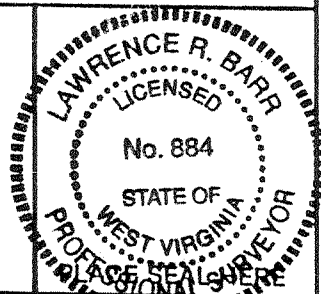


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1:2500
 PROVEN SOURCE OF ELEVATION ROAD INTERSECTION AT SPANGLER - EL. 1076

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) *Lawrence R. Barr*
 R.P.E. _____ L.L.S. 884



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION

DATE MAY 5, 1992
 OPERATOR'S WELL NO. AL-N03
 API WELL NO. _____

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

LOCATION: ELEVATION 1186.2 WATERSHED MIDDLE FORK
 DISTRICT ELK 4 COUNTY KANAWHA
 QUADRANGLE MAMMOTH 7.5 MIN. Cloud SE

SURFACE OWNER APPALACHIAN LAND COMPANY ACREAGE P/O 18,981 AC ±
 OIL & GAS ROYALTY OWNER APPALACHIAN LAND CO LEASE ACREAGE 2066.17 AC
 LEASE NO. _____

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 ORISKANY SAND ESTIMATED DEPTH _____
 WELL OPERATOR HARDEE PETROLEUM DESIGNATED AGENT WALTER DIDDLE
 ADDRESS 107 DUTCH LANE, BECKLEY, WV 25801 ADDRESS 107 DUTCH LANE, BECKLEY, WV 25801

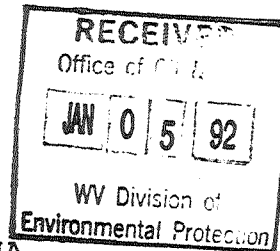
362

DEEP WELL 3-3 Pond Fork (375) DPD-Oriskany

COUNTY NAME PERMIT

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work



Farm name: APPALACHIAN LAND CO Operator Well No.: 3

LOCATION: Elevation: 1186.00 Quadrangle: MAMMOTH

District: ELK County: KANAWHA
Latitude: 4850 Feet South of 38 Deg. 20Min. 0 Sec.
Longitude 2200 Feet West of 81 Deg. 17 Min. 30 Sec.

Company: HARDEE PETROLEUM CO., A G
107 DUTCH LANE
BECKLEY, WV 25801-0000

Agent: WALTER L. DIDDLE

Inspector: CARLOS W. HIVELY
Permit Issued: 06/10/92
Well work Commenced: 8-8-92
Well work Completed: 8-20-92

Verbal Plugging
Permission granted on:

Rotary x Cable Rig
Total Depth (feet) 6031 KB
Fresh water depths (ft) 24

Salt water depths (ft) 1150

Is coal being mined in area (Y/N)? x
Coal Depths (ft): 212-215

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
	See page 2		

OPEN FLOW DATA

Producing formation Maxton Pay zone depth (ft) 1797
Gas: Initial open flow 60 MCF/d Oil: Initial open flow NA Bbl/d
Final open flow NA MCF/d Final open flow NA Bbl/d
Time of open flow between initial and final tests NA Hours
Static rock Pressure 509 psig (surface pressure) after 48 Hours

Second producing formation Keener Pay zone depth (ft) 2076
Gas: Initial open flow 189 MCF/d Oil: Initial open flow NA Bbl/d
Final open flow NA MCF/d Final open flow NA Bbl/d
Time of open flow between initial and final tests NA Hours
Static rock Pressure 509 psig (surface pressure) after 48 Hours

Third producing formation see back of this form

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: HARDEE PETROLEUM CO., A GENERAL PTSHP.

Reviewed TMG
Recorded CH

By: W.L. Diddle Gen Mgr.
Date: 12-29-92

039 4861, Pg. 2

Page 3
Hardee Petroleum Co.
Appalachian Land Co. #3

Perforation & Treatment

Maxton: Perf: 1785-1796 20 shots
Foam Frac
500 gal - 15% FE acid
178 Bbls H₂O, 560,790 scf-N₂
50,300 #20/40 sd
Breakdown - 3457 psig, ave - 2862 psig
Ave rate 9.38

Keener Perf. 2069-2074 20 shots
Foam acid
4500 gal - FE - 15% - 225,890 scf N₂
Breakdown - 3519 psig, ave. 2707 psig
Ave rate 7.96

Weir Perf. 2219-24, 2238-40, 2251-52, 2261-63, - 4 shots/ft
Foam Frac
500 gal. - 15% FE Acid
246 Bbls H₂O, 738,270 scf N₂
77,000 # -20/40 sand
Breakdown - 3582 psig - ave - 3428 psig

over →

MAR 8 - 1933

Page 4
Hardee Petroleum Co.
Appalachian Land Co. #3

Perforation & Treatment (Cont)

Devonian Shale
4750-60 - 21 813
4565-70 - 6 33 shots 813
4306-11 - 6 813
Foam frac
750 gal 15% HCl
204 Bbls H₂O, 752,480 scf-N₂
70,500 #20/40 sand
Breakdown - 2504 psig, ave - 2790 psig

Devonian Shale
Perf: 44 shots - ⁸³⁰ 5160 to ⁸³⁰ 5588
Foam frac
750 gal 15% HCl
183 Bbls H₂O, 810,000 Scf-N₂
62,100 #20/40 sand
Breakdown - 3043 psig, ave - 3350 psig

Oriskany
and
Huntersville
Perf: 5932-5778 - 38 shots
(26 sh - Huntersville, 12 sh - Oriskany)
20 Perf balls
FE Acid - 4000 gal
HCl - 2000 gal
Breakdown - 715 psig, ave 725 psig

Re-frac Oriskany
4½ rtts packer set @ 5851' set on
5847' of 2.375' - 4.7# upset tubing
1000 gal HCl
2000 gal FE acid
zones communicated
No frac

6031

5778

(253) expl. ftg.

TD 6031

DF - Oriskany (475)

DFT - Oriskany (475)

039-4861 received 6/10/92
 Expires 6/10/94
 Page ___ of ___

FORM WW-2B

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

- 1) Well Operator: Hardee Petroleum Company 21000 (4) 455
- 2) Operator's Well Number: Appalachian Land Co. No. 3 3) Elevation: 1186
- 4) Well type: (a) Oil / or Gas /
 (b) If Gas: Production / Underground Storage /
 Deep / Shallow /
- 5) Proposed Target Formation(s): Oriskany Sand
- 6) Proposed Total Depth: 5750 feet
- 7) Approximate fresh water strata depths: 150
- 8) Approximate salt water depths: 1300
- 9) Approximate coal seam depths: 200' - 300'

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

11) Proposed Well Work: *Drill & Stimulate New Well*

RECEIVED
 Office of Oil & Gas
 Permitting
 JUN 15 1992
 WV Division of
 Environmental Protection

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVAL	CEMENT
	Size	Grade	Weight per ft.		
Conductor					
Fresh Water					
Coal	11-3/4	new	32	400 <i>cts.</i>	226
Intermediate	8-5/8	J-55	24	2700	300
Production	4-1/2	N-80	11.60	5750	220
Tubing					
Liners					

13408

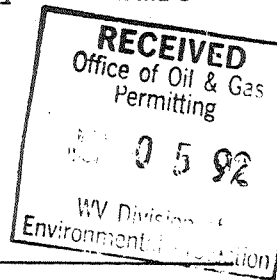
PACKERS : Kind _____
 Sizes _____
 Depths set _____

112
 23
 For Division of Oil and Gas Use Only
 Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond *Blanket sure* Agent
 (Type)

- 1) Date: 5-27-92
- 2) Operator's well number
Appalachian Land Co. No. 3
- 3) API Well No: 47 - 039 - 4861
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 Appalachian Land Co.
Address 512 Third Avenue
Montgomery, W.Va. 25136
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 5) (a) Coal Operator:
 - Name _____
Address _____
 - (b) Coal Owner(s) with Declaration
Name Appalachian Land Co.
Address 512 Third Avenue
Montgomery, W. Va. 25136
 - Name _____
Address _____
 - (c) Coal Lessee with Declaration
Name _____
Address _____
- 6) Inspector Carlos Hively
Address 223 Pinch Ridge Road
Elkview, W. Va. 25071
Telephone (304)- 965-6069

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

_____ 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)
- _____ 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 Hardee Petroleum Co.
 By: [Signature]
 Its: General Manager
 Address 107 Dutch Land
Beckley, W. Va. 25801
 Telephone 255-0917

Subscribed and sworn before me this 28th day of May, 1992

My commission expires March 28, 1995 Notary Public

[Signature]
 Notary Public