

A-1



1) Date: November 8, 19 82
2) Operator's Well No. - 000X ~~XXXXXXX~~ WI-008
3) API Well No. 47 105 1011
State County Permit

DRILLING CONTRACTOR:

Ray Resources

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

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil / Gas X /
B (If "Gas", Production X / Underground storage / Deep / Shallow X /)
- 5) LOCATION: Elevation: 628.62 Watershed: Little Kanawha River
District: Newark County: Wirt Quadrangle: Kanawha 7.5'
- 6) WELL OPERATOR Bow Valley Petroleum Inc. 11) DESIGNATED AGENT W.E. Stover
Address 600 Commerce sq. Address Box 235
Charleston W.Va. 25301 Culloden WV.
- 7) OIL & GAS ROYALTY OWNER Little Kanawha Co. 12) COAL OPERATOR N/A
Address P.O. Box 304 Address
Parkersburg WV. 26101
- 8) SURFACE OWNER Same as above 13) COAL OWNER(S) WITH DECLARATION ON RECORD:
Address Name N/A
Address
- 9) FIELD SALE (IF MADE) TO:
Address
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Deo Mace
Address Rt. 1 Box 5
Sand Ridge WV. Ph. 655-7398
- 15) PROPOSED WORK: Drill X / 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, 5500 feet
- 18) Approximate water strata depths: Fresh, 60, 85 feet; salt, N/A feet.
- 19) Approximate coal seam depths: N/A Is coal being mined in the area? Yes / No X /
- 20) CASING AND TUBING PROGRAM

RECEIVED

NOV 10 1982

OIL & GAS DIVISION
DEPT. OF MINES

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'	surface	Kinds
Fresh water	9 5/8			X		250'	250'	to surface	
Coal									Sizes
Intermediate	7"		23.48	X		2000	2000	to surface	
Production	4 1/2		10.5	X		5400	5400	275 sks	Depths set
Tubing									
Liners									Perforations: Top Bottom

- 21) EXTRACTION RIGHTS
Check and provide one of the following:
 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)
- 22) ROYALTY PROVISIONS
Is the right to extract, produce or market the oil or gas based upon a lease or other continuing contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes No
- If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.
- 23) Required Copies (See reverse side.)
- 24) Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

Notary:
My Commission Expires

Signed: Charleston B. Roberts
Its: Geologist

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-105-1011

November 16, 19 82
Date 01/12/2024

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 XXX July 16, 1983 unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond: <u>Blanket</u>	Agent: <u>OK</u>	Plat: <u> </u>	Casing: <u> </u>	Fee: <u>401</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.

01/12/2024

Date: _____, 19____

By _____

Its _____

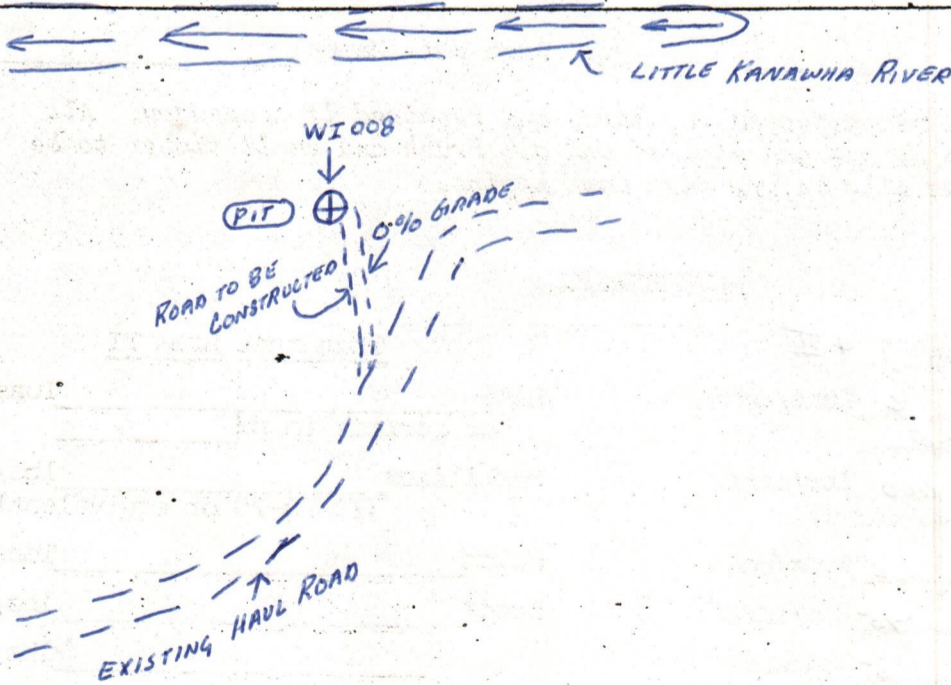
ATTACH OR PHOTOCOPY SECTION OF
INVOLVED TOPOGRAPHIC MAP.
QUADRANGLE KANAWHA

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—
Planned fence	—/—/—
Stream	~ ~ ~ ~
Open ditch	—...→—...→—...→—
Diversion	//////
Spring	○→
Wet spot	⊕
Building	■
Drain pipe	—○→○→○→
Waterway	←==→==→==→==



01/12/2024



DATE OCTOBER 25, 1982

WELL NO. WI 008

State of West Virginia

API NO. 47-105-1011

Department of Mines
Oil and Gas Division

CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME Bow Valley Petroleum, Inc.
Address 600 Commerce St.,
Charleston, WV
Telephone 304-344-8393

DESIGNATED AGENT W.E. Stover
Address Box 235
Culloden, WV
Telephone 304-562-3376

LANDOWNER Little Kanawha Company
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: 10-29-82 (Date)

Jarrett Newton
(SCD Agent)

ACCESS ROAD

LOCATION

Structure see topo map. (A)

Structure see topo map (1)

Spacing _____

Material _____

Page Ref. Manual _____

Page Ref. Manual _____

Structure _____ (B)

Structure _____ (2)

Spacing _____

Material _____

Page Ref. Manual _____

Page Ref. Manual _____

Structure _____ (C)

Structure _____ (3)

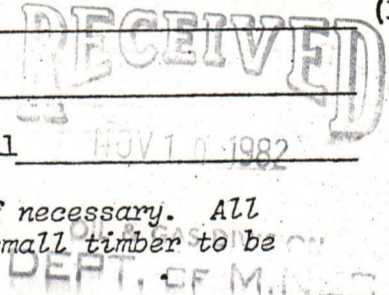
Spacing _____

Material _____

Page Ref. Manual _____

Page Ref. Manual NOV 11 1982

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

LOCATION
Treatment Area I + II

Treatment Area II

Lime 2 Tons/acre
or correct to pH 6.5

Lime _____ Tons/acre
or correct to pH _____

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

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

Mulch Hay 2 Tons/acre

Mulch _____ Tons/acre

Seed* KENTUCKY 31 FESCUE 45 lbs/acre

Seed* _____ lbs/acre

LADINO CLOVER 5 lbs/acre

_____ lbs/acre

Rye 5 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, III

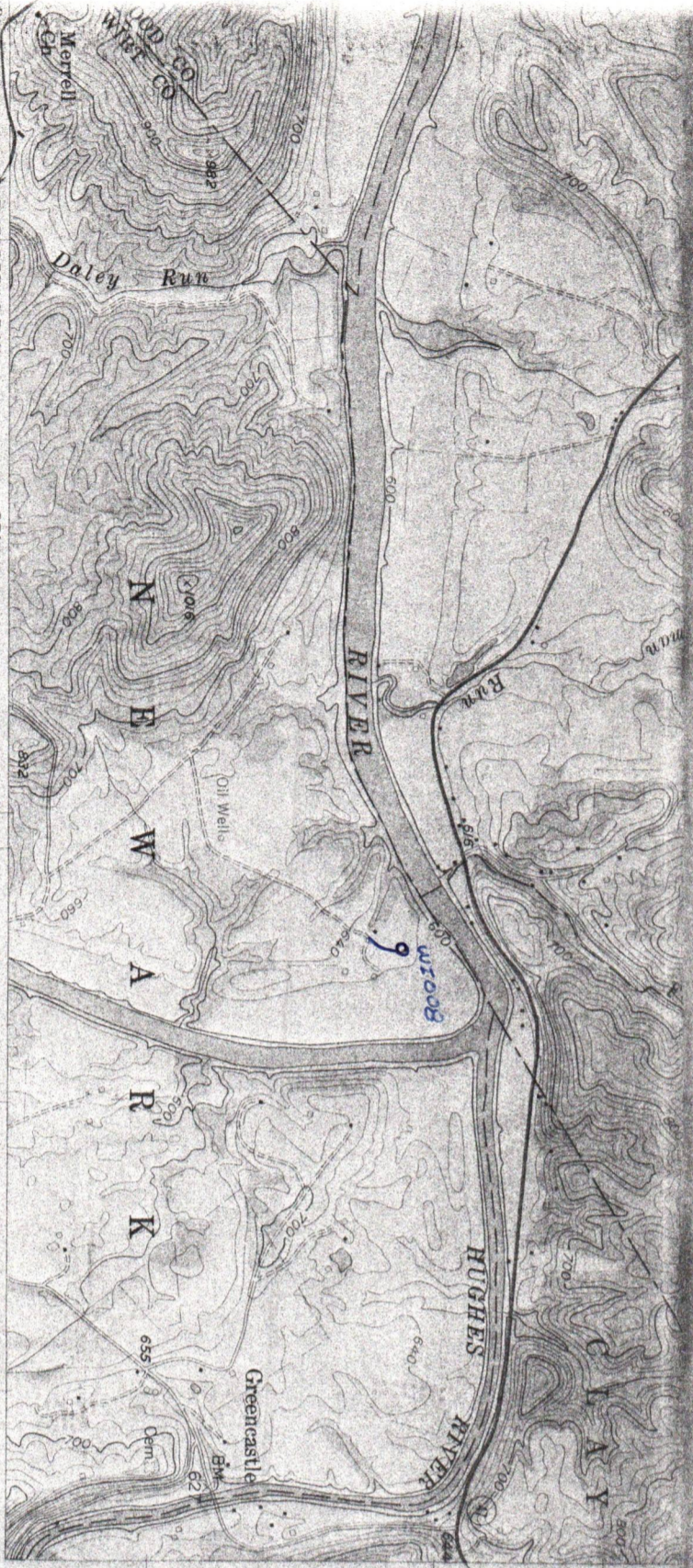
ADDRESS 600 Commerce St.

Charleston, WV

PHONE NO. 304-344-8393

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

24 000
 4000 5000 6000 7000 FEET
 1 KILOMETER
 1 MILE
 EQUAL 10 FEET
 TO SEA LEVEL



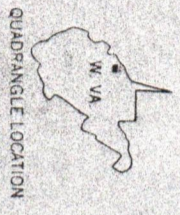
ROAD CLASSIFICATION
 Heavy-duty —————
 Unimproved dirt - - - - -
 Light-duty —————

U. S. Route State Route

KANAWHA, W. VA.
 NW 1/4 ELIZABETH IS. QUADRANGLE
 N3907.5—W8122.5/7.5

1957

AMS 4762 III. NW SERIES V854



KELLER'S PHOTOPRINT SERVICE CHARLESTON, W. VA.
 808 KANAWHA BLVD. E. BOX 289

DEPT. OF MINES
 OIL & GAS DIVISION
 RECEIVED
 NOV 1 1982

01/12/2024

1.23
BOOK 1100 PAGE 128

Lease No. 1931

#1931
RECEIVED

OIL AND GAS LEASE

AGREEMENT, made and entered into this 10TH day of DECEMBER NOV 10 1980 A. D. 1980
by and between LITTLE KANAWHA CO., A CORPORATION

OIL & GAS DIVISION
DEPT. OF MINES

of CHARLESTON, WEST VIRGINIA party of the first part, hereinafter called Lessor (whether one or more),
and RAY RESOURCES DIV. OF ROW 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 NEWARK District, County of WIRT, State of WEST VIRGINIA, and described as follows, to-wit: Bounded on the

NORTH by lands of LITTLE KANAWHA RIVER
EAST by lands of LITTLE KANAWHA RIVER
SOUTH by lands of WESTVACO-STEED
WEST by lands of F.W. WILYOTH
Containing TWO HUNDRED EIGHTY-SIX (286) 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 MARCH 10 1981, unless Lessee pays thereafter a rental of THREE HUNDRED FIFTY SEVEN AND 5/100 DOLLARS (\$357.50) for each THREE (3) 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 LITTLE KANAWHA CO. direct, or by check payable to his (or her) order mailed to P.O. BOX 304, PARKERSBURG, W.VA. 26101, 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 AS REQUIRED BY LAW FOR DEEP DRILLING 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 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 one of them, or to the heirs or assigns of any one of them by delivery of a duly executed surrender thereof in person or by mail 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. THE ROYALTY PAID UPON COMPLETION OF A PRODUCING WELL MUST ALWAYS AT LEAST EQUAL THE RENTAL PROVIDED IN CLAUSE FOUR (4) ABOVE.

1100-178

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.

IT IS AGREED THAT ANY PRODUCING WELL COMPLETED ABOVE THE CORNIFEROUS LIME SHALL HOLD ONE-FOURTH (1/4) ONLY OF THE ACREAGE HEREIN FREE FROM RENTAL

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

WITNESS:

LITTLE KANAWHA CO. (SEAL)
By: *John D. Amos, Pres.* (SEAL)
JOHN D. AMOS, PRESIDENT (SEAL)

_____ (SEAL)

WEST VIRGINIA ACKNOWLEDGMENT

THIS INSTRUMENT PREPARED BY THORN C. ROBERTS

STATE OF WEST VIRGINIA
COUNTY OF WIRT

To-wit:

I, THORN C. ROBERTS, a Notary Public of said County, do hereby certify that JOHN D. AMOS, WHO SIGNED THE NAME OF LITTLE KANAWHA CO., A CORPORATION, AS ITS PRESIDENT,

whose name signed to the within writing bearing date the 10TH day of DECEMBER, 1980

has 5 this day acknowledged the same before me in my said County.

Given under my hand this 10TH day of DECEMBER, 1980
Thorn C. Roberts
Notary Public

My Commission expires JUNE 23, 1982

WEST VIRGINIA ACKNOWLEDGMENT

STATE OF WEST VIRGINIA
COUNTY OF _____

To-wit:

I, _____, a Notary Public of said County, do hereby certify that _____

whose name signed to the within writing bearing date the _____ day of _____, 19____

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

Given under my hand this _____ day of _____, 19____

Notary Public

My Commission expires _____

OHIO ACKNOWLEDGMENT

STATE OF OHIO,
COUNTY OF _____

SS.

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

_____ who acknowledged

that he did sign the foregoing instrument, and that the same is _____ free act and deed. In testimony

whereof I have hereunto subscribed my name at _____, this _____

day of _____, 19____

My Commission expires _____

Notary Public

Globe Form 100 - Rev. (Standard Ohio & W. Va.)

Oil and Gas Lease 931

01/12/2024

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

Date: _____, 19____

Acres: _____

Location: _____

County: _____ State: _____

Term: _____

RECORDING DATA:

Received for Record on the 07 day of November 1980 at 8:30 clock AM.
Recorded in the Office of the Clerk of the County Commission of Wirt County, W. Va.
In Deed Book No. 100 at page 128
Barbara Chapman
Clerk Wirt County Commission
\$1.25 PAID

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

Well fraced in two stages; each stage consisting of 750,000 sft³ N₂, with 500 gallons of acid for initial breakdown.

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 & Clay			0	16	
Sand			16	88	
Red Rock & Shale			88	925	
Shale			925	1269	
Sand			1269	1420	
Shale			1420	1500	Encounter H ₂ O @1520'
Sand			1500	1794	
Shale			1794	5170	
Lime (Osgo)					

(Attach separate sheets as necessary)

Bow Valley Petroleum Inc.

Well Operator

By: Maurice Combs 01/12/2024

Date: December 21, 1982

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."

RECEIVED

OCT - 4 1983



State of West Virginia

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

Date December 21, 1982
Operator's Well No. WI-008
Farm Little Kanawha Co.
API No. 47 -105 - 1011

REVISED

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 628.62 Watershed Little Kanawha River
District: Newark County Wirt Quadrangle Kanawha 7.5'

COMPANY Bow Valley Petroleum, Inc.

ADDRESS 600 Commerce Sq. Charleston, WV.

DESIGNATED AGENT Robert Long

ADDRESS Culloden, WV.

SURFACE OWNER Little Kanawha Co.

ADDRESS Box 304 Parkersburg, WV. 26101

MINERAL RIGHTS OWNER Same

ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK Deo Mace

ADDRESS Sandridge, WV.

PERMIT ISSUED 11-14-82

DRILLING COMMENCED 11-17-82

DRILLING COMPLETED 12-1-82

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"	80.65'	80.65'	70sks.
9 5/8	260.30	260.30	125sks.
8 5/8			
7	1861.75	1861.75	125sks.
5 1/2			
4 1/2	5162.80	5162.80	305sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth feet

Depth of completed well 5188 feet Rotary X / Cable Tools

Water strata depth: Fresh 89' feet; Salt feet

Coal seam depths: N/A Is coal being mined in the area?

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth feet

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

Final open flow 120 Mcf/d Final open flow Show Bbl/d

Time of open flow between initial and final tests 24 hours

Static rock pressure 340 psig (surface measurement) after 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

13-4 DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

1st Stage (N₂ Frac)

Perforations Interval = 17 shots 4104'-5030'
 1,400,000 5ft³ of N₂, 1000 gallons HCL
 A.I.R. 62,000 SCF/M. Breakdown 2710.

2nd Stage (N₂ Frac)

Perforations Interval = 32 shots 3154'-3709'
 900,000 5ft³ of N₂, 1000 gallons HCL. Drop 20 perf balls
 ARI 54,000 SCF/M. Breakdown 2670'.

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 & Clay			0	16	
Sand			16	88	Water 89'
Red Rock & Shale			88	925	
Shale			925	1296	
Sand			1296	1420	
Shale			1420	1500	
Sand	White	Hard	1500'	1794	
Shale	Gray	Soft	1794	4720	
Shale	Black	Soft	4720	5170	
Electric Log Tops					
			Maxon	1376	1428
			Injun Sand	1428	1731
			Sunbury	2189	2207
			Chemung	2207	3449
			Marcellus	5102	5188

(Attach separate sheets as necessary)

BOW VALLEY PETROLEUM, INC.

Well Operator

By: Marvin Combs 01/12/2024

Date: December 21, 1982

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 all, encountered in the drilling of a well."

B-5

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

RECEIVED

NOV 23 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

INSPECTOR'S WELL REPORT

Permit No. 105-1011

Oil or Gas Well _____
(KIND)

Company Bow Valley
 Address _____
 Farm Little Kanawha Co
 Well No. W1-008
 District Newark County Wirt
 Drilling commenced _____
 Drilling completed _____ Total depth _____
 Date shot _____ Depth of shot _____
 Initial open flow _____ /10ths Water in _____ Inch
 Open flow after tubing _____ /10ths Merc. in _____ Inch
 Volume _____ Cu. Ft.
 Rock pressure _____ lbs. _____ hrs.
 Oil _____ bbls., 1st 24 hrs.
 Fresh water _____ feet _____ feet
 Salt water _____ feet _____ feet

CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
Size			
16			Kind of Packer _____
13			
10			Size of _____
8 1/4			
6 5/8			Depth set _____
5 3/16			
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED _____ SIZE _____ No. FT. _____ Date _____
 NAME OF SERVICE COMPANY _____
 COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
 _____ FEET _____ INCHES FEET _____ INCHES
 _____ FEET _____ INCHES FEET _____ INCHES

Drillers' Names Ray Resources #3

Remarks: In process of setting 84 ft of 13"

11-18-82
DATE

W J Mace 01/12/2024
DISTRICT WELL INSPECTOR

Form 26
2/16/82

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

INSPECTOR'S PLUGGING REPORT

Permit No. _____

Well No. _____

COMPANY _____ ADDRESS _____

FARM _____ DISTRICT _____ COUNTY _____

Filling Material Used _____

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

Drillers' Names _____

Remarks: _____

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

01/12/2024

DISTRICT WELL INSPECTOR

B-11

OK.

RECEIVED
OCT 25 1983

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

OIL & GAS DIVISION
DEPT. OF MINES

Permit No. 105-1011 County Wirt
Company Bow Valley Petroleum, Inc. District Newark
Inspector HOMER DOUGHERTY Farm Little Kanawha Co.
Date October 16, 1983 Well No. WI-008 Issued 11-16-82

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	✓	_____
7.05	Identification markings	✓	_____

COMMENTS: _____

Release

I have inspected the above well and have found it to be in compliance with the rules and regulations of the Office of Oil and Gas Department of Mines of the State of West Virginia, and the well can be released from the permitted work.

SIGNED: Homer H. Dougherty
DATE: 10/20/83

11/11/2023

01/12/2024

1.0 API well number: (If not available, leave blank. 14 digits.)	<u>47-105-1011</u>			
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	<u>107</u> Section of NGPA	<u>3</u> Category Code	MAR 2 1983	
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)	<u>5190</u> 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		040189 Seller Code	
	<u>600 Commerce Square</u> Street			
	<u>Charleston,</u> City	<u>WV</u> State	<u>25301</u> Zip Code	
5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)	<u>NIA</u> Field Name			
	<u>WIRT</u> County		<u>W.VA.</u> 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.)	<u>LITTLE KANAWHA Co. WI-008</u>			
(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 Name		04030 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>5.396</u>	<u>.806</u>	_____	<u>6.202</u>
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	<u>5.396</u>	<u>.806</u>	_____	<u>6.202</u>
9.0 Person responsible for this application:	Robert Hart Name _____ General Mgr. - V.P. Title _____			
Agency Use Only	<u>Robert Hart</u> Signature _____			
Date Received by Juris. Agency	<u>3-1-83</u> Date Application is Completed			
Date Received by FERC	<u>(304) 344-8393</u> Phone Number			

OIL & GAS DIVISION
DEPT. OF MINES

PARTICIPANTS:

DATE: JUN 20 1983

BUYER-SELLER CODE

WELL OPERATOR: Bow Valley Petroleum, Inc.

040189

FIRST PURCHASER: Columbia Gas Trans. Corp.

004030

OTHER:

Dev.

W. Va. Department of Mines, Oil & Gas Division
 WELL DETERMINATION FILE NUMBER
830302-107-105-1011
 Use Above File Number on all Communications
 Relating to Determination of this Well

QUALIFIED

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

ITEM NO.

- 1. FERC -121 Items not completed - Line No. 7.0 + 8.0 c
- 2. IV-1 Agent Robert N. Hart
- 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: 11-17-82 Date completed 12-1-82 Deepened
- (5) Production Depth: _____
- (5) Production Formation: Devonian Shale
- (5) Final Open Flow: 120 MCF
- (5) After Frac. R. P. 340# 24hrs.
- (6) Other Gas Test: _____
- (7) Avg. Daily Gas from Annual Production: _____
- (8) Avg. Daily Gas from 90-day ending w/1-120 days _____
- (8) Line Pressure: _____ PSIG from Daily Report _____
- (5) Oil Production: _____ From Completion Report _____
- 0-17. Does lease inventory indicate enhanced recovery being done NO
- 0-17. Is affidavit signed? Notarized?
- Does official well record with the Department confirm the submitted information? YES 01/12/2024
- Additional information _____ Does computer program confirm? _____
- as Determination Objected to _____ By Whom? _____

Operator's Well No. WI-008
API Well No. 47 - 105 - 1011
State _____ County _____ Permit _____
Previous File No. _____ (If Applicable)

STATE APPLICATION FOR WELL CLASSIFICATION

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

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

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

Meter Chart Code _____
Name of First Purchaser Columbia Gas Transmission Corporation
Box 1273
Charleston (Street or P. O. Box) 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 3 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 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

MAR 2 1983

Date received by Jurisdictional Agency

Director _____
By [Signature] Title _____
01/12/2024

WELL CLASSIFICATION FORM

HIGH COST GAS WELL - DEVONIAN SHALE

NGPA Section 107

DESIGNATED AGENT R. N. Hart

ADDRESS 600 Commerce Square
Charleston, W.V. 25301

LOCATION Elevation 628.62
Watershed LITTLE KANAWHA RIVER
Dist. NEWARK County WIET Quad KANAWHA

WELL OPERATOR Bow Valley Petroleum
ADDRESS 600 Commerce Square
Charleston, W.V. 25301

GAS PURCHASER Columbia Gas Transmission
ADDRESS Box 1273
Charleston W.V. 25325

Gas Purchase
Contract No. _____

Meter Chart Code _____

Date of Contract _____

* * * * *

Date surface drilling began: 11-17-82

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

$BHP_2 = PWH + PWH \left[\frac{(0.0000347 \text{ G L})}{2.71828} - 1 \right]$ WHERE

0.0000347 IS A FACTOR TAKING INTO ACCOUNT
TEMPERATURE AND SUPERCOMPRESSIBILITY.

$BHP_2 = 390.1$

- PWH - WELL HEAD PRESSURE
- L - DEPTH TO MIDDLE OF PRODUCING FORM.
- G - SPECIFIC GRAVITY OF THE GAS
- TWH - TEMPERATURE AT WELL HEAD °F
- TBH - TEMPERATURE BOTTOM HOLE °F

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 in subparagraph (3)(1) 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 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 1st day of March, 1983, has acknowledged the same before me, in my county aforesaid.

01/12/2024

Given under my hand and official seal this 1st day of March, 1983.
My term of office expires on the 25th day of July, 1988.

(NOTARIAL SEAL)

Helen Mae Snodgrass
Notary Public

01/12/2024

<p>1.0 API well number: (If not available, leave blank. 14 digits.)</p>	<p style="font-size: 1.2em; font-weight: bold;">47-105-1011</p>												
<p>2.0 Type of determination being sought: (Use the codes found on the front of this form.)</p>	<p style="font-size: 1.2em; font-weight: bold;">103</p> <p>Section of NGPA</p>		<p>Category Code</p>										
<p>3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)</p>	<p style="font-size: 1.2em; font-weight: bold;">5190</p> <p>feet</p>												
<p>4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)</p>	<p>Bow Valley Petroleum, Inc.</p> <p>Name</p> <p>600 Commerce Square</p> <p>Street</p> <p>Charleston, WV 25301</p> <p>City State Zip Code</p>		<p>040189</p> <p>Seller Code</p>										
<p>5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)</p>	<p style="font-size: 1.2em; font-weight: bold;">N/A</p> <p>Field Name</p> <p style="font-size: 1.2em; font-weight: bold;">WIRT</p> <p>County</p> <p style="font-size: 1.2em; font-weight: bold;">W. VA.</p> <p>State</p>												
<p>(b) For OCS wells:</p>	<p>Area Name</p> <p>Block Number</p> <p>Date of Lease:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> </tr> <tr> <td style="text-align: center; font-size: 0.8em;">Mo.</td> <td style="text-align: center; font-size: 0.8em;">Day</td> <td style="text-align: center; font-size: 0.8em;">Yr.</td> <td colspan="2" style="text-align: center;">OCS Lease Number</td> </tr> </table>								Mo.	Day	Yr.	OCS Lease Number	
Mo.	Day	Yr.	OCS Lease Number										
<p>(c) Name and identification number of this well: (35 letters and digits maximum.)</p>	<p style="font-size: 1.2em; font-weight: bold;">LITTLE KANAWHA Co. WI-008</p>												
<p>(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)</p>	<p>_____</p>												
<p>6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)</p>	<p>Columbia Gas Transmission Corp</p> <p>Name</p>		<p>04030</p> <p>Buyer Code</p>										
<p>(b) Date of the contract:</p>	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> <td style="border: 1px solid black; width: 15px; height: 15px;"></td> </tr> <tr> <td style="text-align: center; font-size: 0.8em;">Mo.</td> <td style="text-align: center; font-size: 0.8em;">Day</td> <td style="text-align: center; font-size: 0.8em;">Yr.</td> <td colspan="2"></td> </tr> </table>								Mo.	Day	Yr.		
Mo.	Day	Yr.											
<p>(c) Estimated annual production:</p>	<p>_____ MMcf.</p>												
<p>7.0 Contract price: (As of filing date. Complete to 3 decimal places.)</p>	<p style="font-size: 1.2em; font-weight: bold;">2.698</p>	<p style="font-size: 1.2em; font-weight: bold;">403</p>	<p style="font-size: 1.2em; font-weight: bold;">3.101</p>										
<p>8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)</p>	<p style="font-size: 1.2em; font-weight: bold;">2.698</p>	<p style="font-size: 1.2em; font-weight: bold;">403</p>	<p style="font-size: 1.2em; font-weight: bold;">3.101</p>										
<p>9.0 Person responsible for this application:</p>	<p>Robert Hart</p> <p>Name</p> <p style="font-size: 1.2em; font-weight: bold;">Robert Hart</p> <p>Signature</p> <p style="font-size: 1.2em; font-weight: bold;">3-1-83</p> <p>Date Application is Completed</p>												
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="font-size: 0.8em;">Agency Use Only</td> </tr> <tr> <td style="font-size: 0.8em;">Date Received by Juris. Agency</td> </tr> <tr> <td style="font-size: 1.2em; font-weight: bold; text-align: center;">MAR 2 1983</td> </tr> <tr> <td style="font-size: 0.8em;">Date Received by FERC</td> </tr> </table>	Agency Use Only	Date Received by Juris. Agency	MAR 2 1983	Date Received by FERC	<p>General Mgr. -V.P.</p> <p>Title</p>		<p>(304) 344-8393</p> <p>Phone Number</p>						
Agency Use Only													
Date Received by Juris. Agency													
MAR 2 1983													
Date Received by FERC													

01/12/2024

U.S. DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission
Washington, D.C. 20426

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)
(Sections 102, 103, 107 and 108)

PLEASE READ BEFORE COMPLETING THIS FORM:

General Instructions:

Complete this form if you are applying for price classification under sections 102, 103, 107 or 108 of the NGPA. A separate application is required for each well. If any reservoir qualifies for a category which differs from the category applicable to the producing well, separate applications must be made for the producing well and the reservoir. Complete each appropriate item on the reverse side of this page. The code numbers used in items 4.0 and 6.0 can be obtained from the Buyer/Seller Code Book. If there is more than one purchaser or contract, identify the additional information in the space below. Enter any additional remarks in the space below.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 270.103. If there are any questions, call (202) 275-4539.

Specific Instructions for Item 2.0, Type of Determination:

<u>Section of NGPA</u>	<u>Category Code</u>	<u>Description</u>
102	1	New OCS Lease
102	2	New onshore well (2.5 mile test)
102	3	New onshore well (1,000 feet deeper test)
102	4	New onshore reservoir
102	5	New reservoir on old OCS Lease
103	-	New onshore production well
107	-	High cost natural gas
108	-	Stripper well

Other Purchasers/Contracts:

<u>Contract Date</u> (Mo. Day Yr.)	<u>Purchaser</u>	<u>Buyer Code</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Remarks:

01/12/2024

PARTICIPANTS:

DATE: JUN 20 1983

BUYER-SELLER CODE

WELL OPERATOR: Bow Valley Petroleum, Inc.

040189

FIRST PURCHASER: Columbia Gas Trans. Corp.

007030

OTHER:

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

830302-103-105-1011

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

APPROVED

JUN -7 1984

CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING

- ITEM NO. 1. FERC -121 Items not completed - Line No. 7.0 + 8.0
- 2. IV-1 Agent Robert N. Heart
- 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: 11-17-82 Date completed 12-1-82 Deepened
- (5) Production Depth: _____
- (5) Production Formation: Devonian Shale
- (5) Final Open Flow: 120 MCF
- (5) After Frac. R. P. 340# 24 hrs.
- (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 NO
- 10-17. Is affidavit signed? Notarized?
- Does official well record with the Department confirm the submitted information? yes
- Additional information _____ Does computer program confirm? _____
- Was Determination Objected to _____ By Whom? _____

01/12/2024

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

Date 3-1- 1983

Operator's Well No. WI-008
API Well No. 47 - 105 - 1011
State _____ County _____ Permit _____

WELL CLASSIFICATION FORM
NEW ONSHORE PRODUCTION WELL
NGPA Section 103

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

WELL OPERATOR Bow Valley Petroleum Inc
ADDRESS 600 Commerce Sq.
Charleston, WV 25201

LOCATION: Elevation 628.62
Watershed LITTLE KANAWHA RIVER
Dist NEWARK County WIRT Quad KANAWHA 7.5'

GAS PURCHASER Columbia Gas Trans. Corp.
ADDRESS Box 1273
Charleston, WV 25325

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

* * * * *

Date surface drilling was begun: 11-17-82

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

$$BHP_2 = PWH + PWH \left[\frac{(0.0000347 \text{ G L})}{2.71828} - 1 \right] \text{ WHERE}$$

0.0000347 IS A FACTOR TAKING INTO ACCOUNT TEMPERATURE AND SUPERCOMPRESSIBILITY.

$$BHP_2 = \underline{390.1}$$

- PWH - WELL HEAD PRESSURE
- L - DEPTH TO MIDDLE OF PRODUCING FORM.
- G - SPECIFIC GRAVITY OF THE GAS
- TWH - TEMPERATURE AT WELL HEAD OF
- TBH - TEMPERATURE BOTTOM HOLE OF

AFFIDAVIT

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

Marvin Combs

STATE OF West Virginia
COUNTY OF Kanawha TO WIT:

I, Helen Mae Snodgrass a Notary Public in and for the state and county aforesaid, do certify that Marvin Combs, whose name is signed to the writing above, bearing date the 1st day of March, 1983, has acknowledged the same before me, in my county aforesaid.

Given under my hand and official seal this 1st day of March, 1983.

My term of office expires on the 25th day of July, 1988.

01/12/2024

Helen Mae Snodgrass
Notary Public

[NOTARIAL SEAL]



IV-35
(Rev 9-81)

Date December 21, 1982
Operator's
Well No. WI-008
Farm Little Kanawha Co.
API No. 47 - 105 - 1011

State of West Virginia
Department of Mines
Oil and Gas Division

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

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

LOCATION: Elevation: 628.62 Watershed Little Kanawha River
District: Newark County Wirt Quadrangle Kanawha 7.5'

COMPANY Bow Valley Petroleum Inc.
ADDRESS 600 Commerce Sq. Charleston, WV 25301
DESIGNATED AGENT W. E. Stover
ADDRESS Culloden, WV.
SURFACE OWNER Little Kanawha Co.
ADDRESS Box 304 Parkersburg, WV 26101
MINERAL RIGHTS OWNER Same
ADDRESS
OIL AND GAS INSPECTOR FOR THIS WORK Deo
Mace ADDRESS Sandridge, WV
PERMIT ISSUED 11-14-82
DRILLING COMMENCED 11-17-82
DRILLING COMPLETED 12-1-82
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"	80.65	80.65	70 sks
9 5/8	260.30	260.30	125 sks.
8 5/8			
7	1861.75	1861.75	125 sks.
5 1/2			
4 1/2	5162.80	5162.80	305 sks.
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth feet
Depth of completed well 5200 feet Rotary X / Cable Tools
Water strata depth: Fresh 89' 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 feet
Gas: Initial open flow show Mcf/d Oil: Initial open flow Bbl/d
Final open flow .120 Mcf/d Final open flow show Bbl/d
Time of open flow between initial and final tests 24 hours
Static rock pressure 340 psig (surface measurement) after hours shut in
(If applicable due to multiple completion--)
Second producing formation Pay zone depth feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
Final open flow Mcf/d Oil: Final open flow Bbl/d
Time of open flow between initial and final tests hours
Static rock pressure psig (surface measurement) after hours shut in

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(Continue on reverse side)

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

Well fraced in two stages; each stage consisting of 750,000 sft³ N₂, with 500 gallons of acid for initial breakdown.

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 & Clay			0	16	
Sand			16	88	
Red Rock & Shale			88	925	
Shale			925	1269	
Sand			1269	1420	
Shale			1420	1500	Encounter H ₂ O @1520'
Sand			1500	1794	
Shale			1794	5170 T.D.	
Lime	LC				

(Attach separate sheets as necessary)

Bow Valley Petroleum Inc.

Well Operator

By: *Morris Campbell*

Date: December 21, 1982

01/12/2024

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."

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 5500'

WELL OPERATOR BOW VALLEY PETRO. INC. DESIGNATED AGENT W.E. STOVER

ADDRESS 600 COMMERCE SQUARE ADDRESS BOX 235

CHARLESTON, WVA 25301

CULLODEN WVA 25510

01/12/2024

B-12



State of West Virginia

Department of Mines

Charleston 25305

JOHN D. ROCKEFELLER, IV.
Governor

WALTER N. MILLER
Director

November 18, 1983

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-1011	Little Kanawha Company, #WI-008	Newark
WIRT-1013	W.Va. Pulp & Paper/Glen W. Roberts Estate, #WI-014	Newark

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

Very truly yours,

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

TMS/r1

01/12/2024

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.: 47-105-1011

Well Name: LITTLE KANAWHA Co. WI-001

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

County: WIRT

Vol. Page Line

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

II. Gamma Ray elevation indices:

A. Shale Base Line (API Units)

1. GR Value at Base Line = 130 * API Units
2. Remarks:

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

1. GR Value = 130 * API Units
2. Calculation: $0.7 \text{ (GR Value at Base Line)}$
 $0.7 \text{ (130 *)} = \underline{91}$ 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>5172'</u>	<u>2212'</u>	<u>2,960'</u>	<u>8'</u>

Total Devonian Interval 2,960

Total Less Than 0.7 (Shale Base) 8'

% Less Than 0.7 (Shale Base Line) = $\frac{8}{2960} \times 100 = \underline{.270\%}$

*Marked on log included with analysis.

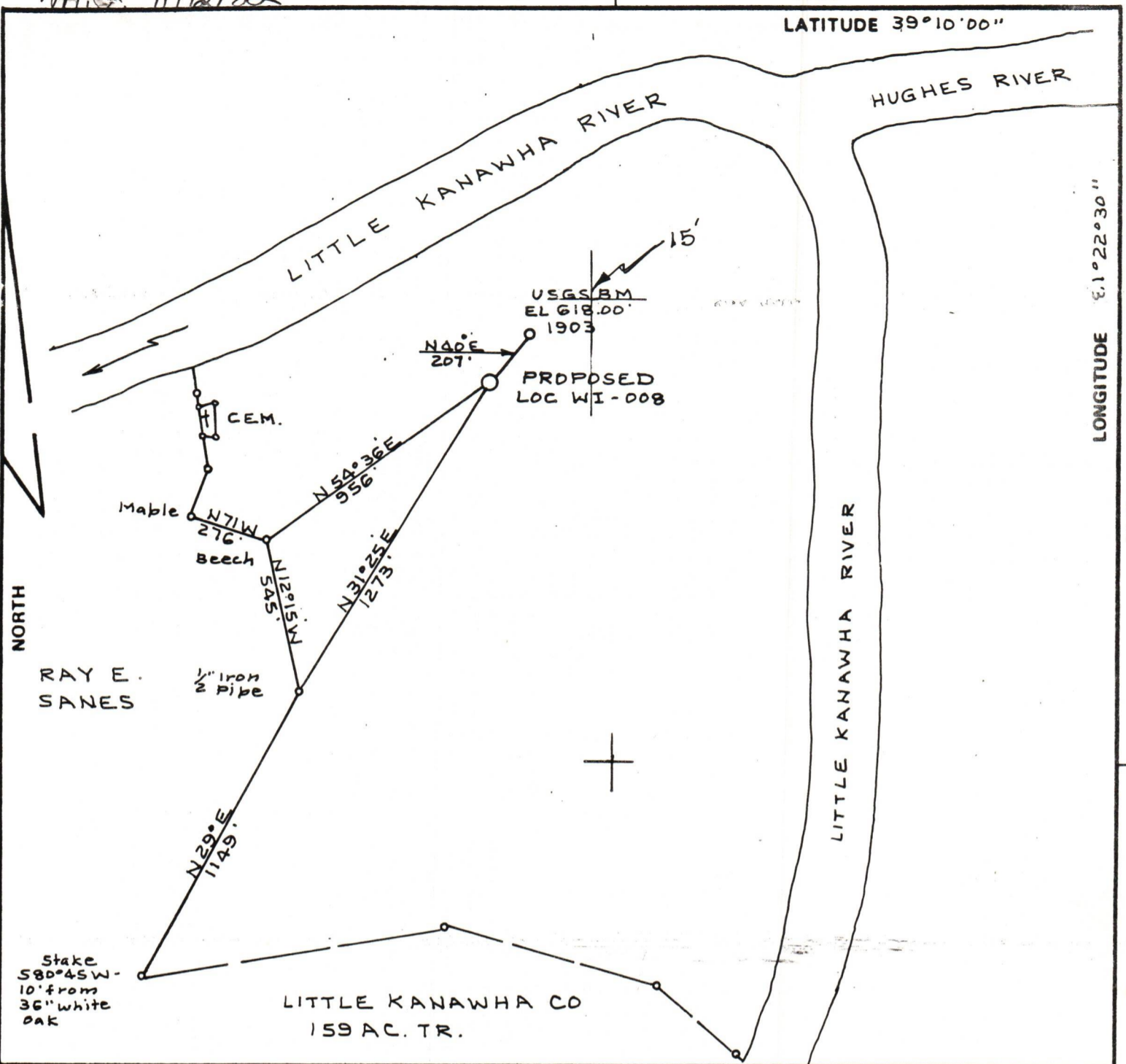
**Top of Devonian Section Recorded on First Interval in this Column.

***Lesser of TD or Bottom of Devonian Section Recorded as last Interval in this Column.

01/12/2024

M.E. 11/12/82

7100' LATITUDE 39°10'00"



LONGITUDE E. 1° 22' 30"

10,600'

FILE NO. BK 73 PG 14
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1-200
 PROVEN SOURCE OF ELEVATION USGS BM
207' N.E. LOC EL 618.0'

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.
 (SIGNED) C. S. Volney Jr
 R.P.E. _____ E.L.S. 92

PLACE SEAL HERE

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



DATE OCT 30, 1982
 OPERATOR'S WELL NO. WI-008
 API WELL NO. _____
47 - 105 - 1011
 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 628.62 WATERSHED LITTLE KANAWHA RIVER
 DISTRICT NEWARK COUNTY WIRT
 QUADRANGLE KANAWHA 7.5'
 SURFACE OWNER LITTLE KANAWHA CO. ACREAGE 123 AC TR
 OIL & GAS ROYALTY OWNER LITTLE KANAWHA CO LEASE ACREAGE 282
 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) _____

01/12/2024

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 5500'
 WELL OPERATOR BOW VALLEY PETRO, INC. DESIGNATED AGENT W.E. STOVER
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