FILE COPY



1)	Date:	October	13	, 19	83	
	Operator's	Lincio	omo #5	(8), VI		

Permit

Well No. Lincicome

3) API Well No. 47 - 107 - 1 State County

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

				<u>A</u>	PPLICA	TION FOR A WEI	LL WORK PERMI	<u>T</u>		
4) WELL								MIPTCA BIONS		
								/ Deep	/ Shallow	_X/)
5) LOCA						Watershed: _			77	·
C WELL								Quadrangle: _		
			B Emer					ED AGENT Rober		The state of the s
Add			rsburg				Address	4424 B Em	Control of the Contro	Control of the Contro
8) OII &	GAS INSPEC			Aug Tra	20104		9) DRILLING		rg, wv 20	104
	Jerry 7							WA Drilling C	ompany T	nc
	dress Rt							P. O. Box	CHARLES ALWAYS CO.	nc.
		THE SAME OF THE PARTY OF	WV 25		And the second			Elkview, W		
10) PROP								/ Stimulate		151718171
						/ Perfor			19/16/5	EUV !
						n well (specify)			1112	
11) GEOL	OGICAL TAR	GET FOR	RMATION	, _1	Berea	Sand			77 COL	4 0 1002
	timated depth					feet	\		UUT	1 9 1903
						feet; salt				
14) A	pproximate coa	l seam de	pths:	1	None	Is co	al being mined in th	ne area? Yes	OINOS	GAS DIVIS
15) CASIN	IG AND TUBI	NG PRO	GRAM							OF MI
CASING OR TUBING TYI	PE Size	SPE Grade	CIFICATION: Weight per ft.	New	Used	FOOTAGE I	NTERVALS Left in well	CEMENT FILL-UP OR SACKS (Cubic feet)	PACK	ERS
Conductor		1000				ple:			Kinds	
Fresh water	8-5/8	J	23#	X		260'	260'	Circ. to Sur.	By Rui	2 15.03
Coal		Par year						70 Sks.	Sizes	
Intermediate	4.4									
Production	4-1/2	J	10.5	X		None	2500'	300 Sks.	Depths set	
Tubing	2-3/8	Н	4.6	X		None	2450'	None		
Liners									Perforations: E	stimated
		Samira.	ASCI CIL	nalia	mr b	ве 2900001110000 д	dates of certain	BUILTOSST (Halife		Bottom
									2502	2508
	(6)						516(
				-)00	la qui i	OFFICE USE (ONI V		havionar	- ppilication
						DRILLING PE				
		17 10	7 4000			DRILLING FE	KWIII	Oct	cober 24	is strow lie 4
Permit numb	er	4/-10	7-1293				<u> </u>	001	JODEL 24	19 83
								Da		
This permit	covering the we	ell operations	or and well	location	on shown	below is evidence of	of permission gran	ted to drill in accordar	ice with the per	tinent legal re-
lo. 8) Prior	to the construct	tion of ro	ads, location	ons and	pits for a	iny permitted work.	In addition, the v	given to the District Oil well operator or his con	tractor shall no	tify the proper
district oil ar	nd gas inspecto	r 24 hour	s before ac	tual pe	rmitted w	ork has commenced	d.)	operator of 1110 co.	muctor snammo	ary the proper
The permitte	d work is as de	scribed in	the Notice	e and A	pplication	n, plat, and reclama	ation plan, subject	to any modifications a	and conditions si	pecified on the
everse herec	of.				4, 198) E				
Permit expire	es		OCCOD	er z	4, 190	unless well	work is commence	d prior to that date and	prosecuted with	due diligence.
	T	. /		9 3						
Bond:	Agent	1: 4	Plat:	Casir	ig	Fee				
VET DE	תאח /	DK	Al,	2	9/1	143				Rear
K-I K		PV	9 6	1	130	149		11	/	

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

File

Administrator, Office of Oil and Gas





		IRGINIA	CATE OF WEST V	S Washing Salah				
		OFFI	CE USE ONLY	ta Milliona				Superior Control
	DDIFICATIONS		TIONS (IF ANY		ROPOSI			RKT JIEW (A
								S) LOCATION
Kanawaa 7.151	Ouadrangle SAGENT RODEL	DOCK T						6) WELL OPE
	A424 B. DE							Address
Jaz vingino	NTRACTOR; A Drallen C	9) DRIDLING C			HE NOTIF	OF SO		8) OIL & GAS
448 V 25078	P. O. Box Elkydews W			<u> </u>	30'04 [D] WV_255	l (i.	ja ia	
HEGELVI		A Redrill				YORK.	WELL V	O PROPOSED
888 CT 111 00								I) GEOLOGIC
toning ban collec-								
ON S GAS DIVIS								S) CASING AL
DEP PACKERS MI		TERVALS Left in well		New Division	UTCATIONS Weight			CASING OR TUBING TYPE
19 Ed le 18 25	0210. to sur. 70 sus.	108S	2601	7	23#		8/3-8	1915 w 1891
					SOF			
Depths set	900/04	OFFIC	CE USE ONLY	1 22	1 8.5		18/5-5	gologica s
This part of Form IV-2(b) is to record the				w-un insr	ections		o to file
2002 2002		Date		and unity Tomos	up mor	Cettons	Dat	e(s)
A 11 - 41			Fallow	p inspection(s	,			
Application received		Y.1W	Follow-u	p inspection(s	5)			
Well work started		TIMS	DELLE PER	,,				
Completion of the drilling process Well Record received		iffention must be gi- In addition, the w		Brein and on the			to the con	uirements subject of 81 Process the the
Reclamation completed		don plan, subject to	, plate and redlama	and, Application	ine Notice	ni bədinə		
prosecuted with due diligence.		work is commenced	·New azəlnu	Os (+3)				ermit expires

See the reverse side of the APPLICANT'S COPY for instructions to the well operator

OTHER INSPECTIONS

Reason:

Reason:

1) Date: October 13 . ,1983

2) Operator's

Well No. Lincicome #5

3) API Well No. 47 -107State County

09/29/2023

STATE OF WEST VIRGINIA DEPARTMENT OF MINES, OFFICE OF OIL & GAS

NOTICE OF APPLICATION FOR A WELL WORK PERMIT

	Name	NER(S) OF RECORD TO BE SERVED	5(1)	COAL OPERATOR Address	
(1)	Address	WESTVACO		Address	
	Audress		5(ii)	COAT CAMED (C) WITHIN DESTADABLES OF THE	_
(ii)	Name -	Parkersburg, WV 26101	3(11)	COAL OWNER(S) WITH DECLARATION ON RECO	P
(11)				Address	
	Address			Address	
:::1	N				
111)	Name			Name	
	Address			Address	
	_		- /		
			5(111)	COAL LESSEE WITH DECLARATION ON RECORD	:
				Name	
				Address -	_
					_
		TO THE PERSON(S) NAMED ABOVE: You simula be			_
		TO THE PERSON(S) NAMED ABOVE: You should ha	we received thi	is Form and the following documents:	
		 The Application for a Well Work Per to be plugged, which sets out the p and describes the well and its local 	mit on Form IV-	-2(B) (or Form IV-4 if the well is	
		and describes the well and its loca cementing program;	tion and, if ap	policable, the proposed casing and	
		(2) The plat (surveyor's man) shading			
		(2) The plat (surveyor's map) showing to (3) The Construction and Reclamation Plant a well), which sets out the plant a well)	an on Form TV-9	n on Form IV-6; and	
	1	plug a well), which sets out the plu reclamation for the site and access	an for erosion	and sediment control and for	
1		THE REASON YOU RECEIVED THESE DOCUMENTS WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" OF (FORM IV-2(B) OR FORM 4, DESIGNATED FOR YOU.	IS THAT YOU HAV	VE RIGHTS REGARDING THE APPLICATION	
		(FORM IV-2(B) OR FORM 4, DESIGNATED FOR YOU.	HOWEVER, YOU	THE COPY OF THE APPLICATION	
		mala and		TO TAKE ANY	
		Take notice that under Chapter 22 of the erator proposes to file or has filed this Not	West Virginia	Code, the undersigned well an-	
		TOT & Well Work Pormit with the		LUI die decompanying documents	3
					1
		Construction and Reclamation Plan by	f this Notice,	the Application, the plat and the	7
		and depicted on attached Form IV-6. Copies of Construction and Reclamation Plan have been my hand to the person(s) named above (or by perfore the day of mailing or delivery to the	ailed by regist	ered or certified mail or delivered	and the same
		before the day of mailing or delivery to the	Administrator.	ertain circumstances) on or	
		6) EXTRACTION RIGHTS		OCT 1 9 1983	
		Check and provide one of the fire			
		I the lease or lease or	- continui	THE CAS DIVISION	7
		I hold the right to extract oil or ga	is.	ntract or contracts by which OIL & GAS DIVISIO	
			trough (4). (See	reverse side for specifics) DEPT. OF MI	V
		Is the right to extract, produce or market or other contract or contracts providing for	the oil or cas	based upon a losse and	
		for compensation to the owner of the oil or of the volume of oil or gas so extracted, pr	roduced or mark	ich is not inherently related	
		If the answer above is No, nothing a you may use Affidavit Form IV-60.	additional is no	eeded. If the answer is Yes,	
		See the reverse side for line item inst the required copies of the Notice and A	ructions and f	in in the second	
		the required copies of the Notice and A Reclamation Plan.	oplication, pla	it, and Construction and	
ne tr	ruth of +	he information on the		To a second seco	
otice	and Ann	die mioriation on the	WELL		
vi a	na app	lication is verified	OPERATO	OR RIMROCK PRODUCTION CORPORATION	
mod	orn to a	nd the Notice is		O THOUSE THOUSE THE CONTONATION	
31160	on pena	of the Well Operator	By /	Velet Im	
тиу	county a	nd State by		Lobert L. Murdock	
A. The	Bohe	rt L. Murdock	Its	President	
us l	day of	October 19 00	Addre	ess 4424 B Emerson Avenue	
My	comissio			Parkersburg, WV 26104	
4:19	1-17-	on expires 10-3, 19 89.	Telep	hone (304) 428-1520	

Comm. ad Dodoon

County,

Notary Public,

State of West Virginia

Wood

INSTRUCTIONS TO APPLICANT

CONCERNING THE LINE ITEMS:

- 1) Date of Notice.
- 2) Your well name and number,
- 3) To be filled out by the Office of Oil & Gas.
- 4) & 5) Use separate sheet if necessary.
 - 4) Surface owner(s) of record to be served with Notice and Application. However, see also Code § 22-4-lb(b) if "more than three tenants in common or other co-owners of interest described in subsection (a) of this section hold interests in such lands".
 - 5(i) "Coal Operator" means any person, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine.
- 5(ii, iii) See Code § 22-4-20.
 - 6) See Code § 22-4-11(c). However, in lieu of filing the lease(s) or other continuing contract(s), the Applicant may fill out the information in the space provided below.
 - 7) See Code § § 22-4-11(d, e).

CONCERNING THE REQUIRED COPIES FOR FILING AND SERVICE:

Filing. Code § 22-4-lk and Regulation 7.02 provide that the original and required copies of the Notice and Application must be filed with the Administrator, 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-lk(d) and the reclamation required by Code § 22-4-lb and Regulation 23, (iv) unless previously paid on the same well, the fees required by Code § 22-4-8a from the owner of any water well on dwelling within 200 feet of the proposed well.

Service. In addition, service must be made on the surface owner(s) and the person(s) with an interest in the coal. See Code § 22-4-lm, 22-4-2, 22-4-2a, and 22-4-2b.

INFORMATION SUPPLIED UNDER CODE § 22-4-11(d) IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on the obverse side of this Notice, I depose and say that I am the person who signed the Notice for the Applicant, and that—

- the tract of land is the same tract described in the Application to which this Notice
 applies, partly or wholly depicted in the accompanying plat, and described in the
 Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc. Grantee, lessee, etc. Royalty Book Page



SURFACE OWNER'S COPY



1)	Date: OC	tober	13	, 19 83
2)	Operator's Well No.	incico	me #5	
3)	API Well No.	47	107	
		State	County	Permit

STATE OF WEST VIRGINIA DEPARTMENT OF MINES, OIL AND GAS DIVISION APPLICATION FOR A WELL WORK PERMIT

4)	WELL TY						/ Und			,	America		
5)	LOCATIO			Productio	320*				e Run		Deep	/ Shallo	ow/)
2)	LOCATIO		evation: _ strict:	Wall			Watershed	The state of	od nun		Oundranala	Zemerale	7 51
6)	WELL OF			The second second second	Marie Control of the	ion Com				DAGE	_Quadrangle: .		THE RESERVE OF THE PARTY OF THE
0)	Address			Empre				/) 1	Address		6424 B En		
	Address			sburg					Audiess		Parkershi		Color Statement Color Color
0)	OIL & GA	S INSDEC		SUPPLIES TO SERVICE				0) I	DILLING C		OR WEST STREET	Try, My	CDIUM
0)	Name				FIED				DRILLING C				421
				30x 10)				Г			ellling (Inc.
	Address		型(E) January 100 100 100 100 100 100 100 100 100 10	WY 25	USP SHADE OF				Address		leview b	THE RESERVE AND THE PARTY OF TH	
10)	PROPOSE	D WELL	WORK:			_/ Drill	deeper		Redrill			/	
							/ Per	rforate n	ew formation	n			
				Other p			vell (specify)_						
11)	GEOLOGI					erea Sa	ind						
	12) Estima	ited depth	of comple	ted well,		500	PACES OF THE PROPERTY OF THE PACES OF THE PA	eet					
	13) Appro	ximate trat	a depths:	Fresh, _		100	feet;	salt,	1700		feet.		
	14) Appro	ximate coa	l seam der	oths:	N	one	Is	s coal bein	ng mined in th	ne area?	Yes	/ No	0/
15)	CASING A	ND TUBI	NG PRO	GRAM									
	SING OR		SPEC	CIFICATION	S	- 1	FOOTAG	GE INTERV	ALS	CI	EMENT FILL-UP	P/	ACKERS
TU	BING TYPE	Size	Grade	Weight per ft.	New	Used	For drilling	1	Left in well		OR SACKS (Cubic feet)		
Cond	luctor											Kinds	
Fresh	n water	8-5/8	4	234	У		2601		2601	Cin	c. to Sm.	Rinds	
Coal											Sks.	Sizes	
	mediate						u si u sana					Sizes	
100	uction	4-1/2	1	10.5	y		None		25001	200	Skos.		
Tubi		2-3/8	Н	4.6	Y		None	SECURE SECURE	24501	Kloss	STREET, STREET	Depths set	
Line				MAG			ATURNO		CHAN	06.80			Eliza 2 A A
Line	•											Perforations:	Estimated
												Тор	Bottom
												2312	208
opion F	I hereby states of (1) a Notion IV-6, at I further state trials.	the filing of on a facsi e that I have tice of Apnd (4) a Core that I have corporate	of the App mile of the ve read the plication for construction ve no objection, partners	e instruction of a Well on and Reception to the ership, etc	VOI ons to su Work P lamatio ae plann	ace owner(s) copy of the LUNTARY urface owner ermit on Foi n Plan on F led work des	of record signs application. STATEMENT To on the rever rm IV-2(A), (2 orm IV-9, all cribed in these	T OF NO rese side of 2) an App for prope material	OBJECTIO this Application for a osed well wo	N tion for Well W rk on n	ork Permit on ny surface land ection to a per	Permit, and the Form IV-2(B) as described mit being issu	nat I have received), (3) a survey plat therein. ed based on those
	D	16	2011	-/-	1	15			(Signatu	ire)	D	ate:
	by V	1	- per	1		ate 10 17				Briant	100		
	Its Z	Ind.	Science	YOF	Da	ate 10~17	-33		(Signatu	ire)	D	ate:

FORM IV-2(B)
Reverse

INSTRUCTIONS TO SURFACE OWNERS AND EXPLANATION OF METHODS AND TIME LIMITS TO COMMENT ON OIL AND GAS WELL WORK PERMIT

The well operator named in the Notice and this Application and the attached materials is applying for a permit from the State to do oil or gas well drilling or other well work. You are being served with these materials because surface owners have the right to file comments before the permit is issued. (NOTE: If the surface tract is owned by more than three persons, in multiple heirship for example, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22, Article 4 of the W. Va. Code. Permits are valid for 24 months.

If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator named in the materials and the Administrator of the Office of Oil and Gas in the West Virginia Department of Mines immediately.

NOTE: You are not required to file any comment at all.

Where to file comments and obtain additional information:

Administrator of the Office of Oil and Gas West Virginia Department of Mines 1615 Washington Street East Charleston, West Virginia 25311 (304) 348-2057

Who may file comments? If you wish to file comments, you must be an owner of record of (1) an interest in the surface tract on which the well already is or is about to be located, or (2) an interest in any other surface tract under the same oil or gas lease which will be utilized for roads or other land disturbances.

Time limits for comments. The law requires these materials to be delivered on or before the date the operator files his Application. You have FIFTEEN (15) DAYS after the filing date to file your comments as provided in Methods for Filing Comments below. You may call the Administrator's office at the above telephone number to be sure of the date. However, if you have been contacted by the well operator, and if you have signed a "voluntary statement of no objection" to any of the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number, and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Methods for filing comments. Comments must be filed in person or received in the mail at the Administrator's office by the time stated above. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling.

The Administrator for Oil and Gas has the power to deny or condition a well work permit based on your comments on the following grounds:

- "(1) The proposed well work will constitute a hazard to the safety of persons; or
- "(2) The plan for soil erosion and sediment control is not adequate or effective; or
- "(3) Damage would occur to publicly owned lands or resources; or
- "(4) The proposed well work fails to protect fresh water sources or supplies."

If you want a copy of the permit as it is finally issued, or a copy of the order denying the permit, you should request a copy from the Administrator.

List of Water Testing Laboratories. The Administrator maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Administrator's office or an Oil and Gas Inspector to obtain a copy of the list.

IV-9 (Rev 8-81)



DATE October 13, 1983 WELL NO. Lincicome #5

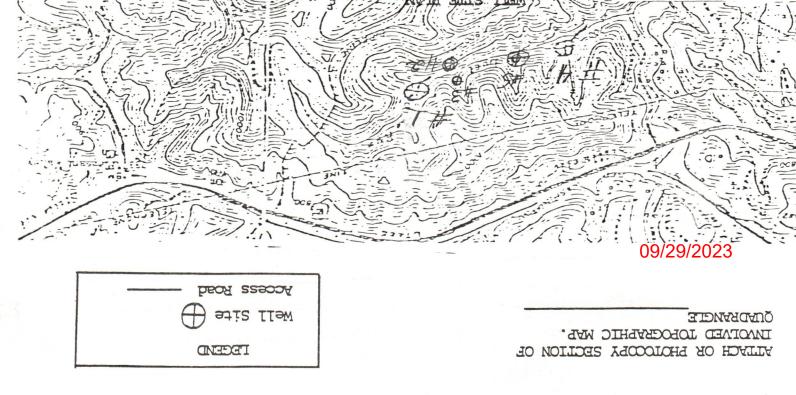
State of Mest Nirginia Bepartment of Mines

Bil and Gas Bivision

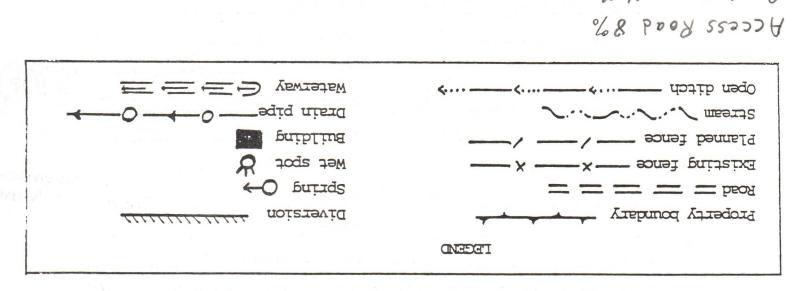
API NO. 47

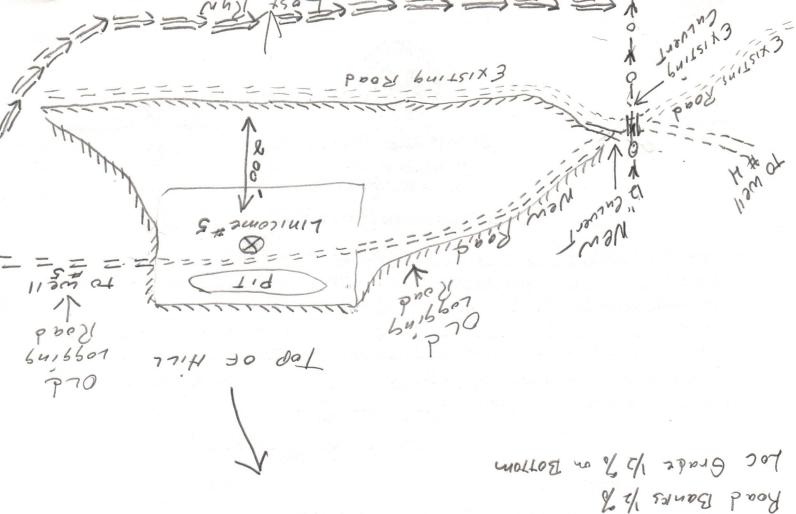
CONSTRUCTION AND RECLAMATION PLAN

COMPANY NAME RIMROCK PRODUCTION CORPO	DRATION	DESIGNATED AGENT Robert L. Murdock
Address 4424 B Emerson Ave		442 Address 4424 B Emerson Ave., Parkersburg, WV
Telephone (304) 4428-1520 W		Telephone (304) 428-1520
ANDOWNER Westvaco	(4	SOIL CONS. DISTRICT Little Kanawha
Revegetation to be carried out by		Robert L. Murdock (Agent)
This plan has been reviewed by	Little K	Kanawha SCD. All corrections
nd additions become a part of this pla		
		(Date)
	Ja	Mett Newlow (BW)
	U	
ACCESS ROAD		LOCATION
ructure See comment on	(A)	Structure Temporary Diversion Ditch (1)
sketch		Material Soil
		. Soil 2-1
age Ref. Manual		Page Ref. Manual 2-12
tructure	(B)	Structure Rip Rap (2)
anaina		Material Rock 0.07.1.9.198
pacing		
age Ref. Manual		Page Ref. Manual 2-9 OIL & GAS DIV
tructure	(C)	Structure DEFT. IBF N
	(0)	
pacing		Material
age Ref. Manual		Page Ref. Manual
All structures should be inspected	l regula	rly and repaired if necessary. All
commercial timber is to be cut and	stacked o	and all brush and small timber to be
cut and removed from the site before	e dirt w	ork begins.
	REVEGEIVA	CLION
Treatment Area I		Treatment Area II
or correct to pH 6.5	re	LimeTons/acre or correct to pH
ertilizer 600 lbs/acro		Fertilizer lbs/acre
(10-20-20 or equivalent)	-	(10-20-20 or equivalent)
ılch Straw Straw 2 Tons/ac	re	Mulch 2 Tons/acre
eed*K-31 Rescue 35 lbs/acre	9	Seed* K-31 Fescue 35 lbs/acre
Red Top 10 lbs/acr	2	Red Top 10 lbs/acre
Ladino Clover 5 lbs/acr	9	Ladino Clover 5 lbs/acre
*Tromilate all learnes such as water	h trafo	oil and clovers with the proper bacterium.
noculate with 3% recommended amount.	i, trejo	tic and diobers with the proper basterium.
	==:17	PRIPARED BY Robert L. Murdockoo (2002)
		100010 11 11000109/29/2023
MOTES: Please request laufounce '		ADDRESS 4424 B Emerson Avenue
seedling for one growing season.		Parkersburg, WV 26104
Attach separate sheets as necessary for comments.		PHONE NO. (304) 428-1520
		1007/ 460-1760



ketch 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)

State of Mest Nirginia

Department of Mines Gil und Gas Division

Date	Febr	uar	у 3,	1984	
Opera	tor's	5			
Well	No	Lin	cicom	e #5	
Farm_					
API N	lo. 47	_	107	- 1293	

WELL OPERATOR'S REPORT OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

LOCATION: Elevation: 830' Watershed Lo	st Run			
District: Walker County Wood	1	Quadrangle	e Kanawh	a 7.5'
				11-6
COMPANY RIMROCK PRODUCTION CORPORATION				
ADDRESS 4424 B Emerson Ave., Parkersburg, WV	Casing	Used in	Teft	Cement
DESIGNATED AGENT Robert L. Murdock	Tubing	Drilling	7. 7	fill up Cu. ft.
ADDRESS 4424 B Emerson Ave., Parkersburg, WV	Size	DITITING	III WEIT	Cu. It.
SURFACE OWNER Westvaco	20-16			Aradi.
ADDRESS Rt. 95 & Rayon Dr., Parkersburg, WV	Cond.			0.80
MINERAL RIGHTS OWNER R.C. Lincicome & L.H.Walsh	13-10"			and the second
ADDRESS Vienna, WV & Ripley, WV	9 5/8			
OIL AND GAS INSPECTOR FOR THIS WORK Jerry	8 5/8	252'	252'	70 Sks.
Tephabock ADDRESS Rt.1, Box 101-A, Ripley, W	7			
PERMIT ISSUED October 24, 1983	5 1/2	00001	00001	072 0
DRILLING COMMENCED November 1, 1983	4 1/2	2300'	2300'	273 Sks.
DRILLING COMPLETED November 4, 1983	2-3/8"		2258	1188118
IF APPLICABLE: PLUGGING OF DRY HOLE ON	2-3/0		2230	
CONTINUOUS PROGRESSION FROM DRILLING OR	Liners			
REWORKING. VERBAL PERMISSION OBTAINED ON	used		The Table	9 12:31
GEOLOGICAL TARGET FORMATION Berea		Dep	th 2500	feet
Depth of completed well 2350' feet I	Rotary X			
Water strata depth: Fresh 100 feet;				area? NO
Water strata depth: Fresh 100 feet; Coal seam depths: NA	Is coal			-
Coal seam depths: NA	Is coal			
Coal seam depths: NA OPEN FLOW DATA				
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea	95 Pay	zone dep		,
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d	Pay Oil: Ini	zone dep	flow	Bb1/c
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d	Pay Oil: Ini Fin	zone dep tial open al open f	flow	Bbl/d
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d Time of open flow between initial	Pay Oil: Ini Fin ial and fi	zone dep tial open al open f nal tests	flowlowho	Bbl/o
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d Time of open flow between init: Static rock pressure 400 psig(surface	Pay Oil: Ini Fin ial and fi	zone deptial open al open final testsent) after	flow 4 hour 24 hour	Bbl/o Bbl/o ours ours shut in
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d Time of open flow between init: Static rock pressure 400 psig(surface) (If applicable due to multiple completion-	Pay Oil: Ini Fin ial and fine measurem	zone dep tial open al open f nal tests ent) afte	flow 4 hour 24 hour 09/	Bbl/ours urs shut in 29/2023
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d Time of open flow between init: Static rock pressure 400 psig(surface (If applicable due to multiple completion-Second producing formation	Pay Oil: Ini Fin ial and fi measurem) Pay	zone depotial open for al tests ent) after zone dep	flow 4 hour 24 hour 09/	Bbl/ours urs shut in 29/2023 fee
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d Time of open flow between init: Static rock pressure 400 psig(surface (If applicable due to multiple completion-Second producing formation Gas: Initial open flow Mcf/d	Pay Oil: Ini Fin ial and fi measurem) Pay Oil: Ini	zone depotial open fal tests ent) after zone depotial open	flow 4 hour 24 hour 09/ th flow 1	Bbl/ours urs shut in 29/2023 fee Bbl/o
Coal seam depths: NA OPEN FLOW DATA Producing formation Berea Gas: Initial open flow Mcf/d Final open flow 15.5 Mcf/d Time of open flow between init: Static rock pressure 400 psig(surface (If applicable due to multiple completion-Second producing formation	Pay Oil: Ini Fin ial and fi measurem) Pay Oil: Ini Oil: Fin	zone depotial open fal tests ent) after zone depotial open fal ope	flow 4 hour 24 hour 09/ th flow low	Bbl/ours urs shut in 29/2023 fee Bbl/ours

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

Perf. 20 holes from 2242' to 2251'
Frac w/200 gal. 15% acid., 25,000# 20/40 sand, 43,310 gal. H₂0.



WELL LOG

		A CONTRACTOR OF THE PARTY OF TH	REMARKS
FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	Including indication of all freshand salt water, coal, oil and ga
Soil	0	10	
Sandstone	10	50	application of the second of t
Shale	50	155	- Admit
Sandstone & Shale	155	275	
Shale	275	350	
Sandstone & Shale	350	600	
Shale	600	720	
Limestone & Shale	720	900	Billion in the control of the base of the base at
Sandstone & Shale	900	1092	
Sand	1092	1130	N.
Shale	1130	1144	
Sand	1144	1182	10.00
Sand & Shale	1182	1230	
Sand	1230	1288	
Sandy Shale	1288	1314	
Sand	1314	1324	
Sand & Shale	1324	1356	
Sand	1356	1392	And the state of t
Sandy Shale	1392	1424	
Sand	1424	1434	
Sand & Shale	1434	1654	
Shale	1654	1696	
Sand & Shale	1696	1710	
Sand	1710	1776	Saltwater
Sand & Shale	1776	1890	
Shale & Sand	1890	2020	
Shale	2020	2233	and the second s
3.94 Coffee Shale	2233	2246	
39 Berea	2246	2251	
Shale	2251	2356	TD
	New York		

(Attach separate sheets as necessary)

RIMROCK PRODUCTION CORPORATION

Well Operator

O9/29/2023

By: Robert L. Murdock

Date: February 3, 1984

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."

DEPARTMENT OF MINES

OIL AND GAS WELLS DIVISION



CIL & GAS DIVISION

DEPT. OF MINES

INSPECTOR'S WELL REPORT

Permit No. 107 1293 Oil or Gas Well__ (KIND) CASING AND USED IN LEFT IN Company Rimrock PACKERS Address Kind of Packer____ Washinger L. NC. Come 45 Size of____ District County wood, Depth set____ Drilling commenced____ 5 3/16____ Drilling completed 11383 Total depth 2350 Perf. top____ Date shot______ Depth of shot___ Perf. bottom___ Initial open flow_____/10ths Water in___ Inch Liners Used_ Perf. top____ Perf. bottom___ Open flow after tubing _____/10ths Merc. in ____ Inch Volume__ CASING CEMENTED_____SIZE____No. FT____Date NAME OF SERVICE COMPANY Rock pressure____lbs___ Oil _____bbls., 1st 24 hrs. COAL WAS ENCOUNTERED AT FEET INCHES Fresh water_ feet INCHES FEET INCHES FEET Salt water_ feet feet FEET INCHES FEET INCHES Drillers' Names_ Remarks: 11383 TO 2350 6:40PM Coment B. J. Hughes, 27'3 SKS Reg Commits

plug Pour 1, 483 3,00 Ar,

11 4 83 BATE Juny 1 Tephal 09/29/2023

DEPARTMENT OF MINES

OIL AND GAS WELLS DIVISION

INSPECTOR'S PLUGGING REPORT

OMPANY			ADDRESS					
FARMCOUNTY								
				JOURIT				
lling Material Used								
ner Lo	eation	Amount	Packer	Location				
PLUGS USED A	ND DEPTH PLACED		BRIDGES			BING		
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LOCATION	RECOVERED SIZE LOS				
					7	-		
						general News		
			·					
						-		
	•							
	La Company of the St							
	2.00							
						manufacture of the same of the		
illers' Names								
			Y		valery a constant	Migran Tought (Microsophi Dage Sales Auren)		
marks:								
DATE	I hereby certify I v	risited the abov	e well on this date.					

DEPARTMENT OF MINES OIL AND GAS WELLS DIVISION

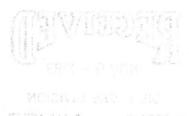


INSPECTOR'S WELL REPORT

OIL & GAS DIVISION DEPT. OF MINES

Oil	10	Gas	Well
1	KIN	DI	

			(D)			
Company Rimyock	ζ	CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKE	RS
Address		Size				
Farm		16			Kind of Pack	er
Well No		13				
District	County_wood	81/4			Size of	
		6%			Depth set	
		5 3/16				
	Total depth	3			Perf. top	
	Depth of shot	2			Perf. bottom_	
	/10ths Water inInch	Liners Used			Perf. top Perf. bottom_	
Open flow after tubing	/10ths Merc. inInch				1 Terr. Bottom_	
Volume	Cu. Ft.	CASING CEMEN	NTED	_SIZE	No. FT	Date
lock pressure	lbshrs.	NAME OF SER	VICE COMPA	Y		
Dil	bbls., 1st 24 hrs.	COAL WAS EN	COUNTERED	AT	FEET	INCHES
resh water	feetfeet	FEET_	INCHI	ES	FEET	INCHES
alt water	feetfeet	FEET_	INCHI	ES	FEET	INCHES
rillers' Names						
						,
emarks: Started	Building 10 288	3				
	Tomove outs To		Clair 11/1	183		



DEP LOF MINES

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



OIL & GAS DIVISION

INSPECTOR'S WELL REPORDEPT. OF MINES

Permit No. 47-107-1293	1976 III.	Express p. W. A. A. M. C.	Oil or	Gas Well_OIL&	GAS
Company RIMROCK PRODUCTION CORP	CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKER	ıs
4424 B EMERSON AVE PARKERSBURG, WV 26104	Size				
FarmWESTVACO	16			Kind of Packet	r
Well No. 5	13			Size of	
District WALKER County WOOD	81/4			Size VI	
Drilling commenced	6%		-	Depth set	
Drilling completedTotal depth	5 3/16			Perf. top	
Date shotDepth of shot	2			Perf. bottom_	
Initial open flow/10ths Water inInch	Liners Used			Perf. top	design the second se
Open flow after tubing/10ths Merc. inInch				Perf. bottom_	
VolumeCu. Ft.	CASING CEME	NTED	_SIZE	No. FT	Dat
Rock pressurelbshrs.	NAME OF SER	RVICE COMPA	NY		
Oilbbls., 1st 24 hrs.	l .	COUNTERED	AT	FEET	INCHES
Fresh water <u>feet</u> <u>feet</u>	FEET_	INCH	ES	FEET	INCHE
Salt water feet feet	FEET_	INCH	ES	FEET	INCHES
Drillers' Names					
Remarks: LOCATION AND ACCESS ROAD NEED COMP	LETELY RECLAI	MED BADLY.	WASHINGTON GOVERNMENT OF STATE AND ADDRESS.		

13 APRIL 1984

GNEN P. ROBINSON ON

09/29/2023

DEPARTMENT OF MINES

OIL AND GAS WELLS DIVISION

MOISIVIO SAD & JINSPECTOR'S PLUGGING REPORT

Permit No	· ·	Amount of the second of the se	W RACTIONS	Wei	II No	
COMPANY			ADDRESS	293	7-107-1	
FARM		DISTRICT	and the state of t		zzon o zakr	
All		DISTRICT		OUNTY	enver en	
Filling Material Used			9.200	IVA HORMAN	4424 B	
			Siluh da kan	. Vi . BEUC	eastig 19	
Liner Loc	cation	Amount	Packer	Location		
PLUGS USED A	ND DEPTH PLACED		BRIDGES	CASIN	G AND TU	BING
CEMENT-THICKNESS	WOOD-SIZE	LEAD	CONSTRUCTION-LOCATION	RECOVERED	SIZE	LOS
			0007		adar	
A STATE OF THE STA	100 mm 10	and Warren	and the commence of the control of t			Pa (1944)
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and the second s	the second of the second of the					
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	man comments the first seems to					
			Till the same of the same	23.2 Kingana, 2.97		
		950 F F F F F F F F F F F F F F F F F F F	1. All box of the partitions	A	of gas to the second	N 2,00 10 9 1 0
			The state of the s			
rillers' Names						
emarks:		And the second second				
cinarks:						
	. XX.	Al destitates	ROED HEED COLLUCTION R	aggroom gara	HOMENADO	
						1
		risited the above				





OIL & GAS DIVISION
DEPT. OF MINES

State of West Virginia

Department of Mines Gil and Gas Division Charleston 25305

FINAL INSPECTION REPORT

		-3
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	INSPECTORS	COMPLIANCE	REPORT		1
COMPANY	RIMROCK PRODUCTION CORP		PERMIT NO	47-107-1293	10
	4424 "B" EMERSON AVENUE		FARM & WEL	L NO <u>WESTVAC</u>	CO/#5
	PARKERSBURG, WV 26104		DIST. & CO	UNTY WALKE	R/WOOD
RULE	DESCRIPTION			IN COMPLIA	ANCE
23.06	Notification Prior to Start:	ing Work			
25.04	Prepared before Drilling to		a to		
25.03	High-Pressure Drilling	TIEVENE Was	5.00		
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 Strenght				
15.05	Cement Type				
23.02	Maintained Access Roads			X	
25.01	Necessary Equipment to Preve	ent Waste		X	
23.04	Reclaimed Drilling Pits			X	
23.05	No Surface or Underground Po	ollution		X	
23.07	Requirements for Production		Pipelines	X	
16.01	Well Records on Site				
16.02	Well Records Filed				
7.05	Identification Markings			X	
)
I HAVE I	NSPECTED THE ABOVE CAPTIONED	WELL AND RE	COMMEND THE	AT IN BEYREL	EASED:
			4	10.180	•
			SIGNED X	EN 4 ROBENT	super
			DATE 19	JUNE 1984	
Your wel	l record was received and rec	lamation ro	duirements	approved T	n accorde
with Cha	pter 22, Article 4, Section 2	the above	well will	remain unde	r bond
coverage	for the life of the well.	, the above	Well Will	lemain unde	1 10119
			11	1 m	1
			Administrat	or-Oil & Ga	s Division
			Augus	st 13, 1984	
				DATE	

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

f.0 API we'l number: (If not assigned, leave blank. 14 digits.)	1	47	- 107 - 1293	-	
2.0 Type of determination being sought: (Use the codes found on the front of this form.)	C 10 x 7	-	and the second s	nshore Produc	ction Well
3.0 Depth of the deepest completion location. (Only needed if sections 103 or 107 in 2.0 above.)	2	25/	225	1 feet	
4.0 Name, address and code number of applicant (35 letters per line maximum. If code number not available, leave blank.)	Name	mrock Product 24 B Emerson	ion Corporatio	on	Seller Cod
		rkersburg,		26104	4
or (b).] (a) For onshore wells (35 letters maximum for field naine)	Field N Wood	Service of the State of the Sta	Stat WV Stat		nde
(b) For OCS wells	Area Na	Dat	e of Lease:	Block idu	ntser
(c) Name and identification number of this well. (35 letters and digits	Lir	ncicome #5	Day Yr.	OCS Lease Number	
(d) If code 4 or 5 in 2.0 above, name of the reservoir: (35 letters maximum.)		607			
purchaser: (35 letters and digits maximum. If code number not available, leave blank.)	Cor.	nsolidated Gas	s Transmission	Corporation	Buyer Code
(b) Date of the contract:			Mo. Day	Yr.	
(c) Estimated total annual production from the well:	!		5.7	Million Cu	bic : set
		(a) Base Price	(b) Tax	(c) All Other Prices [Indicate (+) or (-).]	(d) Total of (a) (b) and (c)
O Contract price: (As c' triing date. Complete to 3 decimal places.)	IS/MMBTU				
Maximum lowful rate: (As of filing date. Complete to 3 decimal places.)	S/MMBTU				
Agency Use Only The Received by Land Adency 1984	Name	ert L. Murdoo	hurlock	Pres. Title	ident
PIC 121 (V V2)	Feb	ruary 3, 1984		(304) 42 Phone Number	28-1520

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

OMB No. 1902-0035 (Expires 12/31/84-3

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

GENERAL INSTRUCTIONS

Complete this form if you are applying for price classification under sections 102, 103, 107 or 108 of the NGPA.

Complete each appropriate item on the reverse side of this page. The code numbers used in items 4 and 6 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. Also enter any additional remarks in the space below. The data reported on this form are not considered to be considered and will not be treated as such.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 274,501. If there are any questions, call (202) 357-8585.

SPECIFIC INSTRUCTIONS

U	se the	codes	ın	the	table	below	for	type	of	determination	in	item	2.
				_			_				_		_

Sant via of	Category	Description	
(a)	(6)	(c)	
102	1	New OCS lease	_
102	2	New onshore well (2.5 mile test)	
102	3	New onshore well (1000 feet deeper test)	
102	4	New onshore reservoir	
102	3	New reservoir on old OCS lease	-
103	-	Naw onshore production well	_
107	0	Deep (more than 15,000 feet) high cost gas	-
107	1	Gas produced from geopressured brine	
107	2	Gas produced from coal seams	
107	3	Gas produced from Devonian shale	
107	5	Production enhancement gas	
107	5	New tight formation gas	
107	7	Recompletion tight formation gas	
108	0	Stripper well	
168	1	Stripper well - seasonally affected	
108	2	Stripper well - enhanced recovery	
108	3	Stripper well - temporary pressure buildup	
108	4	Stripper well - protest procedure	

Enter the	appropriate	information	regarding other	er Purchasers/Contracts.

No	Contract Date (Mo, Da, Yr) (a)	Purchaser (b)	Buyer Code
1		Consolidated Gas Transmission Corporation	004228
2		the state of the s	
3			ALCONOMIC DESCRIPTION
4		Transfer of the state of the st	
5	name waster or a second of A.	Summer your start at the course of the cours	· A The Company of the Company
6		The second secon	a make a second and the

Remarks:

FEB 10 1984

FERC-121 (8-82)

DATE: MAR 29 1984	BUYER-SELLER COD
WELL OPERATOR: Rimrock Production Corp	
FIRST PURCHASER: Consolidated Gas Trans	
OTHER:	
W. Va. Department of Mines, Oil & Gas Division	
WELL DETERMINATION FILE NUMBER	Direction
W. Va. Department of Mines, Oil & Gas Division WELL DETERMINATION FILE NUMBER 840210 -103-107=1293 U. Above File Number on all Communications	PROVER
Uso Above File Number on all Communications	APR 27 1984
Relating to Determination of this Well	1984
CHECK EACH ITEM AS COMPLETE OR NOTE WHAT IS MISSING	
ITEM NO.	
1. FERC -121 Items not completed - Line No	
2. IX-1 Agent	· · · · · · / · · · ·
3. IV-2 Well Permit	
4. IV-6 Well Plat	
5. IV-35 Well RecordDrilling De	
6. 1V-36 Gas-Oil Test: Gas Only Was Oil Produced? _	Ratio
7. IV-39 Annual Production years	
8. IV-40 90 day Production Days off lines _	
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 Chart	
Structure Map 1: 4000 Map V	Vell Tabulations
Gas Analyses	December
(5) Date commenced: Date completed	
(5) Production Depth:	
(5) Production Formation:	
(5) Final Open Flow:	•
(5) After Frac. R. P.	
(6) Other Gas Test:	
(7) Avg. Daily Gas from Annual Production:	
(8) Avg. Daily Gas from 90-day ending w/1-120 days	
(8) Line ressure:	PSIG from Daily
(5) Oil Production: From Completion Report	
10-17. Does lease inventory indicate enhanced recovery being done _	
10-17. Is affidavit signed? Notarized?	09/29/2023
Does official well record with the Department confirm the submitted	information?
Additional information Does computer program confirm	?
Was Determination Objected to By Whom?	
,	

DEPARTMENT OF MIMES, OIL AND CAS DIVISION

February 3 19 84

		%c	Lincicome	#
D	•	,		T

No. 47 - 107 State - County

STATE APPLICATION FOR WELL CLASSIFICATION

Previous File No. (If Applicable)

WELL OPERATOR Rimrock Production Corporat	ion processing
ADDRESS 4424 B Emerson Avenue	
Parkersburg, West Virginia 26104	ADDRESS 4424 B Emerson Avenue
Cae Burnham Community	Parkersburg, West Virginia 26104
Meter Chart Code	Date June 30, 1977 (Month, day and year)
Jones II dated das I	ransmission Corporation
445 West Main Street	r P. O. Box)
Clarksburg,	WV 26301
FERC Seller Code	State) (Zip Code)
TYPE OF DETERMINATION BEING SOUGHT:	FERC Buyer Code 004228
	103
(1) Initial determination (See FERC Form 12) (2) Determination that increased production recovery technology. (3) Determination of a seasonally affected to the seasonal seas	is the result of enhanced
arrected v	Pohent I M
	Name (Print) President Title
	Signature F. Murdock
	4424 B Emerson Avenue
	Street or P. O. Box
	Parkersburg, WV 26104
	City State (Zip Code)
	(304) 428-1520 Area Phone Number
(Certificate of Proof of Service to Purchaser)	Code
of Service to Purchaser)	
(All of the above to be completed by	
(All of the above to be completed by the Operator/	Applicant)
(To be completed by Jurisdictional Agency. Execut purchaser, if known).	ed copy to be returned to Operator/Applicant and
under Section 108 of (NGPA); or for determinat:	a request. for certification of the above describes under the Natural Gas Policy Act of 1976, oduction is the result of enhanced recovery technology ion of a seasonally affected well under Section 175 of C.G.
All interested parties are hereby notified the office of the Oil and Gas Division in Charlesto be heard there will be a public hearing, if request	ed that on the day of
This Application is assigned File No.	Tiled.
Initial review of information submitted i	ndicates the well is. is not aral Gas Policy Act (NGPA). A review of this evidence appointed for a public hearing or as soon thereafter
w.	EST VIRGINIA DEPARTMENT OF MINES

FEB 10 1984

Date received by urisdictional Agency

Tiele

DEPARTMENT OF MINES, OIL AND CAS DIVISION

Date Fe	bruary 3	. 19 84	
Operator's Well No.	Lincicome	#5	
API Well No. 47	107 -	1293	

WELL CLASSIFICATION FORM

NEW ONSHORE PRODUCTION WELL

NGPA Secti	Ion 103
	ADDRESS 4424 B Emerson Avenue
	Parkersburg, WV 26104
TELL OPERATOR Rimrock Production Corp.	LOCATION: Elevation 840'
DDRESS 4424 B Emerson Avenue	Watershed Lost Run
Parkersburg, WV 26104	Dist. Walker County Wood Quad. Kanawha 7.5
DDRESS 445 W. Main St. Corp. Clarksburg, WV 26301	Gas Purchase Contract No. 3922 Meter Chart Code Date of Contract
ate surface drilling was begun: Novemb	* * * * * * * * * * * * * * * * * * *
ndicate the bottom hole pressure of the well a	

AFFIDAVIT

I. Robert L. Murdock , 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 was 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.

Robert L Munder

TATE	10	WEST	VIRGINIA.

COUNTY OF Wood _. TO WIT:

I. Candace Thompson . a Notary Public in and for the state and county aforesaid. do certify that Robert L. Murdock, whose name is signed to the writing above, bearing date the 3rd day of February . 19 84, has acknowledged the same before me, in my county aforesaid.

Civen under my hand and official seal this 3rd day of February . 19 84.

My term of office expires on the 19th day of November . 1991.

(andar W. Thompson Commissioned as Wine.

09/29/2023

CALCULATION OF BOTTOM HOLE PRESSURE

Pf = Pwe (XGLS)

Where:

Lincicome #5, Walker District, Wood County

Pf = shut-in formation pressure (psia)

Pw = pressure at the wellhead (psia)

e = napierian logarithm base (2.71828)

G = specific gravity of gas .70

L = length of casing to mid-point of the perforations (feet)

S = supercompressibility of gas at the mean temperature and pressure (average of wellhead and bottom hole temperature and pressure) .78

 $X = \frac{1}{53.34 \text{ T}}$ where T = average wellhead and bottom hole temperature ($^{\circ}$ R) 95 + $^{\circ}$ R

100°F = 316.83491°R .. T = 411.83491°R

PF = (400) (2.71828)
$$\left(\frac{.70) (2248) (.78)}{53.34 (411.83491)}\right)$$

(400) (e) $\left(\frac{1227.408}{21967.274}\right)$
(400) (e) $\left(\frac{0.0558744}{21967.274}\right)$

PF = 422.98594

