

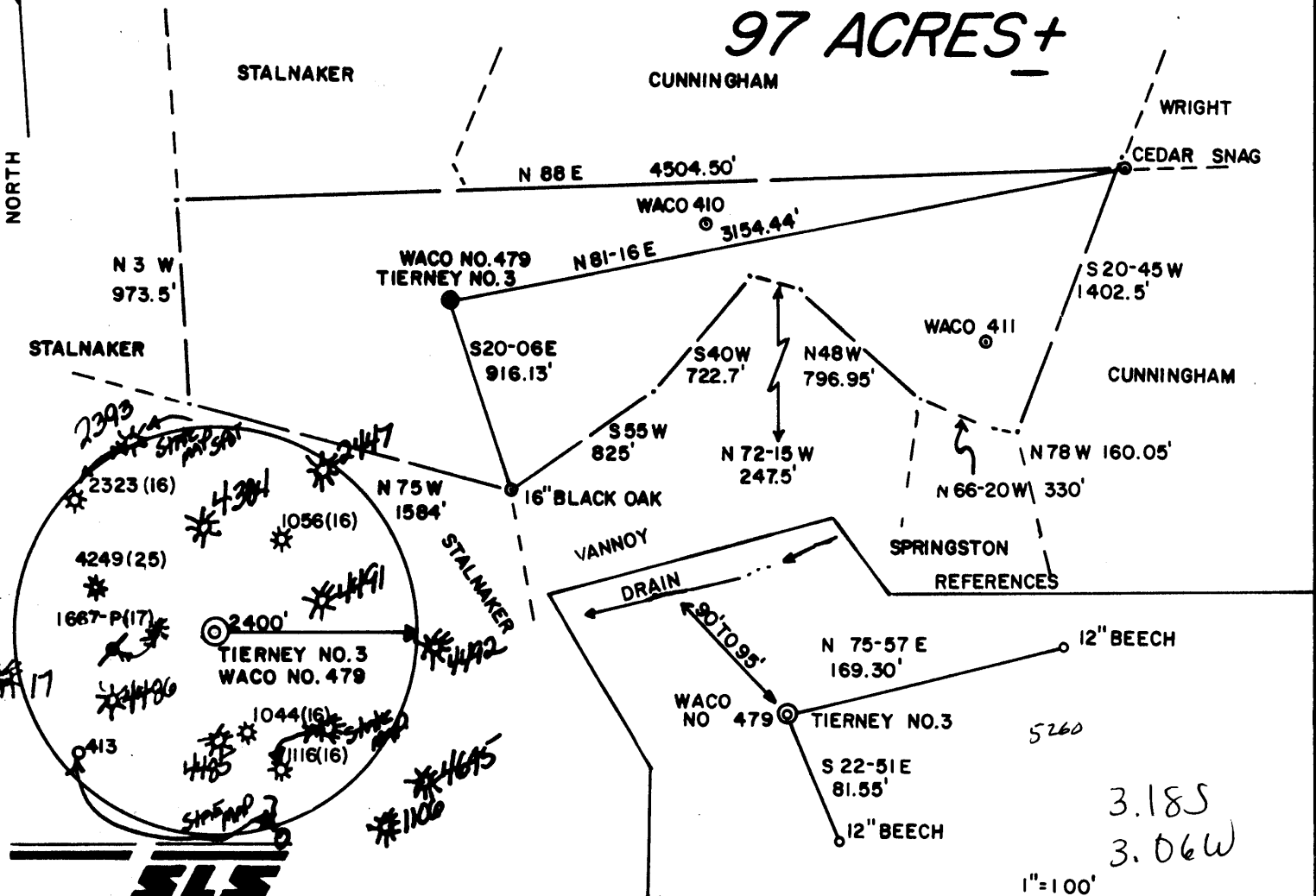
Jamil 11/14/88
" 8/7/92

TIERNEY LEASE

TIERNEY NO. 3

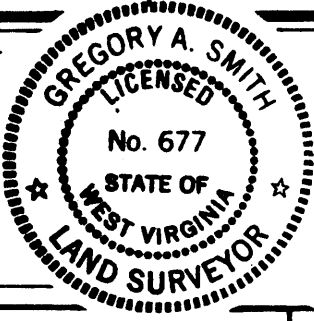
WACO NO. 479

97 ACRES ±



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 DECEMBER 23, 19 86
 OPERATORS WELL NO. WACO NO. 479
TIERNEY NO. 3
 API WELL NO. 47 - 021 - 45567
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1477 (17-79,80)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB SCALE 1" = 800'
 ELEV 1141'

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 842' WATERSHED PINEY RUN OF TANNER CREEK Glennville
 DISTRICT DEKALB 2 COUNTY GILMER QUADRANGLE TANNER 75'

SURFACE OWNER J. TIERNEY HRS. ACREAGE 97
 ROYALTY OWNER J. TIERNEY HRS. LEASE ACREAGE 97

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 5050 AUG 14 1990

WELL OPERATOR WACO OIL & GAS CO., INC. DESIGNATED AGENT STEPHEN E HOLLOWAY
 ADDRESS PO BOX 397 GLENVILLE, WV 26351 933 ADDRESS PO BOX 397 GLENVILLE, WV 26351
OWWO DEEP WELL 6-6 DeKalb (179)

COUNTY NAME PERMIT 45560

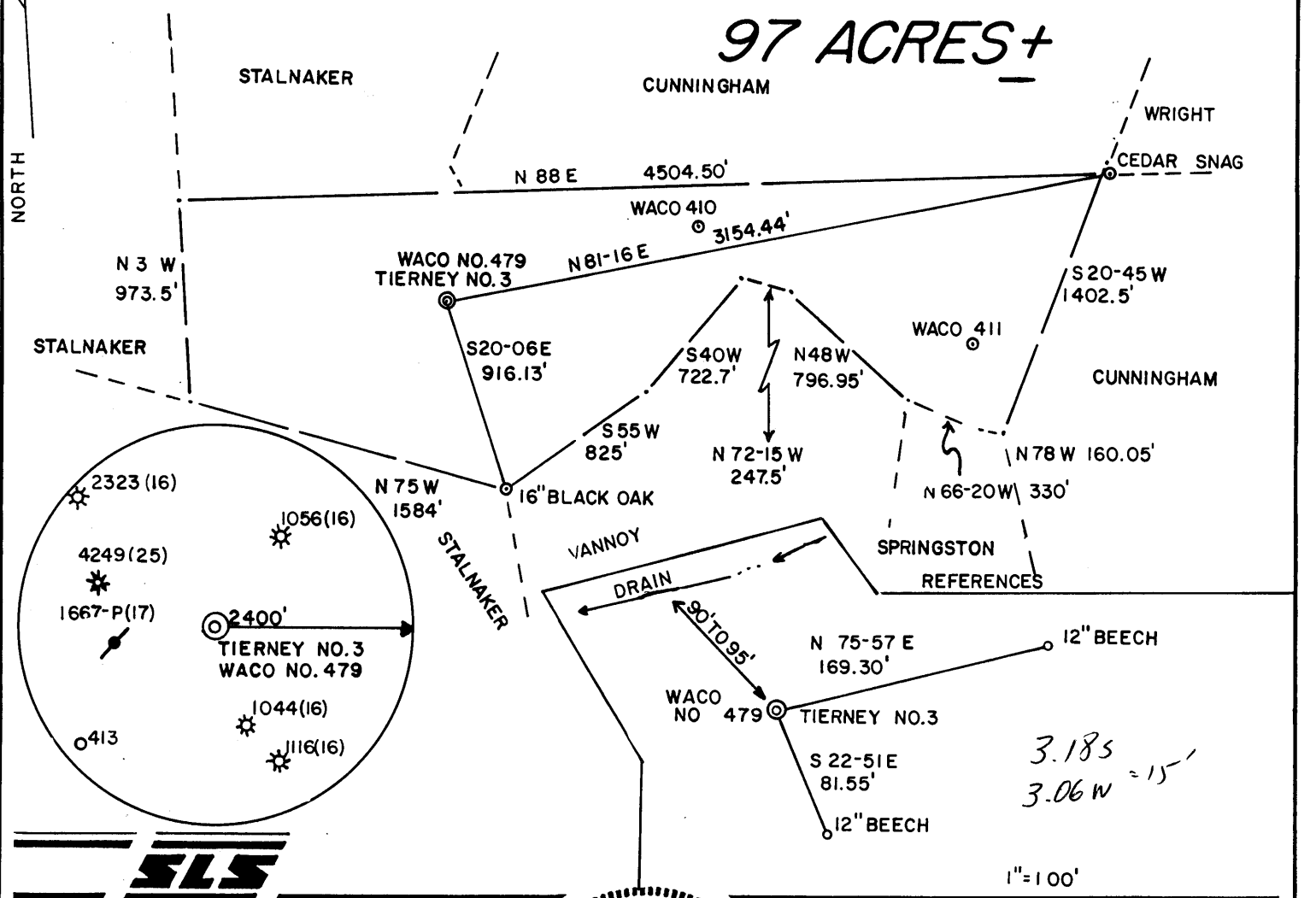
Amil 11/14/88

TIERNEY LEASE

TIERNEY NO. 3

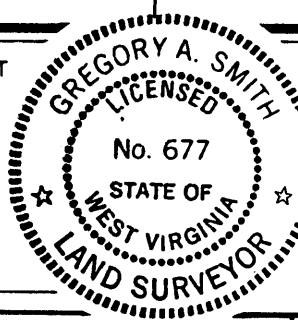
WACO NO. 479

97 ACRES ±



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L.L.S. 677 Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE DECEMBER 23, 19 86
 OPERATORS WELL NO. WACO NO. 479
 TIERNEY NO. 3
 API WELL NO. 47 - 021 - 4556
 STATE COUNTY PERMIT
Fracture Concluded

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1477 (17-79,80)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB SCALE 1" = 800'
 ELEV 1141'

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 842' WATERSHED PINEY RUN OF TANNER CREEK Glenville (NW)
 DISTRICT DEKALB COUNTY GILMER QUADRANGLE TANNER 7.5'

SURFACE OWNER J. TIERNEY HRS. ACREAGE 97
 ROYALTY OWNER J. TIERNEY HRS. LEASE ACREAGE 97

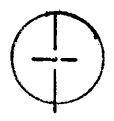
PROPOSED WORK: LEASE NO. _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION ELK
 ESTIMATED DEPTH 5050'

WELL OPERATOR WACO OIL & GAS CO., INC. DESIGNATED AGENT STEPHEN E HOLLOWAY JAN 18 1991
 ADDRESS PO BOX 397 GLENVILLE, WV 26351 ADDRESS PO BOX 397 GLENVILLE, WV 26351

COUNTY NAME PERMIT

Genie 11/14/88

TIERNEY LEASE



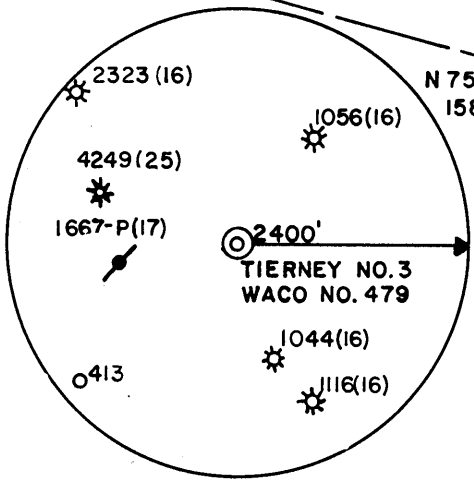
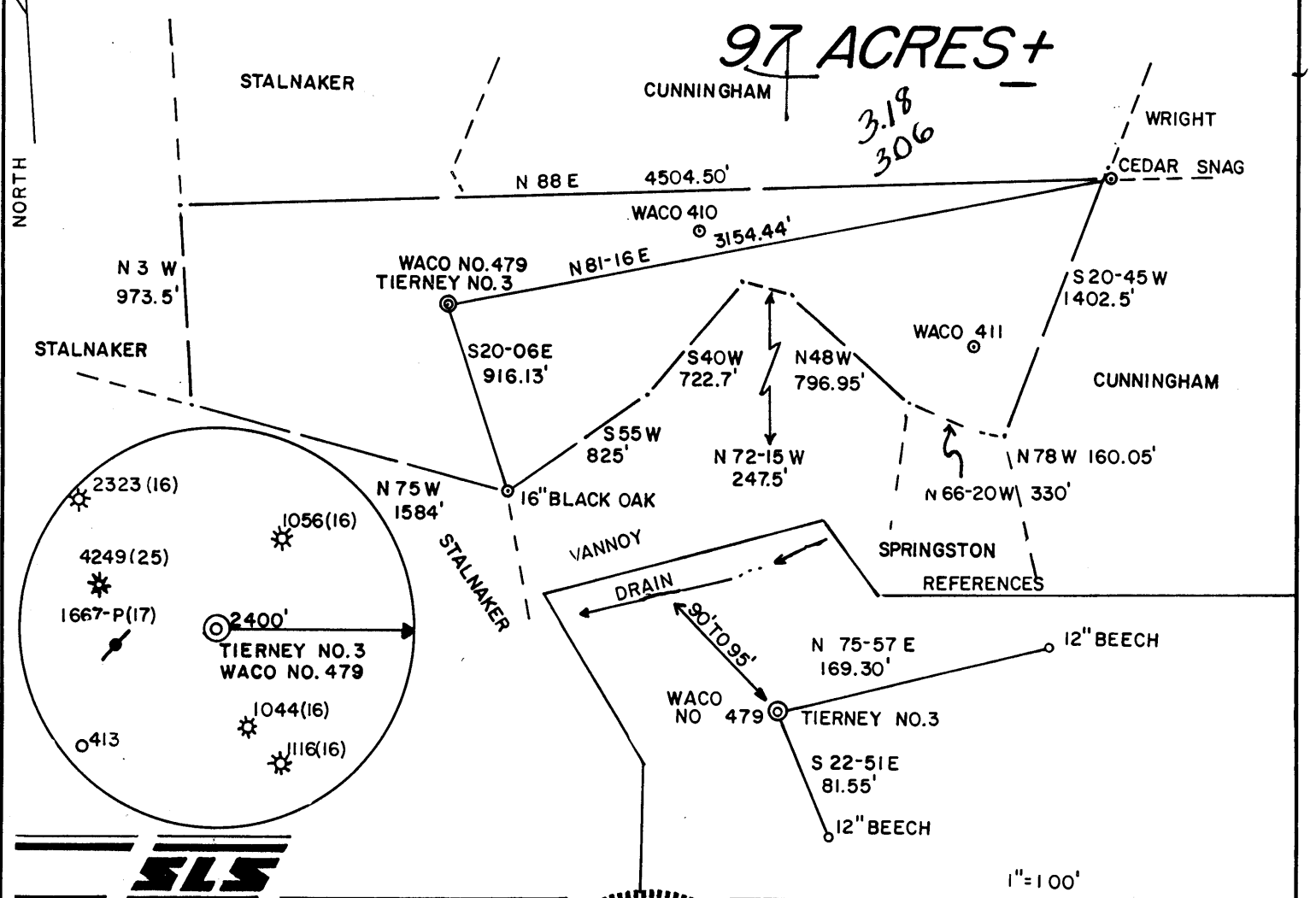
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TIERNEY NO. 3

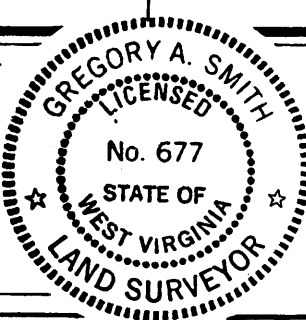
LONGITUDE 80-57-30

WACO NO. 479

97 ACRES+



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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE DECEMBER 23, 19 86
 OPERATORS WELL NO. WACO NO. 479
TIERNEY NO. 3
 API WELL NO. 47 - 021 - 4556 Fac
 STATE COUNTY PERMIT

L.L.S. Gregory A. Smith
 677

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1477 (17-79.80)
 PROVEN SOURCE OF ELEVATION TOP OF KNOB SCALE 1" = 800' ELEV 1141'

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION

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

LOCATION: ELEVATION 842' WATERSHED PINEY RUN OF TANNER CREEK
 DISTRICT DEKALB COUNTY GILMER QUADRANGLE TANNER 7.5' 634

SURFACE OWNER J. TIERNEY HRS. ACREAGE 97 050
 ROYALTY OWNER J. TIERNEY HRS. LEASE ACREAGE 97 1

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 ELK
 ESTIMATED DEPTH 5000' NOV 18 1988

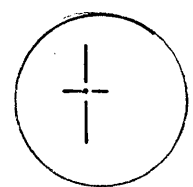
WELL OPERATOR WACO OIL & GAS CO., INC. DESIGNATED AGENT STEPHEN E HOLLOWAY
 ADDRESS PO BOX 397 GLENVILLE, WV 26351 ADDRESS PO BOX 397 GLENVILLE, WV 26351

COUNTY NAME PERMIT

511 4556-1

933

TIERNEY LEASE



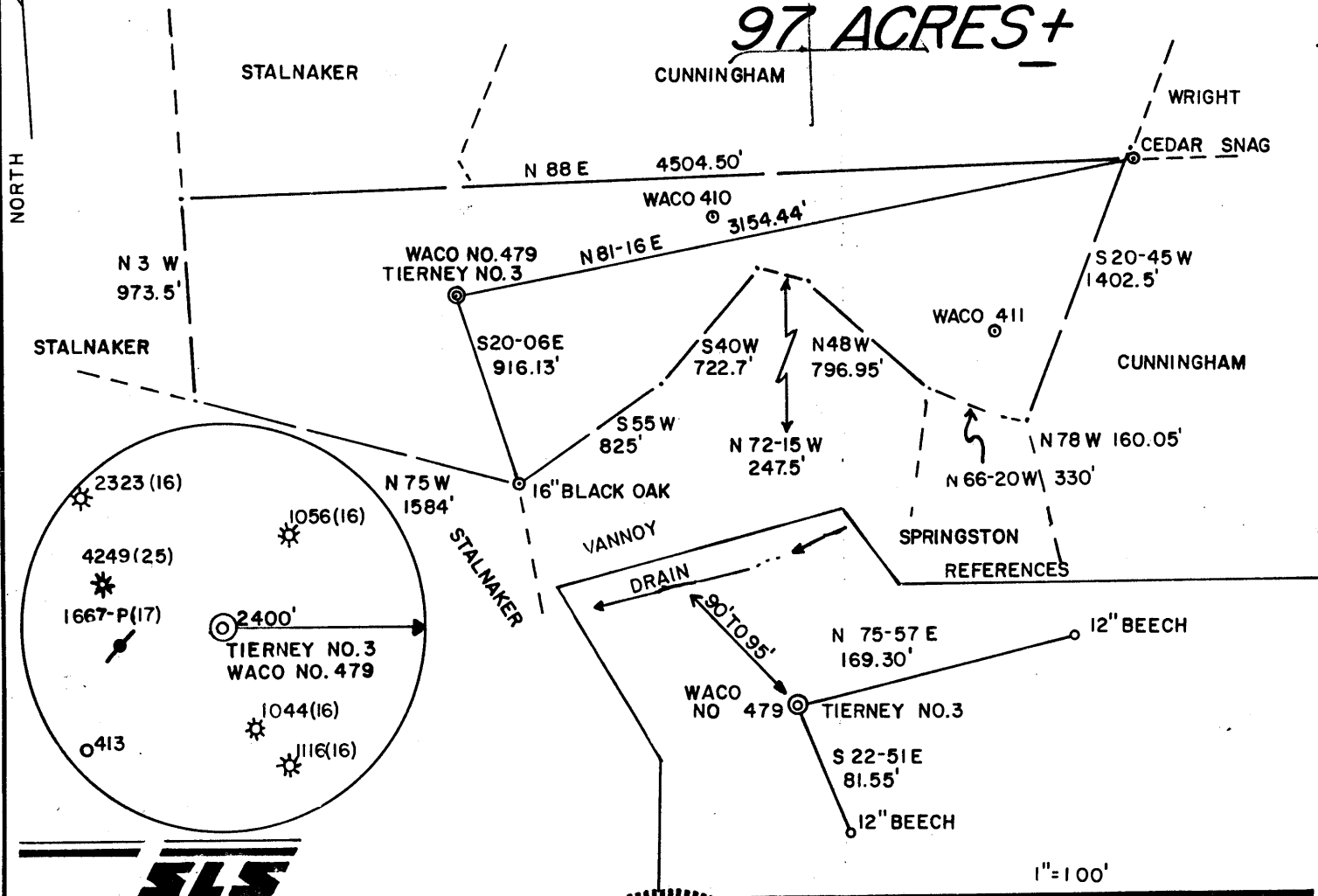
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TIERNEY NO. 3

WACO NO. 479

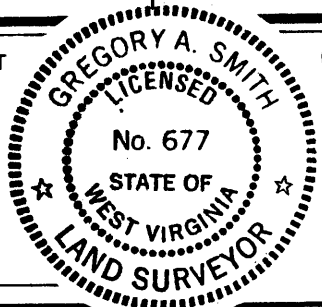
3.185
308W

97 ACRES+



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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE DECEMBER 23, 19 86
 OPERATORS WELL NO. WACO NO. 479
TIERNEY NO. 3
 API WELL NO. 47 - 021 - 4556
 STATE COUNTY PERMIT

L.L.S. 677 Gregory A. Smith

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1477 (17-79,80)
 SCALE 1" = 800'
 PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEV 1141'

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 842' WATERSHED PINEY RUN OF TANNER CREEK Glennville
 DISTRICT DEKALB COUNTY GILMER QUADRANGLE TANNER 7.5' 634
 SURFACE OWNER J. TIERNEY HRS. ACREAGE 97 050
 ROYALTY OWNER J. TIERNEY HRS. LEASE ACREAGE 97 NW

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 5050 6 1987

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

COUNTY NAME PERMIT

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

Reviewed TM6
Recorded _____

Well Operator's Report of Well Work

Farm name: TIERNEY, J HEIRS Operator Well No.: TIERNEY 3 - 479

LOCATION: Elevation: 842.00 Quadrangle: TANNER

District: DEKALB County: GILMER
Latitude: 1625 Feet South of 38 Deg. 57Min. 30 Sec.
Longitude 4450 Feet West of 80 Deg. 57 Min. 30 Sec.

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

Agent: STEPHEN E. HOLLOWAY

Inspector: CRAIG DUCKWORTH
Permit Issued: 08/11/92
Well work Commenced: 10/05/92
Well work Completed: 10/29/92

Verbal Plugging
Permission granted on: _____

Rotary Cable Rig _____

Total Depth (feet) _____

Fresh water depths (ft) _____

Salt water depths (ft) _____

Is coal being mined in area (Y/N)? _____

Coal Depths (ft): _____

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
See Original Completion Report			

OPEN FLOW DATA

Producing formation Gordon, Big Injun, Salt Sand Pay zone depth (ft) see treatment
Gas: Initial open flow _____ MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow 212 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock Pressure 480 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 STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLS.

RECEIVED

WV Division of Environmental Protection

APR 06 93

Permitting Office of Oil & Gas

For: WACO OIL & GAS CO., INC.

By: Daniel R. Chapman, Geologist

Date: March 30, 1993

10/05/92

Set Retrievable Plug @ 2470', Perforate Squeeze Holes @ 2397'
Dowell Cemented W/280 Sks.

10/29/92

Frac Job (3 Stages)

Gordon (2397-2393) 500 gal 15% HCL, 29,000# 20/40, 325 bbl H₂O, 35,000 Scf N₂

Big Injun (1878-1780) 500 gal 15% HCL, 23,700# 20/40, 289 bbl H₂O, 35,000 Scf N₂

Salt Sand (1422-1408) 500 gal 15% HCL, 14,100# 20/40, 235 bbl H₂O, 40,000 Scf N₂

DF-461
3FF-455

See Original For Well Log

RECEIVED

WV Division of
Environmental Protection

APR 06 93

Permitting
Office of Oil & Gas

8024

WR-35

FERC
7/15/87



State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date April 28, 1987
Operator's
Well No. Waco #479
Farm Tierney #3
API No. 47 - 021 - 4556

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: 842' 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 J. Tierney Hrs.
ADDRESS Natchitoches, La.
MINERAL RIGHTS OWNER J. Tierney Hrs.
ADDRESS Natchitoches, La.
OIL AND GAS INSPECTOR FOR THIS WORK Craig Duckworth ADDRESS Gassaway, WV
PERMIT ISSUED January 20, 1987
DRILLING COMMENCED January 21, 1987
DRILLING COMPLETED January 26, 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	921'	921'	surf.
7			
5 1/2			
4 1/2		6064	535 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Elk Depth 5050' feet
Depth of completed well 6132' feet Rotary X / Cable Tools _____
Water strata depth: Fresh 175' feet; Salt none feet
Coal seam depths: none Is coal being mined in the area? no

OPEN FLOW DATA
Producing formation Devonian Shale Pay zone depth see treatment feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow 348 Mcf/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 2165 psig (surface measurement) after 48 hours shut in
(If applicable due to multiple completion--)
Second producing formation _____ Pay zone depth _____ 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

OCT 26 1987

(Continue on reverse side)

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

1st Stage: Shale ~~(6060-5700)~~ 1000 gal. 15% HCL, 40 ton CO₂, 510 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, redrock			0	20	1½" fresh H ₂ O @ 175'
sand, shale			20	237	
sand, shale, redrock			237	873	
sand, shale			873	1686	
LITTLE LIME			1686	1702	
BLUE MONDAY			1702	1729	
BIG LIME			1729	1778	
BIG INJUN			1778	1878	
sand, shale			1878	3109	
SPEECHLY SECTION			3109	3426	
shale			3426	3500	
BALLTOWN SECTION			3500	4068	
RILEY SECTION			4068	4497	
shale			4497	4541	
BENSON			4541	4548	
shale			4548	4774	
ALEXANDER			4774	4821	
shale			4821	4933	
ELK SECTION			4933	5191	
shale			5191	6063	
MARCELLUS SHALE			6063	6112	
ONONDAGA LIMESTONE			6112	6132	T.D.

(Attach separate sheets as necessary)

WACO OIL & GAS CO., INC.

Well Operator

By: DANIEL R. CHAPMAN, Geologist

Date: April 28, 1987

Note: Regulation 2.02(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic
 including

JUL 24

- 1) Date: March 17, 1992
- 2) Operator's well number
Waco #479 Tierney #3
- 3) API Well No: 47 - 021 - 4556 -FRAC
State - County - Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
 - (a) Name J. Tierney Hrs.
Address Mrs. James A. Tierney
Rt. Box 292
 - (b) Name Natchitoches, LA 71457
Address _____
 - (c) Name _____
Address _____
- 6) Inspector Craig Duckworth
Address Box 107, Davisson Route
Gassaway, WV 26624
Telephone (304)- 364-5942

- 5) (a) Coal Operator:
 - Name N/A
 - Address _____
- (b) Coal Owner(s) with Declaration
 - Name N/A
 - Address _____
- (c) Coal Lessee with Declaration
 - Name N/A
 - Address _____

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR
X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 7 on the above named parties, by:

- _____ Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Waco Oil and Gas Company, Inc.
 By: [Signature] Stephen E. Holloway
 Its: Agent
 Address P. O. Box 397
Glenville, WV 26351
 Telephone (304) 462-5347

Subscribed and sworn before me this 17th day of March, 1992

My commission expires _____
Sandra Ann Pettit Notary Public
8-24-97

021-4556- Free

Issued 8/11/92

Page of

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

Expires 8/11/94

- 1) Well Operator: Waco Oil and Gas Company, Inc. 51800 (2) 633
- 2) Operator's Well Number: Waco #479 Tierney #3 3) Elevation: 842
- 4) Well type: (a) Oil / or Gas X /
(b) If Gas: Production X / Underground Storage /
Deep / Shallow X /
- 5) Proposed Target Formation(s): Gordon, Big Injun, Salt Sand
- 6) Proposed Total Depth: 2395, 1790, 1420 feet
- 7) Approximate fresh water strata depths: 175'
Original D. 0132
- 8) Approximate salt water depths: None
- 9) Approximate coal seam depths: None
- 10) Does land contain coal seams tributary to active mine? Yes / No X /
- 11) Proposed Well Work: Set retrievable plugs, perforate and stimulate new zones, retrieve plugs and comingle zones.
- 12) *Real Existing Well, New Formations*

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT	
	Size	Grade	Weight per ft.	For drilling		Left in well
Conductor						
Fresh Water	8-5/8"	J-55	20#	921'	921'	C. T. S.
Coal						
Intermediate						
Production	4-1/2"	J-55	10.5#		6,064	535 Sks.
Tubing						
Liners						

PACKERS : Kind Retrievable Plugs
 Sizes 4-1/2"
 Depths set 2450', 1850', 1450'

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond Blanket One Agent
 (Type)

1400x
01953 38

RECEIVED
NOV 08 1988

1) Date: October 21, 1988
2) Operator's well number
Waco 479-Tierney #3
3) API Well No: 47 - 021 - 4556 -FRAC
State - County - Permit

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- | | |
|---|---|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>J.Tierney Hrs.</u>
Address <u>c/o Mrs. James A. Tierney</u>
<u>Rt. 1, Box 292</u></p> <p>(b) Name <u>Natchitoches, LA 71457</u>
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name <u>N/A</u>
Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name _____
Address <u>N/A</u></p> <p>Name _____
Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name <u>N/A</u>
Address _____</p> |
| <p>6) Inspector <u>Craig Duckworth</u>
Address <u>Box 107, Davisson Route</u>
<u>Gassaway, WV 26624</u>
Telephone (304)- <u>364-5942</u></p> | |

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR
X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 5 on the above named parties, by:

- _____ Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Waco Oil and Gas Company, Inc.
By: Stephen E. Holloway Stephen E. Holloway
Its: Agent
Address P. O. Box 397
Glenville, WV 26351
Telephone (304) 462-5347

Subscribed and sworn before me this 21st day of October, 1988

Gregory C. Nicholas Notary Public
My commission expires Sept 16 1992

021-4556-Form

Issued 11/14/88 Expires 11/14/90
Page 3 of 5

FORM WW-2B

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

- 1) Well Operator: ⁹³³ Waco Oil and Gas Company, Inc. 51800, 2, 633
- 2) Operator's Well Number: Waco 479-Tierney #3 3) Elevation: 842'
- 4) Well type: (a) Oil / or Gas /
(b) If Gas: Production / Underground Storage /
Deep / Shallow /
- 5) Proposed Target Formation(s): Elk 436
- 6) Proposed Total Depth: 5,050 feet
- 7) Approximate fresh water strata depths: 63', 195'
- 8) Approximate salt water depths: None
- 9) Approximate coal seam depths: None
- 10) Does land contain coal seams tributary to active mine? Yes / No /
- 1) Proposed Well Work: Perforate and stimulate new formation
- 2)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor						
Fresh Water						
Coal						
Intermediate	8-5/8"	A.P.I.	20.#	921'	921'	C. T. S.
Production	4-1/2"	A.P.I.	10.5#		6,064'	535 sks.
Tubing						
Liners						

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NOV 08 1988

ACKERS : Kind _____
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

37 Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond 50000 Agent

21 23

FORM WV-2 (B) FILE COPY
(Obtained 7/8)
RECEIVED
JAN 07 1987



1) Date: December 29, 1986
2) Operator's Well No. Waco 479 - Tierney No. 3
3) API Well No. 47 - 021 - 4556
State County Permit

STATE OF WEST VIRGINIA
DIVISION OF OIL & GAS DEPARTMENT OF ENERGY
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: 842' / Watershed: Piney Run of Tanner Creek
District: 933 DeKalb 2 / County: Gilmer 021 / Quadrangle: Tanner 7.5' 633
- 6) WELL OPERATOR WACO OIL & GAS CO. CODE: 51800 / 7) DESIGNATED AGENT Stephen E. Hollcway
Address: PO Box 397, Glenville, WV 26351 / Address: PO Box 397, Glenville, WV 26351
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name: Craig Duckworth / 9) DRILLING CONTRACTOR: I.L. Morris Well Service, Inc.
Address: Box 107, Davisson Rt., Cassaway, WV 26624 / 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, Elk 436
- 12) Estimated depth of completed well, 5050 feet
- 13) Approximate trata depths: Fresh, 63' 195' 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									Sizes
Intermediate	8 5/8	ERW	20#	X		850	850	C.I.S.	Per Rule 1505
Production	4 1/2	J-55	10.5#	X			5050	525 sks	Depths set
Tubing									
Liners									Perforations: Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-021-4556 / Date January 20, 1987

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 January 20, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/> ALB	Plat: <input checked="" type="checkbox"/> 105	Casing: <input checked="" type="checkbox"/> 185	Fee: 1707 164	WBCP: <input checked="" type="checkbox"/> 187	SAC: <input checked="" type="checkbox"/> 185	Other: <input type="checkbox"/>
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NOTE: Keep one copy of this permit posted at the drilling location.

[Signature]
Director, Division of Oil and Gas

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