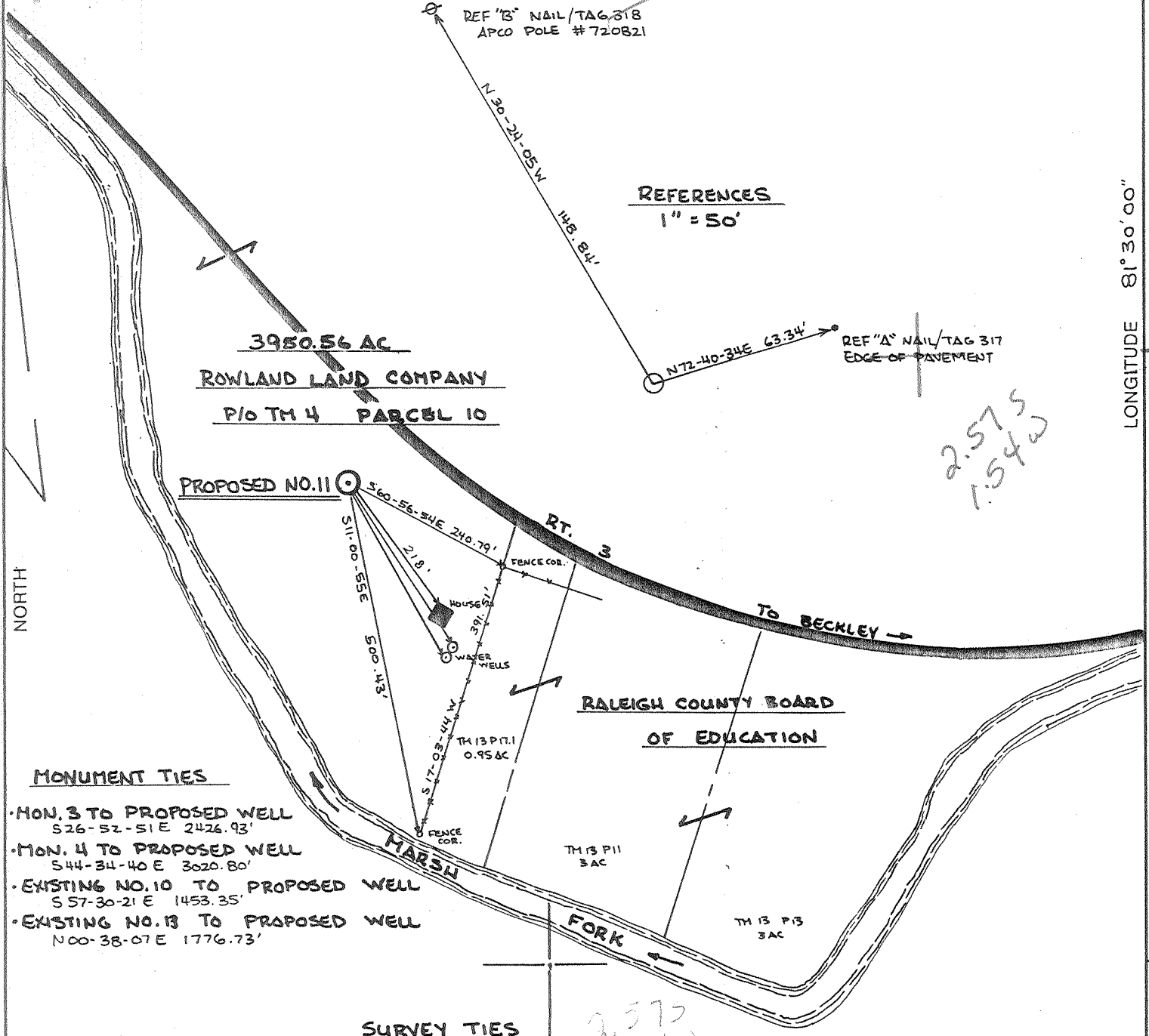


RS 4/24/87

8200'

LATITUDE 37° 55' 00"

LONGITUDE 80° 03' 18" 09751 13660



- MONUMENT TIES**
- MON. 3 TO PROPOSED WELL S 26-52-51 E 2426.93'
 - MON. 4 TO PROPOSED WELL S 44-34-40 E 3020.80'
 - EXISTING NO. 10 TO PROPOSED WELL S 57-30-21 E 1453.35'
 - EXISTING NO. 13 TO PROPOSED WELL N 00-38-07 E 1776.73'

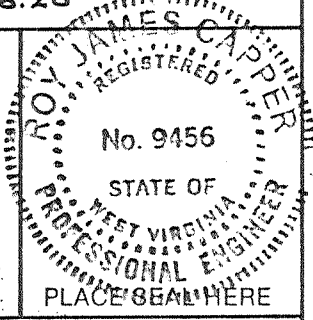
- SURVEY TIES**
- A: S 36-33-26 E 200.14'
 - B: S 31-50-05 E 266.76'
 - C: S 29-19-35 E 284.44'

ROWLAND LAND COMPANY NO. 11
 N: 590082.24
 E: 3218136.28

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 200'
 MINIMUM DEGREE OF ACCURACY 1 IN 10000
 PROVEN SOURCE OF ELEVATION BH 40% ± 2200'
NW OF LOCATION
 ELEVATION: 984.687'

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) Roy James Copper
 R.P.E. 9456 L.L.S.



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION

DATE 10 APRIL, 19 87
 OPERATOR'S WELL NO. ROWLAND NO. 11
 API WELL NO. _____

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

LOCATION: ELEVATION 981.7' WATER SHED MARSH FORK
 DISTRICT MARSH FORK COUNTY RALEIGH
 QUADRANGLE WHITESVILLE 7.5' 677 006 EC6 Bald Knob

SURFACE OWNER ROWLAND LAND COMPANY ACREAGE 3950.56
 OIL & GAS ROYALTY OWNER SAME LEASE ACREAGE 15,000 ±
 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 ESTIMATED DEPTH 5900'
 WELL OPERATOR ALLEGHENY + WESTERN DESIGNATED AGENT DENNIS L. MANN
 ADDRESS P.O. BOX 2587 ADDRESS P.O. BOX 2587
CHARLESTON, WEST VIRGINIA 25329 CHARLESTON, W. VA. 25329

APR 27 1987

DEEP WELL 6-6 Hopkins Fork Jarrolds Valley (247)



IV-35
(Rev 8-81)

RECEIVED
AUG 11 1987

State of West Virginia
Department of Mines
Oil and Gas Division

Date Aug 3 1987
Operator's Well No. Rowland # 11
Farm Rowland Land Co
API No. 47 - 081 - 0756

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 ___ / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 981.7 Watershed Marsh Fork of Big Coal River
District: Marsh Fork County Releigh Quadrangle Whiteville 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 Quarrier 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 4/24/87
DRILLING COMMENCED 4/29/87
DRILLING COMPLETED 5/8/87

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cord.			
13-10"	81	81	500 sks
9 5/8	922	922	336 sks
8 5/8			
7	2053	2053	175 sks
5 1/2			
4 1/2	5552	5552	230 sks
3			
2			
Liners used			

IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON _____

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5300 feet
Depth of completed well 5578 feet Rotary x / Cable Tools _____
Water strata depth: Fresh 30 feet; Salt 500 feet
Coal seam depths: N/A Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Weir Pay zone depth 2444 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Ebl/d
Final open flow 600 Mcf/d Final open flow _____ Ebl/d
Time of open flow between initial and final tests 24 hours

Static rock pressure 600 psig (surface measurement) after 24 hours shut in
(If applicable due to multiple completion--)

Second producing formation Devonian Shale Pay zone depth 2842 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Ebl/d
Final open flow 1100 Mcf/d Oil: Final open flow _____ Ebl/d
Time of open flow between initial and final tests 24 hours

Static rock pressure 600 psig (surface measurement) after 24 hours shut in

(Continue on reverse side)

AUG 17 1987

1700
Mcf
POF for
well

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

2444-2920 perf w/ 41 holes frac w/ 45,000# 20/40 sd + 1,000 gal 15% acid + 678,000 scf n2
 3029-3587 perf w/ 33 holes frac w/ 45,000# 20/40 sd + 925 gal 15% acid + 811,000 scf n2
 3891-4818 perf w/ 41 holes frac w/ 60,000# 20/40 sd + 1,000 gal 15% acid + 1,160,000 scf n2
 5087-5532 perf w/ 39 holes frac w/ 19,000# 20/40 sd + 750 gal 15% acid + 696,000 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 & shale			0	1351	
salt sand			1351	1518	
shale			1518	1547	
salt sand			1547	1791	
sand & shale			1791	2023	
little lime			2023	2076	
slate & lime			2076	2116	
big lime			2116	2378	
shale			2378	2455	
weir			2455	2600	
shale			2600	2821	
sunbury shale			2821	2842	
sandy siltstone & shale			2842	3038	
gordon			3038	3052	
grey & lt Brown shale			3052	5464	
marcellus			5464	5545	
onondaga			5545	5578	T.D. 5578 K.B.
404	2842				
813	4042				
822	4792				
825	4992				
830	5292				

(Attach separate sheets as necessary)

Allegheny & Western Energy Corp
Well Operator

By: Dennis L. Miller, Vice President

Date: Aug 3, 1987

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."

(Obverse)
7/85
RECEIVED
APR 23 1987



1) Date: 14 April, 19 87
 2) Operator's Well No. Rowland Land Co. #11
 3) API Well No. 47 081 0756
 State County Permit

STATE OF WEST VIRGINIA

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: 981.7 Watershed: Marsh Fork of Big Coal River ⁶⁷⁶
 District: Marsh Fork 2 County: Raleigh 081 Quadrangle: Whitesville 7.5'
 6) WELL OPERATOR A&W Energy CODE: 1100 7) DESIGNATED AGENT Dennis L. Mann
 Address P.O. Box 2587 Address P.O. Box 2587
Charleston, WV 25329 Charleston, WV 25329
 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Rodney Dillion Name Milt Shaffner
 Address P.O. Box 1526 Address _____
Sophia, West Virginia 25921
 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, Weir, Marcellus Shale
 12) Estimated depth of completed well, 5900 feet
 13) Approximate trata depths: Fresh, 30 feet; salt, 500 feet.
 14) Approximate coal seam depths: _____ Is coal being mined in the area? Yes / No /

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh water	9-5/8	smls	32	x		896	896	300skscts	by rule 15.05
Coal	7	smls	23	x		2676	2676	200 sks	Sizes
Intermediate									
Production	4-1/2	smls	10.5	x		5900	5900	200-400sks	Depths set or as required by rule 15.01
Tubing									Perforations:
Liners									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-081-0756

April 24

19 87

Date

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 April 24, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <input checked="" type="checkbox"/>	Casing: <input checked="" type="checkbox"/>	Fee: <u>05631</u>	WPCP: <input checked="" type="checkbox"/>	SSE: <input checked="" type="checkbox"/>	Other: <input type="checkbox"/>
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NOTE: Keep one copy of this permit posted at the drilling location.

Director, Division of Oil and Gas

File

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