

Date: December 29, '80
Farm
Name: Langford #5

OIL AND GAS WELL PERMIT APPLICATION

API No. 47 - 085- 5056
State County Perr

WELL TYPE: Oil / Gas X /
(If "Gas", Production / Underground storage / Deep / Shallow X /

LOCATION: Elevation: 1056 Watershed: RIGHT FORK
District: Union County: Ritchie Quadrangle: Pullman 7.5'

WELL OPERATOR Mert Development, Inc. DESIGNATED AGENT Jerry Poling
Address Route 8 - Box 336-AA Address Route 8 - Box 336-AA
Fairmont, West Virginia 26554 Fairmont, W. Va. 26554

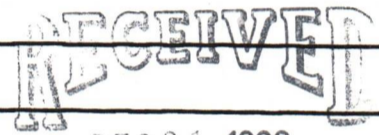
OIL & GAS ROYALTY OWNER Hale Langford
Address Route 1
Pullman, West Virginia
Acreage 91

COAL OPERATOR
Address

SURFACE OWNER Hale Langford
Address Route 1
Pullman, West Virginia
Acreage 218

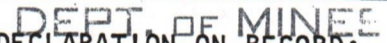
COAL OWNER(S) WITH DECLARATION ON RECORD:

Name
Address
Name
Address



DEC 31 1980

OIL & GAS DIVISION



COAL LESSEE WITH DECLARATION ON RECORD:

Name
Address

FIELD SALE (IF MADE) TO:
Name Consolidated Gas Supply Corp.
Address Clarksburg
West Virginia

OIL AND GAS INSPECTOR TO BE NOTIFIED:
Name Paul Goodnight

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease / other contract X / dated Nov. 10, 1980, to the undersigned well operator from Eastern Energy
(If said deed, lease or other contract has been recorded:)

Recorded on Nov. 24, 1980, in the office of the Clerk of the County Commission of Ritchie County, West Virginia, in Lease Book 133, at page 233. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill Deeper / Redrill / Fracture or stimulate /
Plug off old formation / Perforate new formation /
Other physical change in well (specify)

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by Department. Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessees on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO: **BLANKET BOND**
OFFICE OF OIL AND GAS

615 Washington Street, East
Charleston, West Virginia 25311

By:

Jerry Poling
Well Operator

05/03/2024

[08-78]

PROPOSED WORK ORDER

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

DRILLING CONTRACTOR (IF KNOWN) S. W. Jack
Address Buckhannon
West Virginia

GEOLOGICAL TARGET FORMATION, Alexander

Estimated depth of completed well, 5250 feet Rotary / Cable tools /

Approximate water strata depths: Fresh, 110 feet; salt, - feet.

Approximate coal seam depths: -- Is coal being mined in the area? Yes / No /

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	<u>11 3/4</u>			X		90	90	CTS	Kinds
Fresh water									
Coal									Sizes
Intermediate	<u>8 5/8</u>		23.0	X		1100	1100	CTS	
Production	<u>4 1/2</u>		10.5	X			5210	1500'	<i>over producing formation</i> Depths/set
Tubing	<u>1 1/2</u>						5140		
Liners									Perforations:
									Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 9-29-81.

J. P. Huggins
Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code § 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator / owner / lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

05/03/2024

Date: , 19

By
Its



STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS

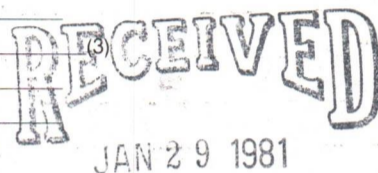
Date January 15, 1981
Well No. _____
API No. 4/ State 85 County 5056 Permit

Company Name MERT Development, Inc. Designated Agent Jerry Poling
Address Fairmont, W. Va. 26554 Address Fairmont, W. Va. 26554
Telephone 366-9111 Telephone 366-9111
Landowner Hale Langford Soil Cons. District Little Kanawha SCD
Revegetation to be carried out by MERT DEVELOPMENT, INC. Jerry Poling (Agent)
This plan has been reviewed by Little Kanawha SCD. All corrections
and additions become a part of this plan. 1-23-81 Jarrett Newton
(Date) (SCD Agent)

Access Road
Structure Open Ditch (A)
Spacing Side of Access Rd
Page Ref. Manual 1:11
Structure _____ (B)
Spacing _____
Page Ref. Manual _____
Structure _____ (C)
Spacing _____
Page Ref. Manual _____

Location
Structure Open Ditch (1)
Material Dirt
Page Ref. Manual Above Access Rd 1:9 or 1:11
Structure _____ (2)
Material _____
Page Ref. Manual _____
Structure _____ (3)
Material _____
Page Ref. Manual _____

All structures should be inspected regularly and repaired if necessary.



Treatment Area I
Lime _____ 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
Birdsfoot Trefoil 10 lbs/acre

Treatment Area II
Lime _____ 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
Birdsfoot Trefoil 10 lbs/acre

OIL & GAS DIVISION
DEPT. OF MINES

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

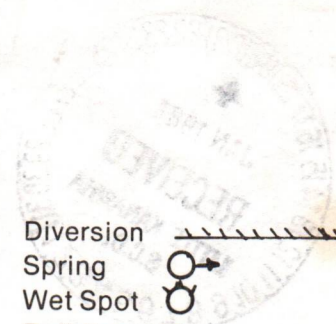
Commercial timber will be cut and stacked. All small trees and brush will be removed from site before any grading is begun.

Attach or photocopy section of involved Topographic map. Quadrangle Pullman 7.5'

Legend: Well Site
 Access Road



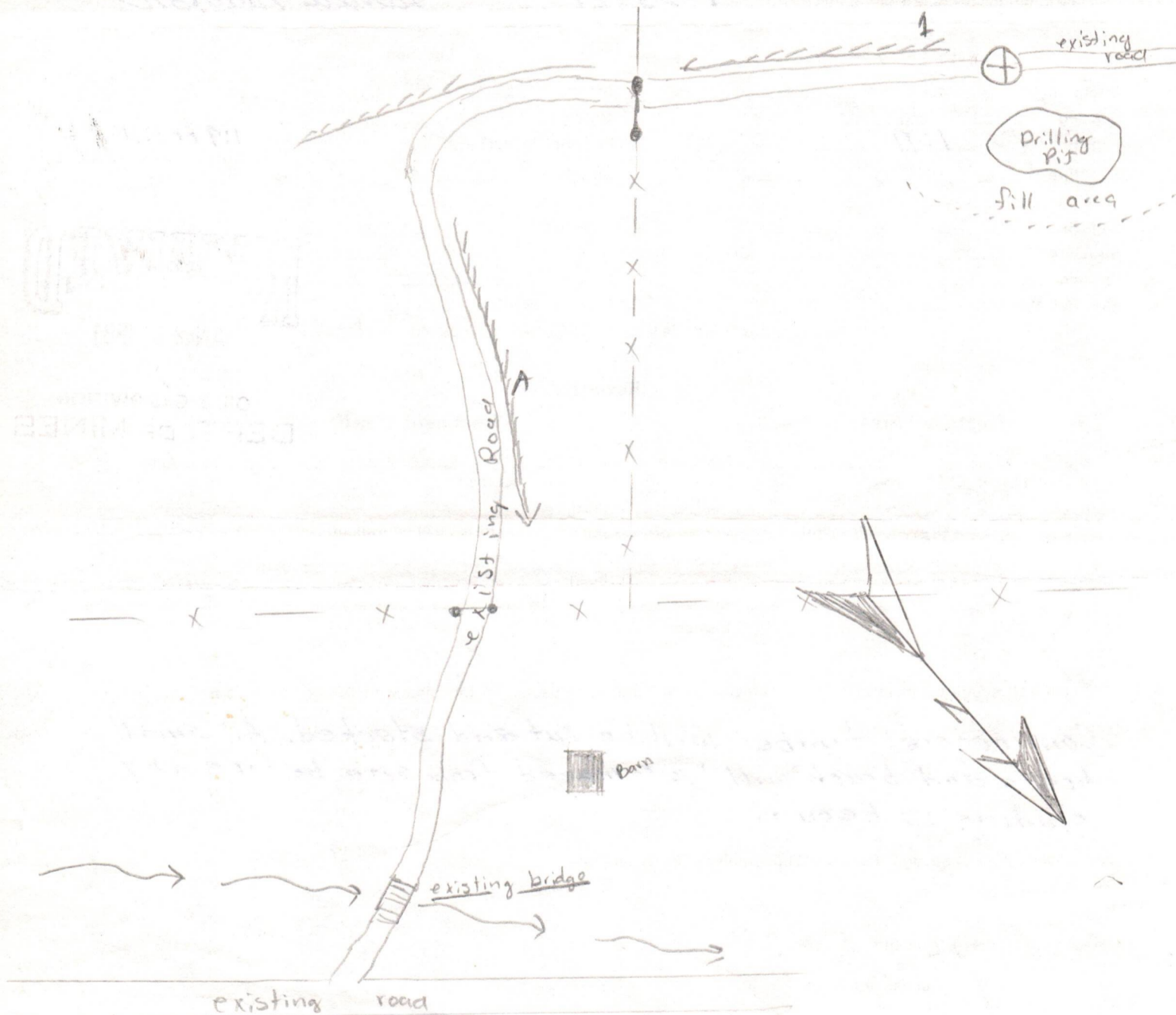
WELL SITE PLAN



- Legend:
- Property Boundary
 - Road
 - Existing Fence
 - Planned Fence
 - Stream
 - Open Ditch

- Diversion
- Spring
- Wet Spot
- Building
- Drain Pipe
- Waterway

Sketch to include well location, existing access road, roads to be constructed, wellsite, drilling pits and necessary structures numbered or lettered to correspond with first part of this plan. Include all natural drainage.



Comments Access road will be an existing farm road area is pastured
and a fence will be erected around well site, after drilling is
completed. site is on a natural bench on top of ridge- Slope
will be 0-2%.

05/03/2024

Please request landowners cooperation to protect new seeding for one growing season.

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil ___ / Gas X /
(If "Gas", Production ___ / Underground Storage ___ / Deep ___ / Shallow X /

LOCATION: Elevation: 1056' Watershed: _____

District: Union County: Ritchie Quadrangle: Pullman 7.5'

WELL OPERATOR MERT Development, Inc. DESIGNATED AGENT Jerry Poling

Address Route 8 - Box 336-AA Address Route 8 - Box 336-AA

Fairmont, West Virginia 26554 Fairmont, West Virginia 26554

OIL & GAS ROYALTY OWNER Hale Langford COAL OPERATOR _____

Address Route 1 Address _____

Pullman, West Virginia _____

Acreage 91 COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Hale Langford Name _____

Address Route 1 Address _____

Pullman, West Virginia _____

Acreage 218 Name _____

FIELD SALE (IF MADE) TO: Address _____

Name Consolidated Gas Supply Corporation _____

Address Clarksburg _____

West Virginia _____

OIL & GAS INSPECTOR TO BE NOTIFIED: Address _____

Name Paul Goodnight _____

The undersigned Well Operator is entitled to operate for Oil or Gas Purposes at the above location under a Deed ___ / Lease ___ / Other Contract X / Dated 11/10, 1980, to the

undersigned Well Operator from Eastern Energy (If said Deed, Lease or Other Contract has been recorded:)

Recorded on 11/24, 1980, in the Office of the Clerk of the County Commission of Ritchie County, West Virginia, in Lease Book 133, at Page 233. A Permit is requested as follows

PROPOSED WORK: Drill X / Drill Deeper ___ / Redrill ___ / Fracture or Stimulate ___
Plug Off Old Formation ___ / Perforate New Formation ___ /
Other Physical Change in Well (Specify) _____

--Planned as shown on the work order on the reverse side hereof.

The above named Coal Operator, Coal Owner(s), and Coal Lessee are hereby notified that any objection they wish to make or are required to make by Code 22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by Department.

Copies of this Permit Application and the enclosed Plat and Reclamation Plan have been mailed by Registered Mail or delivered by hand to the above named Coal Operator, Coal Owner(s), and Coal Lessees on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO: OFFICE OF OIL AND GAS 615 Washington Street, East Charleston, West Virginia 25311

MERT Development, Inc.
Well Operator

By: Jerry Poling

05/03/2024

BLANKET BOND

PROPOSED WORK ORDER

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

DRILLING CONTRACTOR (IF KNOWN) S. W. Jack

Address Buckhannon

West Virginia

Alexander

GEOLOGICAL TARGET FORMATION, Alexander

05/03/2024

Estimated Depth of Completed Well 5250 feet Rotary X / Cable Tools

Approximate Water Strata Depths: Fresh, 110 feet; Salt, - feet.

Approximate Coal Seam Depths: Is Coal Being Mined In The Area? Yes / No

CASING AND TUBING PROGRAM SPECIFICATIONS

FOOTAGE INTERVALS • CEMENT FILL-UP PACKER OR SACKS

CASING OR TUBING TYPE	Size	Grade	Weight Per Ft.	New Used	For Drilling	Left In Well (Cubic Feet)
Conductor	11 3/4			X	90	90
Fresh Water						
Sizes						
Intermediate	8 5/8		23.0	X	1100	1100
Production	4 1/2		10.5	X	5210	5140
Tubing	1 1/2					
Liners						
Perform- ations:						
Top Bot						

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (1) a

plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2. (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a Permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

All operations being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling renewed. This permit shall expire if operations have not commenced by 5-29-82

Deputy Director - Oil & Gas Division

The following waiver must be completed by the Coal Operator and by any Coal Owner or Coal Lessee who has recorded a Declaration under Code § 22-4-20, if the Permit is to be issued within fifteen (15) days of receipt thereof.

W A I V E R

The undersigned Coal Operator / Owner / Lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the Well Operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date:

19

By

Its



State of West Virginia
Department of Mines
Oil and Gas Division

Date October 15, 1984
Operator's Well No. Langford #1
Farm H. L. Langford
API No. 47 - 085 - 5056

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

WELL TYPE: Oil ___ / Gas x / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production ___ / Underground Storage ___ / Deep ___ / Shallow X /)
LOCATION: Elevation: 1056' Watershed White Oak Creek
District: Union County Ritchie Quadrangle Pullman 7.5

COMPANY Mert Development, Inc.
ADDRESS Fairmont, WV
DESIGNATED AGENT Jerry Poling
ADDRESS Fairmont, WV
SURFACE OWNER H. L. Langford
ADDRESS Pullman, WV
MINERAL RIGHTS OWNER (SAME)
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK Sam Hersman
ADDRESS Smithville, WV 26178

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
11 3/4	17	17	CTS
9 5/8			
8 5/8	1353	1353	CTS
7			
5 1/2			
4 1/2		3700'	2350' Fillup
3			
2			
Liners used			

PERMIT ISSUED _____
DRILLING COMMENCED 10-19-81
DRILLING COMPLETED 10-25-81
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON _____

GEOLOGICAL TARGET FORMATION Alexander Depth 5250 feet
Depth of completed well 5754' feet Rotary XX / Cable Tools _____
Water strata Depth: Fresh Damp - 540 feet; Salt _____ feet
Coal seam depths: (None) Is coal being mined in the area? _____

OPEN FLOW DATA
Producing formation Weir - Speechley Pay zone depth 2316 - (3440) feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow 2444 3550 Bbl/d
Final open flow 47.13 Mcf/d 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
(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

05/03/2024

RIT 5056

(REVERSE)

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

Perforated Speechley (3453-3485) Foam Frac with 400 sks 20/40 Sand, 1000# KCL: 100# Citric Acid 32 Gal. PEN-5; 13 Gal. 15-N Breakdown at 1850; INIS at 1100; Avg Rate 24 BRM Avg Press 2600 PSI 2 Pumps used Perforated Weir (2367-2419) Foam Frac with 400 sks 20/40 Sand; 1000# KCL 100# Citric Acid 32 gal PEN 5, 13 gal. 15-N Breakdown at 2900; INIS at 1900; Avg. Rate 28 BPM; Avg. Pressure 2800 PSI, 2 Pumps used.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fre and salt water, coal, oil and g
Clay			0	15	
Gray Shale			15	60	Hole Damp @ 540'
Red Rock			60	70	Still Dusting
Sand			70	75	
Red Rock/Shale			75	90	
White Sand			90	100	
Red Rock			100	105	
White Sand			105	145	
Red Rock			145	150	
Shale & Red Rock			150	160	
Sand			160	180	
Red Rock			180	200	
Gray Shale			200	225	
Red Rock & Shale			225	450	
Shale			450	530	
White Sand			530	575	
Light Brown Sand W/Shale			575	610	
Shale & Red Rock			610	660	
Sand			660	695	
Red Rock & Shale			695	780	
Limey Shale			780	850	
Shale & Red Rock			850	1000	
Sand			1000	1085	
Shale			1085	1130	
Lime Shale			1130	1235	
Red Rock			1235	1245	
Gray Shale & Red Rock			1245	1520	
Sand			1520	1570	
Shale & Red Rock			1570	1790	
Big Lime			1790	1898	
Big Injun			1898	2134	
Squaw			2134	2316	
Weir			2316	2444	
Berea			2444	2494	
Sand/Shale			2494	2740	
5th Sand			2740	2760	
Sand/Shale			2760	2862	
Bayard			2862	2906	
Sand/Shale			2906	2936	

(SEE ATTACHED)

(Attach separate sheets as necessary)

Continental Reserves Oil Company
 Well Operator *Thomas P. Sanders* 05/03/2024
 By: Thomas P. Sanders / Manager Oil & Gas Production
 Date: October 15, 1984

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
 corals, encountered in the drilling of a well."

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

(ATTACHMENT)

- 085-5056

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fre and salt water, coal, oil and g
Elizabeth			2936	2948	
Sand/Shale			2948	3440	
Speechley			3440	3550	
Sand/Shale			3550	4304	
Riley			4304	4316	
Sand/Shale			4316	5754	
TOTAL DEPTH				5754	

05/03/2024

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

INSPECTOR'S WELL REPORT

Permit No. 85-5056

Oil or Gas Well (KIND)

Company	MEAT DEVELOPMENT			CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Address				Size			
Farm	LANGFORD			16			Kind of Packer
Well No.	1			13			
District	UNION		County	10			Size of
				8 3/4			
Drilling commenced				6 3/8			Depth set
Drilling completed	Total depth			5 3/16			
Date shot	Depth of shot			3			Perf. top
				2			Perf. bottom
Initial open flow	/10ths Water in Inch			Liners Used			Perf. top
							Perf. bottom
Open flow after tubing	/10ths Merc. in Inch			CASING CEMENTED 8 3/8 SIZE 1352 No. FT. 10-21-81 Date			
Volume	Cu. Ft.			NAME OF SERVICE COMPANY Halliburton			
Rock pressure	lbs. hrs.			COAL WAS ENCOUNTERED AT FEET INCHES			
Oil	bbls., 1st 24 hrs.			FEET INCHES FEET INCHES			
Fresh water	feet feet			FEET INCHES FEET INCHES			
Salt water	feet feet			FEET INCHES FEET INCHES			

Drillers' Names

Remarks:

RECEIVED

OCT 27 1981

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

10-21-81

DATE

05/03/2024
Des Mare

DISTRICT WELL INSPECTOR

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

Permit No. _____

Well No. _____

COMPANY _____ ADDRESS _____

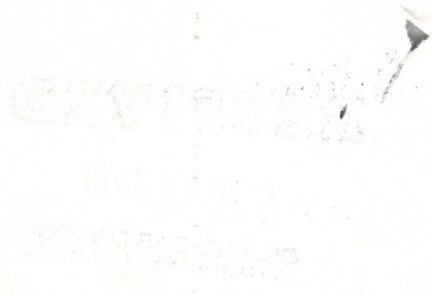
FARM _____ DISTRICT _____ COUNTY _____

Filling Material Used _____

Liner	Location	Amount	Packer	Location			
PLUGS USED AND DEPTH PLACED			BRIDGER	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.

05/03/2024
 DISTRICT WELL INSPECTOR

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

RECEIVED

NOV - 9 1981

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

INSPECTOR'S WELL REPORT

Permit No. 85-0056

Oil or Gas Well _____
(KIND)

Company <u>Metro Development</u>	CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Address _____	Size			
Farm <u>Sangford</u>	16			Kind of Packer _____
Well No. <u>1</u>	13			
District <u>Union</u> County <u>Putnam</u>	10			Size of _____
Drilling commenced _____	8 1/4			
Drilling completed _____ Total depth _____	6 3/8			Depth set _____
Date shot _____ Depth of shot _____	5 3/16			
Initial open flow _____ /10ths Water in _____ Inch	3			Perf. top _____
Open flow after tubing _____ /10ths Merc. in _____ Inch	2			Perf. bottom _____
Volume _____ Cu. Ft.	Liners Used _____			Perf. top _____
Rock pressure _____ lbs. _____ hrs.				Perf. bottom _____
Oil _____ bbls., 1st 24 hrs.	CASING CEMENTED _____ SIZE _____ No. FT. _____ Date _____			
Fresh water _____ feet _____ feet	NAME OF SERVICE COMPANY _____			
Salt water _____ feet _____ feet	COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES			
	_____ FEET _____ INCHES _____ FEET _____ INCHES			
	_____ FEET _____ INCHES _____ FEET _____ INCHES			

Drillers' Names _____

Remarks:

T.D. 5750' PLUGGED BACK TO 3700' 10-25-81

T.D. TO 5300 JEL
5300 TO 5200 CEMENT = ALEXANDER FORMATION
5200 TO 3700 JEL
4 1/2" CASING CEMENTED AT 3700'

10-27-81
10-28-81

05/03/2024
Dio Mace

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.

05/03/2024

15-May-85

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OFFICE OF OIL AND GAS
CHARLESTON 25305
FINAL INSPECTION REPORT
INSPECTORS COMPLIANCE REPORT

RECEIVED
MAY 29 1985

MERT DEVELOPMENT

Company: ~~CORTINENTAL RESERVES~~
Name: LANGFORD # Well: 5

Permit No. 47- 85-5056 OIL & GAS DIVISION
County: RITCHIE DEPT. OF MINES

Rule	Description	In Compliance	
		Yes	No
3.06	Notification prior to starting work	-----	-----
5.04	Prepped before drilling to prevent waste	-----	-----
5.03	High pressure drilling	-----	-----
6.01	Required permits at wellsite	-----	-----
5.03	Adequate Fresh Water Casings	-----	-----
5.02	Adequate Coal Casings	-----	-----
5.01	Adequate Production Casings	-----	-----
5.04	Adequate Cement Strength	-----	-----
5.05	Cement Type	-----	-----
3.02	Maintained Access Roads	-----	-----
5.01	Necessary Equipment to Prevent Waste	-----	-----
3.04	Reclaimed Drilling Pits	-----	-----
3.05	No Surface or Underground Pollution	-----	-----
7.07	Requirements for Production & Gathering Pipelines	-----	-----
6.01	Well Records on Site	-----	-----
6.02	Well Records Filed	-----	-----
7.05	Identification Markings	-----	-----

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

SIGNED: *Mike Underwood*
DATE: *5-22-85*

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

T.H. Abbott

Administrator

May 31, 1985

Date

MAY 24 1982
OIL & GAS DIVISION
DEPT. OF MINES

<p>1.0 API well number (If not available, leave blank. 14 digits)</p>	<p>47-085-5056</p>												
<p>2.0 Type of determination being sought (Use the codes found on the front of this form.)</p>	<p>103 Section of NGPA Category Code</p>												
<p>3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)</p>	<p>3485 feet</p>												
<p>4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)</p>	<p>MERT Development, Inc. Seller Code Name Route 8 - Box 336-AA Street Fairmont, W Va 26554 City State Zip Code</p>												
<p>5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)</p>	<p>Union Field Name Ritchie W Va County State</p>												
<p>(b) For OCS wells:</p>	<p>Area Name Block Number Date of Lease: Mo. Day Yr. OCS Lease Number</p>												
<p>(c) Name and identification number of this well: (35 letters and digits maximum.)</p>	<p>Hale Langford #1</p>												
<p>(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)</p>	<p>_____</p>												
<p>6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)</p>	<p>Consolidated Gas Supply Corporation Buyer Code Name</p>												
<p>(b) Date of the contract:</p>	<p>Mo. Day Yr.</p>												
<p>(c) Estimated annual production:</p>	<p>35 MMcf.</p>												
<p>7.0 Contract price: (As of filing date. Complete to 3 decimal places.)</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">(a) Base Price (\$/MMBTU)</th> <th style="width:25%;">(b) Tax</th> <th style="width:25%;">(c) All Other Prices [Indicate (+) or (-).]</th> <th style="width:25%;">(d) Total of (a), (b) and (c)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> </tr> <tr> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> </tr> </tbody> </table>	(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices [Indicate (+) or (-).]	(d) Total of (a), (b) and (c)	---	---	---	---	---	---	---	---
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---	---	---	---										
---	---	---	---										
<p>8.0 Maximum lawful rate (As of filing date. Complete to 3 decimal places.)</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> <td style="text-align: center;">---</td> </tr> </tbody> </table>	---	---	---	---								
---	---	---	---										
<p>9.0 Person responsible for this application</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%; text-align: center;">Agency Use Only</td> <td style="width:75%;"></td> </tr> <tr> <td style="text-align: center;">Date Received by Juris Agency</td> <td style="text-align: center;">Name: <u>Jerry Poling</u> Title: <u>Geologist</u></td> </tr> <tr> <td style="text-align: center; font-size: 2em;">MAY 24 1982</td> <td style="text-align: center;"> Date Application is Completed 366 9111 Phone Number </td> </tr> <tr> <td style="text-align: center;">Date Received by FERC</td> <td></td> </tr> </table>	Agency Use Only		Date Received by Juris Agency	Name: <u>Jerry Poling</u> Title: <u>Geologist</u>	MAY 24 1982	 Date Application is Completed 366 9111 Phone Number	Date Received by FERC						
Agency Use Only													
Date Received by Juris Agency	Name: <u>Jerry Poling</u> Title: <u>Geologist</u>												
MAY 24 1982	 Date Application is Completed 366 9111 Phone Number												
Date Received by FERC													

05/03/2024

PARTICIPANTS:

DATE: NOV 12 1982

BUYER-SELLER CODE

WELL OPERATOR: Mert Development, Inc.

FIRST PURCHASER: Columbia Gas Trans. Corp.

004030

OTHER: Consolidated

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
920524-103-085 = 5056
 Use Above File Number on all Communications
 Relating to Determination of this Well

1500' Rad 105

QUALIFIED

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

ITEM NO.

1. FERC -121 / Items not completed - Line No. 7.0 + 8.0 ALL

2. IV-1 Agent Jerry Poling

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: 10-19-81 Date completed 10-25-81 Deepened -

(5) Production Depth: 3453-85, 2367-2419

(5) Production Formation: Speechley, Weir

(5) Final Open Flow: NA

(5) After Frac. R. P. NA

(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 Rep.

(5) Oil Production: _____ From Completion Report _____

0-17. Does lease inventory indicate enhanced recovery being done NO

0-17. Is affidavit signed? ✓ Notarized? ✓ **05/03/2024**

Does official well record with the Department confirm the submitted information? yes

Additional information - Does computer program confirm? _____

Was Determination Objected to _____ By Whom? _____

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

Date February 26, 1982

Operator's Well No. Hale Langford #1

API Well No. 47 - 085 - 5056
State County Permit

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. _____
(If Applicable)

WELL OPERATOR MERT Development, Inc.

DESIGNATED AGENT Jerry Poling

ADDRESS Route 8 - Box 336-AA
Fairmont, West Virginia 26554

ADDRESS Route 8 - Box 336-AA
Fairmont, West Virginia 26554

as Purchase Contract No. _____ and Date _____
(Month, day and year)

eter Chart Code _____


ame of First Purchaser Consolidated Gas Supply Corporation
P. O. Box 2450
(Street or P. O. Box)
Clarksburg, W. Va. 26301
(City) (State) (Zip Code)

ERC Seller Code _____

FERC Buyer Code _____

TYPE OF DETERMINATION BEING SOUGHT:

- (1) Initial determination (See FERC Form 121.) Section of NGPA 103 Category Code _____
- (2) Determination that increased production is the result of enhanced recovery technology.
- (3) Determination of a seasonally affected well.

Jerry Poling Geologist
Name (Print) Title

Signature
Route 8 - Box 336-AA
Street or P. O. Box
Fairmont, W. Va. 26554
City State (Zip Code)
304 366-9111
Area Phone Number
Code

ertificate of Proof of Service to Purchaser)

1 of the above to be completed by the Operator/Applicant)

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

The Department of Mines has received a request for certification of the above described 1 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 er Section 106 of (NGPA); or for determination of a seasonally affected well under Section 106 of (NGPA).

All interested parties are hereby notified that on the _____ day of _____, 19____ at office of the Oil and Gas Division in Charleston, West Virginia, or as soon thereafter as it may 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 titled to certification as claimed under the Natural Gas Policy Act (NGPA). A review of this evidence any additional evidence will be made at the time appointed for a public hearing or as soon thereafter the matter may be heard.

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

WEST VIRGINIA DEPARTMENT OF MINES

MAY 24 1982


Director 05/03/2024

received by _____
sdictional Agency

By _____
Title _____

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

Date February 26, 1982

Operator's Well No. Hale Langford #1

API Well No. 47 - 085 - 5056
State County Permit

WELL CLASSIFICATION FORM
NEW ONSHORE PRODUCTION WELL

NGPA Section 103

DESIGNATED AGENT Jerry Poling

ADDRESS Route 8 - Box 336-AA
Fairmont, West Virginia 26554

WELL OPERATOR MERT Development, Inc.

ADDRESS Route 8 - Box 336-AA

Fairmont, West Virginia 26554

LOCATION: Elevation 1056

Watershed White Oak Creek

Dist. Union County Ritchie Quad. Pullman

GAS PURCHASER Consolidated Gas Supply Corp

ADDRESS P. O. Box 2450

Clarksburg, W. Va. 26301

Gas Purchase Contract No. _____

Meter Chart Code _____

Date of Contract _____

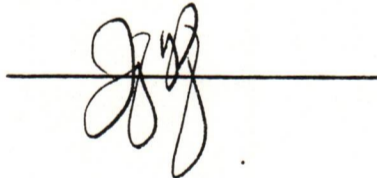
* * * * *

Date surface drilling was begun: October 19, 1981

Indicate the bottom hole pressure of the well and explain how this was calculated:
BHP = Pwe XGLS 266#

AFFIDAVIT

I, Jerry Poling, having been first sworn according to law state that surface drilling of the well for which this determination is sought was begun on or after February 19, 1977; the well satisfies applicable state or federal well spacing requirements and the well is not within a proration unit, in existence at the time surface drilling began, which was applicable to the reservoir from which gas is or will be produced and which applied to any other well producing gas in commercial quantities or on which surface drilling began on or after February 19, 1977, and which was capable of producing gas in commercial quantities. I state, further, that I have concluded, to the best of my information, knowledge and belief, that the well for which this determination is sought is a new onshore production well and that I am not aware of any information not described in the application which is inconsistent with this conclusion.



STATE OF WEST VIRGINIA,

COUNTY OF MARION, TO WIT:

I, Robert R. Tipton, a Notary Public in and for the state and county aforesaid, do certify that Jerry Poling, whose name is signed to the writing above, bearing date the 24 day of Feb, 1982, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 1 day of March, 1982

My term of office expires on the 5 day of 6, 1991.

[NOTARIAL SEAL]

Robert R. Tipton
Notary Public

05/03/2024

RECEIVED

MAY 24 1982

OIL & GAS DIVISION
DEPT. OF MINES

<p>1.0 API well number (If not available, leave blank. 14 digits.)</p>	<p>47-085-5056</p>												
<p>2.0 Type of determination being sought (Use the codes found on the front of this form.)</p>	<p>107 Section of NGPA</p> <p style="text-align: right;">Category Code</p>												
<p>3.0 Depth of the deepest completion location (Only needed if sections 103 or 107 in 2.0 above.)</p>	<p>3485 feet</p>												
<p>4.0 Name, address and code number of applicant (35 letters per line maximum. If code number not available, leave blank.)</p>	<p>MERT Development, Inc. Seller Code Route 8 - Box 336-AA Fairmont, W. Va. 26554 City State Zip Code</p>												
<p>5.0 Location of this well: (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)</p>	<p>Union Field Name Ritchie W. Va. County State</p>												
<p>(b) For OCS wells.</p>	<p>Area Name Block Number Date of Lease: Mo. Day Yr. OCS Lease Number</p>												
<p>(c) Name and identification number of this well (35 letters and digits maximum.)</p>	<p>Hale Langford #5</p>												
<p>(d) If code 4 or 5 in 2.0 above, name of the reservoir (35 letters maximum.)</p>	<p>_____</p>												
<p>6.0 (a) Name and code number of the purchaser (35 letters and digits maximum. If code number not available, leave blank.)</p>	<p>Consolidated Gas Supply Corporation Buyer Code Name</p>												
<p>(b) Date of the contract.</p>	<p>Mo. Day Yr.</p>												
<p>(c) Estimated annual production:</p>	<p>35 MMcf.</p>												
<p>7.0 Contract price: (As of filing date. Complete to 3 decimal places.)</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;">(a) Base Price (\$/MMBTU)</th> <th style="width:25%;">(b) Tax</th> <th style="width:25%;">(c) All Other Prices [Indicate (+) or (-).]</th> <th style="width:25%;">(d) Total of (a), (b) and (c)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> </tbody> </table>	(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices [Indicate (+) or (-).]	(d) Total of (a), (b) and (c)	-	-	-	-	-	-	-	-
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-	-	-	-										
-	-	-	-										
<p>8.0 Maximum lawful rate (As of filing date. Complete to 3 decimal places.)</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> </tbody> </table>	-	-	-	-	-	-	-	-				
-	-	-	-										
-	-	-	-										
<p>9.0 Person responsible for this application</p>	<p>Jerry Poling Geologist Name Title Date Application is Completed 366-9111 Phone Number</p>												

Agency Use Only
Date Received by Juris. Agency
MAY 24 1982
Date Received by FERC

05/03/2024

PARTICIPANTS:

DATE: NOV 12 1982

BUYER-SELLER CODE

WELL OPERATOR: Mert Development

FIRST PURCHASER: ~~Columbia Trans. Corp.~~

004030

OTHER: Consolidated

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
920524-107-085: 5056
 Use Above File Number on all Communications
 Relating to Determination of this Well

QUALIFIED

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

- ITEM NO.
1. FERC -121 Items not completed - Line No. All 7.0+8.0
 2. IV-1 Agent Jerry Poling
 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: 10-19-81 Date completed 10-25-81 Deepened
 - (5) Production Depth: 3453-485, 2367-2419
 - (5) Production Formation: Speechley Weir
 - (5) Final Open Flow: NA
 - (5) After Frac. R. P. NA
 - (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
 - 0-17. Does lease inventory indicate enhanced recovery being done NO
 - 0-17. Is affidavit signed? Notarized? 05/03/2024
 - Does official well record with the Department confirm the submitted information? yes
 - Additional information Does computer program confirm?
 - Was Determination Objected to By Whom?

Operator's Well No. Hale L&D Ford #5

API Well No. 47 - 085 - 5056 State County Permit

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. (If Applicable)

OPERATOR MERT Development, Inc. ADDRESS Route 8 - Box 336-AA Fairmont, West Virginia 26554

DESIGNATED AGENT Jerry Poling ADDRESS Route 8 - Box 336-AA Fairmont, West Virginia 26554

Gas Purchase Contract No. and Date (Month, Day and year)

Meter Chart Code

Name of First Purchaser Consolidated Gas Supply Corporation P. O. Box 2450 (Street or P. O. Box) Clarksburg, W. Va. 26301 (City) (State) (Zip Code)

NGPA Seller Code 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.

Jerry Poling Geologist Name (Print) Title Signature Route 8 - Box 336-AA Street or P. O. Box Fairmont, W. Va. 26554 City State (Zip Code) 204 366-9111 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 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 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 proceed to determination.

WEST VIRGINIA DEPARTMENT OF MINES

MAY 24 1982

By [Signature] Director Title 05/03/2024

Received by Jurisdictional Agency

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

Date: June 2, 1982

Operator's Well No Hale Langford #5

API Well No 085 - 5056
State W.V. County Ritchie

WELL CLASSIFICATION FORM
HIGH COST GAS WELL - DEVONIAN SHALE

NGPA Section 107

DESIGNATED AGENT Jerry B. Poling

ADDRESS Rt. 8 Box 336-AA
Fairmont, W.Va. 26554

WELL OPERATOR Mert Development, Inc.
ADDRESS Rt. 8 Box 336-AA
Fairmont, W.Va. 26554

LOCATION: Elevation 1056'
Watershed White Oak Creek
Dist. Union County Ritchie Quad Pullman

GAS PURCHASER Consolidated Gas and Supply
ADDRESS P.O. Box 2450
Clarksburg, W.Va. 26301

Gas Purchase Contract No _____
Meter Chart Code _____
Date of Contract _____

Date surface drilling began October 19, 1981

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

266#

BHP = Pwe XGLS

AFFIDAVIT

I, Jerry Poling, 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 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.

STATE OF WEST VIRGINIA

COUNTY OF Marietta TO WIT

I, Frank Buchanan a Notary Public in and for the state and county aforesaid do certify that Jerry Poling whose name is signed to the writing above, bearing date the 2 day of June, 19 82, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 35 day of June, 19 82
My term of office expires on the 20 day of January, 19 91

Frank Buchanan
Notary Public
Commissioned Frank Buchanan

(NOTARIAL SEAL)

05/03/2024

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

Operator: Mert Development, Inc. Agent: Jerry Poling
 Type Determination being sought - 107 (Devonian Shale)
 API Well No.: 47-085-5056 Well Name: Langford #5
 West Virginia Office of Oil and Gas County: Ritchie
 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) Scale 0 - 250
 1. GR Value at Base Line = 171 * API Units
 2. Remarks: _____

B. Gamma Ray Log Value at 0.7 x Value at Base Line
 1. GR Value = 171 * API Units
 2. Calculation: $0.7 \text{ (GR Value at Base Line)}$
 $0.7 \text{ (} \underline{171} \text{ *)} = \underline{120} \text{ API Units}$

II. 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***		
2494	5754	3260	36

Total Devonian Interval 3260

Total Less Than 0.7 (Shale Base) 36 05/03/2024

Less Than 0.7 (Shale Base Line) = $\frac{36}{3260} \times 100 = \underline{1.10} \%$

*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.

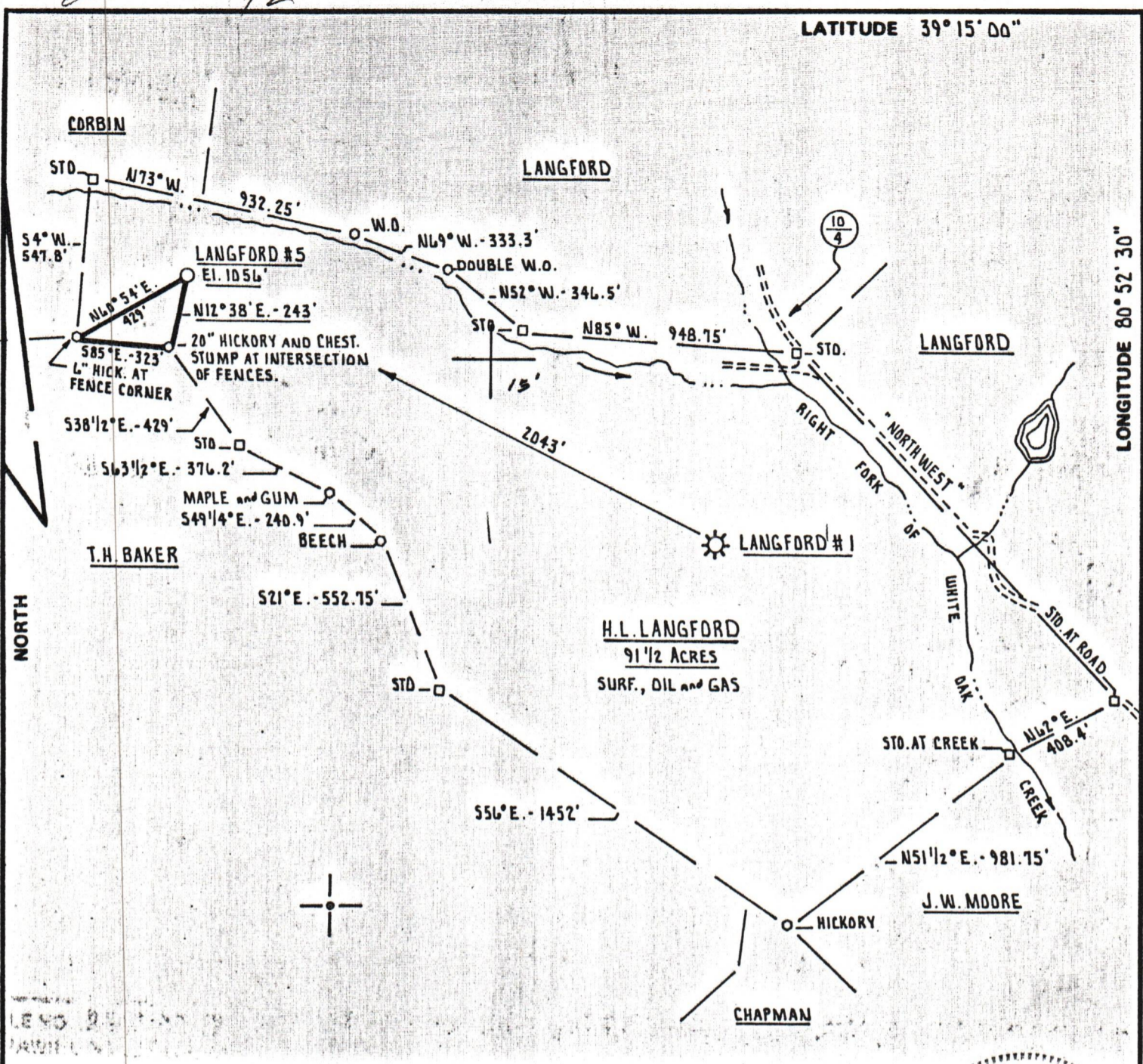
CALCULATION OF SHALE BASE LINE

Footage	API
	Scale 0 - 250
2500 - 2600	162
2600 - 2700	160
2700 - 2800	160
2800 - 2900	162
2900 - 3000	160
3000 - 3100	160
3100 - 3200	162
3200 - 3300	162
3300 - 3400	162
3400 - 3500	145
3500 - 3600	170
3600 - 3700	175
3700 - 3800	175
3800 - 3900	162
3900 - 4000	170
4000 - 4100	175
4100 - 4200	175
4200 - 4300	175
4300 - 4400	175
4400 - 4500	175
4500 - 4600	175
4600 - 4700	180
4700 - 4800	187
4800 - 4900	187
4900 - 5000	175
5000 - 5100	175
5100 - 5200	180
5200 - 5300	150
5300 - 5400	175
5400 - 5500	180
5500 - 5600	187
5600 - 5700	187
	<u>5460</u> ÷ 32 = 171 Shale Base Line

05/03/2024

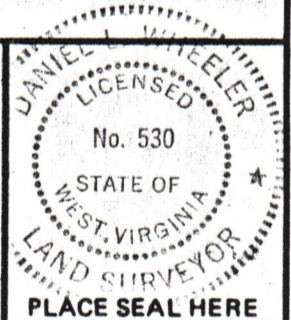
LATITUDE 39° 15' 00"

LONGITUDE 80° 52' 30"



FILE NO. D.E. 4-50 RH
 DRAWING NO. VAR. 5-32
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1 PART IN 200
 PROVEN SOURCE OF ELEVATION ROAD JUNCTION 2200'± EAST OF LOCATION ELEVATION 893'

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) Daniel L. Wheeler
 R.P.E. _____ L.L.S. 530



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

FORM IV-6 (8-78)



DATE DECEMBER 30th, 19 80
 OPERATOR'S WELL NO. LANGFORD # 5
 API WELL NO. 47 - 085 - 5056-Ren.
 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 1056' WATER SHED RIGHT FORK OF WHITE OAK CREEK
 DISTRICT UNION COUNTY RITCHIE
 QUADRANGLE PULLMAN 1.5'
 SURFACE OWNER H.L. LANGFORD ACREAGE 9 1/2 OF 218 Ac.
 OIL & GAS ROYALTY OWNER H.L. LANGFORD LEASE ACREAGE 218 Ac.
 LEASE NO. _____

05/03/2024

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 ALEXANDER ESTIMATED DEPTH 5250'
 WELL OPERATOR MERT DEVELOPMENT, INC. DESIGNATED AGENT MERT DEVELOPMENT, INC.
 ADDRESS RT. # 8 BOX 336 AA FAIRMONT, WEST VIRGINIA 26554 ADDRESS RT. # 8 BOX 336 AA FAIRMONT, WEST VIRGINIA 26554