



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

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The requirement of (Code 22-4-1-(c) (1)) through	(4). (Se	ee reverse side fo	or specifics.)		M Sasing
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ne answer above is No, nothi	ng additional is n	eeded. If	the answ	ver is Yes, you r	nay use Affidavit	Form IV-60.	plam o)
Required Copies (See revers	e side.)						
Copies of this Permit Appli named coal operator, coal of Mines at Charleston, West	owner(s), and coal	closed pla	it and re	clamation plan l	have been mailed l	by registered mail or del	ivered by hand to the
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NOTE: Keep one copy of this permit posted at the drilling location.

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 then 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).

Date:

- 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.
 - 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 amined this proposed well location. If a mine map exists which covers the are added to the mine map. The undersigned has no objection to the work proposerator has complied with all applicable requirements of the West Virgini	osed to be done at this location, provided, the well
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Its

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

1.) Kirchner tract is located in Spring Creek District of Wirt County West Virginia, containing 714 acres more or less and bounded on the

North by Lee Heirs, Hickman East by Simmons, Boggs South by Simmons Heirs West by Dotson, Cline Heirs

2.) Lessor - Glen W. Roberts (deceased) Dorothy Parks Roberts (his wife)

Lessee - Flying Diamond Oil Corporation
Bow Valley Petroleum is successor in interest.

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

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

Dennis K. Dangler

Land Manager





DATE	November !	18, 1982
	NO. WIOL	

State of Mest Mirginia API NO. 47 - 105 -

Bepartment of Mines Gil und Gas Pivision

CONSTRUCTION AND	RECLAMATION PLAN
COMPANY NAME BOW VALLEY PETROLEUM INC.	DESIGNATED AGENT W.E. STOVER
600 Commedee So.	Address Couopen, wv
Telephone 304-344-8393	Telephone 304-562-3376
	SOIL CONS. DISTRICT LITTLE KANAWAN
LANDOWNER WESTVACO CORA	
Revegetation to be carried out by Bow	ALLEY TOTALLE DAY, THE
This plan has been reviewed by 1,44	
and additions become a part of this plan:	(Date)
Q_{a}	rrett Newton
	(SCD Agent)
ACCESS ROAD	LOCATION
Structure No Auess Rono Nego (A)	Structure <u>see sketch</u> (1)
	Material
Spacing BE CONSTRUCTED	
Page Ref. Manual	Page Ref. Manual
Structure (B)	Structure MTCTTTTT (2
	Water of The State of
Spacing	Material NOV 2 3 1982
Page Ref. Manual	Page Ref. Manual
Structure . (C)	Structure Oil & GAS DIVISION (3
	Material
Spacing	to the profit or some section of the
Page Ref. Manual	Page Ref. Manual
All structures should be inspected regi	clarly and repaired if necessary. All
commercial timber is to be cut and stacked cut and removed from the site before dire	t work begins.
	1447
REVEG	TATION
Wrostmont Area Tid	Treatment Area II
Lime Treatment Area I M Tons/acre	Lime Tons/acre
or correct to pH 6.5	or correct to pH
Fertilizer · 600 lbs/acre	Fertilizer lbs/acre
(10-20-20 or equivalent)	(10-20-20 or equivalent) Mulch Tons/acre
Mulch Hay Z Tons/acre	
Seed* Kentucky 31 Foscoe 45 lbs/acre	Seed* lbs/acre
LADINO CLOVER 3 lbs/acre	lbs/acre
Rym 3 lbs/acre	
*Inoculate all legumes such as vetch, tr Inoculate with 3X recommended amount.	efoil and clovers with the proper bacterium. 01/12/2024
PL	AN PREPARED BY WILLIAM F. HENRICUS, III
NOTES: Please request landowners'	ADDRESS 600 Commerce So.
cooperation to protect new seedling for one growing season.	CHARLESTON, WY
Attach separate sheets as	PHONE NO. 304-344-8393
necessary for comments.	I HOND HO, 304-374-6013

ATTACH OR PHOTOCOPY SECTION OF INVOLVED TOPOGRAPHIC MAP.

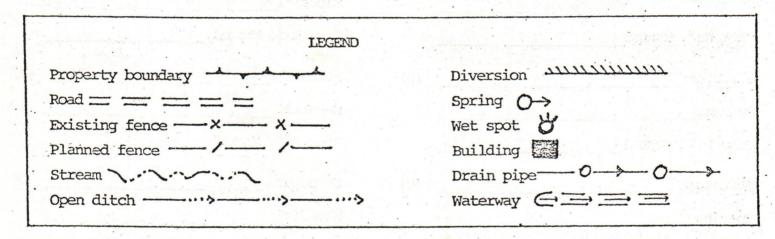
QUADRANGLE BURNING SPRINGS

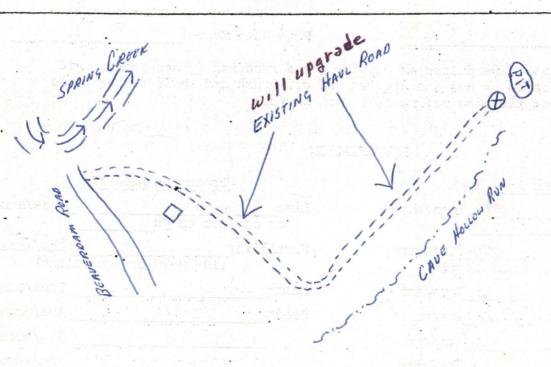
Well Site Access Road ———

LOCATION IS ON A RELATIVELY
FLAT RIDGE TOP ADSALENT TO
AN EXISTING HAVE ROAD WHICH
WILL BE UNGRADED.

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.







IV-35 (Rev 8-81)





OIL & GAS DIVISION State of Mest Airginia DEPT. OF MINES Department of Mines Wil und Vas Aivision

Date Decemi		_
Operator's Well No.	WI018	
Farm Rober	ts	_
API No.47	_ 105 _ 1023	

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

LOCATION: Elevation: 1022.76 Watershed Ca	ave Hollow o	of Beaver D	am	
District: Spring Creek County Wirt		Quadrangle	e Burning	Springs
				6380
				-
COMPANYBow Valley Petroleum, Inc.		-		Cement
ADDRESS600 Commerce Sq., Charleston, WV.	Casing	Used in	Left	fill up
DESIGNATED AGENT Robert Long	Tubing	Drilling	in Well	Cu. ft.
ADDRESS Box 235, Culloden, WV.	Size			
SURFACE OWNER Westvaco	20-16 Cond.			
ADDRESS Parkersburg, WV.	13-10"	19.90	19.90	15sks
MINERAL RIGHTS OWNER Glen W. Roberts Estate	9 5/8	2255.45	255.45	85sks
ADDRESS Elizabeth, West Virginia	8 5/8			
OIL AND GAS INSPECTOR FOR THIS WORK Deo	7	2161.32	2161.32	175sks
Mace ADDRESS Sandridge, WV.	5 1/2			:
PERMIT ISSUED November 30,1982	4 1/2	5604.15	5604.15	260sks
DRILLING COMMENCED December 20,1982	3			
DRILLING COMPLETED January 10,1983	2		1 45 kg	
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON	Liners used			
GPOLOGICAL TARGET FORMATION Devonian Shale		Den	th 2560'-	5600' fee
	Rotary X			
	Salt None			
		being min		22022
Coal seam depths: None	_ IS COAL	being nun	ed III die	atea:
OPEN FLOW DATA				
Producing formation Devonian Shale	Pa	y zone dep	th 2926'-	5454! fee
Gas: Initial open flow Show Mcf/d	Oil: In	itial open	flow_	Bbl/
Final open flow 223 Mcf/d	Fi	nal open f	low	Bb1/
Time of open flow between ini	tial and f	inal tests	h	ours
Static rock pressure 560 psig(surfa	ce measure	ment) afte	r 12 hou	urs shut i
(If applicable due to multiple completion	n)		.04	14.0.1000.4
Second producing formation_	Pa	y zone dep	oth	/12/2024 fee
	Oil. To	itial open	flow	Bb1/
Gas: Initial open flowMcf/d	OII: III			

11RT 1023

(Continue on reverse side)

(REVERSE)

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

1st State No Frac. Perforation Intervals 1,000 gal of HCL, 15% 3834-5454' (26 holes)

No pumped = 1,073,000 scf. Max.pressure = 2850#, Min.pressure=2300#. Injection Rate=41,300 scf-min. Partial Ballout

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

WELL LOG

	,		REMARKS.
ORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	
Top Soil Red Rock Slate Black Slate Shale Sand Gray Hard Shale Gray Soft Sandy Shale Gray Soft Sandy Shale Brown Soft	0 15 130 250 386 475 550 2570 2700 2800 2900 3800 4100 4200	15 130 250 386 475 550 2570 2700 2800 2900 3800 4100 4200 5600 T.D.	ELECTRIC LOG TOPS Gbr.Lime = 1796'-2005' Injun Sand = 2005-2100' Weir Shale = 2100'-2460' Sunbury Shale = 2460'2506' Dev.Shale = 2506-5600'
			As the second of the second
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a feet the same			
		and the second	
			MR. A. Sell Exerts St. F.
The state of the state of the state of the			The second of th
			The state of the s

(Attach separate sheets as necessary)

Bow Valley Petroleum,	Inc.
Well Operator	
By: Marin	Ombs 01/12/2024
Date: 12/19/	183

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 contains, encountered in the drilling of a well."

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

Received

JAN4 - 1983

OIL AND GAS DIVISION WY DEPARTMENT OF MINES

INSPECTOR'S WELL REPORT

Oil or Gas Well (KIND)								
Company Bow Valley	CASING AND	USED IN DRILLING	LEFT IN	PACKERS				
Address	Size		35. 2.7.8	The same and the same and				
Farm Broberty	16			Kind of Packer				
Well No. 41 0/8	13							
District Spring Creek County Wit	81/4			Size of				
rilling commenced	65%		- 11 (1 (a) - 20) - 190	Depth set				
rilling completedTotal depth	5 3/16		y go esc	and the mean region were recovered and reserve				
ate shotDepth of shot	32		. 3	Perf. top				
itial open flow/10ths Water inInch	Liners Used			Perf. bottom				
pen flow after tubing/10ths Merc. inInch				Perf. bottom				
olumeCu. Ft.	CASING CEMEN	TED	SIZE	No. FTDate				
ck pressurelbshrs.				No. FTDate				
bbls., 1st 24 hrs.	COAL WAS ENC	OUNTERED A	T1	FEETINCHES				
sh waterfeetfeet	FEET_	INCHE	5I	FEETINCHES				
t waterfeetfeet	FEET_		magnet o matematics of the					
llers' Names Doy Resources # 1	4							
narks:				i				
Die Shut down for c	acation.							

12-28-82

Un mar

01/12/2024

STATE OF WEST VIRGINIA

DEPARTMENT OF MINES

OIL AND GAS WELLS DIVISION

INSPECTOR'S PLUGGING REPORT

Permit No.				W	ell No			
COMPANY	3 10 10		ADDRESS	and the second and the second and the second				
FARMDISTRICTCOUNTY								
Pilling Material Used	1.334				V 4 2 2	14 NO 142 NO 144 NO		
iner Lo	cation	Amour	Packer Packer	Location	n			
PLUGS USED	AND DEPTH PLACED		BRIDGES	CASI	NG AND TI	JBING		
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LUCATIO		SIZE	LOST		
				ANTE L				
1950								
				James 1010 Town		min garas		
			· · · · · · · · · · · · · · · · · · ·	long to direll.	all and an interest section.	30		
			keril eremit sant i	ong W. advice.	Carl Carlotte and A	March 1974		
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			essent of the Section			- Change A La		
em6	V 54 A	vice cospi	438 90 80 AV wet	201		410 Å		
	A H - BORRER M ROMANIA	11 - 12 - 14 - 14 - 14 - 14 - 14 - 14 -						
830-31	34,	COUNTERF S	7.1 7.8 7.1	10.0		9.23		
rillers' Names	51	10ML		*1967				
221136	201	HONLL	7271			and the state of the		
emarks:								

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

DATE

STATE OF WEST VIRGINIA

DEPARTMENT OF MINES



JAN 1 1 1983

DISTRICT WELL INSPECTOR

INSPECTOR'S WELL REPORT

OIL AND GAS DIVISION WY DEPARTMENT OF MINES

Permit No. 105 - 1023			Oil o	r Gas Well
Company Baw Valley	CASING AND TUBING	USED IN DRILLING	LEFT IN	PACKERS
Address	Size		u ^a ja a kala ya ya ya	
Farm Doberts	16		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Kind of Packer
Well No_ 41018	13			
District Spin Creek County Will	81/4			Size of
Drilling commenced	65%		x x x x x x x x x x x x x x x x x x x	Depth set
Drilling completedTotal depth	5 3/16		. 18	nga mangjir. In as jang sanggrap
Date shotDepth of shot	3		e e de de la constante de la c	Perf. top
nitial open flow/10ths Water inInch	Liners Used			Perf. bottom
Open flow after tubing/10ths Merc. inInch				Perf. bottom
ock pressurelbshrs.	NAME OF SERV			No. FTDate
ilbbls., 1st 24 hrs.	COAL WAS ENC	OUNTERED A	T]	FEETINCHES
esh waterfeetfeet	FEET_	INCHE	SI	FEETINCHES
lt waterfeetfeet	FEET_	INCHE	5F	FEETINCHES
rillers' Names Ray Des. 14				
marks: Aprox. 310' of 93/8" case	i - m 1	ecad		
2144 of 7" 1-5-83	· Dow	-300		
3265 Today				

DATE

STATE OF WEST VIRGINIA

DEPARTMENT OF MINES

OIL AND GAS WELLS DIVISION

INSPECTOR'S PLUGGING REPORT

COMPANY	ca so iiO	wedles	ADDRE	SS	The State of the S	e. Trophys explicits on	
ARM	NYTHERE WE KEE WE HAVE THE WATER THE PROPERTY OF THE PROPERTY	DISTRI	СТ	CC	UNTY		
illing Material Used	.1.579	W. 3.11804	4.5(4.3)			Now you have been	
iner L	ocation	Amoun	to an an arrange of the state o	Packer	Location	No main mets	a commence of the second
PLUGS USED	AND DEPTH PLACED		and the second s	RIDGES	CASING AND TUBING		
CEMENT-THICKHESS	WOOD-SIZE	LEAD	CONSTRUC	TION-LUCATION	RECOVERED	SIZE	LOST
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llers' Names	HES PYN	OWL	THE RESIDENCE OF THE		\$493 L		3 3 5 WW
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marks:	and the same of th		and the second s				pam x 14 at
			when spirit in the Real Property and its first in the second			The state of the Application of the state of	A STATE OF THE STA

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

01/12/2024

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.	105-1023	County Wir &		
Company Bo	11 11 04.1	Farm Glen Robe	erts es	ti
Inspector	Homes the Doughester	Well No. 0/8		
Date //	5/4/83			
			IN COMP	LIANCE
RULE	DESCRIPTION		Yes	No
23.06	Notification Prior to starting	Work		
25.04	Prepared before Drilling to pre	vent waste	«положено-парам»	
25.03	High-Pressure Drilling			
16.01	Required Permits at wellsite			-
15.03	Adequate Fresh Water Casing		wholespergrade constitution	
15.02	Adequate Coal Casing			
15.01	Adequate Production Casing			
15.04	Adequate Cement Strength			
23.02	Maintained Access Roads		V	
25.01	Necessary Equipment to prevent	Waste	V	
23.03	Reclaimed Drilling Site			
23.04	Reclaimed Drilling Pits		V	-
23.05	No surface or underground Pollu	tion	V	-
7.03	Identification Markings		V	
COMMENTS:				
		-		
1		L Val		
		Jack		
THE RESERVE THE PARTY OF THE PA		The second secon		

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.



State of West Virginia

Bepartment of Mines

Charleston 25305 January 11, 1984 WALTER N. MILLE Director

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

JOHN D. ROCKEFELLER, IV.

Governor

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:

PERMIT NUMBER	FARM AND WELL NUMBER		DISTRICT
WIRT-1022	WEstvaco/G. Roberts # WI-017		Spring Creek
WIRT-1023	Westvaco/G. Roberts # WI-018		Spring Creek
WIRT-1924	W.Va. Pulp & Paper/G. Roberts	# WI-015	Newark

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

Very truly yours,

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

TMS/rl

(If not available, feeve blank, 14 digits.)	i	47	-105-	1023 P	3
2.0 Type of determination being sought: {Use the codes found on the front of this form.}		107 Section of	7	Carron, Co.	E VEI
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)			560	O :re:	7 - 5 1984
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	600 Street	Valley Portion (Commerce Prince)		WV 2530	Seiler C fine
5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 latters meximum for field name.)	Field N	WIRT	SPRIN		<u> </u>
(b) For OCS wells:	Area Na	Date of Le		Block Numb	
 (c) Name and identification number of this well: (35 letters and digits maximum.) 	R	DERTS		-018	
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)					
6.0 (a) Name and code number of the purchaser: (35 letters and digits maximum. If code number not available, leave blank.)	Col	umbia Gas	Transmis	sion Corp	04030
(b) Date of the contract:			Mo. Day		Buyer Co. to
(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 MAR 5 1984	Name Signature	ert Hart		General	Mgr.V.P.
Date Received by FERC	1-/	1-84 cation is Complete		304) 344-839	93

PARTICIP	ANTS: APR 25 1984	BUYER-SELLER CODE
WELL O	PERATOR: Bow Valley Petroleum, Inc.	040 189
	purchaser: Columbia Gas Trans.	004030
OTHER:		
	Del	
W	Department of Mines, Oil & Gas Division ELL DETERMINATION FILE NUMBER 03 0 10 7 10 5 10 23	
84	03 05 107 105 1023 APR 27 1984	,
	bove File Number on all Communications	
Rel	ating to Determination of this Well	
	CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING	
ITEM NO	FERC -121 Items not completed - Line No	
,	V-1 Agent	
	IV-2 Well Permit	/
	IV-6 Well Plat	
	IV-35 We N Record Drilling Deepening	g /
	IV-36 Gas-Oil Test: Gas Only Was Oil Produced?	
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 Af:	fidavit Signed
18-28.	Other: Survey Logs Geological Charts	
	Structure Map 1: 4000 Map Well Tab	oulations
(5)	Date commenced: Date completed Deeper	ned
(5)	Production Depth:	
(5)	Production Formation:	
(5)	Final Open Flow:	
(5)	After Frac. R. P.	
(6)	Other Gas Test:	
	Avg. Daily Gas from Annual Production:	
(8)	Avg. Daily Gas from 90-day ending w/1-120 days	
(8)	Line Pressure:	SIG from Daily Repo
(5)	Oil Production: From Completion Report	
10-17.	Does lease inventory indicate enhanced recovery being done	
	Is affidavit signed?Notarized?	
Does of	ficial well record with the Department confirm the submitted informati	01/12/2024
	nal information Does computer program confirm?	
Was Del	ermination Objected to By Whom?	\
		\

API Well 4.7 STATE APPLICATION FOR WELL CLASSIFICATION S:ate Previous File No. (II Applicable) WELL OPERATOR Bow Valley Petroleum Inc. DESIGNATED AGENT Robert N. Hart ADDRESS 600 Commerce Sq. ADDRESS 600 Commerce Sq. Charleston, WV 25301 Charleston, W 25301 Gas Purchase Contract No. (Month, day and year) and Heter Chart Code Columbia Gas Transmission Corporation Name of First Purchaser Box 1273 (Street or P. WV Charleston (City) 25325 (State) (Zip Code) 040189 FERC Seller Code 004030 FERC Buyer Code TYPE OF DETERMINATION BEING SOUGHT: Initial determination (See FERC Form 121.) Section of NGPA Determination that increased production is the result of enhanced Category Code recovery technology. Determination of a seasonally affected well. Robert Hart Vice President-General Manager Robert Ha 600 Commerce Sq Street or P. O. Box Charleston, WV 25301 City State (Zip Code) (304 344-8393 ATER Phone Humber 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]: for 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 thereefter 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 WEST VIRGINIA DEFARTMENT OF MINES MAR 5 1984 Date received by Jurisdictional Agency By Title

DEPARTMENT OF MINES, OIL AND CAS DIVISION

Operator Well No.

STATE OF WEST VIRGINIA

DEPARTMENT OF MINES, OIL AND CAS DIVISION

000 /-//- 84 WI-018

HIGH COST GAS WELL - DEVONIAN SHALE

NGPA Section 197

	DESIGNATED ACENT Robert N. Hart
	ADDRESS 600 Commerce Sq.
D V-11 D 7	Charleston, WV 25301
WELL OPERATOR Bow Valley Petroleum Inc.	LOCATION Elevation 1022.76
ADDRESS 600 Commerce Sq.	Watershed CAVE Hollow
Charleston, WV 25301	DISTB. Springs County WIFT B. Springs
CAS PURCHASER Columbia Gas Transmission	Gas Purchase
ADDRESS Box 1273	Contract No.
Charleston, WV 25325	Meter Chart Code Date of Contract
Date surface drilling began: 12/20/8	
Indicate the bottom hole pressure of the well and	explain how this was calculated.
BHP=PF+PF e (GL 53.54XT)-1	
631.4 psi Bottom Hole Press	re
	nt of pipe to middle of producing formation rankin BHP + Temp @ head 2
G-Specific gravity	VIT.
the percentage of footage of the producing interval which less than 0.7 if a Gamma Ray log described subparagraph (3) port described in subparagraph (3)(ii)(B): I have demonstrated footage is equal to or less than five (5) percent of any information not described in the application which is inhigh cost natural gas well.	ited that the percentage of potentially disqualifying non-

STATE OF WEST VIRGINIA.	
I. Helen Mae Andres a Not.	ary Public in and for the state and county aforesaid
	e is signed to the writing above, bearing date
	acknowledged the same before me, in my county
aforesaid.	7 8 7 8 8
Civen under my hand and official sea	the state of the s
My term of office expires on the	day of July 10 58
	· Allen Mar Landon
(NOTARIAL SEAL)	Sociary Public

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL PRICE UNDER THE NATURAL GAS POLICY ACT

Operator: bow Valley Petroleum	Agent: 7/A	RVIN C	ombs
Type Determination being sought - 107	(Devonian Sh	ale)	
API Well No.: 47-105-1023	Well Name:	OBERTS	WI-018
West Virginia Office of Oil and Gas References: SJA File No.	County:	WIRT	
Vol Page Line			
I. NOTE: A Gamma Ray Log has been Line, (b) a line represe (c) intervals with Gamma Base Line) and that log	nting 0.7 x (Ray units le	Shale Base ss than 0.7	Line), x (Shale
II. Gamma Ray elevation indices:	t:		· ,
A. Shale Base Line (API	Units)		*
 GR Value at Base Remarks: 		API Uni	ts
0-200 API SCA	LE		
B. Gamma Ray Log Value			•
1. GR Value = <u>/60</u> 2. Calculation: 0. 0.	* API Units 7 (GR Value a 7 (<u>/60</u> *) =	t Base Line	e) Units
III. Intervals with GR index less th	an 0.7 x (Val	ue at Base	Line):
· From** To*** of I		Feet of les	Base Line)
			٠.
			. 70
Total Devonial Interval 309	931		,
Total Less Than 0.7 (Shale Base)		_8	
% Less Than 0.7 (Shale Base Line) =	0025 x 100 =	258%	
•	* * * * * * * * * * * * * * * * * * * *		

*Marked on log included with analysis.

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

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

1.C API well number:	1	110	10-	1 - 4	
(If not available, feeve blank, 14 digits.)	47-105-1023				
2.0 Type of determination being sought: (Use the codes found on the front of this form.)		Section of		Carrollo	EGETTA
3.0 Depth of the deepest completion location: (Only needed if sections 103 or 107 in 2.0 above.)			5600	1	MAR - 5 1984
4.0 Name, address and code number of applicant: (35 letters per line maximum. If code number not available, leave blank.)	600 Street	Valley Po Commerce		WV 2530	& GRABINSION
5.0 Location of this well: [Complete (a) or (b).] (a) For onshore wells (35 letters maximum for field name.)	1	WIRT	SPRING	State Zip Cod	e
(b) For OCS wells:	İ			State	
	Area Na	Date of Le		Block Number	
(c) Name and identification number of this well: (35 letters and digits maximum.)	Rot	,	WI-01		
(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.)	Coli	umbia Gas	Transmiss	ion Corp	04030
(b) Date of the contract:	1				Buyer Co. te
(c) Estimated annual production:			Mo. Day	Y.	
co, Estimated annual production:				MMcf.	
		(a) Base Price (\$/MMBTU)	(b) Tax	(c) All Other Prices [Indicate (+) or (-)]	(d) Total of (a), (b) and or
7.0 Contract price: (As of filing date. Complete to 3 decimal places.)		2.841			
8.0 Maximum lawful rate: (As of filing date. Complete to 3 decimal places.)	pr	2.841			
9.0 Person responsible for this application:	Poho	rt Hart			
Agency Use Only	Name	TI Hart			Mgr.V.P.
Date Received by Juris, Agency	Fort	A Hat		Title	
Date All Ferred by FERC	Signature	1-84	(:	304) 344-83	93
1	Date Assi		-		i

ARTICIPANTS: DATE: APT. 25, 1984 APR 251300	BUYER-SELLER CODE
WELL OPERATOR: Bow Valley Petroleum, Inc.	040 189
FIRST PURCHASER: Columbia Gas Trans.	004030
OTHER:	
The state of the s	
W. Va. Department of Mines, Oil & Gas Division WELL DETERMINATION FILE NUMBER 840305-103-105=1023	APPROVED
Uso Above File Number on all Communications	MAY 15 1984
Relating to Determination of this Well	2 0 1304
CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING	
ITEM NO.	
1. FERC -121 Items not completed - Line No.	
2. V-1 Agent	/
3. IV-2 Well Permit	
4. IV-6 Well Plat	
5. IV-35 Well RecordDrilling Deep	pening
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 We	ll Tabulations
	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	
	PSIG from Daily Rcp
(5) Oil Production: From Completion Report	
10-17. Does lease inventory indicate enhanced recovery being done	
10-17. ls affidavit signed?Notarized?	
Does official well record with the Department confirm the submitted inf	
Additional information Does computer program confirm?	_
Was Determination Objected to By Whom?	

	DEPARTMENT OF WAR			1-11
	DEFARITER OF MINES.	OIL AND CAS DIVISION	Operator' Well No.	WI-018
			API Well	10- 10-1
	STATE APPLICATION F	OR WELL CLASSIFICATION	lio. 47	- 105 - 1023
		SONDST. ICATION	Previous	File No.
VELL OPPOSED ROY Wolley	- Dobust -			(li Applicable
WELL OPERATOR BOW Valley		DESIGNATED AGENT	Robert N.	Hart
ADDRESS 600 Commerce Sc		ADDRESS 600 Co	ommerce Sq	
Charleston, W	25301		eston, W	
Cas Purchase Contract No Heter Chart Code	and	Date Being negotiat	ed ·	
	Columbia Cas Trans		ear)	
	Box 1273	mission Corporation		
		WV 2532		
(C)	ity) (S		25 Code)	
FERC Seller Code 040189			004030	
TYPE OF DETERMINATION BEING		102		
(1) Initial determinati(2) Determination that	on (See FERC Form 121	.) Section of NGPA	Cai	egory Code
recovery technology	increased production	is the result of enhance	d .	- Bor, code
(3) Determination of a	seasonally affected w			
	·	Robert Hart	Vice Pre	sident-General Mana
		Signature Hant		_
		600 Commerce Sq.		
		Street or P. O. Box		_
		Charleston, WV City State	25301 (Zip Cod	~~
	**	(304 344-8393	(21) 000	e)
		Area Phone Numbe	r .	
(Certificate of Proof of Serv	vice to Purchaser)			
		•		
Mailed copy to Columb	ia Gas Transmissio	n - Contract DEpartn	nent c/o .Ta	ackie Sydnor
		•	-, -	orde by who i
		,		,
All of the above to be compl	eted by the Operator/	Applicant)		
To be completed by Jurisdicturchaser, if known).	ional Agency. Execut	ed conv to be very		
ell as meeting the requireme	of Mines has received nts of Section	a request, for certi	fication of	the above described
ell as meeting the requirement NGPA); [for for determinat nder Section 108 of (NGPA);	ion that increased pr	oduction is the result of ion of a seasonally affection	of enhanced r	ecovery technology
All interested part he office of the Oil and Gas e heard there will be a publ	ies are hereby notifi	ed that on the day	of	. 19 . at
This Application is	•	ced, or it objection is	filed.	
Injetel	-6	indicates the well [is	□ :•	
ntitled to certification as and any additional evidence we the matter may be heard.	claimed under the Nat ill be made at the ti	ural Gas Policy Act (NGP me appointed for a publi	A). A revie c hearing or	w of this evidence as soon thereefter
Unless objections as ays, a hearing will not be ho to determination.	re timely filed or a seld except on ex part	request for a hearing is e motion of the departme	made within nt and the m	fifteen (15) atter will
	1	WEST VIRGINIA DEFARTMENT	OF MINES	
MAR 5 198	\$4.		Director	
ite received by	· ·	Ву		-04/42/2024
risdictional Agency		Title		01/1 2/2 0 24
		- A STATE OF THE S	and the same of th	10
		Consult Marcon.	a de	

STATE OF WEST VIRGINIA

[12-78]

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

Date	84
Operator's WI-018	
API Well No. 47 - 105 - 102 Permi	3

01/12/2024

WELL CLASSIFICATION FORM NEW ONSHORE PRODUCTION WELL

NGPA Section 103

	DESIGNATED AGENT Robert Hart
	ADDRESS 600 Commerce Square
•	Charleston, W. Va. 25301
WELL OPERATOR Bow Valley Petroleum	LOCATION: Elevation 1022.76
ADDRESS 600 Commerce Square	Watershed CAVE Hollow
Charleston, W. Va. 25301	Dist B. Springs County WIRT Quad B. Spri
cas purchaser Columbia Gas Trans.	Gas Purchase
ADDRESS BOX 1273	Contract No
Charleston, W. Va. 25325	Date of Contract
* * * * * * * *	* * * * * * *
10.1	/
Date surface drilling was begun: 12/20/	82
Indicate the bottom hole pressure of the well an	nd explain how this was calculated
BHP=P+Pe (\$3.54 xT)-1	
7 17 C C55.37 XT)	Pf=560#
D - (-1.1	G=.70
BHP=631.4psi	L=4054'
	T= 90°
within a proration unit, in existence at the tim reservoir from which gas is or will be produced in commercial quantities or on which surface dri was capable of producing gas in commercial	ing been first sworn according to law state that emination is sought was begun on or after February 19. Heral well spacing requirements and the well is not be surface drilling began, which was applicable to the and which applied to any other well producing gas lling began on or after February 19, 1977, and which ities. I state, further, that I have concluded, to that the well for which this determination is sought
ξ.	$\mathcal{O}(\alpha)$
*	Verira Comos
STATE OF WEST VIRGINIA,	
COUNTY OF Janauhan TO WIT:	
I. Helen Mas Anotogras, a Notary	y Public in and for the state and county aforesaid,
do certify that Marvin Combo whose name	is signed to the writing above, bearing date
the May of January, 1984, has ach	chowledged the same before me, in my county aforesaid.
Given under my hand and official sea	al this lift day of the
My term of office expires on the $\frac{25}{25}$	day of, 19 &8.
	2/2 Sm & 1
[NOTARIAL SEAL]	Notary Public Frongeres

IV-	35
Pev	8-81)



Sinde of Mest Birginia

. Bepartment of Mines Gil und Cas Zivision

	Date				33	
1	Opera Well	No.	WI018	•		_
	Farm	Rober	ts			i.
		. 47	10	5	_ 1023	

WEIL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMILATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas X / Liquid Injection (If "Gas," Production X / Underground	/ Wast	e Disposal e/ Deep	Shall	1104 ^X /)
IOCATION: Elevation: 1022.76 Watershed Cave	Hollow o	f Beaver Da	am .	
District: Burning Springs County Wirt		Quadrangle		Springs
DISTIFICATION OF THE PROPERTY			•	
	·			
COMPANYBow Valley Petroleum, Inc.				-
ADDRESS600 Commerce Sq., Charleston, WV.	Casing	Used in	Left	Cement fill up
DESIGNATED AGENT Robert Long	Tubing	Drilling	in Well	Cu. ft.
ADDRESS Box 235, Culloden, WV.	Size			
SURFACE OWNER Westvaco	20-16 Cond.			
ADDRESS Parkersburg, WV.	13-10"	19.90	19.90	15sks
MINERAL RIGHIS OWNER Clen W. Roberts Estate	9 5/8	255.45	255.45	85sks
ADDRESS Elizabeth, West Virginia	8 5/8	25.7. 15		
OIL AND GAS INSPECTOR FOR THIS WORK Deo	7	2161.32	2161.32	175sks
Mace ADDRESS Sandridge, WV.	5 1/2			:
PERMIT ISSUED November 30,1982	4 1/2	5604.15	5604.15	260sks
DRILLING COMMENCED December 20,1982	3			
DRILLING COMPLETED January 10,1983	2		: .	
TF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED	Liners used		:i	
ON	1		05(0)	5.001 5 - L
GEOLOGICAL TARGET FORMATION Devonian Shale	•			5600' feet
Depth of campleted well 5600' feet	Rotary X	/ Cabl	e Tools_	
Water strata depth: Fresh None feet;	Salt None	feet		_
Coal seam depths: None	Is coal	being min	ed in the	area?
OPEN FLOW DATA				
Producing formation Devonian Shale	Pa	y zone der	th 2926'-	5454! feet
Gas: Initial open flow Show Vcf/d	Oil: In	itial oper	flow	Bbl/d
Final open flow 223 Mcf/d	Fi	nal open f	low	Bbl/d
Time of open flow between init	ial and f	inal tests	h.	פעניט
Static rock pressure 560 psig(surface	e measure	ment) after	er 12 ho	urs shut in
(If applicable due to multiple completion)		01/12/2	2024
Second producing formation	Pa	y zone dej	oth	1660
Cas: Initial open flow . Ncf/d	Oil: Ir	nitial oper	I IIOW	BD1/0
Final open flowNcf/d	Oil: Fi	nal open :	tlow	BD1/0
Time of open flow between init	tial and f	final test	sh	ours
static mot proscure psig(surface	measure	ment) after	r ho	urs shut in
Static rock pressure		(Cont	irue on r	everse side

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIPULATING, PHYSICAL CHANCE, ETC.

1st State No Frac. Perforation Intervals 1,000 gal of HCL, 15% 3834-5454' (26 holes)
No pumped = 1,073,000 scf. Max.pressure = 2850#, Min.pressure=2300#. Injection Rate=41,300 scf-min. Partial Ballout

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

WELL LOG

			•
FORMATION - COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS: Including indication of all fre and salt water, coal, oil and g
Top Soil Red Rock Slate Slate Shale Sand Shale Sand Shale Shale Shale Shale Shale Shale Shale Sandy Shale Sandy Shale Sandy Shale Soft	0 15 130 250 386 475 550 2570 2700 2800 2900 3800 4100 4200	15 250 386 475 550 2570 2700 2800 2900 3800 4100 4200 5600 T.D.	ELECTRIC LOG TOPS Gbr.Lime = 1796'-2005' Injun Sand = 2005-2100' Weir Shale = 2100'-2460' Sunbury Shale = 2460'2506' Dev.Shale = 2506-5600'
			· "
-			*
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	1		

(Attach separate sheets as necessary)

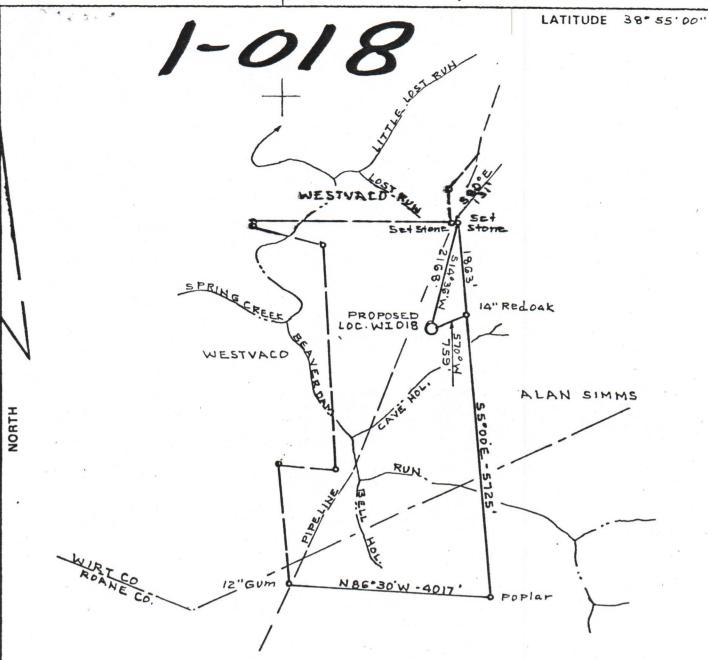
Bow Valley Petroleum, Inc.	
Well Operator	01/12/2024
By: // Mrin Com	b2.
Date: . 12/19/83	
	: :

Note: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic

detailed geological record of all formations, including

encountered in the drilling of a well."



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

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGU-LATIONS ISSUED AND PRESCRIBED BY THE DEPART-MENT OF MINES.

1.Us. 92

C. (SIGNED)_

R.P.E.

PLACE SEAL HERE

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

FORM IV-6 (8.78)



DATE NOV 20 OPERATOR'S WELL NO. WI -018

API WELL NO. 105. COUNTY STATE

STATE OF WEST VIRGINIA

	JIAI	,		· III CIIII
	Di	EPARTA	MENT O	FMINES
	OIL	AND	GAS	DIVISION
2000000				

WELL TYPE: OIL ___GAS_X_LIQUID INJECTION___WASTE DISPOSAL_

(IF "GAS,") PRODUCTION X_STORAGE __ DEEP__SHALLOW X_

LOCATION: ELEVATION 1022. 76 WATER SHED CAVE HOLLOW OF BEAVERDAM RUN

DISTRICT BURNING SPRINGS COUNTY_WIRT

QUADRANGLE BURNING SPRINGS

ACREAGE 714 SURFACE OWNER _ WESTVA CO OIL & GAS ROYALTY OWNER GLEN W. ROBERTS ESTATE LEASE ACREAGE 7/4 01/12/2024

LEASE NO. 1884

PROPOSED WORK: DRILLX_CONVERT__DRILL DEEPER__REDRILL__FRACTURE OR

STIMULATE ___PLUG OFF OLD FORMATION___PERFORATE NEW

FORMATION___OTHER PHYSICAL CHANGE IN WELL (SPECIFY)_

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG_

ESTIMATED DEPTH_ TARGET FORMATION. WELL OPERATOR BOW VALLEY PETRO. DESIGNATED AGENT W.E.

ADDRESS GOO COMMERCE SQUARE ADDRESS BOX 235

CHARLESTON, WYA 25301 CULLODEN, WVA