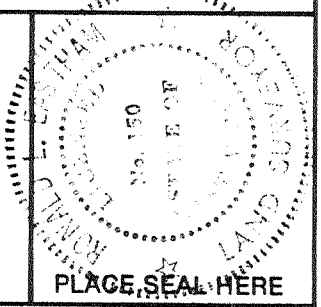


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1:44,563
PROVEN SOURCE OF ELEVATION U.S.C. & G.S. BM "P-50"
elev. 650.235

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. Smith
R.P.E. _____ L.L.S. 150



STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

DATE Dec. 5, 19 90
OPERATOR'S WELL NO. O.F. Ferrell et ux A-2
API WELL NO. S.N. 133551

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

LOCATION: ELEVATION 869.64 WATERSHED Kanawha Branch of the Guyandotte River
DISTRICT Guyan COUNTY Logan
QUADRANGLE Chapmanville

SURFACE OWNER Ira Mullins, et ux ACREAGE 29
OIL & GAS ROYALTY OWNER O. F. Ferrell LEASE ACREAGE 133 ac. Pt. of 214.83 ac.
LEASE NO. WV-190

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 3,960' KB
WELL OPERATOR Ashland Exploration, Inc. DESIGNATED AGENT Forrest Burkett
ADDRESS P. O. Box 391 ADDRESS P. O. Box 379
Ashland, Ky. 41114 Brenton, W.V. 24818

DEEP WELL G-6 Chapmanville (245)

COUNTY NAME _____ PERMIT _____

RECEIVED

JUL 15 91

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

Well Operator's Report of Well Work

Farm name: MULLINS, IRA, ETAL Operator Well No.: A-2 S-133551

LOCATION: Elevation: 869.64 Quadrangle: CHAPMANVILLE

District: GUYAN County: LOGAN
Latitude: 8510 Feet South of 38 Deg. 0 Min. 0 Sec.
Longitude 3560 Feet West of 82 Deg. 0 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: 01/18/91
Well work Commenced: 4/26/91
Well work Completed: 6/25/91
Verbal Plugging _____
Permission granted on: _____
Rotary X Cable _____ Rig
Total Depth (feet) 3965
Fresh water depths (ft) 1/4" stream 141'

Salt water depths (ft) _____
935' - 6" stream

Is coal being mined in area (Y/N)? N
Coal Depths (ft): None noted while drlg.

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	37'	37'	8.26
8 5/8"	1157'	1157'	566
5 1/2"	3939'	3939'	537
1.9 @	2055' kb		
1.9 @	3841' kb	W/ADL-1 @	2072'

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 2233-3909
Gas: Initial open flow 15 MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 587/101 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 Berea Injun Pay zone depth (ft) 1991-2001
Gas: Initial open flow 0 MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 514 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 3 Hours
Static rock Pressure 425# 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

J. L. Stephens
For: ASHLAND EXPLORATION, INC.

By: J. L. Stephens - Eng. Tech.
Date: July 11, 1991

JUL 29 1991

<u>Formation or Rock Type</u>		<u>Top</u>	<u>Base</u>
Breathitt formation		0	364
Lee Formation		364	980
Pennington formation		980	1206
L. Maxton	1175-1186		
Little Lime	UDO 2011	1206	1253
Big Lime	LH 3000	1253	1458
Borden formation		1458	1957
Injun Sand	1511-1518		
Sunbury Shale	J 3250	1957	1984
Berea Sand	A 3500	1984	2011
Devonian Shale		2011	3952
Onondaga Ls.	Rh 3700	3952	TD

Well treatment

Perf L. Dev. Shale 17H/3710-3909, N₂ frac using 500 gal 7% inh fe acid, 807,000 scf N₂ @ 84,900 scf/min. BD @ 2847#, ATP 4300#, MTP 4410#, ISIP 2889, & 15 min 1975#.

Perf M. Dev. Shale 24H/3084-3503. N frac using 500 gal 7 1/2% inh fe acid, 807,000 scf n₂ @ 107,800 scf/min. BD @ 2889#, ATP 3203#, MTP 3250#, ISIP 1982# 15 Min 1007#.

Perf. U. Dev. Shale 18H/2233-2635. N₂ frac using 500 gal 8% inh fe acid, 810,000 scf n₂ @ 93,943 scf/min. BD 3407#, ATP 4268#, MTP 4458#, ISIP 2665# & 15 min 1200#.

Perf Berea 15H/1991-2001. 75 Quality foam frac using 250 gal 17 1/2% inh fe acid, 31,000# 20/40 sand & 230,160 scf n₂ @ 7672 scf/min. BD @ 2600# ATP 3385# @ 20 BPM, MTP 4700#, ISIP 4500# & TF 157 bbIs. Screen out.

Perf Injun Sand 15H/1511-1518. 75 Quality foam frac using 250 gal 16% inh fe acid, BD perfs with acid & 40,000 scf n₂ @ 8,000 scf/min. BD @ 2230#, ATP 2860# @ 20 BPM foam rate, MTP 4741#. Well screened out.

82111

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045-1152 Issued 1/18/91
Expires 1/18/93
Page 1 of 1

FORM WW-2B

JAN 02 1991

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

- 1) Well Operator: Ashland Exploration, Inc. 2750 (4) JFF
O. F. Ferrell, et ux
- 2) Operator's Well Number: A-2, Serial #133551 3) Elevation: 869.64
- 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: 3960'KB feet
- 7) Approximate fresh water strata depths: 625'KB (Map WV-12)
- 8) Approximate salt water depths: 400'KB (Map WV-12)
- 9) Approximate coal seam depths: Not Operated - Solid Coal

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

11) Proposed Well Work: Drill & Stimulate New Well

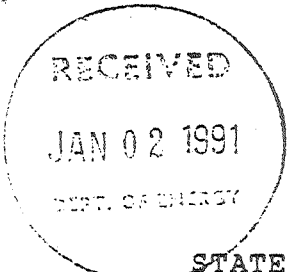
CASING AND TUBING PROGRAM

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						38CSR-18-11.3
Coal						38CSR-18-11.2a
Intermediate	8 5/8	J55	24.0	1000	1000	Lead w/CI "A" (2% Gel, 3% CaCl) Tail w/100 sx.
Production	5 1/2	J55	15.5	3960	3960	CI "A" (3% CaCl) As Needed
Tubing	1.9	J55	2.76	-	3910	38CSR-18-11.1 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 Agent
(Type)



- 1) Date: December 31, 1990
- 2) Operator's well number
O.F. Ferrell, et ux #A-2, Serial #133551
- 3) API Well No: 47 - 045 - 1152
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 Ira Mullins
Address P.O. Box 24
Chapmanville, WV 25508
 - (b) Name Alvin Dingess
Address P.O. Box 351
Chapmanville, WV 25508
 - (c) Name _____
Address _____

- 5) (a) Coal Operator:
 - Name _____
Address _____
 - (b) Coal Owner(s) with Declaration
Name Ira Mullins
Address P.O. Box 24
Chapmanville, WV 25508
 - Name _____
Address _____

- 6) Inspector Tim Bennett
Address Route 2, Box 61-B
Chapmanville, WV 25508
Telephone (304)-855-7705

- (c) Coal Lessee with Declaration
Name _____
Address _____

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 false information, including the possibility of fine and imprisonment.

Well Operator Ashland Exploration, Inc
 By: J. T. Mellinger *J. T. Mellinger*
 Its: Vice President
 Address P.O. Box 391
Ashland, KY 41114
 Telephone 606-329-5450

Subscribed and sworn before me this 31st day of December, 1990

Thick W. Smith
 _____ Notary Public
 My commission expires November 23, 1994