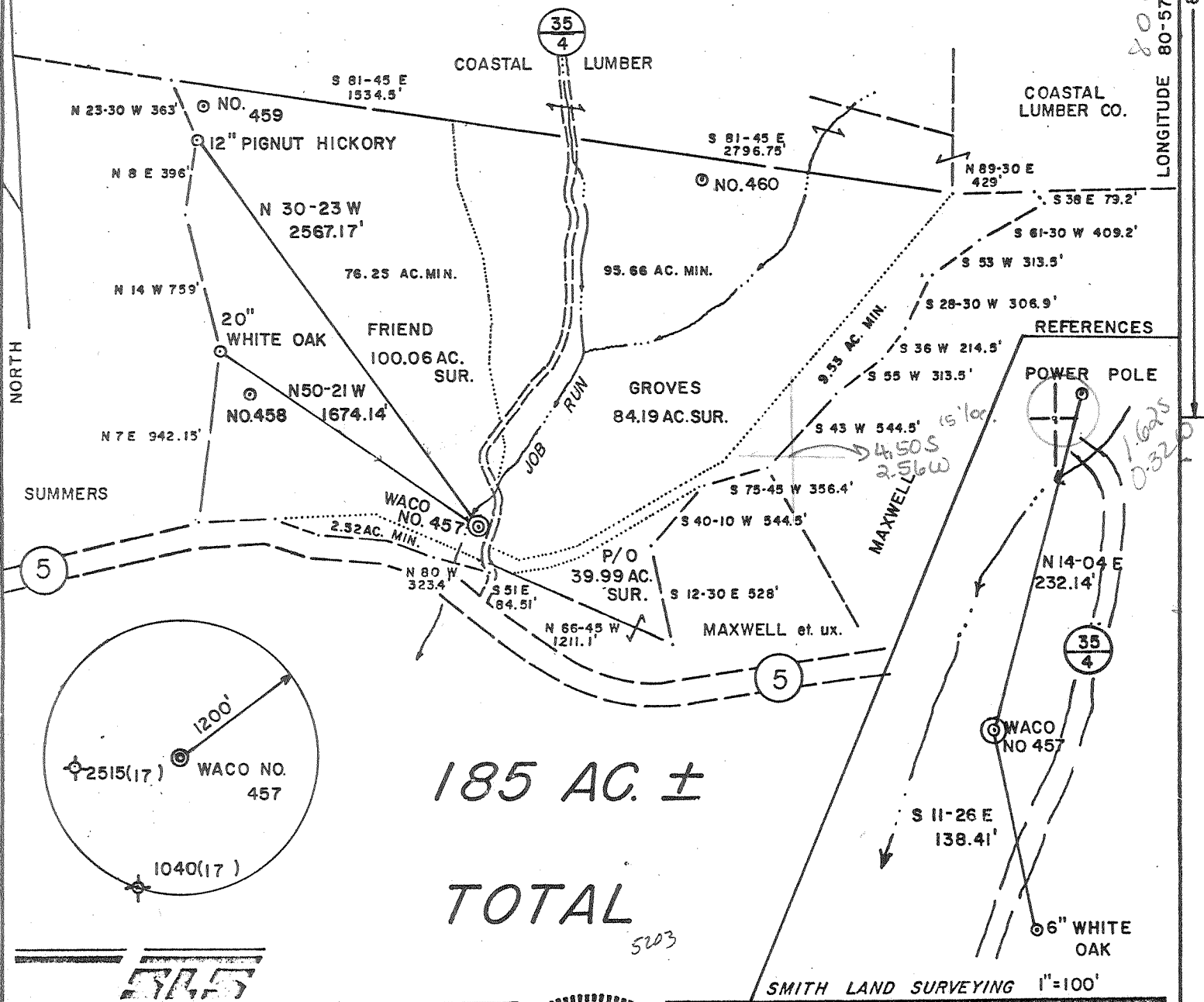


BEALL WACO LEASE WELL NO. 457



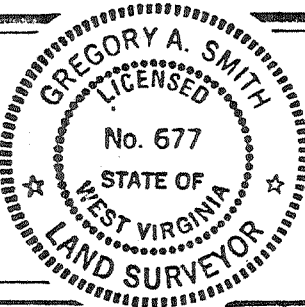
185 AC. ±
TOTAL



SMITH LAND SURVEYING 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 DEPARTMENT OF ENERGY.

L.L.S. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE NOVEMBER 18, 1986
 OPERATORS WELL NO. WACO NO. 457
 BEALL NO. I
 API WELL NO. 47-021-4547
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1576 20-30
 PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEV. 719' SCALE 1" = 800'

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 711' WATERSHED JOB RUN OF LITTLE KANAWHA RIVER Glenville
 DISTRICT DEKALB 2 COUNTY GILMER QUADRANGLE TANNER 7.5' 634
 SURFACE OWNER WILLIAM C & MAMIE, MAXINE FRIEND ACREAGE 100.06 050
 ROYALTY OWNER E. L. ARBUCKLE LEASE ACREAGE 185 NW
 PROPOSED WORK: LEASE NO. _____
 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 BENSON
 ESTIMATED DEPTH 5300' 05 1986

WELL OPERATOR WACO OIL & GAS CO. INC. 933 DESIGNATED AGENT STEPHEN HOLLOWAY
 ADDRESS P.O. BOX 397 GLENVILLE, WV. ADDRESS P.O. BOX 397 GLENVILLE, WV.
 26351 26351



WR-35

FERC
3/15/87

Date January 19, 1987
Operator's _____
Well No. Waco #457
Farm Beall #1
API No. 47 - 021 - 4547

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production X / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 711' Watershed Job Run of L. Kanawha River
District: Dekalb County Gilmer Quadrangle Tanner 7.5'

COMPANY Waco Oil & Gas Co., Inc.

ADDRESS P.O. Box 397, Glenville, WV 26351

DESIGNATED AGENT Stephen E. Holloway

ADDRESS P. O. Box 397, Glenville, WV 26351

SURFACE OWNER William C. & Mamie Maxine Friend

ADDRESS Glenville, WV 26351

MINERAL RIGHTS OWNER E. L. Arbuckle

ADDRESS Haines City, FL.

OIL AND GAS INSPECTOR FOR THIS WORK Craig

Duckworth ADDRESS Gassaway, WV

PERMIT ISSUED December 31, 1986

DRILLING COMMENCED January 5, 1987

DRILLING COMPLETED January 10, 1987

IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON _____

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size			
20-16			
Cond.			
13-10"			
9 5/8			
8 5/8	714	714	Surf.
7			
5 1/2			
4 1/2		5888	630 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Benson Depth 5300' feet

Depth of completed well 6113 feet Rotary X / Cable Tools _____

Water strata depth: Fresh 35' feet; Salt none feet

Coal seam depths: None Is coal being mined in the area? _____

OPEN FLOW DATA

Producing formation Shale, Elk, Alexander Benson Pay zone depth See Treatment feet

Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow 1958 Mcf/d Final open flow Show Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1565 psig (surface measurement) after 48 hours shut in

(If applicable due to multiple completion--)

Second producing formation Riley, Ba' town, Speechl Pay zone depth See Treatment feet

Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow _____ Mcf/d Oil: Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure _____ psig (surface measurement) after _____ hours shut in

JAN 13 1987

021 4547

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

- 1 St Stage: Shale - (5833-5464) 1000 Gal 15% HCL, 40 ton CO₂, 547 mcf N₂
- 2 Nd Stage: Shale - (5218-5072) 500 Gal 15% HCL, 30 ton CO₂, 415 mcf N₂
- 3 Rd Stage: Elk - (4752-4724) 500 Gal 15% HCL, 30 ton CO₂, 495 mcf N₂
- 4 Th Stage: Alexander - (4588-4487) 500 Gal 15% HCL, 40 ton CO₂, 507 mcf N₂
- 5 In Stage: Benson, Riley, Balltown, Speechly (4321-28883) 1000 Gal 15% HCL, 60 ton CO₂, 1330 mcf N₂

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sand, Shale & Gravel			0	20	Fresh H ₂ O @ 35'
Sand & Shale			20	170	
Sand, Shale & Redrock			170	883	
Sand & Shale			883	1480	
Little Lime			1480	1499	
Blue Monday			1499	1522	
Big Lime			1522	1570	404 1900
Big Injun			1570	1666	
Sand & Shale			1666	2878	813 3000
Speechly Section			2878	3208	822 4250
Shale			3208	3261	
Balltown Section			3261	3858	825 4475
Riley Section			3858	4249	
Shale			4249	4316	830 4775
Benson			4316	4322	835 5000
Sand & Shale			4322	4558	
Alexander			4558	4616	
Shale			4616	4722	
Elk Section			4722	4981	
Shale			4981	5857	
Marcellus Shale			5857	5915	
Onondaga Limestone			5915	5935	T.D.

(Attach separate sheets as necessary)

Waco Oil & Gas Co., Inc.

Well Operator

By: Daniel R. Chapman

Geologist

Date: January 19, 1987

Note: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

JUL 13 1987

7/85 RECEIVED
DEC 16 1983



1) Date: December 10, 19 86
 2) Operator's Well No. Waco 457-Beall No. 1
 3) API Well No. 47-021-4547
 State County Permit

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
 APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil / Gas /
 B (If "Gas", Production / Underground storage / Deep / Shallow)
- 5) LOCATION: Elevation: 711' Watershed: Job Run of L. Kanawha River
 District: DeKalb 9332 County: Gilmer 021 Quadrangle: Tanner 7.5 633
- 6) WELL OPERATOR WACO OIL AND GAS CO CODE: 51800 7) DESIGNATED AGENT Stephen E. Holloway
 Address PO Box 397 Address PO Box 397
Glenville, WV 26351 Glenville, WV 26351
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Craig Duckworth Name I.L. Morris Well Service, Inc.
 Address Box 107, Davisson Rt. Address PO Box 397
Gassaway, WV 26624 Glenville, WV 26351
- 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate /
 Plug off old formation / Perforate new formation /
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Benson 435
- 12) Estimated depth of completed well, 5300 feet
- 13) Approximate trata depths: Fresh, 60 feet; salt, None feet.
- 14) Approximate coal seam depths: None Is coal being mined in the area? Yes / No /

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh water	<u>11 3/4"</u>	<u>H-40</u>	<u>42</u>	<input checked="" type="checkbox"/>		<u>200</u>	<u>200</u>	<u>To Surface</u>	<u>Per Rule 15.0 S</u>
Coal									Sizes
Intermediate	<u>8 5/8"</u>	<u>ERW</u>	<u>20#</u>	<input checked="" type="checkbox"/>		<u>1510'</u>	<u>1510'</u>	<u>50 sks</u>	
Production	<u>4 1/2"</u>	<u>J-55</u>	<u>10.5#</u>	<input checked="" type="checkbox"/>			<u>5250'</u>	<u>550 sks</u>	Depths set
Tubing									Perforations:
Liners									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-021-4547 Date December 31 19 86

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.

Permit expires December 31, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>AS</u>	Plat: <input checked="" type="checkbox"/>	Casing: <input checked="" type="checkbox"/>	Fee: <u>1688</u> <u>161</u>	WPCP: <input checked="" type="checkbox"/>	S&E: <input checked="" type="checkbox"/>	Other: <input type="checkbox"/>
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NOTE: Keep one copy of this permit posted at the drilling location.

Director, Division of Oil and Gas

File