

87B 11/20/86

8,550'

LATITUDE 38-57-30

GAINER "C" LEASE

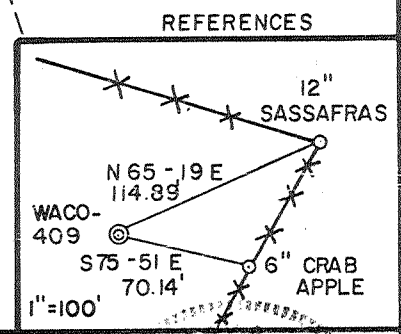
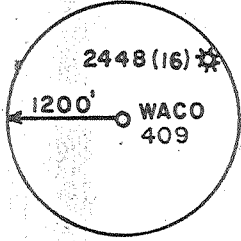
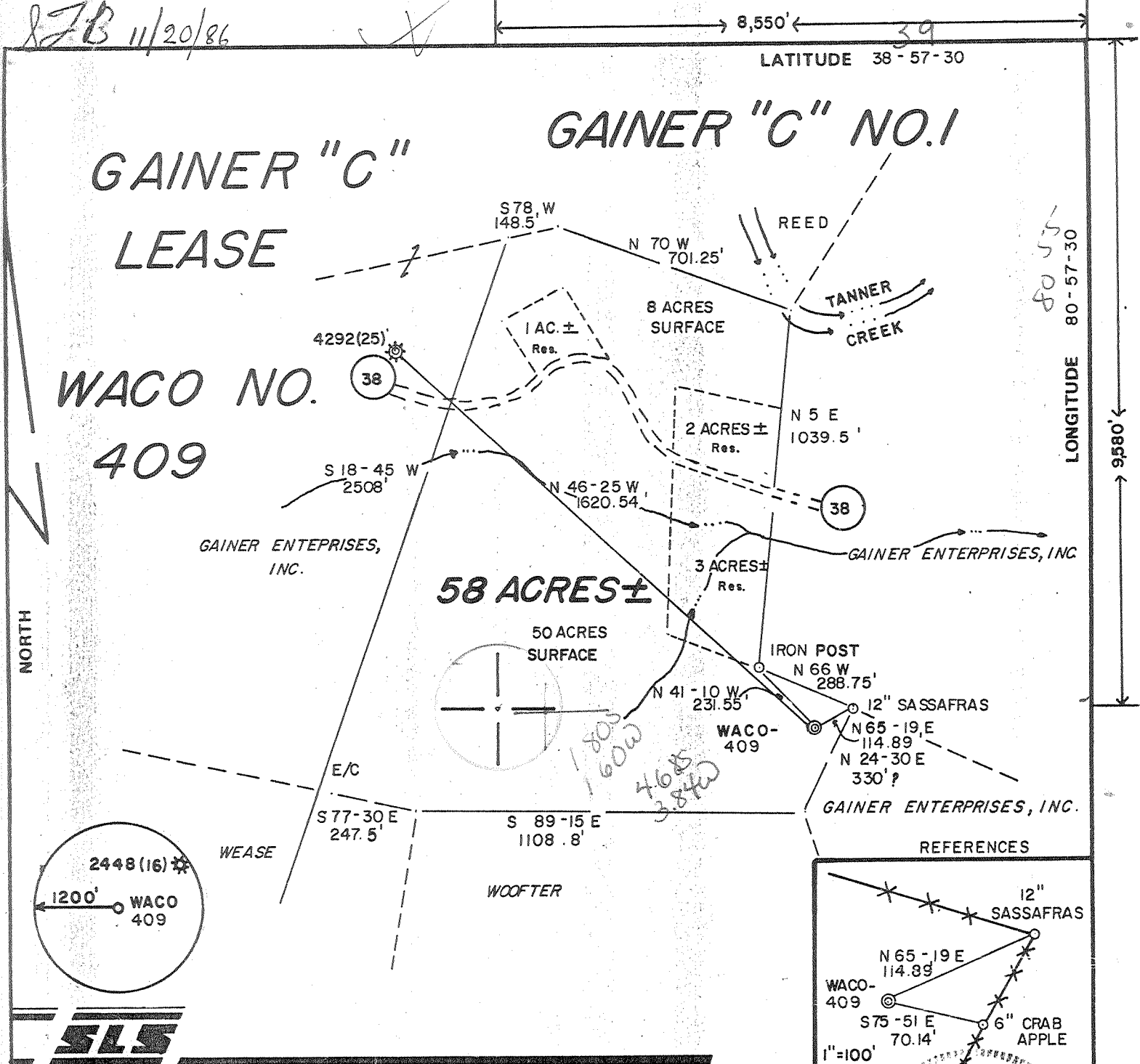
GAINER "C" NO. 1

WACO NO. 409

LONGITUDE 80-57-30

9,580'

NORTH



FILE NO. 15-70
 DRAWING NO. _____
 SCALE 1"=400'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION GIL-4292, ELEV.=920'

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 MINES.
 (SIGNED) Gregory A. Smith
 R.P.E. _____ L.L.S. 677

REGISTRY A. SMITH
 LICENSED
 No. 677
 STATE OF WEST VIRGINIA
 SURVEYOR
 PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE MARCH 21, 19 85
 OPERATOR'S WELL NO. WACO-409
 API WELL NO. GAINER "C" NO. 1
47-021-4534
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 804' WATER SHED TANNER CREEK
 DISTRICT DEKALB 2 COUNTY GILMER
 QUADRANGLE TANNER 7.5' 634 050 NW, Glenville
 SURFACE OWNER MARY A. GAINER ACREAGE 50
 OIL & GAS ROYALTY OWNER OSCAR GAINER LEASE ACREAGE 58 of 64
 LEASE NO. _____
 PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION BENSON ESTIMATED DEPTH 5000'
 WELL OPERATOR WACO OIL & GAS CO DESIGNATED AGENT STEPHEN E. HOLLOWAY
 ADDRESS P.O. BOX 397 ADDRESS P.O. BOX 397
933 179
DEKALB
DEEP WELL

DEC 8 1986

FERC
1/27/87



WR-35

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date January 10, 1987
Operator's Waco # 409
Well No. Waco # 409
Farm Gainer "C" #1
API No. 47 - 021 - 4534

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: 804' Watershed Tanner Creek
District: Dekalb County Gilmer Quadrangle Tanner 7.5'

COMPANY Waco Oil & Company, Inc.
ADDRESS P.O.Box 397, Glenville, WV 26351
DESIGNATED AGENT Stephen E. Holloway
ADDRESS P.O.Box 397 Glenville, WV 26351
SURFACE OWNER Mary A Gainer
ADDRESS Clarksburg, WV
MINERAL RIGHTS OWNER Oscar Gainer
ADDRESS Richwood, W V
OIL AND GAS INSPECTOR FOR THIS WORK Craig
Duckworth ADDRESS Gassaway, WV
PERMIT ISSUED December 5, 1986
DRILLING COMMENCED December 22, 1986
DRILLING COMPLETED December 29, 1986
IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
CN

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	1470	1470	Surf
7			
5 1/2			
4 1/2	6036		630 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Benson Depth 5000 feet
Depth of completed well 6128 feet Rotary X / Cable Tools
Water strata depth: Fresh 195' feet; Salt 1318 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 (1321) Mcf/d Final open flow (Show) Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1545 psig (surface measurement) after 48 hours shut in
(If applicable due to multiple completion--)

Second producing formation Riley, Balltown, Speechley 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 APR 20 1987

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

(Continue on reverse side)

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

1st Stage: Shale (5968-5626) 500 gal 15% HCL, 40 ton CO₂, 594 mcf N₂
 2nd Stage: Elk, Alexander (5160-4742) 500 gal 15% HCL, 40 ton CO₂, 534 mcf N₂
 3rd Stage: Benson, Riley (4519-4050) 1000 gal 15% HCL, 60 ton CO₂, 954 mcf N₂
 4th Stage: Balltown, Speechley (3887-3113) 1000 gal 15% HCL, 60 ton CO₂, 919 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
Fill			0	5	
Sand Shale & Redrock			5	1010	3/4" Stream H ₂ O @ 195'
Sand & Shale			1010	1680	1/4" stream salt H ₂ O @ 1318'
Little Lime			1680	1702	
Blue Monday			1702	1726	
Big Lime			1726	1845	
Big Injun			1845	1871	
Sand & Shale			1871	3108	
Speechly Section			3108	3454	
Shale			3454	3496	
Balltown Section			3496	4050	
Riley Section			4050	4461	
Shale			4461	4516	
Benson			4516	4522	
Sand & Shale			4522	4738	
Alexander			4738	4800	
Shale			4800	4928	
Elk Section			4928	5161	
Shale			5161	6054	
Marcellus Shale			6054	6108	
Onondaga Limestone			6108	6128	T.D.

404 2121
 813 3196
 822 4506
 825 4756
 830 5056

6108
 804
 5304

(Attach separate sheets as necessary)

Waco Oil & Gas Co., Inc.

Well Operator

By: Daniel R. Chapman

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 all encountered in the drilling of a well."

FORM WW-2(B) FILE COPY
 Obverse
 /85

RECEIVED
 NOV 19 1986



1) Date: August 18, 1986
 2) Operator's Well No. WACO 409 - Gainer "C" No. 1
 3) API Well No. 47 - 021 - 4534
 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: 804' Watershed: Tanner Creek
 District: 933 DeKalb 2 County: Gilmer Quadrangle: Tanner 7.5' 633
- 6) WELL OPERATOR WACO OIL & GAS CO. CODE: 51800 7) DESIGNATED AGENT Stephen E. Holloway
 Address PO Box 397
Glenville, WV 26351
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Craig Duckworth
 Address Box 107, Davisson Rt.
Cassaway, WV 26624
- 9) DRILLING CONTRACTOR:
 Name I.L. MORRIS WELL SERVICE, INC.
 Address PO Box 397
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 feet
 12) Estimated depth of completed well, 5000 feet
 13) Approximate strata depths: Fresh, 164 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										Sizes
Coal						650	650	195 sks		Per Rule 15.05
Intermediate	8 5/8	ERW	20#	X			5000	420 sks		Depths set
Production	4 1/2	J-55	10.5#	X				Rule 15.0		Perforations:
Tubing										Top Bottom
Lin.										

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-021-4534

December 5 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 5, 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>1677</u>	WPCP: <input checked="" type="checkbox"/>	SEF: <input checked="" type="checkbox"/>	Other: <input checked="" type="checkbox"/>
				<u>154</u>			

[Signature]
 Director, Division of Oil and Gas File

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

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