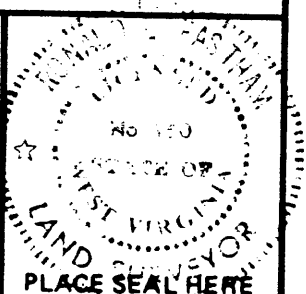


FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1,000'
 MINIMUM DEGREE OF ACCURACY 1:200'
 PROVEN SOURCE OF ELEVATION USGS B.M. "V-118",
Elev. = 551.485'

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



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



DATE Sept. 24, 19 81
 OPERATOR'S WELL NO. 1734
 API WELL NO. _____
47 - 053 - 0265
 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 ___ SHALLOW ___
 LOCATION: ELEVATION 800.59' WATER SHED ROCKY FORK
 DISTRICT HANNAN COUNTY MASON
 QUADRANGLE GLENWOOD 9 15' C
 SURFACE OWNER MARIE JEFFERS ACREAGE 71
 OIL & GAS ROYALTY OWNER MARIE JEFFERS LEASE ACREAGE 71
 LEASE NO. C-2-409
 PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL X 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 5,700' 1-1-0
 WELL OPERATOR UNION DRILLING, INC. DESIGNATED AGENT JOSEPH C. PETTEY
 ADDRESS DRAWER 40 ADDRESS DRAWER 40
BUCKHANNON, WV 26201 BUCKHANNON, WV 26201

NOV 5 1981

RECEIVED

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 14, 1982
Operator's
Well No. 1 - 1734
Farm Marie Jeffers #1
API No. 47 - 053 - 0265

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 xx / Underground Storage ___ / Deep xx / Shallow ___ /)

LOCATION: Elevation: 800.59' Watershed Rocky Fork
District: Hannan County Mason Quadrangle Glenwood

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 Marie Jeffers (widow)
ADDRESS Ashton, WV 25503

MINERAL RIGHTS OWNER Marie Jeffers (widow)
ADDRESS Ashton, WV 25503

OIL AND GAS INSPECTOR FOR THIS WORK Kenneth
Butcher ADDRESS Barboursville, WV 25504

PERMIT ISSUED October 13, 1981

DRILLING COMMENCED 12/10/81

DRILLING COMPLETED 12/22/81

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	32.80'	32.80'	
Cond. 11 3/4"			
13-10"	255.90'	255.90'	183 cf
9 5/8			
8 5/8	2281.75'	2281.75'	317 cf
7			
5 1/2			
4 1/2	3887.30'	3887.30'	542 cf
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Tuscarora Depth 5700 feet

Depth of completed well 5007 feet Rotary x / Cable Tools _____

Water strata depth: Fresh 734', ^{835'} feet; Salt _____ feet

Coal seam depths: 632/35 Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Brown Shale, Marcellus Pay zone depth 3659 feet

Gas: Initial open flow show Mcf/d Oil: Initial open flow None Bbl/d

Final open flow 133 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

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

On 3/24 perforated at 3589/3659. On 3/25 Halliburton fractured with 7½% acid 80 gallon, 500 Gallon 7½% methanol, 1500# KCL, 50 gallon 15-n, 8 gallon Cla Sta, 50,000# 20/40 sand, 250,000 SCF Nitrogen. On 3/29/82 perforated 3062/3100' and 3238/3327'. On 3/30/82 set retrievable plug@ 3350' and on 3/31/82 fractured with 500 gallon Reg. acid, 1 gallon HAI-50, 35 Gallon HC-Z, 15 Gallon 15-N, 12 Gallon Cla Sta-B, 54,500# 20/40 sand, 453,000 SCF nitrogen.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Clay			0	6	
Sand			6	8	
Shale			8	20	
Sand and Shale			20	632	
Coal			632	635	734' hole damp
Sand and Shale			635	1415	
Sand, white			1415	1500	
Dark Shale			1500	1516	
Clay			1516	1543	
Sand, white			1543	1545	
Sand and Shale			1545	2140	
Berea Sand			2140	2188	
Sand and Shale			2188	3056	
Brown Shale			3056	3334	
Marcellus			3334	3670	
Onondaga			3670	3850	
Helderberg			3850	4485	
Sand and Shale			4485	4828	
Clinton			4828	4855	
Sand and Shale			4855	TD 5007	

3670
2188
1482

(Attach separate sheets as necessary)

UNION DRILLING, INC.

Well Operator

By:

Date: 6/22/82

Joseph C. Petty, Vice President of Production

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: October 9, 19 81

Operator's Well No. 1 - 1734 - U

API Well No. 47 - 053 - 0265

State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

Marie Jeffers #1 (1734)

OIL AND GAS WELL PERMIT

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

LOCATION: Elevation: 800.59' Watershed: Rocky Fork
District: Hannan County: Mason Quadrangle: Glenwood

WELL OPERATOR UNION DRILLING, INC.
Address P. O. Drawer 40
Buckhannon, WV 262601

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

OIL & GAS ROYALTY OWNER (FEE SIMPLE TITLE)
Marie Jeffers (widow)
Address Ashton, WV 25503

COAL OPERATOR _____
Address _____

Acres 71
SURFACE OWNER _____
Address _____
Acres _____

COAL OWNER(S) WITH DECLARATION ON RECORD:

Name _____ Address _____
RECEIVED
OCT 13 1981
Name _____ Address _____
**OIL AND GAS DIVISION
WV DEPARTMENT OF MINES**

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 LESSEE WITH DECLARATION ON RECORD:
Name _____ Address _____

Cyclops Lease #C-2-409

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 February 2, 19 79, to the undersigned well operator from Marie Jeffers (widow) to Cyclops Corporation and assigned to Union Drilling, Inc. (IF said deed, lease, or other contract has been recorded:)

Recorded on March 15, 19 79, in the office of the Clerk of the County Commission of Mason County, West West, in O/G Book 45 at page 243. A permit is requested as follows:

PROPOSED WORK: Drill XX / Drill deeper _____ / Redrill _____ / Fracture or stimulate XX /
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

UNION DRILLING, INC.
Well Operator
By Dean H. Bucher
Its Dean H. Bucher, Geologist

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, 5700 feet Rotary XX / Cable tools _____ /

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

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

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"			X		300'	300'	to surface	Kinds
Fresh Water									
Coal									Sizes
Intermediate	8 5/8"		23#	X		2000'	2000'	500 sks. or	
Production	4 1/2"		10 1/2#	X			5600'	as needed 300 sks. or as required	Depths set
Tubing									
Liners									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 6-21-82.

J. G. Murray
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 _____