



1) Date: May 16, 19 83  
 2) Operator's Well No. WI - 064  
 3) API Well No. 47 105 1071  
 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 XX / Gas XX /  
 B (If "Gas", Production XX / Underground storage XX / Deep XX / Shallow XX)
- 5) LOCATION: Elevation: 1178.89 Watershed: Anns Run of West Fork  
 District: Spring Creek County: Wirt Quadrangle: Burning Springs 7.5'
- 6) WELL OPERATOR Bow Valley Petroleum Inc. 11) DESIGNATED AGENT Robert Long  
 Address 600 commerce Square Address Box 235  
Charleston WV, 25301 Culloden, WV, 25510
- 7) OIL & GAS ROYALTY OWNER W.R. Davis Heirs 12) COAL OPERATOR N/A  
 Address 5615 Garner Place Address \_\_\_\_\_  
LaCrosse, Wis.
- 8) SURFACE OWNER West Virginia Pulp & Paper 13) COAL OWNER(S) WITH DECLARATION ON RECORD:  
 Address Parkersburg, WV. Name N/A  
 Address \_\_\_\_\_
- 9) FIELD SALE (IF MADE) TO:  
 Address \_\_\_\_\_
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Mr. Deo Mace Address \_\_\_\_\_  
Rt. 1 Box 5  
Sand Ridge WV.
- 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 shale (Devonian)
- 17) Estimated depth of completed well, 5300 feet
- 18) Approximate water strata depths: Fresh, 65, 145, 478 feet; salt, 1550 feet.
- 19) Approximate coal seam depths: N/A Is coal being mined in the area? Yes \_\_\_\_\_ / No XXXX /

RECEIVED  
MAY 17 1983  
OIL & GAS DIVISION  
DEPT. OF MINE

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		32	x		<del>275</del> 525	<del>525</del>	to surface	CTS NEAT
Coal									Sizes
Intermediate	7		23	x		2250	2250	to surface	Depths set <u>OR as Req</u> <u>by Rule 15.01</u>
Production	4 1/2		10.5	x		5250	5250	275 sks	
Tubing									Perforations:
Liners									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 47-105-1071 Date May 19 1983  
01/05/2024

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 January 19, 1984 unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond: <u>BB</u>	Agent: <u>to</u>	Plat: <u>[Signature]</u>	Casing: <u>[Signature]</u>	Fee: <u>581</u>
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[Signature]  
 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.

01/05/2024

Date: \_\_\_\_\_, 19\_\_\_\_

By \_\_\_\_\_

Its \_\_\_\_\_

# OIL AND GAS LEASE

OIL & GAS DIVISION

AGREEMENT, made and entered into this 20<sup>TH</sup> day of MAY DEPT. OF MINES & ENERGY by and between LINDA D. HOLOREN AND VICTOR P. HOLOREN HER HUSBAND and MARY SUE PROBECK AND THOMAS C. PROBECK HER HUSBAND

of DURHAM, NORTH CAROLINA party of the first part, hereinafter called Lessor (whether one or more), and RAY RESOURCES, DIV. OF BOW VALLEY PETROLEUM, INC. party of the second part, hereinafter called Lessee;

1. WITNESSETH: That the Lessor, in consideration of the sum of One Dollar, the receipt of which is hereby acknowledged, and the covenants and agreements hereinafter contained, does hereby grant unto the Lessee all of the oil and gas and all of the constituents of either in and under the land hereinafter described, together with the exclusive right to drill for, produce and market oil and gas and their constituents and of storing gas of any kind in any formation underlying the land, and also the right to enter thereon at all times for the purpose of drilling and operating for oil, gas and water, laying pipe lines, erecting tanks, machinery, powers and structures, and to possess, use, and occupy so much of said premises as is necessary and convenient for said purposes and to convey

the above named products therefrom or thereto by pipe lines or otherwise; said land being situate in SPRING CREEK Township, County of WIRT, State of WEST VIRGINIA, and described as follows, to-wit: Bounded on the

NORTH by lands of JOE ALLEN (FORMERLY)

EAST by lands of W.M. SINK; E.C. DAVIS (BOTH FORMERLY)

SOUTH by lands of J.W. BURSON (FORMERLY)

WEST by lands of B.F. HICKMAN; G.M. WILLIAMS (BOTH FORMERLY)

Containing ONE HUNDRED FIFTY (150) acres, more or less and being the same land conveyed to lessor by

by deed dated \_\_\_\_\_ and recorded in said county records in \_\_\_\_\_ Book No. \_\_\_\_\_ Page \_\_\_\_\_

2. It is agreed that this lease shall remain in force for a primary term of TWO (2) years from this date and as long thereafter as operations for oil or gas are being conducted on the premises, or oil or gas is found in paying quantities thereon, ~~or any formation underlying the herein leased land is used for storage of gas as provided under paragraph 7 hereof.~~

3. The Lessee shall deliver to the credit of the Lessor free of cost, in the pipe line to which he may connect his wells, the equal one-eighth (1/8) part of all oil produced and saved from the leased premises, and shall pay Lessor ONE EIGHTH (1/8) OF THE PROCEEDS DERIVED BY LESSEE FROM THE SALE OF GAS AT THE WELL

for all gas and casing head gas produced and sold from the premises, payable monthly; provided, Lessee shall pay Lessor a royalty at the rate of Fifty Dollars per year on each gas well while, through lack of market, gas therefrom is not sold or used off the premises, and while said royalty is so paid said well shall be held to be a paying well under paragraph 2 hereof.

4. The Lessee shall commence operations for a well on the premises on or before MAY 20, 1982, unless Lessee pays thereafter a rental of SEVEN HUNDRED FIFTY AND NO/100 DOLLARS (\$750.00) for each TWELVE (12) months that operations are delayed from the time above mentioned. The consideration first recited herein, the down payment, shall cover not only the privilege granted to the date when first said rental is payable as aforesaid, but also the Lessee's option of extending that period as aforesaid, and any and all other rights conferred. The drilling of a non-productive well shall be accepted by the Lessor in lieu of delay rental for a period of one year after its completion, and following the exhaustion or abandonment of all wells the Lessee shall have the right for a period of one year to resume the payment of delay rental or commence operations for another well. Upon the resumption of payment of rentals the provisions hereof governing such payment and the effect thereof shall continue in force as though they had not been interrupted.

5. All moneys coming due hereunder shall be paid or tendered to 1/2 - LINDA D. HOLOREN AND direct, or by check payable to his (or her) order mailed to 510 MARSHALL WAY, DURHAM, N.C. 27705 and no default shall be declared against the Lessee by the Lessor for failure of the Lessee to make any payment or perform any conditions provided for herein unless the Lessee shall refuse or neglect to pay or perform the same for ten days after having received written notice by registered mail from the Lessor of his intention to declare such default.

6. Lessor reserves 200,000 cubic feet of gas per annum for domestic use, to be taken through his own appliances at any producing gas well, and agrees to pay Lessee a fair domestic rate for any gas used in excess thereof. Lessor further covenants and agrees that his taking and use of gas shall be wholly at his own risk, the Lessee not to be held liable for any accident or damage caused thereby, nor shall Lessee be liable for any shortage or failure in the supply of gas for said domestic use.

7. ~~Lessee shall have the right to use any formation underlying the leased premises for the storage of gas and shall have all rights and rights-of-way necessary to store and produce such stored gas. As full payment for such storage rights, the Lessee shall pay to the Lessor a rental at the rate of \_\_\_\_\_ per acre per year, while the premises are so used, and so long as the storage payment is made, all provisions of this lease shall remain in full effect.~~

8. Lessor further grants to the Lessee, his heirs and assigns, the right to unitize this lease with other leases to form a drilling unit or units according to the rules and regulations which may be adopted for the proper development and conservation of the field. In the event this lease is so unitized, the Lessor agrees to accept, in lieu of the royalty hereinbefore recited, such proportion of the royalty above provided, as the acreage covered by this lease bears to the total acreage comprising the unit.

9. If said Lessor owns a less interest in the above described land than the undivided fee simple estate therein, then the royalties and rentals herein provided shall be paid the Lessor only in the proportion which his interest bears to the whole and undivided fee.

10. No well may be drilled nearer than 200 feet to the house or barn now on said premises without the written consent of Lessor. Lessee shall have and enjoy all rights and privileges necessary and convenient for the proper use and development of this lease, and shall have the right to use, free of cost, gas, oil and water produced on said land for its operations thereon, except water from wells of Lessor. Lessee shall also have the right at any time to remove all or any part of the machinery, fixtures or structures placed on said premises, including the right to draw and remove casing. Lessee shall pay for damages caused by its operations to growing crops on said lands, and, when requested by Lessor, shall bury its pipe lines below plow depth.

11. The interest or estate of either party hereto may be assigned, the privilege of assigning in whole or in part being expressly allowed. In event this lease shall be assigned as to any part or parts of the above described land and the assignee or assignees of such part or parts shall fail or make default in the payment of the proportionate part of the rents due from him or them, such default shall not operate to defeat or affect this lease insofar as it covers a part or parts of said land upon which the said Lessee or any assignee thereof shall make due payment of said rental. No change of ownership in the land or in the rentals or royalties shall be binding on the Lessee until after notice to the Lessee and it has been furnished with a written transfer or assignment or a certified copy thereof.

12. At any time, Lessee, its successors or assigns, shall have the right to surrender this lease or any part thereof for cancellation, after which all payments and liabilities hereunder thereafter shall cease and determine, and if the whole is surrendered, then this lease shall become absolutely null and void. This surrender may be made to the Lessor, or if more than one Lessor, then to any one of them, or to the heirs or assigns of any one of them by delivery of a duly executed surrender thereof in person 01/15/2024 addressed to the post office address of such person, or by recording a duly executed surrender thereof in the Recorder's office of the County in which the land is located.

13. Lessor hereby warrants and agrees to defend the title to the land herein described and agrees that the Lessee at its option may pay, discharge or redeem any taxes, mortgages, or other liens existing, levied, or assessed on or against the above described lands, and in event it exercises such option, it shall be subrogated to the rights of any holder or holders thereof and may reimburse itself by applying any royalty or rentals accruing hereunder to the discharge of any such taxes, mortgages or other liens.

14. It is expressly agreed that if the Lessee shall commence drilling operations at any time while this lease is in force, it shall remain in force and its terms continue so long as such operations are prosecuted, and if production results therefrom, then as long as production continues. If after the expiration of the term of this lease production from the leased premises shall cease from any cause, this lease shall not terminate provided Lessee resumes operations within sixty days from such cessation, and this lease shall remain in force during the prosecution of such operations, and, if production results therefrom, then as long as oil or gas is produced in paying quantities.

2 - 5617 GARDNER PLACE  
LA CEORSE, WIS 54601

15. This lease embodies the entire contract and agreement between Lessor and Lessee, and no warranties, representations, promises or inducements not herein expressed have been made or relied upon by either party. The terms, conditions and stipulations hereof shall extend to the respective heirs, executors, administrators, successors and assigns of the parties hereto.

Witness the hands and seals of the parties hereto the day and year first above written.

WITNESS:

\_\_\_\_\_ (SEAL)  
 \_\_\_\_\_ (SEAL)  
 \_\_\_\_\_ (SEAL)  
 \_\_\_\_\_ (SEAL)  
 \_\_\_\_\_ (SEAL)  
 \_\_\_\_\_ (SEAL)  
 \_\_\_\_\_ (SEAL)

*Linda D. Holdren* (SEAL)  
~~*Victor P. Holdren*~~ (SEAL)  
*Mary Sue Brobeck* (SEAL)  
~~*Thomas C. Brobeck*~~ (SEAL)

Wisconsin  
 STATE OF WEST VIRGINIA  
 COUNTY OF La Crosse

WEST VIRGINIA ACKNOWLEDGMENT

THIS INSTRUMENT  
 PREPARED BY  
 THORN C. ROBERTS  
 BOX 92  
 ELIZABETH, W.VA. 26143

To-wit:

I, Alyce M. Osterhout, a Notary Public of said County, do hereby certify that  
Thomas C. Brobeck and Mary Sue Brobeck

whose name MS signed to the within writing bearing date the 20th day of May, 19 81

have this day acknowledged the same before me in my said County.

Given under my hand this 17th day of June, 19 81

My Commission expires Feb-26, 1984

*Alyce M. Osterhout*  
 Notary Public

North Carolina  
 STATE OF WEST VIRGINIA  
 COUNTY OF Wake

WEST VIRGINIA ACKNOWLEDGMENT

To-wit:

I, Anne P. Smith, a Notary Public of said County, do hereby certify that  
Linda D. Holdren and Victor P. Holdren

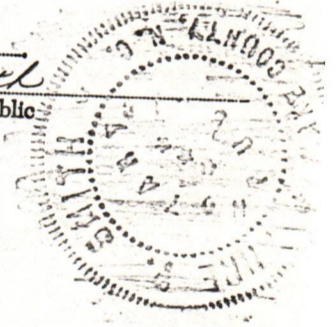
whose name S signed to the within writing bearing date the 20th day of May, 19 81

have this day acknowledged the same before me in my said County.

Given under my hand this 24 day of June, 19 81

My Commission expires August 12, 1984

*Anne P. Smith*  
 Notary Public



OHIO ACKNOWLEDGMENT

STATE OF OHIO,  
 COUNTY OF \_\_\_\_\_

SS.

Before me, a Notary Public in and for said county, personally appeared the above named \_\_\_\_\_

that he did sign the foregoing instrument, and that the same is \_\_\_\_\_ who acknowledged

whereof I have hereunto subscribed my name at \_\_\_\_\_ free act and deed. In testimony

day of \_\_\_\_\_, 19 \_\_\_\_\_, this \_\_\_\_\_

My Commission expires \_\_\_\_\_

Notary Public

RAY RESOURCES TO  
 BOW VALLEY PETROLEUM INC.  
 630 Commerce Square  
 Charleston, W. Va. 25301

RECEIVED  
 AUG 10 1981  
 Oil and Gas Lease  
 #19748

RECORDING DATA:

Acres \_\_\_\_\_  
 Location \_\_\_\_\_  
 County \_\_\_\_\_ State \_\_\_\_\_  
 Term \_\_\_\_\_

Received for Record on the 15 day of July, 1981 at 8:30 o'clock A.M.  
 Recorded in the Office of the Clerk of the County Commission of Wirt County, W. Va.  
 In Deed Book No. 101 at page 800  
*Bullock Chinnest*  
 Clerk Wirt County Commission  
PAID



IV-35  
(Rev 8-81)

**RECEIVED**

DEC 23 1983

OIL & GAS DIVISION

**DEPT. OF MINES**

State of West Virginia

Department of Mines

Oil and Gas Division

Date December 16, 1983

Operator's Well No. WI064

Farm Davis

API No. 47 - 105 - 1071

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: 1178.89 Watershed Arms Run of West Fork  
District: Spring Creek County Wirt Quadrangle Burning Springs

COMPANY Bow Valley Petroleum, Inc.

ADDRESS 600 Commerce Square, Charleston, WV.

DESIGNATED AGENT Robert Long

ADDRESS P.O. Box 235, Culloden, WV.

SURFACE OWNER West Virginia Pulp & Paper

ADDRESS Parkersburg, WV.

MINERAL RIGHTS OWNER W.R. Davis Heirs

ADDRESS LaCrosse, Wisconsin

OIL AND GAS INSPECTOR FOR THIS WORK Deo

Mace ADDRESS Sandridge, WV.

PERMIT ISSUED 5/19/83

DRILLING COMMENCED 6/28/83

DRILLING COMPLETED 7/05/83

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.	30	30	15 sks
13-10"	349.65	349.65	To surface
9 5/8			
8 5/8	2201	2201	150 sks
7			
5 1/2			
4 1/2	5272	5272	265 sks foam cement
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth \_\_\_\_\_ feet

Depth of completed well 5308' feet Rotary X / Cable Tools \_\_\_\_\_

Water strata depth: Fresh 170 feet; Salt 1580 feet

Coal seam depths: Not Encountered Is coal being mined in the area? No

OPEN FLOW DATA 2 Zones Comingled

Producing formation Devonian Shale Pay zone depth 5248'-2614' feet

Gas: Initial open flow 0 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 260 Mcf/d Final open flow show Bbl/d

Time of open flow between initial and final tests 24 hours

Static rock pressure 650 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation \_\_\_\_\_ Pay zone depth 01/05/2024 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)

B-2

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

Top 1st Stage Frac = 850 gals 15% HCL/1,250,00 scf/N<sub>2</sub>. Max. treating pressure 3200#  
Min. 1800#. Breakdown 2450# Air 44,233 scf/min. ISIP 1700#. Perfs: 3942,3938,3708,  
3604,3458,3442,3438,3433,3430,3424,3403,3330,3324,3312,3000,2993,2986,2954,2950,  
2896,2893,2886,2884,2676,2670,2650,2646,2642,2616,2614.

Bottom Frac. = 1000 gal 15% HCL - 1,190,000 scf/N<sub>2</sub>. Max. treating pressure 2300#.  
Min. 2180. Breakdown 2350. ISIP 1700#. Perfs. 5248,5158,5127,4956,4945,4937,4929,4919,  
4911, 4892,4746,4734,4726,4674,4664,4518,4516,4502,4498,4480,4418,4416,4318,4312,  
4220,4216,4212,4201,4192,4182,4154,4142.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Soil	Brown	Brown	0	10	
Slate & Sand	Gray-Buffer		10	375	Fresh H <sub>2</sub> O 170
Red Rock	Red	Soft	375	540	
Shale	Gray	Soft	540	650	
Sand	Gray	Soft	650	780	H <sub>2</sub> O.
Sand	White	Hard	780	1690	@ 1580
Shale	Gray	Soft	1690	1830	
Sand	White	Hard	1830	1930	
Lime	Gray	Hard	1930	2085	
Sand	Buff	Hard	2085	2160	
Shale	Gray	Soft	2160	5309	

Electric Log Tops  
Big Lime 1932'  
Injun 2095'  
Berea 2551'  
Gordon 2884'  
Rhinstreet 5246'

(Attach separate sheets as necessary)

Bow Valley Petroleum Inc.  
Well Operator  
By: Marvin Combes 01/05/2024  
Date: Dec 21 1983

Note: Regulation 2.02(i) provides as follows:  
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

B-3

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

RECEIVED

JUL - 6 1983

INSPECTOR'S WELL REPORT

OIL & GAS DIVISION  
DEPT. OF MINES

Permit No. 105-1071

Oil or Gas Well \_\_\_\_\_  
(KIND)

Company Bow Valley  
 Address \_\_\_\_\_  
 Farm W. R. Davis  
 Well No. W1 064  
 District Spring Creek County Wirt  
 Drilling commenced 6-28-83  
 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 Res. # 14

Remarks: \_\_\_\_\_

Spud Today

6-28-83  
DATE

Das Mace 01/05/2024  
DISTRICT WELL INSPECTOR





B-4

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

RECEIVED

JUL - 6 1983

INSPECTOR'S WELL REPORT

OIL & GAS DIVISION  
DEPT. OF MINES

Permit No. 105-1071

Oil or Gas Well \_\_\_\_\_  
(KIND)

Company BOW VALLEY

Address \_\_\_\_\_

Farm W.R. DAVIS

Well No. W1-064

District SPRING CREEK County WIAT

Drilling commenced 6.29.83

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			Kind of Packer _____
16			
13			Size of _____
10			
8 1/4			Depth set _____
6 5/8			
5 3/16			Perf. top _____
3			Perf. bottom _____
2			Perf. top _____
Liners Used			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 RESOURCES # 14

Remarks:  
349' of 11 3/4" casing, Dowell cemented.  
DRILLED OUT UNDER AFTER 6 HRS.

6.30.83  
DATE

W. J. Mason  
DISTRICT WELL INSPECTOR

01/05/2024

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

Permit No. \_\_\_\_\_

Well No. \_\_\_\_\_

COMPANY \_\_\_\_\_ ADDRESS \_\_\_\_\_

FARM \_\_\_\_\_ DISTRICT \_\_\_\_\_ COUNTY \_\_\_\_\_

Filling Material Used \_\_\_\_\_

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

Drillers' Names \_\_\_\_\_

Remarks:

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

01/05/2024  
DISTRICT WELL INSPECTOR

B-5

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

RECEIVED  
AUG 24 1983

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

INSPECTOR'S WELL REPORT

Permit No. 105-1071

Company Bow Valley  
 Address \_\_\_\_\_  
 Farm Davis  
 Well No. WIO 64  
 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 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 \_\_\_\_\_

Remarks: Location Reclaimed - no timber saved - no gross

8-19-83  
DATE

Wes Moore 01/05/2024  
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			BRIDGES			CASING AND TUBING								
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LOCATION			RECOVERED	SIZE	LOST						

Drillers' Names \_\_\_\_\_

Remarks: \_\_\_\_\_

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

\_\_\_\_\_  
DISTRICT WELL INSPECTOR

01/05/2024

B-11

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

RECEIVED

OCT 11 1983

FINAL INSPECTION REQUEST  
INSPECTOR'S COMPLIANCE REPORT

OIL & GAS DIVISION  
DEPT. OF MINES

Permit No. 105-1071  
Company Bow Valley Petroleum  
Inspector Homer H. Dougherty  
Date 10/4/83

County Wirt  
Farm Davis  
Well No. 064

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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

01/05/2024

B-12



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

WALTER N MILLER  
DIRECTOR

THEODORE M. STREIT  
ADMINISTRATOR

May 21, 1984

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

In Re: PERMIT NO: 47-105-1071  
FARM: W. R. Davis Heirs / Westvaco  
WELL NO: WI - 064  
DISTRICT: Spring Creek  
COUNTY: Wirt  
ISSUED: May 19, 1983

Gentlemen:

The FINAL INSPECTION REPORT for the above captioned well has been received in this office. Only the column checked below applies:

       The well designated by the above permit number has been released under your Blanket Bond.

       Please return the enclosed cancelled single bond which covered the well designated by the above permit number to the surety company who executed said bond in your behalf, in order that they may give you credit on their records.

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

Very truly yours,

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

1.0 API well number: (If not available, leave blank. 14 digits.) C-1 47-105-1071

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

3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.) 5308 feet

RECEIVED  
JAN 13 1984

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 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 SPRING  
 Field Name  
WIRT WV  
 County State

(b) For OCS wells:  
 Area Name Block Number  
 Date of Lease: \_\_\_\_\_  
 Mo. Day Yr. UCS Lease Number

(c) Name and identification number of this well: (35 letters and digits maximum.)  
DAVIS WI-064

(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:  
 Agency Use Only  
 Date Received by Juris. Agency  
JAN 13 1984  
 Date Received by FERC

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

01/05/2024

PARTICIPANTS:

DATE: MAR 9 1984

BUYER-SELLER CODE

WELL OPERATOR: Bow Valley Petroleum,

046189

FIRST PURCHASER: Columbia Gas Trans. Corp.

004030

OTHER: \_\_\_\_\_

W. Va. Department of Mines, Oil & Gas Division  
 WELL DETERMINATION FILE NUMBER  
840113-103-105-1071  
 Use Above File Number on all Communications  
 Relating to Determination of this Well

*Qualific*  
*[Signature]*

**APPROVED**

MAR 26 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 \_\_\_\_\_ 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? \_\_\_\_\_

01/05/2024



DEPARTMENT OF MINES, OIL AND GAS DIVISION

Operator's Well No. WI-064

API Well No. 47 - 105 - 1071  
State County permit

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. \_\_\_\_\_ (If Applicable)

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) (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 1978. (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

JAN 13 1984

Date received by Jurisdictional Agency \_\_\_\_\_

Director  
By \_\_\_\_\_  
Title \_\_\_\_\_ 01/05/2024

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

Date 1-11- 1984  
Operator's Well No. WI-064  
API Well No. 47 - 105 - 1071  
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 1178.89  
Watershed ANNS RUN OF WEST FORK  
Dist. Sp. Cr. County WIRT Quad B. Springs  
Gas Purchase Contract No. \_\_\_\_\_  
Meter Chart Code \_\_\_\_\_  
Date of Contract \_\_\_\_\_

\* \* \* \* \*

Date surface drilling was begun: 6/28/83

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

$BHP = P_F + P_{Fe} (GL.54XT)^{-1}$

$P_F = 650\#$

$G = .70$

$L = 3932'$

$T = 101^\circ$

$BHP = 725.7\#$

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 Ludgrasse, 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 11<sup>th</sup> day of January, 1984, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 11<sup>th</sup> day of January, 1984.

My term of office expires on the 25<sup>th</sup> day of July, 1988.

[NOTARIAL SEAL]

Helen Mae Ludgrasse  
Notary Public

01/05/2024

**RECEIVED**

JAN 13 1984

OIL & GAS DIVISION  
DEPT. OF MINES

47-105-1071

107  
Section of NGPA

5308

Category Code

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.)

Bow Valley Petroleum, Inc.  
600 Commerce Square  
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  
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.)  
DAVIS WI-064

(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:

Agency Use Only  
Date Received by Juris. Agency  
JAN 13 1984  
Date Received by FERC

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

01/05/2024

PARTICIPANTS:

DATE: MAR 9 1984

BUYER-SELLER CODE

WELL OPERATOR: Bow Valley Petroleum

040189

FIRST PURCHASER: Columbia Gas Trans. Corp.

004030

OTHER: \_\_\_\_\_

Dev.

W. Va. Department of Mines, Oil & Gas Division  
 WELL DETERMINATION FILE NUMBER  
840113-107-105-1071  
 Use Above File Number on all Communications  
 Relating to Determination of this Well

**APPROVED**

MAR 21 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 \_\_\_\_\_ 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? \_\_\_\_\_

01/05/2024

Date 1-11-1989  
Operator's Well No. WI-064  
API Well No. 47 - 105 - 1071  
State WV - County Jefferson  
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  
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 Code \_\_\_\_\_ 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

JAN 13 1984

Date received by Jurisdictional Agency

By [Signature]  
Title \_\_\_\_\_  
01/05/2024

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.: 47-105-1071 Well Name: DAVIS WI-064

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>2554'</u>	<u>5309'</u>	<u>2755'</u>	

Total Devonian Interval 2755'

Total Less Than 0.7 (Shale Base) 11'

% Less Than 0.7 (Shale Base Line) =  $\underline{.0039} \times 100 = \underline{.399\%}$

\*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.

01/05/2024

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

Date 1-11-84  
Operator's Well No. WI-064  
API Well No. 105 1071  
State WV 1071

WELL CLASSIFICATION FORM  
HIGH COST GAS WELL - DEVONIAN SHALE

WGA Section 107

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 1178.89'

Watershed ANNS RUN OF WEST FK.

Dist. Sp. Cr. County: WIRT Loc: 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: 6/28/83

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

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

$P_F = 650\#$   $L = 3932'$   
 $G = .70$   $T = 101^\circ$

725.7\# Bottom Hole Pressure

BHP - Bottom Hole Pressure  
P<sub>F</sub> - 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.

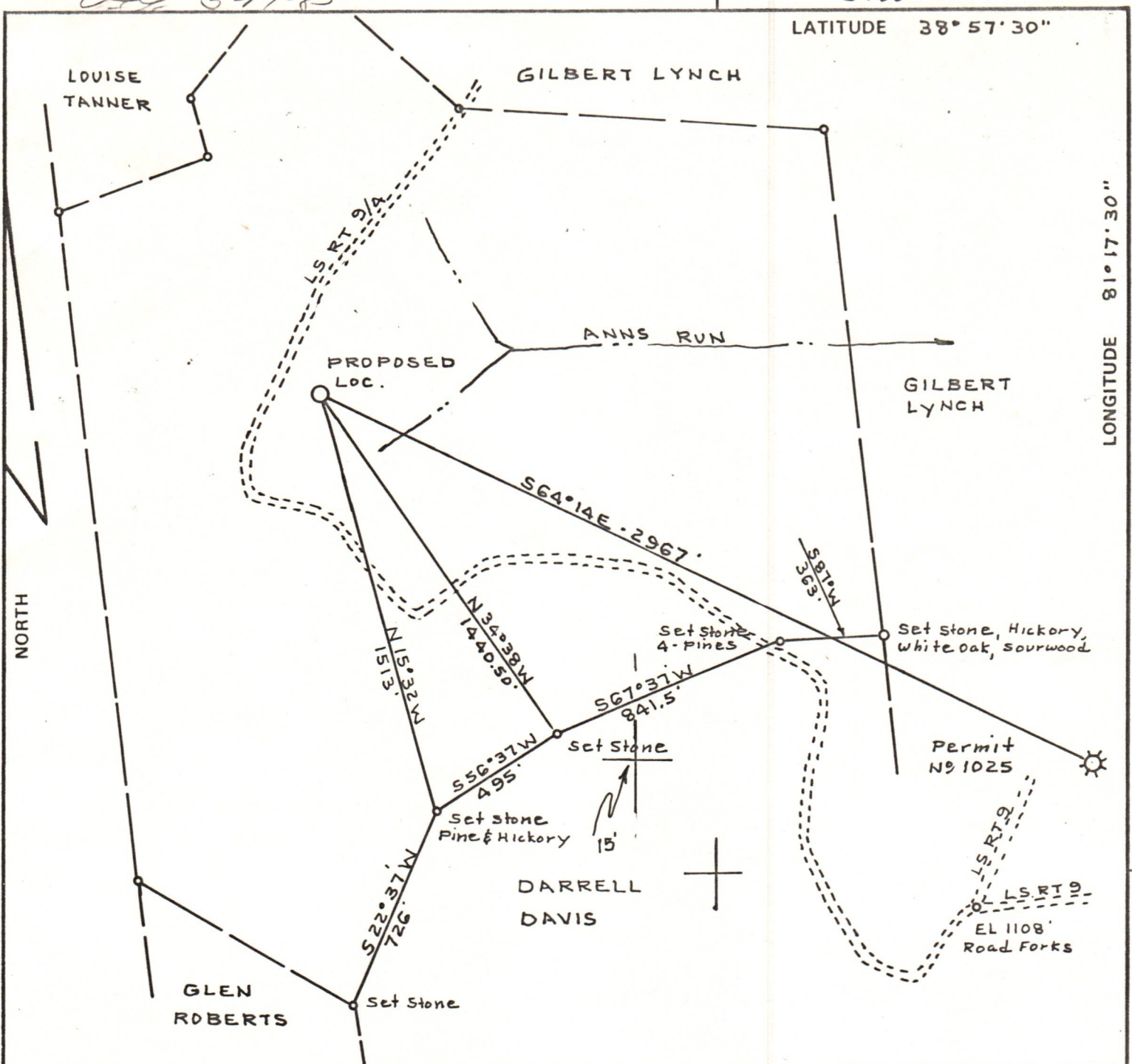
I, Helen Mae Hudgras, a Notary Public in and for the state and county aforesaid do certify that Marvin Combs, whose name is signed to the writing above, bearing date the 11th day of January, 1984, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 11th day of January, 1984.  
My term of office expires on the 25th day of July, 1988.

Helen Mae Hudgras  
Notary Public

(NOTARIAL SEAL)

01/05/2024



FILE NO. BK 75 PG 49  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1-200  
 PROVEN SOURCE OF ELEVATION USGS EL 1108' Road Forks 2900' S.E. OF LOC.

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. J. Volley Jr.  
 R.P.E. \_\_\_\_\_ L.L.S. 92

PLACE SEAL HERE

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



DATE MAY 14, 1983  
 OPERATOR'S WELL NO. WI 064  
 API WELL NO. \_\_\_\_\_  
47 - 105 - 1071  
 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 1178.89 WATER SHED ANNS RUN OF WEST FORK  
 DISTRICT SPRING CREEK COUNTY WIRT  
 QUADRANGLE BURNING SPRINGS 7.5'  
 SURFACE OWNER WESTVACO ACREAGE 150  
 OIL & GAS ROYALTY OWNER W.R. DAVIS, HEIRS LEASE ACREAGE 150  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE \_\_\_ PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

01/05/2024

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH 5300'  
 WELL OPERATOR BOW VALLEY PETRO. DESIGNATED AGENT ROBERT W. LONG  
 ADDRESS 600 COMMERCIAL SQUARE ADDRESS BOX 235  
CHARLESTON WVA 25301 CULLODEN WVA 25510





Burning Springs

Sanoma

Monroe

Dave Allen Point

01/05/2024

Grounds

Oil well block

775

Ball Knob  
1164

Mt. Pleasant Ch  
1081

1096

789

860

1082

1132

780

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JEOP TRAIL

Rector Cem  
Beaty Cem  
Gas Well  
Oil Well

Sanoma  
BM 649

Monroe  
1063  
1008

BM 1165  
1165

Run  
800

Run  
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Run  
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Fort Hill  
Gas Well  
BM 635

Burning Springs

KANAWHA

Fishpot

Ridge

Run  
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BURNING SPRING

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UMBERSTEP

PIPELINE

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IV-9  
(Rev 8-81)

DATE MAY 14, 1982

WELL NO. # W1064

State of West Virginia API NO. 47-105-1071

Department of Mines  
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME BOW VALLEY PETROLEUM, INC. DESIGNATED AGENT ROBERT W. LONG  
Address 600 Commerce Sq, CHARLESTON, WV 25301 Address Box 235 CULLODEN, WV  
Telephone 304-344-8393 Telephone 304-562-3376

LANDOWNER WESTVAECO 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: 5-14-83 (Date)

Jarrett Newton  
(SCD Agent)

ACCESS ROAD	LOCATION
Structure <u>CULVERT (18")</u> (A)	Structure <u>NO STRUCTURES</u> (1)
Spacing _____	Material <u>NEEDED</u>
Page Ref. Manual <u>2-8</u>	Page Ref. Manual _____
Structure <u>DRAINAGE DITCH</u> (B)	Structure <u>VERY LITTLE GRADING</u> (2)
Spacing _____	Material <u>NECESSARY</u>
Page Ref. Manual <u>2-12</u>	Page Ref. Manual _____
Structure _____ (C)	Structure _____ (3)
Spacing _____	Material _____
Page Ref. Manual _____	Page Ref. Manual _____

RECEIVED  
MAY 17 1983  
OIL & GAS DIVISION  
DEPT. OF MINES

All structures should be inspected regularly and repaired if necessary. All commercial timber is to be cut and stacked and all brush and small timber to be cut and removed from the site before dirt work begins.

REVEGETATION

Treatment Area I <u>4A</u>	Treatment Area II
Lime <u>2</u> Tons/acre or correct to pH <u>6.5</u>	Lime _____ Tons/acre or correct to pH _____
Fertilizer <u>600</u> lbs/acre (10-20-20 or equivalent)	Fertilizer _____ lbs/acre (10-20-20 or equivalent)
Mulch <u>HAY</u> <u>2</u> Tons/acre	Mulch _____ Tons/acre
Seed* <u>KENTUCKY 31 FESCUE</u> <u>45</u> lbs/acre	Seed* _____ lbs/acre
<u>RYE</u> <u>5</u> lbs/acre	_____ lbs/acre
<u>LADINO CLOVER</u> <u>5</u> lbs/acre	_____ lbs/acre

\*Inoculate all legumes such as vetch, trefoil and clovers with the proper 01/05/2024 Inoculate with 3X recommended amount.

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

PLAN PREPARED BY William F. Hendricks, III  
ADDRESS 600 Commerce Square  
CHARLESTON, WEST VIRGINIA  
PHONE NO. 304-344-8393

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

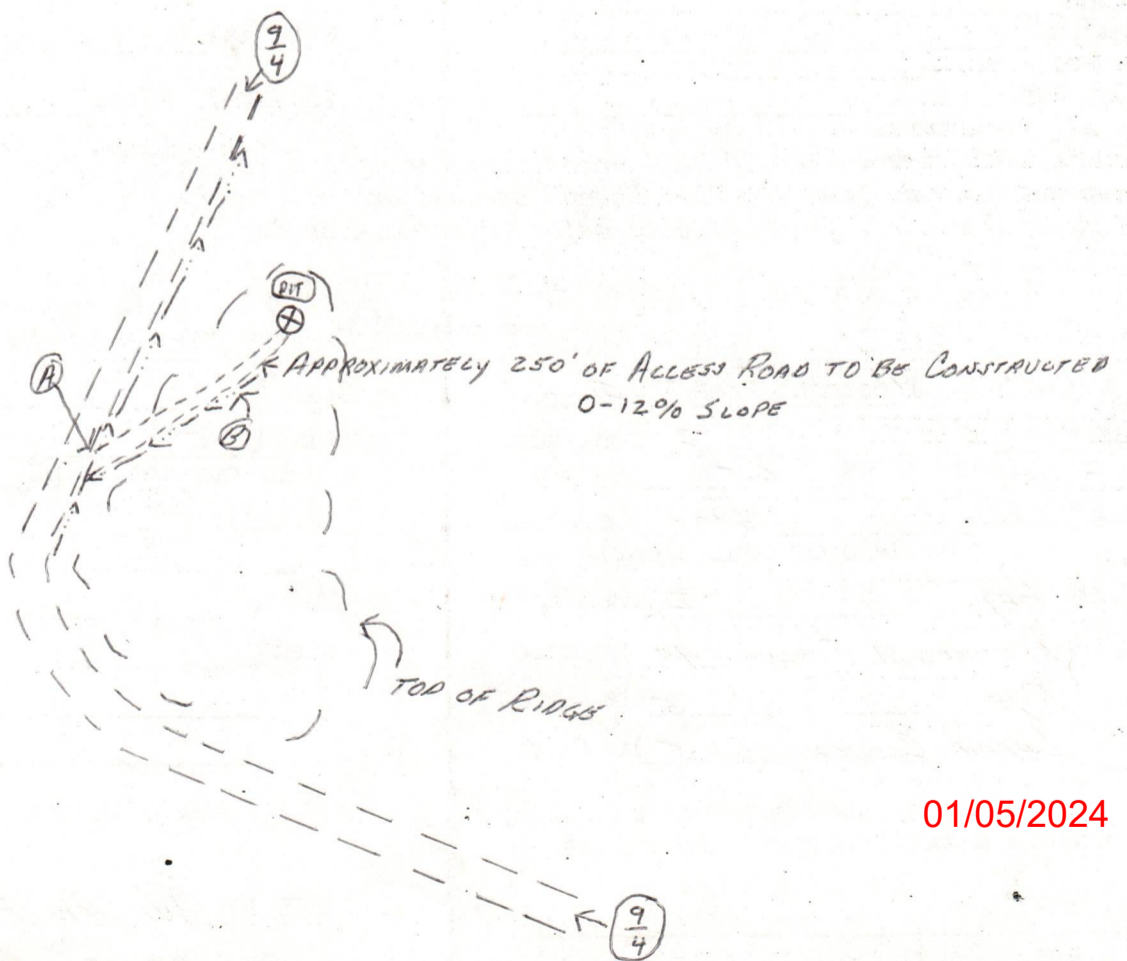
LEGEND	
Well Site	⊕
Access Road	—

LOCATION IS ON A FLAT RIDGE TOP  
IN A WOODED AREA. ALL TIMBER  
DISTURBED WILL BE CUT +  
STACKED.

### 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	—▲—▲—▲—▲—	Diversion	////
Road	==	Spring	○→
Existing fence	—x—x—	Wet spot	⊕
Planned fence	—/—/—	Building	■
Stream	~	Drain pipe	○→→→
Open ditch	—>>>—>>>—>>>—	Waterway	←≡≡≡≡→



01/05/2024