



FILE NO. 13-73
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION JUNCT. OF ROADS ELEV. 815'

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

PLACE SEAL HERE

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



DATE AUGUST 6, 19 84
 OPERATOR'S WELL NO. JK-1051
 API WELL NO. _____
47 - 095 - 1090
 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 X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1215' WATERSHED MUDLICK RUN
 DISTRICT CENTERVILLE COUNTY TYLER
 QUADRANGLE PENNSBORO 7.5' West Union 133 508
 SURFACE OWNER GARY & KAREN McCULLOUGH ACREAGE 76
 OIL & GAS ROYALTY OWNER ALFRED O. FERREBEE, et al. LEASE ACREAGE 76
 LEASE NO. JJ-1674
 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 DEVONIAN SHALE ESTIMATED DEPTH 5995'
 WELL OPERATOR J & J ENTERPRISES, INC. DESIGNATED AGENT RICHARD M. REDDECLIFF
 ADDRESS P. O. BOX 48 421 ADDRESS P. O. BOX 48
BUCKHANNON, WV 26201 BUCKHANNON, WV 26201



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OCT 24 1984

OIL & GAS DIVISION
DEPT. OF MINES

State of West Virginia
Department of Mines
Oil and Gas Division

Date October 23, 1984
Operator's
Well No. JK-1051
Farm McCullough
API No. 47 - 095 - 1090

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: 1215 Watershed Mudlick Run
District: Centerville County Tyler Quadrangle Pennsboro 7-5'

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 Gary McCullough
ADDRESS 141 Bull Creek Road, Parkersburg, WV 26101
MINERAL RIGHTS OWNER Alfred Ferrebee
ADDRESS C/O Brooks Ferrebee
Rt. # 1, Box 61-U, Weirton, WV 26062
OIL AND GAS INSPECTOR FOR THIS WORK Robert
Lowther ADDRESS Gen. Del. Middlebourne, WV
26149
PERMIT ISSUED. 9/13/84
DRILLING COMMENCED 9/29/84
DRILLING COMPLETED 10/5/84

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	30	30	0 sks.
9 5/8			
8 5/8	1760.65	1760.65	450 sks.
7			
5 1/2			
4 1/2	5145	5145	265 sks.
3			
2			
Liners used			

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

GEOLOGICAL TARGET FORMATION Devonian Shale Depth feet
Depth of completed well 5617 feet Rotary x / Cable Tools
Water strata depth: Fresh 500 feet; Salt 0 feet
Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 5360-66 feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
Combined Final open flow 1,347 Mcf/d Final open flow Bbl/d
Time of open flow between initial and final tests 4 hours
Static rock pressure 1700 psig (surface measurement) after 96 hours shut in
(If applicable due to multiple completion--)
Second producing formation Benson & Riley Pay zone depth 4673-4701 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.

Alexander: Perforations: 5360-66 (14 holes)
 Fracturing: 400 sks. 20/40 sand: 508 Bbls. fluid.
 Benson: Perforations: 5069.5-71.5 (8 holes)
 Fracturing: 350 sks. 20/40 sand: 500 gal. acid: 442 Bbls. fluid.
 Riley: Perforations: 4673-77 (4 holes) 4684-85 (5 holes) 4700-01 (5 holes)
 Fracturing: 350 sks. 20/40 sand: 500 gal. acid: 510 Bbls. fluid.

BOTTOM HOLE PRESSURE Pf=Pwe XGLS

$$t=60 + (0.0075 \times 5145) + 5145 + 459.7 = 558 \quad x = \frac{1}{53.35} \times 558 = 29769 \quad = 0.000034 \quad Pf=1700 \times 2.72$$

$$(0.000034) (0.661) (5011) (0.9) = 1700 \times 2.72^{0.1} = 1700 \times 1.1$$

Pf=1870 psi

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fr and salt water, coal, oil and
Red rock & shale			0	70	
Sand, shale & red rock			70	200	Damp @ 500'
Sand			200	235	
Sand, shale & red rock			235	2085	Gas ck @ 2389 No show
Big Lime			2085	2150	
Big Injun			2150	2250	Gas ck @2602 No show
Sand & shale			2250	4673	
Riley			4673	4685	Gas ck @ 3619 No show
Sand & shale			4685	5069	
Benson			5069.5	5071.5	Gas ck @ 4757 No show
Sand & shale			5071.5	5360	
Alexander			5360	5366	Gas ck @ 5129 40/10-1" w/wat
Sand & shale			5366	5617	47,629 cu.ft.
				T.D.	
					Gas ck @ 5496 34/10-1" w/wat
					43,782 cu.ft.
					Gas ck @ collars 16/10-1" w/
					water
					30,123

(Attach separate sheets as necessary)

J&J Enterprises, Inc.

Well Operator

By:  Robert Dahlin-
Geologist

Date: 10/23/84

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."



1) Date: AUGUST 9, 19 84
 2) Operator's Well No. JK-1051
 3) API Well No. 47 - 095 - 1090
 State _____ County _____ Permit _____

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

- 4) WELL TYPE: A Oil _____ / Gas X / B (If "Gas", Production X / Underground storage _____ / Deep _____ / Shallow X)
- 5) LOCATION: Elevation: 1215' / Watershed: MUDLICK RUN / District: CENTERVILLE / County: TYLER / Quadrangle: PENNSBORO 7.5'
- 6) WELL OPERATOR J & J ENTERPRISES, INC. / Address: P.O. BOX 48 / BUCKHANNON, WV 26201
- 7) DESIGNATED AGENT RICHARD M. REDDECLIFF / Address: P.O. BOX 48 / BUCKHANNON, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED / Name: ROBERT LOWTHER / Address: GENERAL DELIVERY / MIDDLEBOURNE, WV 26140
- 9) DRILLING CONTRACTOR: / Name: S.W. JACK DRILLING CO. / Address: P.O. BOX 48 / BUCKHANNON, WV 26201
- 10) PROPOSED WELL WORK: Drill X / Drill deeper _____ / Redrill _____ / Stimulate X
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, DEVONIAN SHALE
 12) Estimated depth of completed well, 5995' feet
 13) Approximate trata depths: Fresh, 150' 465' feet; salt, N/A feet.
 14) Approximate coal seam depths: NONE Is coal being mined in the area? Yes _____

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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			
Conductor	11 3/4	H-40	42	X		<u>495' 350'</u>	<u>Left in well 495'</u>	<u>0 SACKS to surface NEAT</u>
Fresh water	8 5/8	ERW	23	X		1815'	1815'	TO SURFACE
Coal	8 5/8	ERW	23	X		1815'	1815'	TO SURFACE
Intermediate								Sizes
Production	4 1/2	J-55	10.5	X		5950'	5950'	350 SACKS
Tubing								Depths set
Liners								OR AS REQUIRED BY RULE 15-01
								Perforations:
								Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-095-1090 Date September 13, 19 84

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 September 13, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>BLANKET</u>	Agent: <u>LS</u>	Plat: <u>MH</u>	Casing: <u>MW</u>	Fee: <u>1782</u>
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Margaret J. Hass
 Administrator, Office of Oil and Gas

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.

File