

C. GARNER

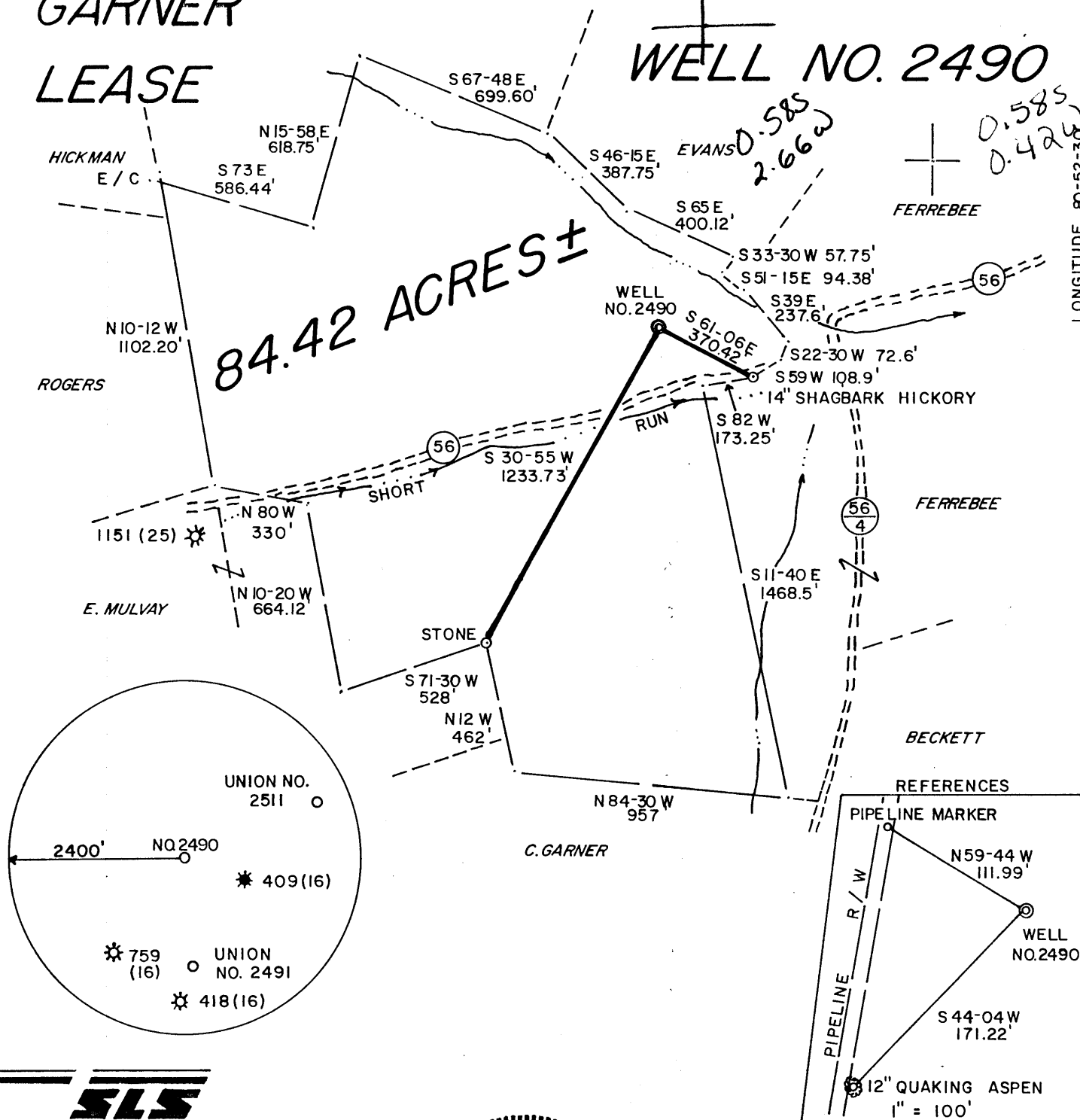
# GARNER LEASE

# WELL NO. 2490

## 84.42 ACRES ±

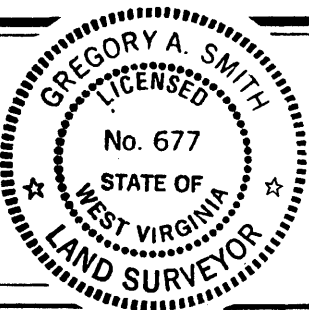
NORTH

LONGITUDE 80-52-30



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 MARCH 9, 19 87  
 OPERATORS WELL NO. WVGK-2490  
 API WELL NO. 47 - 095 - 1189  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 1531 (19-43)  
 PROVEN SOURCE OF ELEVATION TOP OF KNOB 1308' SCALE 1"=500'

STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY  
 OIL AND GAS DIVISION



WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1028' WATERSHED SHORT RUN DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE PENNSBORO 7.5' 539  
 SURFACE OWNER EDWARD GARNER ACREAGE 84.42 LEASE ACRES 84.42  
 ROYALTY OWNER EDWARD GARNER and CLAUDE GARNER LEASE NO. JJ-2184  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_ OTHER \_\_\_  
 PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_ TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5600'

WELL OPERATOR UNION DRILLING INC. DESIGNATED AGENT JOSEPH C. PETTEY ADDRESS P.O. DRAWER 40 BUCKHANNON, WV 26201

APR 27 1987

COUNTY NAME PERMIT



IV-35  
(Rev 8-81)

Date December 21, 1987  
Operator's  
Well No. JK-1296  
Farm Garner  
API No. 47-095-1189

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State of West Virginia  
Department of Mines  
Oil and Gas Division

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

WELL OPERATOR'S REPORT  
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1028' Watershed Short Run  
District: Centerville County Tyler Quadrangle Pennsboro

COMPANY J & J Enterprises, Inc.

ADDRESS P.O. Box 48, Buckhannon, WV 26201

DESIGNATED AGENT Oliver L. Hawkins, III

ADDRESS P.O. Box 48, Buckhannon, WV 26201

SURFACE OWNER Edward Garner

ADDRESS Rt.1, Box 70, Greenwood, WV 26360

MINERAL RIGHTS OWNER Same as surface

ADDRESS   

OIL AND GAS INSPECTOR FOR THIS WORK   

Robert Lowther ADDRESS Gen. Del., Middlebourne, WV

PERMIT ISSUED 4/24/87 26149

DRILLING COMMENCED 10/30/87

DRILLING COMPLETED 11/3/87

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

Casing Tubing Size	Used in Drilling	Left in Well	Cement fill up Cu. ft.
20-16 Cond.			
13-10"	32.00	pulled	0
9 5/8			
8 5/8	1266.30'	1266.30'	245 sks
7			
5 1/2			
4 1/2		5279.70'	285 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5600' feet

Depth of completed well 5514' feet Rotary x / Cable Tools   

Water strata depth: Fresh 139', 144' feet; Salt none feet

Coal seam depths: 176/179 Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Benson, Alexander Pay zone depth 4881 5166/5174 feet

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

Commingled Final open flow 1,100 Mcf/d Final open flow    Bbl/d

Time of open flow between initial and final tests    hours

Static rock pressure 1400# psig (surface measurement) after 96 hours shut in  
(If applicable due to multiple completion--)

Second producing formation Riley Pay zone depth 4483/4513 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 1400# psig (surface measurement) after 96 hours shut in

DEC 28 1987  
(Continue on reverse side)

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

Riley: Perforations: 4483/4513 (15 holes)

Fracking: 500 sks. 20/40 sand: 640 mscf N2: 767 bbls. fluid

Benson & Alexander: Perforations: 4481 - 5166/5174 (13 holes)

Fracking: 500 sks. 20/40 sand: 567 bbls. fluid

$$Pf = Pwe^{XGLS}$$

$$t = 60 + (0.0075 \times 5280) + 459.7 = 559$$

$$x = 53.35 \times \frac{1}{559} = \frac{1}{29,822} = 0.0000335$$

$$Pf = 1400 \times 2.72^{(0.0000335)(0.661)(4828)(0.9)}$$

$$Pf = 1400 \times 2.72^{(0.096)} = 1400 \times 1.10$$

Pf=1540

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fr and salt water, coal, oil and
Clay Fill			0	15	
Sand & Shale			15	139	1" stream fresh water @139'
Shale & Red Rock			139	176	
Coal			176	179	
Sand & Shale			179	1865	Hole Damp @1440'
Big Lime			1865	1955	
Big Injun			1955	2080	
Sand & Shale			2080	2230	Gas check @2153 40/10ths 1" w/w
Weir			2230	2345	
Sand & Shale			2345	2410	
Berea			2410	2416	
Sand & Shale			2416	4475	Gas check @3418 6/10ths 2" w/w
Riley			4475	4520	
Sand & Shale			4520	4875	Gas check @4623 4/10ths 2" w/w
Benson			4875	4883	
Sand & Shale			4883	5120	Gas check @4960 4/10ths 2" w/w
✓ Alexander			5120	5192	
Sand & Shale			5192	5514' TD	Gas check @Drill Collars 4/10ths 2" w/w

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DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

J & J Enterprises, Inc.

Well Operator

By:

Date: 12/21/87 Robert Dahlin - Geologist

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 sand, encountered in the drilling of a well."

FGRM WV-2 (B) FILE COPY  
 (Observed) 7/85  
**RECEIVED**  
 APR 08 1987



1) Date: April 7, 19 87  
 2) Operator's Well No. 2490  
 3) API Well No. 47 095 1189  
                   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: 1028 Watershed: Short Run  
 District: Centerville 1 County: Tyler 095 Quadrangle: Pennsboro 7.5'538
- 6) WELL OPERATOR Union Drilling CODE: 50550 7) DESIGNATED AGENT Joseph C. Pettey  
 Address Post Office Drawer 40 Address Post Office Drawer 40  
Buckhannon, WV 26201 Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:  
 Name Robert Lowther Name Union Drilling, Inc.  
 Address General Delivery Address Post Office Drawer 40  
Middlebourne, WV 26149 Buckhannon, WV 26201
- 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, Alexander
- 12) Estimated depth of completed well, 5600 feet  
 13) Approximate strata depths: Fresh, \_\_\_\_\_ feet; salt, \_\_\_\_\_ feet.  
 14) Approximate coal seam depths: \_\_\_\_\_ 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	11 3/4	H-40	32	X		30	30		Kinds	
Fresh water										
Coal									Sizes	
Intermediate	8 5/8	ERW	23	X		1330	1330	to surface	Per Rule 15.05	
Production	4 1/2	J-55	10.5	X		5600	5600	as required	Depths set	
Tubing								BY RULE 15.01 OR 15.05 SKS.		
Liners									Perforations:	
									Top Bottom	

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-095-1189 Date April 24 19 87

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 April 24, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

1933

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <u>187</u>	Casing: <u>185</u>	Fee: <u>4756</u> <u>192</u>	WPCP: <input checked="" type="checkbox"/>	SAE: <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

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