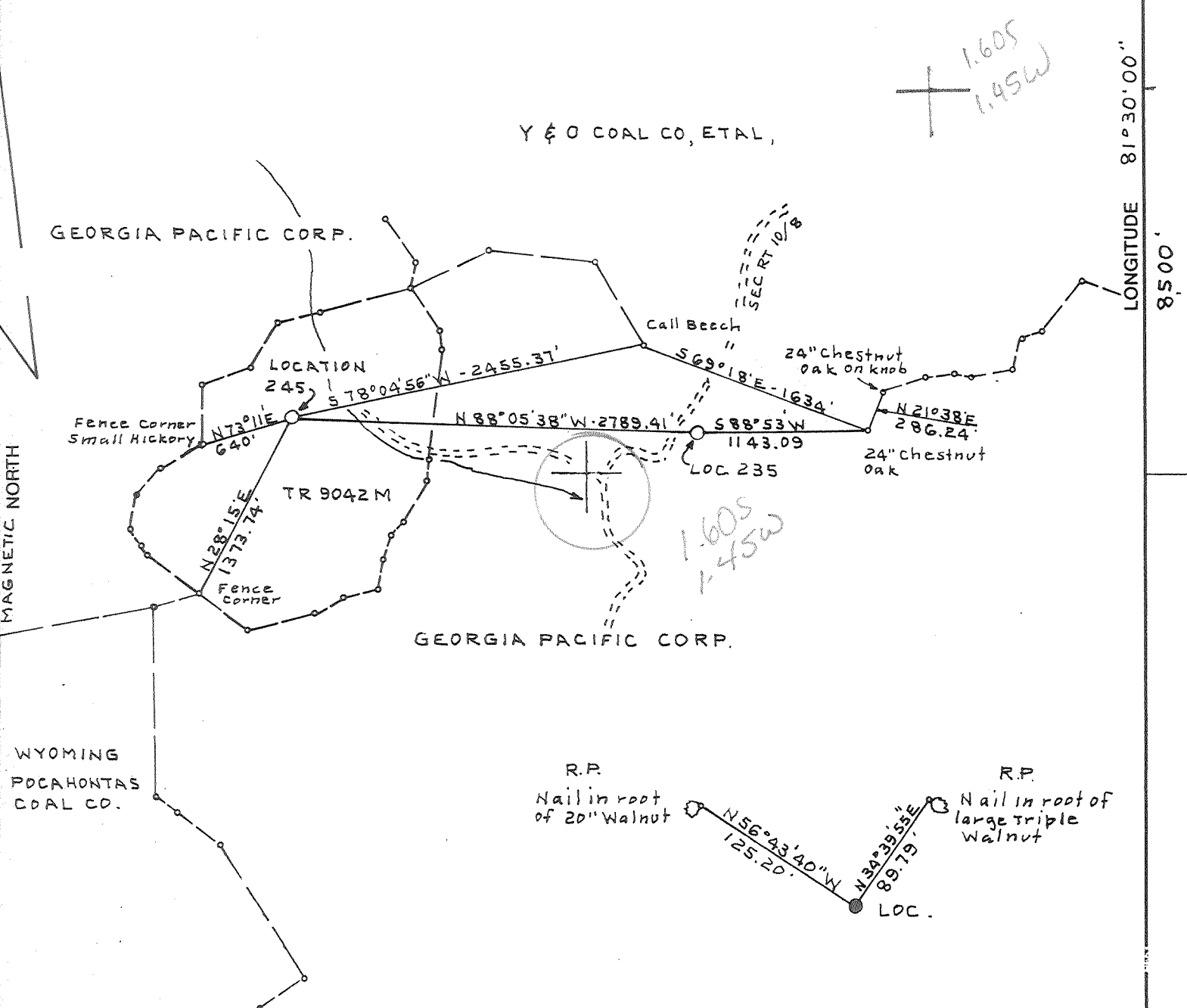


Jamie 3/24/89

7650'  
LATITUDE 37°40'00"



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

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1:5500'  
PROVEN SOURCE OF ELEVATION BM 33AFK-1965  
Elev. 1796.34

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. S. Valley Jr.  
R.P.E. \_\_\_\_\_ L.S. 92

PLACE SEAL HERE

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

DATE MARCH 11, 19 89  
OPERATOR'S WELL NO. 245  
API WELL NO. 47-109-1087 (Serial No. 117701)  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1879.10' WATERSHED LEFT FORK OF ROCKCASTLE CREEK  
DISTRICT CENTER 3 COUNTY WYOMING  
QUADRANGLE MATHENY 463 1066 Pineville EC

SURFACE OWNER CARMEL HILL ACREAGE 62  
OIL & GAS ROYALTY OWNER GEORGIA PACIFIC CORP. LEASE ACREAGE 67244.09  
LEASE NO. 4157

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 6449 KB

WELL OPERATOR ASHLAND EXPLORATION INC. DESIGNATED AGENT FORREST BURKETT  
ADDRESS PO BOX 391 ASHLAND KY 41114 ADDRESS P.O. BOX 379 BRENTON WV 24818

APR 07 1989

DEEP WELL 6.6 McBar (448) Pineville (250)

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

2750, 3, 463

- 1) Well Operator: Ashland Exploration, Inc.  
W. M. Ritter Lumber Co.
- 2) Operator's Well Number: 245, Serial #117701 3) Elevation: 1879.10
- 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: 6449'KB feet
- 7) Approximate fresh water strata depths: 984'KB
- 8) Approximate salt water depths: 1229'KB
- 9) Approximate coal seam depths: Not Operated
- 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	H40	65	30	30	CTS
Fresh Water						
Coal						
Intermediate	8 5/8	J55	24	1279	1279	38CSR18-11.3 38CSR18-11.2.2 CTS
Production	5 1/2	J55	15.5	6449	6449	38CSR18-11.1 As Needed
Tubing	1.9	CW55	2.76	-	6399	Siphon
Liners						

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

RECEIVED  
MAR 16 1989

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

506527  
to  
Fee(s) paid:    Well Work Permit    Reclamation Fund    WPCP  
Plat    WW-9    WW-2B    Bond 30 Blanket Agent     
(Type)

**RECEIVED**  
MAR 16 1989

1) Date: March 14, 1989  
2) Operator's well number  
W. M. Ritter Lumber Co. #245, Serial #117701  
3) API Well No: 47 - 109 - 1087  
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 Carmel Hill  
Address Box 386  
Pineville, WV 24874  
(b) Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_

5) (a) Coal Operator:  
Name None  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name Georgia-Pacific Corp.  
Address 133 Peachtree  
Atlanta, GA 30303  
Name \_\_\_\_\_  
Address \_\_\_\_\_

6) Inspector Rodney Dillon  
Address P.O. Box 1526  
Sophia, WV  
Telephone (304) - 683-3989

(c) Coal Lessee with Declaration  
Name Consol Land Development Company  
Address P.O. Box 1289  
Bluefield, VA 24605

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 14th day of March, 1989

Ticki W. Donta Notary Public  
My commission expires November 23, 1990

**RECEIVED**

Division of Energy

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

MAY 07 90

Permitting  
Oil and Gas Section Well Operator's Report of Well Work

Farm name: HILL, CARMEL Operator Well No.: 245-S-117701  
Lease Name: Georgia Pacific- W. M. Ritter  
LOCATION: Elevation: 1879.10 Quadrangle: MATHENY

District: CENTER County: WYOMING  
Latitude: 8500 Feet South of 37 Deg. 40Min. 0 Sec.  
Longitude 7650 Feet West of 81 Deg. 30 Min. 0 Sec.

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

Agent: FORREST BURKETT

Inspector: RODNEY G. DILLON  
Permit Issued: 04/03/89  
Well work Commenced: 07/15/89  
Well work Completed: 04/12/90  
Verbal Plugging  
Permission granted on:  
Rotary x Cable \_\_\_\_\_ Rig  
Total Depth (feet) 6528  
Fresh water depths (ft) 7" stream @  
150'. Hole damp 542', 984'  
Salt water depths (ft) Approx. 1229'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
16"	32'	32'	17.7
11 3/4"	228'	228'	106
8 5/8"	1339'	1339'	354
5 1/2"	6453'	6453'	902
1.9" @ 5191'	KB w/ADL-1 PKR @ 4144'	KB	
1.9" @ 4071'	KB		

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): Not Noted While Drl'g.

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 5170-6320  
 Gas: Initial open flow 84 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 201/913 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 3 Hours  
 Static rock Pressure 920# psig (surface pressure) after 72 Hours  
 Second producing formation Weir & Ravenscliff Pay zone depth (ft) (R) 1460-1490  
 Gas: Initial open flow 84 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow 712 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests 3 Hours  
 Static rock Pressure 300# 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 - Engineer Te  
Date: May 1, 1990

MAY 11 1990

Devonian Shale	4098-4114
Gordon	3684-3694
Weir	3171-3181
Ravenscliff	1460-1490

FORMATION OR ROCK TYPE

	<u>TOP</u>	<u>BASE</u>
Sand & Shale	0'	653'
Lee Sand	653'	1290'
Sand & Shale	1290'	1439'
Ravenscliff	1439'	1507'
Shale	1507'	1526'
Avis LS	1526'	1564'
Sand & Shale	1564'	1722'
U. Maxton	1722'	1753'
Sand & Shale	1753'	1948'
Middle Maxton	1948'	2029'
Sand & Shale	2029'	2213'
Lower Maxton	2213'	2325'
Shale	2325'	2343'
Little Lime	2343'	2418'
Pencil Cave	2418'	2454'
Big Lime	2454'	2930'
Sand & Shale	2930'	3147'
Lower Weir	3147'	3196'
Shale	3196'	3517'
Coffee Shale	3517'	3533'
Berea	3533'	3552'
Devonian Shale	3552'	6502'
Gordon Sand 3668-3712		
Onondaga LS	6502'	TD
DTD 6528' LTD 6520'		

UD 3533  
 LH 4685  
 J 5335  
 A 5435  
 Rh 5735

DFT

WELL TREATMENT

L. Devonian Shale perforated 25H/6050-6070. <sup>Rh</sup> N<sub>2</sub> Breakdown w/1000 gal 8% Fe inh acid 345,000 SCF N<sub>2</sub> @ 15,000 SCF/min. BD @ 4570#, ISIP 4030#, 15 min 3790# & ATP 4200#. <sup>2</sup> Reperforate 20H/5830-6320 & dump 1000 gal 29% Double inh Fe acid. N<sub>2</sub> frac using 1,053,000 SCF N<sub>2</sub> @ 54,000 SCF/min. BD @ 1760#, MTP 4530#, <sup>2</sup> ATP 4350#, ISIP 3950# & 15 min 2100#. L. Devonian Shale is isolated w/NC-1 BP @ 5500'KB. <sup>LH</sup> Before isolation GT 233 MCF/D.

Perf U. Devonian Shale 25H/5170-5200. Dump 1000 gal 15% Fe inh double inh Fe acid. N<sub>2</sub> Breakdown using 310,000 SCF N<sub>2</sub> @ 15,000 SCF/min. BD @ 2610#, MTP 2610#, ATP 2300, ISIP 2310#, 5 min 2160#, 10 min 2160# & 15 min 2150#. 75 Quality foam frac using 55,000# 20/40 sand, 755,000 SCF N<sub>2</sub> @ 30,200 SCF/min. ATP 3500# @ 50 BPM foam rate. MTP 4240#, ISIP 4110# & TF 260 bbls. Well screened out.

Perforate Top Shale 50H/4098-4114. <sup>UD</sup> Fracture.

Perforate Gordon Sand 30H/3684-3694. <sup>SoF</sup> 75 Quality foam frac using 43,000# 20/40 sand, 316,000 SCF N<sub>2</sub> @ 10,200 SCF/min. BD @ 1100#, ATP 1250# @ 27 bpm foam rate, MTP 1430#, ISIP 1050#, 15 min 961# & TF 207 bbls.

Perforate Lower Weir 20H/3171-3181. <sup>SoF</sup> 75 Quality foam frac using 60,000# 20/40 sand, 392,000 SCF N<sub>2</sub> @ 10,200 SCF/min. BD @ 1120#, ATP 700# @ 25 BPM foam rate, MTP 1140#, ISIP 320#, 15 min 230# & TF 336 bbls.

Perforate Ravenscliff 50H/1460-1490. 75 Quality foam frac the Ravenscliff Sand after BD @ 1090# & ISIP 1900# foam frac using 51,000# 20/40 sand & 469,000 SCF N<sub>2</sub> @ 13,200 SCF/min ATP 2450# @ 30 BPM foam rate, MTP 2570#, ISIP 1700# & TF 270 bbls.