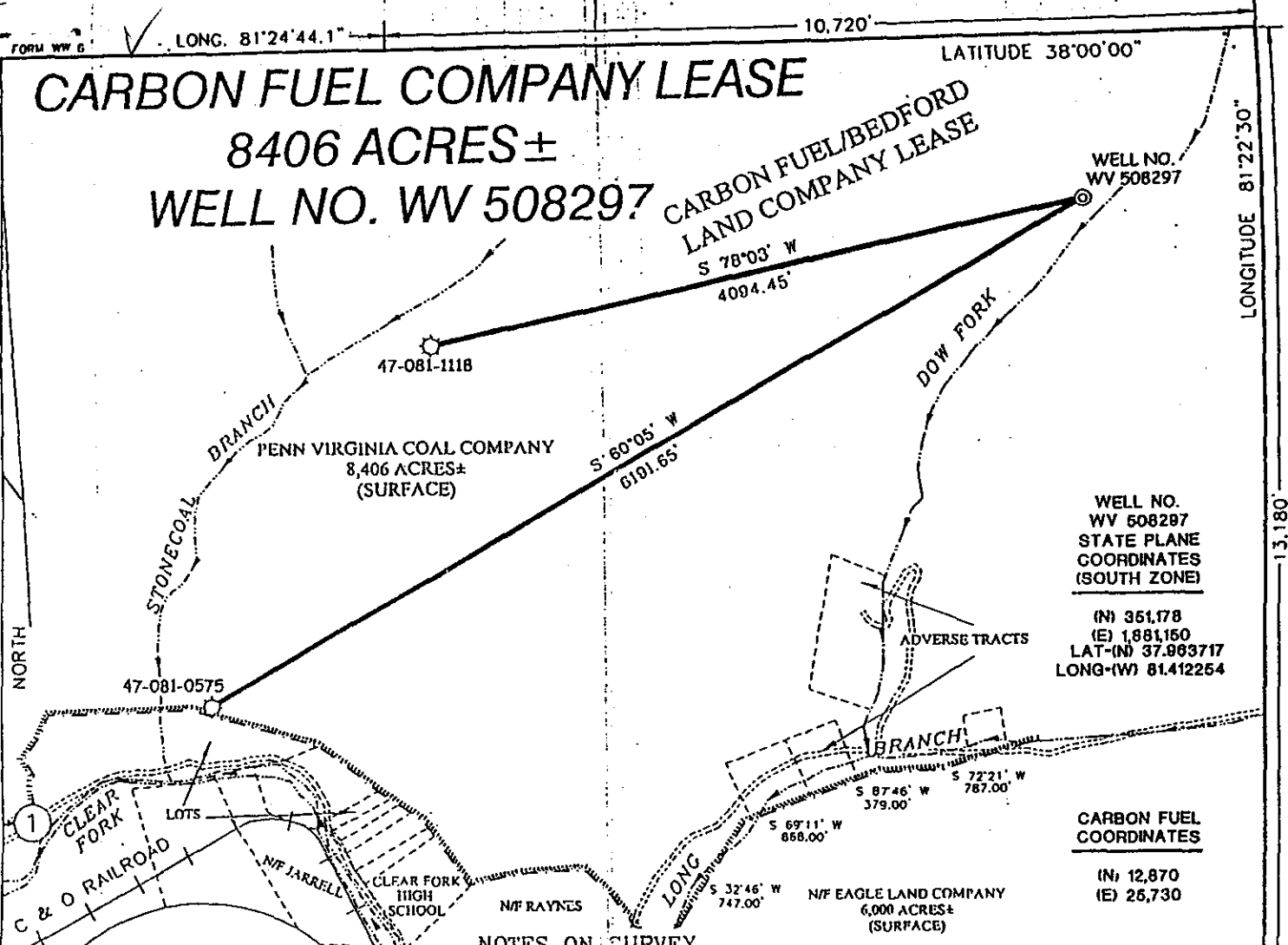


CARBON FUEL COMPANY LEASE

8406 ACRES ± WELL NO. WV 508297

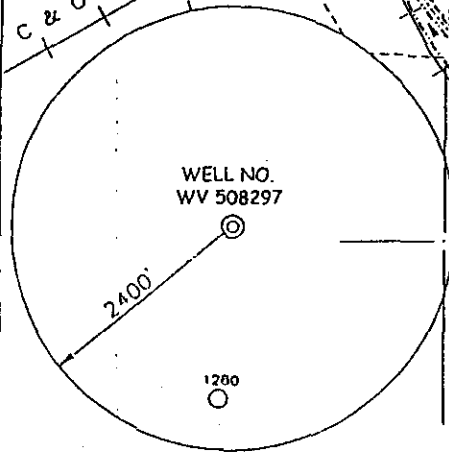
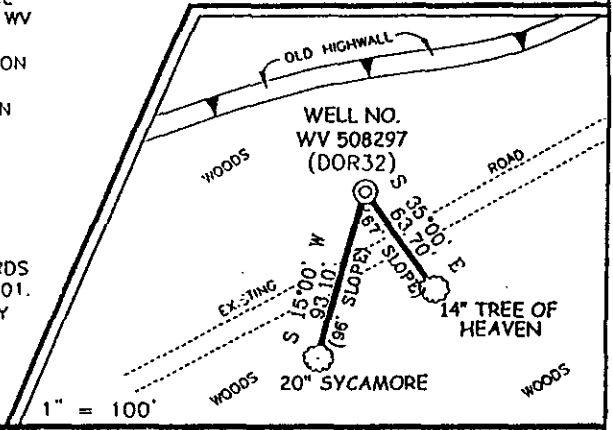
CARBON FUEL/BEDFORD LAND COMPANY LEASE



NOTES ON SURVEY

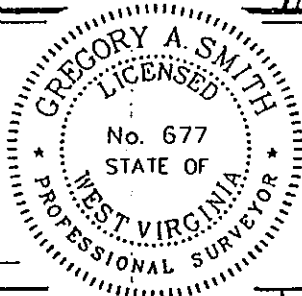
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 5/11/02.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A PLAT SUPPLIED BY CARBON FUEL COMPANY ENTITLED, "PROPOSED MAP, CARBON FUEL COMPANY, CARBON DIVISION".
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF RALEIGH COUNTY IN FEBRUARY, 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 AUGUST 15, 2002
 OPERATORS WELL NO. WV 508297
 API WELL NO. 47-81-01289
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 3851P508297 (127-04)
 PROVEN SOURCE OF ELEVATION CARBON FUEL CONTROL POINT #8483 - ELEVATION 1493.6'
 SCALE 1" = 1000'

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 1572' WATERSHED DOW FORK OF LONG BRANCH
 DISTRICT CLEAR FORK COUNTY RALEIGH QUADRANGLE DOROTHY 7.5'

SURFACE OWNER PENN VIRGINIA OPERATING COMPANY LLC ACREAGE 8,406±
 ROYALTY OWNER PENN VIRGINIA OIL & GAS COMPANY LEASE ACREAGE 8,406±
 PROPOSED WORK: LEASE NO. 009965
 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 6300

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 Burnwell (262)

COUNTY NAME RALEIGH
PERMIT 1289

AD

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

Well Operator's Report of Well Work

Farm Name: Penn Virginia Operating Operator Well No.: 508297

LOCATION: Elevation: 1572' Quadrangle: Dorothy

District: Clear Fork County: Raleigh

Latitude: 13180 Feet South of 38 Deg. 0 0
Longitude: 10720 Feet West of 81 Deg. 22 30

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

Agent: Stephen G. Perdue

Inspector: Carlos Hively

Permit Issued: 9/30/2002

Well work commenced: 11/21/03

Well work completed: 01/13/03

Verbal Plugging

Permission granted on:

Rotary Rig X Cable Rig _____

Total Depth 3410 feet

Fresh water depths (ft) _____

Salt water depths (ft) 1023', 1795'

Is coal being mined in area? _____

Coal Depths (ft): none reported

Casing & Tubing Size	Used In Drilling	Left In Well	Cement Fill Up Cu. Ft.
13 3/8"	32'	32'	grouted
9 5/8"	567'	567'	264.1 ft ³
7"	1823'	1823'	357.05 ft ³
4 1/2"	3372'	3372'	274.05 ft ³
2 3/8"		3279'	

OPEN FLOW DATA

Producing formation Gordon / Berea; Weir; Big Lime

Pay Zone Depth (ft): _____

See Attach for details

Gas: Initial open flow 73 MCF/d Oil: Initial open flow _____ Bb/d

Final open flow: 2220 MCF/d Final open flow: _____

Time of open flow between initial and final tests _____ Hours

Static rock pressure 577 psig (surface pressure) after _____ Hours

Second producing formation _____

Pay Zone Depth (ft): _____

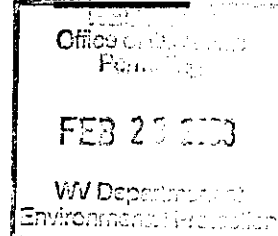
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bb/d

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. Conway
For: Equitable Production Company

By: *[Signature]*
Date: 2/7/03

RAL 1289

MAR 28 2003

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

Well: WV-508297-Carbon Fuel

API# 47-081-01289

Date	12/12/02	12/12/02	12/12/02			
Type Frac	Variable Q	Variable Q	Acid w/ N ₂			
Acid, N ₂ , Foam, Water	Foam	Foam	Displacement			
Zone Treated	Gordon Berea	Weir	Big Lime			
# Perfs	30	31	20			
From - To:	3048' - 3298'	2718' - 2748'	2328' - 2580'			
BD Pressure @ psi	1990	510	3380			
ATP psi	2155	2385	2970			
Avg. Rate, B=B/M, S= SCF/M	44 B (foam)	43 B (foam)	24 B (foam)			
Max. Treat Press psi	2440	2740	3420			
ISIP psi	50	470	1430			
Frac Gradient	.45	.6	1.02			
10 min S-I Pressure			2050			
Material Volume						
Sand-sks	717	614				
Water-bbl	267	192				
SCF N ₂	702,609	548,848	140,900			
Acid-gal	1250 gal 15%	500 gal 15%	3000 gal 15%			
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
		Coal	None reported Water @ 1023' & 1795'
		LOWER	GT @ 2095' = NS
2086'	2160'	MAXTON	
2170'	2267'	LITTLE LIME	
2272'	2582'	BIG LIME	GT @ 2319' = NS
2607'	2648'	BIG INJUN	GT @ 2599' = 42 mcf/d
2712'	2764'	UPPER WEIR	
	2834'	LOWER WEIR	GT @ 2820' = 42 mcf/d
3060'	3078'	SUNBURY	
3078'	3115'	BEREA	
3283'	3303'	GORDON	
	3410'	TD	GT @ DC = 42 mcf/d

