

A-1



1) Date: Nov. 22, 1982
2) Operator's Well No. 018
3) API Well No. 47 105 1023
State County Permit

DRILLING CONTRACTOR:

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

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil / Gas XXX / B (If "Gas", Production XXX / Underground storage / Deep / Shallow XX /)
- 5) LOCATION: Elevation: 1022.76 Watershed: CAVE HOLLOW OF BEAVERDAM District: ~~Spring Creek~~ County: WIRT Quadrangle: BURNING SPRINGS
- 6) WELL OPERATOR Bow Valley Petroleum Inc. Address 600 Commerce Square Charleston, WV.
- 11) DESIGNATED AGENT W.E. Stover Address Box 235 Culloden, WV.
- 7) OIL & GAS ROYALTY OWNER GLENN W. ROBERTS ESTATE Address ELIZABETH WVA 714
- 12) COAL OPERATOR N/A
- 8) SURFACE OWNER WEST VACO Address PARKERSBURG WVA 714
- 13) COAL OWNER(S) WITH DECLARATION ON RECORD:
- 9) FIELD SALE (IF MADE) TO:
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED Name Deo Mace Address Rt. 1 Box 5 Sand Ridge, WV.
- 14) COAL LESSEE WITH DECLARATION ON RECORD:
- 15) PROPOSED WORK: Drill XX / Drill deeper / Redrill / Fracture or stimulate / Plug off old formation / Perforate new formation / Other physical change in well (specify)
- 16) GEOLOGICAL TARGET FORMATION, Marcellus
- 17) Estimated depth of completed well, 5300 feet
- 18) Approximate water strata depths: Fresh, 85 feet; salt, feet.
- 19) Approximate coal seam depths: N/A Is coal being mined in the area? Yes / No XXXX

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20) 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	13			X		30	30	To surface	Kinds
Fresh water	9 5/8			X		250	250	To surface	
Coal									Sizes
Intermediate	7		23	X		2000	2000	To surface	125 SKS
Production	4 1/2		10 1/2	X		5250	5250	260 SKS	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

21) 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.)

22) ROYALTY PROVISIONS

Is the right to extract, produce or market the oil or gas based upon a lease or other continuing 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.

23) Required Copies (See reverse side.)

24) 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 lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

Notary: My Commission Expires

Signed: Charlton B. Roberts
Its: Geologist

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-105-1023

November 30 01/12/2024 82
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. 10) 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.)

Permit expires July 30, 1983

unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond: Blanket	Agent: OK Lois	Plat: MY	Casing: MY	Fee: 415
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Administrator, Office of Oil and Gas

Line Item Explanation

- 1) Date of Application
- 2) Your well name and number
- 3) To be filled out by office of oil & gas
- 4A) "Oil" means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods and which are not the result of condensation of gas after it leaves underground reservoirs: "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil.
- 4B) "Shallow well" means any well drilled and completed in a formation above the top of the uppermost member of the "Onondaga Group" or a depth less than six thousand feet, whichever is shallower.
"Deep well" means any well drilled and completed in a formation at or below the top of the uppermost member of the "Onondaga Group" or at a depth less than six thousand feet, whatever is shallower.
- 5) Where well is located
- 6) Before a permit can be issued in a corporation, company partnership, or fictitious name, the name must be registered with the Secretary of State Office
- 7) Use separate sheet if necessary
- 8) Present surface owner at time application is filed.
- 9) Optional
- 11) See Reg. 7.01 relating to code §22-4-1k
- 12) "Coal Operator" means any persons, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine. See Note 24
- 13 & 14) As per §22-4-20; See Note 24
- 15) Work that will be attempted—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.
- 16) Anticipated formation for which well will be completed
- 17) Self explanatory
- 18) Depth to deepest freshwater, and shallowest salt water, taken from nearby wells corrected for differences in elevation
- 19) All coal seam depths
- 20) Proposed casing program and cementing refer to Code 22-4-5, 22-4-6, 22-4-7, 22-4-8, 22-4-8a Reg 9.01, 15.01, 15.02, 15.03, 15.04, 25.01, 25.02, 25.03, 25.04
- 21) Code 22-4-11(c) - In lieu of filing the lease or leases or other continuing contract or contracts, the applicant for a permit described herein may file the following:
 - (1) A brief description of the tract of land including the district and county wherein the tract is located;
 - (2) The identification of all parties to all leases or other continuing contractual agreements by which the right to extract, produce or market the oil or gas is claimed;
 - (3) The book and page number wherein each such lease or contract by which the right to extract, produce or market the oil or gas is recorded;
 - (4) A brief description of the royalty provisions of each such lease or contract.
- 22) Code 22-4-11(d) and 22-4-11(e).
- 23) 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.
- 24) **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 the Department.**

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.

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.

01/12/2024

Date: _____, 19____

By _____
Its _____

Line Item 21) - Pursuant to Code 22-4-11(c) the applicant, Bow Valley Petroleum, in lieu of filing the lease with the permit application, does hereby provide the following information:

- 1.) Kirchner tract is located in Spring Creek District of Wirt County West Virginia, containing 714 acres more or less and bounded on the
North by Lee Heirs, Hickman
East by Simmons, Boggs
South by Simmons Heirs
West by Dotson, Cline Heirs
- 2.) Lessor - Glen W. Roberts (deceased)
Dorothy Parks Roberts (his wife)

Lessee - Flying Diamond Oil Corporation
Bow Valley Petroleum is successor in interest.
- 3.) Oil and Gas Lease is recorded in Wirt County Recorders office in Book 152 at Page 722.
- 4.) Landowners Royalty is 1/8 of all oil and/or gas produced.
Overriding Royalty is 4% of 8/8ths of all oil and/or gas produced.
Both are payable to Glen W. Roberts Estate.

I, Dennis K. Dangler, the undersigned, do hereby certify that the above provided information is correct and accurate to the best of my knowledge and belief and shows all the information required by law and regulations issued and prescribed by the Department of Mines.


Dennis K. Dangler
Land Manager

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OIL & GAS DIVISION
DEPT. OF MINES

01/12/2024



DATE NOVEMBER 18, 1982

WELL NO. W1018

State of West Virginia API NO. 47 - 105 - 1023

Department of Mines
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME BOW VALLEY PETROLEUM, INC.

DESIGNATED AGENT W.E. STOVER

Address 600 Commerce St.
CHARLESTON, WV

Address Box 235
CULLODEN, WV

Telephone 304-344-8393

Telephone 304-562-3376

LANDOWNER WESTVACO CORP.

SOIL CONS. DISTRICT LITTLE KANAWHA

Revegetation to be carried out by BOW VALLEY PETROLEUM, INC. (Agent)

This plan has been reviewed by Little Kanawha SCD. All corrections and additions become a part of this plan: 11-19-82

(Date)

Jarrett Newton
(SCD Agent)

ACCESS ROAD

LOCATION

Structure NO ACCESS ROAD NEEDED

(A)

Structure see sketch (1)

Spacing BE CONSTRUCTED

Material _____

Page Ref. Manual _____

Page Ref. Manual _____

Structure _____

(B)

Structure RECEIVED (2)

Spacing _____

Material _____

Page Ref. Manual _____

Page Ref. Manual _____

Structure _____

(C)

Structure OIL & GAS DIVISION
DEPT. OF MINES (3)

Spacing _____

Material _____

Page Ref. Manual _____

Page Ref. Manual _____

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 & II

Treatment Area II

Lime 3 ~~000~~ Tons/acre
or correct to pH 6.5

Lime _____ Tons/acre
or correct to pH _____

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

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

Mulch Hay 2 Tons/acre

Mulch _____ Tons/acre

Seed* KENTUCKY 31 FESCUE 45 lbs/acre

Seed* _____ lbs/acre

LADINO CLOVER 3 lbs/acre

_____ lbs/acre

Rye 3 lbs/acre

_____ lbs/acre

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

01/12/2024

PLAN PREPARED BY WILLIAM F. HENRICHS, JR.

ADDRESS 600 COMMERCE ST.

CHARLESTON, WV

PHONE NO. 304-344-8393

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

ATTACH OR PHOTOCOPIED SECTION OF INVOLVED TOPOGRAPHIC MAP.
QUADRANGLE BURNING SPRINGS

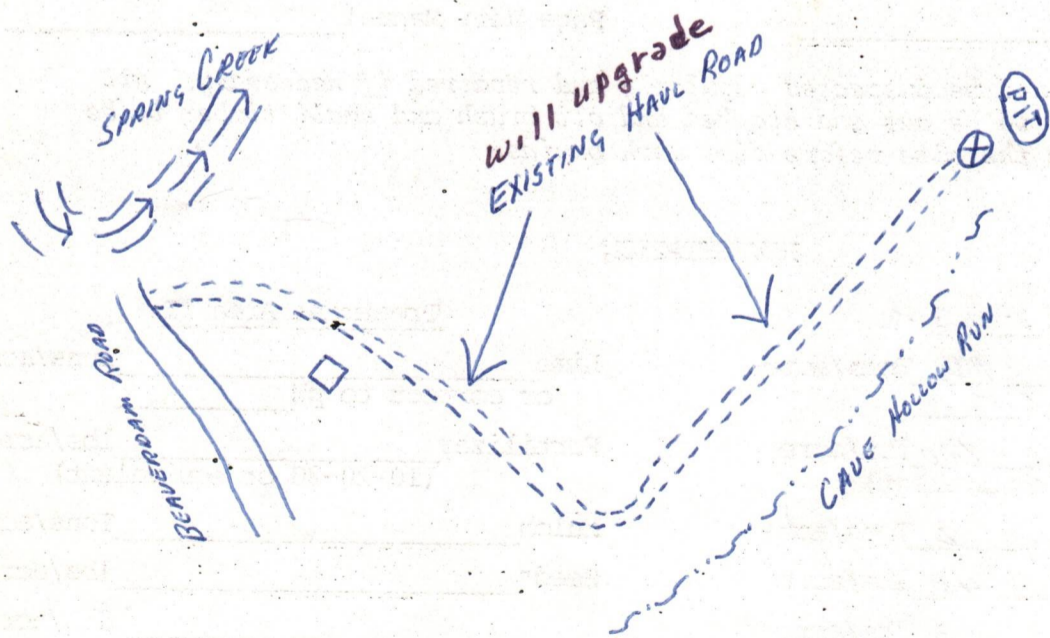
LEGEND	
Well Site	⊕
Access Road	—

LOCATION IS ON A RELATIVELY FLAT RIDGE TOP ADJACENT TO AN EXISTING HAUL ROAD WHICH WILL BE UPGRADED.

WELL SITE PLAN

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

LEGEND	
Property boundary	—▲▲▲▲—
Road	== == == == ==
Existing fence	—x—x—
Planned fence	—/—/—
Stream	~ ~ ~ ~ ~
Open ditch	—•••••→
Diversion	//////
Spring	○→
Wet spot	⊕
Building	■
Drain pipe	○→○→
Waterway	⇄⇄⇄⇄





01/12/2024

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DEPT. OF MINES

01/12/2024

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DEC 22 1983



IV-35 (Rev 8-81)

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

Date December 16, 1983 Operator's Well No. WI018 Farm Roberts API No. 47 - 105 - 1023

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: 1022.76 Watershed Cave Hollow of Beaver Dam District: Spring Creek County Wirt Quadrangle Burning Springs

COMPANY Bow Valley Petroleum, Inc. ADDRESS 600 Commerce Sq., Charleston, WV. DESIGNATED AGENT Robert Long ADDRESS Box 235, Culloden, WV. SURFACE OWNER Westvaco ADDRESS Parkersburg, WV. MINERAL RIGHTS OWNER Glen W. Roberts Estate ADDRESS Elizabeth, West Virginia OIL AND GAS INSPECTOR FOR THIS WORK Deo Mace ADDRESS Sandridge, WV. PERMIT ISSUED November 30, 1982 DRILLING COMMENCED December 20, 1982 DRILLING COMPLETED January 10, 1983

Table with 4 columns: Casing & Tubing, Used in Drilling, Left in Well, Cement fill up Cu. ft. Rows include sizes 20-16 Cond., 13-10", 9 5/8, 8 5/8, 7, 5 1/2, 4 1/2, 3, 2, and Liners used.

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

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 2560'-5600' feet Depth of completed well 5600' feet Rotary X / Cable Tools Water strata depth: Fresh None feet; Salt None feet Coal seam depths: None Is coal being mined in the area?

OPEN FLOW DATA Producing formation Devonian Shale Pay zone depth 2926'-5454' feet Gas: Initial open flow Show Mcf/d Oil: Initial open flow Bbl/d Final open flow 223 Mcf/d Oil: Final open flow Bbl/d Time of open flow between initial and final tests hours Static rock pressure 560 psig (surface measurement) after 12 hours shut in (If applicable due to multiple completion--)

01/12/2024

(Continue on reverse side)

WIRT 1023

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

1st Stage N₂ Frac. Perforation Intervals 1,000 gal of HCL, 15% 3834-5454' (26 holes)
N₂ pumped = 1,073,000 scf. Max.pressure = 2850#, Min.pressure=2300#. Injection Rate=
41,300 scf-min. Partial Ballout

2nd Stage Frac. Perforation intervals,N₂ pumped 1,050,000 scf 2426-3387' (29 holes)
1,000 gal HCL 15% , Max.Pressure= 2800#, Min.pressure=2350#. Injection Rate 40,275 scf.
min. Partial Ballout.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Top Soil			0	15	ELECTRIC LOG TOPS
Red Rock			15	130	Gbr.Lime = 1796'-2005'
Slate	Black		130	250	Injun Sand = 2005-2100'
Slate			250	386	Weir Shale = 2100'-2460'
Shale			386	475	Sunbury Shale = 2460'2506'
Sand	Gray	Hard	475	550	Dev.Shale = 2506-5600'
Shale	Gray	Soft	550	2570	
Shale	Gray	Soft	2570	2700	
Shale	Gray	Soft	2700	2800	
Sandy Shale	Gray	Soft	2800	2900	
Shale	Gray	Soft	2900	3800	
Shale	Gray	Soft	3800	4100	
Sandy Shale	Dark	Soft	4100	4200	
Shale	Brown	Soft	4200	5600 T.D.	

(Attach separate sheets as necessary)

Bow Valley Petroleum, Inc.

Well Operator

By:

Martin Combs

01/12/2024

Date:

12/19/83

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 ..., encountered in the drilling of a well."

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

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OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

INSPECTOR'S WELL REPORT

Permit No. 105-1023

Oil or Gas Well
(KIND)

Company Bow Valley
 Address _____
 Farm Roberts
 Well No. W1 018
 District Spring Creek County Wit
 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 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 Ray Resumes # 14

Remarks: Big Shut down for Vacation.

12-28-82
DATE

Uro Mace 01/12/2024
DISTRICT WELL INSPECTOR

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.

01/12/2024

DISTRICT WELL INSPECTOR

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

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OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

INSPECTOR'S WELL REPORT

Permit No. 105-1023

Oil or Gas Well _____
(KIND)

Company Baw Valley
 Address _____
 Farm Roberts
 Well No. W1 018
 District Spring Creek County Wirt
 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 Ray Des. 14

Remarks:
Approx. 310' of 9 3/8" casing - no record
2144' of 7" 1-5-83. ~~Draw~~
3265 Today'

1-7-83
DATE

W. Mace 01/12/2024
DISTRICT WELL INSPECTOR

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 CONSTRUCTION-LOCATION	CASING AND TUBING		
CEMENT-THICKNESS	WOOD-SIZE	LEAD		RECOVERED	SIZE	LOST

Drillers' Names _____

Remarks: _____

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

01/12/2024

DISTRICT WELL INSPECTOR

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

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 OCT 11 1983

FINAL INSPECTION REQUEST
INSPECTOR'S COMPLIANCE REPORT

OIL & GAS DIVISION
 DEPT. OF MINES

Permit No. 105-1023 County Wirt
 Company Bow Valley Petroleum Farm Glen Roberts est.
 Inspector Homer H. Dougherty Well No. 018
 Date 10/4/83

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

COMMENTS: _____

Need well rec.

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

SIGNED: Homer H. Dougherty
 DATE: 10/4/83 01/12/2024



State of West Virginia

Department of Mines

Charleston 25305

January 11, 1984

JOHN D. ROCKEFELLER, IV.
Governor

WALTER N. MILLER
Director

Bow Valley Petroleum, Inc.
600 Commerce Square
Charleston, W.Va. 25301

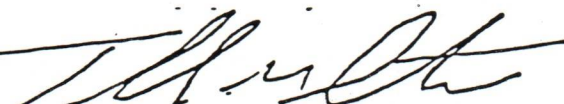
Gentlemen:

The required records and reports have been received in this office and the District Inspectors have submitted FINAL INSPECTIONS for the following wells listed below:

<u>PERMIT NUMBER</u>	<u>FARM AND WELL NUMBER</u>	<u>DISTRICT</u>
WIRT-1022	Westvaco/G. Roberts # WI-017	Spring Creek
WIRT-1023	Westvaco/G. Roberts # WI-018	Spring Creek
WIRT-1024	W.Va. Pulp & Paper/G. Roberts # WI-015	Newark

In accordance with Chapter 22, Article 4, Section 2, the above captioned wells will remain under bond coverage for "life of wells." Reclamation requirements have been approved.

Very truly yours,


Theodore M. Streit, Administrator
Dept. Mines-Office of Oil & Gas

TMS/r1

01/12/2024

0-

47-105-1023

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MAR - 5 1984

1.0 API well number: (If not available, leave blank. 14 digits.)

2.0 Type of determination being sought: (Use the codes found on the front of this form.)

3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)

4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)

5.0 Location of this well: [Complete (a) or (b).]
 (a) For onshore wells (35 letters maximum for field name.)
 (b) For OCS wells:

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

(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.)
 (b) Date of the contract:

(c) Estimated annual production:

	(a) Base Price (\$/MMBTU)	(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.)	5.682	---	---	---
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	5.682	---	---	---

9.0 Person responsible for this application:

Agency Use Only	Name	Title
Date Received by Juris. Agency	Signature	Phone Number
MAR 5 1984	Robert Hart	(304) 344-8393
Date Received by FERC	Date Application is Completed	
	1-11-84	

107
Section of NGPA

5600 feet

Bow Valley Petroleum, Inc.
600 Commerce Square
Charleston, WV 25301

BURNING SPRINGS
Field Name
WIRT
County WV State

Area Name Block Number

Date of Lease:
Mo. Day Yr.

OCS Lease Number

ROBERTS WI-018

Columbia Gas Transmission Corp 04030
Name Buyer Code

Mo. Day Yr.

MMcf.

01/12/2024

PARTICIPANTS:

DATE: APR 25 1984

BUYER-SELLER CODE

WELL OPERATOR: Bow Valley Petroleum, Inc.

040189

FIRST PURCHASER: Columbia Gas Trans.

004030

OTHER:

Dev

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
840305-107-105-1023
 Use Above File Number on all Communications
 Relating to Determination of this Well

o/s

APPROVED

APR 27 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? _____

01/12/2024

Date 1-11- 1984
Operator's Well No. WI-018
API Well No. 47 - 105 - 1023
State County Permit
Previous File No. (If Applicable)

STATE APPLICATION FOR WELL CLASSIFICATION

WELL OPERATOR Bow Valley Petroleum Inc.
ADDRESS 600 Commerce Sq.
Charleston, WV 25301

DESIGNATED AGENT Robert N. Hart
ADDRESS 600 Commerce Sq.
Charleston, WV 25301

Gas Purchase Contract No. and Date Being negotiated
(Month, day and year)

Meter Chart Code
Name of First Purchaser Columbia Gas Transmission Corporation
Box 1273
(Street or P. O. Box)
Charleston WV 25325
(City) (State) (Zip Code)

FERC Seller Code 040189 FERC Buyer Code 004030

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.

Robert Hart Vice President-General Manager
Name (Print) title
Robert Hart
Signature
600 Commerce Sq.
Street or P. O. Box
Charleston, WV 25301
City State (Zip Code)
304 344-8393
Area Phone Number
Code

(Certificate of Proof of Service to Purchaser)

Mailed copy to Columbia Gas Transmission - Contract DEpartment c/o Jackie Sydnor

(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 5 1984

Director

Date received by
Jurisdictional Agency

By Title
01/12/2024

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

Date 1-11-84
Operator's Well No. WI-018
API Well No. 105 1023
State WV

WELL CLASSIFICATION FORM
HIGH COST GAS WELL - DEVONIAN SHALE

MGPA Section 127

DESIGNATED AGENT Robert N. Hart

ADDRESS 600 Commerce Sq.

Charleston, WV 25301

WELL OPERATOR Bow Valley Petroleum Inc.

ADDRESS 600 Commerce Sq.

Charleston, WV 25301

LOCATION: Elevation 1022.76'

Watershed CAVE Hollow

Dist. B. Springs County Wirt B. Springs

GAS PURCHASER Columbia Gas Transmission

ADDRESS Box 1273

Charleston, WV 25325

Gas Purchase Contract No. _____

Meter Chart Code _____

Date of Contract _____

* * * * *

Date surface drilling began: 12/20/82

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

$BHP = P_F + P_F e^{(GL/53.54XT) - 1}$

631.4 psi Bottom Hole Pressure

BHP-Bottom Hole Pressure

P_F-Pressure Formation

e=constant=2

G-Specific gravity

L-Length of pipe to middle of producing formation

T-Temp rankin $\frac{BHP + Temp @ head}{2}$

AFFIDAVIT

I, MARVIN COMBS, 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.

Marvin Combs

STATE OF WEST VIRGINIA.

COUNTY OF Kanawha, TO WIT.

I, Helen Mae Brodygrass, a Notary Public in and for the state and county aforesaid do certify that Marvin Combs whose name is signed to the writing above, bearing date the 11th day of January, 19 84, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 29th day of February, 19 84

My term of office expires on the 28th day of July, 19 88

Helen Mae Brodygrass
Notary Public

{NOTARIAL SEAL}

01/12/2024

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

Operator: Bow Valley Petroleum

Agent: MARVIN COMBS

Type Determination being sought - 107 (Devonian Shale)

API Well No.: 47-105-1023

Well Name: ROBERTS WI-018

West Virginia Office of Oil and Gas
 References: SJA File No.

County: WIRT

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:

0-200 API SCALE

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

1. GR Value = 160 * API Units
2. Calculation: $0.7 \text{ (GR Value at Base Line)}$
 $0.7 \text{ (160 *)} = \underline{112}$ 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***		
<u>2507'</u>	<u>5600'</u>	<u>3093'</u>	<u>8'</u>

Total Devonian Interval 3093'

Total Less Than 0.7 (Shale Base) 8'

% Less Than 0.7 (Shale Base Line) = $\underline{.0025} \times 100 = \underline{.258}\%$

*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.

01/12/2024

1.0 API well number: (If not available, leave blank. 14 digits.) 47-105-1023

2.0 Type of determination being sought: (Use the codes found on the front of this form.) 103
Section of NGPA

3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.) 5600 feet

4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)
Bow Valley Petroleum, Inc. OIL & GAS DIVISION
 Name 600 Commerce Square DEPT. OF MINES
 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.)
BURNING SPRINGS
 Field Name
WIRT WV
 County State

(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.)
ROBERTS WI-018

(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.)
Columbia Gas Transmission Corp 04030
 Name Buyer Code

(b) Date of the contract: _____
 Mo. Day Yr.

(c) Estimated annual production: _____ MMcf.

	(a) Base Price (\$/MMBTU)	(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.)	<u>2.841</u>	---	---	---
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	<u>2.841</u>	---	---	---

9.0 Person responsible for this application:
Robert Hart General Mgr. V.P.
 Name Title
Robert Hart
 Signature
1-11-84 (304) 344-8393
 Date Application is Completed Phone Number

Agency Use Only

Date Received by Juris. Agency
MAR 5 1984

Date Received by FERC

RECEIVED

MAR - 5 1984

01/12/2024

PARTICIPANTS:

DATE: APR. 25, 1984 ~~APR 25 1984~~

BUYER-SELLER CODE

WELL OPERATOR: Bow Valley Petroleum, Inc.

040189

FIRST PURCHASER: Columbia Gas Trans.

004030

OTHER: _____

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
840305-103-105-1023
 Use Above File Number on all Communications
 Relating to Determination of this Well

Quishner

APPROVED
 MAY 15 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? _____

01/12/2024

Date 1-11-1984
Operator's Well No. WI-018
API Well No. 47 - 105 - 1023
State County Permit
Previous File No. _____
(If Applicable)

STATE APPLICATION FOR WELL CLASSIFICATION

WELL OPERATOR Bow Valley Petroleum Inc.

DESIGNATED AGENT Robert N. Hart

ADDRESS 600 Commerce Sq.
Charleston, WV 25301

ADDRESS 600 Commerce Sq.
Charleston, WV 25301

Gas Purchase Contract No. _____ and Date Being negotiated
(Month, day and year)

Meter Chart Code _____

Name of First Purchaser Columbia Gas Transmission Corporation

Box 1273
Charleston (Street or P. O. Box)
WV (State) 25325 (Zip Code)

FERC Seller Code 040189

FERC Buyer Code 004030

TYPE OF DETERMINATION BEING SOUGHT:

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

Robert Hart Vice President-General Manager
Name (Print) Title

Robert Hart
Signature

600 Commerce Sq.
Street or P. O. Box

Charleston, WV 25301
City State (Zip Code)

304 344-8393
Area Code Phone Number

(Certificate of Proof of Service to Purchaser)

Mailed copy to Columbia Gas Transmission - Contract Department c/o Jackie Sydnor

(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 5 1984

Date received by
Jurisdictional Agency

Director
By _____
Title _____

01/12/2024

[Signature]

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

Date 1-11-1984
Operator's Well No. WI-018
API Well No. 47 - 105 - 1023
State County Permit

WELL CLASSIFICATION FORM
NEW ONSHORE PRODUCTION WELL

NGPA Section 103

DESIGNATED AGENT Robert Hart
ADDRESS 600 Commerce Square
Charleston, W. Va. 25301
LOCATION: Elevation 1022.76
Watershed CAVE Hollow
Dist. B. Springs County WIRT Quad B. Springs
Gas Purchase Contract No. _____
Meter Chart Code _____
Date of Contract _____

WELL OPERATOR Bow Valley Petroleum
ADDRESS 600 Commerce Square
Charleston, W. Va. 25301
GAS PURCHASER Columbia Gas Trans.
ADDRESS Box 1273
Charleston, W. Va. 25325

* * * * *

Date surface drilling was begun: 12/20/82

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

$$BHP = P_f + P_f e^{(GL / 33.54 \times T)^{-1}}$$

$P_f = 560^{\#}$
 $G = .70$
 $L = 4054'$
 $T = 90^{\circ}$

$BHP = 631.4 \text{ psi}$

AFFIDAVIT

I, MARVIN Combs, 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.

Marvin Combs

STATE OF WEST VIRGINIA,
COUNTY OF Kanawha TO WIT:

I, Helen Mae Snodgrass, a Notary Public in and for the state and county aforesaid, do certify that Marvin Combs whose name is signed to the writing above, bearing date the 11th day of January, 1984, has acknowledged the same before me, in my county aforesaid. Given under my hand and official seal this 29th day of February, 1984. My term of office expires on the 25th day of July, 1988.

[NOTARIAL SEAL]

Helen Mae Snodgrass
Notary Public



Date December 16, 1983

IV-35
(Rev 8-81)

State of West Virginia

Department of Mines
Oil and Gas Division

Operator's
Well No. WI018

Farm Roberts

API No. 47 - 105 - 1023

WELL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1022.76 Watershed Cave Hollow of Beaver Dam
District: Burning Springs County Wirt Quadrangle Burning Springs

COMPANY Bow Valley Petroleum, Inc.

ADDRESS 600 Commerce Sq., Charleston, WV.

DESIGNATED AGENT Robert Long

ADDRESS Box 235, Culloden, WV.

SURFACE OWNER Westvaco

ADDRESS Parkersburg, WV.

MINERAL RIGHTS OWNER Glen W. Roberts Estate

ADDRESS Elizabeth, West Virginia

OIL AND GAS INSPECTOR FOR THIS WORK Deo

Mace ADDRESS Sandridge, WV.

PERMIT ISSUED November 30, 1982

DRILLING COMMENCED December 20, 1982

DRILLING COMPLETED January 10, 1983

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"	19.90	19.90	15sks
9 5/8	255.45	255.45	85sks
8 5/8			
7	2161.32	2161.32	175sks
5 1/2			
4 1/2	5604.15	5604.15	260sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 2560'-5600' feet

Depth of completed well 5600' feet Rotary / Cable Tools _____

Water strata depth: Fresh None feet; Salt None feet

Coal seam depths: None Is coal being mined in the area? _____

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 2926'-5454' feet

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

Final open flow 223 Mcf/d Oil: Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure 560 psig (surface measurement) after 12 hours shut in

(If applicable due to multiple completion--)

01/12/2024

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)

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

1st Stage N₂ Frac. Perforation Intervals 1,000 gal of HCL, 15% 3834-5454' (26 holes)
 N₂ pumped = 1,073,000 scf. Max. pressure = 2850#, Min. pressure = 2300#. Injection Rate =
 41,300 scf-min. Partial Ballout

2nd Stage Frac. Perforation intervals, N₂ pumped 1,050,000 scf 2426-3387' (29 holes)
 1,000 gal HCL 15%, Max. Pressure = 2800#, Min. pressure = 2350#. Injection Rate 40,275 scf.
 min. Partial Ballout.

WELL LOG

FORMATION—COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Top Soil		0	15	ELECTRIC LOG TOPS
Red Rock		15	130	Gbr. Lime = 1796'-2005'
Slate	Black	130	250	Injun Sand = 2005-2100'
Slate		250	386	Weir Shale = 2100'-2460'
Shale		386	475	Sunbury Shale = 2460'-2506'
Sand	Gray	475	550	Dev. Shale = 2506-5600'
Shale	Gray	550	2570	
Shale	Gray	2570	2700	
Shale	Gray	2700	2800	
Sandy Shale	Gray	2800	2900	
Shale	Gray	2900	3800	
Shale	Gray	3800	4100	
Sandy Shale	Dark	4100	4200	
Shale	Brown	4200	5600 T.D.	

(Attach separate sheets as necessary)

Bow Valley Petroleum, Inc.

Well Operator

By: Martin Combs

01/12/2024

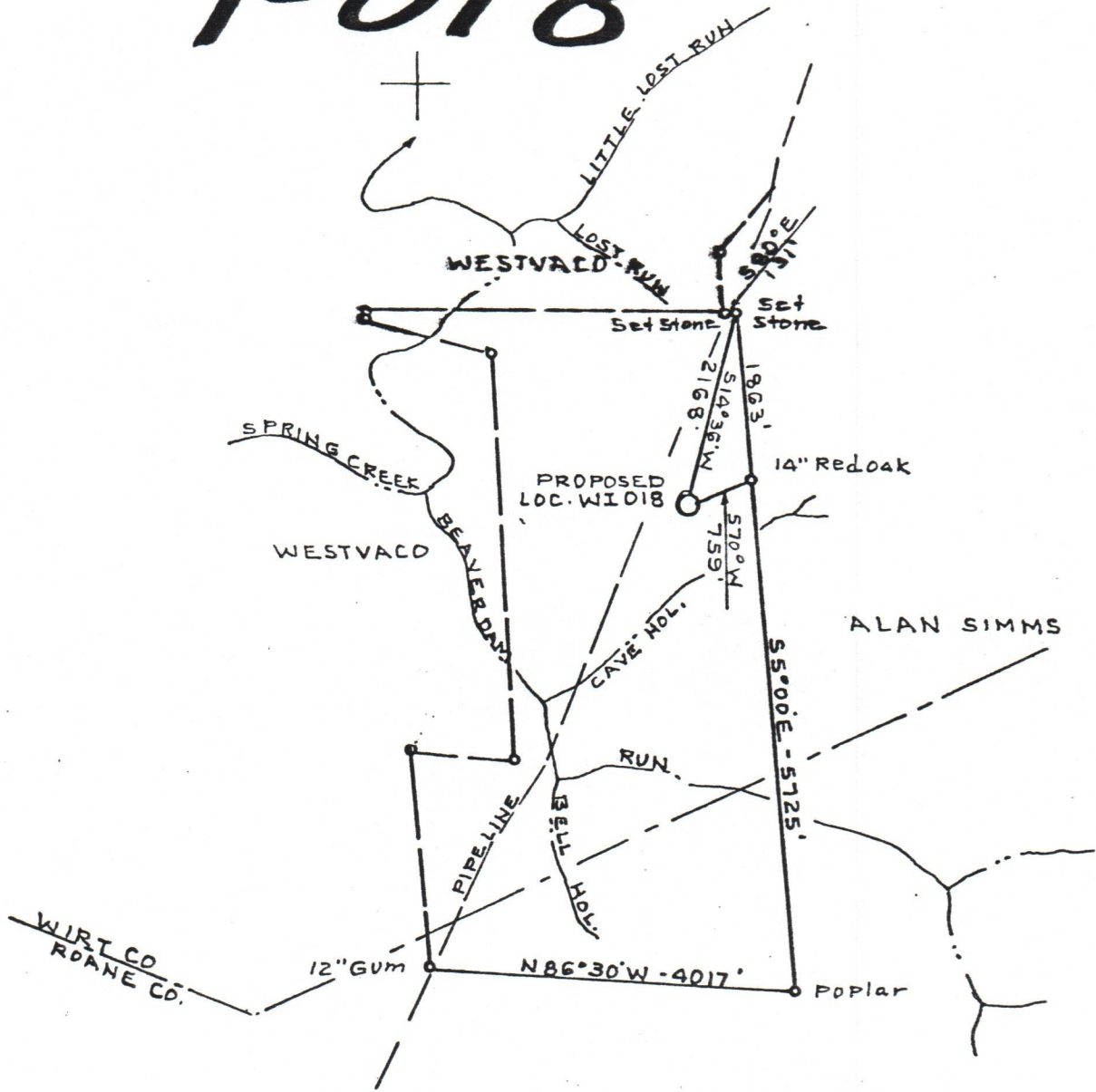
Date: 12/19/83

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 ... encountered in the drilling of a well."

1-018

NORTH



FILE NO. BK 73 P 76
 DRAWING NO. _____
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY 1-200'
 PROVEN SOURCE OF ELEVATION USGS Road Forks 5600' N.W. of Loc E1 819'

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) C. S. Volney Jr.
 R.P.E. _____ L.S. 92

PLACE SEAL HERE

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



DATE NOV 20, 1982
 OPERATOR'S WELL NO. WI-018
 API WELL NO. _____
47 - 105 - 1023
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1022.76 WATER SHED CAVE HOLLOW OF BEAVERDAM RUN
 DISTRICT BURNING SPRINGS COUNTY WIRT
 QUADRANGLE BURNING SPRINGS 7.5'
 SURFACE OWNER WESTVACO ACREAGE 714
 OIL & GAS ROYALTY OWNER GLEN W. ROBERTS ESTATE LEASE ACREAGE 714
 LEASE NO. 1884
 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 _____ ESTIMATED DEPTH _____
 WELL OPERATOR BOW VALLEY PETRO DESIGNATED AGENT W.E. STOVER
 ADDRESS 600 COMMERCE SQUARE ADDRESS BOX 235
CHARLESTON, WVA 25301 CULLODEN, WVA 25510

01/12/2024