

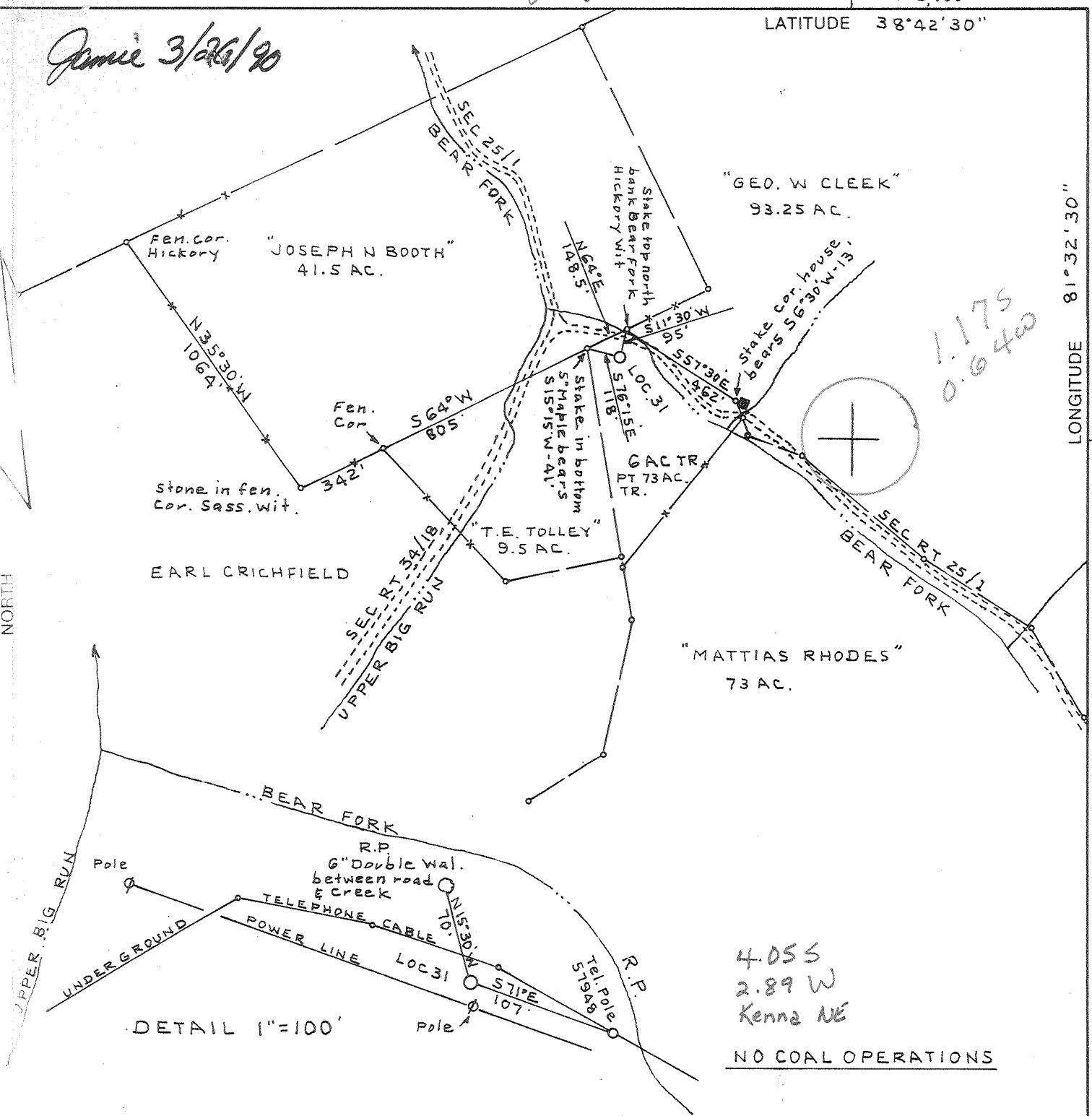
June 3/26/90

3400'

LATITUDE 38°42'30"

LONGITUDE 81°32'30"

NORTH



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

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1:200'  
 PROVEN SOURCE OF ELEVATION Road forks  
 NW location El. 718

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) C. J. Valley Jr.  
 R.P.E. \_\_\_\_\_ O.I.S. 92

PLACE SEAL HERE

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



DATE MARCH 17, 1990  
 OPERATOR'S WELL NO. 31, Ser. No. 120701  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 722 WATERSHED BEAR FORK OF TUG FORK  
 DISTRICT WASHINGTON 5 COUNTY JACKSON  
 QUADRANGLE KENTUCK Kenna NE  
 SURFACE OWNER ERNEST & ADA CASTO HEIRS ACREAGE 6 AC. TR.  
 OIL & GAS ROYALTY OWNER ELIZABETH WARD PERKINS, ET AL LEASE ACREAGE 27.600  
 LEASE NO. 2428

COUNTY NAME

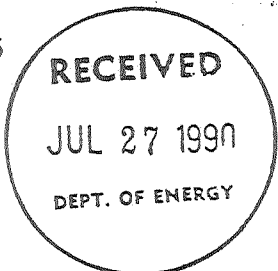
PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PERMIT

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH 5067. KB  
 WELL OPERATOR ASHLAND EXPLORATION INC. DESIGNATED AGENT FORREST BURKETT  
 ADDRESS P.O. BOX 391 ASHLAND KY 41101 ADDRESS P.O. BOX 379 BRENTON WV 24818

APR 06 1990

Deep well 6-6 Gay (163)



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

Well Operator's Report of Well Work

Farm name: CASTO, RICHARD E. Operator Well No.: 31-S-120701

LOCATION: Elevation: 722.00 Quadrangle: KENTUCK

District: WASHINGTON County: JACKSON  
Latitude: 6200 Feet South of 38 Deg. 42Min. 30 Sec.  
Longitude 3400 Feet West of 81 Deg. 32 Min. 30 Sec.

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

Agent: FORREST BURKETT

Inspector: JERRY TEPHABOCK  
Permit Issued: 04/04/90  
Well work Commenced: 5/31/90  
Well work Completed: 7/13/90  
Verbal Plugging  
Permission granted on:  
Rotary X Cable Rig  
Total Depth (feet) 5120'  
Fresh water depths (ft) 10', 45', 320'  
approximately 480'  
Salt water depths (ft) 1" stream @ 1620  
1/4" more @ 1650', 2 1/4" stream @ 1850'  
Is coal being mined in area (Y/N)? N  
Coal Depths (ft): :None Noted"

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	41'	41'	11.8
9 5/8"	520'	520'	195
7"	1987'	1987'	360
4 1/2"	5079'	5079'	306
2 3/8" tbg @ 4961'			

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 3604-4963  
Gas: Initial open flow 0 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 730 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 3 Hours  
Static rock Pressure 1200 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. Tech.  
Date: 7/25/90

AUG 6 1990

FORMATION OR ROCK TYPE

TOP

BASE

Sand & Shales	0	1566
Lower Lee Sand	1566	1861
Injun	1861	1932
Shales	1932	2320
Coffee Shale	2320	2339
Berea	2339	2347
Devonian Shale	2347	5082
Onondaga LS	5082	TD

UD 2347  
 LH 3560  
 J 4282  
 A 4432  
 RH 4700

DTD 5120

LTD 5098

WELL TREATMENT

<sup>RH</sup>  
 Perf L. Dev. Shale 25H/4680-4963. N2 frac using 750 gal 15% Inh Fe acid,  
 1,012,391 SCF N2 @ 97,600 SCF/min. BD @ 3522#, ATP 4494#, MTP 4523#, ISIP  
 2556# & 15 min. 1733#.

<sup>LH</sup>  
 Perf U. Dev, Shale 25H/3604-4230. N2 frac using 750 gal 7 1/2% Inh. Fe acid,  
 1,009,737 SCF N2 @ 97,400 SCF/min. BD @ 3078#, ATP 3840#, MTP 3975#, ISIP  
 2444# & 15 min 1640#.

DTD

10361

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

0043

035 2210  
Issued 4/4/90  
Expires 4/4/92

- 1) Well Operator: Ashland Exploration, Inc. 2750 (5) 416  
E. W. Perkins, etal
- 2) Operator's Well Number: 31, Serial #120701 3) Elevation: 722.0
- 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 <sup>441</sup>
- 6) Proposed Total Depth: 5067'KB feet
- 7) Approximate fresh water strata depths: 335' 480'
- 8) Approximate salt water depths: 1695'KB
- 9) Approximate coal seam depths: None
- 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	
Conductor	16	LS	42.0	30	30	CTS
Fresh Water	<u>9 5/8</u>	<u>H40</u>	<u>32.3</u>	<u>510'</u>	<u>510'</u>	<u>CTS</u>
Coal						<u>385918-11-3</u> <u>385918-11-2</u>
Intermediate	<u>8 5/8</u>	J55	24.0	1967	1967	<u>As Needed</u>
Production	<u>5 1/2</u>	J55	15.5	5067	5067	<u>As Needed</u>
Tubing	1.9	J55	2.76	-	5007	Siphon
Liners						

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

For Division of Oil and Gas Use Only

56854  
 Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Plat  WW-9  WW-2B  Bond \_\_\_\_\_  Agent  
 (Type)

RECEIVED  
FEB 22 1990  
DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Date: March 21, 1990  
Operator's well number  
E. W. Perkins, etal No. 31, Serial #120701  
API Well No: 47 - 035 - 2210  
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 Richard E. Casto  
Address 830 Maplewood Street  
Madison, WV 25130  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_

5) (a) Coal Operator:  
Name N/A  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name No Coal  
Address \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_

6) Inspector Jerry Tephabock  
Address Route 1, Box 101-A  
Ripley, WV 25271  
Telephone (304)-372-6805

(c) Coal Lessee with Declaration  
Name N/A  
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  
Its: Manager Eastern Region  
Address P.O. Box 391  
Ashland, KY 41114  
Telephone 606/329-5450

Subscribed and sworn before me this 21st day of March, 1990

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