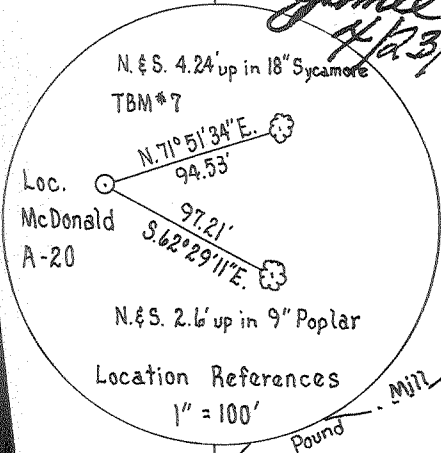


3,450

LATITUDE 37° 45' 00"

LONGITUDE 81° 05' 18"

Janie 4/23/91



Buffalo Creek Coal & Coke Co.

Millard McDonald

Elk Creek Coal & Land Co.

Triadelphia Land Co.

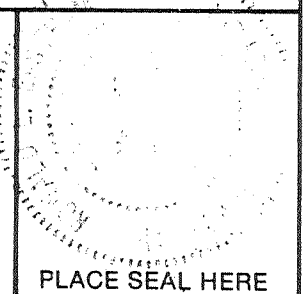
W.W. McDonald Land Co.
2176 Ac. (Pt. WV-409 ~ 8866.505 Ac.)

W.Va. State Plane Coordinate System,
South Zone.
N. 262,133.10 ~ E. 1,755,391.03

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 2,000'
 MINIMUM DEGREE OF ACCURACY 1: 49,050
 PROVEN SOURCE OF ELEVATION U.S.C. & G.S. B.M. "W162"
Elev. = 743.831

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 A. East
 R.P.E. _____ L.L.S. 150



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE March 21, 1991
 OPERATOR'S WELL NO. McDonald Land Co. A-20
 API WELL NO. S.N. 134501

47 - 045 - 1167
 STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1323.18 WATERSHED Green Branch of Huff Creek of Guyandotte River
 DISTRICT Triadelphia 3 COUNTY Logan
 QUADRANGLE Mallory

SURFACE OWNER W. W. McDonald Land Company ACREAGE 2176 Ac.
 OIL & GAS ROYALTY OWNER W.W. McDonald Land Company LEASE ACREAGE 8866.505 Ac.
 LEASE NO. WV - 409

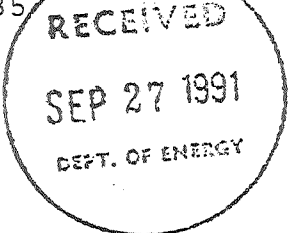
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION Devonian Shale ESTIMATED DEPTH 5583' KB
 WELL OPERATOR Ashland Exploration Inc. DESIGNATED AGENT Forrest Burkett
 ADDRESS P.O. Box 391, Ashland, Ky. 41114 ADDRESS P.O. Box 379, Brenton, W.V. 24818

COUNTY NAME PERMIT

DEEP WELL b-h Man-Ocean (266)

MAY 6 1991



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

API # 47- 45-01167

Reviewed TM6
Recorded _____

Well Operator's Report of Well Work

Farm name: W WMC DONALD LAND CO. Operator Well No.: A-20 S.N.134501

LOCATION: Elevation: 1323.18 Quadrangle: MALLORY

District: TRIADELPHIA County: LOGAN
Latitude: 10050 Feet South of 37 Deg. 45Min. 0 Sec.
Longitude 3450 Feet West of 81 Deg. 50 Min. 0 Sec.

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

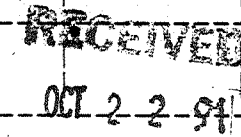
Agent: FORREST BURKETT

Inspector: TIM BENNETT
Permit Issued: 04/29/91
Well work Commenced: 5-24-91
Well work Completed: 9-13-91
Verbal Plugging _____
Permission granted on: _____
Rotary x Cable _____ Rig _____
Total Depth (feet) 5592
Fresh water depths (ft) None noted
approximate 537'

Salt water depths (ft) (773 approximate)
Damp @ 1282'

Is coal being mined in area (Y/N)? _____
Coal Depths (ft): Open mine 242-248

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	70'	70'	17.7
11 3/4"	275'	275'	177
8 5/8"	2560'	2560'	777
5 1/2"	5588'	5588'	1029
2 3/8" @ 5393			



OPEN FLOW DATA

Dev. Shale
Berea

Division of Energy
Oil and Gas Section 3641-5501
3471-3487

Producing formation Big Lime Pay zone depth (ft) 2351-2356

Gas: Initial open flow 0 MCF/d Oil: ~~Initial open flow~~ 0 Bbl/d

Final open flow 423 MCF/d ~~Final open flow~~ 0 Bbl/d

~~Time of open flow between initial and final tests~~ 3 Hours

Static rock Pressure _____ 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

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, Engr. Tec
Date: 9/23/91

OCT 27 1991

<u>Formation or Rock Type</u>	<u>Top</u>	<u>Base</u>
Breathitt Formation	0	764
Lee Formation	764	1752
Pennington Formation	1752	2538
Ravenscliff 2041-2064		
U. Maxton 2211-2364		
Little Lime	2538	2607
Big Lime	2607	2881
Borden Formation	2881	3433
Sunbury	3433	3462
Berea	3462	3495
Dev. Shale	3495	5565
Onondaga	5565	TD

LTD 5590
 DTD 5592

Well Treatment:

Perf Rhinestreet 17H/ 5303-5501. N₂ frac using 500 gal 8% fe inh acid, 943,000 SCF N₂ @ 64,000 SCF/min. BD @ 2600#, ATP 3800#, MTP 4410#, ISIP 3460# & 15 min 2420

Perf Huron 23H/4545-4983. N₂ frac using 500 gal 8% fe inh acid, 891,000 SCF N₂ @ 93,000 SCF/min. BD @ 2600#, ATP 3000#, MTP 3280# & ISIP 2410

Perf Chagrin 22H/3641-4087. N₂ frac using 500 gal 8% fe inh HCl acid, 825,000 SCF N₂ @ 81,000 SCF/min. BD @ 2800#, ATP @ 3000#, MTP 3100# & ISIP 2130#.

Perf Berea 25H/3471-3487. 75 Quality foam frac using 250 gal 15% inh fe acid, 300,000 SCF N₂ @ 9,000 SCF/min & 60,000# 20/40 sand. BD @ 1450#, ATP 1282# @ 25 BPM foam rate, MTP 1450#, ISIP 1169# & TF 307 bbls.

Perf Big Lime 20H/2861-2869. Acidize Big Lime using 2000 gal 15% inh fe acid, and 2000 gal 17% inh fe acid. BD @ 370#, ATP 0#, MTP 370#, ISIP 0# and TF 164 bbls.

Perf Maxton 25H/ 2351-2356. 90 and 75 quality foam frac using 500 gal 16% inh-
 acid, 40,100# 20/40 sand and 440,000 SCF N₂ @ 14,000 SCF/min. BD @ 2190#, ATP 2650#
 @ 20 BPM foam rate, MTP 3250#, ISIP 2180# & TF 194 bbls. The well was squeezed off
 due to wetness w/ 75 sx RFC cmt.

60121

RECEIVED

APR 11 1991

DEPT. OF ENERGY

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

045-1167
Issued 04/29/91
Page of
Expires 04/29/93

- 1) Well Operator: Ashland Exploration, Inc. 2750 (3) 454
- 2) Operator's Well Number: W.W. McDonald Land Co. A-20 3) Elevation: 1323.18
- 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 401
- 6) Proposed Total Depth: 5583' KB feet
- 7) Approximate fresh water strata depths: 537' KB (map WV-12)
- 8) Approximate salt water depths: 773' KB (map WV-12)
- 9) Approximate coal seam depths: No. 2 gas; elev. 1094'; Pillared, mined out
Lower Cedar Grove; Elev. 1309'; Pillared, mined out
- 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	30	30	CTS
Fresh Water						30CSR18-11-3
Coal	11 3/4"	H40	42.0	289	289	30CSR18-11-2.2 CTS
Intermediate	8 5/8"	J55	24.0	2623	2623	CTS
Production	5 1/2"	J55	15.5	6583	6583	30CSR18-11-1 as needed
Tubing	1.9"	J55	2.76	---	6533	siphon
Liners						

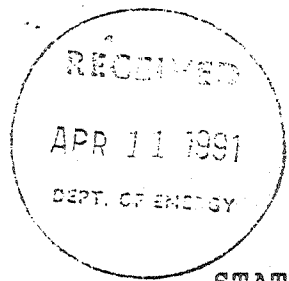
PACKERS : Kind _____
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only

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

12009

506165
11



- 1) Date: April 10, 1991
- 2) Operator's well number W.W. McDonald Land Co., A-20 S.N. 134501
- 3) API Well No: 47 - 045 - 1167
State - County - Permit

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

- | | |
|--|---|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>W.W. McDonald Land Co.</u>
Address <u>P.O. Box 1706</u>
<u>Logan, W.V. 25601</u></p> <p>(b) Name _____
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>N/A</u>
Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>W.W. McDonald Land Co.</u>
Address <u>P.O. Box 1706</u>
<u>Logan, W.V. 25601</u></p> <p>Name _____
Address _____</p> |
| <p>6) Inspector <u>Tim Bennett</u>
Address <u>Route 2, Box 61-B</u>
<u>Chapmanville, WV 25508</u>
Telephone (304)- _____</p> | <p>(c) Coal Lessee with Declaration</p> <p>Name <u>N/A</u>
Address _____</p> |

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 _____
By: W. Mark Parks *W. Mark Parks*
Its: Operations Manager
Address _____

Telephone _____

Subscribed and sworn before me this 10th day of April, 1991

Suzette S. Hubbard _____ Notary Public
My commission expires 4-27-93