**NORTH DAKOTA FIELDS**

**Portal 1**

**Effective date of information:** 1-1-61
**Producing formation:** Madison-Mississippian
**Location:** T 163 and 164 N, R 91 and 92 W, Burke County, N. Dak.

**Discovery well:**

<table>
<thead>
<tr>
<th>Completion date</th>
<th>Location</th>
<th>Surface elevation (feet)</th>
<th>Total depth (feet)</th>
<th>Deepest formation penetrated</th>
<th>Initial production: Barrels of oil per day</th>
<th>Barrels of water per day</th>
<th>Flowing</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 1957</td>
<td>SW SW sec 17, T 163 N, R 91 W</td>
<td>+1,963 KB</td>
<td>6,410</td>
<td>Madison</td>
<td>71</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

**Producing interval (depths) 5,981-5,992**
**Surface elevation (MSL) +1,963 KB**
**Total depth do 6,410**

**Completion data:**

<table>
<thead>
<tr>
<th>Casing size</th>
<th>Tubing size</th>
<th>Liner</th>
<th>Packer</th>
<th>Open hole</th>
<th>Set through</th>
<th>Acid</th>
<th>Fracture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Cumulative oil production to 1-1-61:** 392,769 bbl

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**General field information:**

- **Number of producing wells:** 23
- **Pumping:** 8
- **Flowing:** 15
- **Current spacing pattern:** acres 160
- **Areal extent:** do 4,500
- **Average surface elevation (MSL):** feet +1,950
- **Datum (MSL):** do -3,925

**Reservoir data:**

- **Average top of producing interval (MSL):** feet -3,900
- **Average bottom of producing interval (MSL):** do -3,916
- **Average effective thickness:** do 12
- **Closure:** None
- **Type of trap:** Nose
- **Type of drive mechanism:** depletion
- **Average porosity:** percent 9.4
- **Average permeability:** millidarcy 0.3
- **Average water saturation:** percent 31
- **Average reservoir temperature:** °F 176

**Reservoir pressure at datum:**

<table>
<thead>
<tr>
<th>Initial</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>psig</td>
<td>psig</td>
</tr>
<tr>
<td>2,400</td>
<td>1,455</td>
</tr>
</tbody>
</table>

**Oil column height:** feet 275

**Operating gas-oil ratio:**

<table>
<thead>
<tr>
<th>Initial</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>scf/bbl</td>
<td>scf/bbl</td>
</tr>
<tr>
<td>1,530</td>
<td>2,340</td>
</tr>
</tbody>
</table>

**Formation volume factor:** 1.2

**Recovery factor:** percent 25

**Average residual oil saturation:** do 22

**Oil characteristics:**

- **Gravity °API:** 39.4
- **Saturation pressure:** NR
- **Pour point °F:** Below 5
- **Color:** Green

**Gas characteristics:**

- **Gravity 0.9
- Hydrogen sulfide content NR
- Liquid content NR

**Oilfields in the Williston basin in Montana, North Dakota, and South Dakota (1966)**

*Originally issued by Bureau of Mines*

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