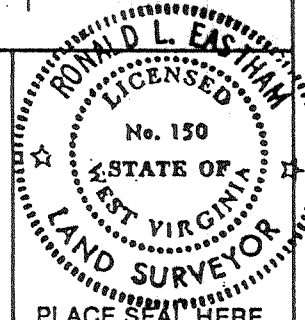


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 2,000'
 MINIMUM DEGREE OF ACCURACY 1:63,769
 PROVEN SOURCE OF ELEVATION Coal Company
 Datum & Control _____

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) Ronald L. Eastham
 R.P.E. _____ L.L.S. 150



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE Nov. 8, 1990
 OPERATOR'S WELL NO. 83-R, S.N. 132081
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE X DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1722.85 WATER SHED Right Fork of Buffalo Creek
 DISTRICT Triadelphia 3 COUNTY Logan
 QUADRANGLE Lorado

SURFACE OWNER Pardee Land Company ACREAGE 17,000.+
 OIL & GAS ROYALTY OWNER Pardee Land Company LEASE ACREAGE 4,000.
 LEASE NO. 60622

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 FORMATION Devonian Shale ESTIMATED DEPTH 6108' KB
 WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT Forrest Burkett
 ADDRESS P.O. Box 391 43 Ashland, KY. 41114 ADDRESS P.O. Box 379 Brenton, W.V. 24818

COUNTY NAME
 PERMIT

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04-Mar-
 API # 47- 45-01157

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

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY Well Operator's Report of Well Work

Farm name: PARDEE LAND COMPANY Operator Well No.: 83-R-S-132081

LOCATION: Elevation: 1722.85 Quadrangle: LORADO

District: TRIADELPHIA County: LOGAN
 Latitude: 6550 Feet South of 37 Deg. 47Min. 30 Sec.
 Longitude 6185 Feet West of 81 Deg. 42 Min. 30 Sec.

Company: ASHLAND EXPLORATION, INC.
 P.O. BOX 391, A1-6
 ASHLAND, KY 41114-0391

Agent: FORREST BURKETT

Inspector: TIM BENNETT
 Permit Issued: 03/04/91
 Well work Commenced: 5/13/91
 Well work Completed: 8/3/91
 Verbal Plugging
 Permission granted on: _____
 Rotary Cable _____ Rig
 Total Depth (feet) 6095
 Fresh water depths (ft) None
 Noted
 Salt water depths (ft) Damp @ 1066'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
20"	28'	28'	Driven
16"	70'	70'	100
11 3/4"	305	305	147
8 5/8"	2133	2133	635
5 1/2"	6054'	6054'	771

1.9" @ 5821' kb w/ADL-1 pkr @ 3815
 1.9" @ 3740' kb

Is coal being mined in area (Y/N)? N
 Coal Depths (ft): Open Mine 223-230'

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 4048-5875
 Gas: Initial open flow 0 MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 956/1871 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests 3 Hours
 Static rock Pressure 710 psig (surface pressure) after 72 Hours

Second producing formation Berea Pay zone depth (ft) 3732-3752
 Gas: Initial open flow 0 MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 621 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests 3 Hours
 Static rock Pressure 610# psig (surface pressure) after 72 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: August 15, 1991

AUG 26 1991

<u>Rock Type or Formation</u>	<u>Top</u>	<u>Base</u>
Sand & Shale (Base Lee Formation)	0	2110
Pennington formation	2110	2807
Ravenscliff sand 2299-2327		
Little Lime	2807	2900
Big Lime	2900	3240
Borden formation	3240	3698
U. Weir 3328-3377		
L. Weir 3493-3513		
Sunbury Shale	3698	3718
Berea	3718	3756
Devonian Shale	3756	6085
Onodaga LS	6085	TD
LTD 6094		
DTD 6095		

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

Well Treatment

Perf Rhinestreet 19H/5781-5875. N₂ frac using 500 gal 7½% HCL, 802,000 Scf N₂ @ 60,000 scf/min. BD @ 2340#, ATP 4150#, MTP 4230#, ISIP 3300# & 15 min 2170#.

Perf Javen 20H/5249-5549. N₂ frac using 500 gal 7½% HCL, 801,000 scf N₂ @ 91,000 scf/min. BD 2730#, ATP 3700#, MTP 3920#, ISIP 2700#

Perf Huron 19H/4843-5025. N₂ frac using 500 gal 7½% HCL fe acid, 800,000 scf N₂ @ 101,000 scf/min. BD @ 2240#, ATP 3350#, MTP 3410#, ISIP 2200# & 5 min. 1580#.

Perf Chagrin 19H/4048-4313. N₂ frac using 500 gal 7½% fe inh acid, 800,000 scf N₂ @ 100,000 scf/min. BD @ 2400#, ATP 2350#, MTP 2400#, ISIP 1700# & 5 min. 1410#

Perf Berea 25H/3732-3752. 75 quality foam frac using 250 gal 16% inh. fe acid, 350,000 scf N₂ @10,100 scf/min & 60,000# 20/40 sand. BD @ 1334# ATP 1280# A 25 BPM foam rate, MTP 1334#, ISIP 1027# & 15 min 872# & TF 305 bbls.

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045-1157
Issued 3/4/91
Page 1 of 1
Expires 3/4/93

FORM WW-2B

FEB 14 1991 STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
DEPT. OF ENERGY WELL WORK PERMIT APPLICATION

- 1) Well Operator: Ashland Exploration, Inc. ⁰⁰⁴³ 2750 (3) 445
Pardee Land Company
- 2) Operator's Well Number: 83-R, Serial #132081 3) Elevation: 1722.8
- 4) Well type: (a) Oil ___ / or Gas X /
(b) If Gas: Production X / Underground Storage ___ /
Deep ___ / Shallow X /
- 5) Proposed Target Formation(s): Devonian Shale
- 6) Proposed Total Depth: 6108'KB feet
- 7) Approximate fresh water strata depths: 882'KB (Map WV-12)
- 8) Approximate salt water depths: 1062'KB (Map WV-12)
- 9) Approximate coal seam depths: Cedar Grove Seam - Mined Out - 233'
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No X /
- 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	16	LS	42.0	40	40	CTS
Fresh Water						385RB 11.3
Coal	11 3/4	H40	42.0	283	283	386RB 11.2
Intermediate	8 5/8	J55	24.0	2147	2147	CTS
Production	5 1/2	J55	15.5	6108	6108	As Needed
Tubing	1.9	J55	2.76	-	6058	Siphon
Liners						

PACKERS : Kind _____
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only

06105
Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat. WW-9 WW-2B Bond *Security* Agent

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2 FEB 14 1991

DEPT. OF ENERGY

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

- 1) Date: February 13, 1991
- 2) Operator's well number
Pardee Land Company #83-R, Serial #132081
- 3) API Well No: 47 - 045 - 1157
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 Pardee Land Company
Address 1510 Two Mellon Bank Center
Philadelphia, PA 19102
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 5) (a) Coal Operator:
 - Name Arch of West Virginia, Inc.
Address P.O. Box 156
Yolyn, WV 25654
 - (b) Coal Owner(s) with Declaration
Name Pardee Land Company
Address Same as No. 4(a)
 - Name _____
Address _____
 - (c) Coal Lessee with Declaration
Name Ark Land Company
Address P.O. Box 70
Turtle Creek, WV 25203
- 6) Inspector Tim Bennett
Address Route 2 Box 61-B
Chapmanville, WV 25508
Telephone (304)- 855-7705

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: J. T. Mellinger
 Its: Vice President
 Address P.O. Box 391
Ashland, KY 41114
 Telephone 606-329-5450

Subscribed and sworn before me this 13th day of February, 1991
Nicki W. Roots
 My commission expires November 23, 1994 Notary Public