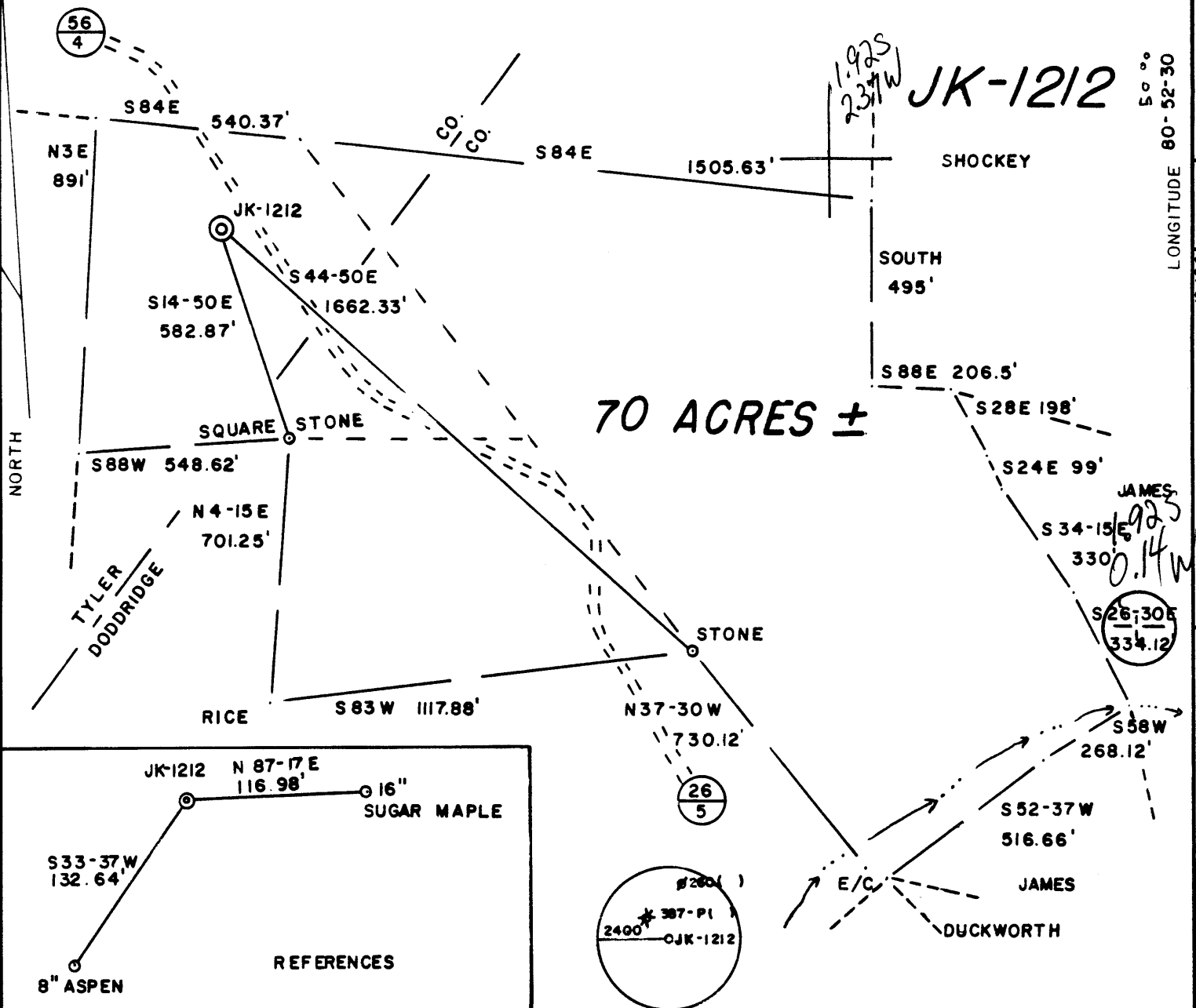


CODE \_\_\_\_\_ CARD \_\_\_\_\_ PLOT

LATITUDE 39-20-00

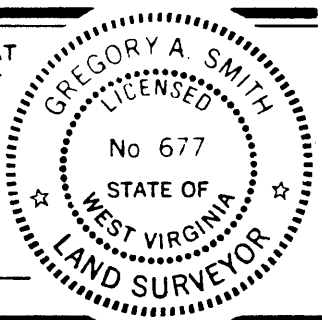
# COTTRILL LEASE WELL NO.



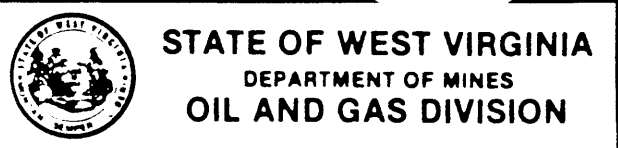
**SLS SMITH LAND SURVEYING**

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 DATE MAY 29, 19 85  
 OPERATORS WELL NO. JK-1212  
 API WELL NO. \_\_\_\_\_  
47 - 095 - 1110  
 STATE COUNTY PERMIT

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.  
 L.L.S. 677 Gregory A. Smith



MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 18-21  
 PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEV.: 1310 SCALE 1" = 400'



WELL TYPE: OIL \_\_\_\_\_ GAS X LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ IF "GAS" PRODUCTION X STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW X

LOCATION: ELEVATION 1149' WATERSHED HUGLE RUN  
 DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE PENNSBORO 7.5' 539  
 SURFACE OWNER VIRGINIA L. COTTRILL ACREAGE 70 Watkinson 133  
 OIL & GAS ROYALTY OWNER VIRGINIA L. COTTRILL LEASE ACREAGE 70 SCB  
 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 RHINE STREET  
 ESTIMATED DEPTH 599 5'

WELL OPERATOR J & J ENTERPRISES, INC. 427 DESIGNATED AGENT RICHARD REDDECLIFF  
 ADDRESS P.O. BOX 48, BUCKHANNON, WV 26201 ADDRESS PO. BOX 48, BUCKHANNON, WV 26201

575

COUNTY NAME PERMIT



SEP 20 1985

-35  
8-81)

Date September 20, 1985  
Operator's St  
Well No. JK-1212  
Farm Cottrill  
API No. 47 - 095 - 1110

State of West Virginia  
Department of Mines  
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: 1149 Watershed Hugle Run  
District: Centerville County Tyler Quadrangle Pennsboro

COMPANY J&J Enterprises, Inc.  
ADDRESS P.O. Box 48, Buckhannon, WV 26201  
DESIGNATED AGENT Richard Reddecliff  
ADDRESS P.O. Box 48, Buckhannon, WV 26201  
SURFACE OWNER Virginia Cottrill  
ADDRESS 902 Tygart St. Parkersburg, WV 26101  
MINERAL RIGHTS OWNER Same as surface  
ADDRESS     
OIL AND GAS INSPECTOR FOR THIS WORK Robert  
Lowther ADDRESS Gen. Delivery  
Middlebourne, WV 26149  
PERMIT ISSUED 7/17/85  
DRILLING COMMENCED 8/23/85  
DRILLING COMPLETED 8/29/85  
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"	239.85	239.85	125 sks.
9 5/8			
8 5/8	1765.65	1765.65	125 sks.
7			
5 1/2			
4 1/2	5443.55	5443.55	275 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Rhine Street Depth    feet  
Depth of completed well 5991 feet Rotary x / Cable Tools     
Water strata depth: Fresh 100,1375 feet; Salt 0 feet  
Coal seam depths: 195-98 <sup>695</sup> Is coal being mined in the area? No

OPEN FLOW DATA  
Producing formation Alexander Pay zone depth 5294-5302 feet  
Gas: Initial open flow    Mcf/d Oil: Initial open flow    Bbl/d  
Combined Final open flow 852 Mcf/d Final open flow    Bbl/d  
Time of open flow between initial and final tests 4 hours  
Static rock pressure 1750 psig (surface measurement) after 96 hours shut in  
(If applicable due to multiple completion--)  
Second producing formation Benson & Riley Pay zone depth 4601-28  
5001.5-503.5 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

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

Riley: Perforations: 4601-05 (8 holes) 4626-28 ( 8 holes)  
 Fracturing: 300 sks. 20/40 sand: 500 gal. acid: 526 Bbls. fluid.  
 Benson: Perforations: 5001.5 - 03.5 ( 8 holes)  
 Fracturing: 300 sks. 20/40 sand: 500 gal. acid: 289 Bbls. fluid.  
 Alexander: Perforations: 5294-5302 ( 16 holes)  
 Fracturing: 300 sks. 20/40 sand: 394 Bbls. fluid.

BOTTOM HOLE PRESSURE  $P_f = P_{we} X G L S$

$$t=60 + (0.0075 \times 5444) + 459.7 = 561 \quad x = \frac{1}{53.35} \times 561 = \frac{1}{29929} = 0.000033 \quad P_f = 1750 \times 2.72^{0.000033}$$

$$(0.750) (49.52) (0.9) = 1750 \times 2.72^{0.1} = 1750 \times 1.1$$

1925 psi

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all free and salt water, coal, oil and gas
Top Soil			0	5	
Shale & sand stone			5	80	Damp @ 100'
Red rock & shale			80	195	
Coal			195	198	1/4" stream @ 695'
Red rock, sand & shale			198	330	
Sand & shale			330	685	1/4" stream @ 1375
Sand, shale & red rock			685	1015	
Sand & shale			1015	1360	Gas ck @ 2203 No show
Sand & shale			1360	1620	
Sand, shale & black shale			1620	1825	Gas ck @ 2513 No show
Sand & shale			1825	1900	
Sand, shale & black shale			1900	1925	Gas ck @ 3538 10/10-1/2" w/water
Sand & shale			1925	1970	44,500 cu.ft.
Sand & shale			1970	2005	
Little Lime			2005	2015	Gas ck @ 4718 16/10-2" w/water
Lime & shale			2015	2030	169,000 cu.ft.
Big Lime			2030	2050	
Big Injun <i>GRK 4 TD</i>			2050	2155	Gas ck @ 5090 80/10-1" w/water
Sand & shale			2155	2670	94.26 cu.ft.
Sand & shale			2670	3095	
Sand & shale			3095	3500	Gas ck @ 5370 90/10-1" w/water
Sand & shale			3500	4601	99.99 cu.ft.
Riley			4601	4628	
Sand & shale			4628	5001.5	
Benson			5001.5	5003.5	
Sand & shale			5003.5	5294	
Alexander			5294	5302	
Sand & shale			5302	<u>5991</u>	
				T.D.	

*Rhinestreet @ TD*

(Attach separate sheets as necessary)

J&J Enterprises, Inc.  
 Well Operator  
 By: [Signature]  
 Date: 9/20/85 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 ... encountered in the drilling of a well."

**APPROVED**

JUL 9 1985



1) Date: June 3, 1985  
 2) Operator's Well No. JK-1212  
 3) API Well No. 47 - 095-1110  
 State County Permit

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

OIL & GAS DIVISION  
**DEPT. OF MINES**

- 4) WELL TYPE: A Oil  Gas   
 B (If "Gas", Production  / Underground storage  / Deep  / Shallow  )
- 5) LOCATION: Elevation: 1149' Watershed: Hugle Run  
 District: Centerville County: Tyler Quadrangle: Pennsboro 7.5'
- 6) WELL OPERATOR J & J Enterprises, Inc. 427 7) DESIGNATED AGENT Richard Reddecliff  
 Address P.O. Box 48 24150 Address P.O. Box 48  
Buckhannon, WV 26201 Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Robert Lowther  
 Address General Delivery  
Middlebourne, WV 26149
- 9) DRILLING CONTRACTOR: Name S.W. Jack Drilling Co.  
 Address P.O. Box 48  
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, Rhine Street 441  
 12) Estimated depth of completed well, 5995' feet  
 13) Approximate trata depths: Fresh, 125' feet; salt, N/A feet.  
 14) Approximate coal seam depths: N/A 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	1 3/4	H-40	42	X		<del>250</del>	<del>420</del> 2250	0 Sacks	<u>TYPE NEAT</u>
Fresh water	3 5/8	ERW	23	X		1749'	1749'	To Surface	
Coal	3 5/8	ERW	23	X		1749'	1749'	To Surface	Sizes
Intermediate									
Production	4 1/2	J-55	10.5	X		5995'	5945'	300 Sacks	Depths set
Tubing								or as required by rule 15-01	
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY  
**DRILLING PERMIT**

Permit number 47-095-1110 Date July 17 19 85

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 July 17, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>✓</u>	Agent: <u>ALB</u>	Plat: <u>MM</u>	Casing: <u>MM</u>	Fee: <u>2001</u>
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*[Signature]*

Administrator, Office of Oil and Gas

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

File

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