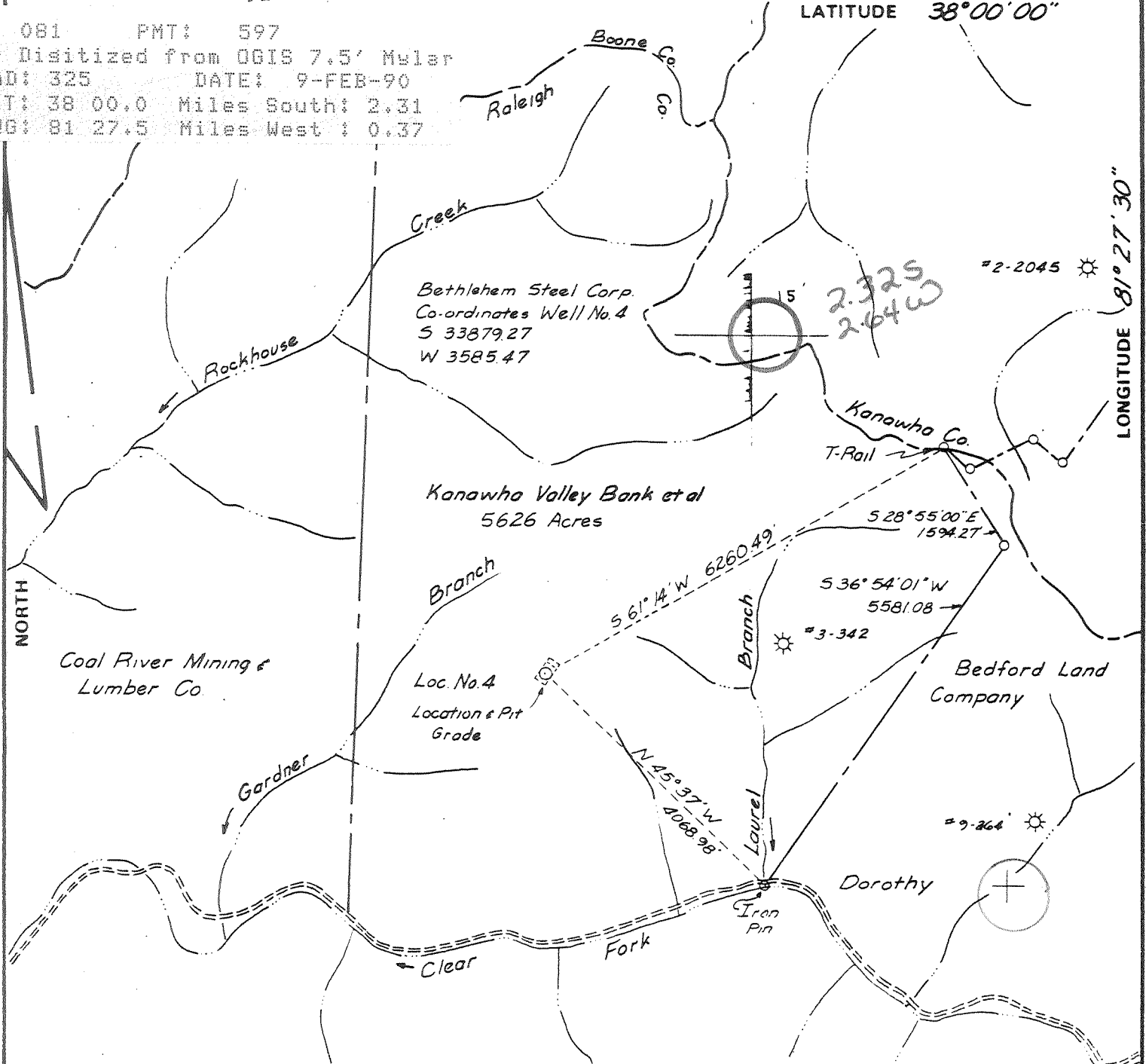


CO: 081 PMT: 597  
 Digitized from OGIS 7.5' Miler  
 QUAD: 325 DATE: 9-FEB-90  
 LAT: 38 00.0 Miles South: 2.31  
 LONG: 81 27.5 Miles West: 0.37



FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY 1 in 14000  
 PROVEN SOURCE OF ELEVATION USC&GS BM on Kayford Mountain Elev 2402

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. Cartwright  
 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 April 20, 1982  
 OPERATOR'S WELL NO. #4 - Ser. #093261  
 API WELL NO. \_\_\_\_\_  
47 - 081 - 0597  
 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 X SHALLOW \_\_\_  
 LOCATION: ELEVATION 2391.1 WATER SHED Laurel Branch of Clear Fork of Big Coal River  
 DISTRICT Clear Fork COUNTY Raleigh  
 QUADRANGLE Dorothy Ecclesis NW  
 SURFACE OWNER Kanawha Valley Bank, Et Al. ACREAGE 5500+  
 OIL & GAS ROYALTY OWNER Kanawha Valley Bank, Et Al. LEASE ACREAGE 5626  
 LEASE NO. 10,306  
 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 Marcellus Shale ESTIMATED DEPTH 7045'  
 WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT Forrest Burkett  
 ADDRESS P.O. Box 391, Ashland Ky 41114 ADDRESS P.O. Box 156 Brenton, W.Va. 24818

MAY 10 1982

DEEP WELL 6-6 BURNWELL 262



IV-35  
(Rev 8-81)

AUG 27 1982

OIL & GAS DIVISION  
DEPT. OF MINES

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date 8/25/82  
Operator's  
Well No. 4  
Farm Kanawha Valley Bank  
API No. 47 - 081 - 0597

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 \_\_\_ / Underground Storage \_\_\_ / Deep \_\_\_ / Shallow \_\_\_ /)

LOCATION: Elevation: 2391.1 Watershed Laurel Branch of Clear Fork at Big Coal River  
District: Clear Fork County Raleigh Quadrangle Dorothy

COMPANY Ashland Exploration, Inc.

ADDRESS P.O. Box 391, Ashland, KY 41114

DESIGNATED AGENT Forrest Burkett

ADDRESS P.O. Box 156, Brenton, WV

SURFACE OWNER Kanawha Valley Bank

ADDRESS Box 1973, Charleston, WV

MINERAL RIGHTS OWNER Same as above

ADDRESS \_\_\_\_\_

OIL AND GAS INSPECTOR FOR THIS WORK O. Craig Sandyville,

Duckworth ADDRESS Rt 2, Box 2-D WV

PERMIT ISSUED 5/7/82

DRILLING COMMENCED 6/11/82

DRILLING COMPLETED 6/24/82

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.	26	26	20
13-10"			
9 5/8			
8 5/8	2631	2631	550
7			
5 1/2			
4 1/2	7080	7080	214
3			
2 3/8		6630	
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale & Weir Depth 6895 feet

Depth of completed well 7090 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 MARC Pay zone depth \_\_\_\_\_ feet

Gas: Initial open flow 28 Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow 1004 Mcf/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests 3 hours

Static rock pressure 785 psig (surface measurement) after 72 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.  
 Perf Devonian Shale 35H/6625-6958 (1st Stage) -Frac w/70 Quality foam using 472 sks  
 20/50 sand, 730,000 SCF N<sub>2</sub> @ ATR @ 26 B/M. BD @ 3100#-ATP 3400#, MTP 4200#, ISIP 4200#,  
 15 min 4000# - TSLF 187 bbl.  
 Perf Devonian Shale 44H/5790-6011-Frac w/75 Quality foam, using 34,000# 20/50 sand,  
 500,000 SCF N<sub>2</sub> - BD @ 2200#, ATP 2400#, MTP 4500#, ISIP 4500#, TSLF 145 bbls.  
 Perf Gordon 14H/4369-4379-Frac w/75 Quality foam w/10,000# 80/100, 40,000# 20/50 -  
 467 MCF N<sub>2</sub>. BD @ 1300#, ATP 1500# @ 20 B/M, ISIP 700#, 10 min 650# - TSLF 242 bbl.

Completed as commingled gas producer in Gordon and Devonian Shale. Initial potential 1004 MCF/D - 785#.

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	138	
Shale			138	192	
Sand			192	550	
Shale and Sand			550	648	
Sand			648	835	
Shale and Sand			835	995	
Sand			995	1308	
Shale and Sand			1308	1558	
Sand			1558	1900	
Shale and Sand			1900	2032	
Salt Sand			2032	2632	
Shale			2632	2682	
Ravencliff			2682	2714	
Shale			2714	2721	
Avis Lime			2721	2753	
Shale			2753	2821	
Upper Maxton			2821	2892	
Shale			2892	2948	
Middle Maxton			2948	2984	
Shale			2984	3224	
Lower Maxton			3224	3247	
Shale			3247	3280	
Little Lime			3280	3364	
Pencil Cave			3364	3371	
Big Lime			3371	3652	
Shale and Sand			3652	3760	
Middle Weir			3760	3819	
Shale			3819	3899	
Lower Weir			3899	3908	
Shale			3908	4134	
Coffee Shale			4134	4153	
Berea			4153	4196	
Devonian Shale			4196	7082	
? Onondaga			7082	7090	
DTD 7091					
LTD 7090					

(Attach separate sheets as necessary)

ASHLAND EXPLORATION, INC.

Well Operator

By:

*[Signature]*

Date: August 26, 1982

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."



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

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil \_\_\_ / Gas X /

(If "Gas", Production X / Underground storage \_\_\_ / Deep X / Shallow \_\_\_ /

LOCATION: Elevation: 2391.1 Watershed: Laurel Branch of Clear Fork of Big Coal River  
District: Clear Fork County: Raleigh Quadrangle: Dorothy

WELL OPERATOR Ashland Exploration, Inc.  
Address P. O. Box 391  
Ashland, KY 41114

DESIGNATED AGENT Forrest Burkett  
Address P. O. Box 156  
Brenton, WV 24818

OIL AND GAS  
ROYALTY OWNER Kanawha Valley Bank, et al  
Address Box 1973  
Charleston, WV 25326  
Acreage 5626

COAL OPERATOR Bethlehem Mines Corporation  
Address Box 4108  
Charleston, WV 25304

SURFACE OWNER Kanawha Valley Bank, et al  
Address Same as above  
Acreage 5500+

COAL OWNER(S) WITH DECLARATION ON RECORD:  
NAME Kanawha Valley Bank, et al  
Address Same

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

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

COAL LESSEE WITH DECLARATION ON RECORD:  
NAME Bethlehem Mines Corporation  
Address Same as above

OIL AND GAS INSPECTOR TO BE NOTIFIED:  
NAME D. Craig Duckworth  
Address Rt. 2 Box 2-D  
Sandyville, WV 25275  
Telephone (304) 273-5853

RECEIVED

APR 21 1982

OIL AND GAS DIVISION  
WV DEPARTMENT OF MINES

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 Feb. 15, 1956, to ~~the undersigned well operator~~ from Kanawha Valley Bank, et al United Producing Co., Inc.  
(If said deed, lease, or other contract has been recorded:)

Recorded on October 13, 1956, in the office of the Clerk of County Commission of Raleigh County, West Virginia, in Deed Book 25 at page 425. 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 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

ASHLAND EXPLORATION, INC.  
Well Operator  
By: John H. Burkett  
John H. Burkett  
Regional Civil Engineer

