



FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1,000'  
 MINIMUM DEGREE OF ACCURACY 1 in 6570  
 PROVEN SOURCE OF ELEVATION U.S. Steel Mining Co. Datum.

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) John H. Burnett  
 R.P.E. 1442 L.L.S. \_\_\_\_\_

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 FORM IV-6 (8.78)



DATE October 11, 19 84  
 OPERATOR'S WELL NO. 22-Ser. #103221  
 API WELL NO. \_\_\_\_\_  
47 - 039 - 4080  
 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 2201.0 WATER SHED Long Branch of Tenmile Branch of Point Creek  
 DISTRICT Cabin Creek COUNTY Kanawha  
 QUADRANGLE Eskdale 340 Montgomery 15' SC #  
 SURFACE OWNER Carbon Fuel Company ACREAGE 8300 ±  
 OIL & GAS ROYALTY OWNER Carbon Fuel Company LEASE ACREAGE 8406  
 LEASE NO. 9965  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION Onondaga Lime ESTIMATED DEPTH 7126'  
 WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT Forrest Burkett  
 ADDRESS Box 391, Ashland, Ky. 41101 ADDRESS Box 156, Brenton, WV 24818



1) Date: October 11, 1984  
 2) Operator's Bedford Land Company  
 Well No. 22, Serial No. 103221  
 3) API Well No. 47 - 039 - ~~XXXX~~ 4080  
 State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_

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

- 4) WELL TYPE: A Oil \_\_\_\_\_ / Gas X /  
 B (If "Gas", Production X / Underground storage \_\_\_\_\_ / Deep X / Shallow \_\_\_\_\_)
- 5) LOCATION: Elevation: 2201.0' Watershed: Long Branch of Tenmile Fork of Paint Creek  
 District: Cabin Creek County: Kanawha Quadrangle: Eskdale
- 6) WELL OPERATOR Ashland Exploration, Inc. 7) DESIGNATED AGENT Forrest Burkett  
 Address P.O. Box 391 Address P.O. Box 156  
Ashland, KY 41114 Brenton, WV 24818
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:  
 Name Rodney G. Dillon Name Ray Resources Drilling Co.  
 Address P.O. Box 30 Address 2101 Washington St., East  
Scarbro, WV 25917 Charleston, WV 25305
- 10) PROPOSED WELL WORK: Drill X / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Stimulate X  
 Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_  
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Onondaga Lime OCT 15 1984  
 12) Estimated depth of completed well, 7126' feet top of \_\_\_\_\_  
 13) Approximate strata depths: Fresh, \_\_\_\_\_ feet; salt, salt sand feet.  
 14) Approximate coal seam depths: 550', 580', 740', 780' Is coal being mined in the area? Yes \_\_\_\_\_ No X
- 15) CASING AND TUBING PROGRAM

RECEIVED

OIL & GAS DIVISION  
 DEPT. OF MINES

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	16	H-40	65	X		30	30	15 sks.		Kinds
Fresh water										
Coal	8 5/8	K-55	24	X		2200	2200	Circulate		Sizes
Intermediate										
Production	4 1/2	K-55	11.6	X		6400	6400	As Needed		Depths set
Tubing										
Liners										Perforations:
										Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-039-~~XXXX~~ 4080

November 1, 1984  
 Date

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 November 1, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
10	TS	TS	TS	507264

*[Signature]*  
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

File

IV-35  
(Rev 8-81)



State of West Virginia  
Department of Mines  
Oil and Gas Division

Date 4/9/85  
Operator's  
Well No. 22  
Farm Bedford Land Co.  
API No. 47 - 039 - 4080

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: 2201.0' Watershed Long Branch of Ten Mile Fork of Paint Creek  
District: Cabin Creek County Kanawha Quadrangle Eskdale

COMPANY Ashland Exploration, Inc.  
ADDRESS P. O. Box 391, Ashland, KY 41114  
DESIGNATED AGENT Forrest Burkett  
ADDRESS P. O. Box 156, Brenton, WV 24818  
SURFACE OWNER Carbon Fuel Co.  
ADDRESS Suite 1300, One Valley Square,  
MINERAL RIGHTS OWNER Same as above Charleston, WV 25301  
ADDRESS       
OIL AND GAS INSPECTOR FOR THIS WORK Rodney  
Dillon ADDRESS Box 30, Scarbro, WV 25917  
PERMIT ISSUED 11/1/84  
DRILLING COMMENCED 1/31/85  
DRILLING COMPLETED 2/14/85  
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.			
13-10"	28'	28'	20sks
9 5/8			
8 5/8	2195'	2195'	650 sks
7			
5 1/2			
4 1/2	6264'	6264'	150sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Onondaga Lime Depth 7126 feet  
Depth of completed well 7032 feet Rotary x / Cable Tools       
Water strata depth: Fresh 100 feet; Salt 1584 feet  
Coal seam depths: 550, 580, 740, 780 Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Dev. Shale/Gordon Pay zone depth 5550/3988 feet  
Gas: Initial open flow show Mcf/d Oil: Initial open flow      Bbl/d  
Final open flow 1032 Mcf/d Oil: Final open flow      Bbl/d  
Time of open flow between initial and final tests 3 hours  
Static rock pressure 1200 psig (surface measurement) after 120 hours shut in  
(If applicable due to multiple completion--)

Second producing formation Middle & Upper Weir Pay zone depth 3359 feet  
Gas: Initial open flow show Mcf/d Oil: Initial open flow      Bbl/d  
Final open flow 280 Mcf/d Oil: Final open flow      Bbl/d  
Time of open flow between initial and final tests 3 hours  
Static rock pressure 575 psig (surface measurement) after 120 hours shut in

(Continue on reverse side)

1032  
280  
1312  
mcf  
FOF

*Rhinestreet  
Cassaga*

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

OH N<sub>2</sub> frac L. Dev. Shale 6264-6750 using 2 MMCF N<sub>2</sub>. BD @ 3400#, ATP 3250# @ 80,000 SCF/min. MTP 3500#, ISIP 2500#, 15 min 2100#.

Perf U. Dev. Shale <sup>Norton</sup> 20H/5550-5570 - N<sub>2</sub> frac using 2 MMCF N<sub>2</sub>. BD @ 2700#, ATP 3200# @ 90,000 SCF/min. MTP 3300#, ISIP 1700#, 15 min 1600#.

Perf Gordon 20H/3988-7998 - 75 Q foam frac using 20,000# 20/50 sand & 300,000 SCF N<sub>2</sub>, 188 bbl TL&FW, 113 bbl TSLF. BD @ 1300#, ATP 1325# @ 20 B/M foam (10,500 SCF/min & 6 B/M wtr) MTP 1350#, ISIP 900#, 15 min 850#.

Perf Middle & Upper Weir <sup>middle</sup> 10H/3386-99, <sup>Upper</sup> 10H/3359-71. 75 Q foam frac using 50,000# 20/50 sand, 399,500 SCF N<sub>2</sub>, 326 bbl TL&FW, 243 bbl. TSLF. BD @ 1200#, ATP 1350# @ 20 B/M foam (6.8 B/M wtr & 8500 SCF N<sub>2</sub>) MTP 1450#, ISIP 1125#, 15 min 1000#. Dropped perf balls - acitve.

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 w/shale breaks			0	1585	
Lower Salt Sand			1585	2133	
Shale			2133	2280	
Avis LS			2280	2310	
Shale			2310	2428	
Upper Maxton			2428	2476	
Shale			2476	2780	
Lower Maxton			2780	2809	
Shale			2809	2851	
Little Lime			2851	2924	
Pencil Cave			2924	2948	
Big Lime			2948	3255	
Shale			3255	3274	
Injun			3274	3315	
Shale			3315	3352	
Upper Weir			3352	3375	
Middle Weir			3375	3445	
Shale			3445	3490	
Lower Weir			3490	3501	
Shale			3501	3755	
Coffee Shale			3755	3775	
Berea			3775	3814	
Devonian Shale			3814	3984	
Gordon			3984	4004	
Devonian Shale			4004	6874	
Marcellus			6874	TD	

DTD (7032) Onondaga @ T.D.  
LTD 6980

7032  
2201  
4831

7032  
3214  
3218

(Attach separate sheets as necessary)

ASHLAND EXPLORATION, INC.

Well Operator  
By: Shrek S. Wina  
Date: April 9, 1985

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."