Graves, Agent
General Exploration Co.
4021 N. Pacific Place
Long Beach, CA 90806

Gentlemen:
Dear Sir:

I have received your notice dated April 15, 1976, of notice of intention to rework Well No. "Pool" 2 & "Oil Operators" 3 in Sec. 13, T. 4 S., R. 13 W., S.B. B. & M., Long Beach field.

Your notices to rework cannot be considered until a surety bond in the sum of $5,000.00 has been filed for each well. Operations should not be started until the approval of this Division has been received. This will ensure that you have notice of our requirements.

The notices are being returned to you for signatures. Please return these signed notices with the bond.

HAROLD W. BERTHOLF
State Oil and Gas Supervisor

By__M. B. AIRWRIGHT__________
Deputy Supervisor

Enc.
(2nd request 6-3-76)
OG113 (12-73-GSR1-1M)
DIVISION OF OIL AND GAS
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well
This notice must be given before work begins; one copy only

Long Beach  Calif.  April 15  1976

DIVISION OF OIL AND GAS
In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to
comence the work of deepening, redrilling, plugging or altering casing at Well No. "Oil Operators" 3
(Cross out unnecessary words)
Lease  Sec. 13  T. 45  R. 13 W, 58 B. & M.
Long Beach  Field, Los Angeles  County.
The present condition of the well is as follows:

1. Total depth.  - 6540'  PBTD - 5964'

2. Complete casing record, including plugs:
   
   13 3/8" c  765'
   8 5/8" c  3139'  (Milled for Window)
   5 1/2", 15.5#  J-55 c  3043' to 5964'
   Perfs 4394-95 (wso); 4407-4441; 4458-4498; 4562-4616;
   5397-5430'; 5692-5707'; 5711-5728'; 5733-5752;
   5794-5808'; 5812-5827'

3. Last produced.  4/15/76  9.2  14.9  (Date) (Oil, B/D) (Water, B/D) (Gas, Mcf/D)
The proposed work is as follows:

   1. Pull Pump, Rods, & Tubing
   2. Perforate following intervals
      4740'-4765'
      4775'-4797'
      4792'-4810'
   3 Return well to production

4821 Pacific Place  General Exploration Co
(Address)  Long Beach  By (Name of Operator)
13-424-8025  Robert Greene  (Telephone No.)
WORK PERFORMED:
Drill _____ Redrill _____ Deepen _____
Plug _____ Alter casing
Water flood _____ Water disposal _____
Abandon _____
Other

STATUS: (Date)
Producing
Recomp. prod. 6-13-68
Water flood
Water disposal
Abandoned
Other

MAP AND BOOK: NC

RECORDS FILED & DATE: Clerk
Summary (dup.)
Log & Core (dup.)
History (dup.) 7/3/68
E-log
Radio log
D. Survey
Other

(RECORDS & REQUIREMENTS CHECKED: Eng.)
(Surface inspection)
Data needed Now
Request records F 170
Correct records F 165
(Specify) 165A

CARDS NC
BOND: No bond required
Hold Reason
Release Date elig. F 150b
End premium year
Release requested (Check)
Bond superseded (one)
Well abandoned

FINAL LETTER F 159
and
FILE CLEARED F 121

If stimulation or disposal well:
Form 121 Folder
Form 19-A
DIVISION OF OIL AND GAS

History of Oil or Gas Well

OPERATOR: General Exploration Co. of Calif.
FIELD: Long Beach

Well No. "Oil Operators" 3, Sec. 13, T. 4S, R. 13W, SB B. & M.

Date: July 2, 1968
417 S. Hill Street
Los Angeles, 90013 628-2156

Signed: R. S. Ballantyne, Jr.

Title: Vice President

Address: (Address) Telephone Number: (Telephone Number)

(Date) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

Date: 1968

4/30
4/1
5/2
5/3
5/4-6/9
6/10-11
6/12-13
6/13
6/17
6/22
6/27

Pumped 34 bbl. net 24.3° oil and 2 bbl. water with 60 Mcf gas.
Blew down gas off well. Moved in production unit and pulled rods and tubing.
Ran bailer and found fill at 4875'. Bailed sticky mud to 5890'. Installed B.O.P.E. With bailer found fluid level at 3030' and bottom at 5890'. Pumped 100 bbl. salt water into casing - equivalent to 1700' inside the 8-5/8" casing. McCullough jet perforated (omega jets) three holes per foot 5827-5812' and 5808-5794' sticking the second gun. While working gun loose, fluid surfaced and pressure built up to 900# on lubricator before recovering gun. Closed off preventor, removed lubricator and tubing stripper, and installed blank flange on top of preventor. Installed needle bean in flow line from 2" outlet in casing head. Flowed 27 net bbl. oil in 19 hrs. on 14/64" bean, 640 Mcfd. 860#.
840 Mcf, 770#, 15/64", Laid down tubing and rods. Moved out pulling unit.
Well flowed gas with occasional slugs of oil which in increased in volume as the pressure declined. The well was practically dead 6/9 and salt water was pumped into the well. During the interval from 5/2 to 6/9 the well produced 235 net bbl. of 25.0° oil and 17,000 Mcf. gas. There was no appreciable cut. Pumped salt water into well at intervals. Well dead.
Moved in production unit. Rigged up bailing gate above B.O.P.E. Continued pumping water into casing as required to keep hole nearly full throughout this operation. Ran bailer and located fill at 5885'. Rigged up lubricator and McCullough reperforated two holes per foot: 5752-5733', 5728-5712' and 5707-5692', and perforated three holes per foot: 5430-5397'. Omega jets in 4" steel carrier were used throughout. Ran pump on 2-7/8" tubing to 4312' with gas anchor extending to 4348'. Ran rods. Moved out unit.
Well pumped water and 50 bbl. oil in 16 hrs with casing pressure building to 90#.
Pumped 29 bbl. oil and 26 bbl. water, 20#/300-540#.
Pumped 11 bbl. oil and 8 bbl. water, 20#/120-130#, 315 Mcf.
Pumped 22 bbl. oil and 6 bbl. water, 20#/110-120#, 296 Mcf.

WELL CONDITION AT COMPLETION OF WORK:

TD 1st hole 5450', TD 2nd hole 5833' (redrilled from 3142' through 8-5/8" casing window 3139-3174'), TD 3rd hole 6540' (redrilled from cem. plug 5094').

CASING CONDITION:
13-3/8" C 765'
8-5/8" C 3139'
5-1/2" C 5964', top 3043' (lap WSO), CP 4393'. Perfs. 4393-4394' (WSO), 4407-4444', 4458-4498', 4562-4616', 5397-5430', 5692-5707', 5711-5728'.

INGLEWOOD, CALIFORNIA

RECEIVED JUL 3 1968

FORM 103 SUBMIT IN DUPLICATE
RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

History of Oil or Gas Well

Operator: General Exploration Co. of Cal.
Field: Long Beach

Well No. "Oil Operators" 3, Sec. 13, T. 4S, R. 13W, SB. B. & M.

Date: July 2, 1968

417 S. Hill Street
Los Angeles, 90013

628-2156

Signed: R. S. Ballantyne, Jr.

Title: Vice President

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bottom test, shooting and initial production data.

Date

5733-5752', 5794-5808', and 5812-5827'. Plug 5964-5922' w/cem. and 5922-5890' w/sand.

Sidetracked:
8-5/8" C 3986', top 3174'. Plug 3174' (and open hole up to 3142')
5-1/2" C 5446', top 3928' (lap WSO). Bad 4195 and 5107', plgd.

Perf. & plgd. 4080-4156', 4190-4205', 4852-4950', 5140-5180', 5190-5200' and 5306-5355'. Plug 3928'.

RECEIVED

JUL 3 1968

EAGLEWOOD, CALIFORNIA
Dear Sir:

Your proposal to alter casing Well No. (037-06496) "Oil Operatora" 3, Section 13 T. 4 S. R. 13 W. S.B. & M. Long Beach Field, Los Angeles County, dated Apr. 25, 1968, received Apr. 26, 1968, has been examined in conjunction with records filed in this office. Records in addition to, or at variance with, those shown in the notice.

With reference to your proposal our decision is as follows:

DEcision
THE PROPOSAL IS APPROVED.

WLI: nW

cc Company

No Bond Required

F. E. Kasline
E. R. Murray-Aaron, State Oil and Gas Supervisor

By ______________________________, Deputy
DIVISION OF OIL AND GAS

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Los Angeles, Calif. April 25, 1968

INGLEWOOD, CALIFORNIA

DIVISION OF OIL AND GAS

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging or altering casing at Well No. "Oil Operators" 3

Sec. 13, T. 4 S., R. 13 W., S.B. B. & M.

Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 6540'.

2. Complete casing record, including plugs:

(Depts from present KB of 60')
13-3/8" C 765'
8-5/8" C 3139'

Sidetracked:
8-5/8" C 3986’, top 3174’. Plug 3174’ (and open hole up to 3142’)
5-1/2" C 5446’, top 3928’ (lap WSO). Bad 4195 and 5107’, plgd.

3. Last produced. 4/25/68

<table>
<thead>
<tr>
<th>Date</th>
<th>Oil (bbl)</th>
<th>Water (bbl)</th>
<th>Gas (Mcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/25/68</td>
<td>34</td>
<td>2</td>
<td>60</td>
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</table>

The proposed work is as follows:

1. Take well off production.
2. Starting May 1, 1968, pull rods and tubing.
3. Rig up B.O.P.E. and lubricator and pump 100 bbl. of salt water into casing.
5. Return well to production.

417 S. Hill St., Los Angeles 90013

628-2156

GENERAL EXPLORATION COMPANY OF CALIFORNIA

(Name of Operator)

By R.S. Ballantyne, Jr., Vice President

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED
WORK PERFORMED:

Drill  Redrill  Deepen
Plug  Alter casing
Water flood  Water disposal
Abandon
Other

STATUS:  (Date)

Producing
Recomp. prod.  7-28-67
Water flood
Water disposal
Abandoned
Other

MAP AND BOOK  NC

RECORDS FILED & DATE:  Clerk  M.T.

Summary (dup.)
Log & Core (dup.)  8/5/67
History (dup.)  8/5/67
E-log (2 copies) 3138' - 6536' 8/5/67
Radio log
D. Survey
Other

(Check records for signature and correct name of operator or well, S.T.R. and field.)

Location  Notice states

Elevation  Notice states

Production Reports

(If production reports not received, make notation and inform Sr. Steno. when rec'd.)

If stimulation or disposal well:
Form 121  Folder

Final LETTER  F 159
and
FILE CLEARED  F 121

RECORDS & REQUIREMENTS CHECKED: Eng. 3/12

Surface inspection
Data needed
Request records  F 170
Correct records  F 165
(Specify)

CARDS  NC

BOND: No. 144/161 dated 6-37-67

Hold  Reason
Release  Date elig. 10-17-67  F 150b

End premium year
Release requested
Bond superseded  (one )
Well abandoned

F 121
OPERATOR       General Exploration Company  FIELD       Long Beach
of California

Well No.      "Oil Operators" 3, Sec. 13, T. 4 S., R. 13 W., S.B.B. & M.

Date          July 31, 1967  Signed

417 South Hill St., Los Angeles 90013  628-2156  Title  Vice President

(Address)     (Telephone Number) (President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perf. details, sidetracked junk, bailing tests, shutoff and initial production data.

Date
1967

Note: Depth measurements taken from present K.B. elevation of 60' which is 6' higher than original datum. Ground elevation is 48'.

6/30 Moved in, rigged up drilling equipment, pulled and laid down tubing, installed B.O.P.E. (Graham Drilling Company).

7/1-2 Ran 7-5/8" bit and made up 3-1/2" drill pipe. Found top of 5-1/2" liner at 3932'. Ran Servco section mill, located casing collars at 3190', 3145' and 3101', milled section in 8-5/8" casing from 3139' to 3174'. Opened window to 12-3/4". Ran 284' of 2-3/8" tubing stinger on drill pipe. Cleaned out sand inside 5-1/2" liner to 4165'. Laid 30-sack class G cement plug with 2% CaCl₂ from 4147'. (Estimated top of plug at 3908'.) Laid 70-sack class G plus 20% sand with 0.5% CFR-2 from 3233' with rotating tubing scratchers opposite window. Pulled to 2850' and circulated pipe clean. Held 1200# for 5 minutes - no pressure drop. Found top of cement at 3077' and cleaned out to 3142'.

7/3-13 Drilled 7-5/8" hole to 5833'. 5" Dynadrills were used as follows: 3142-3240', 4257-4378' and 4487-4575'. The interval 4468-4487' was cored.

7/13 Ran Schlumberger I.E.S. 5833-3139' and C.D.M. 5833-3700'. Laid 182 CF (160 sacks class G, 30 sacks sand, 5 sacks salt, 0.5% CFR-2) plug through 461' stinger of tubing on drill pipe from 5460'.

7/14 Ran 7-5/8" bit and hit bridge at 4135', cleaned out to 4174' and lost circulation. Pulled up inside 8-5/8" casing to 3123' and regained circulation. Ran to top of cement at 4997' and cleaned out to 5012' without circulation. Pulled up again to 3123' and introduced rubber and fibrous lost circulation material into mud system. Regained circulation and ran to 5012' circulating in stages. Drilled out cement to 5094' with full returns.

7/15-18 Drilled 7-5/8" hole to 6008'. A 5" Dynadrill was used from 5094' to 5147'. Ran Schlumberger I.E.S. 6008-4850'.

7/18-20 Drilled 7-5/8" hole to 6540' (T.D.). Ran Schlumberger I.E.S. 6540-6008'.

7/20 Ran to T.D. and conditioned mud. Ran 76 joints of 5-1/2", 15.5#, J-55 liner with Burns liner hanger (2921', including hanger) on 3-1/2" drill pipe. With liner hanging at 5964', (top at 3043') cemented with 743 C.F. 1:1 class G cement pozmix slurry with 2% gel and 0.5% CFR-2 and 10% salt in mix water. 500 gal. mud flush and 20 C.F. water preceded the slurry. Displaced with 530 CF mud (509 CF estimated) and plug was not observed to hit baffle. Pulled stinger up to 2980' and backscuttled 180 CF (127 CF in drill pipe) without cement returns.

DIVISION OF OIL AND GAS
RECEIVED
AUG 9 1967
INGLEWOOD, CALIFORNIA
History of Oil or Gas Well

OPERATOR: General Exploration Company
FIELD: Long Beach

Well No. "Oil Operators" 3, Sec. 13, T. 4 S., R.13 W., S.B. B. & M.

Date: July 31, 1967
Signed: R.S. Ballantyne, Jr.

417 South Hill St., Los Angeles 90013
628-2156 Title: Vice President

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bail out tests, shooting and initial production data.

Date

7/21 Ran 7-5/8" bit and 8-5/8" casing scraper. Encountered 10' soft cement bridge at 1000' and drilled out same. Pushed plug to top of hard cement at 2832'. Drilled out cement to top of liner at 3043'. Conditioned mud and held 1380# on casing for 5 minutes. Ran 4-3/4" bit and 5-1/2" casing scraper. Drilled out cement inside liner from 3043' to 3083'. Ran to 5922', top of float collar, pushing something (probably rubber liner wiper plug) ahead the last 1000'. Conditioned mud and held 1530# on casing for 5 minutes.

7/22 Ran Cook tester on drill pipe and set packer at 3009' with tail to 3022'. Open 1 hour. 2 minute initial light blow and dead thereafter. Recovered net rise of 45' drilling fluid. Lap test approved by D.O.G. Ran McCullough gamma-bond cement log 5910-3900' and perforated four 1/2' jet holes 4394-4393'. Ran Cook tester on 1411' of 2-7/8' tubing below drill pipe. Set packer at 4366' with tail piece to 4377'. Open 1 hour. Medium, slightly diminishing blow throughout test. Recovered 1470' slightly muddy water down to salty (476 g/l) water.

7/23 Ran Baker shoe squeeze tool on tubing and set packer at 4094' with tail to 4187'. Broke down formation with 3500# and squeezed 33 sacks of 50 sacks class G cement mixed at a final pressure of 3000# through perforations. Found top of cement at 4243' and drilled out cement running out of it at 4425'. Perforated four 1/2' jet holes 4394-4395' with McCullough steel carrier. Ran Cook tester on tubing/drill pipe and set packer at 4366' with tail to 4377'. Open 1 hour-initial 2 minute weak blow and dead thereafter. Recovered a rise of 46' drilling fluid. W.S.O. approved by D.O.G.

7/24 Ran 4-3/4' bit to 5922' and changed mud over to 67# salt water. Laid down 3-1/2' drill pipe. Ran McCullough 4' jet carrier and perforated four 1/2' jet holes per foot as follows: 5752-5733', 5728-5711' and 5707-5692.

7/25 Ran Guiberson packer on combination string of 2-7/8' tubing and set with bottom of packer at 4337'. Removed B.O.P.E. and rigged up surface equipment. Swabbed well and when pulling from 2200' the sand line pulled out of socket and swab dropped. Opened valve in packer and equalized fluid. Ran overshot but could not recover swab. Installed B.O.P.E., pulled and broached tubing. Recovered swab on bottom.

7/26 Re-ran Guiberson packer as above. Swabbed well working down to 4000'. After swabbing 67 bbl. of water with trace of oil and with well gassing, placed on a 22/64' bean at 9:00 p.m.

7/27 Rigged up lubricator and McCullough perforated four holes per foot with 2-1/8' JRL Ceram-jets as follows: 4616-4562', 4498-4458' and 4444-4407'. Completed perforating at 10:00 p.m.
**History of Oil or Gas Well**

**Operator:** General Exploration Company  
**Field:** Long Beach  
**Well No.:** "Oil Operators" 3, Sec. 13, T. 4 S, R. 13 W, S.B.B. & M.

**Date:** July 31, 1967  
**Signed:** R. S. Ballantyne, Jr.

**417 South Hill St., Los Angeles 90013**  
**Title:** Vice President

(Addres)  
(Telephone Number)

(President, Secretary or Agent)

It is of the greatest importance to have a complete history of the well. Use this form to report a full account of all important operations during the drilling and testing of the well or during re-drilling, altering of casing, plugging, or abandonment with the dates thereof. Be sure to include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, shooting and initial production data.

**Moved out drilling equipment. Flowed 94 bbl. 25.3° oil, 4.0%, 140#/pkr., 570 Mcf. 103 bbl. 25.2°, 6.5%, 120#/pkr., 555 Mcf.**

**Casing Record at Completion of Work:**

(Depths from present KB of 60') T.D. 6540

- 13-3/8" C 765'
- 8-5/8" C 3139'

**Sidetracked:**

- 8-5/8" C 3986', top 3174'. Plug 3174' (and open hole up to 3142')
- 5-1/2" C 5446', top 3928' (lap WSO). Bad 4195 and 5107', plgd.
  - Perf. & plgd. 4080-4158', 4190-4205', 4852-4950', 5140-5180', 5190-5200' and 5306-5355'. Plug 3928'.
## FORMATIONS PENETRATED BY WELL

<table>
<thead>
<tr>
<th>DEPTH TO</th>
<th>Thickness</th>
<th>Drilled or Cored</th>
<th>Recovery</th>
</tr>
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<tbody>
<tr>
<td>Top of Formation</td>
<td>Bottom of Formation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4468'</td>
<td>4487'</td>
<td>21'</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**CORE #1**

Oil sand, unbroken, firm to soft, mostly fine to medium fine poorly sorted. Locally finely pebbly, light brown with grayish cast on broken surfaces light gold to medium buff fluorescence, pepper and salt on broken surfaces (mud penetration?). In top 0.2' two 1/16" ribbons gray sand at 50-55° under gray spot with pebbles. No fluorescence. Probably related to turbidity bedding. At 4.0', one 1/64" ribbon of non-fluorescent clay at about 40°, could be bedding parting. Dip not reliable. (No samples taken)
DEAR MR. WILLIS,

Your well No. "Oil Operators" 3 in Sec. 13, T. 4 S., R. 13 W., S.B.B. & M. Long Beach Field, in Los Angeles County, was tested for water shut-off on July 23, 1967, Mr. S. Cordova, Engineer, designated by the supervisor was present from 8:30 p.m. to 9:30 p.m. as prescribed by law; there were also present J. Dedmon, Drilling Foreman & R. Morgan, Driller.

Shut-off data: 5-1/2 in. 15.5 lb. casing was recemented through perforations at 4393 ft. on July 23, 1967 in 7-5/8 in. hole with 50 ft. of cement of which 33 sacks was squeezed away under a final pressure of 3000 psi calculated to fill behind casing to ----- ft. below surface.

Casing record of well: 13-3/8" cam. 765'; 8-5/8" cam. 3986', window 3139'-3174', sidetracked @ 3142'; 5-1/2" cam. 3043'-5964', cp 4393', perf. 4393' WSO. TD 1st hole 5450'. TD 2nd hole 5833'.

Present depth 6540 ft. cmnt. bridge 5964 ft. to 5922 ft. Cleaned out cmnt. 4243 ft. to 4425 ft. for test.

A tester was run into the hole on 2-7/8 in. tubing, with ----- ft. of water-mud cushion, and packer set at 4368 ft. with tailpiece to 4377 ft. Tester valve, with 5/8 in. bean, was open for 1 hr. and ----- min. During this interval there was a weak blow for 2 minutes & no blow thereafter.

Mr. S. CORDOVA, ENGINEER, WAS PRESENT AT THE WELL FROM 5:00 P.M. TO 6:00 P.M. ON JULY 22, 1967 AND MR. L. STANDER REPORTED THAT THE 5-1/2" casing was jet-perforated with four, 1/2" holes at 4393' for the water shut-off test. THE ENGINEER NOTED THAT when the tubing was removed, 1470' of watery drilling fluid and salt water was found above the tester.

MR. S. CORDOVA, ENGINEER, WAS PRESENT AT THE WELL FROM 8:30 P.M. TO 9:30 P.M. ON JULY 23, 1967 AND MR. DEDMON REPORTED:
1. The 5-1/2" casing was recemented as noted above.
2. The 5-1/2" casing was jet-perforated with four, 1/2" holes at 4393'.

THE ENGINEER NOTED:
1. When the tubing was removed, 40' of drilling fluid was found above the tester.
2. The pressure charts indicated the tester tool functioned properly.

THE 5-1/2" SHUT-OFF AT 4393' IS APPROVED.

SC: mw

cc Company

E. R. MURRAY-AARON
State Oil and Gas Supervisor

[Signature]
Deputy
Special Report on Operations Witnessed

No. T. 167-669

Mr. C. G. Willis
417 S. Hill Street
Los Angeles, California 90013

Agent for GENERAL EXPLORATION CO. OF CALIF.

Inglewood, Calif.
July 27, 1967

Dear Sirs:

Operations at well No. "Oil Operators" 3, Sec. 13, T. 4 S, R. 13 W, S.B. B & M. Long Beach Field, in Los Angeles County, were witnessed on July 22, 1967. Mr. S. Cordova, Engineer, representative of the supervisor was present from 7:30 a.m. to 8:20 a.m. There were also present R. Ballantyne, Engineer & J. DePom, Drilling Foreman.

Present condition of well: 13-3/8" cam. 765'; 8-5/8" cam. 3986'; window 3139'-3174', side-tracked @ 3142'; 5-1/2" cam. 3043'-5964'; TD 6540'. TD 1st hole 5450'. TD 2nd hole 5833'.

The operations were performed for the purpose of demonstrating the effectiveness of the seal between the 8-5/8" and 5-1/2" casings.

Mr. Ballantyne reported:
1. A window was milled in the 8-5/8" casing from 3139' to 3174', and the hole was opened to 12-3/4" in that interval.
2. Sand fill was cleaned out of the 5-1/2" casing to 4165'.
3. On July 2, 1967, 30 sacks of cement was pumped into the hole through drill pipe and tubing hanging at 4147', calculated to fill to 3908'.
4. On July 2, 1967, 70 sacks of cement mixed with 20% sand was pumped into the hole through drill pipe and tubing hanging at 3233'.
5. Cement was drilled out of the hole from 3077' to 3142'.
6. A 7-5/8" hole was redrilled from 3142' to 5833'.
7. On July 13, 1967, 160 sacks of cement mixed with 20% sand was pumped into the hole through drill pipe and tubing hanging at 5460'.
8. Cement was drilled out of the hole from 4997' to 5094'.
9. A 7-5/8" hole was redrilled from 5094' to 6540'.
10. On July 20, 1967, 5-1/2", 15.7 lb. casing was cemented from 3043' to 5964' with 743 cubic feet of cement slurry (1:1 pozmix, 2% gel).
11. Cement was drilled out of the 8-5/8" casing to 3043' and the 5-1/2" casing was cleaned out to 5922'.
12. A Cook tester was run into the hole on 3-1/2" drill pipe and packer set at 3009', with tailpiece to 3020'.
13. The tester valve with 5/8" bean was open for 1 hr. During this interval there was a weak blow for 2 minutes and no blow thereafter.

THE ENGINEER NOTED:
1. When the drill pipe was removed, 45' of drilling fluid was found above the tester.
2. The pressure charts indicated the tester tool functioned properly.

THE OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED and indicate that no fluid has access to the well from the annulus between the 8-5/8" and 5-1/2" casings.

E. R. Murray-Aaron
State Oil and Gas Supervisor

By [Signature]
Deputy
REPORT ON PROPOSED OPERATIONS

No. P 167-705

Mr. C. G. Willis
417 S. Hill Street
Los Angeles, California 90013
Inglewood, Calif.
July 5, 1967

Agent for GENERAL EXPLORATION CO. OF CALIF.

Dear Sir:

Your proposal to redrill Well No. "Oil Operators" 3, Section 13, T. 4 S., R. 13 W., S.B. & M., Long Beach, Los Angeles County, dated June 27, 1967 has been examined in conjunction with records filed in this office. Present conditions as shown by the records and the proposal are as follows:

**THE NOTICE STATES**

"The present condition of the well is as follows:
1. Total depth. 5450
2. Complete casing record, including plugs:
   13-3/8" C 765', 8-5/8" C 3986' WSO
   5-1/2" C 5446', top 3928', WSO on splice. Bad 4195 & 5107', plgd.
   perf. & plgd. 4190-4205', 4852-4950', 5140-5180',
   5190-5200', 5306-5355'.
   Plug 4159'. Perf. 4080-4158'.
3. Last produced
   Date 12/12/66
   Oil, B/D 10
   Water, B/D 182
   Gas

**PROPOSAL**

"The proposed work is as follows:
1. Move in drilling equipment, pull tubing, install BOPE and fill hole with mud.
2. Mill out 30-foot section of 8-5/8" casing near 3100', underream the window to 12-3/4" lay cement plug from 4150' to 3900' (sufficient to cover perforations without having to wait and feel for top) and another plug from 100' below section back above top of window and level off plug 2' into section.
3. Sidetrack casing hole through section and drill 7-5/8" hole to approximately 5900'.
4. Run and cement 5-1/2" liner, effect W.S.O. at lap of 8-5/8" casing and above productive horizon.
5. Complete well."

**DECISION**

THE PROPOSAL IS APPROVED PROVIDED:
1. Fluid consistent with good drilling practice shall be used, and the column of fluid maintained at all times to the surface, particularly while pulling the drill pipe.
2. Adequate blowout prevention equipment shall be installed and maintained in operating condition at all times.
3. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
   a. A test, after cleaning out below the top of the liner to demonstrate that no fluid has access to the well from the annulus between the 8-5/8" and 5-1/2" casings.
   b. A test of the effectiveness of the 5-1/2" shut-off above the zone to be produced.

W.R. B.
cc Company

Bond No. 1411161
Dated 6-27-67

E. R. MURRAY-AARON, State Oil and Gas Supervisor
Deputy
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Los Angeles, Calif. June 27, 1967

DIVISION OF OIL AND GAS

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, redrilling, plugging and altering casing at Well No. "Oil Operators" 3

Sec. 13, T. 4 S, R. 13 W, S.B. B. & M.

Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. 5450

2. Complete casing record, including plugs:

13-3/8" C 765'
8-5/8" C 3986' WSO

3. Last produced. 12/12/66

<table>
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<th>Date</th>
<th>Oil, B/D</th>
<th>Water, B/D</th>
<th>Gas</th>
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<tbody>
<tr>
<td>12/12/66</td>
<td>10</td>
<td>182</td>
<td>-</td>
</tr>
</tbody>
</table>

The proposed work is as follows:

1. Move in drilling equipment, pull tubing, install BOPE and fill hole with mud.
2. Mill out 30-foot section of 8-5/8" casing near 3100', underream the window to 12-3/4" lay cement plug from 4150' to 3900' (sufficient to cover perforations without having to wait and feel for top) and another plug from 100' below section back above top of window and level off plug 2' into section.
3. Sidetrack cased hole through section and drill 7-5/8" hole to approximately 5900'.
4. Run and cement liner, effect W.S.O. at lap of 8-5/8" casing and above productive horizon.
5. Complete well.

417 S. Hill Street, Los Angeles

628-2156

GENERAL EXPLORATION COMPANY OF CALIFORNIA

By R. S. Ballantyne, Vice President

ADDRESS ONE COPY OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED
REPORT OF PROPERTY AND WELL TRANSFER

Field or County: Long Beach
Former Owner: Union Oil Co. of California

Description of Property: Secs. 13, T. 4 S., R. 13 W., C. 3, 4 & 5

List of Wells: "Oil Operators" 1, "Oil Operators" 2, "Oil Operators" 3 and "Oil Operators" 4. ("Oil Operators" 1, idle; other wells are active)

Date of Transfer: January 1, 1961
New Owner: General Exploration Co. of California
Address: 730 Subway Terminal Building, 417 South Hill Street, Los Angeles 15, Calif.

Type of Organization: Corporation
Reported by: Union Oil Co. of California (Letter of January 6, 1961)
Confirmed by: General Exploration Co. of California (Letter of January 11, 1961)

New Operator New Status: PA
Old Operator New Status: PA

Request designation of agent: No

Remarks:

cb
39- Dr. B. H. Reaser
Prod. Dept.
Conservation Comm:

LEGEND

PA—Producing Active
NPA—Non Potential Active
PI—Potential Inactive
NPI—Non Potential Inactive
Ab—Abandoned or No More Wells

Form 121
New Well Cards
Well Records
Electric Logs
Production Reports
Map and Book
Form 149
Notice to be cancelled

INITIALS

DATE

DEPUTY SUPERVISOR

WIN C. BICK

96721 4-28 0000 © 570
Form 10

<table>
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<tr>
<td>-----------</td>
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**Casing Record at Start of Work:**
- TD: 4076'
- Dped: 5450'
- Plug: 4985'
- 13-3/8" C 765'
- 8-5/8" C 3936' wSO
- 1518' 5-1/2" F & G 5446'. Bad 4195 & 5107'.
- WSO test on splice OK.
- Bullet pf: 4190-4205, 4252-4950'.
- 8 plgd: 5240-5295-5190-5200, 5306-5361'.
- Dped

**Remarks:**
- Contractor moved in and rigged up. Pulled rods and pump. Dia-Loyed tubing.
- Pulled tubing. Strung in with 2-5/8" Cavins sand pump to 4201'.
- Top of 111'. 4-5/8" impression block stopped at 3927'. 4-1/4" block stopped at 3927'. 3-3/4" block stopped at 3927'. Ran in with 2-5/8" Cavins sand pump, want to 4201'. Fluid level at 500'.
- Ran in with 1-7/8" x 4-1/8" x 2.59 lb. Hash-Boss tapered mill on 3-1/2" bumper sub on 2-1/2" tubing on 3" tubing. Ran in to top of liner at 3927'. Ripe did not appear to be bad. Ran in to 4186' where mill stopped. Pulled back up to top of liner and worked mill through liner hanger repeatedly. Pulled out. Ran L-W Cametan and Chlorinilog.
- Finished running L-W Cametan and Chlorinilog.
- Crew off.
- Ran in with 7/8" impression block to top of liner at 3928'. No impression. Hand impression block to top of liner. Bailed sand and shale at 4201' with 2-5/8" Cavins sand pump. Baller sticking badly at 4201'. Recovered small loads. Bright spot on bottom of baller indicates possible tight pipe. Dumped 13' sacks construction cement at 4201' at 2:30 p.m. Felt for cement at 5:30 p.m. Top of cement at 4200'.

**Names of Drillers/Head Well Pullers:**
- California Production Service - Contractor

**District Engineer:**

---
REPAIR REPORT

December 20, 1959

NOTES

1. Ran in with Cavins off bottom cement dump bailer and dumped 2 sacks of construction cement at 4200' at 9:30 a.m. Felt for top of cement with bailer jars at 12:30 p.m. No fill. Dumped 2 sacks of construction cement at 4200' at 1:30 p.m. Felt for top of cement at 4:30 p.m. No fill. Dumped 2 sacks of construction cement at 4200' at 5:15 p.m.

2. Ran in with jars and found top of cement at 4200'. Mixed 4 sacks of construction cement and dumped in 2 runs at 4200'. Finished dumping cement at 9:00 a.m. Felt for plug at 12:00 noon. Located top of plug at 4174'. Rigged up to shoot.

PRODUCTION DATA

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<th>Net</th>
<th>Cut</th>
<th>Gray</th>
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1020' Fluid over pump by Sonic

NAMES OF DRILLERS/HEAD WELL PULLERS:

California Production Service - Contractor
COMPLETED PRODUCING ON 12-10-59

ABANDONED ON

Corsova/Ballantyne 7-2-67
Solid sand at 4000'.
OK to p/c 4000'-3878' using 100% excess per conversation with Ingram
on 6-29-67.

Ballantyne/Ingram 6-29-67
will use 100% excess on zone play
in iron if necessary for tip - ask wrz
Mr. C. F. Bowden

P. O. Box 7600

Los Angeles 54, California

Agent for UNION OIL COMPANY OF CALIFORNIA

Inglewood, Calif.

October 22, 1959

Dear Sir:

Your proposal to alter casing Well No. "Oil Operators" 3,

Section 13, T. 4 S., R. 13 W., S B. & M., Long Beach Field, Los Angeles County,
dated Oct. 19, 1959, received Oct. 21, 1959, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS IN ADDITION TO, OR AT VARIANCE WITH, THOSE SHOWN IN THE NOTICE.
Plugged with cement 5446'-5428' and 5101'-4984'.

THE NOTICE STATES
"The present condition of the well is as follows:
1. Total depth, 4076' Dpnd 5450' Plug 4985'.
2. Complete casing record.
13-3/8" C 765',
8-5/8" C 3986', WSO
116'-6-5/8" H-4975' incl. -89' pfs, pulled.
1518' 5-1/2" F & C 5446', Bed 4195' & 5107'.
WSO test on splice OK.
Bullet pf. 4190-4205' & 4352-4950'.
Bullet pf. & plgd. 5140-5190', 5190-5200', 5306-5355'.
3. Last produced, April 1958 2 B/D 23.7° (Net Oil) 98.0% (Cut)

PROPOSAL
"The proposed work is as follows:
1. Pull rods and tubing.
2. Check hole open to top of plug at 4985'.
3. Check condition of 5-1/2" liner with impression blocks.
4. Perforate 5-1/2" liner from 4080-4185' with two 1/2" bullets per foot.
5. Check hole open to top of plug at 4985'.
6. Run rods and tubing.
7. Test on production."

DECISION
THE PROPOSAL IS APPROVED.

E. H. MUSSEr, State Oil and Gas Supervisor


9645 South Santa Fe Springs Rd.

Santa Fe Springs, California

By W. M. Bailey, Deputy
DIVISION OF OIL AND GAS

Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Santa Fe Springs, Calif. October 19, 1959

DIVISION OF OIL AND GAS

Inglewood, Calif. [Blanket]

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of

Deepening, Redrilling, Plug, or Altering casing at Well No. [OIL OPERATORS #3]

Sec. 13, T. 4-S, R. 13-W, S.B. B. & M.

Long Beach, Field, Los Angeles, County.

The present condition of the well is as follows:

1. Total depth. 4076' Dprnd 5450' Flug 4985'

2. Complete casing record.

13-3/8" C 765'
8-5/8" C 3986' M60
1161-6-5/8" H-49751-incl. 491' pfs., pulled.
1518' 5-1/2" F & C 5446' Bad 4195' & 5107'.
M50 test on splice OK.
Bullet pf. 4190-4205' & 4852-4950'.
Bullet pf. & plgd. 5140-5180' 5190-5200' 5306-5355'.

3. Last produced. April 1958 2 B/D 23.7° 98.0%

The proposed work is as follows:

1. Pull rods and tubing.
2. Check hole open to top of plug at 4985'.
3. Check condition of 5-1/2" liner with impression blocks.
4. Perforate 5-1/2" liner from 4080-4185' with two 1/2" bullets per foot.
5. Check hole open to top of plug at 4985'.
6. Run rods and tubing.
7. Test on production.

Union Oil Company of California

(Name of Operator)

By: [Signature]

Address one copy of notice to Division of Oil and Gas in District where well is located
Oil Operators #3
Long Beach
Los Angeles

REPAIR REPORT
Prod. Hole - Contract
July 8, 1953

PROPOSED WORK: Cement off bottom perforations with plug from 5107' to 5000'. Test on production. If upper perforations not causing sand, gun perforate 5-1/2" casing from 4950' to 4852' with four 1-1/2" holes/ft.

PRODUCTION BEFORE REPAIR: 57 B/D Gross - 14 B/D Net = 75.0% Cut

ZERO POINT for this job: 9' 1" above concrete pad.

Casting Egged at Start of Work:

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<td>Plug L695</td>
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California Production Service, Contractors, moved in and set up equipment. Tested tubing - OK. Pulled tubing and rod. Tubing measured 179.72'. Run 2-5/8" Cavins buller. Checked fill at L4938'. Fluid level at 2685'. Cleaned out to L6955'.

Continued cleaning out sand to L4955'. Installed Shaffer blow-out preventer. Ran in with Lane-Wells 2" x 13' type A-2 bullet gun, shot four 1-1/2" holes/foot from 4950' to 4852'. Had light blow and rapid fluid rise. Fluid level at start of shooting 2425'; fluid level at finish 3220'.

Killed off 3 1/2" casing pressure. Ran 2-5/8" Cavins sand pump. Checked fill at L4928'. Fluid level at 3170'. Cleaned out to L4985'. Ran in and landed 4738' of mixed 2-1/2" and 3" tubing. Ran rod and pump. Contractor moved out July 8, 1953. Well on production at 5130 P.M.

Chas. F. Bowden

District Engineer
## Repair Report

### Prod. Oil & Gas Well

**Date:** July 26, 1953

**Tools:**

**Field:**

**County:**

**Sec.:**

**T.:**

**R.:**

**B. & M.:**

### Production Data

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- Union Oil production crew pulled rods and tubing.
- Cleared out 4755-4757 with 3-1/8" Cavins sand pump.
- Cleared out 4757-4820 with 3-1/8" Cavins sand pump.
- Cleared out 4820-4985 with 3-1/8" Cavins sand pump. Recovered shale and pieces of iron. Fluid level 3300'. Ran tubing to 4900'.
- Cleared out off bottom with 3-1/8" Cavins sand pump. Ran tubing to 1900'.

### Names of Drillers/Head Well Pullers

- Call: Prod. Service, Contractors, to 7-8-53.
- Union Oil Prod. Crew 7-16-53 to 7-21-53

**Chas. F. Brown**

**District Engineer**
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# Oil Operators #3

**Long Beach (FIELD)**

**Los Angeles (COUNTY)**

**SEC. 13, T. 4 S, R. 13 W, S.B.M. & N.**

## REPAIR REPORT

**Prod. Hoist - Contract (TOOLS): June 22, 1953**

**REMARKS**

### CHARGE: B.E.-A.F.E. 51528 Job 231-D

**REMARKS**

**PROPOSED WORK:** Plug back all existing perforations in R, S and T zones and test well on production.

**PRODUCTION BEFORE REPAIR:** 41 B/D Gross - 13 B/D Net - 22.8" = 67.3%.

**ZERO POINT for this job:** 9'1"

### Casing Record at Start of Work:

- **7/16" Over 494' Delta 5450'**
- **8-5/8" C 3985' WSO: 326' 6-3/8" K 4975'**
- **2-7/8" perfor., pulled: 1518' 5-1/2" F & C 5446'**
- **5107' WSO test on splice OK:** Bullet pf 4190-4205', 5190-5200', 5306-5355'.

### Casing Record at Completion of Work:

- **7/16" Over 494' Delta 5450'**
- **8-5/8" C 3985' WSO: 326' 6-3/8" K 4975'**
- **2-7/8" perfor., pulled: 1518' 5-1/2" F & C 5446'**
- **5107' WSO test on splice OK:** Bullet pf 4190-4205', 5190-5200', 5306-5355'.

### Remarks:

- **California Production Service, Contractor, moved in and installed blow-out preventer. Checked bottom with 2-3/8" Cavins sand pump at 5101'. Fluid level at 311'. Ran in with 7-1/2" impression block. Checked 5-1/2" liner hanger at 3925'. Ran in with 4" impression block - went to 5100' - no marks.**

- **Ran in with Cavins continuous dump bottom bailer. Dumped 11 sacks of construction cement in 5-1/2" casing, starting at 5101'. Let stand 4 hours. Felt top of plug at 4933'.**

- **Ran in with 2-5/8" Cavins sand pump. Bailed loose cement at 4985' to hard cement at 4985'. Witnessed and approved by Division of Oil and Gas. Started running tubing.**

- **Ran tubing and started running rods.**

- **Finished running rods. Put well on pump. Contractor released.**

### Production Data:

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**Names of Drillers/Head Well Pullers:**

California Production Service, Contractor.

**Chas. F. Bowden**

District Engineer
Dear Sir:

Operations at your well No. "Oil Operators" 3 Sec. 13 T. 4 S R. 13 W S B B. & M., Long Beach Field, in Los Angeles County, were witnessed by J. R. Thomas, Inspector, representative of the supervisor, on June 10, 1953. There was also present R. J. Wilson, Driller; Ray Hothon, Helper.

Casing Record 13-3/8" cem. 764', 8-5/8" cem. 5986', Junk None
W.S.O: 5/16 id. 3928'-5446', perf. 4190'-4205', 5140'-5180', 5190'-5200', and 5306'-5355', T.D. 5450', plugged with cement 5446'-5428' and 5101'-4984'.

The operations were performed for the purpose of testing the location and hardness of a cement plug placed from 5101' to 4984' in the process of plugging back. The inspector arrived at the well at 10:45 a.m. and Mr. Wilson reported:

that on June 9, 1953, 11 sacks of cement was dumped into the hole beginning at 5101'.

THE INSPECTOR NOTED THAT the bailer could not be spudded below 4984' and brought up a sample of set cement.

The test was completed at 11:30 a.m.

THE LOCATION AND HARDNESS OF THE CEMENT PLUG AT 4984' ARE APPROVED.

JET:OH

cc Long Beach

Mr C F Bowden Div Engineer
Union Oil Co of California
9545 South Santa Fe Springs Road
WHITTIER California

R. D. BUSH
State Oil and Gas Supervisor
By ______________________ Deputy
MR. W S EGGLESTON

Los Angeles 17
Calif.

Dear Sir:

Your proposal to plug & alter casing, Well No. 3, Section 13, T. 4 S, R. 13 W S B, B. & M., Long Beach Field, Los Angeles County, dated May 26, 1953, received May 27, 1953, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

**RECORDS IN ADDITION TO, OR AT VARIANCE WITH, THOSE SHOWN IN THE NOTICE**

The hole is plugged with cement 5446'-5428'.

**THE NOTICE STATES**

"The present condition of the well is as follows:

1. Total depth - 4076'
   Deepen - 5450'

2. Complete casing record.
   13-3/8" C 765'
   8-5/8" C 3986' W.S.O.
   1141 6 5/8" K 4075' inc. 89' perf., pulled
   1518 5-1/2" F & C 5446', Bad 4135' & 5107'
   W.S.O. test on splice O.K.
   Bullet perf: 4190-4205, 5140-5180, 5190-5200, 5306-5355'

3. Last produced. April 1953
   (Date) 13 B/D
   (Net Oil) 22.8
   (Gravity) 67.3%
   (Cut)"

**PROPOSAL**

"The proposed work is as follows:

1. Plug 5-1/2" casing with cement from 5107' to 5000'.
2. Test on production.
3. Gun perforate 5-1/2" casing from 4950-4852'.
4. Test on production."

**DECISION**

THE PROPOSAL IS APPROVED PROVIDED THAT

1. Plugging operations shall start from as deep as possible.
2. THIS DIVISION SHALL BE NOTIFIED TO WITNESS the location and hardness of cement plug at 5000'.

JLW:OH

cc W S EGGLESTON
C F BOWDEN
Long Beach

R. D. BUSH
State Oil and Gas Supervisor
By (Signature)
Deputy

Blanket bond.
Notice of Intention to Deepen, Redrill, Plug or Alter Casing in Well

This notice must be given before work begins; one copy only

Whittier Calif. May 26 1953

DIVISION OF OIL AND GAS

Los Angeles Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of deepening, plugging or altering casing at Well No. 01 Oil Operators #3, Sec. 13, T. 4-S, R. 12-W, S. B. B. & M.

Long Beach Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth. = 4076'
   Deepen = 5450'

2. Complete casing record.
   13-3/8" C 765'
   8-5/8" C 3986' W.S.O.
   116-6-5/8" N-4875'-inner-29'-outer-pulled
   1518' 5-1/2" P & G 5446', Bad 4195' & 5107'
   W.S.O. test on splice 0.K.
   Bullet perf: 4190-4205, 5140-5180, 5190-5200, 5306-5355'

3. Last produced. April 1953 13 B/D 22.8° 67.3%

The proposed work is as follows:

1. Plug 5-1/2" casing with cement from 5107' to 5000'.
2. Test on production.
3. Gun perforate 5-1/2" casing from 4950-4852'.
4. Test on production.

[Signature]

C. F. Bowden, Division Engineer.
Date Received 1-29-48

Form 100  101  103

Elec. Log  Radio Log

Direct. Surv.  Other Data

Location

Elevation  Steno. Darn

BOND  Blanked

Release Date Elig.  150b


HOLD BOND  Reason

Data Needed

Final Letter  Eng.

8-2-48
STENOGRAPHER

Date Received 5-1-48 Form 100 101 103

Elec. Log Radio Log

Direct. Surv. Other Data

Location

Elevation Steno. Acct

ENGINEER

BOND Blanket Release Date Elig. 150b


HOLD BOND Reason

Data Needed

Final Letter Eng. 5-13-48
**REPAIR REPORT**

**PORTABLE HOIST**

February 24, 1948

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**REMARKS**

Plug off present perforations with temporary bridge plug.

Test H-1 Zone.

November, 1947 8 B/D net - 23.0° - 64.12

Rigged up. Pulled rods and tubing. Cleaned out from 539 to 5428 with 3-1/8" scavenger bailer. Ran 2-1/2" impression block to 5428.

Set Baker bridge plug at 432? - no fluid above plug. Dumped one sack cement at 4327. Installed 5" control gate. Checked top of cement at 4318. Dumped in 500 gallons of stove oil. Cun perforated 5-1/2" liner from 4190 to 4305 with two McCullough 1/2 holes per foot. Fluid level rose from 4318 to 3050 during shooting. Had a good gas blow.

Located top of sand at 4283. Cleaned out with 3-1/2" bailer to 4303. Ran 2-1/2" impression block to 4210. Ran 2-1/2" tubing to 4177. Ran rods.

Hooked up flow line. Put well on pump.

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<th>Grav.</th>
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Lowered tubing; changed pump.

**DIVISION OF OIL AND GAS**

RECEIVED

MAY 1 - 1948

LOS ANGELES, CALIFORNIA

**NAMES OF DRILLERS/HEAD WELL PULLERS:**

Santa Fe Springs Production

John R. Dawson

DISTRICT ENGINEER
**Proposed Work:** Clean out bridge plug and return to production.

Production: 20 B/D net = 22.8° + 2.2°

Pulled rods and tubing. Shut well in.

**Cleaned out from 4308' to 4316' with 2-5/8' bailer.**

Fluid level 3100'.

**Ran in with chisel shoe and drilled out bridge plug. Cleaned out with bailer to 5428’. Recovered metal and sand.**

Checked hole open to bottom. Ran tubing and rods. Put well on production.

### Production Data

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**Names of Drillers/Head Well Pullers:**

John R. Fraser

District Engineer
To keep $4205$, $4190$.

Letter one if not enough to keep.

Up as high as $4050$.

To keep, bring up the little ones.

$80.0$

"O. 16"{\textsuperscript{st}}

"3"
Mr. W. S. Eggleston

Los Angeles 14, Calif.

Agent for UNION OIL COMPANY OF CALIFORNIA

Dear Sir:

Your proposal to alter casing Well No. "Oil Operators" 3

Section 13, T4 S., R13 W., S.E. B. & M., Long Beach Field, Los Angeles County,
dated Dec. 22, 1947, received Dec. 23, 1947, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

RECORDS: The condition of the well is as stated in the notice.

THE NOTICE STATES:
"The present condition of the well is as follows:
1. Complete casing record.
   Total depth 5450' - Plug 5428'
   13-3/8" C 765'
   8-5/8" C 3986'
   1518' 5-1/2" P & O 5446' Perf. 5140-5180', 5190-5200' & 5306-5355'

2. Last produced Nov. 1947
   8 B/D Ave. 23.0° 64.1°

PROPOSAL:
"The proposed work is as follows:
1. Plug off perforations from 5140' to 5355' with a bridge plug.
2. Test E-I Zones by stages from 4200' to 4050'.
3. If O.K., knock out bridge plug and put on production."

DECISION:
THE PROPOSAL IS APPROVED PROVIDED THAT
1. It is understood that the bridge plug above the perforations 5355'-5140', does not fulfill the requirements of this division for the abandonment of the lower portion of the hole.
2. This division shall be kept informed of the results of tests after each stage of perforating, and will designate any requirements at that time.

SHR:OH

cc- John R. Fraser
Long Beach

R. D. BUSH
State Oil and Gas Supervisor
By
E. A. Musee
Deputy

Blanket bond.