

14,700'

LATITUDE 39°17'30"
39° 20'

LONGITUDE 80°45'

12,850'

R. BRITTON
T.M. 19-04
40.5 AC.

M. GAIN
T.M. 19-3.1
15 AC.

J60
#2510
S26 E 1502'
TO J167

J. GAIN
T.M. 19-10
18.38 AC.

J. GAIN
T.M. 19-11
16 AC.

39 15 20
80 48 10

J. GAIN
T.M. 19-09
32.7 AC.

29.75 AC.

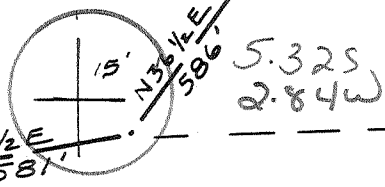
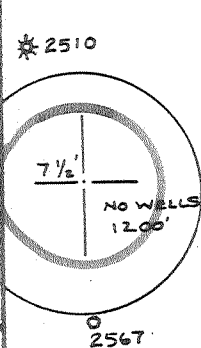
B.O.
N27W 388'
N86E 301'

J. GAIN
T.M. 20-10
17.25 AC.

R. BRITTON
T.M. 19-15
139.9 AC.

J107 # 2548
N44-25E 1950'
TO J167

J108 # 2567
N7-32W 1502'
TO J167



FILE NO. J+J
DRAWING NO. 1
SCALE 1"=500'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION NOB 1233'

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.L.S. 632

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FORM IV-6 (8-78)



DATE NOV. 5 19 81
OPERATOR'S WELL NO. J167
API WELL NO. 47-017-3062
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 1110' WATER SHED ARNOLD CREEK
DISTRICT WEST UNION COUNTY DODDRIDGE
QUADRANGLE WEST UNION 7.5'Q 135C
SURFACE OWNER JAMES A. GAIN ACREAGE 48.13
OIL & GAS ROYALTY OWNER JMS. A. GAIN, ET. AL. LEASE ACREAGE 48.13
LEASE NO. K18
PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

DEC 4 1981

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5600
WELL OPERATOR J & J ENTERPRISES, INC. DESIGNATED AGENT JAMES R. WILLET
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

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: 1110 Watershed: Arnolds Creek
District: West Union 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 X / Convert / Drill deeper / Redrill / Fracture or stimulate X
Plug off old formation / Perforate new formation
Other physical change in well (specify)

PERMIT ISSUED ON 11/13, 19 81 OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name Stephen Casey
Address Rt. # 2, Box 232-D
Jane Lew, WV 26378

GEOLOGICAL TARGET FORMATION: Alexander Depth 5180-5206 feet
Depth of completed well, 5413 feet Rotary X / Cable Tools
Water strata depth: Fresh, 40, 90 feet; salt, 0 feet.
Coal seam depths: 45-46, 270-73, 530-32s coal being mined in the area? NO
Work was commenced 1/21, 19 82, and completed 1/26, 19 82

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		
Conductor	11 ³ / ₄	H-40	42	x		30	0	0 sks. Kinds
Fresh water	8 ⁵ / ₈	ERW	23	x		5255	5255	170 sks.
Coal	8 ⁵ / ₈	ERW	23	x		5255	5255	170 sks. Sizes
Intermediate								
Production	4 ¹ / ₂	J-55	10.5	x		5275	5275	300 sks. Depths set
Tubing								
Liners								Perforations: Top Bottom
								3275 3297
								3323 3410
								4888 4890
								5180 5206

RECEIVED

FEB 2 - 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 5180-5206 feet

Gas: Initial open flow, Mcf/d Oil: Initial open flow, Bbl/d

Combined Final open flow, 1,391 Mcf/d Final open flow, Bbl/d

Time of open flow between initial and final tests, 6 hours

Static rock pressure, 1300 psig (surface measurement) after 48 hours shut in

[If applicable due to multiple completion--]

Second producing formation Warren Pay zone depth 3275-3410 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

Bottom Hole Pressure Static rock pressure, psig (surface measurement) after hours shut in

Pf=PweXGLS

$t=60+(0.0075 \times 5275)+459.7 = 559$ $X=53.35$ $X=559 = 29837$ $=0.0000335$ $Pf= 1300 \times 2.72 (0.0000335) (0.67$

$(4241) (0.9) (4241) (0.9) = 1300 \times 2.72^{0.086} = 1300 \times 1.089$

FEB 22 1982

Pf= 1417 psi

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

Warren: Perforations: 3275-3297 (7 holes) 3323-26 (3 holes) 3363-75 (4 holes) 3407-10 (3 holes)
Fracturing: 100 sks. 80/100 sand: 400 sks. 20/40 sand: 500 gal. Acid:
600 Bbls. fluid.

Benson: Perforations: 4888-90 (2 holes)

Alexander: Perforations: 5180-5206 (10 holes)
Fracturing: 200 sks. 80/100 sand: 500 sks. 20/40 sand: 220 Bbls. fluid.

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Red Clay			0	4	
Red rock and shale			4	35	1/4" stream @ 40'
Sand & shale			35	45	
Coal			45	46	1/2" stream @ 90'
Sand & shale			46	155	
Red rock and shale			155	270	1" stream @ 270'
Coal			270	273	
Sand, shale & red rock			273	530	Gas ck @ 3937 4/10-2" w/water
Coal			530	532	311,000 cu.ft.
Sand and shale			532	1100	
Sand & shale			1100	1910	Gas ck @ 4058 6/10-2" w/water
Big Lime			1910	2010	381,000 cu.ft.
Shale & sand			2010	2500	
Shale & sand			2500	3275	Gas ck @ 4982 10/10-1 1/2" w/water
Warren			3275	3410	53,582 cu.ft.
Sand & shale			3410	4000	
Shale			4000	4888	Gas ck @ 5413 10/10-1 1/4" w/water
Benson			4888	4890	37,210 cu.ft.
Shale			4890	5180	
Alexander			5180	5206	
Sand & shale			5206	5413	T.D.

(Attach separate sheets to complete as necessary.)

J & J Enterprises, Inc.

Well Operator

By

[Signature]
Peter Battles

Its

Geologist

NOTE: Regulation 2.32(f) 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-167

API Well No. 47-017-3062
State County Per

WELL TYPE: Oil / Gas x /
(If "Gas", Production x / Underground storage / Deep / Shallow x /)
LOCATION: Elevation: 1110 Watershed: Arnolds Creek
District: West Union County: Doddridge Quadrangle: West Union 7.5'

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

DESIGNATED AGENT James R. Willett
Address P.O. Box 48
Buckhannon, WV 26201

OIL & GAS ROYALTY OWNER James A. Gain
Address Route # 1
West Union, WV 26450

COAL OPERATOR None
Address

SURFACE OWNER James A. Gain
Address Route # 1
West Union, WV 26450
Acreage 48.13

COAL OWNER(S) WITH DECLARATION ON RECORD:
Name James A. Gain / John Fleming Heirs
Address Rt. # 1
West Union,
WV 26450

FIELD SALE (IF MADE) TO:
Name Unknown
Address

COAL LESSEE WITH DECLARATION ON RECORD:
Name None
Address

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Steve Casey
Address Rt. # 2, Box 232-D
Jane Lew, WV 26378

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NOV 13 1981

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease / other contract x / dated 7/30, 1979, to the undersigned well operator from Key Oil Company

If said deed, lease, or other contract has been recorded:]
Recorded on 3/1, 1980, in the office of the Clerk of the County Commission of Doddridge County, West Virginia, in Lease Book 111 at page 326. 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 objection they wish to make 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.

Copies of this Permit Application and the enclosed plan 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
GEOLOGICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
115 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 548-3992

J & J Enterprises, Inc.
Well Operator

By Peter Battles
Peter Battles
Geologist

NET BOND

[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, Alexander

Estimated depth of completed well, 5600 feet Rotary / Cable tools /
Approximate water strata depths: Fresh, 850 feet; salt, 1370 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	1 1/4	H-40	42	x		30	0	0 sks.	Kinds
Fresh water	8 5/8	ERW	23	x		1500	1500	425 sks.	
Coal	8 5/8	ERW	23	x		1500	1500	425 sks.	Sizes
Intermediate									
Production	4 1/2	J-55	10.5	x		5550	5550	400 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, unaccompanied 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.

A separate Form IV-2 shall not 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.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

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 7-18-82

[Signature]
Deputy Director - Oil & Gas Division

The following conditions must be complied with 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