



West Virginia State Plane
Coordinates for Location No. 100
N 334,942.25 : E 1,873,825.93

Rowland Land Company
A.E.I. Lease No. 80594
6,305.37 Ac. PL of 47,340.87 Ac.

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

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 2000'
MINIMUM DEGREE OF
ACCURACY 1 : 21751
PROVEN SOURCE OF
ELEVATION U.S.G.S. BM "UE-1044.1"
Elev. 1044.651

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 THE LAW AND THE REGU-
LATIONS ISSUED AND PRESCRIBED BY THE DEPART-
MENT OF ENERGY.
(SIGNED) Ronald L. Eastman
R.P.E. _____ L.L.S. 50

RONALD L. EASTMAN
LICENSED
No. 88
STATE OF
WEST VIRGINIA
LAND SURVEYOR
PLACE SEAL HERE

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

DATE June 21 19 93
OPERATOR'S WELL NO. Rowland Land Co. 100
API WELL NO. SN 144161

47-081-0960
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 17034 WATER SHED Right Fork of Bycamore Creek of Clear Fork of Big Coal River
DISTRICT Clear Fork COUNTY Raleigh
QUADRANGLE Dorothy

SURFACE OWNER Rowland Land Company, Ltd. ACREAGE 630537
OIL & GAS ROYALTY OWNER Rowland Land Company, Ltd. LEASE ACREAGE 4734087

LEASE NO. 80594
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR
STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW
FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AUG 06 1993

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET INFORMATION Devonian Shale ESTIMATED DEPTH 5,400' KB

WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT A. Ray Chandler
ADDRESS P.O. Box 391 43 Ashland, Ky. 41114 ADDRESS Rt. 6 Box 178 6-6 247 Charleston, W.V. 25311

FORM WW-5

COUNTY NAME PERMIT

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm Name: ROWLAND LAND COMPANY Operator Well No.: 108-S-144161

Location: Elevation: 1,701.34 Quadrangle: DOROTHY

District: CLEAR FORK County: RALEIGH
Latitude: 14300 Feet South of 37 Deg. 57 Min. 30 Sec.
Longitude: 6000 Feet West of 81 Deg. 25 Min. 00 Sec.Company: ASHLAND EXPLORATION, INC.
P.O. BOX 391, AT-6
ASHLAND, KY 41114-0391

Agent: B. E. Widener

Inspector: RODNEY DILLON

Permit Issued: 08-02-93

Well Work Commenced: 12-01-93

Well Work Completed: 02-18-94

Verbal Plugging

Permission granted on: _____

Rotary Cable _____ Rig

Total Depth (feet) 5160'

Fresh water depths (ft) Damp @ 100'

2" stream @ 449'

Salt water depths (ft) None Noted

Is coal being mined in area (Y/N)? N

Coal Depths (ft): None Noted

| Casing & Tubing | Used in Drilling | Left in Well | Cement Fill Up Cu. Ft. |
|-----------------|------------------|--------------|------------------------|
| Size | | | Driven |
| 20" | 32' | 32' | |
| 16" | 94' | 94' | 118 |
| 8 5/8" | 1556' | 1556' | 662 |
| 4 1/2" | 5152' | 5152' | 535 |
| 2 3/8" @ 4678' | | | |

*Btm set of perms blocked by fish @ 4268'

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 3999-5039*
Gordon Pay zone depth (ft) 3388-3396
 Gas: Initial open flow 0 MCF/d Oil: Initial open flow -- Bbl/d
 Final open flow 440 MCF/d Final open flow -- Bbl/d
 Time of open flow between initial and final tests 3 Hours
 Static Rock Pressure 560 psig (surface pressure) after 72 Hours

Second producing formation None 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 -- psig (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 WELLBORE.

For: Ashland Exploration, Inc.

By: James L. Stephens James L. Stephens, Eng. Tech.Date: 03-07-94

2893

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

Issued 8/2/93

Expires 8/2/95

- 1) Well Operator: 43 Ashland Exploration, Inc 2750 ① 325
Rowland Land Company
- 2) Operator's Well Number: 108, Serial No. 144161 3) Elevation: 1701.3
- 3) Well type: (a) Oil / or Gas /
 (b) If Gas: Production / Underground Storage /
 Deep / Shallow /
- 4) Proposed Target Formation(s): 400 Devonian Shale
- 5) Proposed Total Depth: 5400'KB feet
- 6) Approximate fresh water strata depths: 140'
- 7) Approximate salt water depths: 1502'
- 8) Approximate coal seam depths: Solid - No Mineable Seams
- 9) Does land contain coal seams tributary to active mine? Yes / No /
- 10) Proposed Well Work: Drill and Stimulate New Well

17701

CASING AND TUBING PROGRAM

| TYPE | SIZE | GRADE | WEIGHT PER FT. | FOOTAGE INTERVALS | CEMENT | |
|--------------|--------|-------|----------------|-------------------|--------------|------------------|
| | Size | Grade | Weight per ft. | For drilling | Left in well | Fill-up (cu.ft.) |
| Conductor | 16 | LS | 37 | 30 | 30 | CTS |
| Fresh Water | 11 3/4 | H-40 | 42 | 190 | 190 | CTS |
| Coal | | | | | | 3850/11.3 |
| Intermediate | 8 5/8 | J-55 | 24 | 1570 | 1570 | 3850/11.3 CTS |
| Production | 5 1/2 | J-55 | 15.5 | 5400 | 5400 | AS NEEDED |
| Tubing | 1.9 | J-55 | 2.76 | - | 5300 | SIPHON |
| Liners | | | | | | 3850/11.1 |

PACKERS: Kind _____
Sizes _____
Depths set _____

501921/14

For Division of Oil and Gas Use Only

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

8/2

- 1) Date: July 23, 1993
- 2) Operator's well number
Rowland Land Company #108, Serial #144161
- 3) API Well No: 47 - 081 - 0960
State - County - Permit

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE 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 St., Room 301
Charleston, WV 25301
 (b) Name _____
 Address _____
 (c) Name _____
 Address _____

5) (a) Coal Operator:
 Name N/A
 Address _____
 (b) Coal Owner(s) with Declaration
 Name Same as No. 4(a)
 Address _____
 Name _____
 Address _____

6) Inspector Rodney Dillon
 Address P.O. Box 131
Bradley, WV 25818
 Telephone (304)-877-2912

(c) Coal Lessee with Declaration
 Name Consolidation Coal Company
 Address 898 Workman Creek Road
Beckley, WV 25801

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

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 2 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 Ashland Exploration, Inc.
 By: Don K. Cunningham *Don K. Cunningham*
 Its: Professional Surveyor
 Address P.O. Box 391
Ashland, KY 41114
 Telephone 606-329-3870

Subscribed and sworn before me this 23rd day of July, 1993

Ticki W. Santa Notary Public
 My commission expires November 23, 1994

| <u>Formation or Rock Type</u> | <u>Top</u> | <u>Base</u> |
|--------------------------------|------------|-------------|
| Sand and Shale (base Lee Sand) | 0 | 1351 |
| Pennington | 1351 | 2247 |
| Avis Lime | 1640 | 1672 |
| M. Maxton | 1911 | 1924 |
| L. Maxton | 2146 | 2239 |
| Little Lime | 2247 | 2349 |
| Big Lime | 2349 | 2684 |
| Borden | 2684 | 3169 |
| M. Weir | 2797 | 2859 |
| Sunbury Shale | 3169 | 3186 |
| Berea | 3186 | 3219 |
| Devonian Shale | 3219 | T.D. |
| Gordon | 3379 | 3400 |

Drillers TD 5160

Loggers TD 5173

85/8 cmt'd to surface on primary job.

Perf L. Dev. Shale using SF HCG 1 spf @ 5039, 5011, 4986, 4967, 4951, 4943, 4911, 4899, 4875, 4853, 4814, 4795, 4787, 4774, 4749, 4739, 4712, 4664, 4659, 4635. Pump 300 gal 7.9% HCl-Fe acid. 90-75Q foam frac L. Dev. Shale using 131,500# 20/40 sand & 780,000 scf N₂ @ 29,248, 27,141, 25,498 and 24,854. BD @ 2652#, ATP 3464# @ 36 B/M Foam (only 3 of 4 pumps operating), MTP 3648#, ISIP 2265#, TF 208 Bbl.

Perf U. Dev. Shale using .37 jets in 3/8" SF HCG 1 spf @ 4429, 4406, 4399, 4385, 4372, 4364, 4353, 4327, 4303, 4297, 4276, 4265, 4214, 4176, 4161, 4146, 4128, 4075, 4025, 3999, 20H total. Attempt to set Arrow frac plug @ 4465' - hung in sand @ 4268'.

Dump 500 gal 7 1/2% HCl-Fe acid. FF U. Dev. 90-75Q using 119,600# 20/40 sand, 600,000 scf N₂ @ 25649, 23894, 22777, 20606 scf/min. BD 2181, ATP 3080, ATR 40 BPM foam, MTP 3406, ISIP 1919, TF 192 Bbls.

Perf Gordon w/3/8" HCG .39 jets 17H/3388-3396, 9H/3380-3384, 26 holes total. Set Baker RBP @ 3440'. GT = NS. HOWCO pump 1/2 Bbl wtr on RBP & 500 gal 7.2% HCl-Fe acid. HOWCO 75Q FF Gordon using 45000# 20/40 sand, 201,000 scf N₂ @ 7200 scf/min. BD 1099, ATP 1308 @ 20 BPM foam, MTP 1489, ISIP 1280, TF 147 Bbl.