



1) Date: September 10, 1984
 2) Operator's Well No. Houchin #982
 3) API Well No. 47 - 013 - 3791
 State County Permit

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

- 4) WELL TYPE: A Oil / Gas /
 B (If "Gas", Production / Underground storage / Deep / Shallow)
- 5) LOCATION: Elevation: 1085.92' Watershed: Cabin Run of Beech Fork LKW-15J-2
 District: Lee County: Calhoun Quadrangle: 7.5' Arnoldsburg
- 6) WELL OPERATOR Sterling Drilling & Prod. Co., Inc. DESIGNATED AGENT Harry L. Berger, JR.
 Address 220 E. 42nd St. 33rd Floor Address 710 Virginia St., E.
New York, New York 10017 Charleston, W.V. 25301
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Deo Mace
 Address Rt. 1 Box 5
Sandridge, W.V. 25301
- 9) DRILLING CONTRACTOR: Name UNKNOWN AT THIS TIME
 Address _____
- 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, BROWN SHALE
- 12) Estimated depth of completed well, 5275 feet
- 13) Approximate tratra depths: Fresh, _____ feet; salt, _____ feet.
- 14) Approximate coal seam depths: 0 Is coal being mined in the area? Yes / No
- 15) CASING AND TUBING PROGRAM

RECEIVED
 SEP 13 1984
 OIL & GAS DIVISION
 DEPT. OF MINES

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									Kinds
Fresh water	9 5/8	LS	33#	X		375'	375'	To Surface	
Coal									Sizes
Intermediate	7"	J-55	20#	X		2255'	2255'	100 sks	
Production	4 1/2	ERW	10.5#	X			5275'	250 sks	Depths set
Tubing									Perforations:
Liners									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-013-3791 Date October 4, 19 84

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 October 4, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond	Agent	Blay	Casing	Fee
<u>148</u>	<u>LO</u>	<u>AS</u>	<u>TS</u>	<u>7798</u> <u>7775</u>

[Signature]
 Administrator, Office of Oil and Gas

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



OFFICE USE ONLY

PERMIT MODIFICATIONS AND CONDITIONS (IF ANY) TO THE PROPOSED WELL WORK

RECEIVED
 SEP 13 1984

DEPT. OF MINES
 OIL & GAS DIVISION

FORMATION	DEPTH (FEET)	TEST	REMARKS
BROWN SHALE	375'	375'	To Surface
	355'	355'	100 sfs
	325'	325'	250 sfs

OFFICE USE ONLY

This part of Form IV-2(b) is to record the dates of certain occurrences and any follow-up inspections.

	Date	Date(s)
Application received		
Well work started		
Completion of the drilling process		
Well Record received		
Reclamation completed		

OTHER INSPECTIONS

Reason: _____

Reason: _____

148
10
10/6/2023

10/06/2023

1) Date: September 10, 1984
2) Operator's Well No. 982
3) API Well No. 47-013-3791
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OFFICE OF OIL & GAS
NOTICE OF APPLICATION FOR A WELL WORK PERMIT

4) SURFACE OWNER(S) OF RECORD TO BE SERVED
(i) Name Grover C. Houchin
Address Rt. 2 Box 92
Minnora, W.V. 25263
(ii) Name _____
Address _____
(iii) Name _____
Address _____

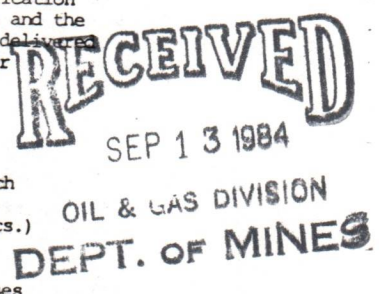
5(i) COAL OPERATOR UNOPERATED
Address _____
5(ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name UNKNOWN
Address _____
Name _____
Address _____
5(iii) COAL LESSEE WITH DECLARATION ON RECORD:
Name _____
Address _____

TO THE PERSON(S) NAMED ABOVE: You should have received this Form and the following documents:

- (1) The Application for a Well Work Permit on Form IV-2(B) (or Form IV-4 if the well is to be plugged, which sets out the parties involved in the drilling or other work, and describes the well and its location and, if applicable, the proposed casing and cementing program;
- (2) The plat (surveyor's map) showing the well location on Form IV-6; and
- (3) The Construction and Reclamation Plan on Form IV-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION (FORM IV-2(B) OR FORM 4, DESIGNATED FOR YOU. HOWEVER, YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

Take notice that under Chapter 22 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a Well Work Permit with the Administrator of the Office of Oil and Gas, West Virginia Department of Mines, with respect to a well at the location described on attached Application and depicted on attached Form IV-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Administrator.



- 6) EXTRACTION RIGHTS
Check and provide one of the following:
 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)
- 7) ROYALTY PROVISIONS
Is the right to extract, produce or market the oil or gas based upon a lease or leases or other contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes NoXX
- If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.

See the reverse side for line item instructions, and for instructions concerning the required copies of the Notice and Application, plat, and Construction and Reclamation Plan.

The truth of the information on the Notice and Application is verified and sworn to and the Notice is signed on behalf of the Well Operator in my County and State by
Harry L. Berger, Jr.
this 10 day of September, 1984.
My commission expires May 10, 1989.
David M. Gillespie
Notary Public, Kanawha County,
State of West Virginia

WELL OPERATOR Sterling Drilling & Prod. Co., Inc.
By Harry L. Berger
Its Designated Agent
Address 710 Virginia St., E.
Charleston, W.V. 25301
Telephone 342 - 0121

10/06/2023

I N S T R U C T I O N S T O A P P L I C A N T

CONCERNING THE LINE ITEMS:

- 1) Date of Notice.
- 2) Your well name and number.
- 3) To be filled out by the Office of Oil & Gas.
- 4) & 5) Use separate sheet if necessary.
- 4) Surface owner(s) of record to be served with Notice and Application. However, see also Code § 22-4-1b(b) if "more than three tenants in common or other co-owners of interest described in subsection (a) of this section hold interests in such lands".
- 5(i) "Coal Operator" means any person, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine.
- 5(ii, iii) See Code § 22-4-20.
- 6) See Code § 22-4-11(c). However, in lieu of filing the lease(s) or other continuing contract(s), the Applicant may fill out the information in the space provided below.
- 7) See Code § 22-4-11(d, e).

CONCERNING THE REQUIRED COPIES FOR FILING AND SERVICE:

Filing. Code § 22-4-1k and Regulation 7.02 provide that the original and required copies of the Notice and Application must be filed with the Administrator, 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 § 22-4-1k(d) and the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fees required by Code § 22-4-1a(c) and 22-3-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well on dwelling within 200 feet of the proposed well.

Service. In addition, service must be made on the surface owner(s) and the person(s) with an interest in the coal. See Code § 22-4-1m, 22-4-2, 22-4-2a, and 22-4-2b.

INFORMATION SUPPLIED UNDER CODE § 22-4-11(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on the obverse side of this Notice, I depose and say that I am the person who signed the Notice for the Applicant, and that--

- (1) the tract of land is the same tract described in the Application to which this Notice applies, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book Page
Grover C. Houchin, Jr. Rt. 2 Box 92 Minnora, W.V. 25263	Sterling Drilling and Production Co., Inc.	1/8	088/390



IV-9
(Rev 8-81)

DATE 7-30-84

WELL NO. Houchin # 982

State of West Virginia
Department of Mines
Oil and Gas Division

API NO. 47 - 013 - 3791

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME Sterling Drilling & Prod. CODESIGNATED AGENT Sterling Drilling & Prod.

Address 360 Madison Ave.-NY, NY 10017 Address c/o H.L.Berger - Chas., WV

Telephone (212) 682-0204 Telephone (304) 342-0121

LANDOWNER Graver C. Houchin SOIL CONS. DISTRICT Little Kanawha SCD

Revegetation to be carried out by Sterling Drilling & Prod. Co.-H.L.Berger (Agent)

This plan has been reviewed by Little Kanawha SCD. All corrections and additions become a part of this plan: 7-30-84

(Date)

Garrett Newton
(SCD Agent)

ACCESS ROAD

LOCATION

Structure _____ (A)

Structure Diversion Ditch (1)

Size _____

Material Earth

Page Ref. Manual _____

Page Ref. Manual 2-12

Structure Drainage Ditches (B)

Structure Rip-Rap (2)

Location Roadside

Material Rock

Page Ref. Manual 2-12

Page Ref. Manual _____

Structure Cross Drains -- 16" pipe (C)

Structure _____ (3)

Spacing 500' for 2-5% -- 200' for 11-15%

Material _____

Page Ref. Manual 2-8 Table 4

Page Ref. Manual _____

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SEP 13 1984
OIL & GAS DIVISION
DEPT. OF MINES

All structures should be inspected regularly and repaired if necessary. All commercial timber is to be cut and stacked and all brush and small timber to be cut and removed from the site before dirt work begins.

REVEGETATION

Treatment Area I

Lime 2 Tons/acre
or correct to pH 6.5

Fertilizer 500 lbs/acre
(10-20-20 or equivalent)

Mulch Hay or Straw 2 Tons/acre

Seed* Ky-31 40 lbs/acre

Ladino Clover 4 lbs/acre

lbs/acre

Treatment Area II

Lime 2 Tons/acre
or correct to pH 6.5

Fertilizer 500 lbs/acre
(10-20-20 or equivalent)

Mulch Hay or Straw 2 Tons/acre

Seed* Ky-31 40 lbs/acre

Ladino Clover 4 lbs/acre

lbs/acre

*Inoculate all legumes such as vetch, trefoil and clovers with the proper bacterium. Inoculate with 3X recommended amount. 10/06/2023

PLAN PREPARED BY Richard A. Campbell

ADDRESS Route 1, Box 30

Duck, WV 25063

PHONE NO. (304) 364-5780

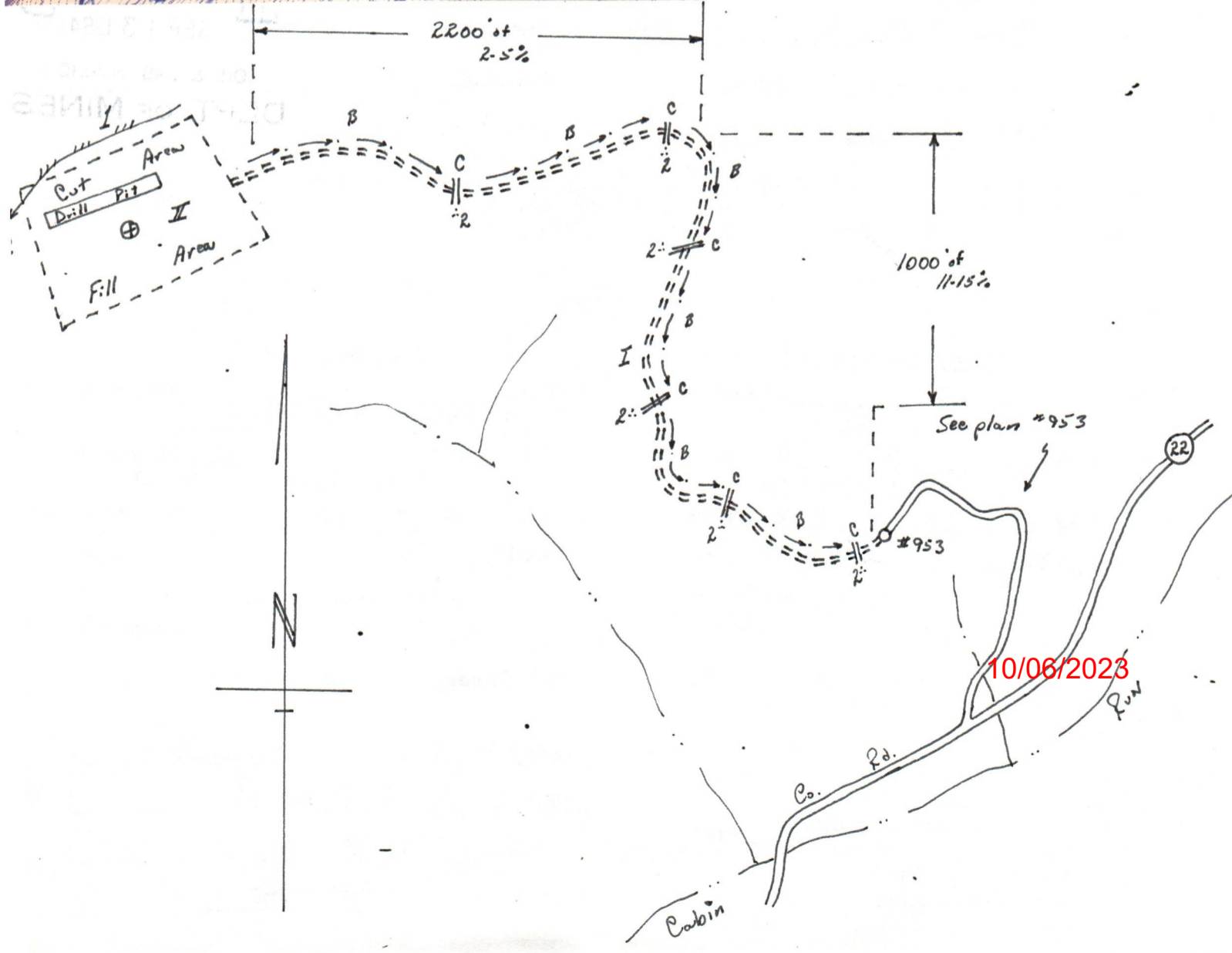
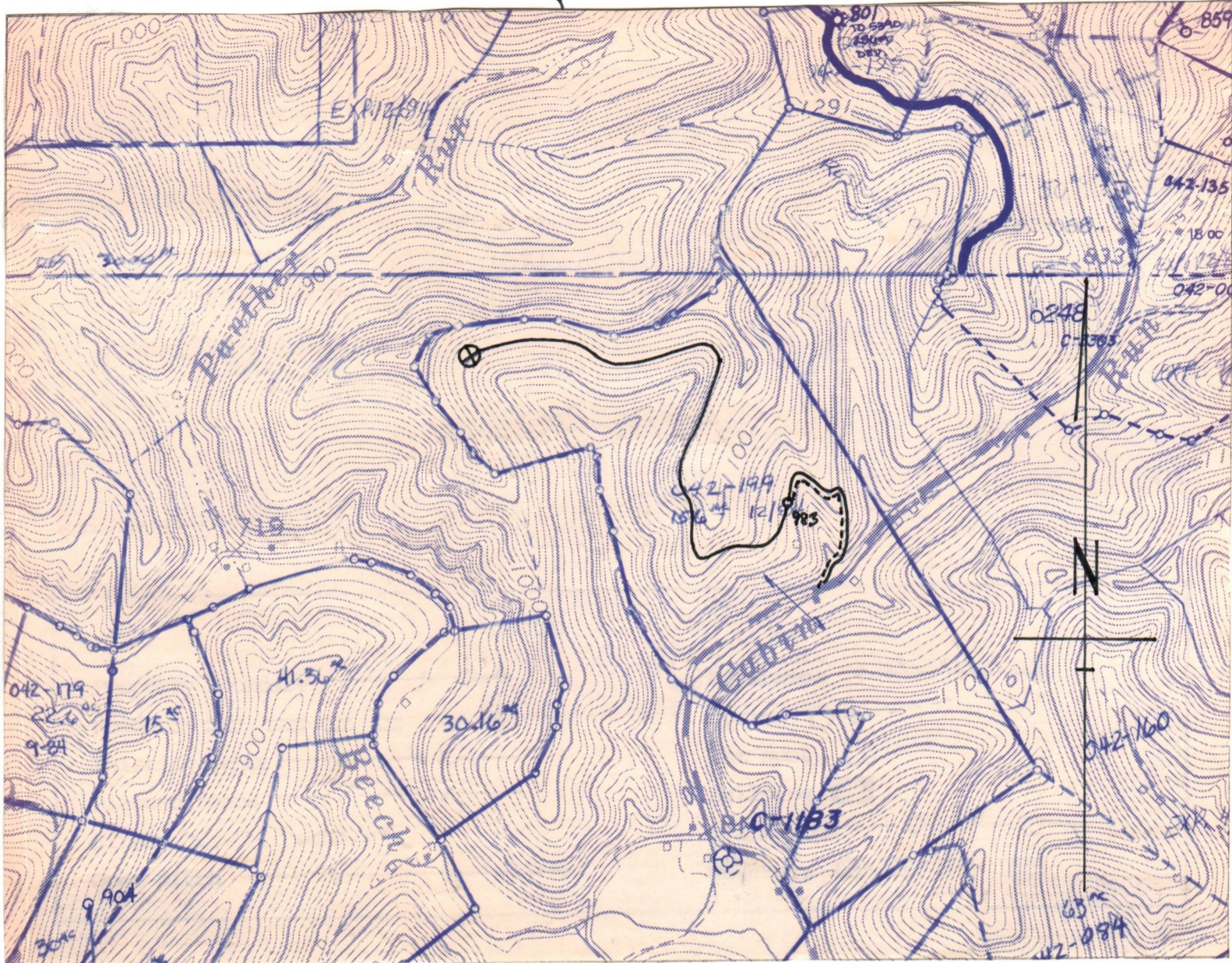
NOTES: Please request landowners' cooperation to protect new seedling for one growing season. Attach separate sheets as necessary for comments.

IV-9 REVERSE
(REV 8-81)

INVOLVED TOPOGRAPHIC MAP
QUADRANGLE 7 1/2' Arnoldsburg
Arnoldsburg SW

LEGEND

Well Site	⊕
Access Road	—





1) Date: September 10, 1984
 2) Operator's Well No. Houchin #982
 3) API Well No. 47
 State _____ County _____ Permit _____

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

- 4) WELL TYPE: A Oil _____ / Gas X /
 B (If "Gas", Production X / Underground storage _____ / Deep _____ / Shallow X /)
- 5) LOCATION: Elevation: 1085.92' Watershed: Cabin Run of Beech Fork
 District: Lee County: Calhoun Quadrangle: 7.5' Arnoldsburg
- 6) WELL OPERATOR Sterling Drilling & Prod. Co., Inc. 7) DESIGNATED AGENT Harry L. Berger, JR.
 Address 220 E. 42nd St. 33rd Floor Address 710 Virginia St., E.
New York, New York 10017 Charleston, W.V. 25301
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Deo Mace Name UNKNOWN AT THIS TIME
 Address Rt. 1 Box 5 Address _____
Sandridge, W.V. 25301
- 10) PROPOSED WELL WORK: Drill X / Drill deeper _____ / Redrill _____ / Stimulate _____
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, BROWN SHALE
 12) Estimated depth of completed well, 5275 feet
 13) Approximate strata depths: Fresh, _____ feet; salt, _____ feet.
 14) Approximate coal seam depths: 0 Is coal being mined in the area? Yes _____ / No X /
- 15) 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									Kinds
Fresh water	<u>9 5/8</u>	<u>LS</u>	<u>33#</u>	<u>X</u>		<u>375'</u>	<u>375'</u>	<u>To Surface</u>	
Coal									Sizes
Intermediate	<u>7"</u>	<u>J-55</u>	<u>20#</u>	<u>X</u>		<u>2255'</u>	<u>2255'</u>	<u>100 sks</u>	
Production	<u>4 1/2</u>	<u>ERW</u>	<u>10.5#</u>	<u>X</u>			<u>5275'</u>	<u>250 sks</u>	Depths set
Tubing									
Liners									Perforations: Top Bottom

The law requires a comment period for surface owners. However, the permit can be issued in less than 15 days from the filing of the Application if the surface owner(s) of record sign(s) the following "Voluntary Statement of No Objection" on a facsimile of this surface owner's copy of the Application.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners on the reverse side of this Application for a Well Work Permit, and that I have received copies of (1) a Notice of Application for a Well Work Permit on Form IV-2(A), (2) an Application for a Well Work Permit on Form IV-2(B), (3) a survey plat on Form IV-6, and (4) a Construction and Reclamation Plan on Form IV-9, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued based on those materials.

(For execution by corporation, partnership, etc.)

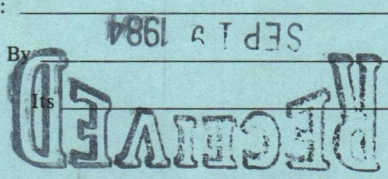
(For execution by natural persons)

NAME: _____

Ernest Houchin Jr. Date: _____
 (Signature)

By _____ Date _____
 Its _____

 (Signature)



10/06/2023
 Surface Owner

**INSTRUCTIONS TO SURFACE OWNERS
AND
EXPLANATION OF METHODS AND TIME LIMITS TO COMMENT
ON OIL AND GAS WELL WORK PERMIT**

The well operator named in the Notice and this Application and the attached materials is applying for a permit from the State to do oil or gas well drilling or other well work. You are being served with these materials because surface owners have the right to file comments before the permit is issued. (NOTE: If the surface tract is owned by more than three persons, in multiple heirship for example, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22, Article 4 of the W. Va. Code. Permits are valid for 24 months.

If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator named in the materials and the Administrator of the Office of Oil and Gas in the West Virginia Department of Mines immediately.

NOTE: You are not required to file any comment at all.

Where to file comments and obtain additional information:

Administrator of the Office of Oil and Gas
West Virginia Department of Mines
1615 Washington Street East
Charleston, West Virginia 25311
(304) 348-2057

Who may file comments? If you wish to file comments, you must be an owner of record of (1) an interest in the surface tract on which the well already is or is about to be located, or (2) an interest in any other surface tract under the same oil or gas lease which will be utilized for roads or other land disturbances.

Time limits for comments. The law requires these materials to be delivered on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments as provided in **Methods for Filing Comments** below. You may call the Administrator's office at the above telephone number to be sure of the date. However, if you have been contacted by the well operator, and if you have signed a "voluntary statement of no objection" to any of the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number, and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Methods for filing comments. Comments must be filed in person or received in the mail at the Administrator's office by the time stated above. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling.

The Administrator for Oil and Gas has the power to deny or condition a well work permit based on your comments on the following grounds:

- “(1) The proposed well work will constitute a hazard to the safety of persons; or
- “(2) The plan for soil erosion and sediment control is not adequate or effective; or
- “(3) Damage would occur to publicly owned lands or resources; or
- “(4) The proposed well work fails to protect fresh water sources or supplies.”

If you want a copy of the permit as it is finally issued, or a copy of the order denying the permit, you should request a copy from the Administrator.

List of Water Testing Laboratories. The Administrator maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Administrator's office or an Oil and Gas Inspector to obtain a copy of the list.

982
P 522 051 899

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

PS Form 3800, Feb. 1982

Sent to	
GROVER C. HOUCHIN	
Street and No.	
RT. 2 BOX 92	
P.O., State and ZIP Code	
MINNORA, W.V. 25263	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	X
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 1.70
Postmark of Date	CHARLESTON WV 2 SEP 13 1984

RECEIVED

SEP 13 1984

OIL & GAS DIVISION
DEPT. OF MINES



FERC

WR-35

State of West Virginia

DEPARTMENT OF ENERGY
Oil and Gas Division

Date October 16, 1985
Operator's Well No. 982
Farm Houchin
API No. 47 - 013 - 3791

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: 1085.92' Watershed Cabin Run of Beech Fork
District: Lee County Calhoun Quadrangle Arnoldsburg 7 1/2'

COMPANY Sterling Drilling & Production Co., Inc.

ADDRESS 710 Va. St. E., Charleston, WV 25301

DESIGNATED AGENT William E. Stover

ADDRESS 710 Va. St. E., Charleston, WV 25301

SURFACE OWNER Grover C. Houchin

ADDRESS Rt. 2 Box 92, Minnora, WV 25263

MINERAL RIGHTS OWNER Same

ADDRESS Same

OIL AND GAS INSPECTOR FOR THIS WORK Deo

Mace ADDRESS Rt.1 Box 5 Sandridge, WV 25274

PERMIT ISSUED October 4, 1984

DRILLING COMMENCED December 5, 1984

DRILLING COMPLETED December 11, 1984

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.			
13-10"			
9 5/8			
8 5/8			
7	2520'	2520'	190 sks.
5 1/2			
4 1/2		5079'	270 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5275' feet

Depth of completed well 5104'KB feet Rotary / Cable Tools _____

Water strata depth: Fresh ^{not} reported feet; Salt 1530' feet

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

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3490'-4867' feet

Gas: Initial open flow show Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow 267 Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests 15 hours

Static rock pressure 1000 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

10/06/2023

Second producing formation _____ 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

(Continue on reverse side)

CAL 3791

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

PERFORATIONS

1st Stage: 6/14/85 28 holes 4218'-4867'
 2nd Stage: 6/20/85 30 holes 3490'-4126'

TREATMENT

1st Stage: 6/15/85 750 gals. 15% HCl; 1,760 MSCF N₂
 2nd Stage: 6/20/85 800 gals. 15% HCl; 1,660 MSCF N₂

WELL LOG
 Houchin # 982

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sandstone and Shale			0	1670	All depths from 10'KB Salt water @ 1530'
Salt Sand			1670	1830	
Shale			1830	1872	
Sandstone			1872	1885	
Shale			1885	1897	
Little Lime			1897	1935	
Pencil Cave			1935	1943	
Big Lime			1943	2090	
Big Injun			2090	2103	
Silty Shale			2103	2424	
Sunbury Shale			2424	2439	
Siltstone and Shale			2439	2750	
Gordon			2750	2776	
Shale			2776	4762	Top of Java formation @ 4583'
Benson			4762	4792	
Shale			4792	4938	Top of Angola Shale @ 4805'
Alexander			4938	5005	
Shale			5005	5104	
Total Depth				5104	

(Attach separate sheets as necessary)

Sterling Drilling and Production Co., Inc.

Well Operator

By: William P. Stover

10/06/2023

Date: October 16, 1985

Note: Regulation 2.02(i) 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."

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

RECEIVED
DEPARTMENT OF ENERGY
OIL AND GAS

FINAL INSPECTION REQUEST
INSPECTOR'S COMPLIANCE REPORT

JAN 14 1986

Permit No. 13-3791 (10-04-84) County Lee-Calhoun
Company Starley Farm Hawkins
Inspector _____ Well No. 982
Date _____

RULE	DESCRIPTION	IN COMPLIANCE	
		Yes	No
23.06	Notification Prior to starting Work	_____	_____
25.04	Prepared before Drilling to prevent waste	_____	_____
25.03	High-Pressure Drilling	_____	_____
16.01	Required Permits at wellsite	_____	_____
15.03	Adequate Fresh Water Casing	_____	_____
15.02	Adequate Coal Casing	_____	_____
15.01	Adequate Production Casing	_____	_____
15.04	Adequate Cement Strength	_____	_____
23.02	Maintained Access Roads	_____	_____
25.01	Necessary Equipment to prevent Waste	_____	_____
23.03	Reclaimed Drilling Site	_____	_____
23.04	Reclaimed Drilling Pits	_____	_____
23.05	No surface or underground Pollution	_____	_____
7.03	Identification Markings	_____	_____

COMMENTS: Release Redaction

I have inspected the above well and (HAVE/HAVE NOT) found it to be in compliance with all of the rules and regulations of the Office of Oil and Gas Department of Mines of the State of West Virginia.

SIGNED: D. W. Mace
DATE: 1-10-86

10/06/2023

**APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)**

RECEIVED
OCT 18 1985

1.0 API well number: (If not assigned, leave blank. 14 digits.)	47 - 013 - 3791	
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	107 Section of NGPA	Category Code
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	5104	feet
4.0 Name, address and code number of applicant: (25 letters per line maximum. If code number not available, leave blank.)	Sterling Drilling and Production Co. Inc. 018084 Seller Code Name 710 Virginia St. East, Arcade Building Street Charleston, WV 25301 City State Zip Code	
5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (25 letters maximum for field name.) (b) For OCS wells:	Lee Field Name Calhoun County State WV Area Name Block Number Date of Lease: Mo. Day Yr. OCS Lease Number	
(c) Name and identification number of this well: (25 letters and digits maximum.) (d) If code 4 or 5 in 2.0 above, name of the reservoir: (25 letters maximum.)	Houchin #982	
6.0 (a) Name and code number of the purchaser: (25 letters and digits maximum. If code number not available, leave blank.) (b) Date of the contract:	Brooklyn Union Gas Name Buyer Code Mo. Day Yr.	
(c) Estimated total annual production from the well:	8.01	Million Cubic Feet
	(a) Base Price	(b) Tax
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	S/MMBTU 6.076	(c) All Other Prices (Indicate (+) or (-).)
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	S/MMBTU 6.076	(d) Total of (b) and (c)
9.0 Person responsible for this application:	William E. Stover Designated Agent Name Title <i>William E. Stover</i> Signature October 16, 1985 Date Application is Completed 304-342-0121 Phone Number	

Agency Use Only
Date Received by JMWL **OCT 18 1985**
Date Received by FERC

10/06/2023

DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

COVER SHEET, STATE APPLICATION FOR WELL CLASSIFICATION

NOV 15 1985

October 16, 1985

47550

AGENCY USE ONLY

Applicant's Name: Sterling Drilling & Production Co.

Inc. WELL DETERMINATION FILE NUMBER

Address: 710 Virginia St., E., Arcade Bldg.

851018 - 1073-013 - 3791

Charleston, WV 25301

Use Above File Number on all Communications Relating to This Well

Purchaser Contract No. _____

SDP #982

Month of Contract _____
(Month, day and year)

Designated Agent: William E. Stover

Buyer Purchaser: Brooklyn Union Gas

Address: 710 Virginia St., E, Arcade Bldg.

Address: 195 Montague Street

Charleston, WV 25301

(Street or P.O. Box)

Brooklyn NY 11201

(City) (State) (Zip Code)

FERC Buyer Code _____

Seller Code _____

NAME AND TITLE OF PERSON TO WHOM QUESTIONS CONCERNING THIS APPLICATION SHALL BE ADDRESSED:

Name: William E. Stover

Vice President/Drilling Supervisor
(Title)

Signature: *William E. Stover*

Address: 710 Virginia St., E., Arcade Bldg.

(Street or P.O. Box)

Charleston, WV 25301

(City) (State) (Zip Code)

Telephone: (304) 342-0121

(Area Code) (Phone Number)

(Certificate of Proof of Service to Purchaser)

NGPA Category Applied For

SECTION/SUBSECTION

- New Natural Gas
- 102-2 2.5 Mile Test
- 102-3 1000 Foot Deeper Test
- 102-4 New Onshore Reservoir
- New Onshore Production Well
- 103 New Onshore Production Well
- High Cost Natural Gas
- 107-0 Deep (more than 15,000 feet)
- 107-1 Geopressured Brine
- 107-2 Coal Seams
- 107-3 Devonian Shale
- 107-5 Production enhancement
- 107-6 New Tight Formation
- 107-7 Recompletion Tight Formation

- 108 Stripper Well Natural Gas
- 108- Stripper Well
- 108-1 Seasonally Affected
- 108-2 Enhanced Recovery
- 108-3 Temporary Pressure

AGENCY USE ONLY

QUALIFIED

10/06/2023

RECEIVED
OCT 18 1985

DEPARTMENT OF OIL & GAS
DIVISION OF ENERGY

Determination Date _____

10/06/2023

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT

Operator: Sterling Drilling & Production Co. Agent: William E. Stover
 Type Determination being sought - 107 (Devonian Shale)
 API Well No.: 47-013-3791 Well Name: Houchin (982)
 West Virginia Office of Oil and Gas County: Calhoun
 References: SJA File No.

Vol. Page Line

I. NOTE: A Gamma Ray Log has been marked with the (a) Shale Base Line, (b) a line representing 0.7 x (Shale Base Line), (c) intervals with Gamma Ray units less than 0.7 x (Shale Base Line) and that log is included with this analysis.

II. Gamma Ray elevation indices:

A. Shale Base Line (API Units)

1. GR Value at Base Line = 180 * API Units
2. Remarks:

Note: Behind casing the Shale Base Line was shifted 60 units to correct for the effect of 7" casing and cement to 120 API units. This also shifted the 7" line to 84 API units.

B. Gamma Ray Log Value at 0.7 x Value at Base Line

1. GR Value = 126 * API Units
2. Calculation: $\frac{0.7 \text{ (GR Value at Base Line)}}{0.7 \text{ (120*)}} = \frac{0.7 \text{ (180 *)}}{0.7 \text{ (120*)}} = \frac{126}{84} \text{ API Units}$

III. Intervals with GR index less than 0.7 x (Value at Base Line):

Interval		Thickness of Interval Feet	Feet of less than* 0.7 (Shale Base Line) Feet
From**	To***		
2439	5094	2655	92

Total Devonian Interval 2655

Total Less Than 0.7 (Shale Base)

92

% Less Than 0.7 (Shale Base Line) = $\frac{0.0346}{1} \times 100 = \underline{\underline{3.4}}\%$

*Marked on log included with analysis.

**Top of Devonian Section Recorded on First Interval in this Column.

***Lesser of TD or Bottom of Devonian Section Recorded as last Interval in this Column.

10/06/2023

Operator's Well No. 982

API Well No.

47 - 013 - 3791
State County Permit

WELL CLASSIFICATION FORM
HIGH COST GAS WELL - DEVONIAN SHALE
NGPA Section 107

DESIGNATED AGENT William E. Stover

ADDRESS 710 Virginia St., E., Arcade Bldg.
Charleston, WV 25301

LOCATION Elevation 1085.92'
Watershed Cabin Run of Beech Fork

Dist. Lee County Calhoun Quad Arnoldsbur

Gas Purchase Contract No. _____

Meter Chart Code _____

Date of Contract _____

WELL OPERATOR Sterling Drilling & Prod. Co., Inc.

ADDRESS 710 Virginia St., E., Arcade Bldg.
Charleston, WV 25301

GAS PURCHASER Brooklyn Union Gas

ADDRESS 195 Montague Street
Brooklyn, NY 11201

* * * * *

Date surface drilling began: December 5, 1984

Indicate the bottom hole pressure of the well and explain how this was calculated.

Bottom Hole Pressure. PSIA -- Pf = Pwe XLGS

$t = 60 + (0.0075 \times 5104) + 459.67 = 557.95$. $X = \frac{1}{53.34} / \frac{557.95}{0.0000336}$

$Pf = 1000 \times 2.7183 \times 0.0000336 \times 0.690 \times 1.08 \times 4178.5 = 1110.3$ PSIA

AFFIDAVIT

I, William E. Stover, having been first sworn according to law, state that I have calculated the percentage of footage of the producing interval which is not Devonian Shale as indicated by a Gamma Ray index of less than 0.7 if a Gamma Ray log described in subparagraph (3)(i) or (3)(ii)(A) has been filed, or as indicated by the report described in subparagraph (3)(ii)(B); I have demonstrated that the percentage of potentially disqualifying non-shale footage is equal to or less than five (5) percent of the gross Devonian age interval; and I have no knowledge of any information not described in the application which is inconsistent with a conclusion that the well qualifies as a high-cost natural gas well.

William E. Stover

STATE OF WEST VIRGINIA

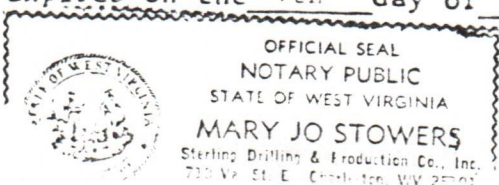
COUNTY OF Kanawha, TO-WIT:

I, Mary Jo Stowers, a Notary Public in and for the state and county aforesaid, do certify that William E. Stover, whose name is signed to the writing above, bearing date the 16th day of October, 1985 10/06/2023 acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 16th day of October, 1985.

My term of office expires on the 7th day of August, 1995.

(NOTARIAL SEAL)



Mary Jo Stowers
Notary Public

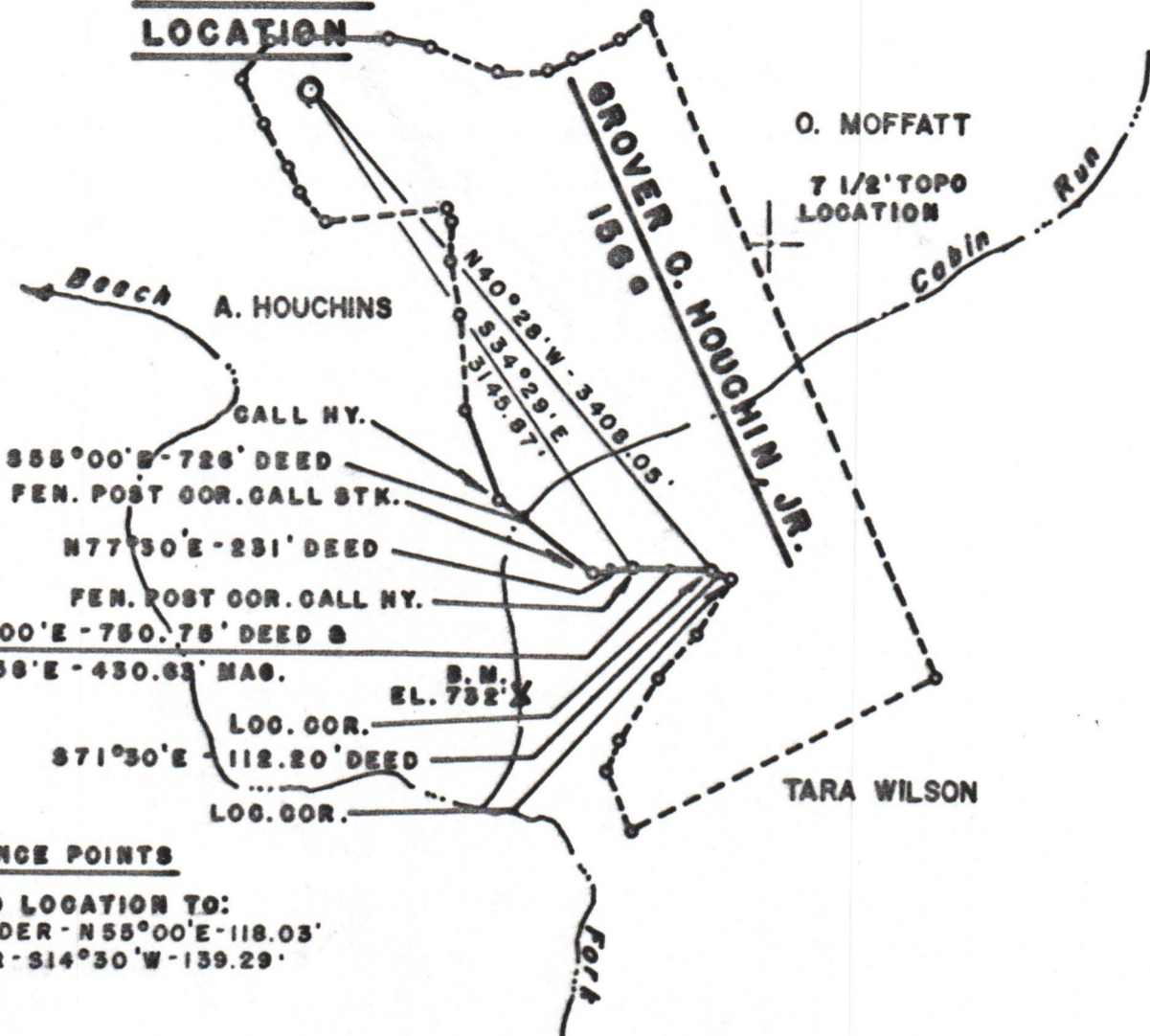
15' LATITUDE 38° 50'

5500'

7 1/2' LATITUDE 38° 47' 30"

AMOS WALLBROWN HRS.

PROPOSED LOCATION



O. MOFFATT
7 1/2' TOPO
LOCATION

GROVER O. HOUCHIN JR.
150 a

A. HOUCHINS

TARA WILSON

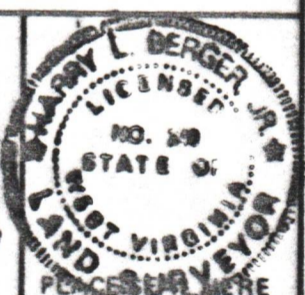
REFERENCE POINTS

PROPOSED LOCATION TO:
4" BOX ELDER - N55°00'E - 118.03'
18" POPLAR - S14°30'W - 139.29'

N. B. N-26, PG. 64

FILE NO. 042-199 NO.1
 MAP NO. 58-0
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION U.S.G.S. B.M. SHOWN EL. 732'

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) Harry L. Berger, Jr.
 HARRY L. BERGER, JR. L.L.S. 248



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



DATE JUNE 14, 19 84
 OPERATOR'S WELL NO. 992
 API WELL NO. 47-013-3791
 STATE 47 COUNTY 013 PERMIT 3791

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 1085.92' WATER SHED CABIN RUN OF BEECH FORK
 DISTRICT LEE COUNTY CALHOUN
 QUADRANGLE 7 1/2' ARNOLDSBURG (ARNOLDSBURG S.W.)
 SURFACE OWNER GROVER O. HOUCHIN, JR. ACREAGE 150
 OIL & GAS ROYALTY OWNER GROVER O. HOUCHIN, JR. LEASE ACREAGE 150
 LEASE NO. 042-199

10/06/2023

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 BROWN SHALE ESTIMATED DEPTH 5275'
 OPERATOR STERLING DRILLING & PRODUCTION CO. INC. AGENT HARRY L. BERGER, JR.
 ADDRESS 360 MADISON AVE. - 5TH FLOOR ADDRESS 710 VIRGINIA ST. E.
NEW YORK, N.Y. 10017 CHARLESTON, WY 26301