



FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1,000'  
 MINIMUM DEGREE OF ACCURACY 1' in 2,500'  
 PROVEN SOURCE OF ELEVATION U.S. Geodetic & Geological Survey - Brass disc No. 4-194 - 1958  
Elevation = 1,337'

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) Thomas V. Jolley  
 R.P.E. \_\_\_\_\_ L.L.S. 346 SU

PLACE SEAL HERE

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



DATE November 9, 1981  
 OPERATOR'S WELL NO. Watson No. 3  
 API WELL NO. \_\_\_\_\_  
47 - 047 - 0869  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1,693.42' WATER SHED Jed Branch of Tug Fork  
 DISTRICT Adkin COUNTY McDowell  
 QUADRANGLE Walch 7 1/2 min. 4 15 EC  
 SURFACE OWNER Pocahontas Land Corporation ACREAGE 1,982.73  
 OIL & GAS ROYALTY OWNER James E. Watson, III, et al., Trustees LEASE ACREAGE 1562 ac.  
 LEASE NO. 47-7003  
 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 BEREA ESTIMATED DEPTH 4000'  
 WELL OPERATOR Cabot Oil & Gas Corp. DESIGNATED AGENT JIM CRAMBLETT  
 ADDRESS P.O. Box 628 ADDRESS P.O. Box 628  
Charleston, W. Va. CHARLESTON, W. Va.

JAN 21 1982

# RECEIVED



IV-35  
(Rev 8-81)

OCT 21 1983

OIL & GAS DIVISION  
DEPT. OF MINES

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date October 18, 1983  
Operator's  
Well No. Watson Coal Unit #3  
Farm \_\_\_\_\_  
API No. 47 - 047 - 0869 - REI

OCT 31 1983

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil \_\_\_ / Gas XX / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas," Production \_\_\_ / Underground Storage \_\_\_ / Deep XX / Shallow \_\_\_ /)

LOCATION: Elevation: 1693.42' Watershed Jeb Branch of Tug Fork  
District: Browns Creek County McDowell Quadrangle Welch

COMPANY Cabot Oil & Gas Corporation of WV

ADDRESS P.O. Box 628, Charleston, WV 25322

DESIGNATED AGENT Richard P. Parsons

ADDRESS P.O. Box 628, Charleston, WV 25322

SURFACE OWNER Pocahontas Land Corp.

ADDRESS Mr. C.L. Helmick - Box 1517

ADDRESS Bluefield, WV 24701

MINERAL RIGHTS OWNER James E. Watson III et al

ADDRESS Trustees, Room 810, 1st National Bank

ADDRESS Bldg., Fairmont, WV 26554

OT. AND GAS INSPECTOR FOR THIS WORK Rue

Schoolcraft ADDRESS P.O. Box 706

PERMIT ISSUED June 9, 1983

DRILLING COMMENCED 6/21/83

DRILLING COMPLETED 7/15/83

IF APPLICABLE: PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
REWORKING. VERBAL PERMISSION OBTAINED  
ON \_\_\_\_\_

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
<del>11-3/4</del> <del>13-1/4</del>	630	630	
9 5/8			
8 5/8	1420.40'	1420.40'	550 sks.
7			
5 1/2			
4 1/2	6289.56'	6289.56'	425 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Huron Shale Depth 5850 feet

Depth of completed well 6850 feet Rotary X / Cable Tools \_\_\_\_\_

Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet

Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? \_\_\_\_\_

### OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 4359-6238 feet

Gas: Initial open flow 0 Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow 223 Mcf/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ hours

Static rock pressure 120# psig (surface measurement) after 4 hours shut in

(If applicable due to multiple completion--)

Second producing formation \_\_\_\_\_ Pay zone depth \_\_\_\_\_ feet

Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ Mcf/d Oil: Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ hours

Static rock pressure \_\_\_\_\_ psig (surface measurement) after \_\_\_\_\_ hours shut in

(Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

R/U McCullough, T.D. 6254' <sup>Huron</sup> K.B. Ran Gamma Ray, Correlation from 4450' to 4100'.  
 Perforated 19 holes from 5713-6238'. Treated Devonian Shale with 900 sks. of 20/40  
 sand, 893,000 standard cubic feet nitrogen. AIR 40 bbls. per minute. Breakdown  
 pressure 1800#. Average treating pressure 2999#. ISIP 1180#. Perforated Devonian  
 Sand, 4359-4369', 6 holes, 4598-4608', 6 holes. Brokedown with 500 gal. 15% HCL at  
 1800#. Treated with 450 sks. of 20/40 sand, 367,000 standard cubic feet nitrogen.  
 ATP 2086#. ISIP 1100#.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sand			0	70	
Shale			70	110	
Sand			110	150	
Shale			150	180	
Sand			180	230	
Shaley Sand			230	270	
Shale			270	305	
Sand			305	360	
Shale			360	390	
Sand			390	450	
Shale			450	475	
Sand			475	530	
Shaley Sand			530	630	
Shale			630	670	
Sand			670	690	
Shale			690	730	
Sand			730	760	
Shaley Sand			760	820	
Shale			820	850	
Sand			850	950	
Shaley Sand			950	1250	Tops from E-Logs.
Pride Shale			1250	1440	
Ravencliff Sand	White	Hard	1440	1560	
Shaley Sand	Grey	Med.	1560	1580	
Shale	Grey	Med.	1580	1600	
Avis Limestone	Dk. Grey	Med.	1600	1650	
Limey Shale	Red	Soft	1650	1750	
Shale	Green	Med.	1750	1770	
Shale (Limey)	Grey & Red	Med.	1770	1810	
Sand	Brown	Med.	1810	1820	
Limestone	Black	Hard	1820	1830	
Shale	Black	Soft	1830	1840	
Sandy Shale	Grey & Red	Med.	1840	1920	
Sand	Grey	Hard	1920	1960	
Shale	Grey & Red	Med.	1960	2045	
Sandy Shale	Grey & Red	Med.	2045	2220	
Shale	Red	Med.	2220	2305	

(Attach separate sheets as necessary)

CABOT OIL & GAS CORPORATION OF WEST VIRGINIA

Well Operator

By:

*R M ...*

Date: October 20, 1983

Note: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including ... encountered in the drilling of a well."

DEC 21 1983

WATSON #3  
47-047- 0869-REN

WELL LOG

<u>FORMATION</u>	<u>COLOR</u>	<u>HARD OR SOFT</u>	<u>TOP FEET</u>	<u>BOTTOM FEET</u>	<u>REMARKS</u>
Shaley Sand	Grey	Med.	2305	2312	
Shale	Red	Med.	2312	2420	
Shaley Sand (Maxton)	Grey & White	Med.	2420	2460	S/G TSTM
Shale	Grey	Med.	2460	2480	
Sand	Grey	Hard	2480	2490	
Shale	Grey	Med.	2490	2540	
Limestone	Grey	Hard	2540	2580	
Shale	Grey	Soft	2580	2590	
Sand	White	Hard	2590	2630	
Shale	Grey	Med.	2630	2710	
Shaley Lime	Grey	Hard	2710	2800	
Limey Shale	Grey	Med.	2800	2870	
Shaley Lime	Grey & Brown	Hard	2870	2960	
Shale	Grey	Med.	2960	2990	
Big Lime	Grey & Brown	Hard	2990	3560	
Shale	Red	Soft	3560	3620	
Sandy Shale	Grey	Soft	3620	3830	
Shale	Grey	Soft	3830	4160	
Sunbury Shale	Black	Soft	4160	4200	
Berea (Shaley)	Grey	Hard	4200	4240	S/G TSTM
Shale	Grey	Soft	4240	4310	
Shaley Sand	Grey & White	Med.	4310	4410	S/G TSTM
Shale	Grey	Med.	4410	4470	
Sandy Shale	Grey	Med.	4470	4560	
Shale	Grey	Med.	4560	4590	
Shaley Sand	Grey	Med.	4590	4620	S/G TSTM
Shale	Grey	Soft	4620	5490	
Upper Heron Shale	Black & Grey	Soft	5490	5710	
Lower Heron Shale	Black	Soft	5710	5750	
Shale	Grey	Soft	5750	6100	
Shaley Sand	Grey	Med.	6100	6140	
Shale	Grey	Soft	6140	6230	
Shaley Sand	Grey	Med.	6230	6250	
Shale	Grey	Soft	6250	6310	
Rhinestreet Shale	Black	Soft	6310	6650	
Marcellus Shale	Black	Soft	6650	6720	
Onondaga Limestone	Light Grey	Hard	6720	6786	
Oriskany Sand	White	Hard	6786	6802	
Limestone	Grey	Hard	6802	6850	

Helderberg

L.T.D. 6850'

4240  
1874  
6114

6850  
6114  
736 expl. prog.



Well No. #3  
Farm Watson  
API #47 - 047 - 0869  
Date December 7, 1981

STATE OF WEST VIRGINIA  
OFFICE OF OIL AND GAS - DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil \_\_\_ / Gas XX /  
(If "Gas", Production \_\_\_ / Underground storage \_\_\_ / Deep \_\_\_ / Shallow XX /

LOCATION: Elevation: 1693.42' Watershed: Jeb Branch of Tug Fork  
District: Adkin County: McDowell Quadrangle: Welch

WELL OPERATOR Cabot Oil & Gas Corp.  
Address P.O. Box 628  
Charleston, WV 25322

DESIGNATED AGENT Richard P. Parsons  
Address P.O. Box 628  
Charleston, WV 25322

OIL AND GAS et al  
ROYALTY OWNER James E. Watson III Trustees  
Address Room 810, 1st Nat'l Bank Bldg.  
Fairmont, WV 26554  
Acreage 1982.73

COAL OPERATOR Cannelton Industries Inc.  
Address Attention: Robert Fullerton  
Superior, WV 24886

SURFACE OWNER Pocahontas Land Corp.  
Address P.O. Box 1517 - Attn: C. L. Helmick  
Bluefield, WV 24701  
Acreage 1982.73

COAL OWNER(S) WITH DECLARATION ON RECORD:  
NAME Pocahontas Land Corp.  
Address P.O. Box 1517 - Attn: C. L. Helmick  
Bluefield, WV 24701

FIELD SALE (IF MADE) TO:  
NAME \_\_\_\_\_  
Address \_\_\_\_\_

NAME \_\_\_\_\_  
Address \_\_\_\_\_

OIL AND GAS INSPECTOR TO BE NOTIFIED:  
NAME Rue Schoolcraft  
Address P.O. Box 706  
Pineville, WV 24874  
Telephone 304-732-7245

COAL LESSEE WITH DECLARATION ON RECORD:  
NAME \_\_\_\_\_  
Address \_\_\_\_\_

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed \_\_\_ / lease XX / other contract \_\_\_ / dated March 15, 1981, to the undersigned well operator from Edgar N. Jaynes et al Trustees.

(If said deed, lease, or other contract has been recorded:)

Recorded on \_\_\_\_\_, 19\_\_\_, in the office of the Clerk of County Commission of \_\_\_\_\_ County, West Virginia, in \_\_\_\_\_ Book at page \_\_\_\_\_. A permit is requested as follows:

PROPOSED WORK: Drill XX / Drill Deeper \_\_\_ / Redrill \_\_\_ / Fracture or stimulate \_\_\_ / Plug off old formation \_\_\_ / Perforate new formation \_\_\_ / Other physical change in well (specify) \_\_\_\_\_

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after receipt of this Application by the Dept. Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessees on or before the day of the mailing or delivery of this Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:  
WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION  
1613 WASHINGTON ST., E.  
CHARLESTON, WV 25311  
Telephone - 304/348-3092

BLANKET BOND

CABOT OIL AND GAS CORPORATION  
Well Operator

By: R. P. Parsons  
Its: District Drilling Superintendent

(Revised 3-81)

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:  
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) Unknown

Address \_\_\_\_\_  
\_\_\_\_\_

GEOLOGICAL TARGET FORMATION Berea  
Estimated depth of completed well 4500 feet. Rotary xx / Cable tools     /  
Approximate water strata depths: Fresh, 50 feet; salt,     feet.  
Approximate coal seam depths: 523 (open) 613' (open)  
Is coal being mined in this area: Yes xx / No     /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL- UP OR SACKS Cubic ft.	PACKERS	
	Size	Grade	Weight per ft	New	Used	For Drill- ling			Left in Well
Conductor	16			X		50	50	50	Kinds
Fresh water									
Coal	11-3/4			X		650	650	315 <i>CTS</i>	Sizes
Intermed.	8-5/8			X		1400	1400	300 <i>CTS</i>	
Production Tubing	4-1/2			X		4500	4500	<i>175 . or</i>	Depths set
Liners								<i>Line 7"</i>	Perforations: Top Bottom

**NOTE:** Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code §22-4-2, (iii) Form IV-9, "Reclamation Plan" applicable to the reclamation required by Code §22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code §22-4-12a, and (v) if applicable, the consent required by Code §22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 8-25-82.

*J. H. Huggins*  
Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code §22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator     / owner     / lessee     / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided the well operator has complied with all applicable requirements of the West Virginia Code and the governing regularions.

Date: \_\_\_\_\_, 19\_\_\_\_.

By: \_\_\_\_\_

Its: \_\_\_\_\_

