

ISLAND CREEK COAL COMPANY LEASE

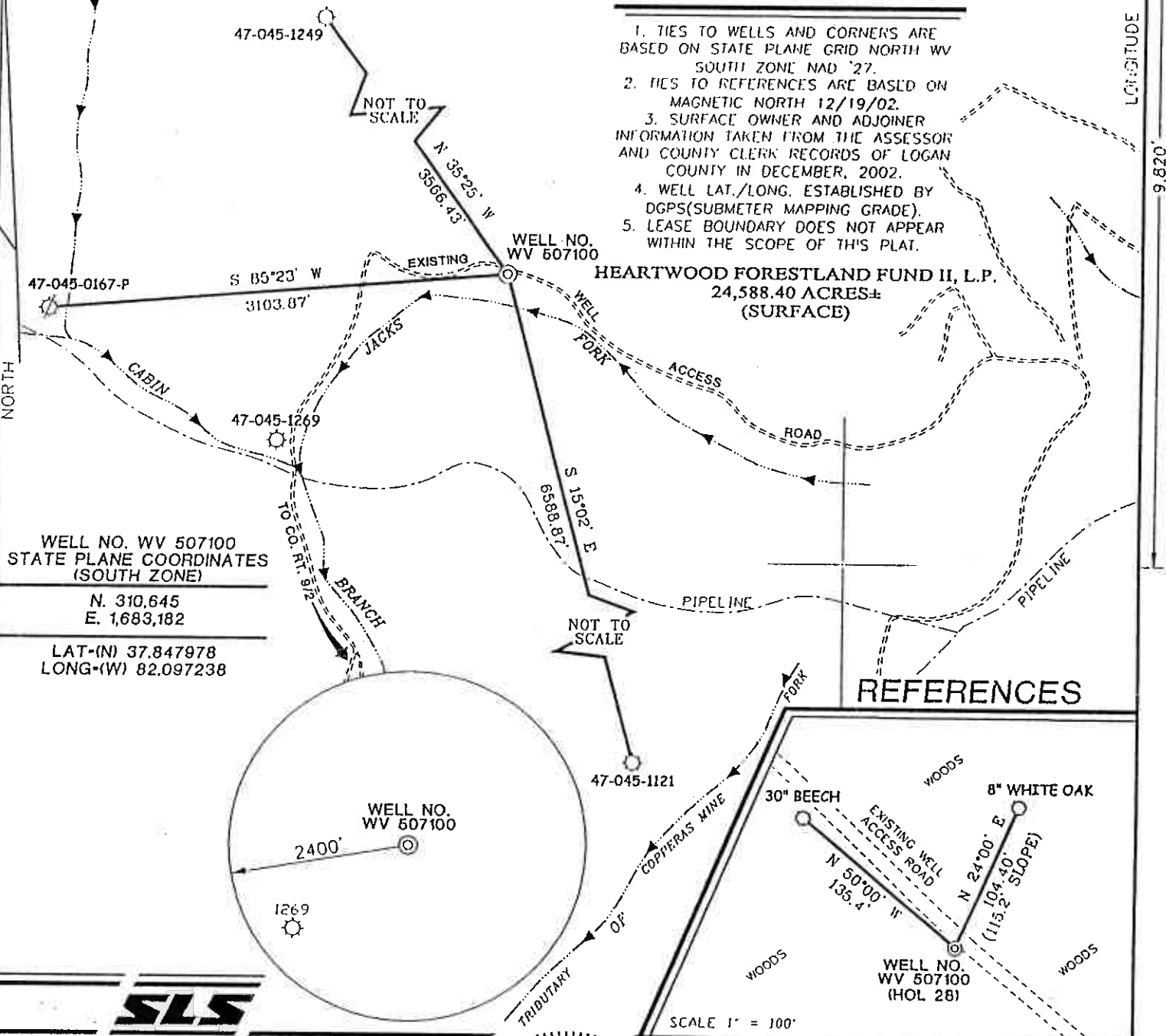
34,953.47 ACRES± TOTAL

WELL NO. WV 507100

LATITUDE 37°52'30"

NOTES ON SURVEY

1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE MAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 12/19/02.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF LOGAN COUNTY IN DECEMBER, 2002.
4. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).
5. LEASE BOUNDARY DOES NOT APPEAR WITHIN THE SCOPE OF THIS PLAT.



WELL NO. WV 507100
STATE PLANE COORDINATES
(SOUTH ZONE)

N. 310,645
E. 1,683,182

LAT-(N) 37.847978
LONG-(W) 82.097238

WELL NO.
WV 507100

1269

REFERENCES

SCALE 1" = 100'

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 JANUARY 27, 20 03

OPERATORS WELL NO. WV 507100

API WELL NO. 47 - 45 - 01540
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 3890P507100 (125-64)

PROVEN SOURCE OF ELEVATION SCALE 1" = 1000'

JUNCTION OF ROADS ELEVATION 829'

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



WELL TYPE : OIL ☐ GAS ☒ LIQUID ☐ WASTE ☐ IF "GAS" PRODUCTION ☒ STORAGE ☐ DEEP ☐ SHALLOW ☒
LOCATION :
ELEVATION 1072' WATERSHED JACKS FORK OF CABIN BRANCH OF COPPERAS MINE FORK
DISTRICT ISLAND CREEK COUNTY LOGAN QUADRANGLE HOLDEN 7.5'
SURFACE OWNER HEARTWOOD FORESTLAND FUND II, L.P. ACREAGE 24,588.40±
ROYALTY OWNER ISLAND CREEK COAL CORPORATION LEASE ACREAGE 34,953.47±
PROPOSED WORK : LEASE NO. 80662
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 4,410'

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 Logan-Holden-Dingers (2741)

LONGITUDE 82°05'00"

9.820'

COUNTY NAME

PERMIT

15410

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

Well Operator's Report of Well Work

Farm Name: Heartwood Forest Land

Operator Well No.: 507100

LOCATION: Elevation: 1,072.00

Quadrangle: Holden

District: Island Creek

County: Logan

Latitude: 9820 Feet South of
Longitude: 4020 Feet West ofDeg. Minutes Seconds
37 52 30
82 5 0RECEIVED
Office of Oil & Gas
Permitting

NOV 13 2003

WV Department of
Environmental ProtectionCompany: Equitable Production Company
1710 Pennsylvania Avenue
Charleston, WV 25302

Agent: Stephen G. Perdue

Inspector: Ralph Triplett

Permit Issued: 3/4/2003

Well work commenced: 04/24/03

Well work completed: 05/13/03

Verbal Plugging

Permission granted on:

Rotary Rig X Cable Rig

Total Depth 4300' feet

Fresh water depths (ft) 100'

Salt water depths (ft) 1105' & 1600'

Is coal being mined in area?

Coal Depths (ft): See Attached

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
13-3/8"	30'	30'	Grtd
9-5/8"	484'	484'	236 Ft³
7"	1770'	1770'	323 Ft³
4 1/2"	4256'	4256'	372 Ft³

No tbg reported

OPEN FLOW DATA

Producing formation Lower Shale, Upper Shale & Big Lime

Pay Zone Depth (ft):

Gas: Initial open flow 0 MCF/d

Oil: Initial open flow Bbl/d

Final open flow: 822 MCF/d

Final open flow: Hours

Time of open flow between initial and final tests

Static rock pressure 150 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: Hours

Time of open flow between initial and final tests

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: Equitable Production Company

By: Ralph A. Triplett
Date: 10/21/03

NOV 26 2003

LOG 1540

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

Well: WV-507100 – Heartwood Forest Land Corp

API# 47-045-01540

Date	05/08/03	05/08/03	05/08/03			
Type Frac Acid, N ₂ , Foam, Water	N ²	N ²	65 Q Foam			
Zone Treated	Lower Shale	Upper Shale	Big Lime			
# Perfs	60	40	20			
From - To:	3493' – 4235'	2471' – 3348'	1893' – 2010'			
BD Pressure @ psi	2390	1910	1620			
ATP psi	2024	2030	1640			
Avg. Rate, B=B/M, S= SCF/M	52015 S	51150 S	16 B			
Max. Treat Press psi	2390	2230	2520			
ISIP psi	1150	1050	980			
Frac Gradient	.34	.40	.55			
10 min S-I Pressure	1100	710	850			
Material Volume						
Sand-sks	0	0	0			
Water-bbl	0	0	0			
SCF N ₂	1,006,000	807,000	402,000			
Acid-gal	630 gals 7.5%	672 gals 7.5%	2500 gals 15%			
NOTES:						

TOP	BOTTOM	FORMATION	REMARKS
		COAL:	95' – 97'; 135' – 138' & 235' – 237'
	1263	SALT SAND:	Open mine @ 260'
1517	1595	MIDDLE MAXTON:	
1637	1668	LOWER MAXTON:	
			GT @ 1798', 1900', 2000', 3600' & 3900' = odor. GT @ 2200' = TSTM.
			GT @ 2400', 2600', 3022', 3208', 3395', 4200', 4290' & 4298' = NS.
1674	1716	LITTLE LIME:	
1723	1930	BIG LIME:	
1948	1998	BIG INJUN:	
2072	2160	WEIR:	
2462	2494	SUNBURY:	
2494	2531	BEREA:	
3474	3770	LOWER HURON:	
3505	3562	LOWER HURON SILTSTONE:	
3770	3888	JAVA:	
3888	4072	ANGOLA:	
4072		RHINESTREET:	
	4300	TD:	