

Jamie 8/2/88

LATITUDE 37-55-00 N

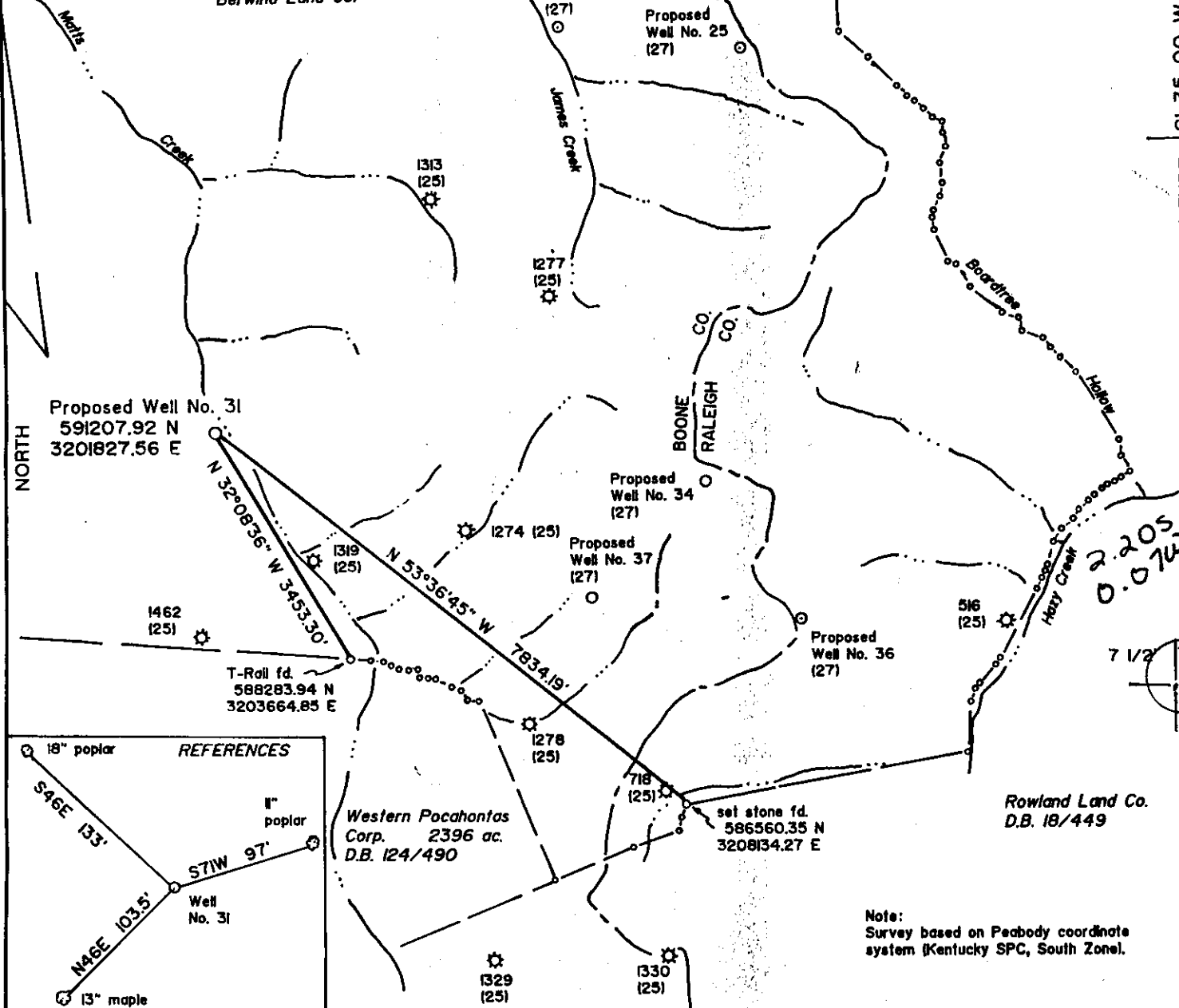
Coal Operator:
Peabody Coal Co.
800 Lakley Tower
Charleston, WV 25324

Berwind Land Co.

Proposed Well No. 24
(27)

Proposed Well No. 25
(27)

LONGITUDE 81-35-00 W
11700



Proposed Well No. 31
591207.92 N
3201827.56 E

Proposed Well No. 34
(27)

Proposed Well No. 37
(27)

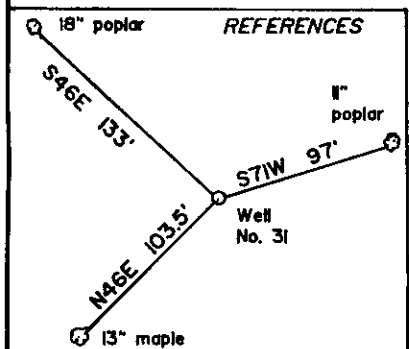
Proposed Well No. 36
(27)

T-Rail fd.
588283.94 N
3203664.85 E

set stone fd.
586560.35 N
3208134.27 E

Rowland Land Co.
D.B. 18/449

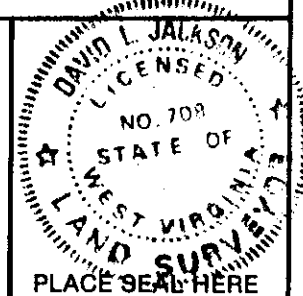
Note:
Survey based on Peabody coordinate
system (Kentucky SPC, South Zone).



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. 1
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY 1 in 5000
PROVEN SOURCE OF ELEVATION Peabody Sta. PC-80
1380' SE of Location: elev. 1495.78

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 ENERGY
(SIGNED) David L. Jackson
R.P.E. _____ V.L.S. 708



STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



DATE July 18, 19 88
OPERATOR'S WELL NO. 31
API WELL NO.

47 - 005 - 1489
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION ___ STORAGE X DEEP ___ SHALLOW X
LOCATION: ELEVATION 1482 WATER SHED Matts Creek
DISTRICT Crook 1 COUNTY Boone
QUADRANGLE Whitesville 7 1/2' 677 0065 Bald Knob C
SURFACE OWNER Berwind Land Company ACREAGE 8044
OIL & GAS ROYALTY OWNER Berwind Land Company LEASE ACREAGE 8044
LEASE NO. 8391

PROPOSED WORK: DRILL X 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 3510
WELL OPERATOR Natural Resource Management Corp. DESIGNATED AGENT Dave Cash, Natural Resource Management Corp.
ADDRESS 681 Andersen Drive, Foster Plaza VI ADDRESS 312 Sixth Ave.
Pittsburgh, PA 15220 1049 Charleston, WV 25303

AUG 5 - 1988

6-6 unnamed (0)

H.T. HALL 44673 FORM WW-6

COUNTY NAME PERMIT



State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: BERWIND LAND CO. Operator Well No.: BERWIND LAND#31

LOCATION: Elevation: 1482.00 Quadrangle: WHITESVILLE

District: CROOK County: BOONE
Latitude: 11700 Feet South of 37 Des. 55Min. 0 Sec.
Longitude 400 Feet West of 81 Des. 35 Min. 0 Sec.

Company: NATURAL RESOURCE MANAGEME 681 ANDERSON DR. FOSTER PLAZA PITTSBURGH, PA	61 Casing Used in Left Cement & Fill Up Tubing Drilling in Well Cu. Ft.
Agent: DAVE CASH	Size
Inspector: JERRY HOLCOMB	13-3/8" 30' - -
Permit Issued: 08/03/88	
Well work Commenced: 08/23/88	
Well work Completed: 08/30/88	
Verbal Pluggings	9-5/8" 520' 520' 190
Permission granted on: _____	
Rotary <input checked="" type="checkbox"/> Cable _____ Ris _____	
Total Depth (feet) 3260 DTD	4-1/2" 3228' 3228' 75
Fresh water depths (ft) 90	

Salt water depths (ft) None	

Is coal being mined in area (Y/N)? <input checked="" type="checkbox"/>	
Coal Depths (ft): 165, 240, 352	

OPEN FLOW DATA

Producing formation WEIR Pay zone depth (ft) 3185
 Gas: Initial open flow 3500 MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 933 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure 280 Psid (surface pressure) after 48 Hours

Second producing formation _____ Pay zone depth (ft) _____
 Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow _____ MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure _____ Psid (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELL BORE.

Paul J. Shuleski
For: NATURAL RESOURCE MANAGEMENT CORP.

By: Paul J. Shuleski, Regional Geology Manager
Date: 10/19/88

MAR 10 1989

DETAILS OF PERFORATED INTERVALS, FRACTURING, PHYSICAL CHANGES

Perforated 3180'-3188' with 12 holes. Spotted 500 gal. 15% HCL and 500 gal. MeOH. Pumped 390 lbs. water, 32,000# 20/40 sand, 250 SCFN₂/bbl. BDP = 2900 psi, AIR = 12 BPM, AIP = 1300 psi.

Perforated 3018'-3031' with 12 holes. Spotted 500 gal. 15% HCL and 500 gal. MeOH. Pumped 297 lbs. water, 25,000# 20/40 sand, 250 SCFN₂/bbl. BDP = 1200 psi, AIR = 11.7 BPM, AIP = 981 psi.

WELL LOG

FORMATION COLOR HARD/SOFT : TOP FEET : BOTTOM FEET : REMARKS

DRILLER'S LOG:		CDL:	
Sand	0	540	1210
Sand and Shale	554	1210	1535
Salt Sand	1210	1535	2010
Sand and Shale	1535	2010	2450
Maxton Sand	2010	2450	2900
Lime	2450	2900	3260
Sand and Shale	2900	3260	
DTD	3260		
LTD	3261		
Princeton SS:	1717	1772	
Ravencleft SS:	1799	1888	
Avis SS:	1958	1992	
Maxton SS:	2018	2459	
Little Lime:	2491	2548	
Big Lime:	2555	2910	
Upper Weir SS:	3018	3031	
Lower Weir SS:	3132	3190	

GC @ 3130' - Odor
 GC @ 3230' - est. 3MM
 GC @ TD - 3.5MM
 Killed well w/150 lbs. KCL water.

1152

005-1487

issued 8/3/88 Expired 8/3/90

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION

- 1) Well Operator: Natural Resource Management Corporation 34550 (1) 676
- 2) Operator's Well Number: Berwind Land #31 3) Elevation: 1482'
- 4) Well type: (a) Oil / or Gas X/
(b) If Gas: Production X/ Underground Storage /
Deep / Shallow X/
- 5) Proposed Target Formation(s): BEREA
- 6) Proposed Total Depth: 3510' feet
- 7) Approximate fresh water strata depths: 140'
- 8) Approximate salt water depths: None reported
- 9) Approximate coal seam depths: 168', 239', 355'
- 10) Does land contain coal seams tributary to active mine? Yes X/ No /
- 11) Proposed Well Work: DRILL & Stimulate New Well
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	13-3/8"		48	30'	-	
Fresh Water						<u>38CSR18-11.3</u>
Coal	9-5/8"		32.3	750'	750'	<u>38CSR18-11.2</u> CTS
Intermediate	7"		20	1700'	1700'	100 SKS
Production	4-1/2"		10.5	3500'	3500'	<u>38CSR18-11.1</u> As required
Tubing						
Liners						

RECEIVED
JUL 28 1988

PACKERS : Kind _____
Sizes _____
Depths set _____

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

157
25

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond 50 Blanket Agent
 (Type)

11/1

RECEIVED
JUL 28 1988

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

1) Date: July 20, 1988
2) Operator's well number
BERWIND LAND #31
3) API Well No: 47 - 005 - 1489
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:
(a) Name Berwind Land Company
Address 1050 One Valley Square
Charleston, WV 25301
(b) Name Attn: Raymond C. Brainard
Address _____
(c) Name _____
Address _____

5) (a) Coal Operator:
Name Peabody Coal Company
Address P. O. Box 1233
Charleston, West Virginia 25324 Attn: John Eagan
(b) Coal Owner(s) with Declaration
Name Berwind Land Company
Address 1050 One Valley Square
Charleston, WV 25301
Name Attn: Raymond C. Brainard
Address _____

6) Inspector Jerry Holcomb
Address Rt 2- Box 159, Hwy #34
Hamlin, WV 25523
Telephone (304)- 824-5963

(c) Coal Lessee with Declaration
Name Peabody Coal Company
Address P. O. Box 1233
Charleston, WV 25324 Attn: John Eagan

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

 x Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 10 on the above named parties, by:

- x Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Natural Resource Management Corporation
By: Robert T. Goller Robert T. Goller
Its: Vice President and Eastern Region Manager
Address 681 Andersen Drive, Foster Plaza VI
Pittsburgh, PA 15220
Telephone 412-921-3700

Subscribed and sworn before me this 20th day of July, 1988

Edward F. Valentas Notary Public

My commission expires _____

EDWARD F. VALENTAS, NOTARY PUBLIC
GREEN TREE BORO. ALLEGHENY COUNTY
MY COMMISSION EXPIRES APRIL 3, 1989
Member, Pennsylvania Association of Notaries

