



1) Date: September 7, 19 83
 2) Operator's Well No. 817
 3) API Well No. 47 013 3656
 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: 837.33' 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. DESIGNATED AGENT Harry L. Berger, Jr.
 Address 360 Madison Ave. Fifth Floor Address 710 Virginia St., E. 1/2
New York, New York 10017 Charleston, W.V. 25301
 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Deo Mace 9) DRILLING CONTRACTOR:
 Address Rt. 1 Box 5 Name UNKNOWN AT THIS TIME
Sandridge, W.V. 25274 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, 5150 feet
 13) Approximate trata depths: Fresh, _____ feet; salt, _____ feet.
 14) Approximate coal seam depths: 0 Is coal being mined in the area? Yes / No

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SEP 30 1983

OIL & GAS DIVISION
DEPT. OF MINES

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	9 5/8	LS	33#	X		200'	200'	To Surface	By rule 15.05
Coal									Sizes
Intermediate	7"	J-55	20#	X		2070'	2070'	100 sks	
Production	4 1/2	ERW	10.5#	X			5150'	250 sks	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-013-3656 Date October 19 19 83

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>5556</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

1) DATE: September 7, 1983

2) OPERATOR'S WELL NO.: 47-013-3056

3) API WELL NO.: 47-013-3056

4) COUNTY: Putnam

5) STATE: West Virginia

6) WELL OPERATOR: *[Faded]*

7) LOCATION: *[Faded]*

8) OIL & GAS INSPECTOR TO BE NOTIFIED: *[Faded]*

9) DRILLING CONTRACTOR: *[Faded]*

10) PROPOSED WELL WORK: *[Faded]*

11) GEOLOGICAL TARGET FORMATION: *[Faded]*

12) ESTIMATED DEPTH OF COMPLETED WELL: *[Faded]*

13) APPROXIMATE NEARBY DEPTHS: *[Faded]*

14) APPROXIMATE COAL SEAM DEPTHS: *[Faded]*

15) CASING AND TUBING PROGRAM: *[Faded]*

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DEPT. OF MINES
OIL & GAS DIVISION

Casing or Tubing Type	Size	Specification		Foot	New	Foot	Foot	Cement Fill-Up or Grout	Packers
		Grade	Weight per ft.						
Production	4 1/2" EBM	10.75	X	107.5					
Intermediate	7 1/2" J-55	20.5	X	207.5					
Casing	9 5/8" J-55	33.5	X	337.5					

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: *[Signature]*

Reason: *[Signature]*



1) Date: September 7, 19 83
 2) Operator's Well No. 817
 3) API Well No. 47 State 013 County 3656 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: 837.33' 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. 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 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 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, 5150 feet
 13) Approximate trata 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>200'</u>	<u>200'</u>	<u>To Surface</u>	Sizes
Coal									Depths set
Intermediate	<u>7"</u>	<u>J-55</u>	<u>20#</u>	<u>X</u>		<u>2020'</u>	<u>2070'</u>	<u>100 sks</u>	Perforations:
Production	<u>4 1/2</u>	<u>ERW</u>	<u>10.5#</u>	<u>X</u>			<u>5150'</u>	<u>250 sks</u>	Top Bottom
Tubing									
Liners									

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. 817
3) API Well No. 47 013 3656
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
OIL & GAS DIVISION
DEPT. OF MINES

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.

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 Y. Berger, Jr.

this 3 day of August, 1983.
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 Y. Berger
Its Designated Agent
Address 710 Virginia St., E.
Charleston, W.V. 25301
Telephone 342 - 0121

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

INSTRUCTIONS TO APPLICANT

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, 22-4-3a, and 22-4-2b.

INFORMATION SUPPLIED UNDER CODE § 22-4-11(c)

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:

<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

IV-35
(Rev 8-81)

RECEIVED

APR 9 - 1984



Date 3/28/84
Operator's
Well No. 817
Farm 0. Ray Reading
API No. 47 - 013 - 3656

RECEIVED

MAY 1 - 1984

OIL & GAS DIVISION
DEPT. OF MINES
State of West Virginia
Department of Mines
Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil X / Gas X / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production X / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 837.33 Watershed Mushroom Run of W. Fk Little Kanawha River
District: Lee County Calhoun Quadrangle 7.5' Arnoldsburg

COMPANY Sterling Drilling & Production Co., Inc.

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

DESIGNATED AGENT Harry L. Berger, Jr.

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

SURFACE OWNER Rmmond N. Dmiyh

ADDRESS Rt 3, Box 500 Arnoldsburg, WV 25234

MINERAL RIGHTS OWNER 0. Ray Reading

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 10/19/83

DRILLING COMMENCED 2/1/84

DRILLING COMPLETED 2/7/84

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	220'	220'	surface
8 5/8			
7	2077'	2077'	175 sx
5 1/2			
4 1/2	5112'	5112'	290 sx
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5150 feet

Depth of completed well 5160 KB feet Rotary X / Cable Tools

Water strata depth: Fresh 355 feet; Salt 1515 feet

Coal seam depths: ----- Is coal being mined in the area? NO

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3205-5082 feet

Gas: Initial open flow 5 Mcf/d Oil: Initial open flow Show Bbl/d

Final open flow 368 Mcf/d Final open flow 20 Bbl/d

Time of open flow between initial and final tests 6 hours

Static rock pressure 780 psig (surface measurement) after 168 hours shut in

(If applicable due to multiple completion--)

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

CHL. 20000

05/17/2024

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

Perforations: Stage One: 25 holes 4376' - 5082'
 Stage Two: 20 holes 3862' - 4281'
 Stage Three: 23 holes 3205' - 3730'

Treatment: Stage One: 1000 gal 15% HCl; 1512 MSCF N₂; BD 3260#
 Stage Two: 1000 gal 15% HCl; 1344 MSCF N₂; BD 2460#
 Stage Three: 1000 gal 15% HCl; 1245 MSCF N₂; BD 2900#

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all free and salt water, coal, oil and gas
					All measurements 10' KB
Sandstone and Shale			0	920	
Salt Sand			920	1150	
Sandy Shale			1150	1465	
Salt Sand			1465	1640	
Shale			1640	1675	
Maxon, limey			1675	1711	
Shale			1711	1718	
Little Lime and Sand			1718	1760	
Pencil Cave			1760	1770	
Big Lime			1770	1930	
Sandy Siltstone, Shale			1930	2249	
Sunbury Shale			2249	2265	
Berea			2265	2267	
Sandy Siltstone			2267	2582	
Gordon & Gordon Stray			2582	2609	
Grey Silty Shale			2609	4621	
Sandy Siltstone			4621	4654	
Grey Silty Shale			4654	4806	
Sandy Siltstone			4806	4866	
Grey & Dark Shale			4866	5160	TD 5160' KB

(Attach separate sheets as necessary)

Sterling Drilling and Production Co. 05/17/2024
 Well Operator
 By: Harry J. Bergin Jr.
 Date: 4-4-84

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

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

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FEB 7 - 1984

INSPECTOR'S WELL REPORT

OIL & GAS DIVISION
DEPT. OF MINES
Oil or Gas Well _____
(KIND)

Permit No. 13-3656

Company Sterling
 Address _____
 Farm Reading
 Well No. 817
 District See County Cal
 Drilling commenced 2-1-84
 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 _____ 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 Hunt &

Remarks: _____

2-2-84

DATE

W. W. Mace

05/17/2024

DIAGRAM

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION
INSPECTOR'S PLUGGING REPORT

Permit No. _____ Well No. _____

COMPANY _____ ADDRESS _____

FARM _____ DISTRICT _____ COUNTY _____

Filling Material Used _____

Liner	Location	Amount	Packer	Location		
PLUGS USED AND DEPTH PLACED			BRIDGES	CASING AND TUBING		
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LOCATION	RECOVERED	SIZE	LOST

Drillers' Names _____

Remarks: _____

_____ I hereby certify I visited the above well on this date.

DATE

DISTRICT WELL INSPECTOR

05/17/2024

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

RECEIVED
FEB 7 - 1984

INSPECTOR'S WELL REPORT

OIL & GAS DIVISION
DEPT. OF MINES
Oil or Gas Well _____
(KIND)

Permit No. 13-3656

Company Sterling
 Address _____
 Farm Reading
 Well No. 817
 District See County Col
 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 Hurt 8

Remarks:
220' 9 5/8" casing, 80 SKS cement Dowel 2-2-84
Run centralizer & Basket
1300' today.

2-3-84

DATE

Des Mc 05/17/2024

DICTIONARY

Form 26
2/16/82

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION
INSPECTOR'S PLUGGING REPORT

Permit No. _____ Well No. _____

COMPANY _____ ADDRESS _____

FARM _____ DISTRICT _____ COUNTY _____

Filling Material Used _____

Liner	Location	Amount	Packer	Location		
PLUGS USED AND DEPTH PLACED			BRIDGES	CASING AND TUBING		
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LOCATION	RECOVERED	SIZE	LOST

Drillers' Names _____

Remarks: _____

_____ DATE I hereby certify I visited the above well on this date.

DISTRICT WELL INSPECTOR
05/17/2024



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

FINAL INSPECTION REPORT
INSPECTORS COMPLIANCE REPORT
May 11, 1984

RECEIVED
OCT 23 1984
OIL & GAS DIVISION
DEPT. OF MINES

COMPANY Sterling Drilling & Production
710 Virginia Street, East
Charleston, West Virginia 25301

PERMIT NO 013-3656
FARM & WELL NO O. Ray Reading #817
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 *D. G. 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. ...
Administrator-Oil & Gas Division

December 20, 1984
DATE

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 - 3656 -

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.) 5160 feet

4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)
Name Sterling Drilling and Production Co. Inc. 018084
Street 710 Virginia St. East, Arcade Building Seller Code
City Charleston, WV 25301
State _____ Zip Code _____

5.0 Location of this well: (Complete (a) or (b).)
(a) For onshore wells (35 letters maximum for field name.)
Field Name Lee District
County Calhoun State WV
(b) For OCS wells:
Area Name _____ Block Number _____
Date of Lease: _____
Mo. Day Yr. OCS Lease Number _____

(c) Name and identification number of this well: (35 letters and digits maximum.)
Reading #817

(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.)
Name UNDEDICATED Seller Code _____
(b) Date of the contract: _____
Mo. Day Yr.

(c) Estimated total annual production from the well: 11 Million Cubic Feet

	(a) Base Price	(b) Tax	(c) All Other Prices (Indicate (+) or (-).)	(d) Total of (a), (b) and (c)
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)	S/MMBTU <u>5.758</u>	_____	_____	_____
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	S/MMBTU <u>5.758</u>	_____	_____	_____
9.0 Person responsible for this application:				

Agency Use Only
Date Received by Juris. Agency
APR 10 1984
Date Received by FERC

Harry L. Berger, Jr
Name Harry L. Berger Designated Agent
Signature _____ Title **05/17/2024**
April 4, 1984
Date Application is Completed
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
108	0	Stripper well
108	1	Stripper well - seasonally affected
108	2	Stripper well - enhanced recovery
108	3	Stripper well - temporary pressure buildup
108	4	Stripper well - protest procedure

Enter the appropriate information regarding other Purchasers/Contracts.

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

Remarks:

05/17/2024

PARTICIPANTS:

DATE: MAY 15 1984

BUYER-SELLER CODE

WELL OPERATOR:

Sterling Drilling & Production Co.

FIRST PURCHASER:

Uncommitted

OTHER:

W. Va. Department of Mines, Oil & Gas Division
WELL DETERMINATION FILE NUMBER

840410 - 107 - 013 - 3656

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

APPROVED

MAY -4 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? _____
- 17. IV Form 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 Complete? _____ Affidavit Signed _____
- 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 S. _____
- (5) Oil Production: _____ From Completion Report _____
- 7. Does lease inventory indicate enhanced recovery being done _____
- 7. Is affidavit signed? _____ Notarized? _____
- official well record with the Department confirm the submitted information _____
- Additional information _____ Does computer program confirm? _____
- Determination Objected to _____ By Whom? _____

05/17/2024

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 837.33

WELL OPERATOR Sterling Drilling and Production Watershed Mushroom Run of W.Fk. Lit Kan Riv
Co., Inc.

ADDRESS 710 Virginia St., East Dist. Lee County Calhoun Quad. 7.5 Arnlbdbg
Charleston, WV 25301

Gas Purchase
Contract No. _____

GAS PURCHASER UNDEDICATED

Meter Chart Code _____

ADDRESS _____

Date of Contract _____

* * * * *

Date surface drilling began: 2/1/84

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

Bottom Hole Pressure. PSIA -- Pf = Pwe XLGS

$t = 60 + (0.0075 \times 5160) + 459.67 = 558$. $X = \frac{1}{53.34} \times 558 = .0000336$

$Pf = 780 \times 2.7183 \times .0000336 \times 4144 \times 1690 \times 1.08 = 865$ 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)(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.

Harry L. Berger, Jr.

STATE OF WEST VIRGINIA

COUNTY OF Kanawha, TO-WIT:

I, JoAnn K. Brooks, 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 4TH day of April, 1984, has acknowledged the same before me, in my county aforesaid.

05/17/2024

Given under my hand and official seal this 4TH day of April, 1984.

My term of office expires on the 27 day of October, 1991.

(NOTARIAL SEAL)

JoAnn K. Brooks
Notary Public

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

Date April 4, 1984

Operator's Well No. Reading #817

All Well No. 013 - 3656
State County Permit

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. (If Applicable)

WELL OPERATOR Sterling Drilling and Production

ADDRESS 710 Virginia St., East
Charleston, WV 25301

DESIGNATED AGENT Harry L. Berger, Jr.

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.) Section of NGPA 107 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
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)

(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 107 under the Natural Gas Policy Act of 1974, (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 , 1984 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

APR 10 1984

Received by
Jurisdictional Agency

By [Signature]
Title
05/17/2024

DEVONIAN SHALE GAMMA RAY LOG ANALYSIS
 APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
 PRICE UNDER THE NATURAL GAS POLICY ACT

Operator: Sterling Drilling & Production Co., Inc.

Agent: H.L. Berger

Type Determination being sought - 107 (Devonian Shale)

API Well No.: 47-013-3656

Well Name: Reading # 817

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 = 160 * API Units

2. Remarks:

API SCALE = 0 → 200 UNITS

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

1. GR Value = 160 * API Units

2. Calculation: $\frac{0.7 \text{ (GR Value at Base Line)}}{0.7 \text{ (} \underline{160} \text{ *)} = \underline{112} API Units$

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***		
2271'	5160'		

Total Devonian Interval

2889'

Total Less Than 0.7 (Shale Base)

34'

% Less Than 0.7 (Shale Base Line) = $\frac{0.01}{2889} \times 100 = \underline{1.18} \%$

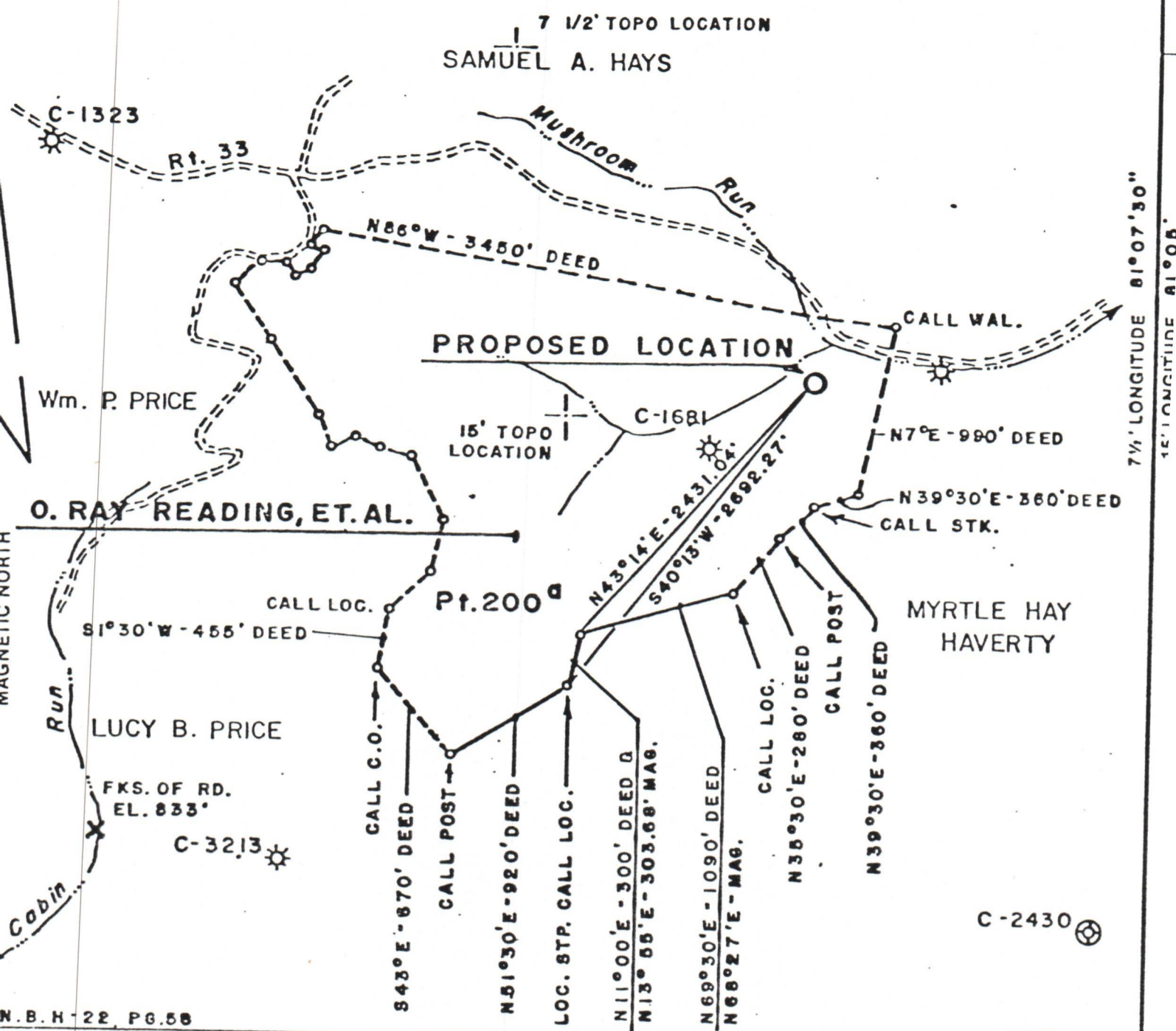
05/17/2024

*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"



FILE NO. 042-166 NO. 3
 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. L.L.S. 248



(X) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (3-78)



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

DATE JULY 6, 19 83
 OPERATOR'S WELL NO. 817
 API WELL NO. EXP. 10/19/85
47 - 013 - 3656
 STATE COUNTY PERMIT

WELL TYPE: OIL X LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS.") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION ELEVATION 837.35' WATERSHED 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 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 BROWN SHALE ESTIMATED DEPTH 5150'
 OPERATOR STERLING DRILLING & PRODUCTION CO INC. AGENT HARRY L. BERGER, JR.
 ADDRESS 360 MADISON AVE. - 5TH FLOOR ADDRESS 710 VIRGINIA ST. E.


013-3656

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		ARNOLDSBURG, 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		

PS Form 3800, Apr. 1976

RECEIVED
SEP 30 1983
OIL & GAS DIVISION
DEPT. OF MINES

05/17/2024



DATE 7-11-83

WELL NO. Reading # 817

State of West Virginia API NO. 47-013-3656

Department of Mines
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

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

Jarrett Newton
(SCD Agent)

ACCESS ROAD	LOCATION
Structure <u>Culvert</u> (A)	Structure <u>Diversion Ditch</u> (1)
Spacing <u>Site 32'</u>	Material <u>Earthen</u>
Page Ref. Manual <u>2-6</u>	Page Ref. Manual <u>2-10</u>
Structure <u>Drainage Ditches</u> (B)	Structure <u>Rip-Rap</u> (2)
Spacing <u>Roadside</u>	Material <u>Rock</u>
Page Ref. Manual <u>2-10</u>	Page Ref. Manual _____
Structure <u>Cross Ditches</u> (C)	Structure _____ (3)
Spacing <u>135' spacing for 5-7" grade</u>	Material _____
Page Ref. Manual <u>2-4</u>	Page Ref. Manual _____

RECEIVED
SEP 30 1983
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 <u>2</u> Tons/acre	or correct to pH <u>6.5</u>
Fertilizer <u>600</u> lbs/acre	(10-20-20 or equivalent)
Mulch Hay <u>2</u> Tons/acre	
Seed* <u>Ky-31</u> <u>30</u> lbs/acre	
<u>Orchardgrass</u> <u>10</u> lbs/acre	
<u>Ladino Clover</u> <u>4</u> lbs/acre	

Treatment Area II	
Lime <u>2</u> Tons/acre	or correct to pH <u>6.5</u>
Fertilizer <u>600</u> lbs/acre	(10-20-20 or equivalent)
Mulch Hay <u>2</u> Tons/acre	
Seed* <u>Ky-31</u> <u>30</u> lbs/acre	
<u>Orchardgrass</u> <u>10</u> lbs/acre	
<u>Ladino Clover</u> <u>4</u> lbs/acre	

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

Moore's Well Services, Inc.

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.

05/17/2024

