

98 12/12/87

9580'

LATITUDE 37° 52' 30"

180'

ROWLAND LAND COMPANY

TRACT 380

1845.25 ACRES

N89-16-21E 1023.01'

ROWLAND LAND COMPANY

BERWIND LAND COMPANY

Mon. 4

Mon. 3

N85-12-00E 1066.4'

S30-44-40E 240.07'

S78-58-20E 1903.9'

S43-00-21E 4167.29'

S15-53-45E 3784.5'

S48-44-08E 4290.36'

S04-57-23W 4269.15'

PROPOSED #9

N77-49-51E #13  
1479.68'

#17

ROWLAND LAND COMPANY

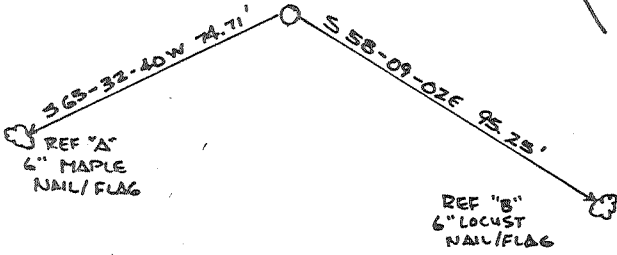
TRACT 399

"EDWIGHT LEASE"

7192.832 ACRES

NORTH

00° 00' 30" 81° 18' 00" EQUINOCTIAL LONGITUDE



REFERENCES

1" = 50'

PEABODY COAL COORDINATES:

N: 587993.74

E: 3216670.14

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

FILE NO. AW87-081-009  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY 1 IN 5000  
 PROVEN SOURCE OF ELEVATION BM N-40X ON BRIDGE ART. IN EDWIGHT (ELEVATION = 984.657')

CO: 081 PMT: 808  
 Loc Digitized from OGIS 7.5' Mylar  
 QUAD: 547 DATE: 12-JUN-90  
 LAT: 37 52.5 Miles South: 0.05  
 LONG: 81 30.0 Miles West: 1.86  
 (SIGNED) Koy James Copper  
 R.P.E. 9456 L.L.S. \_\_\_\_\_



STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY  
 OIL AND GAS DIVISION



DATE 1 DECEMBER, 19 87  
 OPERATOR'S WELL NO. ROWLAND #9  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 1425.6 WATER SHED UNAMED BRANCH OF MARSH FORK  
 DISTRICT MARSH FORK 2 COUNTY RALPH  
 QUADRANGLE PILOT KNOB 7.5' 547 006 EC6 Bald Knob

SURFACE OWNER ROWLAND LAND COMPANY ACREAGE 7192.832  
 OIL & GAS ROYALTY OWNER SAME LEASE ACREAGE 15000  
 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 MARCELLUS SHALE ESTIMATED DEPTH 5900'  
 WELL OPERATOR ALLEGHANY + WESTERN DESIGNATED AGENT DENNIS L. MANN  
 ADDRESS P.O. BOX 2587 004 ADDRESS P.O. BOX 2587  
CHARLESTON, WEST VIRGINIA 25329 CHARLESTON, WEST VIRGINIA 25329

DEEPWELL

6-6 Hopkins Fork - Jarroll 16/11a (247)

COUNTY NAME PERMIT

FORM WW-6 H.T. HALL 1-8073



WR-35

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State of West Virginia  
DEPARTMENT OF ENERGY  
Oil and Gas Division

Date March 1, 1988  
Operator's Well No. Rowland 9  
Farm Rowland Land  
API No. 47 - 081 - 0808

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

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    / Shallow X /)

LOCATION: Elevation: 1425.6 Watershed Unamed Branch of Marsh Fork  
District: Marsh Fork County Raleigh Quadrangle Pilot Knob 7.5

COMPANY Allegheny & Western Energy Corp  
ADDRESS P.O. Box 2587, Charleston, W.Va. 25329  
DESIGNATED AGENT Dennis L. Mann  
ADDRESS P.O. Box 2587, Charleston, W.Va. 25329  
SURFACE OWNER Rowland Land Co  
ADDRESS 1033 Qurrier St., Charleston, W.Va  
MINERAL RIGHTS OWNER Same  
ADDRESS     
OIL AND GAS INSPECTOR FOR THIS WORK Rodney  
Dillon ADDRESS P.O. Box 1526  
Sophia, W.Va  
PERMIT ISSUED 12/18/87  
DRILLING COMMENCED 1/2/88  
DRILLING COMPLETED 1/14/88  
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"	40	0	0
9 5/8	874	874	300 sks
8 5/8			
7	2270	2270	175 sks
5 1/2			
4 1/2	5937	5937	260 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth 5900 feet  
Depth of completed well 5984 feet Rotary X / Cable Tools     
Water strata depth: Fresh 772 feet; Salt 1480 feet  
Coal seam depths: N/A Is coal being mined in the area? Yes

OPEN FLOW DATA

Producing formation Big Lime, Weir Pay zone depth 2477/2964 feet  
Gas: Initial open flow    Mcf/d Oil: Initial open flow    Bbl/d  
Final open flow (250) Mcf/d Final open flow    Bbl/d  
Time of open flow between initial and final tests 24 hours  
Static rock pressure 950 psig (surface measurement) after 24 hours shut in

*750 Mcf POF for well*  
Second producing formation Devonian Shale Pay zone depth 3236 feet  
Gas: Initial open flow    Mcf/d Oil: Initial open flow    Bbl/d  
Final open flow (500) Mcf/d Oil: Final open flow    Bbl/d  
Time of open flow between initial and final tests 24 hours  
Static rock pressure 950 psig (surface measurement) after 24 hours shut in

APR 8 1988  
(Continue on reverse side)

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

Big Line 2477-2537 perf w/ 20 holes frac w/ 4000 gal acid + 80,000 scf n2  
 Currier → Gore 2964-3435 perf w/ 28 holes frac w/ 60,000# 20/50 sd + 985,000 scf n2  
 Huron 4372-4947 perf w/ 41 holes frac w/ 60,000# 20/50 sd + 1,000,000 scf n2  
 5220-5771 perf w/ 41 holes frac w/ 60,000# 20/50 sd + 1,120,000 scf n2

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DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
sandstone & Sahle			0	1779	
salt sand			1779	1934	
shale			1934	1964	
salt sand			1964	2246	
shale & sand			2246	2325	
little lime			2325	2386	
slate & lime			2386	2430	
big lime			2430	2786	
shale			2786	2845	
upper weir			2845	2898	
shale			2898	2940	
lower weir			2940	2990	
shale			2990	3225	
sunbury			3225	3236	
shale			3236	3430	
gordon			3430	3444	
grey & brown shale			3444	5882	
marcellus shale			5882	5962	
<u>onondaga Lime</u>			5962	5984	TD 5984 KB.

(Attach separate sheets as necessary)

Allegheny & Western Energy Corp  
 Well Operator  
 By: Don G. Munn, Vice President  
 Date: March 1, 1988

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."  
 6521

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Page 1 of  
Form WW2-A  
(09/87)  
File Copy

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1) Date: 1 December 1987  
2) Operator's well number  
Rowland Land Company #9  
3) API Well No: 47 - 081 - 0808  
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 Rowland Land Company  
Address 1033 Quarrier Street  
Charleston, WV 25301  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector \_\_\_\_\_  
Address \_\_\_\_\_  
Telephone (304)- \_\_\_\_\_

5) (a) Coal Operator:  
Name Peabody Coal Company  
Address 1018 Kanawha Blvd.  
Charleston, WV 25301  
(b) Coal Owner(s) with Declaration  
Name Rowland Land Company  
Address 1033 Quarrier Street  
Charleston, WV 25301  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name Peabody Coal Company  
Address 1018 Kanawha Blvd.  
Charleston, WV 25301

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  
XX 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 \_\_\_ on the above named parties, by:

- \_\_\_\_\_ 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 Allegheny and Western Energy Corporation  
By: Rene L. M...  
Its: \_\_\_\_\_  
Address Post Office Box 2587  
Charleston, WV 25329  
Telephone 304-343-4567

Subscribed and sworn before me this \_\_\_ day of December, 1987

Michael E. Uhl  
My commission expires August 7, 1994

OFFICIAL SEAL  
NOTARY PUBLIC  
STATE OF WEST VIRGINIA  
MICHAEL E. UHL  
601 Highland Ave., Apt. 4  
So. Charleston, WV 25303

12/18/87  
89

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

1100, 2, 546

- 1) Well Operator: Allegheny and Western Energy Corp., P.O. Box 2587, Chas., WV 25329
- 2) Operator's Well Number: Rowland Land Company #9 3) Elevation: 1425.6'
- 4) Well type: (a) Oil \_\_\_ / or Gas X /  
(b) If Gas: Production X / Underground Storage \_\_\_ /  
Deep \_\_\_ / Shallow X /
- 5) Proposed Target Formation(s): Weir, Devonian and Marcellus Shales
- 6) Proposed Total Depth: 5900 feet
- 7) Approximate fresh water strata depths: 772' 30'
- 8) Approximate salt water depths: 500' 1480'
- 9) Approximate coal seam depths: none expected 20'-25', 55'-60'  
From Raleigh, 398, 516, 741, 742, 750
- 10) Does land contain coal seams tributary to active mine? Yes XX / No \_\_\_ /
- 11) Proposed Well Work: Drill and Stimulate
- 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						38CSR10-11.3
Fresh Water	9 5/8"	smls	32#	858'	858'	38CSR10-11.3 300 sks cts
Coal	7"	smls	23#	2873'	2873'	200 sks
Intermediate						
Production	4 1/2"	smls	10.5#	5900'	5900'	38CSR10-11.1 200-400 sks
Tubing						
Liners						

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PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_  
DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

07816  
240

Fee(s) paid: Well Work Permit Reclamation Fund WPCP  
Plat WW-9 WW-2B Bond 50,000.00 Agent