

KANAWHA VALLEY BANK LEASE

5,626 ACRES ± WELL NO. WV 508285

PATRICIA A. FORD ET AL

PENN VIRGINIA OPERATING COMPANY, LLC
47-039-3637

PATRICIA A. FORD ET AL
1,637.149 AC ± (SURFACE)
KANAWHA VALLEY BANK LEASE
5,626 AC ±

WELL NO. WV 508285
STATE PLANE COORDINATES

(N) 354,801
(E) 1,869,762

WELL NO. WV 508285

T-RAIL (FOUND)

WELL NO. WV 508285

47-081-0342

70 ACRES TCT.

KANAWHA COUNTY
RALEIGH COUNTY

47-081-626

PENN VIRGINIA OPERATING COMPANY, LLC (SURFACE)
CARBON FUEL/BEDFORD LAND LEASE
8,406 AC ±

LEASE DESCRIPTION CALLS FOR RUNNING WITH CLEAR FORK

IRON ROD IN CONCRETE (FOUND)

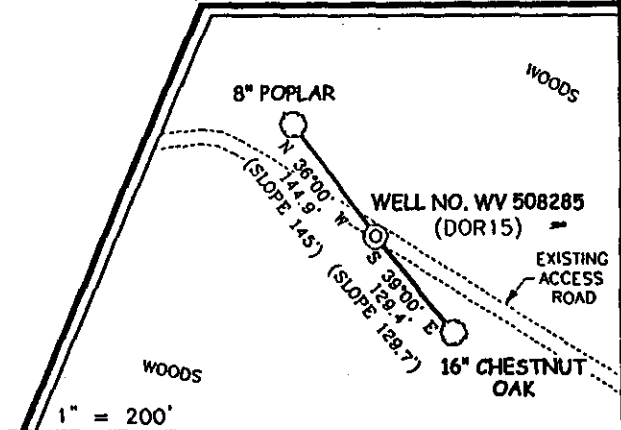
47-081-0645

NOTES ON SURVEY

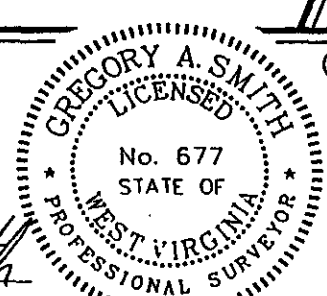
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 2-18-02.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A LEASE BOOK 140 AT PAGE 465 ALONG WITH MAPS AND INFORMATION PROVIDED BY GARY PERSINGER OF PENN VIRGINIA OPERATING CO., LLC.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF KANAWHA COUNTY IN DECEMBER 2001.
5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).



REFERENCES



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 FEBRUARY 28, 20 02

OPERATORS WELL NO. WV 508285

API WELL NO. 47-81-01265

STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4677P508285(121-04)
 PROVEN SOURCE OF ELEVATION ELK RUN COAL CO. CONTROL PT. LE1 ELEV. = 1,403.70'
 SCALE 1" = 2000'

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



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

LOCATION : ELEVATION 1,965' WATERSHED LAUREL BRANCH OF CLEAR FORK
 DISTRICT CLEAR FORK COUNTY RALEIGH QUADRANGLE DOROTHY 7.5'

SURFACE OWNER PATRICIA A. FORD ET AL ACREAGE 1,637.149

ROYALTY OWNER PATRICIA A. FORD ET AL LEASE ACREAGE 5,626

PROPOSED WORK : LEASE NO. 010306

DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE 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 6,680' ~~5,640'~~

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 RAL PERMIT 1265

6-6 Burnwell (262) APR 5 2002

117

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

Well Operator's Report of Well Work

Farm Name: Ford, Patricia A. etal

Operator Well No.: 508285

LOCATION: Elevation: 1965'

Quadrangle: Dorothy

District: Clear Fork

County: Raleigh

Latitude: 9800 Feet South of
Longitude: 10100 Feet West of

38 Deg.
81 Deg.

Minutes Seconds
0 0
25 0

Company: Equitable Production Company
P.O. Box 2347, 1710 Pennsylvania Avenue
Charleston, WV 25328

Agent: Stephen G. Perdue

Inspector: Offie Helmick

Permit issued: 4/1/2002

Well work commenced: 06/02/03

Well work completed: 06/28/03

Verbal Plugging

Permission granted on:

Rotary Rig Cable Rig

Total Depth 5640 feet

Fresh water depths (ft) 50', 902'

Salt water depths (ft) 1810'

Is coal being mined in area?

Coal Depths (ft): 230'-234'; 314'-317'; 475'-479'

Casing & Tubing Size	Used In Drilling	Left in Well	Cement Fill Up Cu. Ft.
13 3/8"	32'	32'	grouted
9 5/8"	1000'	1000'	451.75 ft³
7"	2430'	2430'	528.8 ft³
4 1/2"	5605.5'	5605.3'	472 ft³
2 3/8"		5517'	

Received by
Office of Oil & Gas
Office of Chief
NOV 20 2003
WV Department of
Environmental Protection
Base Attach

OPEN FLOW DATA

Producing formation Lower Shale; Upper Shale / Gordon / Berea; Upper Weir; Big Lime Pay Zone Depth (ft): for details

Gas: Initial open flow 42 MCF/d Oil: Initial open flow Bbl/d
 Final open flow: 941 MCF/d Final open flow:
 Time of open flow between initial and final tests Hours
 Static rock pressure 586 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.

Kathy L. Sawney
For: Equitable Production Company

By: Chuk A. King
Date: 11/10/03

RA 1265

NOV 20 2003

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

Well: WV-508285-KVB

API# 081-01265

Date	06/18/03	06/18/03	06/18/03	06/18/03		
Type Frac Acid, N ₂ , Foam, Water	N ²	N ²	Variable Q Foam	Acidize w/ N ² Displacement		
Zone Treated	Lower Shale	Upper Shale Gordon Berea	Upper Weir	Big Lime		
# Perfs From - To:	50 4826' - 5580'	30 3708' - 4407'	30 3306' - 3370'	15 2972' - 2979'		
BD Pressure @ psi	3010	2600	1710	2400		
ATP psi	2836	2648	2226	3275		
Avg. Rate, B=B/M, S= SCF/M	52,450 S	52,866 S	40 B	15,166 S		
Max. Treat Press psi	3010	3240	2660	3460		
ISIP psi	1840	1520	1340			
Frac Gradient	.43	.43	.45	.97		
10 min S-l Pressure	1680	1380	1470			
Material Volume						
Sand-sks			490			
Water-bbl			107			
SCF N ₂	805,564	812,796	592,445	115,096		
Acid-gal	750 gal 7 ½%	750 gal 7 ½%	2000 gal 15%	2520 gal 15%		
NOTES:				Stage circ		

TOP	BOTTOM	FORMATION	REMARKS
		Coal	230'-234'; 314'-317'; 475'-479' Water @ 50'; 902', 1810
		LOWER	GT @ 2593', 2750', 2845', 3031' & 3156' = NS
2738'	2747'	MAXTON:	
2795'	2884'	LITTLE LIME:	
2896'	3197'	BIG LIME:	
3224'	3253'	BIG INJUN:	GT @ 3311', 3627', 3753', 3972' & 4222' = NS
3305'	3323'	UPPER WEIR:	
3332'	3378'	MIDDLE WEIR:	GT @ 4502', 4815', 5100' & 5416' = NS
3410'	3456'	LOWER WEIR:	
3686'	3704'	SUNBURY:	
3704'	3748'	BEREA:	
3919'	3936'	GORDON:	
4814'	5560'	LOWER HURON:	
5560'		JAVA:	
	5640'	TD	GT @ TD = 42 mcf/d