



38 30 30
82 16 15

5.155
1.09W

2.325
1.09W

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION Intersection of WV State Rt. Nos. 7, 12 & 7/1, Elev. = 557

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) Ronald L. East
 R.P.E. _____ L.L.S. 150

PLACE SEAL HERE

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



DATE Oct. 21, 19 81
 OPERATOR'S WELL NO. 1759
 API WELL NO. _____
47 - 011 - 0700
 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 X STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 898.04 WATER SHED Ninemile Creek
 DISTRICT Union COUNTY Cabell
 QUADRANGLE Athalia 4 15 SE
 SURFACE OWNER Hobert A. Jefferson, et ux ACREAGE 30.75
 OIL & GAS ROYALTY OWNER Hobert A. Jefferson, et ux LEASE ACREAGE 30.75
 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 Tuscarora ESTIMATED DEPTH 5,800'
 WELL OPERATOR Union Drilling, Inc. DESIGNATED AGENT Joseph C. Petty
 ADDRESS Drawer 40 ADDRESS Drawer 40
Buckhannon, WV 26201 Buckhannon, WV 26201

DEC 4 1981

JUN 25 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES



IV-35
(Rev 8-81)

State of West Virginia
Department of Mines
Oil and Gas Division

Date May 18, 1982
Operator's
Well No. 1 - 1759
Farm Hobert A. Jefferson #1
API No. 47 - 011 - 0700

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

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

LOCATION: Elevation: 898.04' Watershed Ninemile Creek
District: Union County Cabell Quadrangle Athalia

COMPANY UNION DRILLING, INC.
ADDRESS P. O. Drawer 40, Buckhannon, WV 26201
DESIGNATED AGENT UNION DRILLING, INC.
ADDRESS P. O. Drawer 40, Buckhannon, WV 26201
SURFACE OWNER Hobert A. Jefferson
ADDRESS Lesage, WV 25537
MINERAL RIGHTS OWNER Same as Surface
ADDRESS
OIL AND GAS INSPECTOR FOR THIS WORK Kenneth
Butcher ADDRESS RFD #1, Barboursville, WV
PERMIT ISSUED November 12, 1981
DRILLING COMMENCED November 24, 1981
DRILLING COMPLETED December 7, 1981
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.	29'	29'	
11 3/4 13-10"	246.66'	246.66'	177 cf
9 5/8			
8 5/8	2398.85'	2398.85'	130 cf
7			
5 1/2			
4 1/2	3995.50'	3995.50'	372 cf
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Tuscarora Depth 5800 feet
Depth of completed well 4930 feet Rotary x / Cable Tools
Water strata depth: Fresh 118', 639', 1485' & feet; Salt feet
Coal seam depths: none 1525/2430' Is coal being mined in the area?

OPEN FLOW DATA
Producing formation Marcellus and Brown Shale Pay zone depth 3688 3569 feet
Gas: Initial open flow show Mcf/d Oil: Initial open flow none Bbl/d
Final open flow 6 Mcf/d Final open flow none Bbl/d
Time of open flow between initial and final tests ? hours
Static rock pressure 675 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)

JUL 6 1982

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

On 1/18/82 perforated at ^{3625/3683} (15 shots). On 1/21/82 fractured with 500 gallon acid and 1,080,000 SCF Nitrogen. On 1/27/82 perforated at 3317/94 with (17 shots). On 2/5/82 fractured with 1,000,000 scf Nitrogen, and 500 gallon 15% acid.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Shale and sand			0	40	
Shale and Red Rock			40	90	Water at 118', 1/2"
Shale			90	110	Water at 639', 1"
Red Rock			110	1437	Water at 1485', 4"
Maxson			1437	1582	Water at 1525' to 2430' fresh
Big Lime			1582	1726	
Sand and shale			1726	1778	
Injun			1778	1899	
Sand and Shale			1899	2356	
Berea			2356	2367	
Sand and Shale			2367	3160	
Brown Shale		Lower than	3160	3402	
Marcellus		(Reinstated down 100')	3402	3690	
Onondaga			3690	3862	
Helderberg			3862	4432	
Sand and Shale			4432	4814	
Clinton			4814	4835	
Sand and Shale			4835	TD 4930	odor

(Attach separate sheets as necessary)

UNION DRILLING, INC.

Well Operator

By:

Joseph C. Petty

Date: Joseph C. Petty, Vice President of Production

5/18/82

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."

Date: November 11, 1981

Operator's Well No. 1 - 1759 - U

API Well No. 47 - 011 - 0700

State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION Robert A. Jefferson #1 (1759)

OIL AND GAS WELL PERMIT

WELL TYPE: Oil / Gas x /
(If "Gas", Production x / Underground storage / Deep x / Shallow /)

LOCATION: Elevation: 898.04 Watershed: Ninemile Creek
District: Union County: Cabell Quadrangle: Athalia

WELL OPERATOR UNION DRILLING, INC. DESIGNATED AGENT UNION DRILLING, INC.
Address P. O. Drawer 40 Address P. O. Drawer 40
Buckhannon, WV 26201 Buckhannon, WV 26201

OIL & GAS ROYALTY OWNER (FEE SIMPLE TITLE) Robert A. Jefferson and Alma C. Jefferson (wife) Rt.#1, COAL OPERATOR
Address Lesage, WV 25537 Address

Acreage 30.75

SURFACE OWNER

Address

Acreage 30.75

FIELD SALE (IF MADE) TO:

Address Not Determined at this time

OIL & GAS INSPECTOR TO BE NOTIFIED

Name Kenneth Butcher 736-4885

Address RFD #1
Barboursville, WV 25504

COAL OWNER(S) WITH DECLARATION ON RECORD:

Name

Address

RECEIVED

NOV 12 1981

Name

Address OIL AND GAS DIVISION WV DEPARTMENT OF MINES

COAL LESSEE WITH DECLARATION ON RECORD:

Name

Address

Cyclops Lease #C-2-446

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease x other contract / dated May 5, 1978, to the undersigned well operator from Robert A. & Alma C. Jefferson (wife) to Cyclops and assigned to UDI (If said deed, lease, or other contract has been recorded:)

Recorded on June 9, 1978, in the office of the Clerk of the County Commission of Cabell County, West West, in Lease Book 231 at page 214. A permit is requested as follows:

PROPOSED WORK: Drill x / Drill deeper / Redrill / Fracture or stimulate x /
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 the receipt of this Application by the Department.

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 lessee on or before the day of the mailing or delivery of this Permit 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
1615 WASHINGTON STREET EAST CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

BLANKET BOND

UNION DRILLING, INC.
Well Operator
By Joseph C. Pettey
Its Joseph C. Pettey, Vice President of Production

PROPOSED WORK ORDER

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

DRILLING CONTRACTOR (IF KNOWN) UNION DRILLING, INC.

Address P. O. Drawer 40

Buckhannon, WV 26201

GEOLOGICAL TARGET FORMATION, Tuscarora

Estimated depth of completed well, 5800 feet Rotary X / Cable tools _____ /

Approximate water strata depths: Fresh, ? feet; salt, ? feet.

Approximate coal seam depths: ? Is coal being mined in the area? Yes _____ / No X /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS			New		FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
	Size	Grade	Weight per ft	Used	For drilling	Left in well	Top		Bottom	
Conductor	11 3/4"			X		300'	300'		Kinds	
Fresh Water									Sizes	
Coal									Depths set	
Intermediate	8 5/8"			X		2000'	2000'	to surface		
Production	4 1/2"			X			5800'	600 sks. or as req. by rule 15.01.		
Tubing									Perforations:	
Liners									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 7-13-82.

John R. ...
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.

WAIVER

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 regulations.

Date: _____, 19 _____

By _____
Its _____