

LONGITUDE 80° 50'

12,350'

FILE NO. JJ
DRAWING NO. 2
SCALE 1"=500'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION RD 750

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) Neal Hughes
R.P.E. _____ L.S. 632

PLACE SEAL HERE

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



DATE JUNE 9, 1981
OPERATOR'S WELL NO. 5514
API WELL NO. 47-095-0924
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS", PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____)
LOCATION: ELEVATION 735 WATER SHED ARNOLDS CREEK
DISTRICT CENTERVILLE COUNTY TYLER
QUADRANGLE WEST UNION 75' 415 C
SURFACE OWNER W. PAUL McCUTCHEN ACREAGE 109.8
OIL & GAS ROYALTY OWNER W. PAUL McCUTCHEN (1/2) ETAL LEASE ACREAGE 109.8
LEASE NO. JJ 1126
PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION Benson ESTIMATED DEPTH 5700
WELL OPERATOR J & J Enterprises, Inc. DESIGNATED AGENT Roger Ralston
ADDRESS P.O. Box 48 ADDRESS P.O. Box 48
Buckhannon, WV 26201 Buckhannon, WV 26201

JUL 27 1981

(Obverse)
[08-78]

Date: October 12, 1981
Operator's Well No. J-514
API Well No. 47 - 095 - 0924
State County Permit

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 / Liquid Injection / Waste Disposal
(If "Gas", Production / Underground storage / Deep / Shallow)
LOCATION: Elevation: 735 Watershed: Arnolds Creek
District: Centerville County: Tyler Quadrangle: West Union

WELL OPERATOR J & J Enterprises, Inc. DESIGNATED AGENT James R. Willett
Address P.O. Box 48 Address P.O. Box 48
Buckhannon, WV 26201 Buckhannon, WV 26201

PERMITTED WORK: Drill / Convert / Drill deeper / Redrill / Fracture or stimulate
Plug off old formation / Perforate new formation
Other physical change in well (specify) _____

PERMIT ISSUED ON 7/9, 1981 OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Phillip L. Tracy
Address Rt. # 23
Alma, WV 26320

GEOLOGICAL TARGET FORMATION: Benson Depth 4646-48 feet
Depth of completed well, 5122 feet Rotary / Cable Tools
Water strata depth: Fresh, 75 feet; salt, 0 feet.
Coal seam depths: 105-08 Is coal being mined in the area? no
Work was commenced 9/12, 1981, and completed 9/18, 1981

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	42	x		30	0	0 sks.	Hands
Fresh water	8 ⁵ / ₈	ERW	23	x		810	810	200 sks.	
Coal	8 ⁵ / ₈	ERW	23	x		810	810	200 sks.	Sizes
Intermediate									
Production	4 ¹ / ₂	J-55	10.5	x		5045.50	5045.50	220 sks.	Seams set
Tubing									
Liners									Perforations:
									Top Bottom
									4231 4233
									4646 4648
									4945 4965

OPEN FLOW DATA
Producing formation Alexander Pay zone depth 4945-65 feet
Gas: Initial open flow, _____ Mcf/d Oil: Initial open flow, _____ Bbl/d
Combined Final open flow, 1,100 Mcf/d Final open flow, _____ Bbl/d
Time of open flow between initial and final tests, 4 hours
Static rock pressure, 1600 psig (surface measurement) after _____ hours shut in

(If applicable due to multiple completion--)
Second producing formation Benson, & Riley Pay zone depth 4646-48 BNSN feet
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 measurement) after _____ hours shut in
Bottom Hole Pressure
Pf=PweXGLS
$$= 60 + (0.0075 \times 5045) + 459.7 = 557.5 \times 53.35 \times 557.5 = 29742 = 0.0000336 \text{ Pf} = 1600 \times 2.72 \text{ (0.0000336)}$$

$$(0.671)(4598)(0.9) = 1600 \times 2.72 \text{ 0.093} = 1600 \times 1.098$$

Pf=1757

NOV 5 1981

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

Alexander: Perforations: 4945-65 (10 holes)
Fracturing: 100 sks. 80/100 sand: 570 sks. 20/40 sand: 1000 Bbls. fluid.

Benson: Perforations: 4646-48 (9 holes)
Fracturing: 100 sks. 80/100 sand: 500 sks. 20/40 sand: 500 gals. Acid.
750 Bbls. fluid.

Riley: Perforations: 4231-33 (9 holes)
Fracturing: 100 sks. 80/100 sand: 500 sks. 20/40 sand: 500 gals. Acid:
750 Bbls. fluid .

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all gases and salt water, coal, oil and gas
Soil			0	8	
Sand & shale			8	2100	
Gray sand & red rock			21	63	Damp @ 5'
Gray sand & red rock			63	76	Wet @ 10'
Gray sand			76	105	
Coal			105	108	1/4" stream @ 75'
Sand, shale and red rock			108	140	
Sand & shale			140	235	Gas ck @ 1804 100/10-1" w/water 75,308 cu.ft.
Shale & red rock			235	280	
Sand and shale			280	300	Gas ck @ 2050 44/10-1" w/water 49,951 cu.ft.
Red rock and shale			300	360	
Sand, shale & red rock			360	615	
Sand, shale and red rock			615	710	Gas ck @ 2578 104/10-1" w/water 105.36 cu.ft.
Red rock			710	740	
Red rock and shale			740	780	
Sand & gray shale			780	835	Gas ck @ 3383 30/10-1" w/water 41,222 cu.ft.
White sand			835	855	
Sand & gray sand and shale			855	1375	Gas ck @ 4501 80/10-1" w/water 67,337 cu.ft.
Dark gray and black shale			1375	1493	
Lt. Gray shale and sand			1493	1565	
Little lime			1565	1585	Gas ck @ 4564 40/10-1" w/water 47,620 cu.ft.
Blue Monday			1585	1605	
Big Lime			1605	1670	
Injun			1670	1780	Gas ck @ 4688 100/10-1" w/water 75,308 cu.ft.
Sand & shale			1780	2565	
Gordon			2565	2570	
Sand & shale			2570	4231	Gas ck @ 4904 36/10-2" w/water 253,000cu.ft.
Riley			4231	4233	
Sand & shale			4233	4646	
Benson			4646	4648	Gas ck @ 4904 12/10-2" w/water 146,000cu.ft.
Sand & shale			4648	4935	
Alexander			4935	4970	
Sand & shale			4970	5122	

(Attach separate sheets if complete as necessary.)

J & J Enterprises, Inc.

Well Operator

By

Peter Battles

Its

Geologist

NOTE: Regulation 2.02(d) provides as follows:

"The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including coal, encountered in the drilling of a well."

[08-78]

OIL AND GAS WELL PERMIT APPLICATION

Operator's Well No. J-514 API Well No. 47-095-0924 State County Perm

WELL TYPE: Oil / Gas x / (If "Gas", Production x / Underground storage / Deep / Shallow x /) LOCATION: Elevation: 735 Watershed: Arnold's Creek District: Centerville County: Tyler Quadrangle: West Union 7.5'

WELL OPERATOR J & J Enterprises, Inc. Address P.O. Box 48 Buckhannon, WV 26201

DESIGNATED AGENT Roger Rolston Address P.O. Box 48 Buckhannon, WV 26201

OIL & GAS LEASE OWNER W. Paul McCutchan Address 300 Wood St. West Union, WV 26456

COAL OPERATOR None Address

ACREAGE 109.8 SURFACE OWNER Wm. Paul McCutchan Address 300 Wood St. West Union, WV 26456 Acreage 109.8

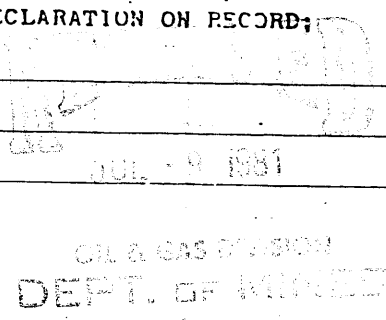
COAL OWNER(S) WITH DECLARATION ON RECORD; Name Wm. Paul McCutchan Address 300 Wood St. West Union, WV 26456

DEED SALE (IF MADE) TO: Name Unknown Address

Name Address

OIL & GAS INSPECTOR TO BE NOTIFIED Name Phillip L. Tracy Address Rt. 23 Alma, WV 26320

COAL LESSEE WITH DECLARATION ON RECORD; Name None Address



The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease x / other contract / dated 3/12, 1981, to the undersigned well operator from Kathleen Upton [if said deed, lease, or other contract has been recorded:]

Recorded on 3/12, 1981, in the office of the Clerk of the County Commission of Tyler County, West Virginia, in Oil & Gas lease Book 119 at page 609. A permit is requested as follows:

PROPOSED WORK: Drill x / Drill deeper / Redrill / Fracture or stimulate x / Plug off old formation / Perforate new formation / Other physical change in well (specify)

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any notices they wish to take or are required to take by Code § 22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and declaration plan have been mailed registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL PHYSICAL LOGS DIRECTLY TO: WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION 100 WASHINGTON STREET EAST CHARLESTON, WV 25311 TELEPHONE: (304) 345-3092

BLANKET BOND

J & J Enterprises, Inc. Well Operator By Peter Battles Geologist Its Peter Battles Geologist

[08-78]

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) S.W. Jack Drilling Company
Address P.O. Box 48
Buckhannon, WV 26201

GEOLOGICAL TARGET FORMATION, Benson

Estimated depth of completed well, 5700 feet Rotary / Cable tools
Approximate water strata depths: Fresh, 340 feet; salt, 0 feet.
Approximate coal seam depths: None Is coal being mined in the area: Yes / No

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	42	x		30	0	0 sks.	Kinds
Fresh water	8 5/8	ERW	23	x		1200	1200	375 sks.	
Coal	8 5/8	ERW	23	x		1200	1200	375 sks.	Sizes
Intermediate									
Production	4 1/2	J-55	10.5	x		5650	5640	550 sks.	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

THIS PERMIT MUST BE POSTED AT THE WELL SITE where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 3-14-82.

[Signature]
Deputy Director - Oil & Gas Division

The undersigned coal operator and by any coal owner or coal lessee who has recorded a declaration under Code § 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator / owner / lessee of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: _____, 19__

By _____
Its _____