

Thomas

LATITUDE 39 - 22 - 30

3257

S 88°38'00" W

3256

N 66°48'00" W
400.44'

scaled coor:
7,050' West
12,550' South

N 8°30'00" W
132.44'

1596.57'

N 89°40'00" E
2034.63'
1944.63'

90.00'

S 0°28'00" E
167.23'

Jennings Goldsmith
& Michael Duffelmeyer
70.45 Ac. of Joseph 168 Ac.

S 4°35'16" E
2094.43'

S 46°44'30" E
2120.27'

tie lines

N 1°59'48" E
1491.99'

MIDDLE ISLAND CREEK

WELL REFERENCES:
N/A

Edith Pearl Keys Husk

N 8°30'00" W
1799.43'

S 80°07'00" W
166.67'

3574

S 80°07'00" W

166.67'

S 16°58'00" W

1189.81'

NORTH

LONGITUDE 80 - 47 - 30

10904
3573

Ralph P. McCutchan II
67.55 Ac. of Joseph 168 Ac.

MIDDLE ISLAND CREEK

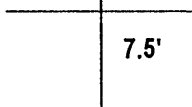
N 65°14'49" E
1515.89'

S 45°10'00" W
197.80'

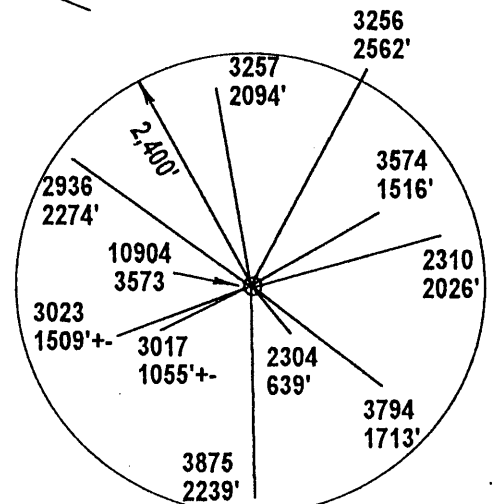
S 56°10'00" W
285.25'

N 80°48'43" W
621.84'

N 48°20'00" W
230.99'



McConnell



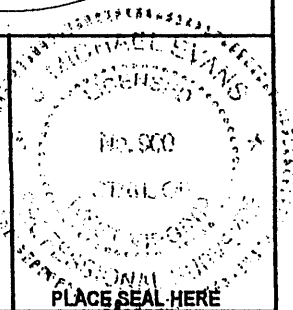
NAD 27 WV North Coor.:
N 308,904.35 E 1,627,631

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

FILE NUMBER: _____
DRAWING NUMBER: _____
SCALE: 1" = 400'
MINIMUM DEGREE OF ACCURACY: 1 in 2500
PROVEN SOURCE OF ELEVATION: GPS Survey (Sub-meter)

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 ENERGY.

(SIGNED) *J. Michael Evans*
J. Michael Evans, PS 900



STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
#10 McJUNKIN ROAD
NITRO, WV 25143-2606
FORM WW-6

LAND SURVEYING SERVICES
21 CEDAR LANE, BRIDGEPORT, WV 26330
PHONE: 304-842-2018 OR 842-5762

DATE: July 24, 2001
OPERATORS WELL NO.: 10904
API WELL NO. 47 - 017 - 3573 F
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 805' WATERSHED Middle Island Creek

DISTRICT West Union COUNTY Doddridge

QUADRANGLE West Union LEASE NUMBER _____

SURFACE OWNER Ralph P. McCutchan II ACREAGE 67.55

OIL & GAS ROYALTY OWNER N. A. Joseph Heirs LEASE ACREAGE 168

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___
PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE (SPECIFY) REWORK

TARGET FORMATION _____ PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
ESTIMATED DEPTH _____

WELL OPERATOR DOMINION EXPLORATION & PRODUCTION, INC DESIGNATED AGENT Rodney J. Biggs
ADDRESS P. O. Box 1248, Jane Iew, WV 26378 ADDRESS P. O. Box 1248, Jane Iew, WV 26378

COUNTY NAME
Dodd
PERMIT
3573F

SEP 28 2001

87 B 7/15/87

7100'

LATITUDE 39°22'30"

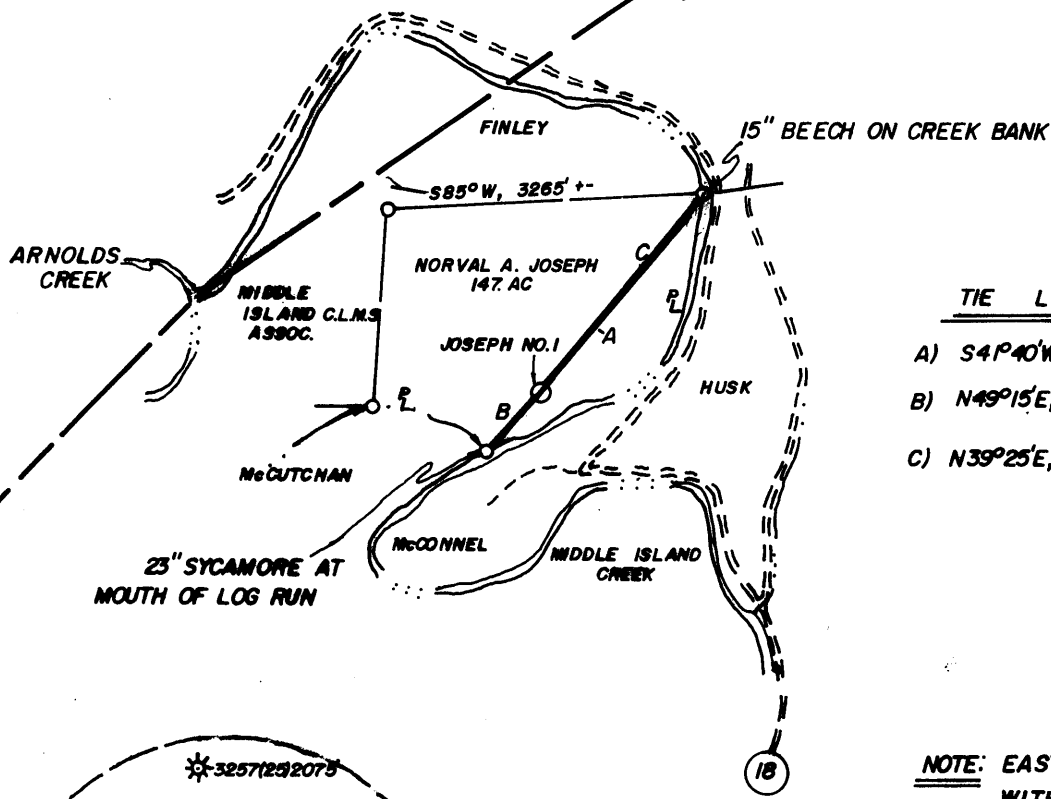
LONGITUDE 80°47'30"

12,490'

WELL REFERENCES:

- N8°E, 163' TO 3" DOGWOOD
- S68°W, 152.50' TO 13" WILD CHERRY

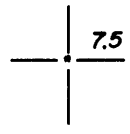
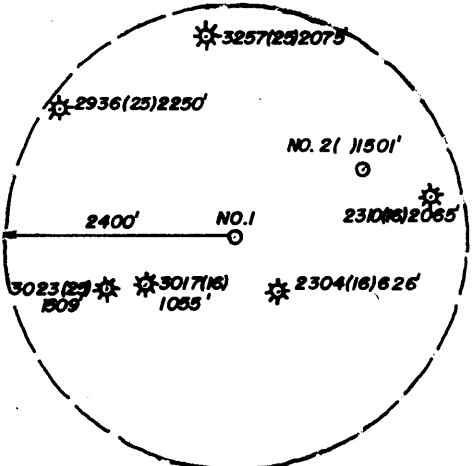
TYLER COUNTY
DODDRIDGE COUNTY



TIE LINES

- A) S41°40'W, 3512.46'
- B) N49°15'E, 805.92'
- C) N39°25'E, 2715.67'

NOTE: EASTERN BOUNDARY RUNS WITH MID. ISLAND.
SOUTHERN BOUNDARY WITH LOG RUN.



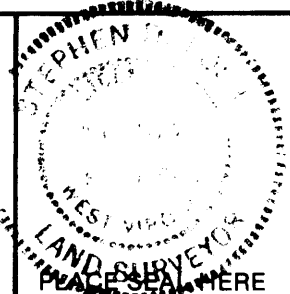
2.365
1.34

LAND SURVEYING SERVICES
21 CEDAR LANE
BRIDGEPORT, WV 26330
PHONE: 304-842-2018

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

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY 1 IN 200
PROVEN SOURCE OF ELEVATION B.M. 2040' SE. OF LOC.
AT ELEVATION 751'

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 ENERGY.
(SIGNED) Stephen D. Losh



R.P.E. _____ L.L.S. NO. 674
STEPHEN D. LOSH

WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
#10 McJUNKIN ROAD
NITRO, WEST VIRGINIA 25143-2506



DATE JUNE 19, 19 87
OPERATOR'S WELL NO. N.A. JOSEPH 1
API WELL NO. _____

47-017-03573W
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 808' WATER SHED MIDDLE ISLAND CREEK
DISTRICT WEST UNION COUNTY DODDRIDGE
QUADRANGLE WEST UNION 7.5' Surface owned by Newell Jennings Goldsmith
SURFACE OWNER NORVAL A. JOSEPH HEIRS J. Michael Deffelmeyer ACREAGE 147. (DEED)
OIL & GAS ROYALTY OWNER N.A. JOSEPH, heirs LEASE ACREAGE 168.
LEASE NO. _____

COUNTY NAME

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) dominion will set temp plug squeeze the frac London & shagen Remark plug complete
PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION BENSON ESTIMATED DEPTH 5000'
EXISTING WELL DRILLED IN 1987 TO 4903' ORIGINAL PRODUCER Cannon, Riley

PERMIT

WELL ADDF Dominion Appalachian Dev. John D. Haskins DESIGNATED ADDRESS
John D. Haskins
some

3573 W

FORM WW-6

H.T. HALL 48673

87B 7/15/87

7100 39.25

LATITUDE 39°22'30"

WELL REFERENCES:

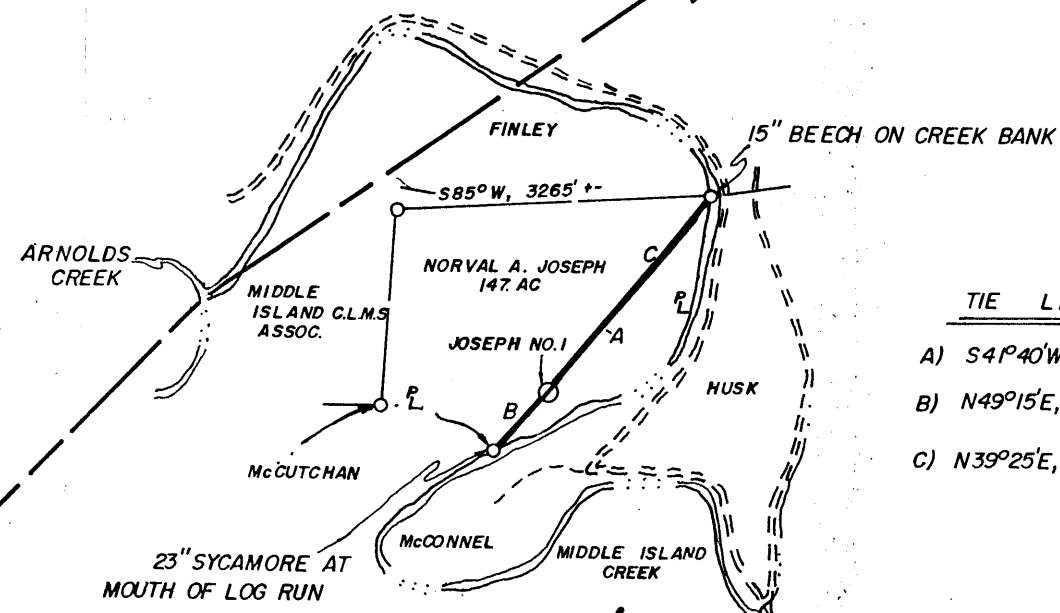
N8°E, 163' TO 3" DOGWOOD
S68°W, 152.50' TO 13" WILD CHERRY

TYLER COUNTY
DODDRIDGE COUNTY

80°47'30"
LONGITUDE

12,490

NORTH

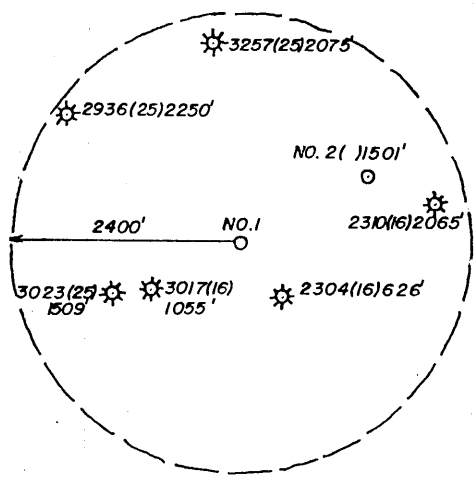


TIE LINES

- A) S41°40'W, 3512.46'
- B) N49°15'E, 805.92'
- C) N39°25'E, 2715.67'

NOTE: EASTERN BOUNDARY RUNS WITH MID. ISLAND.

SOUTHERN BOUNDARY WITH LOG RUN.



5.22s
3.57w

2345
133w

LAND SURVEYING SERVICES
21 CEDAR LANE
BRIDGEPORT, WV 26330
PHONE: 304-842-2018

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION B.M. 2040' SE. OF LOC.
 AT ELEVATION 751'

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 ENERGY.
 (SIGNED) Stephen D. Losh
 R.P.E. _____ L.L.S. NO. 674
 STEPHEN D. LOSH

PLACE SEAL HERE

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



DATE JUNE 19, 19 87
OPERATOR'S WELL NO. N.A. JOSEPH 1
API WELL NO.

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

LOCATION: ELEVATION 808' WATERSHED MIDDLE ISLAND CREEK
DISTRICT WEST UNION 4 COUNTY DODDRIDGE
QUADRANGLE WEST UNION 7.5' 671 133 EC6

SURFACE OWNER NORVAL A. JOSEPH HEIRS ACREAGE 147. (DEED)
OIL & GAS ROYALTY OWNER N.A. JOSEPH, heirs LEASE ACREAGE 168.

PROPOSED WORK: DRILL X 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 5000'
WELL OPERATOR STONEWALL GAS COMPANY DESIGNATED AGENT CHARLES CANFIELD
ADDRESS P.O. DRAWER R ADDRESS P.O. DRAWER R
JANE LEW, WV 26378-0080 847 JANE LEW, WV 26378-0080

COUNTY NAME
PERMIT

AUG 03 1987

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Handwritten initials

Well Operator's Report of Well Work

Farm name: McCutchian II, Ralph P. Operator Well No.: Jospeh #1 (10904) REWORK

LOCATION: Elevation: 805' Quadrangle: West Union

District: West Union County: Doddridge
Latitude: 12,550 Feet South of 39 Deg. 22 Min. 30 Sec.
Longitude 7,050 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: Dominion Exploration & Production, Inc

| | Casing & Tubing | Used in drilling | Left in well | Cement fill up Cu. Ft. |
|---|-----------------|------------------|--------------|------------------------|
| Address: P O Box 1248 Jane Lew, WV 26378 | | | | |
| Agent: Rodney J. Biggs | | | | |
| Inspector: Mike Underwood | | | | |
| Date Permit Issued: 09/26/2001 | | See Original | WR-35 for | Existing |
| Date Well Work Commenced: | | Casing | program | |
| Date Well Work Completed: 11-02-2001 | | | | |
| Verbal Plugging: N/A | | | | |
| Date Permission granted on: N/A | | | | |
| Rotary Cable X Rig | | | | |
| Total Depth (feet): | | | | |
| Fresh Water Depth (ft.): N/A | | | | |
| Salt Water Depth (ft.): N/A | | | | |
| Is coal being mined in area (N/Y)? N | | | | |
| Coal Depths (ft.): N/A | | | | |

Office of Oil & Gas
Permitting
DEC 12 2001
WV Department of
Environmental Protection

OPEN FLOW DATA

Producing formation Gordon Pay zone depth (ft) 2415-2421'
Gas: Initial open flow - MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 112 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 12 Hours
Static rock Pressure 80 psig (surface pressure) after 12 Hours

Second producing formation Injun Pay zone depth (ft) 1754-1760'
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 pressure) after * Hours

* Comingled

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed: *Rodney J. Biggs*
By: Rodney J. Biggs
Date: 12/7/01

NR DEC 14 2001
DEC 6 2001

D000 3573 F

COMPANY/WELL NO.: JOSEPH #1 10904

11/02/01 PLAN TO FRAC TODAY.

12/03/2001

PERFED AND FRACED AS FOLLOWS:

GORDON, 2415 - 2421', 18 HOLES, BD 1884#, AVG RATE 19 BPM, AVG PRESS
2460#, 378 BBLS, TOT SAND

25,200#, ISIP 1859#

INJUN, 1754 - 1760', 18 HOLES, BD 1787#, AVG RATE 19.2 BPM, AVG PRESS
2520#, 328 BBLS, TOT SAND

15,100#, ISIP 2120#

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Reviewed _____

Well Operator's Report of Well Work

Farm name: Norval A. Joseph Heirs Operator Well No.: N. A. Joseph #1 (10904)

LOCATION: Elevation: 808' Quadrangle: West Union 7.5'

District: West Union County: Doddridge
Latitude: Feet South of 39 Deg. 22 Min. 30 Sec.
Longitude Feet West of 80 Deg. 47 Min. 30 Sec.

Company: Dominion Appalachian Development, Inc.

P O Box 1248
Jane Lew, WV 26452

| Address: | Casing & Tubing | Used in drilling | Left in well | Cement fill up Cu. Ft. |
|---|---------------------------|--|--------------|------------------------|
| <u>Agent: Rodney J. Biggs</u> | | | | |
| <u>Inspector: Mike Underwood</u> | | | | |
| <u>Date Permit Issued:</u> | | | | |
| <u>Date Well Work Commenced:</u> | <u>NO</u> | <u>(Re)work was done to this well.</u> | | |
| <u>Date Well Work Completed:</u> | | | | |
| <u>Verbal Plugging:</u> | <u>Workover Cancelled</u> | | | |
| <u>Date Permission granted on:</u> | | | | |
| <u>Rotary Cable Rig</u> | | | | |
| <u>Total Depth (feet):</u> | | | | |
| <u>Fresh Water Depth (ft.):</u> | | | | |
| <u>Salt Water Depth (ft.):</u> | | | | |
| <u>Is coal being mined in area (N/Y)?</u> | | | | |
| <u>Coal Depths (ft.):</u> | | | | |

RECEIVED
Office of Oil & Gas
Permitting
SEP 22 2000
WV Division of
Environmental Protection

OPEN FLOW DATA

Producing formation _____ Pay zone depth (ft) _____
 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 pressure) after _____ Hours

Second producing formation _____ Pay zone depth (ft) _____
 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 pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed: Larry J. Lullb
By: _____
Date: 9/21/00

0000 3573 W



Date SEPTEMBER 10, 1987
 Operator's
 Well No. JOSEPH #1 205-S
 Farm JOSEPH
 API No. 47 - 017 - 3573

WR-35
RECEIVED
 SEP 22 1987

State of West Virginia
 DEPARTMENT OF ENERGY
 Oil and Gas Division

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

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: 808' Watershed MIDDLE ISLAND CREEK
 District: WEST UNION County DODDRIDGE Quadrangle WEST UNION

COMPANY STONEWALL GAS COMPANY

ADDRESS PO DRAWER R, JANE LEW, WV 26378

DESIGNATED AGENT CHARLES W. CANFIELD

ADDRESS PO DRAWER R, JANE LEW, WV 26378

SURFACE OWNER WILLIAM JOHNSON

ADDRESS RT 1, BOX 46AA, BRISTOL, WV 26332

MINERAL RIGHTS OWNER G.W. MUTSCHELKNAUS

ADDRESS RT 1, BOX 52, SALEM, WV 26426

OIL AND GAS INSPECTOR FOR THIS WORK MIKE

UNDERWOOD ADDRESS RT 2, BOX 135, SALEM
 WV 26426

PERMIT ISSUED JULY 29, 1987

DRILLING COMMENCED 8/29/87

DRILLING COMPLETED 9/03/87

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

| Casing Tubing | Used in Drilling | Left in Well | Cement fill up Cu. ft. |
|------------------------|---------------------|-----------------|------------------------------|
| Size 20-16 Cond. | | | |
| 11 3/4" 13-10" | 215 | 215 | 95 SKS |
| 9 5/8 | | | |
| 8 5/8 | 1334 | 1334 | 275 SKS |
| 7 | | | |
| 5 1/2 | | | |
| 4 1/2 | 4849 | 4849 | 200 SKS |
| 3 | | | |
| 2 | | | |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION BENSON Depth 4710 feet

Depth of completed well 4849 feet Rotary X / Cable Tools _____

Water strata depth: Fresh 78 feet; Salt 1230 feet

Coal seam depths: 160 - 163 Is coal being mined in the area? N/A

OPEN FLOW DATA

Producing formation BENSON Pay zone depth 4710 feet

Gas: Initial open flow 600 Mcf/d Oil: Initial open flow N/A Bbl/d

Final open flow 421 Mcf/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests 72 hours

Static rock pressure 1500 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation RILEY Pay zone depth 4290 feet

Gas: Initial open flow 600 Mcf/d Oil: Initial open flow N/A Bbl/d

Final open flow 421 Mcf/d Oil: Final open flow N/A Bbl/d

Time of open flow between initial and final tests 72 hours

Static rock pressure 1500 psig (surface measurement) after 72 hours shut in

SEP 28 1987
 (Continue on reverse side)

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

FRAC TWO ZONES 9/9/87

| | PERFS | HOLES | BBL | SAND | B.D. | I.S.I.P. |
|---------------|-----------------------|-------|-----|---------|-------|----------|
| <u>BENSON</u> | 4710 - <u>4714</u> | 12 | 610 | 60,000# | 1700# | 1500# |
| <u>RILEY</u> | 4286 - <u>4292</u> | 12 | 620 | 60,000# | 1900# | 1700# |

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS Including indication of all fresh and salt water, coal, oil and gas |
|--------------|-------|--------------|----------|-------------|--|
| FILL | RED | SOFT | 0 | 5 | HOLE WET 78' |
| RED ROCK | RED | SOFT | 5 | 160 | ½" STREAM H ² O 275' |
| COAL | BLACK | SOFT | 160 | 163 | |
| SAND & SHALE | GREY | SOFT | 163 | 1660 | 1" STREAM H ² O 1230' |
| BIG LIME | GREY | HARD | 1660 | 1750 | |
| BIG INJUN | GREY | HARD | 1750 | 1860 | |
| WEIR | GREY | SOFT | 2000 | 2110 | |
| BEREA | GREY | HARD | 2200 | 2210 | |
| GORDON | GREY | SOFT | 2420 | 2470 | GAS CK @ 2554' 5/10 7" H ² O |
| WARREN | GREY | SOFT | 3090 | 3160 | GAS CK @ 3242' 2/10 7" H ² O |
| RILEY | GREY | HARD | 4260 | 4330 | GAS CK @ 4343' 2/10 7" H ² O |
| BENSON | GREY | HARD | 4710 | 4740 | GAS CK @ 4749' 2/10 7" H ² O |
| T.D. | | | | <u>4903</u> | GAS CK @ 4903' 2/10 7" H ² O |

RECEIVED
SEP 22 1987

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

STONEWALL GAS COMPANY

Well Operator

By:

Benjamin A. Hardesty
BENJAMIN A. HARDESTY, VICE PRESIDENT

Date:

Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geophysical record of all formations, including those encountered in the drilling of a well."



1) Date: July 1, 19 87
 2) Operator's Well No. Joseph #1 205-S
 3) API Well No. 47 017 3573
 State County Permit

FORM WW-2(B) FILE COPY
 (Obtain 7/8)
RECEIVED
JUL 13 1987

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

- 4) WELL TYPE: A Oil Gas
 B (If "Gas", Production Underground storage Deep Shallow)
- 5) LOCATION: Elevation: 808' Watershed: Middle Island Creek
 District: West Union County: Doddridge Quadrangle: West Union 7.5' **670**
- 6) WELL OPERATOR Stonewall Gas CODE: 47950 7) DESIGNATED AGENT Charles W. Canfield
 Address P.O. Drawer R Address P.O. Drawer R
Jane Lew, WV 26378 Jane Lew, WV 26378
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Mike Underwood 782-1043 Name S.W. Jack
 Address Rt 2, Box 135 Address Buckhannon, WV 26201
Salem, WV 26426
- 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Benson
 12) Estimated depth of completed well, 5,000' feet
 13) Approximate strata depths: Fresh, _____ feet; salt, _____ feet.
 14) Approximate coal seam depths: _____ Is coal being mined in the area? Yes / No

15) CASING AND TUBING PROGRAM

| CASING OR TUBING TYPE | SPECIFICATIONS | | | | | FOOTAGE INTERVALS | | CEMENT FILLUP OR SACKS (Cubic feet) | PACKERS |
|-----------------------|----------------|-------|----------------|-----|------|-------------------------|-------------------------|-------------------------------------|-----------------------------|
| | Size | Grade | Weight per ft. | New | Used | For drilling | Left in well | | |
| Conductor | 11 3/4 | | | X | | 150' 200' | 150' 200' | Rule 15.0 | Kinds |
| Fresh water | | | | | | | | | |
| Coal | | | | | | | | | Sizes |
| Intermediate | 8 5/8 | | | X | | 1109' | 1109' | Rule 15.0 | |
| Production | 4 1/2 | | | X | | 5000' | 5000' | Rule 15.0 | Depths set |
| Tubing | | | | | | | | | |
| Liners | | | | | | | | | Perforations: Top Bottom |

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-017-3573 Date July 29 19 87

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 July 29, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

| | | | | | | | |
|-------|--------|-------|---------|------|-------|------|--------|
| Bond: | Agent: | Plat: | Casing: | Fee: | WPCP: | SOE: | Other: |
| | | | | 218 | | | |
| | | | | 3894 | | | |

NOTE: Keep one copy of this permit posted at the drilling location.

Director, Division of Oil and Gas

File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.