

# SOUTHERN LAND COMPANY LEASE

## 15,404.61 ACRES ±

LATITUDE 38°00'00"

2,440'

LONGITUDE 81°32'30"

WELL NO. WV 508778  
 STATE PLANE COORDINATES  
 (SOUTH ZONE)

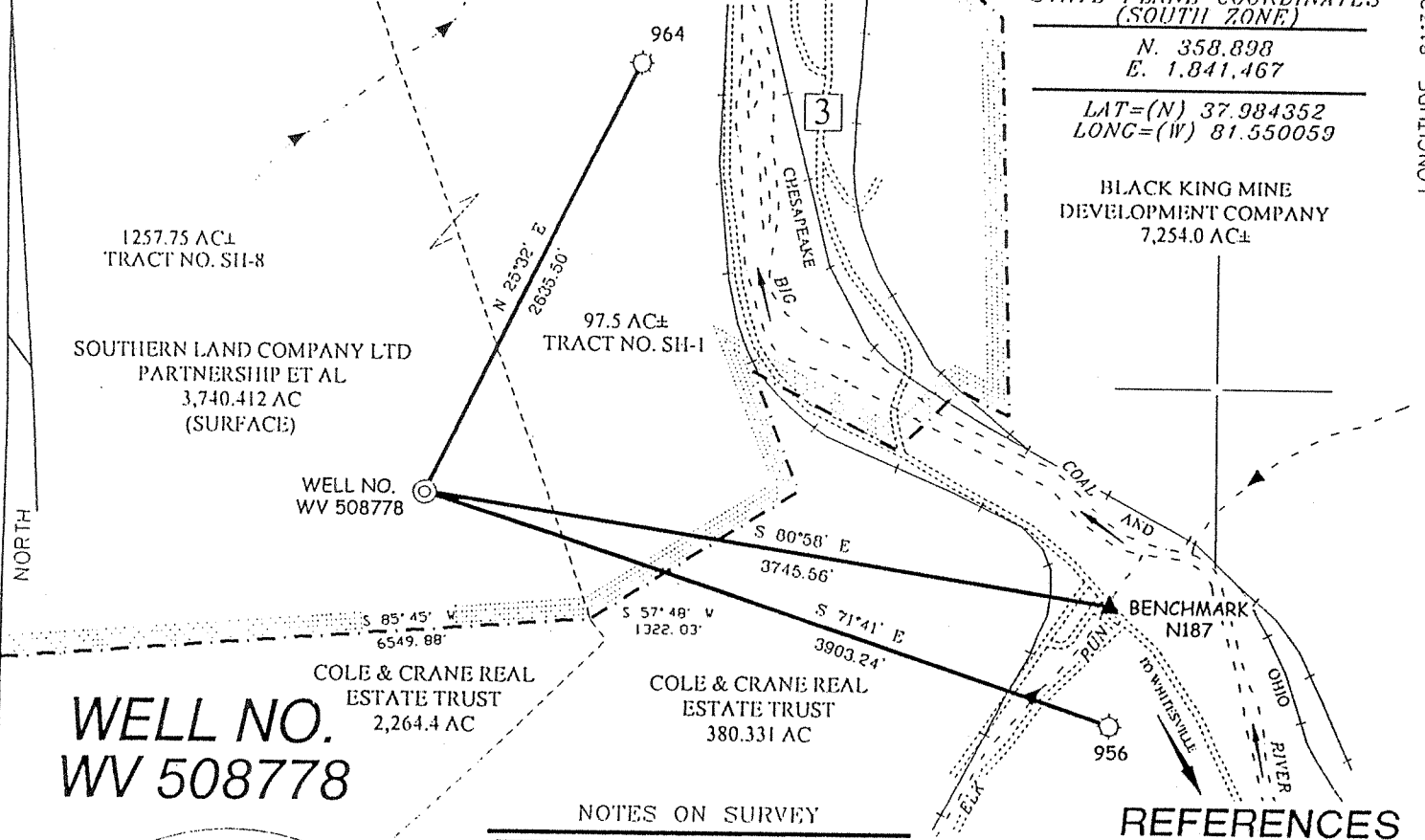
---

N. 358.898  
 E. 1,841,467

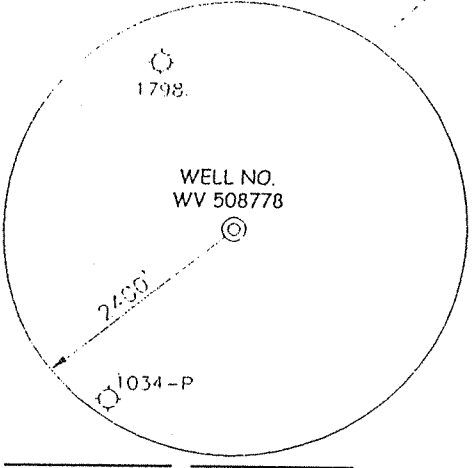
---

LAT=(N) 37.984352  
 LONG=(W) 81.550059

BLACK KING MINE  
 DEVELOPMENT COMPANY  
 7,254.0 AC ±



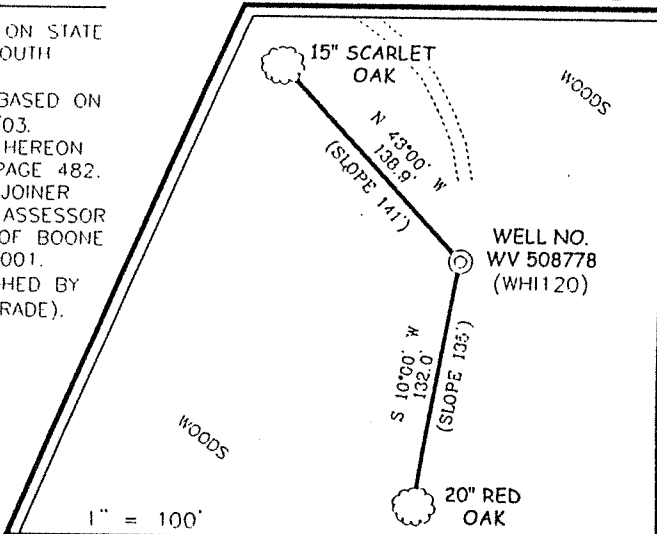
**WELL NO. WV 508778**



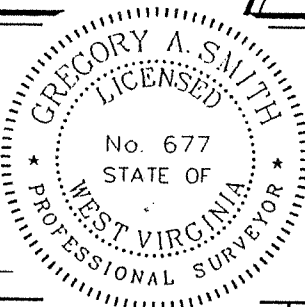
### NOTES ON SURVEY

1. TIES TO WELLS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 1/31/03.
3. TRACT BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 11 PAGE 482.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF BOONE COUNTY IN SEPTEMBER, 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 03  
 OPERATORS WELL NO. WV 508778  
 API WELL NO. 47-005-01870  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4953P508778 (139-35)  
 PROVEN SOURCE OF ELEVATION BENCHMARK ELEVATION = 819' 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 2,016' WATERSHED ELK RUN AND BIG COAL RIVER  
 DISTRICT SHERMAN COUNTY BOONE QUADRANGLE WHITESVILLE 7.5'

SURFACE OWNER THE SOUTHERN LAND CO. LTD PARTNERSHIP ET AL ACREAGE 3,740.412  
 ROYALTY OWNER THE SOUTHERN LAND CO. LTD PARTNERSHIP ET AL LEASE ACREAGE 15,404.61

PROPOSED WORK : LEASE NO. 033-666  
 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 6,650'

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 Boone  
 PERMIT 1870

(Hooker Fork - Field 297)

*12/7*

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

Well Operator's Report of Well Work

Farm Name: Southern Land Co. Operator Well No.: 508778

LOCATION: Elevation: 2016' Quadrangle: Whitesville

District: Sherman County: Boone

Latitude: 5710' Feet South of 38 Deg. 0 Minutes 0 Seconds  
Longitude: 2440 Feet West of 8 Deg. 32 Minutes 30 Seconds

RECEIVED  
Office of Oil & Gas  
DEC 17 2003  
WV Department of  
Environmental Protection

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

Agent: Stephen G. Perdue

Inspector: Rick Campbell

Permit Issued: 4/28/2003

Well work commenced: 08/02/03

Well work completed: 09/10/03

Verbal Plugging

Permission granted on:

Rotary Rig X Cable Rig

Total Depth 3800 feet

Fresh water depths (ft) 258', 564'

Salt water depths (ft) 1000', 2010'

Is coal being mined in area?

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
20"	30'	30'	grouted
13 3/8"	463.6'	463.6'	979.4 ft³
9 5/8"	1688'	1688'	750.6 ft³
7"	2600'	2600'	574.6 ft³
4 1/2"	3782.6'	3782.6'	189 ft³
2 3/8"		3656'	

Coal Depths (ft): 563'-568'; 620'-623'; 654'-658'; 893'-896'; 932'-935'; 997'-1003'; 1357'-1360'; 1391'-1395'; 1398'-1404'; 1473'-1476'  
Open Mine 390'-395'

OPEN FLOW DATA

Producing formation Lower Weir; Upper Weir; Big Lime Pay Zone Depth (ft): See Attach for details

Gas: Initial open flow 59 MCF/d Oil: Initial open flow            Bbl/d  
 Final open flow: 888 MCF/d Final open flow:           

Time of open flow between initial and final tests            Hours

Static rock pressure 543 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. Conway*  
For: Equitable Production Company

By: *Robert A. Davis*  
Date: 12/12/03

*800 1870*

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

Well: WV-508778 Southern Land

API# 47-005-01870

Date	08/25/03	08/25/03	08/25/03			
Type Frac Acid, N <sub>2</sub> , Foam, Water	30# Gelled Water	30 # Gelled Water	Acid w/ N <sup>2</sup> Displacement			
Zone Treated	Lower Weir	Upper Weir	Big Lime			
# Perfs	15	15	20			
From - To:	3568' - 3638'	3457' - 3487'	3153' - 3344'			
BD Pressure @ psi	509	3387	1706			
ATP psi	430	735	2804			
Avg. Rate, B=B/M, S= SCF/M	10 B	10 B	16 B			
Max. Treat Press psi	538	849	3309			
ISIP psi	NA	NA	2085			
Frac Gradient	.45	.49	.76			
10 min S-I Pressure	NA	NA	1770 (5 min)			
Material Volume						
Sand-sks	250	248				
Water-bbl	345	340				
SCF N <sub>2</sub>			201,928			
Acid-gal	320 gal 15%	500 gal 15%	2000 gal 15%			
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
		Coal	563'-568'; 620'-623'; 654'-658'; 893'-896'; 932'- 935'; 997'-1003'; 1357'-1360'; 1391'- 1395'; 1398' - 1404'; 1473'-1476' Water @ 258', 567', 1000', 2010' Open mine 390' - 395' GT @ 3059' = NS
		LOWER	
2937'	2964'	MAXTON:	
2990'	3043'	LITTLE LIME:	GT @ 3121' = NS
3076'	3366'	BIG LIME:	GT @ 3216' = odor
3436'	3496'	UPPER WEIR:	GT @ 3308' = odor
3544'	3644'	LOWER WEIR:	GT @ 3528' = odor, GT @ 3746' = odor
	3800'	TD:	GT @ DC 59 mcf/d