State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: McCULLOUGH, C.K.  Operator Well No.: McCULLOUGH #1

LOCATION:  Elevation: 803.00  Quadrangle: WEST UNION
District: CENTRAL  County: DODDRIDGE
Latitude: 6000 Feet South of 39 Deg. 20Min. 0 Sec.
Longitude 6300 Feet West of 80 Deg. 50 Min. 0 Sec.

Company: KEY OIL COMPANY
22 GARTON PLAZA
WESTON, WV 26452-0000

Agent: JAN E. CHAPMAN

Inspector: MIKE UNDERWOOD
Permit Issued: 06/13/94
Well work Commenced: 6-28-94
Well work Completed: 7-4-94

Verbal Plugging
Permission granted on:  
Rotary X Cable Rig
Total Depth (feet) 5152
Fresh water depths (ft) 60', 259'
Salt water depths (ft) None

Is coal being mined in area (Y/N)?  N
Coal Depths (ft): 185' to 189'

Casing & Tubing
Used in Drilling Left in Well Fill Up Cu. Ft.

<table>
<thead>
<tr>
<th>Size</th>
<th>70 sks. to surface</th>
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<tbody>
<tr>
<td>11 3/4</td>
<td>132</td>
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<tr>
<td>8 5/8</td>
<td>1319</td>
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<tr>
<td>4 1/2</td>
<td>5067</td>
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<tr>
<td>1 1/2</td>
<td>4944</td>
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</table>

<table>
<thead>
<tr>
<th>Cement</th>
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</table>

OPEN FLOW DATA

Producing formation Riley
Gas: Initial open flow 60 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 822 MCF/d Final open flow Show Bbl/d
Time of open flow between initial and final tests N/A Hours
Static rock Pressure 1600 psig (surface pressure) after 96 Hours

Second producing formation Benson
Gas: Initial open flow_____ MCF/d Oil: Initial open flow_____ Bbl/d
Final open flow_____ MCF/d Final open flow_____ Bbl/d
Time of open flow between initial and final tests_____ Hours
Static rock Pressure_____ psig (surface pressure) after_____ Hours

Pay zone depth (ft) Alexander 4274-4325 4682-4691 4972-5006

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORNE.

For: KEY OIL COMPANY

By: [Signature], President

Date: July 19, 1994
McCullough #1 47-017-4135  
3 Stage Foam Frac - Halliburton

Stage 1: Alexander (10 holes) (4976.50-5000.50)  
60 Quality Foam, 750 gal. 15% HCl, 30,000 lbs.  
20-40 sand, 358,000 SCF N₂, 520 bbls. Foam.

Stage 2: Benson (10 holes) (4684-4686.25)  
75 Quality Foam, 750 gal. 15% HCl, 25,000 lbs.  
20-40 sand, 397,000 SCF N₂, 467 bbls. Foam.

Stage 3: Riley (12 holes) (4278-4303.75)  
60 Quality Foam, 1250 gal. 15% HCl, 10,000 lbs.  
80-100 sand, 40,000 lbs. 20-40 sand, 481,000 SCF N₂, 749 bbls. Foam.

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**WELL LOG**

<table>
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<tr>
<th>FORMATION</th>
<th>TOP FEET</th>
<th>BOTTOM FEET</th>
<th>REMARKS</th>
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<tr>
<td>Shale</td>
<td>0</td>
<td>20</td>
<td>1&quot; Stream H₂O @ 60'</td>
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<tr>
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<td>60</td>
<td>1/2&quot; Stream H₂O @ 259'</td>
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<tr>
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<tr>
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<td>125</td>
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<tr>
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<td>390</td>
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<td>4809 N/S</td>
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<td>1648</td>
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<td>5152 T.D.</td>
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**RECEIVED**  
OFFICE OF OIL AND GAS  
JUL 2 1 1994  
WV Division of Environmental Protection
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION
Expire 06/13/90

WELL NUMBER: Key Oil Company 2565 (1) 671

Operator's Well Number: McCullough #1

3) Elevation: 803'

Well type: (a) Oil X/ or Gas X/
(b) If Gas: Production X/ Underground Storage /

Deep / Shallow X/

5) Proposed Target Formation(s): Alexander

6) Proposed Total Depth: 5200 feet

7) Approximate fresh water strata depths: 50'

8) Approximate salt water depths: -0-

9) Approximate coal seam depths: None

10) Does land contain coal seams tributary to active mine? Yes X/ No

11) Proposed Well Work: Drill, Stimulate, Produce.

12) CASING AND TUBING PROGRAM

<table>
<thead>
<tr>
<th>TYPE</th>
<th>SPECIFICATIONS</th>
<th>FOOTAGE INTERVALS</th>
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<td>Weight per ft.</td>
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<td>Liners</td>
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PACKERS: Kind

Sizes

Depths set

For Division of Oil and Gas Use Only

Fee(s) paid: Wall Work Permit / Reclamation Fund / Bond 12/19
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:
   (a) Name C. K. McCullough
       Address Rt. 1 Box 98
               Greenwood, WV 26360
   (b) Name __________________________
       Address __________________________
   (c) Name __________________________
       Address __________________________

5) (a) Coal Operator:
   Name __________________________
   Address __________________________
   (b) Coal Owner(s) with Declaration
       Name __________________________
       Address __________________________
       __________________________
   (c) Coal Lessee with Declaration
       Name __________________________
       Address __________________________
       __________________________

6) Inspector Mike Underwood
   Address Rt. 2 Box 135
           Salem, WV 26426
   Telephone (304) 782-1043

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

X Included is the lease or leases or other continuing contract or
contracts by which I hold the right to extract oil and gas OR
X Included is the information required by Chapter 22B, Article 1,
Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code
I have served copies of this notice and application, a location plat, and
accompanying documents pages 1 through ____ on the above named parties, by:
X___ Personal Service (Affidavit attached)
   ___ Certified Mail (Postmarked postal receipt attached)
   ___ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree
to the terms and conditions of any permit issued under this application.
I certify under penalty of law that I have personally examined and am
familiar with the information submitted on this application form and all
attachments, and that based on my inquiry of those individuals immediately
responsible for obtaining the information, I believe that the information
is true, accurate, and complete.

I am aware that there are significant penalties for submitting false
information, including the possibility of fine and imprisonment.

Well Operator Key Oil Company
By: __________________________
   Its: President
   Address 22 Garton Plaza
           Weston, WV 26452
   Telephone 304-769-7102

Subscribed and sworn before me this 4th day of May, 1994

___________________________
KAREN COOK
My commission expires March 24, 2003

________________________________________________________________________
Notary Public