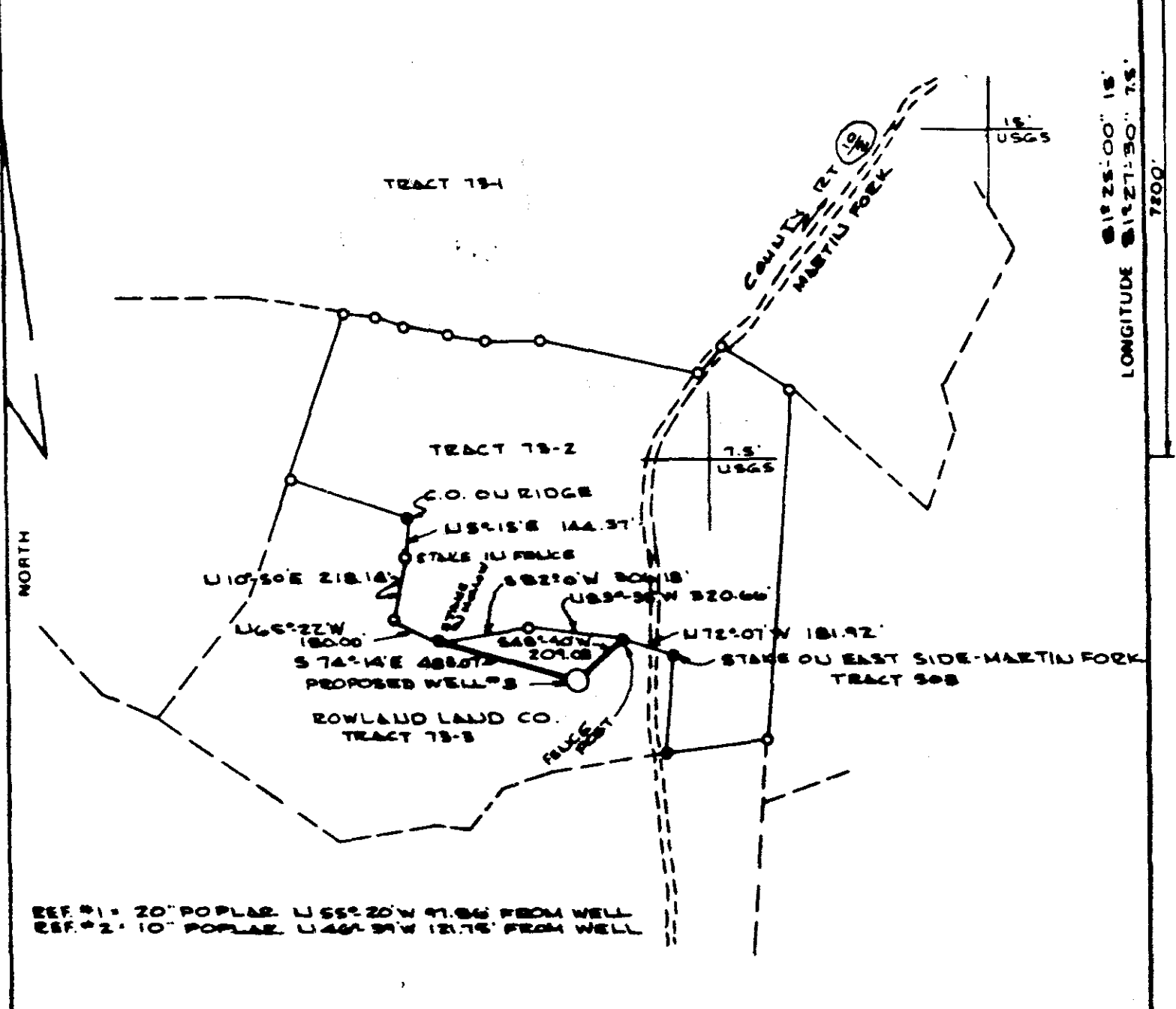


722 9-2-85

LATITUDE 37°50'00"

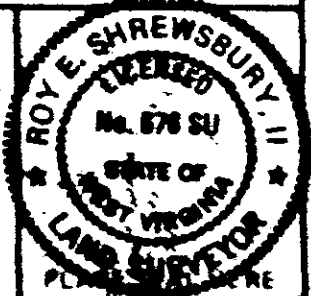
CODE \_\_\_\_\_ PLOT \_\_\_\_\_



REF. #1 = 20" POPLAR U55°20'W 41.86' FROM WELL  
REF. #2 = 10" POPLAR U46°30'W 12.75' FROM WELL

FILE NO \_\_\_\_\_  
 DRAWING NO \_\_\_\_\_  
 SCALE 1" = 400'  
 MINIMUM DEGREE OF ACCURACY 1"-10,000'  
 PROVEN SOURCE OF ELEVATION BARBER END  
SL. 2-1047.10'

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) [Signature]  
 RPF \_\_\_\_\_ LLS 676 S.H.



(-I) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 FORM IV-6 (878)



DATE \_\_\_\_\_ 19 85  
 OPERATOR'S WELL NO 2  
 API WELL NO \_\_\_\_\_  
47-081-0708-P  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

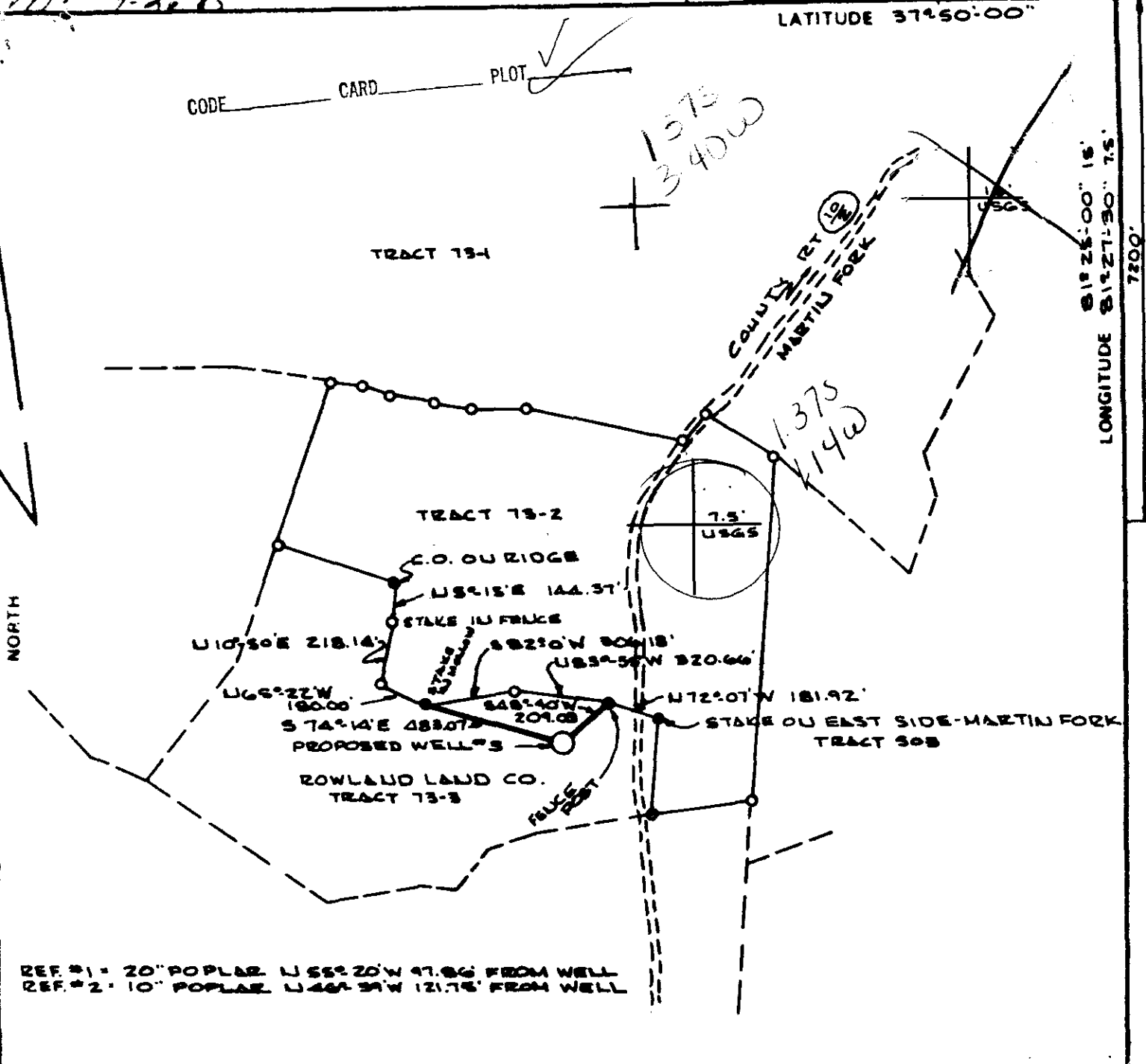
WELL TYPE OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS") PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW   
 LOCATION ELEVATION 1524.00 WATER SHED MARTIN FORK  
 DISTRICT MARTIN FORK COUNTY RALEIGH  
 QUADRANGLE ARNETT  
 SURFACE OWNER EASTERN ASSOCIATED COAL CORP. ACREAGE 22.75  
 OIL & GAS ROYALTY OWNER ROWLAND LAND COMPANY, LTD. LEASE ACREAGE 20.75  
 LEASE NO. \_\_\_\_\_  
 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 \_\_\_\_\_  
 TARGET FORMATION BEED ESTIMATED DEPTH 3405  
 WELL OPERATOR BEED OIL & GAS CORP. DESIGNATED AGENT MARK SCHMIDTNER  
 ADDRESS ONE BEED PLAZA ADDRESS ONE BEED PLAZA  
BEERSBURG, WV 26030 BEERSBURG, WV 26030

22N 9-20-85

LATITUDE 37°50'00"

CODE \_\_\_\_\_ CARD \_\_\_\_\_ PLOT

1375  
340W

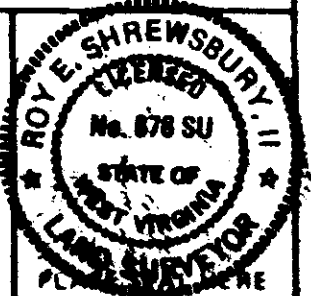


REF #1 = 20" POPLAR N 55° 20' W 97.86' FROM WELL  
REF #2 = 10" POPLAR N 46° 30' W 121.75' FROM WELL

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 400'  
 MINIMUM DEGREE OF ACCURACY 1" = 10,000'  
 PROVEN SOURCE OF ELEVATION BANKER EVID.  
EC-1, PL. 1447, 10'

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) [Signature]  
 RPF \_\_\_\_\_ LLS 676 S.U.



(\*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 FORM IV 6 (878)



DATE \_\_\_\_\_ 1985  
 OPERATOR'S WELL NO. 3  
 API WELL NO. 47-081-0708  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF GAS) PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW   
 LOCATION ELEVATION 1326.80 WATER SHED MARTIN FORK  
 DISTRICT MARTIN FORK 2 COUNTY BALGOSH  
 QUADRANGLE ARNETT 218 3 507 Eccles  
 SURFACE OWNER EASTERN ASSOCIATED COAL CORP. ACREAGE 25.79  
 OIL & GAS ROYALTY OWNER ROWLAND LAND COMPANY, LTD. LEASE ACREAGE 2075  
 LEASE NO. \_\_\_\_\_  
 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 \_\_\_  
 TARGET FORMATION Berea ESTIMATED DEPTH 3400  
 WELL OPERATOR Berea Oil Gas Corp. DESIGNATED AGENT MARK SCHUMACHER  
 ADDRESS ONE BEREA PLAZA ADDRESS ONE BEREA PLAZA  
DEERSPORT, WV 24830 DEERSPORT, WV 24830

OCT 7 1985

WR-35

RECEIVED  
DEC 17 1985



DIVISION OF OIL & GAS  
DEPT. OF ENERGY

State of West Virginia  
DEPARTMENT OF ENERGY  
Oil and Gas Division

Date December 16, 1985  
Operator's  
Well No. Rowland Land #3  
Farm Rowland Land Co.  
API No. 47 - 081 - 0708

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

LOCATION: Elevation: 1584.80' Watershed Martin Enrk  
District: Marsh Fork County Raleigh Quadrangle Arnett

COMPANY Berea Oil & Gas Corp.  
ADDRESS P.O. Box 299, Bridgeport, WV 26330  
DESIGNATED AGENT Thomas E. Riley, P.E.  
ADDRESS P.O. Box 299, Bridgeport, WV 26330  
SURFACE OWNER Rowland Land Company LTD  
1033 Quarrier St., Room 301  
ADDRESS Charleston, Wst Virginia 25301  
MINERAL RIGHTS OWNER Eastern Associated Coal  
ADDRESS One PPG Plaza, Pittsburgh, PA 15222  
OIL AND GAS INSPECTOR FOR THIS WORK Rodney  
Dillon ADDRESS P.O. Box 30, Scarbo, WV  
PERMIT ISSUED 9/27/85 25917  
DRILLING COMMENCED 10/12/85  
DRILLING COMPLETED 10/22/85  
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.		40	10 sks
11 3/4" XXXX	218'	205'	120 sks
9 5/8			
8 5/8	1440'	1408'	375 sks.
7			
5 1/2			
4 1/2	3612'	3473'	242 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Gordon Depth 3700 feet  
Depth of completed well 3612 feet Rotary XX / Cable Tools \_\_\_  
Water strata depth: Fresh 25' - 55' feet; Salt \_\_\_ feet  
Coal seam depths: none Is coal being mined in the area? yes

OPEN FLOW DATA See well treatment details  
Producing formation Gordon & Lower Maxton Pay zone depth \_\_\_ feet  
Gas: Initial open flow none Mcf/d Oil: Initial open flow none Bbl/d  
Test Date: Final open flow 379 Mcf/d Final open flow none Bbl/d  
12/11/85 Time of open flow between initial and final tests 72 hours  
Static rock pressure 800 psig (surface measurement) after 4 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

DEC 30 1985  
(Continue on reverse side)

7/85

**RECEIVED**  
SEP 9 1985

**RECEIVED**  
SEP 20 1985

1) Date: August 27, 1985  
 2) Operator's Well No. ROWLAND LAND #3  
 3) API Well No. 47 -081- 0708  
 State County Permit

DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY  
 DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY  
**APPLICATION FOR A WELL WORK PERMIT**

- 4) WELL TYPE: A Oil  / Gas  / B (If "Gas", Production  / Underground storage  / Deep  / Shallow )
- 5) LOCATION: Elevation: 1576.63 / Watershed: ~~XXXXXXX~~ Martin Fork  
 District: Marsh Fork 008 / County: Raleigh / Quadrangle: Arnett
- 6) WELL OPERATOR Berea Oil & Gas CODE: 4650 7) DESIGNATED AGENT Mark Schumacher  
 Address One Berea Plaza P.O. Box 299 / Address One Berea Plaza P.O. Box 299  
Bridgeport, WV 26330 / Bridgeport, WV 26330
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Rodney Dillon  
 Address P.O. Box 30  
Scarbo, WV 25917
- 9) DRILLING CONTRACTOR: Name \_\_\_\_\_ Address \_\_\_\_\_
- 10) PROPOSED WELL WORK: Drill  / Drill deeper  / Redrill  / Stimulate   
 Plug off old formation  / Perforate new formation   
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Berea 395
- 12) Estimated depth of completed well, 3405' feet
- 13) Approximate trata depths: Fresh, \_\_\_\_\_ feet; salt, \_\_\_\_\_ feet.
- 14) Approximate coal seam depths: none, well below Is coal being mined in the area? Yes  / No
- 15) CASING AND TUBING PROGRAM contour

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILLUP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	16			X		40'	40'	To surface	Kinds
Fresh water	11 3/4		42	X		250'	250'	To surface	
Coal									Sizes
Intermediate	8 5/8		23	X		1450'	1450'	To surface	
Production	4 1/2		10.5	X		3410'	3410'	1000' Fill	Depths set
Tubing									
Lin.									Perforations:
									Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-081-0708 Date September 27 1985

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 September 27, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>MB</u>	Plat: <u>MU</u>	Casing Fee: <u>MU</u>	Fee: <u>16698</u>	WPCB: <u>MU</u>	S&E: <u>MB</u>	Other: _____
---	------------------	-----------------	-----------------------	-------------------	-----------------	----------------	--------------

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

[Signature]  
 Director, Division of Oil and Gas

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

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

10/28/85 Perf. Gordon:  
 3320 - 3321' (2 holes)  
 3332 - 3337' (14 holes)

10/29/85 Frac. Gordon: Form. broke @ 1600#. ISIP 1350#  
 5 min 1250#. Used 285 BW, avg rate 7.5 BPM, avg foam  
 rate 30 BPM @ 1683#. Avg. Nitrogen rate 13,000 SCFM. Used  
 500 gal 15% HCL acid, 60,000# 20/50 sand and 600,600  
 SCF Nit.

10/29/85 Perf. Lower Maxton:  
 2048 - 2052' (6 holes)  
 2056 - 2070' (8 holes)

10/29/85 Frac. Lower Maxton: Form broke @ 2000#, ISIP  
 1100# 5 min 1000#. Used 265 BW, avg rate 7.25BPM, avg  
 foam rate 29 BPM @ 1618#, avg. nitrogen rate 12,000 SCFM.  
 Used 1000 gal 15% HCL acid, 45,000# 20/50 sand and 489,000  
 SCF nitrogen.

WELL LOG

FORMATION COLOR HARD OR SOFT From Drillers Log	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB-GL	0	10	
Fill	10	13	
Sand	13	18	
Sand & Shale	18	70	1/2" stream wtr. @ 25'
Sand	70	300	3" stream wtr. @ 55'
Sandy Shale	300	325	
Shale	325	332	
Sand	332	397	
Shale	397	422	1/4" stream wtr. @ 400'
Sand	422	427	
Shale	427	452	
Sand & Shale	452	456	
Sand	456	786	
Sandy Shale	786	839	Gas check @ 2643' - no show
Sand	839	853	
Shale & Sand	853	873	
Sand	873	904	
Shale	904	910	
Sand	910	1036	
Sand & Shale	1036	1165	
Red Rock	1165	1169	1" stream water
Sand & Shale	1169	1439	
From CDL: ✓			
Ravenciff	1424	1472	
Shale	1472	1478	
Avis Lime	1478	1514	
Sand & Shale	1514	1857	
Maxton	1857	1952	
Sand & Shale	1952	2046	1" stream wtr. @ 1981'
Lower Maxton	2046	2163	
Shale	2163	2192	
Little Lime	2192	2238	
Pencil Cave	2238	2256	
Big Lime	2256	2627	
Shale	2627	2742	
Upper Weir	2742	2800	
Sand & Shale	2800	2852	
Lower Weir	2852	2902	
Shale	2902	3132	
Coffee Shale	3132	3142	Gordon 3317 3350 Shale 3350 3602
Berea	3142	3158	
Shale	3158	3317	

(See next column)

Berea Oil & Gas Corp.  
 Well Operator

BTD 3612' - all expl. footage  
 LTD 3602'

By: Thomas F. Riley, P.E. Manager of Engineering

Date: December 16, 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."