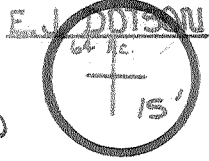


80 51 40  
39 15 20



5.54 S  
1.50 W



FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 500'  
MINIMUM DEGREE OF ACCURACY 1 PART IN 200  
PROVEN SOURCE OF ELEVATION INT. RTS. 19 & 19/1  
ELEV. - 900'

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) Samuel L. Thelen  
R.P.E. \_\_\_\_\_ L.L.S. 530

PLACE SEAL HERE

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



DATE JANUARY 5, 19 80  
OPERATOR'S WELL NO. K-913-1  
API WELL NO. 47-017-2575  
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 1040' WATER SHED LEASON RUN  
DISTRICT CENTRAL COUNTY DODDRIDGE  
QUADRANGLE WEST UNION 7.5' 15' 30'  
SURFACE OWNER THURMAN JONES, JR. ACREAGE 40  
OIL & GAS ROYALTY OWNER THURMAN JONES, JR. LEASE ACREAGE 40  
LEASE NO. K-913  
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 ALEXANDER ESTIMATED DEPTH 5,150'  
WELL OPERATOR J & J ENTERPRISES, INC. DESIGNATED AGENT HARRY BARNETT  
ADDRESS P.O. BOX 48 BUCKHANNON, W. VA. 26201 ADDRESS P.O. BOX 48 BUCKHANNON, W. VA. 26201

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: 1040 Watershed: Leason Run  
District: Central County: Doddridge Quadrangle: West Union 7.5'

WELL OPERATOR J & J Enterprises, Inc. DESIGNATED AGENT H.L. Barnett  
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  MAR 26 1980  
Other physical change in well (specify) \_\_\_\_\_

PERMIT ISSUED ON January 14, 1980 OIL & GAS INSPECTION FOR THIS WORK  
(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Paul Garrett  
Address 321 Beech St. Clarksburg, WV 26301

GEOLOGICAL TARGET FORMATION: Alexander Depth 5294 feet  
Depth of completed well, 5708 feet Rotary  Cable Tools   
Water strata depths: Fresh, 230 feet; salt, 1695 feet.  
Coal seam depths: None Is coal being mined in the area? No  
Work was commenced Feb. 13, 1980, and completed Feb. 20, 1980

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		35	0	0 sks	Rinds None	
Fresh water	8 5/8	ERW	23	x		1766	1766	450 sks		
Coal	8 5/8	ERW	23	x		1766	1766	450 sks	Sizes	
Intermediate										
Production Tubing	4 1/2	J-55	10.5	x		5436	5436	250 sks	Seams set	
Liners									Perforations:	
									Top 4950	
									4950 4950	
									4974 4974	
									5037 5040	
									5257	

OPEN FLOW DATA

Producing formation: Alexander Pay zone depth 5037-5040  
Gas: Initial open flow, \_\_\_\_\_ Mcf/d Oil: Initial open flow, \_\_\_\_\_ Bbl/d  
Combined Final open flow, 984,000 Mcf/d Final open flow, \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests, 3 1/2 hours  
Static rock pressure, 1350 psig (surface measurement) after 48 hours  
[If applicable due to multiple completion--]  
Second producing formation: Hanson & Riley Pay zone depth 5037-5040  
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

DETAILS OF PERFORATED INTERVALS, FRACURING OF CEMENT PLUGS, PHYSICAL PROPERTIES, ETC.

Alexander-Perforations: 5313-57, (18 holes)  
 Fracturing: 500 gal Acid; 30,000 lbs Sand 80/100 wire mesh;  
 30,000 lbs Sand 20/40 wire mesh; 675 Bbls Fluid.

Benson & Riley-Perforations: 4956-58 (2holes), 4974-76 (2 holes)  
 50371-401 (9 holes)

Fracturing: 500 gal Acid; 10,000 lbs sand, 80/100 wire mesh  
 40,000 lbs. sand 20/40 wire mesh; 672 Bbls Fluid

FORMATION	COLOR	Hard or Soft	Top Feet	Bottom Feet	Including Indication of Gas Flow and Salt Water, Sand, etc. (See Remarks)
-----------	-------	--------------	----------	-------------	---

Fill

Sand 35

Red Rock & Shale 80

Sandy Shale 90

Sand 157

Red Rock & Shale 192

Sand 225

Sandy Shale 306

Shale & Red Rock 330

Sandy Shale 350

Sand 390

Red Rock & Shale 395

Sandy Shale 410

Red Rock 460

Sand & Shale 470

Red Rock & Shale 1040

Sand & Shale 1060

Little Lime 2072

Sandy Shale 2097

Big Lime 2162

Big Injun 2226

Shale 2400

Weir 2521

Sand & Shale 2521

Speechley 3454

Sandy Shale 3522

Balltown 3900

Sand & Shale 4120

Riley 4952

Shale 4980

Benson 5036

Sand & Shale 5040

Alexander 5294

Shale 5362

Gas @ 5167 10/10 thru 1" w/water

Gas @ T.D. 16/10 thru 1" w/water

T.D. 5708

Peter Batters  
Geologist

NOTE: Registration 2,000,000 includes as follows:  
 "The term 'log' in this log shall mean a separate, detailed geological record of the formation, including depth, encountered in the drilling of a well."

[08-78]

OIL AND GAS WELL PERMIT APPLICATION

Operator's Well No. K-913-#1  
API Well No. 47 - 017 - 2575  
State County Permit

WELL TYPE: Oil  / Gas  /  
(If "Gas", Production  / Underground storage  / Deep  / Shallow  /)  
LOCATION: Elevation: 1040 Watershed: Leason Run  
District: Central County: Doddridge Quadrangle: West Union 7 1/2

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

DESIGNATED AGENT H. L. Barnett  
Address P. O. Box 48  
Buckhannon, West Virginia 26201

OIL & GAS ROYALTY OWNER Thurman & Ethel Jones  
Address 6010 Franklin Blvd.  
Cleveland, Ohio 44102

COAL OPERATOR None  
Address \_\_\_\_\_

Acres 40  
SURFACE OWNER Thurman & Ethel Jones  
Address 6010 Franklin Blvd.  
Cleveland, Ohio 44102

COAL OWNER(S) WITH DECLARATION ON RECORD:  
Name Thurman & Ethel Jones  
Address 6010 Franklin Blvd.  
Cleveland, Ohio 44102

FIELD SALE (IF MADE) TO:  
Name \_\_\_\_\_  
Address \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_

OIL & GAS INSPECTOR TO BE NOTIFIED  
Name Paul Garrett  
Address 321 Beech Street  
Clarksburg, W. Va. 26301

COAL LESSEE WITH DECLARATION ON RECORD:  
Name None  
Address \_\_\_\_\_

OIL & GAS DIVISION  
DEPT. OF MINES

JAN 14 1980

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed  / lease  / other contract  / dated September 25, 1979, to the undersigned well operator from M. G. Taylor

[If said deed, lease, or other contract has been recorded:]  
Recorded on September 26, 1979, in the office of the Clerk of the County Commission of Doddridge County, West Virginia, in Oil & Gas <sup>Lease</sup> Book 111 at page 143. A permit is requested as follows:

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

--planned to crown on the work order on the reverse side hereof.

The above named operator, coal owner(s), and coal lessee are hereby notified that any other work they wish to take or are required to make 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.

Dates of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or 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  
GEOPHYSICAL LOGS DIRECTLY TO:  
WEST VIRGINIA OIL AND GAS  
CONSERVATION COMMISSION  
1604 WASHINGTON STREET EAST  
CHARLESTON, WV 25311  
TELEPHONE: (304) 348-3092

BLANKET BOND

J & J ENTERPRISES, INC.  
Well Operator  
By Peter Battles  
PETER BATTLES Geologist  
Its \_\_\_\_\_

[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, W. Va. 26201

GEOLOGICAL TARGET FORMATION, Alexander

Estimated depth of completed well, 5550 feet Rotary X / Cable tools      /

Approximate water strata depths: Fresh, 60,1600 feet; salt, None feet.

Approximate coal seam depths: None Is coal being mined in the area? Yes      / No X /

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	Kinds	None
Conductor	11 3/4	H-40	42	X		30	0	0 sks.	Kinds	None
Fresh water	8 5/8	ERW	23	X		1890	1890	320 sks.		
Coal	8 5/8	ERW	23	X		1890	1890	320 sks.	Sizes	
Intermediate										
Production	4 1/2	J-55	10.5	X		5550	5550	260 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 previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, 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** A separate permit shall be required for fracturing or stimulating a well 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 9-14-80.

Robert H. [Signature]  
Deputy Director - Oil & Gas Division

This permit shall not be valid unless countersigned by the 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