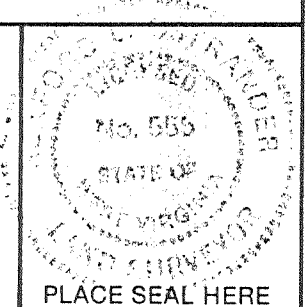


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. 40.01
 DRAWING NO. 86-1
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION BM-1636'
East of Location

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) Richard L. Osterwald
 R.P.E. _____ L.L.S. 555
Buckhannon, WV



PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE 8 April, 19 86
 OPERATOR'S WELL NO. 2218
 API WELL NO. _____

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION STORAGE ___ DEEP ___ SHALLOW

LOCATION: ELEVATION 1640' WATER SHED Whites Camp Fork
 DISTRICT Banks COUNTY Upshur
 QUADRANGLE Walkersville 654 033 Sec Crawford

SURFACE OWNER James G. McClain ACREAGE 100
 OIL & GAS ROYALTY OWNER James G. McClain, et al LEASE ACREAGE 100
 LEASE NO. 62859

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 6-6, Cave Run
 TARGET FORMATION Benson ESTIMATED DEPTH 4000' (250)

WELL OPERATOR UNION DRILLING, INC. DESIGNATED AGENT Joseph C. Petty
 ADDRESS P.O. Drawer 40 993 ADDRESS P.O. Drawer 40

DEEPWELL Buckhannon, WV 26201 Buckhannon, WV 26201

LONGITUDE 80°22'30"

COUNTY NAME

PERMIT

P.T. HALL FORM TV-9 (8-78)



IV-35
(Rev 8-81)

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

State of West Virginia

Department of Mines
Oil and Gas Division

Date January 5, 1987
Operator's
Well No. 2 - 2218
Farm Edna McClain #2
API No. 47 - 097 - 2777

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: 1640' Watershed Whites Camp Fork
District: Banks County Upshur Quadrangle Walkersville

COMPANY Union Drilling, Inc.
ADDRESS P.O. Drawer 40, Buckhannon, WV 26201
DESIGNATED AGENT Joseph C. Pettey
ADDRESS P.O. Drawer 40, Buckhannon, WV 26201
SURFACE OWNER James G. McClain, Agent
ADDRESS 7171 Akron Ave., Coral Fulton, OH 44614
MINERAL RIGHTS OWNER same as above
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK _____
Phil Tracy ADDRESS P.O. Box 2536, Elkins, WV 26241
PERMIT ISSUED 5/5/86
DRILLING COMMENCED 7/18/86
DRILLING COMPLETED 8/10/86

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	40.00	pulled	
9 5/8			
8 5/8	1314.55'	1314.55'	389 cf
7			
5 1/2			
4 1/2		4323.00'	792 cf
3			
2			
Liners used			

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

GEOLOGICAL TARGET FORMATION Oriskany Depth 7700' feet
Depth of completed well 7716' feet Rotary xxx / Cable Tools _____
Water strata depth: Fresh 35', 410' feet; Salt 2100' feet
Coal seam depths: none Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Benson Pay zone depth 4182 feet
Gas: Initial open flow 94 Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow 1501 Mcf/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 2 hours
Static rock pressure 1100# psig (surface measurement) after 24 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) JAN 12 1987

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

Halliburton did plug back to 4230' 12/11/86

Halliburton - 1 stage Foam Frac - 12/19/86

4177/82 - Benson - 85,000# sand, 333 bbls water and 770,000 scf nitrogen

1st Frac Job was done on 8/18/86 - perforated @

7122/37 - Marcellus Shale - 128 bbl water, 97,000# sand and 630,000 scf nitrogen

7143/53

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
		Dirt	0	20	1/2" stream fresh water @35'
		Sand & Shale	20	1428	1" stream fresh water @410'
		Blue Monday	1428	1472	Damp @2100'
		Big Lime	1498	1605	
		Big Injun	1605	1710	
		Squaw	1719	1736	
		Gordon	1903	1932	
		4th Sand	1966	1979	
		5th Sand	2050	2092	
		Bayard	2187	2221	
		Elizabeth	2320	2330	
		Warren	2386	2456	
		Bradford	3463	3500	
		1st Riley	3869	3882	
		2nd Riley	3934	3970	
		Benson	4172	4188	
		Tully Limestone	6988	7008	
		Marcellus Shale	7085	7169	
		Onondaga	7169	7177	
		Huntersville Chert	7177	7387	
			7716		TD Gas Check @TD 5/10ths thru 2" w/w =94 mcf

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

Union Drilling, Inc.

Well Operator

By: Joseph C. Pettey

Date: Joseph C. Pettey, Vice President of Production
1/5/87

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 coal, encountered in the drilling of a well."

(Obverse)
7/85

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1) Date: April 10, 1986
 2) Operator's Well No. 2218
 3) API Well No. 47 097-2777
 State County Permit

STATE OF WEST VIRGINIA
 DIVISION OF OIL & GAS DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
 DEPARTMENT OF ENERGY **APPLICATION FOR A WELL WORK PERMIT**

- 4) WELL TYPE: A Oil / Gas XX /
 B (If "Gas", Production XX / Underground storage / Deep / Shallow XX /)
- 5) LOCATION: Elevation: 1640 Watershed: Whites Camp Fork
 District: Banks County: Upshur Quadrangle: Walkersville
- 6) WELL OPERATOR Union Drilling, CODE: 50550 7) DESIGNATED AGENT Joseph C. Pettey
 Address Post Office Drawer 40 Address Post Office Drawer 40
Buckhannon, WV 26201 Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Phillip Tracy Name Union Drilling, Inc.
 Address Post Office Box 2536 Address Post Office Drawer 40
Buckhannon, WV 26201 Elkins, WV 26241 Buckhannon, WV 26201
- 10) PROPOSED WELL WORK: Drill XX / Drill deeper / Redrill / Stimulate XX /
 Plug off old formation / Perforate new formation /
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Benson
 12) Estimated depth of completed well, 4,000 feet
 13) Approximate strata depths: Fresh, ~175 feet; salt, feet.
 14) Approximate coal seam depths: Is coal being mined in the area? Yes / No XX /

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	11-3/4		32	X	X	30'	30'		Kinds
Fresh water									
Coal									Sizes
Intermediate	8-5/8		23	X	X	1000'	1000'	to surface <u>Per Rule 15.05</u> <u>as required</u>	Depths set
Production	4-1/2	J-55	10 1/2	X	X	4000'	4000'		
Tubing								← <u>300 SKS OR AS REQUIRED</u> <u>By Rule 15.05</u>	Specifications:
Lin.									

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-097-2777 Date May 5 19 86

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
 Permit expires May 5, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>AS</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>2218</u>	WPCP: <u>AS</u>	S&E: <u>MX</u>	Other: <u> </u>
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NOTE: Keep one copy of this permit posted at the drilling location.

John H. Johnston by Margaret J. Hesse
 Director, Division of Oil and Gas
 File

