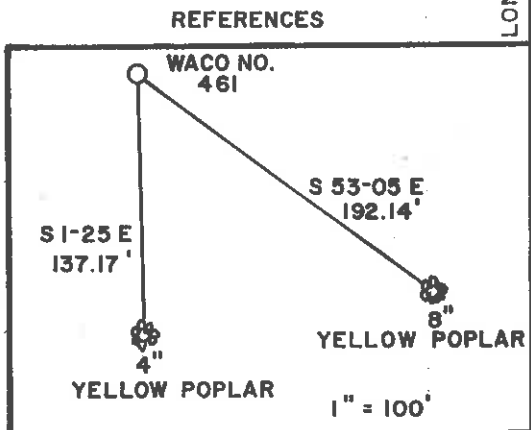
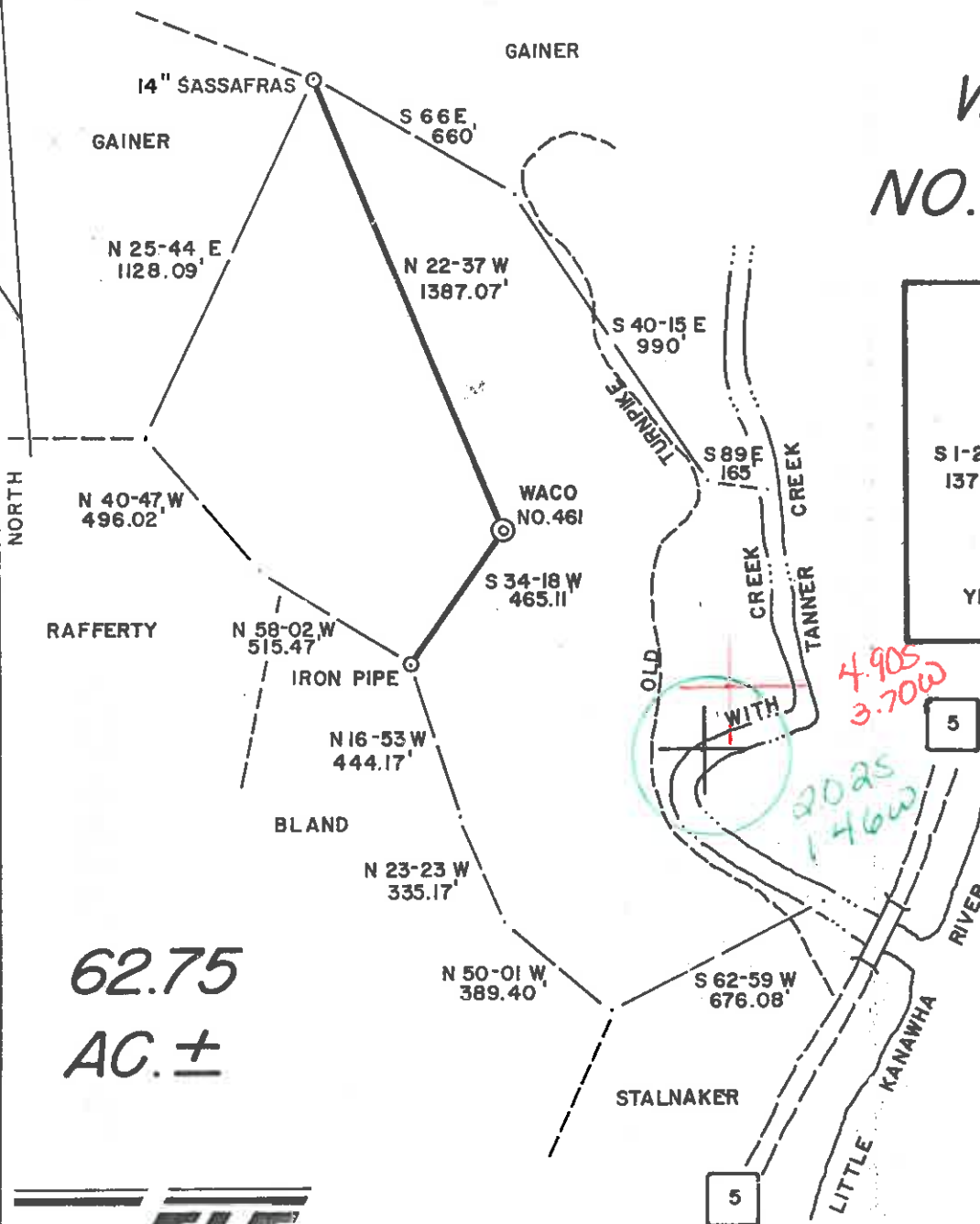


BOTANICAN LEASE

WACO NO. 461



62.75 AC. ±



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. 461
 BOTANICAN NO. 1
 API WELL NO. 47 - 021 - 4527
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1577 (20-33)
 SCALE 1" = 500'
 PROVEN SOURCE OF ELEVATION CORNER OF BRIDGE ELEV. 719'

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 857' WATERSHED TANNER CREEK OF LITTLE KANAWHA RIVER
 DISTRICT DEKALB 2 COUNTY GILMER QUADRANGLE TANNER 7.5'
 SURFACE OWNER GAINER ENTERPRISES ACREAGE 62.75
 ROYALTY OWNER GAINER ENTERPRISES et. al. LEASE ACREAGE 62.75

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 BENSON
 ESTIMATED DEPTH 5075'

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

FERC
1/27/87



WR-35

Date January 6, 1987
 Operator's Waco #461
 Well No. Waco #461
 Farm Botanican #1A
 API No. 47 - 021 - 4527

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: 857 Watershed Tanner Creek
 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 Gainer Enterprises
 ADDRESS Charleston, WV
 MINERAL RIGHTS OWNER Gainer Enterprises, et.al.
 ADDRESS Charleston, WV
 OIL AND GAS INSPECTOR FOR THIS WORK Craig Duckworth
 ADDRESS Gassaway WV
 PERMIT ISSUED December 1, 1986
 DRILLING COMMENCED December 16, 1986
 DRILLING COMPLETED December 21, 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 Cond.			
13-10"			
9 5/8			
8 5/8	928	928	surf
7			
5 1/2			
4 1/2		6009	825 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Benson Depth 5057 feet
 Depth of completed well 6113 feet Rotary X / Cable Tools
 Water strata depth: Fresh 50' feet; Salt 1388' 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 1332 Mcf/d Final open flow show Bbl/d
 Time of open flow between initial and final tests 4 hours
 Static rock pressure 1570 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 (5934-5596) 500 Gal 15% HCL, 40 ton CO₂, 375 msf N₂
- 2nd Stage: Elk, Alexander (5414-4735) 500 Gal 15% HCL, 40 ton CO₂, 424 mcf N₂
- 3rd Stage: Benson, Riley, (4510-4176) 750 Gal 15% HCL, 40 ton CO₂, 536 mcf N₂
- 4th Stage: Balltown, speechly (3870-3100) 1250 Gal 15% HCL, 80 ton CO₂, 1466 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	20	
Sand & Shale			20	264	1/4" H ₂ O @ 50'
Sand, Shale & Redrock			264	725	
Sand & Shale			725	1676	Hole damp @ 1388
Little Lime			1676	1692	
Blue Monday			1692	1721	
Big Lime			1721	1830	
Big Injun			1830	1867	
Sand & Shale			1867	3092	
Speechly Section			3092	3418	
Shale			3418	3473	
Balltown Section			3473	4047	
Riley Section			4047	4453	
Shale			4453	4504	
Benson			4505	4510	
Sand & Shale			4510	4730	
Alexander			4730	4791	
Shale			4791	4900	
Elk Section			4900	5160	
Shale			5160	6113	T. D.

Graben @ TD.

6113
5160
9253

404 2117
813 3192
822 4500
825 4730
830 5030

(Attach separate sheets as necessary)

Waco Oil & Gas Co., Inc.

Well Operator

By: Daniel R. Chapman, Geologist

Date: January 6, 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."

FILE COPY
RECEIVED
NOV 20 1986

Today



- 1) Date: November 18, 19 86
 2) Operator's Well No. Waco #461-Botanican 1A
 3) API Well No. 47 - 021 - 4527
State County Permit

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

- 4) WELL TYPE: A Oil / Gas /
 B (If "Gas", Production / Underground storage / Deep / Shallow)
 5) LOCATION: Elevation: 857' Watershed: Tanner Creek
51800 District: 933 DeKalb 2 County: Gilmer Quadrangle: Tanner 7.5' 693
 6) WELL OPERATOR WACO OIL & 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 L.L. Morris Well Service
 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, 5057 feet
 13) Approximate strata depths: Fresh, 125 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									
Coal									Size
Intermediate	8 5/8	ERW	20#	X		950	950	To Surface	Per Rulers, 05
Production	4 1/2	J-55	10.5#	X			5000	450 sks	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-021-4527

DECEMBER 1 19 86
 Date

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 1, 1988, unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <input checked="" type="checkbox"/>	Casing: <input checked="" type="checkbox"/>	Fee: <u>1679</u>	WPOR: <input checked="" type="checkbox"/>	S&T: <input checked="" type="checkbox"/>	Other: <input type="checkbox"/>
---	--	---	---	------------------	---	--	---------------------------------

NOTE: Keep one copy of this permit posted at the drilling location.

[Signature]
 Director, Division of Oil and Gas

File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

8431