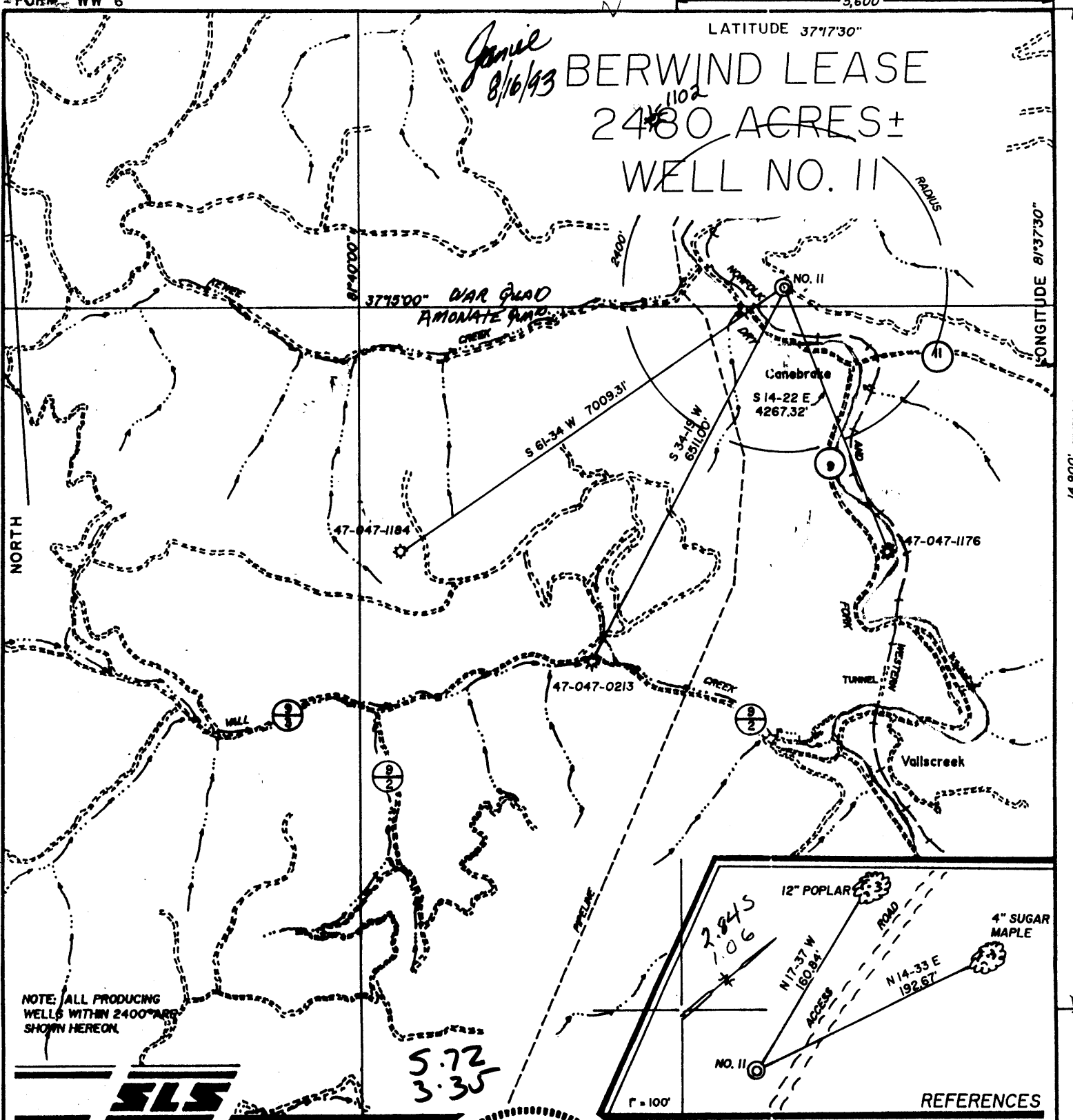


LATITUDE 37°17'30"

Janice
8/16/93

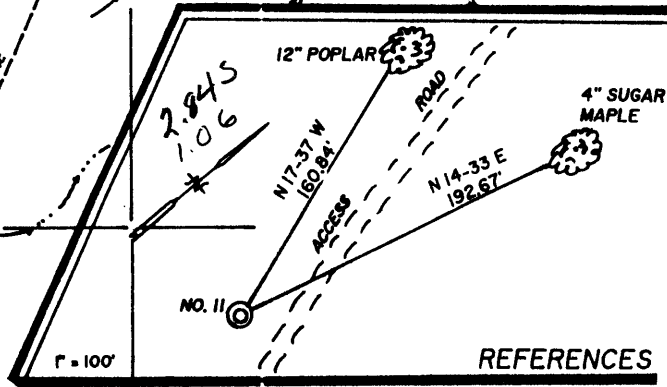
BERWIND LEASE 2480 ACRES± WELL NO. 11



NOTE: ALL PRODUCING WELLS WITHIN 2400' RADIUS SHOWN HEREON.

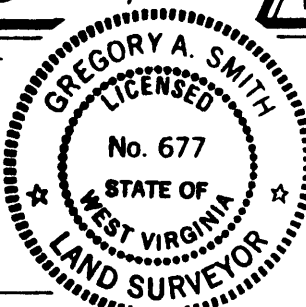


5.72
3.35



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.

L.L.S. Gregory A. Smith
677



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE JULY 30, 19 93

OPERATORS WELL NO. BERWIND NO. 11

API WELL NO. 47-047-1198
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 2901 (4-71)
PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEVATION 2088' SCALE 1" = 2000'

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 1790' WATERSHED DRY FORK
DISTRICT BIG CREEK 2 COUNTY McDOWELL QUADRANGLE WAR 7.5' Welch

SURFACE OWNER BERWIND LAND COMPANY ACREAGE 2480 OF 24625.33
ROYALTY OWNER BERWIND LAND COMPANY LEASE ACREAGE 2480 OF 24625.33

PROPOSED WORK: LEASE NO. _____
DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER
PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION BEREA
ESTIMATED DEPTH 5000'

WELL OPERATOR WACO OIL AND GAS COMPANY, Inc. DESIGNATED AGENT STEPHEN HOLLOWAY
ADDRESS P.O. BOX 397 GLENVILLE, WV 26351 ADDRESS P.O. BOX 397 GLENVILLE, WV 26351

6-6 267

COUNTY NAME PERMIT

575

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

Well Operator's Report of Well Work

Farm name: **BERWIND LAND CO.** Operator Well No.: **BERWIND #11**

LOCATION: Elevation: **1,790.00** Quadrangle: **WAR**

District: **BIG CREEK** County: **MCDOWELL**
 Latitude: **14900** Feet South of **37** Deg. **17** Min. **30** Sec.
 Longitude: **5600** Feet West of **81** Deg. **37** Min. **30** Sec.

Company: **WACO OIL & GAS CO., INC.**
1297 N. LEWIS ST.
GLENVILLE, WV 26351-0000

Agent: **STEPHEN E. HOLLOWAY**

INSPECTOR: **OFIE HELMICK**

Permit Issued: **08/16/93**
 Well work commenced: **09/15/93**
 Well Work completed: **09/21/93**
 Verbal Plugging
 Permission granted on:
 Rotary Cable Rig
 Total Depth (feet) **4694'**
 Fresh water depths (ft) **40'**
 Salt water depths (ft) **598'**
 Is coal being mined in area (Y/N)? **N**
 Coal Depths (ft): **101-106,160-163,245-253, 747-752**

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11-3/4"	220	220	C.T.S.
8-5/8"	1092	1092	C.T.S.
4-1/2"		4527	165 Sks.

OPEN FLOW DATA

Producing formation **BEREA, GORDON** Pay zone depth(ft) **SEE TREATMENT**
 Gas: Initial open flow **327** MCF/d Oil: Initial open flow **N/A** Bbl/d
 Final open flow **1384** MCF/d Final open flow **0** Bbl/d
 Time of open flow between initial and final tests **4** Hours
 Static Rock pressure **410** psig (surface pressure) after **48** 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 _____ Bbl/d
 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 STIMULATION, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.


 For: **WACO OIL AND GAS COMPANY, INC.**

By: **Daniel R. Chapman, Geologist**

Date: **October 15, 1993**

10-15-93

1st Stage: Gordon (4440-4407) 750 gal 15% Hcl, 31,300# 20/40 Sand,
145 Mcf N₂, 526 Bbl S.L.F.

2nd Stage: Berea (4330-4326) 750 gal 15% HCL, 7,700# 80/100 Sand,
49,100# 20/40 Sand 258 Mcf N₂, 778 Bbl S.L.F.

Sand, Shale	0	101	Damp @ 40'
Coal	101	106	Damp @ 598'
Shale	106	160	
Coal	160	163	
Sand, Shale	163	245	
Coal	245	253	
Sand, Shale	253	747	
Coal	747	752	
Sand, Shale	752	1584	
Sand, Shale, Red Rock	1584	1610	
Sand, Shale	1610	2971	
Big Lime	2971	3690	
Sand, Shale	3690	4295	
Berea	4295	4336	
Shale	4336	4385	
Gordon	4385	4442	
Shale	4442	4694	T. D.