



1) Date: Nov. 22, 19 82
 2) Operator's Well No. WI 017
 3) API Well No. 47 105 1022
 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 B (If "Gas", Production / Underground storage / Deep / Shallow)
- 5) LOCATION: Elevation: 669.43 Watershed: LITTLE LOST RUN
 District: SPRINGS County: WIRT Quadrangle: BURNING SPRINGS
- 6) WELL OPERATOR Bow Valley Petroleum Inc. 11) DESIGNATED AGENT W.E. Stover
 Address 600 Commerce Square Address Box 235
Charleston WV, 25301 Culloden, WV.
- 7) OIL & GAS ROYALTY OWNER Glen Roberts ESTATE 12) COAL OPERATOR N/A
 Address ELIZABETH Address _____
WVA
- 8) SURFACE OWNER WESTVACO 13) COAL OWNER(S) WITH DECLARATION ON RECORD:
 Address PARKERSBURG Name _____
WVA Address _____
 Acreage 247 Name _____
 Address _____
- 9) FIELD SALE (IF MADE) TO:
 Address _____
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Deo Mace Address _____
 Address Rt. 1 Box 5 Address _____
Sand Ridge, WV.
- 15) PROPOSED WORK: Drill / 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

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DEPT. OF MINES

20) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	Size	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
		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		260	250	To SURFACE	Sizes
Coal			23	X		2000	2000	To SURFACE	Depths set
Intermediate	7		10 1/2	X		5260	5250	260 SKS	Perforations:
Production	4 1/2								Top Bottom
Tubing									
Liners									

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: Charles Roberts
 Its: Geologist

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-105-1022

November 30 01/12/2024
 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: <u>Blanket</u>	Agent: <u>OK</u>	Plat: <u>M.S. M.S.</u>	Casing	Fee <u>415</u>
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Administrator, Office of Oil and Gas

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

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.

Date: _____, 19 _____

By _____

Its _____

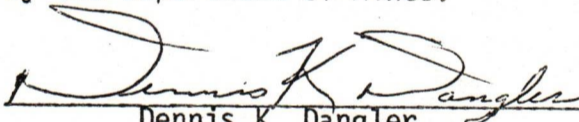
01/12/2024

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.) Lee tract is located in Spring Creek District of Wirt County, West Virginia, containing 247 acres more or less and bounded on the
North by Davis, Lee
East by Allen, Hickman
South by Kirchner
West by Robert Murray
- 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 Records 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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NOV 23 1982

OIL & GAS DIVISION
DEPT. OF MINES

01/12/2024



DATE NOVEMBER 19, 1982
WELL NO. W1017
API NO. 47-105-1022

State of West Virginia
Department of Mines
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME BOW VALLEY PETROLEUM, INC.
Address 600 COMMERCE SQ.
CHARLESTON, WV
Telephone 304-344-8393

DESIGNATED AGENT W. E. STOVER
Address Box 235
CULLODEN, WV
Telephone 304-502-3376

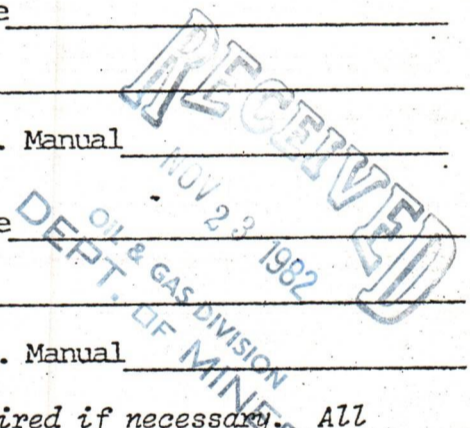
LANDOWNER WESTVALE CORP.
Revegetation to be carried out by BOW VALLEY PETROLEUM, INC. (Agent)

SOIL CONS. DISTRICT LITTLE KANAWHA

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 <u>No Access Road Needed</u> (A)	Structure <u>No structures needed.</u> (1)
Spacing <u>BE CONSTRUCTED.</u>	Material _____
Page Ref. Manual _____	Page Ref. Manual _____
Structure _____ (B)	Structure _____ (2)
Spacing _____	Material _____
Page Ref. Manual _____	Page Ref. Manual _____
Structure _____ (C)	Structure _____ (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

Lime 3 Tons/acre
or correct to pH 6.5

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

Mulch Hay 2 Tons/acre

Seed* Kentucky 31 Fescue 45 lbs/acre
Ladino Clover 3 lbs/acre
Rye 3 lbs/acre

Treatment Area II

Lime _____ Tons/acre
or correct to pH _____

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

Mulch _____ Tons/acre

Seed* _____ lbs/acre
_____ 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 Sq.
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 PHOTOCOOPY SECTION OF INVOLVED TOPOGRAPHIC MAP.
QUADRANGLE BURNING SPRINGS

LEGEND	
Well Site	⊕
Access Road	—

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—X—X—
Planned fence	—/—/—/—/—
Stream	~ ~ ~ ~ ~
Open ditch	—>—>—>—>—>—>—
Diversion	//// //// //// //// ////
Spring	○→
Wet spot	♂
Building	■
Drain pipe	○→○→○→○→
Waterway	⇐ ⇐ ⇐ ⇐ ⇐



01/12/2024



01/12/2024

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01/12/2024

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DEC 22 1983

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DEPT. OF MINES



State of West Virginia

Department of Mines
Oil and Gas Division

Date December 16, 1983

Operator's
Well No. WI017

Farm Roberts

API No. 47 - 105 - 1022

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: 669.43 Watershed Little Lost Run
District: Spring Creek County Wirt Quadrangle Burning Springs

COMPANY Bow Valley Petroleum, Inc.

ADDRESS 600 Commerce Square, Charleston, WV

DESIGNATED AGENT Robert Long

ADDRESS Bow 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 January 14, 1983

DRILLING COMPLETED January 26, 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"	39.50	39.50	15sks
9 5/8	264.40	264.40	90sks
8 5/8			
7	1813.55	1813.55	145sks
5 1/2			
4 1/2	5134.67	5134.67	275sks
3			
2		4,499.70	
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 2138'-5102' feet

Depth of completed well 5102' feet Rotary X / Cable Tools _____

Water strata depth: Fresh 65 feet; Salt _____ feet

Coal seam depths: N/A Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 2201'-4881' feet

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

Final open flow 160 Mcf/d Oil: Final open flow _____ Bbl/d

Time of open flow between initial and final tests 72 hours

Static rock pressure 525 psig (surface measurement) after 18 hours shut in

(If applicable due to multiple completion--)

Second producing formation _____ Pay zone depth 01/12/2024 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)

WIRT 1022

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

N₂ Frac 1st Stage Perforation interval 4881-3497' (31 holes)

1000 gal HCL @ 15%

N₂ Pumped = 1,050,000 Sft³

Max. Pressure = 3,500#

Min. Pressure = 2,600#

Injection Rate = 70,000 scf/min.

Partial Ballout

N₂ Frac 2nd stage Perforation Interval 3417'-2201' (27 holes)

1,000 gal HCL @ 15%

N₂ Pumped = 1,080,000 Sft³

Max. Pressure = 2,720#

Min. Pressure = 2,525#

Injection Rate = 45,700 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
Sand & Shale		Hard	0	293	<u>ELECTRIC LOG TOPS</u>
Sand	Gray	Hard	293	427	K.B. 681'
Red Rock	Red	Soft	427	513	G.L. 669'
Shale	Gray	Med	513	659	Gbr. Lime=1448'1602'
Sand	White	Hard	659	770	Injun sand = 1602-1736'
Sand&Shale	Gray	Med	770	1076	Weir = 1736'-2093'
Sand	White	Hard	1076	1210	Sunbury Shale = 2093'-2138'
Shale	Brown	Med	1210	1460	Dev. Shale = 2138'-5102'
Sand	White	Hard	1460	1503	
Sand	Gray	Med	1503	1615	
Limestone	Gray	Hard	1615	1621	
Injun Sand	Gray	Hard	1621	1734	
Shale	Gray	Med	1734		
Shale	Brown	Soft	4253	5100T.D.	

(Attach separate sheets as necessary)

Bow Valley Petroleum, Inc.

Well Operator

By: Marvin 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."

B-11

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
FINAL INSPECTION REQUEST
INSPECTOR'S COMPLIANCE REPORT

RECEIVED
OCT 11 1983

OIL & GAS DIVISION
DEPT. OF MINES

Permit No. 105-1022 County Wirt
Company Bow Valley Petroleum Farm Glen Roberts estate
Inspector Homer H. Dougherty Well No. WI 017
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 log

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

B-12



State of West Virginia

Department of Mines

Charleston 25305

January 11, 1984

WALTER N. MILL
Director

JOHN D. ROCKEFELLER, IV.
Governor

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

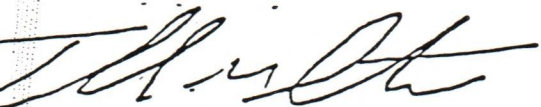
Gentlemen:

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 proved.

Very truly yours,


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

S/r1

01/12/2024

47-105-1022

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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.)

107
Section of NGPA

Category Code

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

5102 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.
Name
600 Commerce Square
Street
Charleston, WV 25301
City State Zip Code

OIL & GAS DIVISION
DEPT. OF ASSESSMENT

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
County WV
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-017

(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.)	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:

Robert Hart General Mgr. V.P.
Name Title
Robert Hart
Signature
1-11-84 Date Application is Completed
(304) 344-8393 Phone Number

Agency Use Only
Date Received by Juris. Agency
MAR 5 1984
Date Received by FERC

01/12/2024

PARTICIPANTS:

DATE:

BUYER-SELLER CODE

WELL OPERATOR:

Bow Valley Petroleum, APR 25 1984

040189

FIRST PURCHASER:

Columbia Gas Trans.

004030

OTHER:

Dev

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

WELL DETERMINATION FILE NUMBER

840305-107-105-1022

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

OK

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 Rep

(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? 01/12/2024

Additional information _____ Does computer program confirm? _____

Was Determination Objected to _____ By Whom? _____

Date 1-11-84
Operator's Well No. WI-017
API Well No. 47 - 105 - 1022
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) 25325
(City) WV (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 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

[Signature] Director
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-017
API Well No. 105 1022
State WV County Wirt

WELL CLASSIFICATION FORM
HIGH COST GAS WELL - DEVONIAN SHALE

WOPA Section 157

DESIGNATED AGENT Robert N. Hart
ADDRESS 600 Commerce Sq.
Charleston, WV 25301
LOCATION: Elevation 669.43'
Watershed Little Lost Run
Dist. B. Springs County Wirt Loc. B. Springs
Gas Purchase Contract No. _____
Meter Chart Code _____
Date of Contract _____

WELL OPERATOR Bow Valley Petroleum Inc.
ADDRESS 600 Commerce Sq.
Charleston, WV 25301
GAS PURCHASER Columbia Gas Transmission
ADDRESS Box 1273
Charleston, WV 25325

* * * * *

Date surface drilling began: 1/14/83

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

BHP = $P_F + P_F e^{(GL/53.54XT) - 1}$
587.8# Bottom Hole Pressure
 $P_F = 525\#$ $L = 3621'$
 $G = .70$ $T = 87^\circ$

BHP - Bottom Hole Pressure
 P_F - Pressure Formation
 $e = \text{constant} = 2$
 G - Specific gravity
L - Length of pipe to middle of producing formation
T - Temp rankin $\frac{BHP + \text{Temp @ head}}{2}$

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, Felicia 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, 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 25th day of July, 19 88.

Felicia Mae Snodgrass
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.: 47-105-1022 Well Name: ROBERTS WI-017
 West Virginia Office of Oil and Gas County: WIRT
 References: SJA File No.

Vol. _____ Page _____ Line _____

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

II. Gamma Ray elevation indices:

A. Shale Base Line (API Units)

1. GR Value at Base Line = 140 * API Units
2. Remarks:

0-200 API SCALE

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

1. GR Value = 140 * API Units
2. Calculation: $0.7 \text{ (GR Value at Base Line)}$
 $0.7 \text{ (140*)} = \underline{98}$ 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>2140'</u>	<u>5102'</u>	<u>2962'</u>	<u>20'</u>

Total Devonian Interval 2962'

Total Less Than 0.7 (Shale Base) 20'

% Less Than 0.7 (Shale Base Line) = $\underline{.0067} \times 100 = \underline{.675} \%$

*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 AP; well number: (If not available, leave blank. 14 digits.) 47-105-1022

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.) 5102

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. 040189
 Name 600 Commerce Square
 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 WIET 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-017

(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:

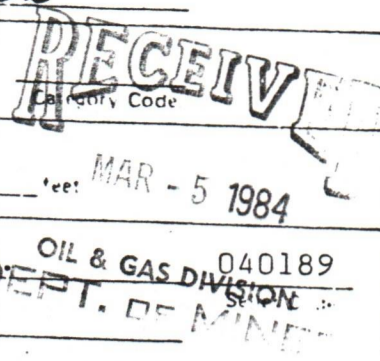
 Mo. Day Yr.

(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



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: _____

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
840305-103-105-1022
 Use Above File Number on all Communications
 Relating to Determination of this Well

[Handwritten Signature]

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 Rep _____
- (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-017
API Well No. 47 - 105 - 1022 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
(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.) 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

[Signature]
Director

By _____ Title _____

01/12/2024

Date received by Jurisdictional Agency _____

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

Date 1-11- 1984
Operator's Well No. WI-017
API Well No. 47 - 105 - 1022
State County Permit

WELL CLASSIFICATION FORM
NEW ONSHORE PRODUCTION WELL
NGPA Section 103

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

DESIGNATED AGENT Robert Hart
ADDRESS 600 Commerce Square
Charleston, W. Va. 25301
LOCATION: Elevation 669.43'
Watershed Little Lost Run
Dist. B. Springs County WIRT Quad B. Springs
Gas Purchase Contract No. _____
Meter Chart Code _____
Date of Contract _____

* * * * *

Date surface drilling was begun: 1/14/83

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

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

$$P_F = 525 \#$$

$$G = .70$$

$$L = 3621'$$

$$T = 87^\circ$$

$$BHP = 587.8 \#$$

AFFIDAVIT

I, MARYIN 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.

Maryin Combs

STATE OF WEST VIRGINIA,

COUNTY OF Kanawha, TO WIT:

I, John M. Hodggrass, a Notary Public in and for the state and county aforesaid, do certify that Maryin 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, 1985.

[NOTARIAL SEAL]

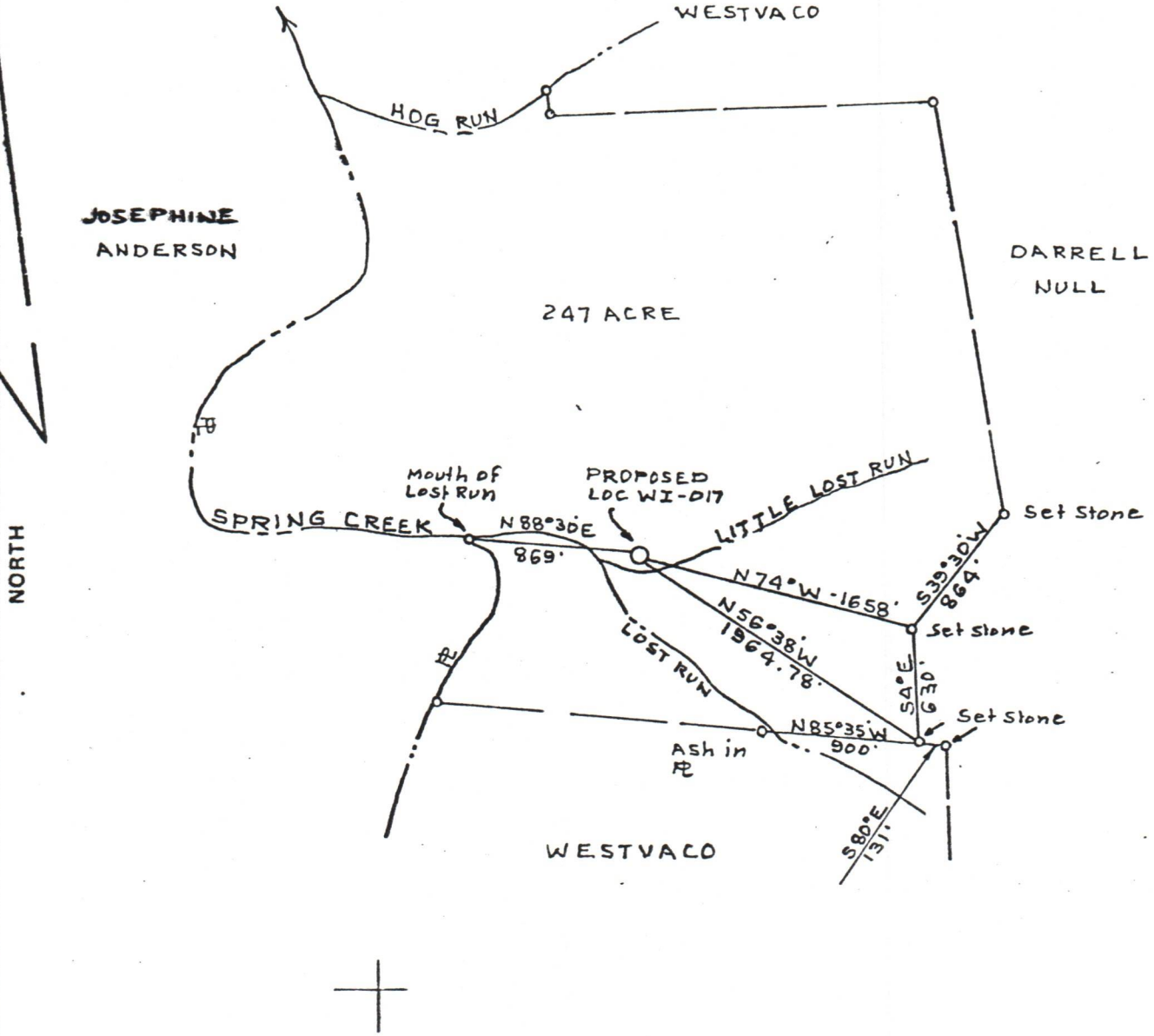
John M. Hodggrass
Notary Public

01/12/2024

1-017

LATITUDE 38°57'30"

11,100'



LONGITUDE 81°17'30"

FILE NO. BK 73 P 79
 DRAWING NO. _____
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1-200
 PROVEN SOURCE OF ELEVATION USGS Forks Road 4300' ± SW. of Loc E1819

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. Valley Jr.
 R.P.E. _____ L.L.S. 92

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM 17-6 (8-78)



DATE NOV 20, 1982
 OPERATOR'S WELL NO. WI-017
 API WELL NO. _____
47 - 105 - 1022
 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 669.43 WATER SHED LITTLE LOST RUN
 DISTRICT BURNING SPRINGS COUNTY WIRT
 QUADRANGLE BURNING SPRINGS 7.5'
 SURFACE OWNER WESTVACO ACREAGE 247
 OIL & GAS ROYALTY OWNER GLEN W. ROBERTS ESTATE LEASE ACREAGE 247 01/12/2024
 LEASE NO. 1885
 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 BDW VALLEY PETRO. DESIGNATED AGENT W.E. STOVER
 ADDRESS 600 COMMERCE SQUARE ADDRESS BOX 235
CHARLESTON, WVA 25301 CULLODEN, WVA, 25510