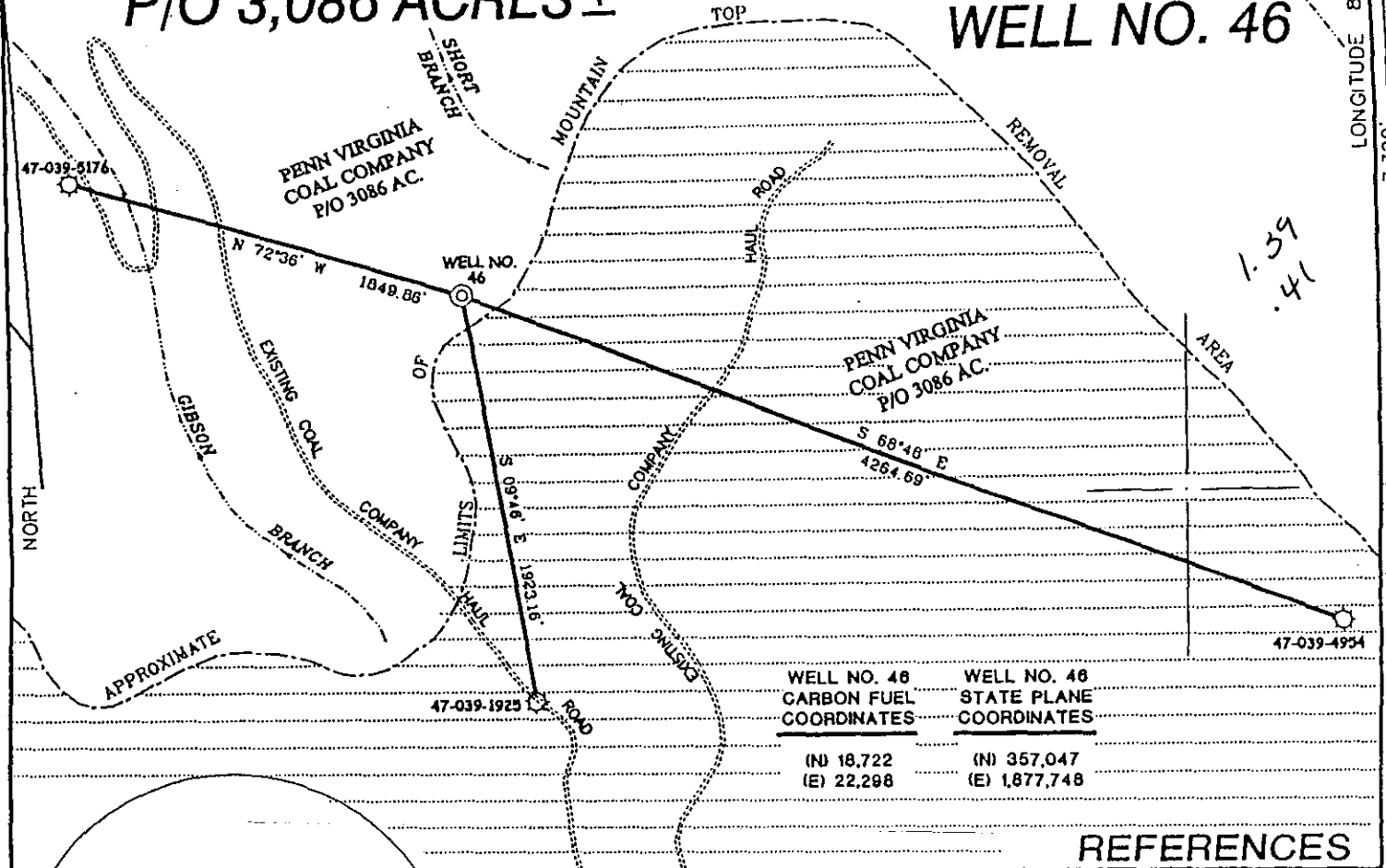


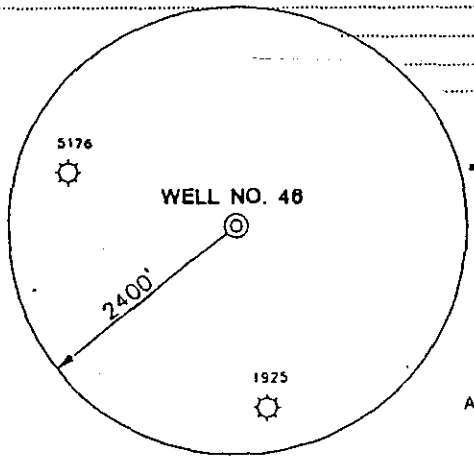
# CARBON FUEL COMPANY LEASE

## P/O 3,086 ACRES ±

## WELL NO. 46



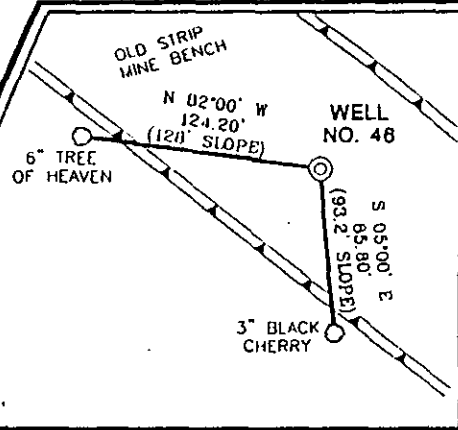
WELL NO. 46 CARBON FUEL COORDINATES	WELL NO. 46 STATE PLANE COORDINATES
(N) 18,722 (E) 22,298	(N) 357,047 (E) 1,877,748



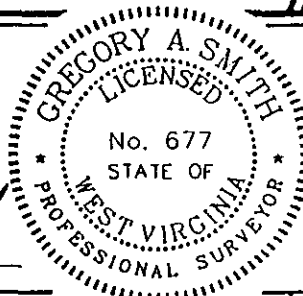
### NOTES ON SURVEY

1. TIES TO WELLS ARE BASED ON CARBON FUEL COORDINATE SYSTEM GRID NORTH.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 12/20/99.
3. LEASE BOUNDARY DOES NOT FALL WITHIN THE SCOPE OF THIS PLAT.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF KANAWHA COUNTY IN DECEMBER, 1999.
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 DEPARTMENT OF ENERGY.



P.S. 677 *Gregory A. Smith*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE DECEMBER 22, 19 99  
 OPERATORS WELL NO. CARBON FUEL 46  
 API WELL NO. 47-039-05348  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 3851P46 (77-38)  
 PROVEN SOURCE OF ELEVATION CARBON FUEL CONTROL POINT #8483 ELEV. 1493.6'  
 SCALE 1" = 800'

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 2113' WATERSHED SHORT BRANCH OF FIFTEENMILE FORK  
 DISTRICT CABIN CREEK COUNTY KANAWHA QUADRANGLE DOROTHY 7.5'

SURFACE OWNER PENN VIRGINIA COAL COMPANY ACREAGE 3086  
 ROYALTY OWNER PENN VIRGINIA COAL COMPANY LEASE ACREAGE 3086  
 PROPOSED WORK : LEASE NO. 9965

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER

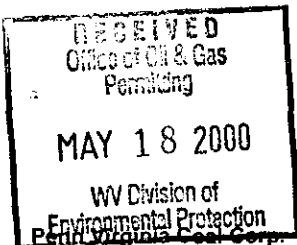
PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION DEVONIAN SHALE  
 ESTIMATED DEPTH 6000'

WELL OPERATOR EASTERN STATES OIL AND GAS, INC. DESIGNATED AGENT ROBERT ALLEY  
 ADDRESS P.O. BOX 2347 CHARLESTON, WV 25328 ADDRESS P.O. BOX 2347 CHARLESTON, WV 25328

6-6 262

MAR 10 2000

COUNTY NAME KAN PERMIT 5348



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

Reviewed \_\_\_\_\_

Well Operator's Report of Well Work

Farm Name: Perm. Virginia Oil Corp.

Operator Well No.: Carbon Fuel 46

LOCATION: Elevation: 2113'

Quadrangle: Dorothy 325

District: Cabin Creek 2

County: Kanawha

Latitude: 7320 Feet South of 38 Deg. 0  
Longitude: 2160 Feet West of 81 Deg. 25 0

Minutes 0  
Seconds 0

Company: Eastern States Oil & Gas  
P.O. Box 2347, 1710 Pennsylvania Avenue  
Charleston, WV 25328

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
13-3/8"	29'	29'	grouted
9-5/8"	886.1'	886.1'	401.2 ft³
7"	2219.75'	2219.75'	470.55 ft³
4-1/2"	5840'	5840'	496 ft³
2-3/8"		5670'	

Agent: Robert Alley

Inspector: Carlos Hively  
Permit Issued: 03/10/2000

Well work commenced: 03/31/00  
Well work completed: 04/29/00

Verbal Plugging

Permission granted on: \_\_\_\_\_

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

Total Depth 5850 feet

Fresh water depths (ft) 275'

Salt water depths (ft) 1085', 2853'

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

Coal Depths (ft): 743'-746', 773' - 776'

Open Mine @ 430'

OPEN FLOW DATA

Producing formation L. Dev., U. Dev., Gordon / Berea, L. Weir, U. Weir, Big Lime Pay Zone Depth (ft): \_\_\_\_\_ See Attach for details

Gas: Initial open flow NS MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow: 1256 MCF/d Final open flow: \_\_\_\_\_  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock pressure 588 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.

For: Eastern States Oil & Gas

By: [Signature]  
Date: 5/16/00

JUN 30 2000

KAN 5348

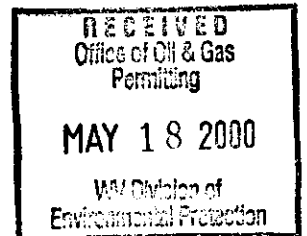
**EASTERN STATES OIL & GAS, INC.**  
**WR-35 COMPLETION REPORT - Attachment**  
**Well Treatment Summary**

Well: Carbon Fuel 46

API# 47-039-05348

Date	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00	04/21/00
Type Frac Acid, N <sub>2</sub> , Foam, Water	N <sup>2</sup>	N <sup>2</sup>	N <sup>2</sup>	75 Q Foam	75 Q Foam	Acid w/ N <sup>2</sup> Displacement
Zone Treated	Lower Devonian	Upper Devonian	Gordon / Berea	Lower Weir	Upper Weir	Big Lime
# Perfs From - To:	60 4767' - 5760'	30 4110' - 4701'	50 3558' - 3971'	21 3430' - 3450'	21 3340' - 3360'	53 2992' - 3296'
BD Pressure @ psi	2286	2295	2189	707	1889	1452
ATP psi	2806	2520	2118	1937	1728	182
Avg. Rate, B=B/M, S= SCF/M	55,300 S	50,300 S	54,100 S	20 B (foam)	20 B (foam)	10.5 B
Max. Treat Press psi	2838	2877	2189	1937	1889	1496
ISIP psi	2053	2189	1482	320	184	642
Frac Gradient	.45	.57	.45	.52	.49	.67
10 min S-I Pressure	1724	1414	1172			1151
Material Volume						
Sand-sks				481	499	
Water-bbl				255	158	
SCF N <sub>2</sub>	857,000	656,000	651,000	304,700		86,000
Acid-gal	900 gal 7 1/2%	550 gal 8.1%	450 gal 8.1%	250 gal 15.3%	250 gal 15.3%	3000 gal 15%
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
0	39	Rock	
39	743	Sand & Shale	Water @ 275'
743	746	Coal	
746	773	Sand & Shale	
773	776	Coal	Water @ 1085'
1313	2128	Salt Sand	
2770	2832	Lower Maxton	Water @ 2853' GT @ 2423', 2707' & 2834' = NS
2850	2942	Little Lime	
2942	3250	Big Lime	GT @ 3181' = NS
3265	3297	Big Injun	
3334	3386	Upper Weir	GT @ 3373' = NS
3416	3542	Lower Weir	GT @ 3692' = NS
3746	3951	Berea	
3962	3976	Gordon	
4955	5739	Lower Huron	GT @ 4511' & 4924' = NS
5739	5850	Java	
	5850	TD	GT @ TD = odor



JUN 30 2000