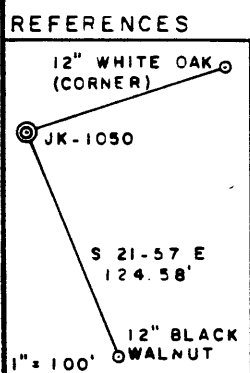


LONGITUDE 80° 50' 80° 52' 30' 7,300'



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)

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 982' WATERSHED MUDLICK RUN
 DISTRICT CENTERVILLE COUNTY TYLER
 QUADRANGLE 539 PENNSBORO 7.5' West Union 13 3508

SURFACE OWNER GARY B 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 ADDRESS P. O. BOX 48
BUCKHANNON, WV 26201 BUCKHANNON, WV 26201

STATE OF WEST VIRGINIA DEPARTMENT OF MINES OIL AND GAS DIVISION

DATE AUGUST 6, 19 84
 OPERATOR'S WELL NO. JK-1050
 API WELL NO. 47-095-1091
 STATE 47 COUNTY 095 PERMIT 1091

SEP 17 1984

IV-35
(Rev 8-81)

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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-1050
Farm Alfred Ferrebee
API No. 47 - 095 - 1091

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: 982 Watershed Mudlick 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 Gary McCullough
ADDRESS 5141 Bull Creek Rd. Parkersburg, WV26101
MINERAL RIGHTS OWNER Alfred Ferrebee C/O Brooks Ferrebee, Rt. 1, Box61-U
ADDRESS Weirton, West Va. 26062
OIL AND GAS INSPECTOR FOR THIS WORK Robert Lowther
ADDRESS Gen. Del. Middlebourne, WV 26149
PERMIT ISSUED 9/13/84
DRILLING COMMENCED 10/5/84
DRILLING COMPLETED 10/11/84

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	35	0	0 sks.
9 5/8			
8 5/8	1491.15	1491.15	325 sks.
7			
5 1/2			
4 1/2	5983.10	5983.10	430 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5743-95 feet
Depth of completed well 5995 feet Rotary x / Cable Tools
Water strata depth: Fresh 60,201 feet; Salt 0 feet
Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 5743-5858 feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
Combined Final open flow 1,338 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 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

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


Riley: Perforations: 4423-25 (4 holes) 4435-36 (5 holes) 4452-54 (5 holes)
 Fracturing: 300 sks. 20/40 sand:608 Bbls. fluid.
 Benson: Perforations: 4823-25 (8 holes)
 Fracturing: 350 sks. 20/40 sand:579 Bbls. fluid.
 Alexander: Perforations: 5085-87 (4 holes) 5115-21 (10 holes)
 Fracturing: 400 sks. 20/40 sand:649 Bbls. fluid.
 Devonian Shale: Perforations: 5743-47 (10 holes) 5793-95 (3 holes) 5855-58 (4 holes)
 Rhinestreet Fracturing: 300 sks. 20/40 sand: 682 Bbls. fluid.

BOTTOM HOLE PRESSURE $PF = P_{we} \frac{XGLS}{1}$
 $t = 60 + (0.0075 \times 5983) + 459.7 = 565$ $X = 53.35 \times 565 = 30143$ $= 0.000033$ $Pf = 1700 \times 2.72^{(0.000033)}$
 $(0.661)(5141)(0.9) = 1700 \times 2.72^{0.1} = 1700 \times 1.1$
 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
Shale			0	15	
Sand			15	110	1" stream @ 60'
Sand, shale & red rock			110	1855	
Big Lime			1855	1920	More water @ 201'
Big Injun			1920	2015	
Sand & shale			2015	4423	Gas ck @ 2078 50/10-2" w/water
Riley			4423	4454	298,000 cu.ft.
Sand & shale			4454	4823	
Benson			4823	4825	Gas ck @ 2386 44/10-2" w/water
Sand & shale			4825	5085	280,000 cu.ft.
Alexander			5085	5121	
Sand & shale			5121	5743	Gas ck @ 3404 36/10-2" w/water
Devonian Shale Rhinestreet @ T.D.			5743	5795	253,000 cu.ft.
Sand & shale			5795	5995	
				T.D.	Gas ck @ 4572 40/10-2" w/water
					267,000 cu.ft.
					Gas ck @ 4882 40/10-2" w/water
					267,000 cu.ft.
					Gas ck @ 5220 40/10-2" w/water
					267,000 cu.ft.

(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-1050
 3) API Well No. 47 - 095 - 1091
 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: 982' / MMKXKX / Watershed: MUDLICK RUN / OM: 40 B1
 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 26149
- 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 true depths: Fresh, 100 2232' feet; salt, N/A feet.
 14) Approximate coal seam depths: NONE Is coal being mined in the area? Yes _____
- 15) CASING AND TUBING PROGRAM

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OK No. XS DIVISION

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	DEPT. OF MINES PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	11 3/4	H-40	42	X		262'	262'	0 SACKS	Winds Neat
Fresh water	8 5/8	ERW	23	X		1582'	1582'	TO SURFACE	
Coal	8 5/8	ERW	23	X		1582'	1582'	TO SURFACE	Sizes
Intermediate									
Production	4 1/2	J-55	10.5	X		5950'	5950'	350 SACKS	Depths set
Tubing								OR AS REQUIRED BY RULE 15-01	
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-095-1091 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>82</u>	Agency: <u>✓</u>	Plat: <u>ms</u>	Casing: <u>ms</u>	Fee: <u>1781</u>
BLANKET				

Margaret J. Hass
 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.