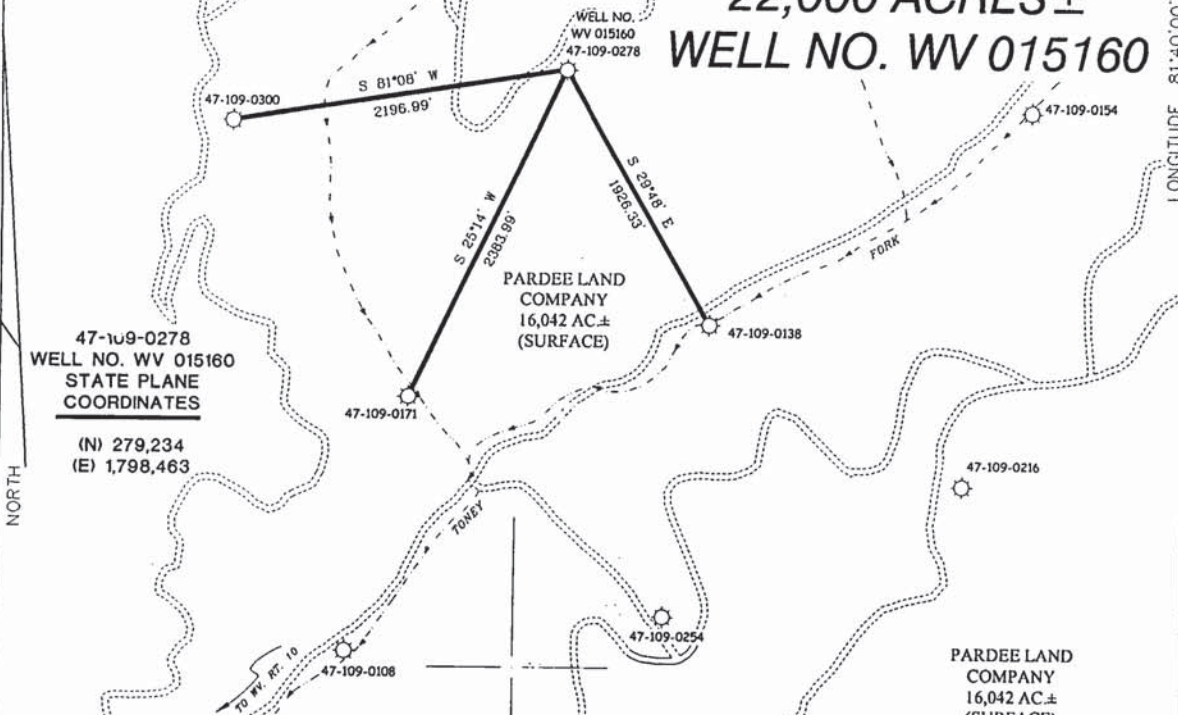


PARDEE LAND CO. LEASE

22,000 ACRES ± WELL NO. WV 015160



47-109-0278
WELL NO. WV 015160
STATE PLANE
COORDINATES

(N) 279,234
(E) 1,798,463

NORTH

LONGITUDE 81°40'00"

9.750

LAT. 37°45'53.2"

PARDEE LAND
COMPANY
16,042 AC ±
(SURFACE)

NOTES ON SURVEY

1. TIES TO WELLS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. LEASE BOUNDARY DOES NOT FALL WITHIN THE SCOPE OF THIS PLAT.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WYOMING COUNTY IN JANUARY, 1999.
4. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).
5. WELL WAS PREVIOUSLY KNOWN AS PARDEE LAND NO. 15.

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 DIVISION OF ENVIRONMENTAL PROTECTION

P.S.
677

Gregory A. Smith



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

DATE JUNE 26, 20 02

OPERATORS WELL NO. WV 015160

API WELL NO. 47 - 109 - 0278D
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 3906P015160 (84-59) &
PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEVATION = 1,423' SCALE 1" = 1000' (125-10)

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



WELL TYPE : OIL ___ GAS X LIQUID WASTE IF INJECTION ___ DISPOSAL ___ "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION : ELEVATION 2,242' WATERSHED TONNEY FORK
DISTRICT OCEANA COUNTY WYOMING QUADRANGLE LORADO 7.5'

SURFACE OWNER PARDEE LAND COMPANY ACREAGE 16.042
ROYALTY OWNER PARDEE LAND COMPANY LEASE ACREAGE 22,000
PROPOSED WORK : LEASE NO. 4107

DRILL ___ CONVERT ___ DRILL DEEPER X REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION DEVONIAN SHALE
ESTIMATED DEPTH 6,690'

WELL OPERATOR EQUITABLE PRODUCTION COMPANY DESIGNATED AGENT STEPHEN G. PERDUE
ADDRESS P.O. BOX 2347, CHARLESTON, WV 25328 ADDRESS P.O. BOX 2347, CHARLESTON, WV 25328

COUNTY NAME

PERMIT



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

AP

Well Operator's Report of Well Work

Farm Name: **Pardee Land Company** Operator Well No.: **15160 Pardee 15 DD**

LOCATION: Elevation: **2,242.00** Quadrangle: **Lorado**

District: **Oceana** County: **Wyoming**

Latitude: **9750** Feet South of **37** Deg. **47** **30** Seconds
Longitude: **8780** Feet West of **81** Deg. **40** **0**

Company: **Equitable Production Company**
1710 Pennsylvania Avenue
Charleston, WV 25302

Agent: **Stephen G. Perdue**

Inspector: **Ronald Scott**

Permit Issued: **1/29/2003**

Well work commenced: **03/24/03**

Well work completed: **04/09/03**

Verbal Plugging

Permission granted on: _____

Rotary Rig Cable Rig _____

Total Depth **6555** feet

Fresh water depths (ft) _____

Salt water depths (ft) **None noted**

Is coal being mined in area? _____

Coal Depths (ft): **None noted**

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8-5/8"		2723'	Ran in 1950 Squeeze in 2003 w/ 255 sx
4 1/2"	6463'	6463'	472 Ft ³
2 3/8"		6363'	

RECEIVED
Office of Oil & Gas
Permitting
AUG 04 2003
WV Department of
Environmental Protection

OPEN FLOW DATA

Producing formation **Rhinestreet Shale, Upper Shale/ Gordon, Berea & Big Lime**

Pay Zone Depth (ft): _____

Gas: Initial open flow **252** MCF/d

Oil: Initial open flow _____ Bbl/d

Final open flow: **428** MCF/d

Final open flow: _____

Time of open flow between initial and final tests _____ Hours

Static rock pressure **106** psig (surface pressure) after _____ 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: _____

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.

Amy A. Fizer
For: Equitable Production Company

By: *Amy A. Fizer*
Date: **7/31/03**

**EQUITABLE PRODUCTION COMPANY
WR-35 COMPLETION REPORT - Attachment
Well Treatment Summary**

Well: WV-015160-Pardee Land Company

API# 47-109-00278
Pardee 15 DD

Date	04/03/03	04/03/03	04/03/03	04/03/03		
Type Frac Acid, N ₂ , Foam, Water	N ²	N ²	Foam	N ² / Acid		
Zone Treated	Rhinestreet Shale	Upper Shale/ Gordon	Berea	Big Lime		
# Perfs From - To:	49 5465' - 6428'	40 4395' - 5340'	30 4197' - 4232'	20 3444' - 3646'		
BD Pressure @ psi	3230	2780	240	2460		
ATP psi	2994	2294	2050	3225		
Avg. Rate, B=B/M, S= SCF/M	54159 S	51524 S	32 B	24 B		
Max. Treat Press psi	3260	2780	2260	3470		
ISIP psi	2250	1570	1140	1400		
Frac Gradient	.49	.40	.43	.82		
10 min S-I Pressure	N/A	N/A	N/A	N/A		
Material Volume						
Sand-sks	0	0	444	0		
Water-bbl	28	0	200	55		
SCF N ₂	774	700	434	129		
Acid-gal	672 gal 7.5%	700 gal 7.5%	500 gal 15%	3000gal 15%		
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
		COAL	
		UPPER	Previously reported
2888	2974	MAXTON:	Water previously reported
		MIDDLE	
3064	3094	MAXTON:	
		LOWER	
3206	3258	MAXTON:	
			GT @ 3300' = 252 mcf. GT @ 3400' = 297 mcf.
3280	3343	LITTLE LIME:	
3354	3714	BIG LIME:	
3748	3850	UPPER WEIR:	
3929	3962	LOWER WEIR:	
4178	4197	SUNBURY:	
4197	4234	BEREA:	
4510	4524	GORDON:	GT @ 4250' = 281 mcf.
5258	5814	LOWER HURON:	GT @ 5470' = 214 mcf.
		LOWER HURON	
5279	5346	SILTSTONE:	
5814	5964	JAVA:	
5964	6222	ANGOLA:	
6222		RHINESTREET:	
	6555	TD:	GT @ TD = 325 mcf.

RECEIVED Office of Oil & Gas Permitting AUG 04 2003 WV Department of Environmental Protection
--



Office of Oil and Gas
1356 Hansford Street
Charleston, WV 25301
Phone: (304) 558-6075
Fax: (304) 558-6047

West Virginia Department of Environmental Protection

Bob Wise,
Governor

January 29, 2003

Stephanie R. Timmermeyer,
Acting Cabinet Secretary

WELL WORK PERMIT **Drilling Deeper**

This permit, API Well Number: 47-10900278, issued to EQUITABLE PRODUCTION COMPANY, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-654-3312 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable.

Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

This permit will expire in two (2) years from the issue date.

If there are any questions, please feel free to contact me or Mr. Al Blankenship at 304-558-6342.

JAMES MARTIN
Chief,
Office of Oil and Gas

Operator's Well No: 015160

Farm Name: PARDEE LAND CO.

API Well Number: 47-10900278

Permit Type: Drilling Deeper

Date Issued: 01/29/2003

29

Form: WW - 2B

109-00278D

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator EQUITABLE PRODUCTION COMPANY

	109	6	445
Operator ID	County	District	Quadrangle

2) Operator's Well Number: Pardee 015160 3) Elevation: 2242'

4) Well Type: (a) Oil _____ or Gas X
(b) If Gas: Production X / Underground Storage _____
Deep _____ / Shallow X

5) Proposed Target Formation(s): Big Lime, Berea, Devonian Shale in existing well

6) Proposed Total Depth: 6530 Feet

7) Approximate fresh water strata depths: 444'

8) Approximate salt water depths: 1150'

9) Approximate coal seam depths: 150', 606', 1115', 1340', 2168'

10) Does land contain coal seams tributary to active mine? NO

11) Describe proposed well work Drill existing well deeper, complete and commingle production
Squeeze and cement 8 5/8" in place

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	13 3/8"			12'	12'	N/A
Fresh Water	10 3/4"			1051'	1051'	
Coal						
Intermediate	8 5/8"			2723'	2723'	36'
Production	4 1/2"	J-55	10.5	6530'	6530'	412
Tubing	2 3/8"	J-55	4.6	May not be run, if run will be set 100' less than TD		
Liners						

Bring cement to surface RDS 01-15-03

Packers: Kind _____
Sizes _____
Depths Set _____