

COORDINATES  
265830.121  
1834193.755  
WV NAD SOUTH

LATITUDE 37°45'00"

S55°46'55"E 95.53'

1669C 1633

S24°16'37"E  
2082.262'

N25°35'54"W  
2164.272'

PROPOSED  
LOCATION

N29°25'16"E  
20972.08'  
TO COPPER PLUG  
IN CLIFF

LONGITUDE 81°32'30"

7750'

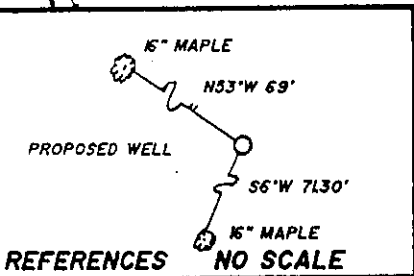
1.46  
1.71

TOPO  
LOCATION

POCAHONTAS LAND CORPORATION  
ORDER BOOK 38/385

85

NORTH



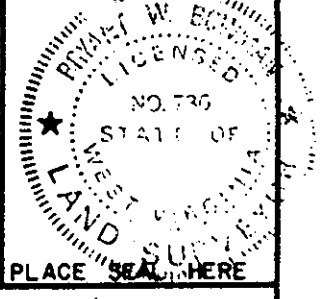
WOLFFEN

BRANCH

NO KNOWN WATER WELLS WITHIN  
1000'

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1"=1000'  
MINIMUM DEGREE OF ACCURACY 1/10000  
PROVEN SOURCE OF ELEVATION COPPER PLUG IN ROCK  
ELEVATION 2783.54

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.  
(SIGNED) [Signature]  
R.P.E. \_\_\_\_\_ L.L.S. 736



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
FORM IV-6  
(8-78)



DATE 12-03-97  
OPERATOR'S WELL NO. 310-194  
API WELL NO. 47-109-01691C  
STATE COUNTY PERMIT

Department of Mines  
Oil & Gas Division

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS", PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW \_\_\_)  
LOCATION: ELEVATION 2688 WATER SHED TONEY FORK  
DISTRICT OCEANA COUNTY WYOMING  
QUADRANGLE MATHENY, WV 7.5'  
SURFACE OWNER POCAHONTAS LAND CORPORATION ACREAGE 29500±  
OIL & GAS ROYALTY OWNER POCAHONTAS LAND CORPORATION LEASE ACREAGE 29500±  
LEASE NO. \_\_\_\_\_  
PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION Beckley, Fire Creek, Aca 6+4 ESTIMATED DEPTH 2438  
WELL OPERATOR PENN VIRGINIA OIL & GAS CORP DESIGNATED AGENT HARRY JEWEL  
ADDRESS 999 EXECUTIVE PARK BLVD. SUITE 300 ADDRESS PO BOX 460  
KINGSFORD, TN 37660 RAVENCLIFF, WV 25913

WYO 1691C

JUN 20 1997

LATITUDE 37°45'00"

COORDINATES  
269830.00  
83483.765  
WY NAD SOUTH

S55°46'35"E 95.53'

1669C 1633

S24°53'37"E  
2082.262'

LONGITUDE 87°32'30"

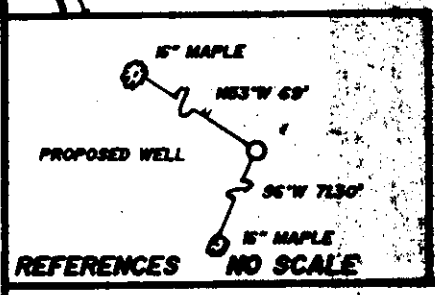
PROPOSED LOCATION

N29°25'16"E  
20972.08'  
TO COPPER PLUG  
IN CLIFF

TOPO LOCATION

POCAHONTAS LAND CORPORATION  
ORDER BOOK 38/385

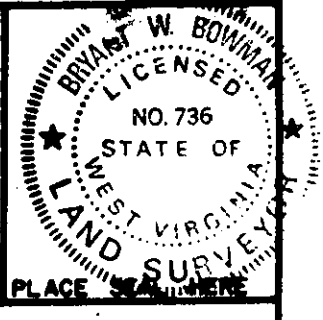
NORTH



NO KNOWN WATER WELLS WITHIN  
1000'

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1"=1000'  
 MINIMUM DEGREE OF ACCURACY 1/10000  
 PROVEN SOURCE OF ELEVATION COPPER PLUG IN ROCK  
 ELEVATION 2783.54

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.  
 (SIGNED) *[Signature]*  
 R. P. E. \_\_\_\_\_ L. L. S. 736



WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 #10 McJUNKIN ROAD  
 NITRO, WEST VIRGINIA 25142-2506



DATE 2-03-97  
 OPERATOR'S WELL NO. LC-194  
 API WELL NO.  
 47 - 109 - 01691  
 STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS", PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW \_\_\_\_\_  
 LOCATION: ELEVATION 2638 WATER SHED TERRY BRANCH  
 DISTRICT OCEANA COUNTY WYOMING  
 QUADRANGLE MATHIAS, WY 7.5'  
 SURFACE OWNER POCAHONTAS LAND CORPORATION ACREAGE 29500±  
 OIL & GAS ROYALTY OWNER POCAHONTAS LAND CORPORATION LEASE ACREAGE 29500±  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL  CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR  
 STIMULATE \_\_\_\_\_ PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW  
 FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
 TARGET FORMATION Gordon ESTIMATED DEPTH 4900  
 WELL OPERATOR PENN VIRGINIA OIL & GAS CORP DESIGNATED AGENT HARRY JEWEL  
 ADDRESS 999 EXECUTIVE PARK BLVD, SUITE 300 ADDRESS PO BOX 460  
 KINGSPOST, TN 37660 RAVENCLIFF, WV 25913

WR-35

09-Jan-98  
API # 47-109-01691

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

RECEIVED

Well Operator's Report of Well Work

Farm name: POCAHONTAS LAND CORP. Operator Well No.: LC-194

LOCATION: Elevation: 2,688.00 Quadrangle: MATHENY  
District: OCEANA County: WYOMING  
Latitude: 7750 Feet South of 37 Deg. 45Min. 0 Sec.  
Longitude 9150 Feet West of 81 Deg. 32 Min. 30 Sec.

Company: PENN VIRGINIA OIL AND GAS  
999 EXEC. PARK BLVD., STE. 300  
KINGSPORT, TN 37660-0000

Agent: HARRY JEWELL, III

Inspector: OFIE HELMICK  
Permit Issued: 01/14/98  
Well work Commenced: 03/03/98  
Well work Completed: 03/13/98  
Verbal Plugging  
Permission granted on: 03/12/98  
Rotary X Cable Rig  
Total Depth (feet) 4088'  
Fresh water depths (ft) Damp at 165'

| Size   | Used in<br>Casing &<br>Tubing   Drilling | Left<br>in Well | Cement<br>Fill Up<br>Cu. Ft. |
|--------|--|-----------------|------------------------------|
| 9 5/8" | 38'                                      | 38'             | 0                            |
| 7"     | 2438'                                    | 2438'           | 512                          |
|        |  |                 |                              |
|        |  |                 |                              |
|        |  |                 |                              |

Salt water depths (ft)

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

OPEN FLOW DATA

Producing formation Dry - P&A Pay zone depth (ft) \_\_\_\_\_  
 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

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
 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

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 WELLBORE.

For: PENN VIRGINIA OIL AND GAS CORPORATION

By: William M Ryan  
Date: 5/7/98

WYO 1691

FORM WR-35R  
(REVERSE)

PERMIT #: 47-109-01691  
WELL#: LC 194

| <u>FORMATIONS</u>     | <u>TOP</u> | <u>BOTTOM</u> | <u>REMARKS</u>   |
|-----------------------|------------|---------------|--|
| Sand, shale & coal    | 0          | 2333          | Coal @ 150-160, 321-324, 760-764, 2038-2040, 2077-2080,<br>2117-2118, 2167-2168, 2186-2191, 2207-2209, 2332-2333 |
| Sand & Shale          | 2333       | 2640          |  |
| Princeton             | 2640       | 2664          |  |
| Shale                 | 2664       | 2694          |  |
| Sand                  | 2694       | 2716          |  |
| Shale                 | 2716       | 2744          |  |
| Ravenciff             | 2744       | 2782          |  |
| Avis Limestone        | 2782       | 2814          |  |
| Shale                 | 2814       | 2868          |  |
| Sand                  | 2868       | 2934          |  |
| Sand, shale & Redrock | 2934       | 3456          |  |
| Little Lime           | 3456       | 3537          |  |
| Lime & Shale          | 3537       | 3567          |  |
| Big Lime              | 3567       | 3930          |  |
| Shale                 | 3930       | 4106          | Odor of gas at TD  |

WR-35

29-Jun-98  
API # 47-109-01691 C

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

Well Operator's Report of Well Work

Farm name: POCAHONTAS LAND CORP Operator Well No.: 31C-194

LOCATION: Elevation: 2,688.00 Quadrangle: MATHENY

District: OCEANA County: WYOMING  
Latitude: 7750 Feet South of 37 Deg. 45Min. 0 Sec.  
Longitude 9150 Feet West of 81 Deg. 32 Min. 30 Sec.

Company: PENN VIRGINIA OIL AND GAS  
999 EXEC. PARK BLVD., STE. 300  
KINGSPORT, TN 37660-0000

Agent: HARRY JEWELL, III

Inspector: OFIE HELMICK  
Permit Issued: 06/29/98  
Well work Commenced: 09/24/98  
Well work Completed: 02/04/99  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary \_\_\_\_\_ Cable \_\_\_\_\_ Rig  
Total Depth (feet) \_\_\_\_\_  
Fresh water depths (ft) \_\_\_\_\_  
DAMP @ 165'  
Salt water depths (ft) N/A

| Casing & Tubing Size  | Used in Drilling | Left in Well | Cement Fill Up Cu. Ft. |
|---|------------------|--------------|------------------------|
| 9 5/8"  | 38'              | 38'          | 0                      |
| 7"  | 2438'            | 2438'        | 512                    |
| 2 3/8"  |                  | 2235'        |                        |
| OFFICE OF ENVIRONMENTAL PROTECTION<br>JUL 01 1999<br>DIVISION OF ENVIRONMENTAL PROTECTION |                  |              |                        |

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): \_\_\_\_\_

OPEN FLOW DATA

FIRE CREEK, BECKLEY COALS

Producing formation LOWER POCA 6, POCA 6, LOWER Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow SHOW MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock Pressure NOT TAKEN psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

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

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 WELLBORE.

For: PENN VIRGINIA OIL AND GAS CORPORATION

By: William M. Ryan  
Date: 7/2/99

JUL 19 1999

WYO 1691 C

FORM WR-35  
(REVERSE)

PERMIT # 47-109-01691C  
WELL # 31C-194

DETAILS OF PERFORATIONS, FRACTURING OR PHYSICAL CHANGE, ETC

STAGE 1 - LOWER FIRE CREEK COAL - POCA 6 COAL AND LOWER POCA 6 COAL - Perforated the Lower Fire Creek Coal from 2166' to 2170' with 12 holes, Poca 6 Coal from 2186' to 2191' with 10 holes and Lower Poca 6 Coal from 2207' to 2210' with 6 holes. Breakdown with 1,000 gallons of 7.5% HCL acid and water. Treated with 389 bbls of water and 10,000 lbs 20/40 sand.  
ATR: 15.3 BPM      ATP: 2175 psi      ISIP: 1340 psi

STAGE 2 - LOWER BECKLEY COAL AND FIRE CREEK COAL - Perforated the Lower Beckley Coal from 2077' to 2081' with 12 holes and the Fire Creek Coal from 2116' to 2120' with 12 holes. Breakdown with water. Treated with 306 bbls of water and 6,000 lbs 20/40 sand.  
ATR: 13.1 BPM      ATP: 3423 psi      ISIP: 1580 psi

DRY HOLE ON WELL #LC-194. PERMIT # 47-109-01691 WAS CONVERTED TO CRM WELL #31C-194 PERMIT # 47-109-01691C. THE COALS WERE TREATED THROUGH 3 1/2" TUBING WITH 3 1/2 X 7" PACKER. 2 3/8 TUBING RODS AND PUMP JACK SET TO CLEAN OUT FRAC WATER AND PRODUCE WELL

Checked  
Filed  
JUL 01 1999  
WV Division of  
Environmental Protection