



ACCURACY: 1" / 200'

New Location

Drill Deeper

Abandonment

Fracture

Redrill

Other

Formation GOEDON

Est. Depth 2400'

Oil

Gas

Other

Source of Elevation BULL RUN ROAD & POWER #2 (620')

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

*Chet Waterman*

Company BEREA OIL & GAS CORPORATION

Address BUFFALO, NY

Surface Owner CARL HOWARD

Mineral Owner CARL HOWARD

Well No. 2 Acres 125

Elevation 628'

Quadrangle VALLEY MILLS Series 1.5 SC

County WOOD District UNION

Date 9/4/78 Scale 1" = 500'

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

**WELL LOCATION MAP**

47 - 107 - 1029

STATE COUNTY PERMIT

**FORMERLY 0908**

+ Denotes location of well on United States Topographic Maps.

Engineer **CHET WATERMAN**

Engineer's Registration No. 3788 File No. 79-603

6-6 Waverly (71)

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OIL AND GAS DIVISION  
WV DEPARTMENT OF MINES



State of West Virginia

Department of Mines  
Oil and Gas Division

"AMENDMENT"

Date April 19, 1982

Operator's

Well No. Howard #2

Farm Carl S. Howard

API No. 47 - 107 - 1029

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 628' Watershed Bull Creek  
District: Union County Wood Quadrangle Valley Mills 7 1/2'

COMPANY BEREA OIL AND GAS CORPORATION

ADDRESS One Berea Plaza, PO Box 299, Bridgeport,

DESIGNATED AGENT Thomas E. Riley, P.E.

ADDRESS One Berea Plaza, PO Box 299, Bridgeport,

SURFACE OWNER Carl S. Howard

ADDRESS Box 331, Waverly, WV 26184

MINERAL RIGHTS OWNER same.

ADDRESS same.

OIL AND GAS INSPECTOR FOR THIS WORK

Deo Mace ADDRESS Rt. 1, Box 65, Sandridge WV

PERMIT ISSUED Sept. 27, 1979

DRILLING COMMENCED 6/4/80

DRILLING COMPLETED 6/8/80

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.
WV Size 20-16 Cond.			
13-10"			
9 5/8			
8 5/8	252'	252'	90 sks.
7			
5 1/2			
4 1/2	2443'	2442'	230 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Gordon Depth 2650' feet

Depth of completed well 2475' feet Rotary X / Cable Tools   

Water strata depth: Fresh 40' feet; Salt \_\_\_\_\_ feet

Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Berea Pay zone depth 1974-1966 feet

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

Final open flow 50 Mcf/d Final open flow 5.5 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 250 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation N/A 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.

7/28/80 - GORDON - Perfed 2318-2332 (14 shots) Fraced w/ 500 sks 20/40 & 100 sks 80/100 sand in 565 Bbls. water. 120,000 SCF N<sub>2</sub>.

9/2/80 - BEREA - Perfed 1949-1964 (14 shots) Fraced w/ 500 sks 20/40 & 150 sks 80/100 sand in 1110 Bbl. water. 175,000 SCF N<sub>2</sub>.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Fill & Shale			0	10	
Shale			10	30	
Sand			30	84	
Shale & Red Rock			84	145	
Sand & Shale			145	225	
Red Rock & Sand			225	250	
Sand & Shale			250	275	
Red Rock & Shale			275	296	
Sand, Shale & Red Rock			296	480	
Red Rock			480	515	
Sand & Shale			515	575	
Red Rock & Shale			575	785	
Sand			785	875	
Shale			875	933	
Red Rock & Shale			933	1000	
Sand & Shale			1000	1115	
Shale			1115	2010	
Sand & Shale			2010	1430	
Shale			1430	1445	
Sand			1445	1455	
Shale			1455	1492	
Big Injun			1492	1570	
Sand & Shale			1570	1590	
Weir			1590	1592	
Sand & Shale			1592	1947	
Berea Sandstone			1947	1966	
Shale			1966	2055	
Sand & Shale			2055	2304	
Gordon Siltstone			2304	2336	
Sand & Shale			2336	2457	

(Attach separate sheets as necessary)

BEREA OIL AND GAS CORP.

Well Operator

By: 

Note: Rem



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STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
**Oil and Gas Division**  
**WELL RECORD**

OIL & GAS DIVISION  
DEPT. OF MINES  
Rotary X Oil \_\_\_\_\_  
Cable \_\_\_\_\_ Gas \_\_\_\_\_  
Recycling \_\_\_\_\_ Comb. X  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind) \_\_\_\_\_

Quadrangle Valley Mills

Permit No. 47-107-1029

Company Berea Oil & Gas Corporation  
Address 652 Empire Bk., Clarksburg, WV  
Farm Howard Acres 125  
Location (waters) Bull Creek  
Well No. #2 Elev. 628'  
District Union County Wood  
The surface of tract is owned in fee by \_\_\_\_\_  
Carl S. Howard  
Address Box 331, Waverly, WV 26184  
Mineral rights are owned by SAME  
Address \_\_\_\_\_  
Drilling Commenced 6-4-80  
Drilling Completed 6-8-80  
Initial open flow \_\_\_\_\_ cu. ft. \_\_\_\_\_ bbls.  
Final production 53.0 mcf cu. ft. per day 19.68 bbls.  
Well open 4 hrs. before test 420 RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8			
8 5/8	252'	252'	90 sx.
7			
5 1/2			
4 1/2	1443'	1443'	230 sx.
3			
<u>1 1/2"</u>	1919'	1919'	
Liners Used			

Well treatment details:

Attach copy of cementing record.

7-28-80 Perf. Gordon 2318-32 (14 holes) Fractured w/10,000# 80/100 & 40,000# 20/40 in 625 bbls. fluid. Tested non-productive

9-2-80 Perf. Berea 1949-54 & 1961-64 (14 holes) Fractured w/50,000# 20/40 & 15,000# 80/100 in 1110 bbls. fluid.

2000 + 53MCF

Coal was encountered at \_\_\_\_\_ Feet \_\_\_\_\_ Inches  
Fresh water 40' Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet \_\_\_\_\_  
Producing Sand Berea Depth 1949-64

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Sand & Shale			0	1492		
Injun			1492	1570		
Sand & Shale			1570	1947		
Berea Sandstone			1947	1966		
Sand & Shale			1966	2304		
Gordon Siltstone ✓			2304	2336		
Sand & Shale			2336	2475		
TOTAL DEPTH				2475		

(over)

\* Indicates Electric Log tops in the remarks section.



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

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OIL & GAS DIVISION  
DEPT. OF MINES

Oil and Gas Division  
OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,  
Charleston, W. Va.

DATE May 12, 1980  
Company Berea Oil and Gas Corporation  
Address See Well Operator Below  
Farm Howard Acres 125  
Location (waters) Bull Creek  
Well No. #2 Elevation 628'  
District Union County Wood  
Quadrangle Valley Mills

Surface Owner Carl S. Howard  
Address Box 331, Waverly, W. Va. 26184  
Mineral Owner Same  
Address \_\_\_\_\_  
Coal Owner Same  
Address \_\_\_\_\_  
Coal Operator None  
Address \_\_\_\_\_

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 1-23-81.

*Robert H. [Signature]*

Deputy Director - Oil & Gas Division

INSPECTOR  
TO BE NOTIFIED Paul Goodnight  
ADDRESS \_\_\_\_\_  
PHONE 477-3660

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated August 6 1979 by Carl S. Howard made to Energy Unlimited, Inc. and recorded on the 7th day of August 1979 in Wood County, Book 725 Page 368

NEW WELL  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  
OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days.

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective addresses before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND ECONOMIC SURVEY  
P. O. BOX 879  
MORGANTOWN, WEST VIRGINIA 26505  
C-304 - 292-6331

Very truly yours,  
(Sign Name) [Signature]  
Well Operator  
652 Empire Bank Bldg., 4th & Main St.  
Street  
Clarksburg,  
City or Town  
W. Va. 26301  
State

Address of Well Operator

\*SECTION 3 . . . . If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

(Formerly: WOOD-908)  
47-107-1029 PERMIT NUMBER

THIS IS AN ESTIMATE ONLY

PROPOSED WORK ORDER TO XX DRILL          DEEPEN          FRACTURE-STIMULATE

DRILLING CONTRACTOR: (If Known)

RESPONSIBLE AGENT:

NAME N/A

NAME Mark Schumacher

ADDRESS         

ADDRESS Clarksburg, W. Va.

TELEPHONE         

TELEPHONE (304) 624-6429

ESTIMATED DEPTH OF COMPLETED WELL: 2600'

ROTARY XX CABLE TOOLS         

PROPOSED GEOLOGICAL FORMATION: Gordon

TYPE OF WELL: OIL XX GAS          COMB.          STORAGE          DISPOSAL           
 RECYCLING          WATER FLOOD          OTHER         

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LIFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8			
8 - 5/8	250'	250'	Surface
7			
5 1/2			
4 1/2	TD	TD	400'
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 150 FEET SALT WATER 1500 FEET

APPROXIMATE COAL DEPTHS None

IS COAL BEING MINED IN THE AREA? No BY WHOM?         

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for          Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the          Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

          
For Coal Company

          
Official Title