

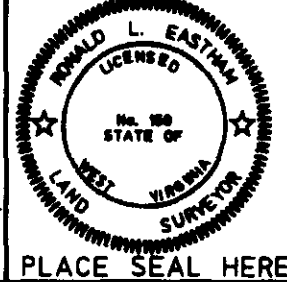
West Virginia State Plane  
Coordinates for Location No. 106  
N 330251.01 : E 1071043.06

LINE CHART		
LINE	BEARING	DISTANCE
1	S 36°50'01" E	3373.17'
2	N 38°23'19" W	3085.37'

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

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 2000'  
MINIMUM DEGREE OF ACCURACY 1: 120,133  
PROVEN SOURCE OF ELEVATION U.S.G.S. BM 'UE-1044.7'  
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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.  
(SIGNED) Ronald L. Eastman  
R.P.E. \_\_\_\_\_ L.L.S. 150



PLACE SEAL HERE

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



DATE May 16, 1994  
OPERATOR'S WELL NO. Rowland Land Co. 106  
API WELL NO. 6N146521

**47-081-0985**  
STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
LOCATION: ELEVATION 1027.73 WATER SHED Right Fork of Sycamore Creek of Clear Fork of Big Coal River  
DISTRICT Clear Fork COUNTY Raleigh  
QUADRANGLE Dorothy Eccles NW  
SURFACE OWNER Rowland Land Company, Ltd. ACREAGE 6305.37  
OIL & GAS ROYALTY OWNER Rowland Land Company, Ltd. LEASE ACREAGE 47340.87

LEASE NO. 80894  
PROPOSED WORK: DRILL \_\_\_ X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET INFORMATION Devonian shale ESTIMATED DEPTH 5,400' KB **JUL 25 1994**  
WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT A. Ray Chandler  
ADDRESS P.O. Box 391 4619 Ashland, Ky. 41114 ADDRESS Rt. 6 Box 178 6-6 262 Charleston, W.V. 25311

FORM WV-6

COUNTY NAME PERMIT



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

7-25-94

Well Operator's Report of Well Work

Permitting  
Office of Oil & Gas

Farm Name: ROWLAND LAND COMPANY

Operator Well No.: ROWLAND #106

Location: Elevation: 1,827.73

Quadrangle: DOROTHY

District: CLEAR FORK

County: RALEIGH

Latitude: 10950 Feet South of 37 Deg. 57 Min. 30 Sec.

Longitude: 2025 Feet West of 81 Deg. 25 Min. 0 Sec.

Company: ASHLAND EXPLORATION, INC.  
P.O. BOX 391, AT-9  
ASHLAND, KY 41114-0391

Agent: B. E. Widener

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size 16"	36'	36'	11.8
11 3/4"	217'	217'	135.7
8 5/8"	1617'	1617'	532.8
4 1/2"	5326'	5326'	545.65
2 3/8"		5209'	

Inspector: RODNEY DILLON  
Permit Issued: 07-21-94  
Well Work Commenced: 10-15-94  
Well Work Completed: 03-09-95  
Verbal Plugging  
Permission granted on:  
Rotary X Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 5353  
Fresh water depths (ft) 1360'

Salt water depths (ft) \_\_\_\_\_

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): None Reported

OPEN FLOW DATA

L. Dev. Shale	4857-5205
U. Dev. Shale	4235-4645
Gordon	3524-3537
M. Weir	2874-2915
Producing formation <u>Big Lime</u>	Pay zone depth (ft) <u>2673-2739</u>
Gas: Initial open flow <u>1654</u> MCF/d	Oil: Initial open flow <u>--</u> Bbl/d
Final open flow <u>789</u> MCF/d	Final open flow <u>--</u> Bbl/d
Time of open flow between initial and final tests <u>3</u> Hours	
Static Rock Pressure <u>625</u> psig	(surface pressure) after <u>72</u> Hours
Second producing formation <u>--</u>	Pay zone depth (ft) <u>--</u>
Gas: Initial open flow <u>--</u> MCF/d	Oil: Initial open flow <u>--</u> Bbl/d
Final open flow <u>--</u> MCF/d	Final open flow <u>--</u> Bbl/d
Time of open flow between initial and final tests <u>--</u> Hours	
Static Rock Pressure <u>--</u> psig	(surface pressure) after <u>--</u> 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: Scott A. Arnold Scott A. Arnold, Asst. Eng.  
Date: 9/11/95 09-11-95

<u>Formation or Rock Type</u>	<u>Top</u>	<u>Bottom</u>
Sand and Shale	0	578
Salt Sand	578	1444
Pennington Fm.	1505	2343
Princeton	1505	1603
Ravenclyff	1679	1715
Avis Lime	1737	1769
Middle Maxton	2005	2019
Lower Maxton	2257	2333
Little Lime	2343	2436
Big Lime	2436	2765
Borden	2799	3306
Big Injun	2799	2834
Middle Weir	2871	2939
Lower Weir	2997	3057
Sunbury Shale	3306	3324
Berea	3324	3358
Devonian	3358	5366
Gordon	3521	3541
Lower Huron	4876	5207
Java	5207	5366
TD	5366	
DTD	5353	
LTD	5366	

#### Well Treatment

Perf L. Dev. using .37 jets SF 1 spf @ 5205, 5190, 5185, 5171, 5161, 5141, 5123, 5090, 5063, 5059, 5054, 5001, 4975, 4957, 4932, 4909, 4885, 4875, 4861, 4857, 20H total. N<sub>2</sub> frac L. Dev. Shale using 250 gal 7½% HCl-Fe acid and 820,000 scf N<sub>2</sub> @ 80,800 scf/m. BD @ 2687, ATP 2467, MTP 3619, ISIP 1955, 10 min 1825.

Perf U. Dev. Shale .37" 1 spf @ 4645, 4639, 4633, 4629, 4589, 4577, 4553, 4477, 4463, 4449, 4438, 4412, 4385, 4358, 4333, 4297, 4277, 4241, 4235, 19H total. Set Baker RBP @ 4690'. N<sub>2</sub> frac U. Dev. Shale using 300 gal 7½% HCl-Fe acid and 790,000 scf N<sub>2</sub> @ 60,000-80,000 scf/m. BD @ 4014, ATP 3500, MTP 4014, ISIP 1643, 10 min 1508.

Perf Gordon w/HCG 2 spf @ 3524-3537, 27H total. Set Baker RBP @ 3595'. 75Q FF Gordon using 500 gal 14.9% HCl-Fe acid, 250,000 scf N<sub>2</sub> @ 9630 scf/m, and 66,400# 20/40 sand. BD @ 1336, ATP 1535 @ 20 B/M foam rate, MTP 1643, ISIP 1337, 10 min 1143, TF 135 Bbl.

Perf Weir using 3½" HCG 2 spf @ 2874-2881, 2889-2899, 2912-2915, 43H total. 75Q FF M. Weir w/315,000 scf N<sub>2</sub> @ 10,100 scf/m, 500 gal 15% HCl-Fe acid and 83,200# 20/40 sand. BD @ 1695, ATP 1627 @ 20 BPM foam, MTP 1742, ISIP 1524, 10 min 1301, TF 160 Bbl.

Perf Big Lime w/3½" HCG, 2 spf @ 2673-2676, 2734-2739, 18H total. 65Q foam acid treatment using 3000 gal 28% and 500 gal 15½% HCl-Fe acid and 119,000 scf N<sub>2</sub> @ 8400 scf/m. BD @ 2294, ATP 1783 @ 20 BPM foam, MTP 2294, ISIP 1483, 15 min 1014, TF 15 Bbl wtr & 98 Bbl acid.

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.: ROWLAND #106

Location: Elevation: 1,827.73 Quadrangle: DOROTHY

District: CLEAR FORK County: RALEIGH  
Latitude: 10950 Feet South of 37 Deg. 57 Min. 30 Sec.  
Longitude: 2025 Feet West of 81 Deg. 25 Min. 0 Sec.

Company: ASHLAND EXPLORATION, INC.  
P.O. BOX 391, AT-9  
ASHLAND, KY 41114-0391

Agent: B. E. Widener

Inspector: RODNEY DILLON  
Permit Issued: 07-21-94  
Well Work Commenced: 10-15-94  
Well Work Completed: 03-09-95  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary  Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 5353  
Fresh water depths (ft) 140'

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size 16"	46'	46'	11.8
11 3/4"	227'	227'	135.7
8 5/8"	1627'	1627'	532.8
4 1/2"	5336'	5336'	545.65
2 3/8"		5215'	

Salt water depths (ft) 867'

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): None Reported

OPEN FLOW DATA

Dev. Shale	4235-4645
Gordon	4857-5205
M. Weir	3524-3537
Big Lime	2874-2915
Big Lime	2673-2739

Producing formation Big Lime Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow 582 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 789 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 3 Hours

Static Rock Pressure 625 psig (surface pressure) after 72 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 -- psig (surface pressure) after -- Hours

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JUL 23 1995

For: Ashland Exploration, Inc.

By: Daniel L. VanHoose Daniel L. VanHoose  
Date: 06-14-95

<u>Formation on Rock Type</u>	<u>Top</u>	<u>Bottom</u>
Sand and Shale	0	578
Salt Sand	578	1444
Pennington Fm.	1505	2343
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DTD 5353

LTD 5366

#### Well Treatment

Perf L. Dev. using .37 jets SF 1 spf @ 5205, 5190, 5185, 5171, 5161, 5141, 5123, 5090, 5063, 5059, 5054, 5001, 4975, 4957, 4932, 4909, 4885, 4875, 4861, 4857, 20H total. N<sub>2</sub> frac L. Dev. Shale using 250 gal 7½% HCl-Fe acid and 820,000 scf N<sub>2</sub> @ 80,800 scf/m. BD @ 2687, ATP 2467, MTP 3619, ISIP 1955, 10 min 1825.

Perf U. Dev. Shale .37" 1 spf @ 4645, 4639, 4633, 4629, 4589, 4577, 4553, 4477, 4463, 4449, 4438, 4412, 4385, 4358, 4333, 4297, 4277, 4241, 4235, 19H total. Set Baker RBP @ 4690'. N<sub>2</sub> frac U. Dev. Shale using 300 gal 7½% HCl-Fe acid and 790,000 scf N<sub>2</sub> @ 60,000-80,000 scf/m. BD @ 4014, ATP 3500, MTP 4014, ISIP 1643, 10 min 1508.

Perf Gordon w/HCG 2 spf @ 3524-3537, 27H total. Set Baker RBP @ 3595'. 75Q FF Gordon using 500 gal 14.9% HCl-Fe acid, 250,000 scf N<sub>2</sub> @ 9630 scf/m, and 66,400# 20/40 sand. BD @ 1336, ATP 1535 @ 20 B/M foam rate, MTP 1643, ISIP 1337, 10 min 1143, TF 135 Bbl.

Perf Weir using 3½" HCG 2 spf @ 2874-2881, 2889-2899, 2912-2915, 43H total. 75Q FF M. Weir w/315,000 scf N<sub>2</sub> @ 10,100 scf/m, 500 gal 15% HCl-Fe acid and 83,200# 20/40 sand. BD @ 1695, ATP 1627 @ 20 BPM foam, MTP 1742, ISIP 1524, 10 min 1301, TF 160 Bbl.

RECEIVED  
FORM W-20  
WV Division of  
Environmental Protection

081-0985

Page 1 of 1

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

Issued 07/21/94

Expires 07/21/96

JUL 05 94

43

①

325

1) Well Operator: Ashland Exploration, Inc 2750

Operator's Well Number: Rowland Land Co. #106 3) Elevation: 1827.7

Well type: (a) Oil  / or Gas  /  
(b) If Gas: Production  / Underground Storage  /  
Deep  / Shallow  /

Proposed Target Formation(s): Devonian Shale <sup>441</sup>

6) Proposed Total Depth: 5400 feet

7) Approximate fresh water strata depths: 140'

8) Approximate salt water depths: 867'

9) Approximate coal seam depths: Solid - No mineable seams

10) Does land contain coal seams tributary to active mine? Yes  / No  /

11) Proposed Well Work: Drill and 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	16	LS	37	30	30	CTS
Fresh Water	11 3/4	H-40	42	190	190	CTS
Coal						38594-11.3 38594-11.2
Intermediate	8 5/8	J-55	24	1706	1706	CTS
Production	5 1/2	J-55	15.5	5400	5400	AS REQ'D
Tubing	1.9	J-55	2.76		5300	SYPHON
Liners						38594-11.1

PACKERS: Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths \_\_\_\_\_

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)

506008  
11-24

19441

RECEIVED  
WV Division  
MAY 25 1994  
Submitting

- 1) Date July 1, 1994
- 2) Operator's well number  
Rowland Land Co. #106, Serial 146521
- 3) API Well No: 47 - 081 - 0985  
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 405 Capitol St., Suite 609  
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 \_\_\_\_\_
  - (c) Coal Lessee with Declaration  
Name Consolidation Coal Company  
Address 898 Workman Creek Road  
Beckley, WV 25801
- 6) Inspector Rodney Dillon  
Address P.O. Box 131  
Bradley, WV 25818  
Telephone (304)-877-2912

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

- \_\_\_\_\_ Personal Service (Affidavit attached)
- x 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  
Its: Senior Engineer  
Address P.O. Box 391  
Ashland, KY 41114  
Telephone 606-329-3870

Subscribed and sworn before me this 30th day of June, 1994

Suzette S. Hubbard Notary Public  
My commission expires April 27, 1997