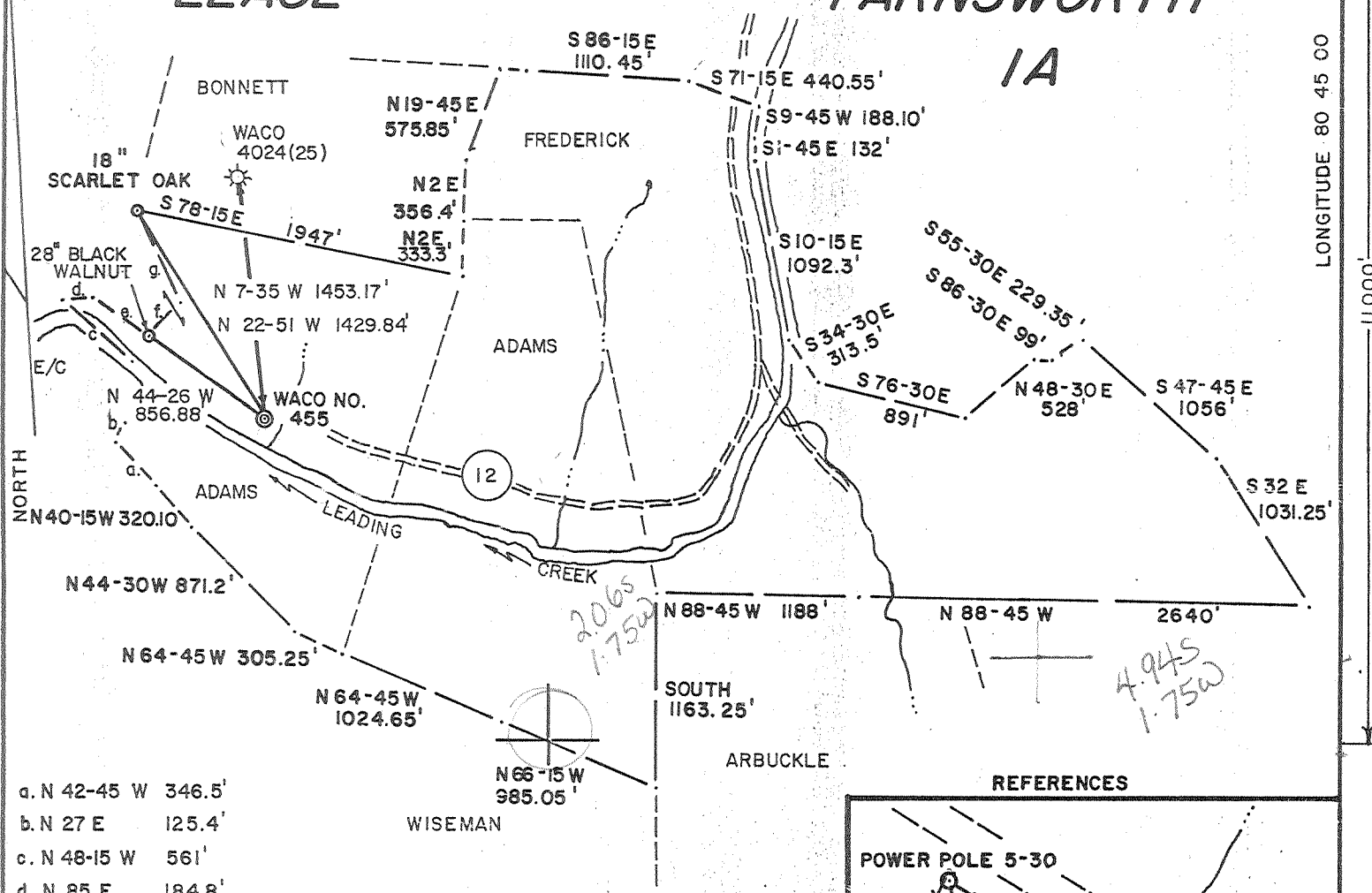


FARNSWORTH LEASE

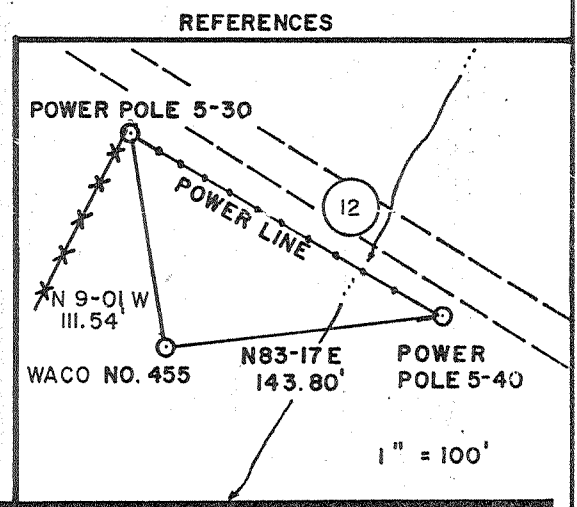
WACO NO. 455 FARNSWORTH IA



- a. N 42-45 W 346.5'
- b. N 27 E 125.4'
- c. N 48-15 W 561'
- d. N 85 E 184.8'
- e. S 54 E 404.25'
- f. N 43-45 E 280.5'
- g. N 25-15 W 605.55'

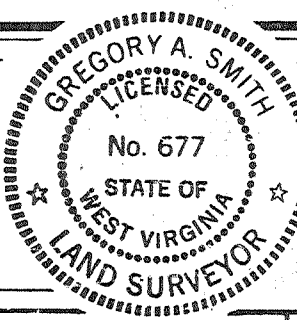
315 ACRES ± TOTAL

NO PERMITTED WELLS SHOWN WITHIN 1200'



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 OCTOBER 16th, 19 86
 OPERATORS WELL NO. WACO NO. 455
 API WELL NO. 47-021-4535
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 676 18-75
 PROVEN SOURCE OF ELEVATION JUNCT. OF ROADS SCALE 1" = 1000'
 ELEV. = 763

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 748' WATERSHED LEADING CREEK DISTRICT TROY 4 COUNTY GILMER QUADRANGLE AUBURN 7.5' 224

SURFACE OWNER GLENNARD ADAMS ACREAGE 68.50' ROYALTY OWNER H.L. FARNSWORTH HRS. LEASE ACREAGE 315

PROPOSED WORK: 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 ELK ESTIMATED DEPTH 5500

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

DEEP WELL hole Glenville North (182)

FERC
2/15/87



Date January 10, 1987
 Operator's Waco #455
 Well No. Waco #455
 Farm Farnworth #1A
 API No. 47 - 021 - 4535

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: 748 Watershed Leading Creek
 District: Troy County Gilmer Quadrangle Auburn 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 Glennard Adams
 ADDRESS Newberne, WV
 MINERAL RIGHTS OWNER H. L. Farnsworth Hrs.
 ADDRESS Linn, WV
 OIL AND GAS INSPECTOR FOR THIS WORK Craig Duckworth
 ADDRESS Gassaway, WV
 PERMIT ISSUED December 12, 1986
 DRILLING COMMENCED December 21, 1986
 DRILLING COMPLETED December 30, 1986
 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 Cood.	28	28	
13-10"			
9 5/8			
8 5/8	531	531	Surf
7			
5 1/2			
4 1/2		6168	690 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Elk Depth 5500 feet
 Depth of completed well 6272 feet Rotary x / Cable Tools ___
 Water strata depth: Fresh 30,130 feet; Salt None feet
 Coal seam depths: None Is coal being mined in the area? No

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 (1210) Mcf/d Final open flow (show) Bbl/d
 Time of open flow between initial and final tests 4 hours
 Static rock pressure 1560 psig (surface measurement) after 48 hours shut in
 (If applicable due to multiple completion--)
 Second producing formation Riley, Balltown, Speechly 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

APR 20 1987

(Continue on reverse side)

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

1st Stage: Shale (6122-5596) 500 Gal 15% HCL, 50 ton CO₂, 646 mcf N₂
 2nd Stage: Elk, Alexander (5324-4593) 750 gal 15% HCL, 50 ton CO₂, 618 mcf N₂
 3rd Stage: Benson, Riley (4331-3840) 750 Gal 15% HCL, 50 ton CO₂, 668 mcf N₂
 4th Stage: Balltown, Lower Speechly (3542-3000) 750 Gal 15% HCL, 50 ton CO₂, 918 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
Clay			0	28	
Gravel			28	33	3" Stream @ 30'
Sand			33	111	
Sand, Shale, Redrock			111	563	2" Stream @ 13-'
Sand & Shale			563	1430	
Little Lime			1430	1451	
Shale			1451	1472	
Big Lime			1472	1565	
Big Injun			1565	1627	
Sand & Shale			1627	2758	
Speechly Section			2758	3008	
Shale			3008	3064	
Balltown Section			3064	3545	
Riley Section			3545	4284	
Shale			4284	4327	
Benson			4327	4332	
Shale			4332	4490	
Alexander			4490	4628	
Shale			4628	4658	
Elk Section			4658	5326	
Shale			5326	6191	
Marcellus Shale			6191	6252	
Onondaga Limestone			6252	6272	T. D.

404 1877
 813 2952
 822 4277
 825 4527
 830 4827

6252
 748

 5509

(Attach separate sheets as necessary)

Waco Oil & Gas Co., Inc.

Well Operator

By: Daniel R. Chapman, Geologist

Date: January 10, 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."

