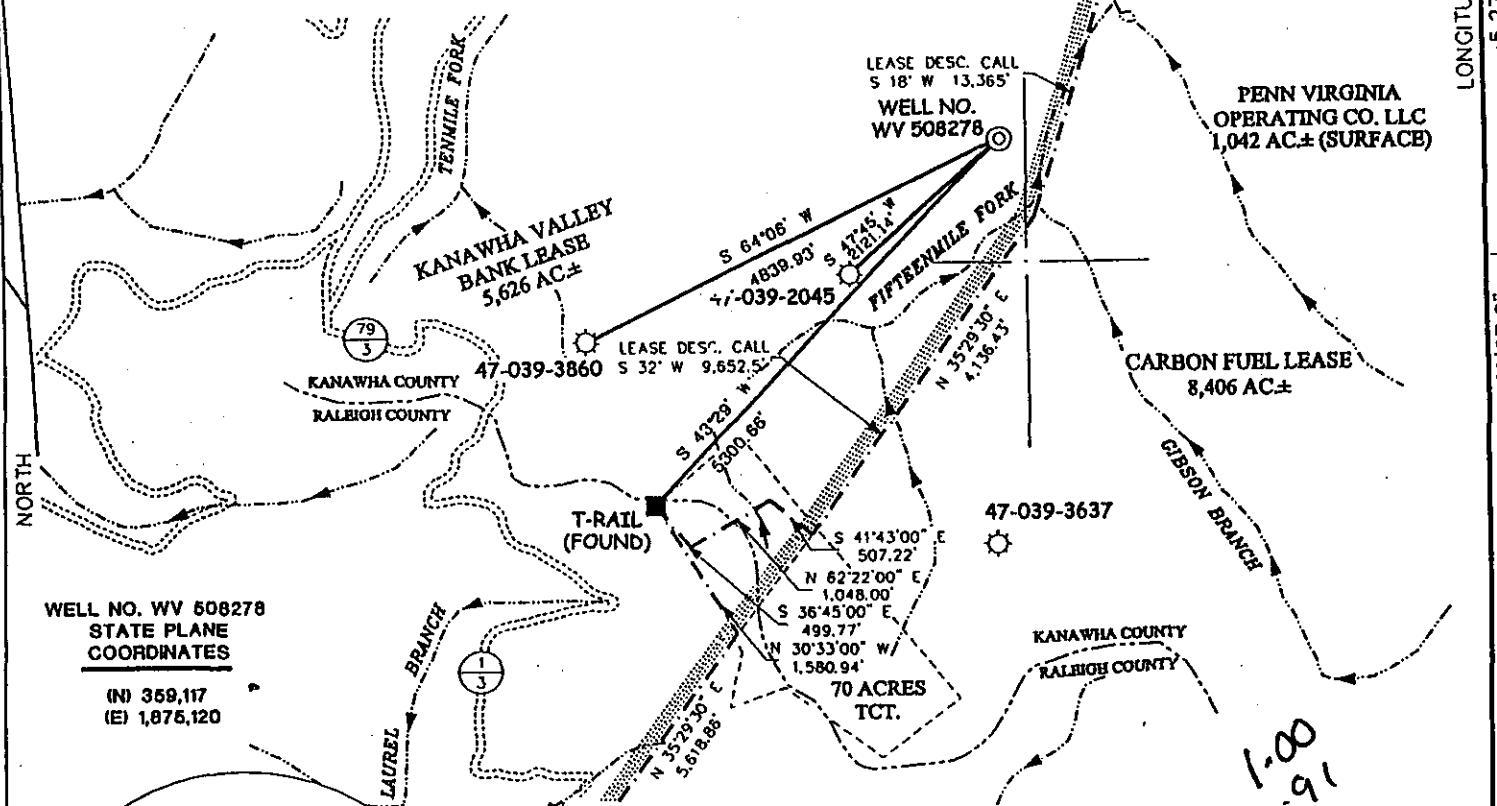


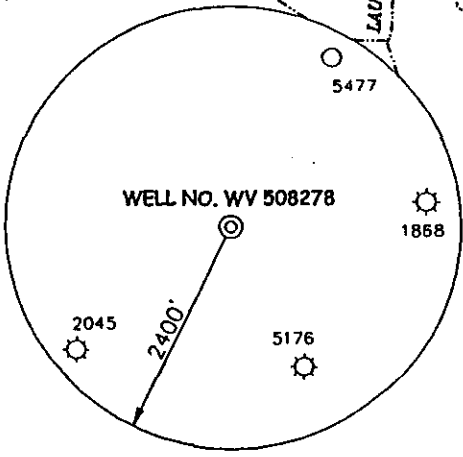
# KANAWHA VALLEY BANK LEASE

## 5,626 ACRES ± WELL NO. WV 508278

PATRICIA A. FORD  
ET AL  
2,954.59 AC ± (SURFACE)



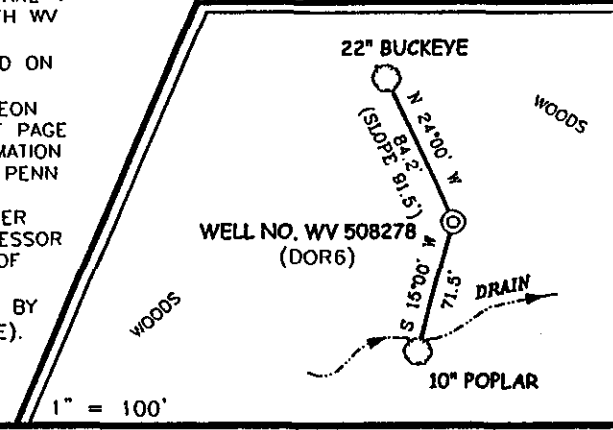
WELL NO. WV 508278  
STATE PLANE  
COORDINATES  
(N) 369,117  
(E) 1,076,120



### 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 3/25/02.
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 IN DECEMBER 2001.
5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

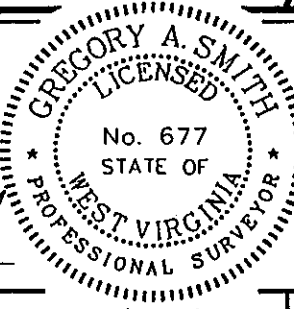
### REFERENCES



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 MARCH 28, 20 02  
 OPERATORS WELL NO. WV 508278  
 API WELL NO. 47 - 39 - 05489  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4677P508278 (121-49)  
 PROVEN SOURCE OF ELEVATION CARBON FUEL CONTROL POINT #8483 ELEVATION = 1,493.6'  
 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 1,620' WATERSHED FIFTEENMILE FORK OF CABIN CREEK  
 DISTRICT CABIN CREEK COUNTY KANAWHA QUADRANGLE DOROTHY 7.5'  
 SURFACE OWNER PATRICIA A. FORD, ET AL ACREAGE 2,954.59  
 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 6,360'

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

6-6 262

APR 25 2002

COUNTY NAME KAN PERMIT 5489

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

Reviewed AGB

Well Operator's Report of Well Work

Farm Name: Ford, Patricia A. Etal Operator Well No.: 508278

LOCATION: Elevation: 1620' Quadrangle: Dorothy  
District: Cabin Creek County: Kanawha

Latitude: 5270 Feet South of 38 Deg. 0 0  
Longitude: 4780 Feet West of 37 Deg. 59 7.6

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

Agent: Stephen G. Perdue

Inspector: Carlos Hively

Permit issued: 04/22/02

Well work commenced: 04/30/02

Well work completed: 05/17/02

Verbal Plugging

Permiselon granted on: \_\_\_\_\_

Rotary Rig  Cable Rig \_\_\_\_\_

Total Depth 5360 feet

Fresh water depths (ft) 40'

Salt water depths (ft) 1680'

Is coal being mined in area? \_\_\_\_\_

Coal Depths (ft): 140'-144'; 330'-333'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
13 3/8"	32'	32'	grouted
9 5/8"	831'	831'	333.6 ft³
7"	2082'	2082'	391.4 ft³
4 1/2"	5360'	5360'	520.8 ft³

OPEN FLOW DATA

Producing formation Lower Devonian; Upper Devonian / Gordon / Berea; Lower Weir Pay Zone Depth (ft): See Attach for details

Upper Weir; Big Lime; Lower Maxton

Gas: Initial open flow 84 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow: 2200 MCF/d Final open flow: \_\_\_\_\_

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock pressure 700 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation Pay Zone Depth (ft): \_\_\_\_\_

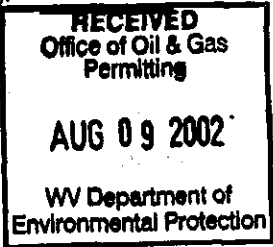
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

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. Brown  
For: Equitable Production Company

By: Paul J. Davis  
Date: 7/9/02

AUG 23 2002

KAN 5489

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

Well: WV-508278-KVB

API# 47-039-05489

Date	05/13/02	05/13/02	05/13/02	05/13/02	05/13/02	05/14/02
Type Frac Acid, N <sub>2</sub> , Foam, Water	N <sub>2</sub>	N <sub>2</sub>	85:80:75 Q Foam	85:80:75 Q Foam	Acid w/ N <sub>2</sub>	85:80:70 Q Foam
Zone Treated	Lower Devonian	Upper Devonian Gordon Berea	Lower Weir	Upper Weir	Big Lime	Lower Maxton
# Perfs From - To:	60 4453' - 5329'	40 3244' - 4223'	31 3006' - 3036'	21 2902' - 2922'	26 2466' - 2788'	20 2361' - 2388'
BD Pressure @ psi	2730	2620	1150	0	1840	2770
ATP psi	2908	2215	1943	1578	2700	3415
Avg. Rate, B=B/M, S= SCF/M	59,000 S	56,400 S	32 B (foam)	28 B (foam)	20 B (foam)	32 B (foam)
Max. Treat Press psi	3030	2410	2030	1680	2920	3650
ISIP psi	2260	1780	380	0	1620	2250
Frac Gradient	.53	.54	.56	.43	1.1	1.2
10 min S-I Pressure	1840	1320	440		2380	2290
Material Volume						
Sand-sks			497	399		407
Water-bbl	38.4		297.5	142.8		148
SCF N <sub>2</sub>	1,245,000	853,600	442,700	256,300	243,970	578,000
Acid-gal	750 gal 7 1/2%	750 gal 8.3%	500 gal 14.2%	500 gal 14.8%	3000 gal 14.8%	500 gal 14.6%
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
		Coal	140'-140'; 330'-333' Water @ 40', 1680'
1140'	1650'	SALT SAND	
1792'	1830'	RAVENCLIFF	
1870'	1905'	AVIS	GT @ 2225' = NS
		LOWER	GT @ 2412' = NS
2342'	2390'	MAXTON	
2416'	2475'	LITTLE LIME	
2507'	2808'	BIG LIME	GT @ 2503' = NS
2832'	2856'	BIG INJUN	GT @ 2719' = NS
2900'	2948'	UPPER WEIR	GT @ 2876' = NS
2990'	3045'	LOWER WEIR	GT @ 3000' = 84 mcf/d
3280'	3297'	SUNBURY	
3297'	3344'	BEREA	GT @ 3405' = 59 mcf/d
3597'	3613'	GORDON	
4476'	5264'	LOWER HURON	
5264'		JAVA	
	5360'	TD	

