



1) Date: September 7, 19 83
 2) Operator's Well No. 816
 3) API Well No. 47 013 3657
 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: 1107.55' Watershed: Mushroom Run of W. Fork of L. Kanawha River
 District: Lee County: Calhoun Quadrange: 7.5' Arnoldsburg
- 6) WELL OPERATOR Sterling Drilling & Prod. Co., Inc. DESIGNATED AGENT Harry L. Berger, Jr.
 Address 360 Madison Ave. Fifth Floor Address 710 Virginia St/ E.
New York, New York 10017 m Charleston, W.V. 25301
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Deo Mace
 Address Rt. 1 Box 5
Sandridge, W.V. 25274
- 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, 5400 feet
- 13) Approximate trata 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

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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									
Fresh water	9 5/8	LS	33#	X		325' 400	325' 400	To Surface	Kinds
Coal									Sizes
Intermediate	7"	J-55	20#	X		2300'	2300'	100 sks	Depths set
Production	4 1/2	ERW	10.5#	X			5400'	250 sks	Perforations:
Tubing									Top Bottom
Liners									

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-013-3657

October 19 19 83
 Date

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 19, 1985 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>BB</u>	Agent: <u>OK</u>	Plat: <u>[Signature]</u>	Casing: <u>[Signature]</u>	Fee: <u>5356</u>
--------------------	---------------------	-----------------------------	-------------------------------	---------------------

[Signature]
 Administrator, Office of Oil and Gas

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

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

File
 05/17/2024



OFFICE USE ONLY

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

1) Well No. _____ State _____ County _____

2) LOCATION: Elevation _____ District _____

3) WELL OPERATOR: _____ Address _____

4) OIL & GAS INSPECTOR TO BE NOTIFIED: _____

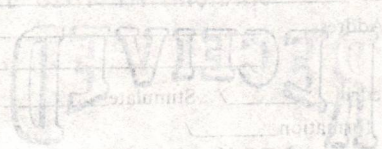
5) PROPOSED WELL WORK: _____

6) GEOLOGICAL TARGET FORMATION: _____

7) Estimated depth of completed well _____

8) Approximate cost per depth _____

9) Casing and tubing program _____



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 _____ Follow-up inspection(s) _____

Well work started _____

Completion of the drilling process _____

Well Record received _____

Reclamation completed _____

OTHER INSPECTIONS

Reason: _____

Reason: _____

Board	Agent	Plan	Casing	Fee
AP	AK			5.00



1) Date: September 7, 19 83
 2) Operator's Well No. 816
 3) API Well No. 47 State 013 County 3657 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: 1107.55' Watershed: Mushroom Run of W. Fork of L. Kanawha River
 District: Lee County: Calhoun Quadrangle: 7.5' Arnoldsburg
- 6) WELL OPERATOR Sterling Drilling & Prod. Co., Inc. 7) DESIGNATED AGENT Harry L. Berger, Jr.
 Address 360 Madison Ave. Fifth 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. 25274
- 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, 5400 feet
 13) Approximate strata 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

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>325'</u>	<u>400'</u>	<u>To Surface</u>	<u>By rule 15'</u>
Coal									Sizes
Intermediate	<u>7"</u>	<u>J-55</u>	<u>20#</u>	<u>X</u>		<u>2300'</u>	<u>2300'</u>	<u>100 sks</u>	
Production	<u>4 1/2"</u>	<u>ERW</u>	<u>10.5#</u>	<u>X</u>			<u>5400'</u>	<u>250 sks</u>	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

The 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. October 19 83

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 the filing of the Application.

WAIVER

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 _____

05/17/2024
Coal Owner

1) Date: August 3, 19 83
2) Operator's Well No. 816
3) API Well No. 47 013 3657
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 Emmons B. Smith
Address Rt. 3 Box 500
Arnoldsburg, W.V. 25234
(ii) Name _____
Address _____
(iii) Name _____
Address _____

5(i) COAL OPERATOR UNOPERATED
Address _____

5(ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name UNKNOWN
Address _____

5(iii) COAL LESSEE WITH DECLARATION ON RECORD:
Name _____
Address _____

RECEIVED
SEP 30 1983

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.

OIL & GAS DIVISION
DEPT. OF MINES

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.

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

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

Harry L. Berger, Jr.
this 3 day of August, 19 83.
My commission expires May 10, 19 89.

Daniel M. Elleshore
Notary Public, Kanawha County,
State of West Virginia

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 No

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.

05/17/2024

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 § 22-4-3a 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.

I N F O R M A T I O N S U P P L I E D U N D E R C O D E § 22-4-11(d)

I N L I E U O F F I L I N G L E A S E (S) A N D O T H E R C O N T I N U I N G C O N T R A C T (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:

<u>Grantor, lessor, etc.</u>	<u>Grantee, lessee, etc.</u>	<u>Royalty</u>	<u>Book Page</u>
O. Ray Reading Ray Grimm	Sterling Drilling and Production Co., Inc.	1/8 --	085/176

013-3657

815
816
817

No. 173703

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO		EMMONS B. SMITH
STREET AND NO.		RT 3 BOX 500
P.O., STATE AND ZIP CODE		ARNCLOSBURG, W.V. 25234
POSTAGE		\$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
	OPTIONAL SERVICES	
	RETURN RECEIPT SERVICE	
	SHOW TO WHOM AND DATE DELIVERED	¢
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢	
TOTAL POSTAGE AND FEES		\$2.40
POSTMARK OR DATE		CHARLESTON, WV AUG 10 1983

PS Form 3800, Apr. 1976

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05/17/2024

OIL & GAS DIVISION
DEPT. OF MINES



IV-35
(Rev 8-81)

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MAR 2 - 1984

State of West Virginia
Department of Mines
Oil and Gas Division

Date February 1, 1984
Operator's
Well No. 816
Farm Reading
API No. 47 - 013 - 3657

OIL & GAS DIVISION
DEPT. OF MINES 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: 1107.55 Watershed Mushroom Run of W. Fork of Little Kanawha River
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 Harry L. Berger, Jr.

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

SURFACE OWNER Emmons B. Smith

ADDRESS Rt. 3 Box 500, Arnoldsburg, WV 25234

MINERAL RIGHTS OWNER O. Ray Reading, et al

ADDRESS General Delivery, Arnoldsburg, WV 25234

OIL AND GAS INSPECTOR FOR THIS WORK Deo Mace

ADDRESS Rt.1 Box 5, Sandridge, WV 25274

PERMIT ISSUED October 19, 1983

DRILLING COMMENCED January 9, 1984

DRILLING COMPLETED January 16, 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	430'	430'	150 sks.
8 5/8			
7	2566'	2566'	170 sks.
5 1/2			
4 1/2	5314'	5314'	220 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5400 feet

Depth of completed well 5331 feet Rotary X / Cable Tools _____

Water strata depth: Fresh 265 feet; Salt 990 feet

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

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 2805 - 5286 feet

Gas: Initial open flow 329 Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow 474 Mcf/d Final open flow Show Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure 950 psig (surface measurement) after 72 hours shut in
(If applicable due to multiple completion--)

05/17/2024

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 5657

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

Perforation: 1st Stage- 25 holes 4442'-5286'
 2nd Stage- 24 holes 3734'-4200'
 3rd Stage- 14 holes 3279'-3520'
 4th Stage- 11 holes 2805' - 3117'

Treatment: 1st Stage- 1,512 MSCF N₂, 1000 gals. 15% HCl
 2nd Stage- 1,344 MSCF N₂, 1000 gals. 15% HCl
 3rd Stage- 1,344 MSCF N₂, 800 gals. 15% HCl
 4th Stage- 840 MSCF N₂, 800 gals. 15% HCl

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Soil			0	8	
Shale			8	90	
Sandstone			90	160	
Shale			160	438	Fresh water @ 265'
Sandstone			438	486	
Shale			486	577	
Sandstone			577	620	
Shale			620	980	
Sandstone w/ Shale Stringers			980	1405	Salt water @ 990'
Siltstone and Shale			1405	1712	
Sandstone			1712	1733	
Shale			1733	1770	
Salt Sand			1770	1883	
Shale			1883	1916	
Sandstone			1916	1969	
Little Lime			1969	2000	
Pencil Cave			2000	2011	
Big Lime			2011	2155	
Big Injun			2155	2174	
Siltstone and Shale			2174	2488	
Sunbury Shale			2488	2504	
Siltstone and Shale			2504	2818	Gas Shows 2780'-3130'
Gordon			2818	2847	
Shale			2847	4858	Gas Shows 3279'-3520'
Siltstone			4858	4893	3734'-4200'
Shale			4893	5051	4442'-5286'
Siltstone			5051	5113	
Shale			5113	5331	
Total Depth				5331	

(Attach separate sheets as necessary)

Sterling Drilling and Production Co., Inc.

Well Operator

By:

Harry J. Berger 05/17/2024

Date:

2-28-84

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 WELLS DIVISION

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OIL & GAS DIVISION
DEPT. OF MINES

INSPECTOR'S WELL REPORT

Permit No. 13-3657

Oil or Gas Well _____
(KIND)

Company Sterling

Address _____

Farm Reading

Well No. 816

District See County Cal.

Drilling commenced _____

Drilling completed _____ Total depth _____

Date shot _____ Depth of shot _____

Initial open flow _____ /10ths Water in _____ Inch

Open flow after tubing _____ /10ths Merc. in _____ Inch

Volume _____ Cu. Ft.

Rock pressure _____ lbs. _____ hrs.

Oil _____ bbls., 1st 24 hrs.

Fresh water _____ feet _____ feet

Salt water _____ feet _____ feet

CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Size			
16			Kind of Packer _____
13			
10			Size of _____
8 1/4			
6 5/8			Depth set _____
5 3/16			
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED _____ SIZE _____ No. FT. _____ Date _____

NAME OF SERVICE COMPANY _____

COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES

_____ FEET _____ INCHES _____ FEET _____ INCHES

_____ FEET _____ INCHES _____ FEET _____ INCHES

Drillers' Names _____

Remarks: Location built.

12-10-83
DATE

Wes Mace 05/17/2024
DISTRICT WELL INSPECTOR

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

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JAN 18 1984

OIL & GAS DIVISION
DEPT. OF MINES

INSPECTOR'S WELL REPORT

Permit No. 13-3657

Oil or Gas Well
(KIND)

Company Sterling
 Address _____
 Farm Reading
 Well No. 816
 District See County Cal.
 Drilling commenced 1-9-84
 Drilling completed _____ Total depth _____
 Date shot _____ Depth of shot _____
 Initial open flow _____ /10ths Water in _____ Inch
 Open flow after tubing _____ /10ths Merc. in _____ Inch
 Volume _____ Cu. Ft.
 Rock pressure _____ lbs. _____ hrs.
 Oil _____ bbls., 1st 24 hrs.
 Fresh water _____ feet
 Salt water _____ feet

CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Size			
16			Kind of Packer _____
13			
10			Size of _____
8 1/4			
6 3/8			Depth set _____
5 3/16			
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED _____ SIZE _____ No. FT. _____ Date _____
 NAME OF SERVICE COMPANY _____
 COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
 _____ FEET _____ INCHES _____ FEET _____ INCHES
 _____ FEET _____ INCHES _____ FEET _____ INCHES

Drillers' Names Hunt 8

Remarks: 431' 9 5/8" 150' SKS cement, Dowell, 1-10-84
Top of casing not cemented.

1-11-84
DATE

Des Mac
05/17/2024
DISTRICT WELL INSPECTOR



State of West Virginia
Department of Mines
Oil and Gas Division
Charleston 25305

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OCT 23 1984

OIL & GAS DIVISION
DEPT. OF MINES

FINAL INSPECTION REPORT
INSPECTORS COMPLIANCE REPORT
March 12, 1984

COMPANY Sterling Drilling & Prod. Co. PERMIT NO 013-3657
710 Virginia Street, East FARM & WELL NO Reading #816
Charleston, West Virginia 25301 DIST. & COUNTY Lee/Calhoun

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	_____	_____
15.05	Cement Type	_____	_____
23.02	Maintained Access Roads	_____	_____
25.01	Necessary Equipment to Prevent Waste	_____	_____
23.04	Reclaimed Drilling Pits	_____	_____
23.05	No Surface or Underground Pollution	_____	_____
23.07	Requirements for Production & Gathering Pipelines	_____	_____
16.01	Well Records on Site	_____	_____
16.02	Well Records Filed	_____	_____
7.05	Identification Markings	_____	_____

I HAVE INSPECTED THE ABOVE CAPTIONED WELL AND RECOMMEND THAT IT BE RELEASED:

SIGNED W. M. Mace
DATE 10-18-84

Your well record was received and reclamation requirements approved. In accordance with Chapter 22, Article 4, Section 2, the above well will remain under bond coverage for the life of the well.

T. H. R. B.
Administrator-Oil & Gas Division

December 20, 1984
DATE

05/17/2024

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

1.0 API well number: (If not assigned, leave blank, 14 digits.) 47 - 013 - 3657 -

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.) 5331 feet

4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)
Sterling Drilling and Production Co. Inc. 018084
Name Seller Code
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 (35 letters maximum for field name.)
Lee District
Field Name
Calhoun
County W.V.
State WV
Area Name Block Number

(b) For OCS wells:
 (c) Name and identification number of this well: (35 letters and digits maximum.)
Reading #816
Date of Lease: OCS Lease Number

Mo.	Day	Yr.

(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)

6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)
UNDEDICATED
Name
Buyer Code

(b) Date of the contract:

Mo.	Day	Yr.

(c) Estimated total annual production from the well:
8 Million Cubic Feet

Contract price: (As of filing date. Complete to 3 decimal places.)	(a) Base Price	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)
Maximum lawful rate: As of filing date. Complete to 3 decimal places.)	S/MMBTU <u>5.718</u>	---	---	---
Person responsible for this application:	S/MMBTU <u>5.718</u>	---	---	---

Agency Use Only
 Received by Juris. Agency
MAR 2 1984
 Received by FERC

Harry L. Berger, Jr.
Name
Harry L. Berger, Jr.
Signature
February 28, 1984
Date Application is Completed
 Designated Agent
Title
05/17/2024
 304-342-0121

**APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)
(Sections 102, 103, 107 and 108)**

GENERAL INSTRUCTIONS

Complete this form if you are applying for price classification under sections 102, 103, 107, or 108 of the NGPA.

Complete each appropriate item on the reverse side of this page. The code numbers used in items 4 and 6 can be obtained from the Buyer/Seller Code Book. If there is more than one purchaser or contract, identify the additional information in the space below. Also enter any additional remarks in the space below. The data reported on this form are not considered to be confidential and will not be treated as such.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 274.501. If there are any questions, call (202) 357-8585.

SPECIFIC INSTRUCTIONS

Use the codes in the table below for type of determination in item 2.

Section of NGPA (a)	Category Code (b)	Description (c)
102	1	New OCS lease
102	2	New onshore well (2.5 mile test)
102	3	New onshore well (1000 feet deeper test)
102	4	New onshore reservoir
102	5	New reservoir on old OCS lease
103	-	New onshore production well
107	0	Deep (more than 15,000 feet) high-cost gas
107	1	Gas produced from geopressured brine
107	2	Gas produced from coal seams
107	3	Gas produced from Devonian shale
107	5	Production enhancement gas
107	6	New tight formation gas
107	7	Recompletion tight formation gas
08	0	Stripper well
08	1	Stripper well - seasonally affected
08	2	Stripper well - enhanced recovery
09	3	Stripper well - temporary pressure buildup
08	4	Stripper well - protest procedure

Enter appropriate information regarding other Purchasers/Contracts.

Contract Date (Mo, Da, Yr) (a)	Purchaser (b)	Buyer Code (c)

05/17/2024

DATE: APR 24 1984

BUYER-SELLER CODE

018054

PARTICIPANTS:

WELL OPERATOR:

Sterling Drilling & Prod. Co., Inc

FIRST PURCHASER:

H

OTHER:

Dev

W. Va. Department of Mines, Oil & Gas Division

WELL DETERMINATION FILE NUMBER

840302-107³ 013-3657

Use Above File Number on all Communications
Relating to Determination of this Well

APPROVED

APR 18 1984

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

- ITEM NO.
1. FERC -121 _____ Items not completed - Line No. _____
 2. IV-1 Agent _____
 3. IV-2 Well Permit _____
 4. IV-6 Well Plat _____
 5. IV-35 Well Record _____ Drilling _____ Deepening _____
 6. IV-36 Gas-Oil Test: Gas Only _____ Was Oil Produced? _____ Ratio _____
 7. IV-39 Annual Production _____ years
 8. IV-40 90 day Production _____ Days off line: _____
 9. IV-48 Application for certification. Complete? _____
 - 10-17. IV Form 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 Complete? _____ Affidavit Signed _____
 - 18-28. Other: Survey _____ Logs _____ Geological Charts _____
Structure Map _____ 1: 4000 Map _____ Well Tabulations _____
Gas Analyses _____
 - (5) Date commenced: _____ Date completed _____ Deepened _____
 - (5) Production Depth: _____
 - (5) Production Formation: _____
 - (5) Final Open Flow: _____
 - (5) After Frac. R. P. _____
 - (6) Other Gas Test: _____
 - (7) Avg. Daily Gas from Annual Production: _____
 - (8) Avg. Daily Gas from 90-day ending w/1-120 days _____
 - (8) Line Pressure: _____ PSIG from Daily Report _____
 - (5) Oil Production: _____ From Completion Report _____
 - 10-17. Does lease inventory indicate enhanced recovery being done _____
 - 10-17. Is affidavit signed? _____ Notarized? _____
- Does official well record with the Department confirm the submitted information? _____
- Additional information _____ Does computer program confirm? _____
- Was Determination Objected to _____ By Whom? _____

05/17/2024

DEPARTMENT OF MINES OIL AND GAS DIVISION

Operator's
Well No. 816

API Well No.
47 - 013 - 3657
State County Permit

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

DESIGNATED AGENT Harry L. Berger, Jr.

ADDRESS Arcade Building; 710 Virginia St., E.
Charleston, WV 25301

LOCATION Elevation 1107.55'

WELL OPERATOR Sterling Drilling and Production Watershed Mushroom Run of W. Fk. L. Kan. Riv.
Co., Inc.
ADDRESS 710 Virginia St., East Dist. Lee County Calhoun Quad. 7.5' Arnl
Charleston, WV 25301

Gas Purchase
Contract No. _____

GAS PURCHASER UNDEDICATED
ADDRESS _____

Meter Chart Code _____

Date of Contract _____

* * * * *

Date surface drilling began: 1/9/84

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

Bottom Hole Pressure. PSIA -- Pf = Pwe XLGS

$$t = 60 + (0.0075 \times 5331) + 459.67 = 560 \quad X = \frac{1}{53.34} \times 560 = .0000335$$

$$Pf = 950 \times 2.7183 \times .0000335 \times 1293 \times .690 \times \frac{1.08}{1.0} = 1057 \text{ PSIA}$$

AFFIDAVIT

I, Harry L. Berger, Jr., 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)(1) or (3)(i1)(A) has been filed, or as indicated by the report described in subparagraph (3)(i1)(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.

Harry L. Berger, Jr.

STATE OF WEST VIRGINIA

COUNTY OF Kanawha, TO-WIT:

I, David M. Gillespie, a Notary Public in and for the state and county aforesaid, do certify that Harry L. Berger, Jr., whose name is signed to the writing above, bearing date the 28 day of February, 1984, has acknowledged the same before me, in my county aforesaid.

05/17/2024

Given under my hand and official seal this 28 day of February, 1984.

My term of office expires on the 10 day of May, 1989.

(NOTARIAL SEAL)

David M. Gillespie
Notary Public

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION

Date February 28, 19 84

Operator's Well No. 816

API Well No. 47 - 013 - 3657
State County Permit

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. _____ (If Applicable)

WELL OPERATOR Sterling Drilling and Production Co., Inc.

DESIGNATED AGENT Harry L. Berger, Jr.

ADDRESS 710 Virginia St., East
Charleston, WV 25301

ADDRESS Sterling Drilling & Production Co., Inc.
Arcade Building, Charleston, WV. 25301

Gas Purchase Contract No. _____ and Date _____
Meter Chart Code _____ (Month, day and year)

Name of First Purchaser UNDEDICATED
(Street or P. O. Box) _____
(City) _____ (State) _____ (Zip Code) _____

FERC Seller Code 018084 FERC Buyer Code _____

TYPE OF DETERMINATION BEING SOUGHT:

- (1) Initial determination (See FERC Form 121.) 107 Section of NGPA Category Code _____
- (2) Determination that increased production is the result of enhanced recovery technology.
- (3) Determination of a seasonally affected well.

Harry L. Berger, Jr. Agent
Name (Print) Title
Harry L. Berger, Jr. Signature
Sterling Drilling & Production Co., Inc.
Street or P. O. Box
Arcade Bldg., Charleston, WV 25301
City State (Zip Code)
(304) 342-0121
Area Code Phone Number

(Certificate of Proof of Service to Purchaser)

UNDEDICATED

(All of the above to be completed by the Operator/Applicant)

(To be completed by Jurisdictional Agency. Executed copy to be returned to Operator/Applicant and purchaser, if known).

The Department of Mines has received a request, for certification of the above described well as meeting the requirements of Section _____ under the Natural Gas Policy Act of 1976, (NGPA); or for determination that increased production is the result of enhanced recovery technology under Section 108 of (NGPA); or for determination of a seasonally affected well under Section 108 of (NGPA).

All interested parties are hereby notified that on the _____ day of _____, 19____, at the office of the Oil and Gas Division in Charleston, West Virginia, or as soon thereafter as it may be heard, there will be a public hearing, if requested, or if objection is filed.

This Application is assigned File No. _____

Initial review of information submitted indicates the well is, is not entitled to certification as claimed under the Natural Gas Policy Act (NGPA). A review of this evidence and any additional evidence will be made at the time appointed for a public hearing or as soon thereafter as the matter may be heard.

Unless objections are timely filed or a request for a hearing is made within fifteen (15) days, a hearing will not be held except on ex parte motion of the department and the matter will go to determination.

WEST VIRGINIA DEPARTMENT OF MINES

MAR 2 1984

Date received by _____
Jurisdictional Agency

By [Signature] Director 05/17/2024
Title _____

Checklist of minimum Forms and Information needed to apply for each well classification. Each is identified by an "Item No." The "Items" required are listed beneath each well classification.

FOR NEW ONSHORE WELL - Sec. 102 NGPA - More than 2.5 miles from a marker well.
Items - 1, 2, 3, 4, 5, 6, 9, 10, 22, 23 - (18 & 19 Qualified)

FOR NEW ONSHORE WELL - Sec. 102 NGPA - More than 1,000 feet deeper than a marker well,
Items - 1, 2, 3, 4, 5, 6, 9, 11, 22, 23 - (18 & 19 Qualified)

FOR NEW ONSHORE RESERVOIR WELL - Sec. 102 NGPA
Items - 1, 2, 3, 4, 5, 6, 9, 12, 20, 21, 24 - (18 & 19 Qualified)

FOR NEW ONSHORE PRODUCTION WELL - Sec. 103 NGPA
Items - 1, 2, 3, 4, 5, 6, 9, 13

FOR HIGH COST GAS - Sec. 107 NGPA
Items - 1, 2, 3, 4, 5, 6, 9, 14, 19 - (18 Qualified)

FOR STRIPPER WELLS - Sec. 108 NGPA
Items - 1, 2, 3, 4, 5, 6, 7, 8, 9, 15 (28 if Available)

FOR STRIPPER WELLS - Sec. 108 NGPA - Enhanced Recovery
Items - 9, 16

FOR STRIPPER WELLS - Sec. 108 NGPA - Seasonally Affected
Items - 9, 17, 28

<u>ITEM NOS.</u>	<u>FORM NO.</u>	<u>DESCRIPTION</u>
1.	FERC 121	
2.	IV-1	Operator Agent Certification
3.	IV-2	Well Permit Application
4.	IV-6	Well Plat
5.	IV-35	Well Operator's Drilling Report
6.	IV-36	Gas/Oil Ratio Test Report
7.	IV-39	Report of Annual Production
8.	IV-40	Ninety (90) Day Production Report
9.	IV-48WC	State Application for Well Classification
10.	IV-51WC	Wells drilled more than 2.5 miles from a marker well
11.	IV-52WC	Wells drilled more than 1,000 feet deeper than a marker well
12.	IV-53WC	New Onshore Reservoir Well
13.	IV-54WC	New Onshore Production Well
14.	IV-55WC	High Cost Natural Gas Well
15.	IV-56WC	Stripper Well Classification
16.	IV-57WC	Stripper - Increased Production by Enhanced Recovery
17.	IV-58WC	Stripper - Seasonally Affected
18.	N/A	Directional Survey
19.	N/A	Electric Logs
20.	N/A	Subsurface cross-section charts (Geological charts)
21.	N/A	Formation Structure Map
22.	N/A	1:4000 Well Location Map
23.	N/A	Well Tabulation Sheet
24.	N/A	Gas Analysis
25.	N/A	Other
26.	N/A	Notice - Increase of Production
27.	N/A	Lease Inventory
28.	N/A	Tax records or verified copies of billing statements for appropriate period.

05/17/2024

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

Operator: _____ Agent: _____
 Type Determination being sought - 107 (Devonian Shale)
 API Well No.: 47-013-3657 Well Name: Reading # 816
 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 = 175 * API Units
 2. Remarks: _____

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

1. GR Value = _____ * API Units
 2. Calculation: $\frac{0.7}{0.7} \left(\frac{\text{GR Value at Base Line}}{\text{GR Value at Base Line}} \right) = \text{_____ API Units}$

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***		
2512'	5327'	2815	124'

Total Devonian Interval 2815'

Total Less Than 0.7 (Shale Base) 124

% Less Than 0.7 (Shale Base Line) = $\frac{0.044}{1} \times 100 = \underline{4.4\%}$

05/17/2024

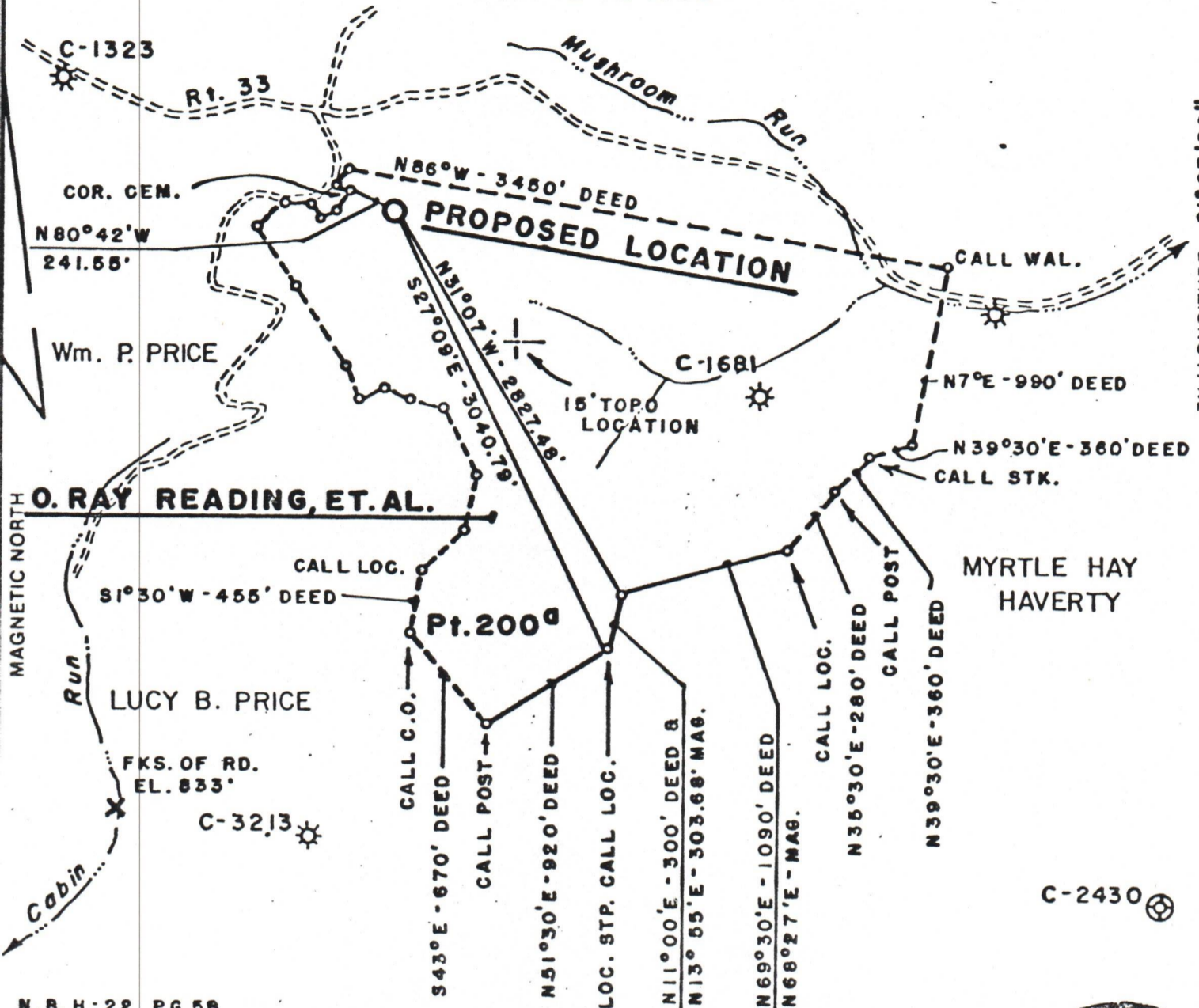
*Marked on log included with analysis.
 **Top of Devonian Section Recorded on First Interval in this Column.
 ***Lesser of TD or Bottom of Devonian Section Recorded as last Interval in this Column.

15' LATITUDE 38° 50'

7 1/2' LATITUDE 38° 47' 30"

17 1/2' TOPO LOCATION

SAMUEL A. HAYS



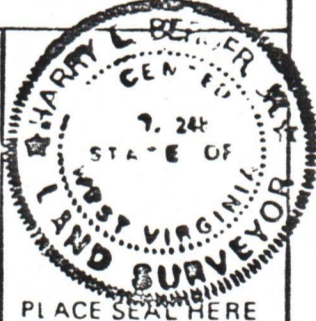
7 1/2' LONGITUDE 81° 07' 30"
15' LONGITUDE 81° 05'

N. B. H - 22 PG. 58

FILE NO 042-166 NO. 2
 MAP NO. 58-C
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION U.S.G.S. DATA FKS, RD. SHOWN EL. 833'

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. LLS 248



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

FORM IV-6 (8-78)



DATE JULY 6, 19 83
 OPERATOR'S WELL NO. 816
 API WELL NO. EXP. 10/19/85
47 - 013 - 3657
 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 1107.55' WATER SHED MUSHROOM RUN OF W. FK. OF L. KANAWHA RIVER
 DISTRICT LEE COUNTY CALHOUN
 QUADRANGLE 7 1/2' ARNOLDSBURG (ARNOLDSBURG S.W.)

SURFACE OWNER EMMONS B. SMITH ACREAGE PT. 200
 OIL & GAS ROYALTY OWNER O. RAY READING, ET. AL. LEASE ACREAGE 200
 LEASE NO. 042-166

05/17/2024

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 5400'
 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, W.V. 25301



IV-9
(Rev 8-81)

DATE 7-11-83

WELL NO. Reading # 816

State of West Virginia API NO. 47-013-3657

Department of Mines
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME Sterling Drilling & Prod. Co WELL OPERATOR Sterling Drilling & Prod.

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

Telephone (212) 949-9100 Telephone (304) 342-0121

LANDOWNER Emmons B. Smith 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: 7-11-83

(Date)

Garrett Newton
(SCD Agent)

ACCESS ROAD

LOCATION

Structure	(A)	Structure	(1)
Structure		<u>Diversion Ditch</u>	
Spacing		<u>Earthen</u>	
Page Ref. Manual		<u>2-10</u>	
Structure	(B)	<u>Rip-Rap</u>	(2)
Spacing		<u>Rock</u>	
Page Ref. Manual		<u>2-10</u>	
Structure	(C)	<u>Cross Ditches</u>	(3)
Spacing		<u>150' spacing for 3-4% grade</u>	
Page Ref. Manual		<u>2-4</u>	

RECEIVED
SEP 30 1983

OIL & GAS DIVISION
DEPT. OF MINES

All structures should be inspected regularly and repaired if necessary. 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

Treatment Area II

Lime 2 Tons/acre
or correct to pH 6.5

Fertilizer 600 lbs/acre
(10-20-20 or equivalent)

Mulch Hay 2 Tons/acre

Seed* Ky-31 40 lbs/acre
Ladino Clover 4 lbs/acre
lbs/acre

Lime 2 Tons/acre
or correct to pH 6.5

Fertilizer 600 lbs/acre
(10-20-20 or equivalent)

Mulch Hay 2 Tons/acre

Seed* Ky-31 30 lbs/acre
Orchard grass 10 lbs/acre
Ladino Clover 4 lbs/acre

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

05/17/2024

Moore's Well Services, Inc.

PLAN PREPARED BY Richard X. 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.

