

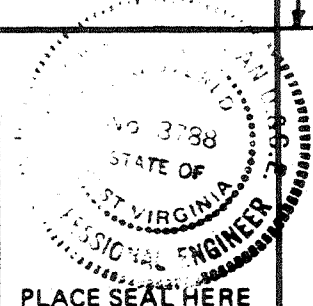
+ 2.81 S
2.15 W

39 12 35
81 12 25

2.81 S
2.15 W

FILE NO. 81-549
 DRAWING NO. _____
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1/200'
 PROVEN SOURCE OF ELEVATION B.M. ON R.R. TRACKS (842')

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) Robert Waterman
 R.P.E. 3788 L.L.S. _____



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



DATE 10/5, 1981
 OPERATOR'S WELL NO. 1
 API WELL NO. 47-085-5337
 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 ___
 LOCATION: ELEVATION 1090 WATER SHED LYNN RUN
 DISTRICT GRANT COUNTY RITCHIE
 QUADRANGLE CAIRO 7.5' Harrisville 15' NW
 SURFACE OWNER GRADY P. & EDITH ELDRIDGE ACREAGE 98.84
 OIL & GAS ROYALTY OWNER E. P. CHANCELLOR HEIRS LEASE ACREAGE 133.125
 LEASE NO. _____
 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 SHALE ESTIMATED DEPTH 5950'
 WELL OPERATOR WAYMAN W. BUCKHANA DESIGNATED AGENT JIM P. MORRIS
 ADDRESS SAN ANTONIO, TX ADDRESS CHARLESTON, WV

NOV 19 1981



STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS - DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil X / Gas X /

(If "Gas", Production ___ / Underground storage ___ / Deep ___ / Shallow ___ /

LOCATION: Elevation: 1090' Watershed: Lynn Run
District: Grant County: Ritchie Quadrangle: Cairo 7.5'

WELL OPERATOR Wayman W. Buchanan
Address 444 Petroleum Commerce Building
San Antonio, Texas 78205

DESIGNATED AGENT Jim P. Morris
Address 414 Peoples Building
Charleston, WV 25301

OIL AND GAS
ROYALTY OWNER E. P. Chancellor Heirs
Address Port Charlotte, Florida
Acreage 133.125

COAL OPERATOR N/A
Address _____

SURFACE OWNER Grady P. & Edith Eldridge
Address 3289 Maiffair Road
Akron, OH 44312
Acreage 48.54

COAL OWNER(S) WITH DECLARATION ON RECORD:
NAME _____
Address _____
NAME _____
Address _____

FIELD SALE (IF MADE) TO:
NAME _____
Address _____

COAL LESSEE WITH DECLARATION ON RECORD:
NAME _____
Address _____

OIL AND GAS INSPECTOR TO BE NOTIFIED:
NAME Deo Mace
Address Rt. 1, Box 65
Sandridge, WV
Telephone (304) 655-8693

RECEIVED

NOV - 4 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 July 14, 1981, to the undersigned well operator from Arthur S. & Moynelle R. Moats.

(If said deed, lease, or other contract has been recorded:)

Recorded on September 16, 1981, in the office of the Clerk of County Commission of Ritchie County, West Virginia, in Lease Bk. 138 ~~Book~~ at page 350. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill Deeper ___ / Redrill ___ / Fracture or stimulate ___ / 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 receipt of this Application by the Dept. Copies 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 lessees on or before the day of the mailing or delivery of this 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
1613 WASHINGTON ST., E.
CHARLESTON, WV 25311
Telephone - 304/348-3092

BLANKET BOND

By: Wayman W. Buchanan
Well Operator
Its: Jim P. Morris
Designated Agent

(Revised 3-81)

PROPOSED WORK ORDER

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

DRILLING CONTRACTOR (IF KNOWN) Gene Stalnaker, Inc.

Address P.O. Box 178
Glenville, WV 26351

GEOLOGICAL TARGET FORMATION Devonian Shale/Oriskany

Estimated depth of completed well 5999 feet. Rotary X / Cable tools /
Approximate water strata depths: Fresh, 87 feet; salt, feet.
Approximate coal seam depths: None
Is coal being mined in this area: Yes / No X /

CASING AND TUBING PROGRAM

| CASING OR TUBING TYPE | SPECIFICATIONS | | | | | FOOTAGE INTERVALS | | CEMENT FILL UP OR SACKS Cubic ft. | PACKERS |
|-----------------------|----------------|-------|---------------|-----|------|-------------------|--------------|-----------------------------------|-----------------------------|
| | Size | Grade | Weight per ft | New | Used | For Drill-ling | Left in Well | | |
| Conductor | 11 3/4 | | 54 | X | | | 100 | circulate | Kinds |
| Fresh water | | | | | | | | | |
| Coal | | | | | | | | | Sizes |
| Intermed. | 8 5/8 | | 23 | X | | | 1900 | circulate | |
| Production | 4 1/2 | erw | 10.5 | X | | | 5999 | 410 sks. 600 | 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.

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 7-10-82

Fred W. [Signature]
Deputy Director - Oil & Gas Division

The following waiver must be completed 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 regularions.

Date: , 19 .

By:

Its:

RECEIVED



AUG - 9 1982 State of West Virginia
OIL AND GAS DIVISION Department of Mines
WV DEPARTMENT OF MINES Oil and Gas Division

Date July 8, 1982
Operator's
Well No. Chancellor #1
Farm E. P. Chancellor Heirs
API No. 47 - 085 - 5337

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 / Underground Storage / Deep X / Shallow /)

LOCATION: Elevation: 1101 KB Watershed Lynn Run
District: Grant County Ritchie Quadrangle Cairo 7.5'

COMPANY Wayman W. Buchanan

ADDRESS 444 Petroleum Commerce Building
San Antonio, Texas 78205

DESIGNATED AGENT Jim P. Morris
401 Peoples Building
ADDRESS Charleston, WV 25301

INTERFACE OWNER Grady & Edith Eldridge

ADDRESS 3289 Maiffair Road
Akron, OH 44312

GENERAL RIGHTS OWNER E. P. Chancellor Heirs

ADDRESS Port Charlotte, Florida

INSPECTOR FOR THIS WORK Deo
Rt. 1, Box 65
ADDRESS Sandridge, WV

PERMIT ISSUED 10/20/81

DRILLING COMMENCED 11/10/81

DRILLING COMPLETED 12/4/81

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

| Casing & Tubing | Used in Drilling | Left in Well | Cement fill up Cu. ft. |
|-----------------|------------------|--------------|------------------------|
| Size 20-16 | | | |
| Cond. | | | |
| 13- 3/8" | 804' | 745' | Surface |
| 9 5/8 | | | |
| 8" | 2150' | 8144' | Surface |
| 7 | | | |
| 5 1/2" | | | |
| 4 1/2" | 5957' | 5957' | 580 sks |
| 3 | | | |
| 2 | | | |
| Liners used | | | |

LOGICAL TARGET FORMATION Marcellus Shale Depth 5810 feet

Depth of completed well 5957 feet Rotary X / Cable Tools

Water strata depth: Fresh feet; Salt feet

Coal seam depths: Is coal being mined in the area?

OPEN FLOW DATA

Producing formation Devonian Shale through Rhinoceros to Marcellus? Pay zone depth 3006-5380 feet

Gas: Initial open flow S/G Mcf/d Oil: Initial open flow 0 Bbl/d
Final open flow 341 Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 20 hours

Static rock pressure 880 psig (surface measurement) after 5 days shut in
(If applicable due to multiple completion--)

Second producing formation None 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

AUG 16 1982

Perforated 5880 to 5406 with 23 holes. Frac w/500 gal. 15% HCl; 238 bbl. H₂O; 630,000SCF N₂; 15,000 lbs. 80/100 sand, 45,000 lbs. 20/40 sand.
 Perforated 4940 to 4356 with 24 holes. Frac 2/500 gal. 15% HCl; 240 bbls. H₂O; 630,000SCF N₂; 15,000 lbs. 80/100 sand, 45,000 lbs. 20/40 sand.
 Perforated 4015 to 3570 w/22 shots. Frac w/750 gal. 15% HCl; 226 bbls. H₂O; 640,000 SCF N₂; 15,000 lbs. 80/100 sand; 42,000 lbs. 20/40 sand.
 Perforated 3476 to 3006 w/22 holes. Frac w/750 gal. 15% HCl; 229 bbls. H₂O; 521,000SCF N₂; 15,000 lb. 80/100 sand. 45,000 lbs. 20/40 sand.

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS |
|-----------------------|-------|--------------|----------|-------------|--|
| | | | | | Including indication of all free and salt water, coal, oil and gas |
| and & Shale | | | Surface | 1085 | |
| and | | | 1085 | 1130 | |
| shale | | | 1130 | 1400 | |
| and | | | 1400 | 1486 | |
| le | | | 1486 | 1520 | |
| d | | | 1520 | 1560 | |
| andy Shale | | | 1560 | 1600 | |
| and | | | 1600 | 1650 | |
| shale | | | 1650 | 1680 | |
| shaley Sand | | | 1680 | 1820 | |
| and | | | 1820 | 1872 | |
| ig Lime | | | 1872 | 1980 | |
| ig Injun | | | 1980 | 2008 | |
| reak | | | 2008 | 2014 | |
| aw | | | 2014 | 2069 | |
| le | | | 2069 | 2425 | |
| ffee Shale | | | 2425 | 2443 | |
| rea | | | 2443 | 2444 | Gas show @ 4824'; 60MCF |
| hale | | | 2444 | 5440 | 5406-5880 Rhonestreet to Marcellus |
| honestreet Shale | | | 5440 | 5591 | |
| hale Seneca + Genesee | | | 5591 | 5809 | |
| arcellus Shale | | | 5809 | 5886 | |
| <u>Onondaga</u> | | | 5895 | 5957 | |

3006 - 3476 U. Devonian
 3570 - 4015 } mostly Haron
 4356 - 4940 }

(Attach separate sheets as necessary)

Way-an W. Buchanan
 Well Operator

By: Scott C. Butterfield (Geologist)

Date: July 8, 1982

5895
 2444
 3451

Note: Regulation 2.01(6) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including 'logs', encountered in the drilling of a well."



REVISED

IV-35
(Rev 8-81)

Date July 8, 1982
Operator's
Well No. Chancellor #1
Farm E. P. Chancellor Heirs
API No. 47 - 085 - 5337

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 ___ / Underground Storage ___ / Deep X / Shallow ___ /)

LOCATION: Elevation: 1096' Watershed Lynn Run
District: Grant County Ritchie Quadrangle Cairo 7.5'

elevation agrees w/ plat

COMPANY Wayman W. Buchanan

ADDRESS 444 Petroleum Commerce Building
San Antonio, Texas 78205

DESIGNATED AGENT Jim P. Morris
401 Peoples Building
Charleston, WV 25301

SURFACE OWNER Grady & Edith Eldridge
3289 Maiffair Road
Akron, OH 44312

MINERAL RIGHTS OWNER E. P. Chancellor Heirs
Port Charlotte, Florida

OIL AND GAS INSPECTOR FOR THIS WORK Deo
Mace ADDRESS Sandridge, WV
Rt. 1, Box 65

PERMIT ISSUED 10/20/81

DRILLING COMMENCED 11/10/81

DRILLING COMPLETED 12/4/81

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. | | | |
| 13- 3/8" | 804' | 745' | Surface |
| 9 5/8 | | | |
| 8 " | 2150' | 8144' | Surface |
| 7 | | | |
| 5 1/2 | | | |
| 4 1/2 | 5957' | 5957' | 580 sks |
| 3 | | | |
| 2 | | | |
| Liners used | | | |

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SEP - 7 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth 5810 feet

Depth of completed well 5957 feet Rotary X / Cable Tools _____

Water strata depth: Fresh 105 feet; Salt 1400 feet

Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3006-5580 feet

Gas: Initial open flow S/G Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 341 Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 20 hours

Static rock pressure 880 psig (surface measurement) after 5 days shut in

(If applicable due to multiple completion--)

Second producing formation None 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

SEP 13 1982

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

Perforated 5880 to 5406 with 23 holes. Frac w/500 gal. 15% HCl; 238 bbl. H₂O; 630,000SCF N₂; 15,000 lbs. 80/100 sand, 45,000 lbs. 20/40 sand.
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 Perforated 4015 to 3570 w/22 shots. Frac w/750 gal. 15% HCl; 226 bbls. H₂O; 640,000 SCF N₂; 15,000 lbs. 80/100 sand; 42,000 lbs. 20/40 sand.
 Perforated 3476 to 3006 w/22 holes. Frac w/750 gal. 15% HCl; 229 bbls. H₂O; 521,000SCF N₂; 15,000 lb. 80/100 sand. 45,000 lbs. 20/40 sand.

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS |
|-------------------|-------|--------------|----------|-------------|---|
| | | | | | Including indication of all fre and salt water, coal, oil and c |
| Shaley Sand | | | 0 | 300 | |
| Shale | | | 300 | 530 | |
| Sand | | | 530 | 575 | |
| Shale | | | 575 | 1085 | |
| Sand | | | 1085 | 1130 | |
| Shale | | | 1130 | 1400 | |
| Sand | | | 1400 | 1486 | |
| Shale | | | 1486 | 1520 | |
| Sand | | | 1520 | 1560 | |
| Sandy Shale | | | 1560 | 1600 | |
| Sand | | | 1600 | 1650 | |
| Shale | | | 1650 | 1680 | |
| Shaley Sand | | | 1680 | 1820 | |
| Sand | | | 1820 | 1872 | |
| Big Lime | | | 1872 | 1980 | |
| Big Injun | | | 1980 | 2008 | |
| Break | | | 2008 | 2014 | |
| Squaw | | | 2014 | 2069 | |
| Shale | | | 2069 | 2425 | |
| Coffee Shale | | | 2425 | 2443 | |
| Berea | | | 2443 | 2444 | |
| Shale | | | 2444 | 5440 | Gas Show @ 4824'; 60MCF |
| Rhinestreet Shale | | | 5440 | 5591 | |
| Shale | | | 5591 | 5809 | |
| Marcellus Shale | | | 5809 | 5886 | |
| Onondaga | | | 5895 | 5957 | |

(Attach separate sheets as necessary)

Wayman W. Buchanan
 Well Operator

By:  Geologist

Date: July 8, 1982

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."



REVISED

7-35
ev 8-81)

Date July 8, 1982
Operator's Well No. Chancellor #1
Farm E. P. Chancellor Heirs
API No. 47 - 085 - 5337

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 ___ / Underground Storage ___ / Deep X / Shallow ___ /)

LOCATION: Elevation: 1090' Watershed Lynn Run
District: Grant County Ritchie Quadrangle Cairo 7.5'

COMPANY Wayman W. Buchanan

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San Antonio, Texas 78205

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Charleston, WV 25301

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ADDRESS 3289 Maiffair Road
Akron, OH 44312

GENERAL RIGHTS OWNER E. P. Chancellor Heirs

ADDRESS Port Charlotte, Florida

OIL AND GAS INSPECTOR FOR THIS WORK Deo
Mace ADDRESS Rt. 1, Box 65
Sandridge, WV

PERMIT ISSUED 10/20/81

DRILLING COMMENCED 11/10/81

DRILLING COMPLETED 12/4/81

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

| Casing & Tubing | Used in Drilling | Left in Well | Cement fill up Cu. ft. |
|------------------|------------------|--------------|------------------------|
| Size 20-16 Cond. | | | |
| 13- 3/8" | 804' | 745' | Surface |
| 9 5/8 | | | |
| 8 " | 2150' | 8144' | Surface |
| 7 | | | |
| 5 1/2 | | | |
| 4 1/2 | 5957' | 5957' | 580 sks |
| 3 | | | |
| 2 | | | |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth 5810 feet

Depth of completed well 5957 feet Rotary X / Cable Tools _____

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Final open flow 341 Mcf/d Final open flow 0 Bbl/d

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Static rock pressure 880 psig (surface measurement) after 5 days shut in
(If applicable due to multiple completion--)

Second producing formation None 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

JUN 21 1983

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

Perforated 5880 to 5406 with 23 holes. Frac w/500 gal. 15% HCl; 238 bbl. H₂O; 630,000SCF N₂; 15,000 lbs. 80/100 sand, 45,000 lbs. 20/40 sand.
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| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS |
|-------------------|-------|--------------|----------|-------------|--|
| | | | | | Including indication of all free and salt water, coal, oil and gas |
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| Shale | | | 300 | 530 | |
| Sand | | | 530 | 575 | |
| Shale | | | 575 | 1085 | |
| Sand | | | 1085 | 1130 | |
| Shale | | | 1130 | 1400 | |
| Sand | | | 1400 | 1486 | |
| Shale | | | 1486 | 1520 | |
| Sand | | | 1520 | 1560 | |
| Sandy Shale | | | 1560 | 1600 | |
| Sand | | | 1600 | 1650 | |
| Shale | | | 1650 | 1680 | |
| Shaley Sand | | | 1680 | 1820 | |
| Sand | | | 1820 | 1872 | |
| Big Lime | | | 1872 | 1980 | |
| Big Injun | | | 1980 | 2008 | |
| Break | | | 2008 | 2014 | |
| Squaw | | | 2014 | 2069 | |
| Shale | | | 2069 | 2425 | |
| Coffee Shale | | | 2425 | 2443 | |
| Berea | | | 2443 | 2444 | |
| Shale | | | 2444 | 5440 | |
| Rhinestreet Shale | | | 5440 | 5591 | |
| Shale | | | 5591 | 5809 | |
| Marcellus Shale | | | 5809 | 5886 | |
| Onondaga | | | 5895 | 5957 | |

Gas Show @ 4824'; 60MCF

(Attach separate sheets as necessary)

Wayman W. Buchanan
 Well Operator
 By: *[Signature]* Geologist
 Date: July 8, 1982

Note: Regulation 2.21(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic and detailed geological record of all formations, including coal, encountered in the drilling of a well."