**State of West Virginia**

**Department of Mines**

**Oil and Gas Division**

**Well Record**

**Quadrangle:** Cameron  
**Permit No.:** MARS-476

**Company:** The Mfrs. Lt. and R. Co.  
**Address:** 800 Union Trust Bldg., Pittsburgh 19, Pa.

**Farm:** John and Emma Crow  
**Acres:** 330

**Location (wetlands):**  
**Well No.:** 4697  
**Elev.:** 1191.55  
**District:** Webster  
**County:** Marshall

**The surface of tract is owned in fee by:** Address

**Mineral rights are owned by:** Address

**Drilling commenced:** July 14, 1962  
**Drilling completed:** September 20, 1962

**Date Shot:** 9/17/62 from Big Injun To

**With:** Side Static

**Open Flow**  
**Flow Water in:** 19 PEG  
**Volume:** 20,954,000 cu. ft.

**Rock Pressure:** 885 lbs.  
**hr.** 72

**Oil:** bbls.  
**fresh water:** feet  
**Salt water:** feet

**Casing and Tubing**  
**Used in Drilling:**  
**Left in Well:**  
**Packers:**

<table>
<thead>
<tr>
<th>Size</th>
<th>Kind of Packer</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td></td>
</tr>
</tbody>
</table>

**Depth:**  
**Size of:**  
**Depth Set:**  
**Perf. Top:**

**Liners Used:**  
**Perf. Bottom:**

**Casing Cemented:**  
**Size:**  
**No. Ft.:**  
**Date:**

**Coal was Encountered At:** 651 Feet  
**Inches**

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**Formation**  
**Color**  
**Depth**  
**Datum**  
**Top**  
**Depth Found**  
**Remarks**

<table>
<thead>
<tr>
<th>Depth Datum - Ground Level</th>
<th>Color</th>
<th>Depth</th>
<th>Datum</th>
<th>Top</th>
<th>Bottom</th>
<th>Oil, Gas or Water</th>
<th>Depth Found</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Pittsburgh Coal</td>
<td>5</td>
<td>651</td>
<td></td>
<td></td>
<td>656</td>
<td>Water - 92'</td>
<td></td>
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</tr>
<tr>
<td>- Gas Sand</td>
<td>31</td>
<td>1320</td>
<td></td>
<td></td>
<td>1351</td>
<td>Slight show of gas - 137'</td>
<td></td>
<td></td>
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<tr>
<td>- 1st Salt</td>
<td>40</td>
<td>1397</td>
<td></td>
<td></td>
<td>1437</td>
<td>Gas - 1402' Est. 2.5 MCF day</td>
<td></td>
<td></td>
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<tr>
<td>- 3rd Salt</td>
<td>41</td>
<td>1584</td>
<td></td>
<td></td>
<td>1625</td>
<td>Water - 150'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Break</td>
<td>15</td>
<td>1625</td>
<td></td>
<td></td>
<td>1640</td>
<td>Drilled from 1402' to 1777' with gas</td>
<td></td>
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<tr>
<td>- 3rd Salt</td>
<td>54</td>
<td>1640</td>
<td></td>
<td></td>
<td>1654</td>
<td>Pay Zones - 1506-1512 G</td>
<td>R. N. &amp; Driller</td>
<td></td>
</tr>
<tr>
<td>- Big Injun</td>
<td>54</td>
<td>1739</td>
<td></td>
<td></td>
<td>1628-1832</td>
<td>1515-1519 G &amp; R. N. &amp; Driller</td>
<td>Driller</td>
<td></td>
</tr>
</tbody>
</table>

**Drilled 7 7/8" hole to 1777' and cemented 52"**  
**Casing at 1773'10"**  
**Drilled 4 3/4" hole to 1845 1/2"**

**Total Depth:** 1845 1/2