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Date December 16, 1983
Operator's
Well No.
Wills
Farm Roberts (Butcher)
API No. 47 - 105 - 1025

## WELL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

LOCATION: Elevation: 1064.52 Watershed F	inns Run	UI WEST I	UIK	**********
District: Spring CreekCounty Wirt	4 90F   4	Quadrangle	Burnin	g Spring
COMPANY Bow Valley Petroleum, Inc.	8		dock	
ADDRESS 600 Commerce Sq.Charleston, WV.	Casing	Used in	Left	Cement fill up
DESIGNATED AGENT Robert Long	Tubing	Drilling	in Well	Cu. ft.
SURFACE CWNER Gilbert Lynch	Size 20-16		Sand	Salt Salt
ADDRESS E-lizabeth, WV.	Cond.	19.90	19.90	15sks
MINERAL RIGHTS OWNER Glen Roberts Estate	9 5/8	268.50		to surfa
ADDRESS Elizabeth, West Virginia	8 5/8		9 -to-oak	
OIL AND GAS INSPECTOR FOR THIS WORK Deo	7	258.55	258.55	125sks
Mace ADDRESS Sandridge, WV.	5 1/2	250.55		:
PERMIT ISSUED 12/1/82	4 1/2	5710.55	5710.55	260sks
DRILLING COMMENCED 12/14/82	3			
DRILLING COMPLETED 12/19/82	2			
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON	Liners used			
GEOLOGICAL TARGET FORMATION Devonian Shale		Dep	oth 5777	fee
Depth of completed well 5777 feet		/ Cabl	e Tools	
Water strata depth: Fresh 85 feet;	Salt Nor	ne feet		
Coal seam depths: None	Is coal	being mir	ned in the	e area?
OPEN FLOW DATA  Producing formation Devonian Shale				
Gas: Initial open flow Show Mcf/d	Oil: Ir	itial oper	flow_	Bbl/
Final open flow 146 Mcf/d	opith) Fi	inal open	Elow	Bb1/
Time of open flow between ini	tial and f	Final test	sh	ours
Static rock pressure 675 psig(surfa	ce measure	ement) after	er_ho	urs shut i
(If applicable due to multiple completion				
Second producing formation	P	ay zone de	oth	fee
Gas: Initial open flow Mcf/d	Oil: I	nitial ope	n_flow	Bb1/
Final open flow Mcf/d	Oil: F	inal open	flow	Bbl
Time of open flow between ini				

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

lst stage frac Perforation intervals 5070' (5516') (23 holes)
N2 pumped 1,000,000 scf 600 gals of HCL 15%. Max.pressure = 2600#, Min.pressure 2300#. Injection rate = 58,200 scf/min.
Partial Ballout.

 $\frac{2\text{nd stage frac}}{15\%} \frac{\text{N}_2}{\text{N}_2} \frac{\text{N}_2}{\text{pumped}} = 1,200,000 \text{ scf}, 750 \text{ gals of HCL at}}{\text{15}\%} \frac{\text{Max.pressure}}{\text{1},500 \text{ scf/min. Partial ballout.}} \frac{3672'-5002'}{\text{30 holes}}.$ 

Huron

WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all free and salt water, coal, oil and g
Top Soil Red Rock Shale Gray Hard Shale Red Soft Shale Shale Sand Shale Salt Sand Salt Sand Sand Sand Shale Gray Shale Gray&Brown	.0 8- 161 300 347 375 1190 1646 1700 1880 2237 2500	8 161 300 347 375 1190 1646 1700 1880 2237 2500	Electric Log Tops  K.B.= 1074  Elev.=1064  Gbr.Lime = 1739'-1876' Injun Sand 1876'-1954' Weir Shale = 1954'-2299' Sunbury Shale = 2299-2374 Devonian Sh.2574-5777
- deop-?	(8 B) -	Marcellus @TD/	ADDRESS ELIZABEL PEZZE VI
5710.35 <b>5710</b> .55 <b>260s</b> ks	- 5.17 - 4.17 - 3	CONON	DAGA @ 57/5 on 5720
	sau	RY HOLE ON RILLING OR LOSTALNED	IF APPLICABLE: PROGRESSION FROM REWORKING, VERBAL PERMISSION
Depth 5777 feet  X / Cable Tools	els eet Rotau	Devonian Si 5777	GEOLOGICAL TANGET FORWATION Depth of completed well
None feet oal being mined in the area?		8 da	Water strate depths Fro
The same depth of the same was	3	section shall	OPEN FLOW DATA Producing formation O

(Attach separate sheets as necessary)

Bow Valley Petroleum, Inc.

Well Operator

By: Robert Ports

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."

Initial open flow

DRILLING CONTRACTOR:



1) Date:	Nov.	29		, 19		
2) Operator Well No		MI	- 019			

Permit

3) API Well No. 47 County

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

					OIL AND GAS	WELL PERMIT	APPLICATION			
4)	WELL TYPE:		Gas'', Pro		XX /	Underground sto	nrage.	/ Deep	/ ShallowXX	0
5)	LOCATION:	Elevati	ion:	1064.5	2 ek	Watershed:	ins Run of W	est Fork	rning Spring	5
6)	WELL OPER		w Vall	ley Pet	. Inc.	county.	) DESIGNATED A		Stover	
	ridaross	Ch	arlest	ton. WV				Culloden,	W.	
7)	OIL & GAS ROYALTY O' Address		en Rot izabet		state	12	) COAL OPERAT	OR N/A		
8)	Acreage SURFACE OV		0 Ibert	Lynch		13	) COAL OWNER(	S) WITH DECLARA	ATION ON RECORD	
	Address		izabei				Address _			
	Acreage	57	.5				Name			-
9)	FIELD SALE Address	(IF MADE	E) 10:	Mar Const			Address _	WITH DECLARATI	ON ON PECOPD:	
10)	OIL & GAS I	NSPECTO	R TO BE	NOTIFIE	D	14	Name	WITH DECLARATI	ON ON RECORD.	- LU
	Name Dec		Box 5				Address _		10V 2 9 1982	
	Address	Sand	Ridge.				an equipment to be			2.1
15)	PROPOSED	WORK:	Drill	old forma	Drill deeper	/ Redrill	Fraction	are or stimulate	OT. OF MIN	JE:
			Other ph	ysical chan	ge in well (speci	fy)	ow formation		1.0]	
16)	GEOLOGICA  17) Estimated				Marcellus 200	feet				
	The state of the s				85		alt, 1700	feet.		
	19) Approxim	nate coal sea	am depths	: <u>N/A</u>		Is coal	being mined in the a	rea? Yes	/ No	
20)	CASING ANI	TUBING	PROGR	AM						
	CASING OR TUBING TYPE	Size	SP:	ECIFICATION Weight per ft.	New Used	FOOTAGI	Left in well	CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
	Conductor	13			X	30	30	to surface	Kinds	_ 1
	Fresh water	3 5/8			X S	200	250	to surrace	Sizes	-
	Coal Intermediate	7			Х	1900	1900	to surface-	Sizes	
	Production	445		10.5	X	5150	5150	260 sks	Depths set	
	Tubing									-
	Liners								Perforations:  Top Botto	om om
21)	EXTRACTION Check and pro			- ina						_
	Include	d is the lea	se or leas	es or other		ract or contracts li See reverse side fo		right to extract oil or	gas.	
22)	ROYALTY P	ROVISION	IS							
	similar provisi	on for con	pensation	n to the ow	il or gas based uponer of the oil o	pon a lease or other or gas in place wh	er continuing contraction is not inherently	t or contracts providing related to the volume	ng for flat well royalty e of oil or gas so extr	or any racted,
If t 23)		e is No, no	thing add		eeded. If the an	swer is Yes, you r	nay use Affidavit Fo	orm IV-60.		
	Copies of this	Permit Apperator, coa	plication al owner(s	and the ends), and coal					livered by hand to the ication to the Departm	
	Notary:		19111	You have			Signed:	16 15 19	read of	
	My Commission	Expires					Its: Geoto	gist		
					0	FFICE USE C	NLY			
Per	mit number				D	RILLING PE	RMIT		15	
qui (Re	rements subject fer to No. 10) P	to the con	ditions co	ontained her on of roads	rein and on the , locations and p	reverse hereof. No	otification must be g ed work. In addition	iven to the District O	ce with the pertinent lill and Gas Inspector. his contractor shall no	
	rmit expires	Jul	ly 31,	1983				prior to that date and	prosecuted with due di	ligence.
	Bond:	Agent	t:	Plat:	Casing	Fee	The second secon	ministrator, Office of		
100	MANAGER STREET, STREET	NOT THE OWNER OF THE OWNER, THE O	OF THE PARTY OF TH			1 1 1 1 1 1 1	Aui	, 011100 01		