



FILE NO. 62-39  
 DRAWING NO. ~  
 SCALE 1" = 2,000'  
 MINIMUM DEGREE OF ACCURACY 1:16,900.  
 PROVEN SOURCE OF ELEVATION Buffalo Mining Co. Datum

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) George Harry Corn  
 R.P.E. 3999 L.L.S. \_\_\_\_\_

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY  
 OIL AND GAS DIVISION



DATE Feb'y. 14, 19 89  
 OPERATOR'S WELL NO. 80, S.N. 117551  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1794.3 WATERSHED North Fork of Buffalo Creek  
 DISTRICT Triadelphia 3 COUNTY Logan  
 QUADRANGLE Lorado 445 006 & Bald Knob Se  
 SURFACE OWNER Pardee Land Company ACREAGE 17,000.+  
 OIL & GAS ROYALTY OWNER Pardee Land Company LEASE ACREAGE 18,000.  
 LEASE NO. 4107

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 Berea ESTIMATED DEPTH 3,914'  
 WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT Forrest Burkett  
 ADDRESS P.O. Box 391 - Ashland, Ky. 41114 ADDRESS P.O. Box 379 - Brenton, W. Va. 24818

MAR 10 1989

COUNTY NAME  
 PERMIT

43  
 DEEP WELL 6.6 Man-Oceana (266)

DEC 15 1989

API # 47- 45-01136

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

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

Well Operator's Report of Well Work

Farm name: PARDEE LAND COMPANY Operator Well No.: 80-S-117551

LOCATION: Elevation: 1794.30 Quadrangle: LORADO

District: TRIADELPHIA County: LOGAN  
Latitude: 12240 Feet South of 37 Deg. 50Min. 0 Sec.  
Longitude 7850 Feet West of 81 Deg. 37 Min. 30 Sec.

Company: ASHLAND EXPLORATION, INC.  
P. O. BOX 391  
ASHLAND, KY 41114-0000

Agent: FORREST BURKETT

Inspector: TIM BENNETT  
Permit Issued: 03/10/89  
Well work Commenced: 08/27/89  
Well work Completed: 11/30/89  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 6282  
Fresh water depths (ft) Hole wet @ 262  
Approximate 674  
Salt water depths (ft) approximate  
2139'  
Is coal being mined in area (Y/N)? N  
Coal Depths (ft): Not noted during drl'g

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	31'	31'	17.7
8 5/8"	2184'	2184'	820
5 1/2"	6260'	6260'	692
1.9" @ 6081'	KB w/ADL-1 Pkr @ 3550'		
1.9" @ 3527'			

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 4320-6100  
 Gas: Initial open flow 30 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 259 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 3 Hours  
 Static rock Pressure 475 psig (surface pressure) after 72 Hours

L. Weir 3502-3514  
 Second producing formation B. Lime Pay zone depth (ft) 3243-3261  
 Gas: Initial open flow 26 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 311 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 3 Hours  
 Static rock Pressure 510 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 J. L. Stephens, Engineering Tech  
Date: December 12, 1989

DEC 22 1989

<u>FORMATION</u>	<u>TOP</u>	<u>BASE</u>
Sand & Shales	0	1348
Lower Lee Sand	1348	2073
Sand & Shales	2073	2195
Ravenscliff	2195	2226
Shale	2226	2276
Avis LS	2276	2311
Shale	2311	2351
Stray Maxton	2351	2401
Sand & Shales	2401	2624
Middle Maxton	2624	2647
Shale	2647	2672
Stray & Lower Maxton	2672	2826
Shale	2826	2851
Little Lime	2851	2930
Pencil Cave	2930	2938
Big Lime	2938	3283
Shale	3283	3380
Upper Weir	3380	3410
Shale	3410	3493
Lower Weir	3493	3530
Shale	3530	3744
Coffee Shale	3744	3763
Berea	3763	3786
Devonian Shale	3786	6257
Onondaga LS	6257	TD

DTD 6282  
LTD 6276

WELL TREATMENT

Perf L. Dev. Shale 26H/5836-6100. 75 Quality foam frac using 500 gal 13% inh Fe acid, 92,500# 20/40 sand & 830,000 SCF N<sub>2</sub> @ 28,000 SCF/min. ISIP after breakdown 2630#. BD @ 3360#, ATP 2900# @ 54 bpm foam rate, MTP 3360#, ISIP 2000#, 15 min 1810# & TF 404 bbls.

Perf U. Dev. Shale 25H/4892-5396. 75 Quality foam frac using 1000 gal 6 1/2% inh Fe acid, 1000 gal 25% treated Methanol, 83,000# 20/40 sand & 650,000 SCF N<sub>2</sub> @ 25,000 SCF/min. BD @ 2100#, ATP 2150# @ 55 bpm foam rate, MTP 2310#, ISIP 1500# 15 min 1360# & TF 387 bbls.

Perf faulted Dev. Section 16H/4424-4432 & 10H/4320-4330, 21 MCF/D after perforating.

Perf L. Weir 25H/3502-3514. 75 Q. foam frac using 500 gal 15% fe inh acid, 66,000# 20/40 sand & 335,000 SCF N<sub>2</sub> @ 8100 SCF/min. BD @ 2100#, ATP 1350# @ 25 bpm foam rate, MTP 2100#, ISIP 960#, 15 min 880# & TF 350 bbls.

Perf Big Lime 37H/3243-3261. Acidize Big Lime using 2000 gal 15% HCl and 2000 gal 28% HCl & displace w/75 bbl. treated wtr. BD @ 1750#, ATP 390# & ISIP 0#.

JD 3786  
LH 4835  
J 5136  
A 5236  
Rh 5486

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DEC 15 1989

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION 2750

- 1) Well Operator: Ashland Exploration, Inc. *2705, 3, 445*  
 Pardee Land Company
- 2) Operator's Well Number: 80, Serial #117551 3) Elevation: 1794.3
- 4) Well type: (a) Oil   / or Gas X/
- (b) If Gas: Production X/ Underground Storage   /  
 Deep   / Shallow X/
- 5) Proposed Target Formation(s): Berea
- 6) Proposed Total Depth: 3914'KB feet
- 7) Approximate fresh water strata depths: 674'KB
- 8) Approximate salt water depths: 2139'KB  
 Upper Alma - Elev. 1475 No. 2 Gas - Elev. 1320
- 9) Approximate coal seam depths: Peerless - Elev. 1350 (None Worked)
- 10) Does land contain coal seams tributary to active mine? Yes   / No   /
- 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	12 3/4	LS	42.0	30	30	CTS
Fresh Water						385R18-11.3 385R18-11.212
Coal						
Intermediate	8 5/8	J55	24.0	2189	2189	CTS
Production	4 1/2	J55	10.5	3914	3914	385R18-11.1 As Needed
Casing	2 3/8	J55	4.7	-	3864	Siphon
Liners						

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

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 FEB 21 1989

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP

Plat  WW-9  WW-2B  Bond 50 Blanket Agent

(Type)

*506504*

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FEB 21 1989

Date: February 17, 1989  
Operator's well number  
Pardee Land Co. #80, Serial #117551  
API Well No: 47 - 045 - 1136  
State - County - Permit

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY  
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 Buffalo Mining Company  
Address Box 429  
Lyburn, WV 25632
- (b) Coal Owner(s) with Declaration  
Name Same as No. 4(a)  
Address \_\_\_\_\_
- (c) Coal Lessee with Declaration  
Name Same as No. 5(a)  
Address \_\_\_\_\_
- 6) Inspector Tim Bennett  
Address 525 Tiller St.  
Logan, WV 25601  
Telephone (304)- 792-7075

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 2 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 raise information, including the possibility of fine and imprisonment.

Well Operator Ashland Exploration, Inc.  
By: J. T. Mellinger  
Its: Manager Eastern Region  
Address P.O. Box 391  
Ashland, KY 41114  
Telephone (606) 329-5450

Subscribed and sworn before me this 17th day of February, 1989

Dick W. Santa Notary Public  
My commission expires November 23, 1990