

STATE OF WEST VIRGINIA

FILE NO. __910.12

MINIMUM DEGREE OF ACCURACY 1: 2500

PROVEN SOURCE OF

DRAWNG NO.

DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL & GAS NITRO, WEST VIRGINIA

WELL TYPE: OIL GAS & LIQUID INJECTION WASTE DISPOSAL (IF "GAS,") PRODUCTION___STORAGE__DEEP__SHALLOW_ LOCATION: ELEVATION 1111.88 WATERSHED BURNING SPRING BRANCH OF KANAWHA RIVER

QUADRANGLE CHARLESTON EAST 7.54 SURFACE OWNER LAWSON HAMILION

LEASE ACREAGE __*580* LEASE NO. 47-0702

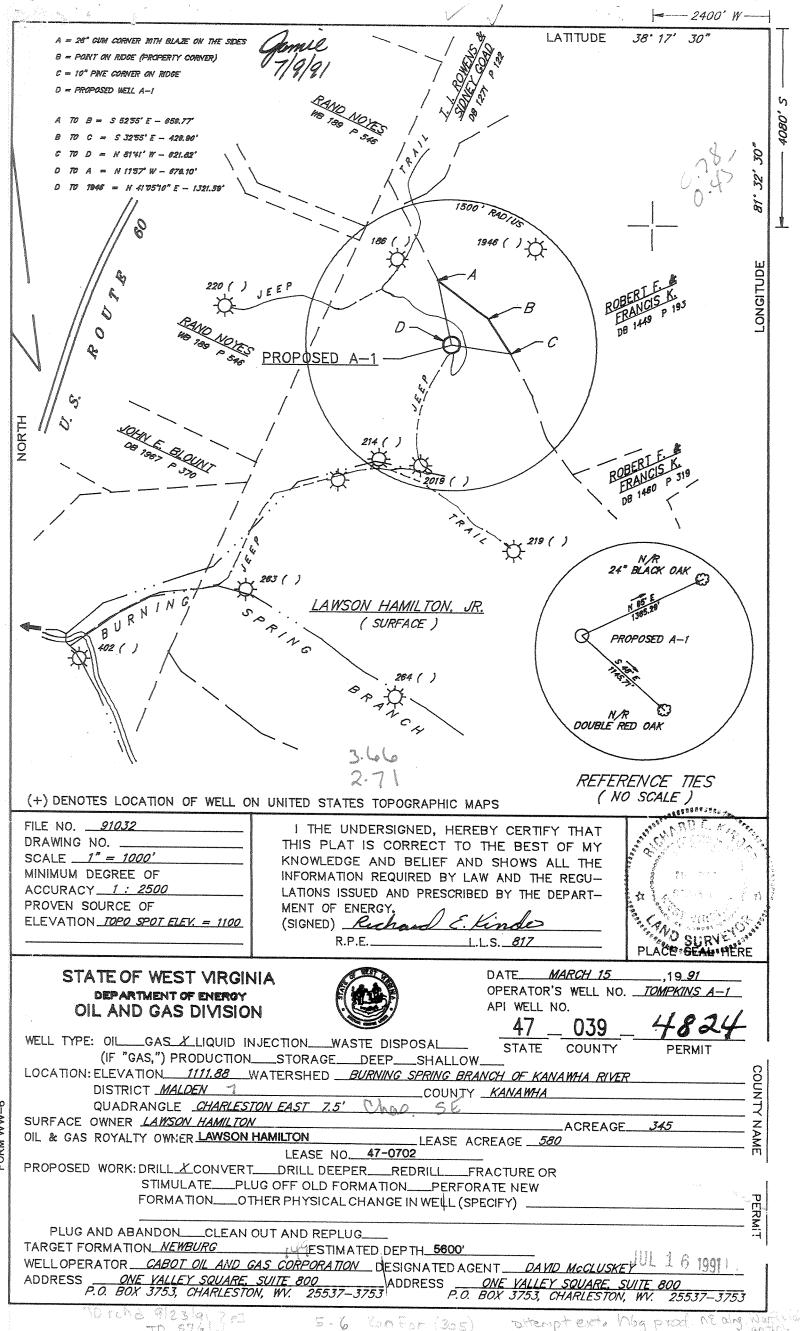
PROPOSED WORK: DRILL & CONVERT_ _DRILL DEEPER___REDRILL___FRACTURE OR STIMULATE___PLUG OFF OLD FORMATION___PERFORATE NEW

FORMATION.__OTHER PHYSICAL CHANGE IN WELL (SPECIFY)

PLUG AND ABANDON___CLEAN OUT AND REPLUG__ TARGET FORMATION_NEMBURG __ESTIMATED DEPTH_60120

WELL OPERATOR CABOT OIL AND GAS CORPORAJION DESIGNATED AGENT DAVID MCCLUSKEY

ADDRESS ONE VALLEY SQUARE, SUITE 800 4 ADDRESS ONE VALLEY SQUARE, SUITE 800
P.O. BOX 3753, CHARLESTON, WV. 25537-3753





SEP 2 1 1994

State of West Virginia DEPARTMENT OF ENERGY Division of Oil and Gas

Permitting Office of Oil & Gas Well Operator's Report of Well Work

Farm name: HAMILTON, LAWSON JR.

Operator Well No.: N.B. TOMPKINS A-1

Location:

Elevation: 1111.88

Quadrangle: CHARLESTON EAST

District:

MALDEN

County: KANAWHA

Latitude: 4080 Feet South of 38 Deg. 17 Min. 30 Sec. Longitude: 2400 Feet West of 81 Deg. 32 Min. 30 Sec.

Company: CABOT OIL & GAS CORPORATION

400 FAIRWAY DRIVE, SUITE 400

CORAOPOLIS, PA 15108

Agent: DAVID G. MCCLUSKEY

Inspector: <u>CARLOS W. HIVELY</u> Permit Issued: 07/12/91 Well Work Commenced: 09/05/91 Well Work Completed: 09/22/91 Verbal Plugging Permission granted on: Rotary X Cable ____ Total Depth (feet) Fresh water depths (ft) 202, 810 Salt water depths (ft) 1125 Is coal being mined in area (Y/N)? Coal Depths (ft): 128-131, 348-352, 444-447

Casing &	Used in	Left	Cement Fill Up
<u>Tubing</u>	Drilling	in Well	Cu. Ft.
20"	20′	20′	n/a
13-3/8"	683 <i>'</i>	683 <i>′</i>	510 sks Class A
9-5/8"	1623′	1623′	560 sks Class A
7"	5178′	5178′	243 sks Class A Foam
4-1/2"	5731′	5731′	255 sks Class A

OPEN FLOW DATA

Producing formation	NEWBURG	Pay zone depth (ft)!	5647-5664
Gas: Initial open flow	<u>TSTM</u> MCF/d	Oil: Initial open flo	w <u>N/A</u> Bb1/d
Final open flow _	<u>TSTM</u> MCF/d	Final open flow	<u>N/A</u> Bb1/d
. Time of open flow	between initial and t	final tests	4 Hours
Static rock Pressure <u>20</u>	psig (surfa	ace pressure) after	<u>72</u> Hours
Second Producing formati	on <u>HELDERBURG</u>	Pay zone depth (ft) _5	152-5206
Gas: Initial open flow	<u>TSTM</u> MCF/d	Oil: Initial open flo	w <u>N/A</u> Bb1/d
Final open flow _	MCF/d	Final open flow	<u>N/A</u> Bb1/d
Time of open flow	between initial and	final tests	4 Hours
Static rock Pressure <u>25</u>	<u>5 </u>	ace pressure) after	16 Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

> CABOT OIL & GAS CORPORATION For:

Date:

Produc	ing formation	ORISKA	NY	Pay	zone depth (ft)	4924-4	936
Gas:	Initial open	flow <u>21</u>	MCF/d	0il:	Initial open flo	w N/A	Bb1/d
	Final open fl	ow <u>42</u>	MCF/d		Final open flow	N/A	Bb1/d
	Time of open					4	Hours
Static	rock Pressure	220	_ psig (surf	ace pre	essure) after	72	Hours

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

Perf'd Newburg from 5647-5654, 5660-5664. Break down Newburg w/1000 gal 15% Hcl displaced w/84.5 bbls $\rm H_2O$; BDP - 1500 psi; Surface ISIP - 1350 psi. Perf'd Oriskany 4924-4936. Break down Oriskany w/1000 gal 15% Hcl displaced w/165,000 scf $\rm N_2$. Perf'd Helderburg from 5152-5158, 5201-5206. Break down Helderburg w/500 gal 15% Hcl; BDP - 5500 psi; Surface ISIP - 5050 psi.

FORMATION	TOP	BOTTOM
SOIL/SAND	0	128
COAL	128	131
SAND	131	348
COAL	348	352
SAND	352	444
COAL	444	447
SAND/SHALE	447	980
SALT SAND	980	1093
MAXTON SAND/SHALE	1093	1420
BIG LIME .	1420	1671
BIG INJUN	1671	1695
SHALE/DEVONIAN SHALE	1695	4830
ONONGAGA	4830	4940
ORISKANY	4940	4999
HELDERBERG/TONOLOWAY	4999	5665
NEWBURG .	5665	5700
MCKENZIE	5700	5761
TD		5761

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15-Nov-94 API # 47- 39-04824 A

DEC 0 1 1994

State of West Virginia

Division of Environmental Protection

*WORKOVER Office of Oil & Gas

Well Operator's Report of Well Work

Farm name: HAMILTON, LAWSON W. JR. Operator Well No.: N.B.TOMPKINS A1

LOCATION: Elevation: 1,111.88 Quadrangle: CHARLESTON EAST

District: MALDEN County: KANAWHA

Latitude: 4080 Feet South of 38 Deg. 17Min. 30 Sec. Longitude 2400 Feet West of 81 Deg. 32 Min. 30 Sec.

Company: CABOT OIL & GAS CORPORATI

400 FAIRWAY DRIVE, SUITE 400 CORAOPOLIS, PA 15108-4308

Agent: JOHN W. ABSHIRE

Inspector: CARLOS HIVELY

Permit Issued: 11/14/94
Well work Commenced: 09/14/94
Well work Completed: 09/20/94

Verbal Plugging

Permission granted on:

Rotary X Cable Rig
Total Depth (feet) 5755'
Fresh water depths (ft) n/a

Salt water depths (ft) n/a

Is coal being mined in area (Y/N)? <u>Y</u> Coal Depths (ft): n/a

Casing & Tubing	Used in Drilling	Left	Cement Fill Up Cu. Ft.
		TII WETT	
Size			
20"	20'	20 '	n/a
13-3/8"	683'	683'	510 sks Class A
9-5/8"	1623'	1623'	560 sks Class A
7"	5178'	5178'	(foam) 243 sks Class A
4-1/2"	5731'	5731'	255 sks Class A

OPEN FLOW DATA

Producing formation			(ft) 28	340-2910
Gas: Initial open flow	TSTM MCF/d Oil:	Initial open flow	n/a	Bbl/d
		Final open flow	n/a	Bbl/d
Time of open flow	between initial	and final tests	36 4	Hours
Static rock Pressure	_460psig (surf	ace pressure) after	36	Hours
Second producing format	ion	Pay zone depth	(f+)	
Gas: Initial open flow		Initial open flow		Bbl/d
Final open flow	MCF/d	Final open flow		Bbl/d

Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
Final open flow MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock Pressure psig (surface pressure) after Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: CABOT OIL & GAS CORPORATION

By: 1/29/94

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

Perf'd Shale from 2,840'-2,910'. Break down Shale w/500 gals of 15% HCl displ w/60,000 scf N_2 ; BDP - 2170 psi; Surface - 2,270 psi. Frac'd w/84,000# sand.

FORMATION	TOP	BOTTOM
SOIL/SAND	0	128
COAL	128	131
SAND	131	348
COAL	348	352
SAND	352	444
COAL	444	447
SAND/SHALE	447	980
SALT SAND	980	1093
MAXTON SAND/SHALE	1093	1420
BIG LIME	1420	1671
BIG INJUN	1671	1695
SHALE/DEVONIAN SHALE	1695	4830
ONONDAGA	4830	4940
ORISKANY	4940	4999
HELDERBERG/TONOLOWAY	4999	5665
NEWBURG	5665	5700
MCKENZIE	5700	5755
TD		5755

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ON OF	OTT.	AND	CAS		(1	4	143	

	WORLD WOLK FERTILI APPUICATION
l)	Well Operator: CABOT OIL & GAS CORPORATION 8145 (7) 289
2)	Operator's Well Number: N. B. Tompkins A-1 3) Elevation: 1111.
4)	Well type: (a) Oil_/ or Gas_X/
	(b) If Gas: Production X / Underground Storage/ Deep X / Shallow/
5)	Proposed Target Formation(s): Injun, Newburg
5)	Proposed Total Depth: 5780 feet
7.) *	Approximate fresh water strata depths: 179, 422, 623
3)	*Approximate salt water depths: 746, 879, 1072, 1529, 1572
)	*Approximate coal seam depths: 98, 282 (solid), 463
.0)	Does land contain coal seams tributary to active mine? Yes x/ No/
.1)	Proposed Well Work: Drill and complete a gas well. * Based on Kan: 186, 220, 2019 and Coal Co. Maps.

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE II	CEMENT	
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	20 **	J-55	94	30'	30' 🦳	30 sks CL-A GFS
Fresh Water	13-3/8"	J-55	54.5	675'	675'	385918 // 5 510 sks CL-A
Coal	9-5/8"	J-55	36	1625'	1625'	550 sks CL-A
Intermediate	7"	J-55	20	5200'	5200'-	38(SR/G/1, 2, 2 288 sks CL-A
Production	4-1/2"	M-75	11,6	5780'	5780 7	114 sks CL-A
Tubing	2-3/8"	J - 55	4.7		5780'	3845318111
Liners						

PACKERS	KindSizes	set	
3070	For Divison of Oil and Gas Use Only	For	$\overline{\mathcal{O}}$

Well Work Permit Reclamation Fund

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Page	1 of	/ RECE	IVED /	1)	Date:	June	17, 1991	
	WW2-A	⁻ ////////////////////////////////////		2)	Operator	's well	number	
	37)	U JUN 1	9 1991		N. B. T	OMPKINS	A-1 7 - 039	/00/
FITE	Copy	DEPT. OF	amendy /	3)	API Well		7 - <u>039</u> - County	- 4824 Doznia
			•			State	- County	- Permit
			STATE OF				D 63.6	
		DEPARTMEN'	I OF ENER(JI, DI	VISION OF	OLL AN	D GAS	
		NOTICE AND	D APPLICAT	rion ro	OR A WELL	WORK P	ERMIT	
4)		Owner(s) to	4		5) (a) C	oal Ope:	rator:	
		Lawson H					OPERATED	
	Address _	PO Box 1 Hansford	L75	\ 2	Address			
		nanstore			(b) Coal	Owners	=) with De	claration
	Address			·				Jr.
							175	
	(c) Name						d, WV 251	
	Address _	- Construction of the Cons		······	Name Address			
			Tarres y The William Switz Company of the Company o	(************************************	11441 600		Name of the second seco	
6)	Inspector	<u> Carlos</u>	Hively				with Decl	
	Address _	223 Pin	ch Ridge	Rd_	Name			
	Telephone	<u>WV 25071</u> ≘ (304)	965-6060		Address			
		, , , , , , , , , , , , , , , , , , , ,	303 - 0009	***************************************	·····			
		TO THE PER	MAN (2) NOE	MED ABO	OVE TAKE	NOTICE ?	THAT:	
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contr	acts by v	is the leas which I hold	se or leas 1 the righ	ses or	otner co	ntinuino	g contract	: or
X_	Included	is the info	ormation r	equire	ed by Cha	pter 22	gas <u>ok</u> B. Article	1.
Secti	on 8(d) c	of the Code	of West V	/irgini	la (see p	age 2)		
T .	I certify	that as re	equired ur	nder Ch	apter 22	B of the	West Vir	ginia Code
accom	re served Danving d	copies of documents pa	chis notic	e and	applicat	ion, a l	location p	olat, and
· · ·	Pers	onal Service	eges i uni ce (Affida	.oug .vit at	on th	e above	named par	ties, by:
	x Cert	ified Mail	(Postmark	ed pos	tal rece	ipt atta	ched)	
	Publ	lication (No	otice of F	Publica	ation att	ached)	•	
	I have re	 har he						
to th	e terms a	ead and unde and condition	ons of any	lapter / nermi	228 and t issued	38 CSR 1 under t	LI-I8, and This annli	l agree
	I certify	/ under pena	alty of la	w that	: I have	persona]	llv examin	ed and am
famil	iar with	the informa	ation subm	nitted	on this	applicat	ion form	and all
attac	hments, a	ind that bas	sed on my	inquir	y of tho	se indiv	iduals im	mediately
is tr	ne. accur	or obtaining ate, and co	g the inro	rmatio	on, I bel	ieve tha	it the inf	ormation
		e that then		nifica	nt penal	ties for	submitti	ng false
infor	mation, i	ncluding th	ne possibi	lity o	of fine and	nd impri	sonment.	
	and the second seco	المالات من من المالات	Well Oper	ator _	CABOT OI	L & GAS	CORPORAT	ION
			By:				Cluber	
	Carrier A		Address		Drilling PO Box 1		ntendant	
الوارسية المارية	00 (10 00 € 25 00 € 2	1 MTT 50년째 현기2년 - 1 변기2년			Charlest	on WV	25325	
Tania ya sa ka Marangan			Telephone	2	(304) 34	7-1600		
Subsc	ribed and	sworn befo	ore me thi	s <u>17+</u>	day of .	, .	June	, 19 <u>9</u> 1
		· ·	Tlore	ma	L Pri	Site	Not	ary Public
My co	mmission	expires	May	31, 19	99	I		

STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION SECTION OF OIL AND GAS

WELL WORK PERMIT

This permit, issued to CABOT OIL & GAS CORPORATION , is evidence of permission granted to perform the specified well work at the location described on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given to the Oil and Gas Inspector CARLOS HIVELY at 304-965-6069 prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be reported to 1-800-654-3312.

Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and in addition may result in civil and/or criminal penalties.

Well work to be conducted under this permit shall be commenced within two (2) years from date of issue.

Theodore M. Streit

Chief

Operator's Well No: N.B. TOMPKINS A1

Farm Name: HAMILTON, LAWSON W. JR.

API Well Number: 47- 39-04824 A

Date Issued : 11/14/94

Expires two (2) years from issue date.

BEORGE WELL BURELED ON THE SERVICE OF THE SERVICE SERV

FORM WW-4(B) FILE COPY RECEIVED
WY Division of
Environmental Protection Obverse 10-91

NOV 1 4 1994



November 2 1) Date:_ 2) Operator's Well No ._ N.B. Tompkins A-1 - 4824 -PP - 039 3) API Well No. _47_ State County

STATE OF WEST VIRGINIA

Permitting Office of Oil & Gas

DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL & GAS

~ N	APPLICATION	FOR A PERMIT TO P	LUG & ABANDON	
WELL T	YPE: A Oil/ Gas		/ Waste disposal	
7			orage)/ Deep	Shallow X/
LOCATIO	ON: Elevation: 1111.88	Watershed:	77	Charleston Fast
	District: Malden	CODE County:	Kanawha Quadrangle:	McCluckey
	PERATOR <u>Cabot Oil & Gas</u> Tess 400 Fairway Drive, Sui		DESIGNATED AGENT <u>Dave</u> Address One Valley Squ	ere Suite 800
Addr	Coraopolis, PA 15108	.ce 400	Charleston, WV	
		0) P	LUGGING CONTRACTOR	
	AS INSPECTOR TO BE NOTIFIED Carlos Hively		Jame <u>Unknown</u>	
	s 223 Pinch Ridge Road		Address	
Address	Elkview, WV 25071		Address	
	BIRVIEW, WV 25071			
0) WORK O	ORDER: The work order for the manner of	of plugging this well is as follo-	ws:	
•,				
		T (0 0 1		
	Cast Iron Bridge Plug @	5600'		
	CAL SEAL 5600' - 5575'	5100!		
	Cast Iron Bridge Plug @	5100'		
	CAL SEAL 5100' - 5050'			
		4. W		and the second s
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				v to a contract of the second
		OFFICE USE ONL	Υ	
		PLUGGING PERM	IIT	
		I LOGGING I LAW	" Verbal Partial E	lugged
				0.0
Permit number	47-039-4824-PP		July 28th.	19 92
			Da	
This permit co	overing the well operator and well location	shown below is evidence of pe	rmission granted to plug in accorda	nce with the pertinent legal re-
quirements sui	bject to the conditions contained herein and permitted work has commenced.)	on the reverse hereot. Notific	ation must be given to the District C	m and Gas inspector 24 hours
before actual p	The permitted work is as described in the	Alarian and Amelication, plat	subject to any modifications and con	durans on the
	The permitted work is as described in the reverse hereof.	Notice and Application, plat, i	despect to any modifications and con	arrions on the
e de la companya de l		1		t accomment with the dibagner
Permit expires	7-28-94	uniess pruggin	g is commenced prior to that date and	i prosecured with ade dingenee.
Bond:	Agent: Plat Casing	WPCP OTHER	damel Allan	an
	DI A A			
1				
V	V			
NUATE For	o one copy of this permit posted at the pluj	ging location.	Chief, Office of Oil	
NOTE. Keep	our cobs of this bettill bosten at the bins	Danie 100		File

RM WW-4(A) verse

1)	Date:	November	2 ,	1994
	Operator	¹ s		
2)	Well No.	N.B.	Tompkins	A-1
3)	API Well		- 039 -	4824 -
		State	County	

		STAT	e of	WES.	I ATI	KGINI	LA			
DIVISION	OF	OIL	AND	GAS,	DEP	ARTM	ent	OF	eni	ERGY
NOTICE OF										

	NOTICE OF APPLICATIO	N TO PLUG	AND ABANDUN A WELL					
SURFACE OWN	ER(S) OF RECORD TO BE SERVED	5 (i)	COAL OPERATOR					
	** ** * * * * * * * * * * * * * * * *		Address					
(i) Name	Lawson W. Hamilton Jr.	5 (ii)	COAL OWNER(S) WITH DECLARATION ON RECORD:					
Address	P.O. Box 175) (II)	Name Lawson W. Hamilton Jr.					
(· · ·) N - · ·	Hansford, WV 25103		Address P.O. Box 175					
(ii) Name	3		Hansford, WV 25103					
Address		5 (iii)	COAL LESSEE WITH DECLARATION ON RECORD:					
(iii) Name			Name					
			Address					
	TO THE PERSON(S) NAMED ABOVE: You should he	ve received th	is Form and the following documents:					
	(1) The Application to Plug and Abando							
	parties involved in the work, and	describes the	well and its location and the					
	plugging work order; and (2) The plat (surveyor's map) showing	the well locat	tion on Form WW-6.					
Assessment	THE REASON YOU RECEIVED THESE DOCUMENT	S IS THAT YOU I	T YOU HAVE RIGHTS REGARDING THE APPLICATION					
	WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" (FORM WW-4(B)) DESIGNATED FOR YOU. HOWEVER	, YOU ARE NOT	REQUIRED TO TAKE ANY ACTION AT ALL.					
	Take notice that under Chapter 22B of proposes to file or has filed this Notice as	the West Virgin	nia Code, the undersigned well operator					
	Permit to plug and abandon a well with the	Director of the	e Division of Oil and Gas, West					
	Virginia Department of Energy, with respect attached Application and depicted on the at	tached Form WW	-6. Copies of this Notice, the					
	Application, and the plat have been mailed to the person(s) named above (or by publica	hy recistered	or certified mail or delivered by nand					
•	of mailing or delivery to the Director.	CION IN CELCUL	,					
		WE	Cabat Oil & Gas Corporation					
	he information on the Notice a		ERATOR CABOL OIL & CAS SOLPETA					
Application is	verified and sworn to and the							
	ed on behalf of the Well Opera	itor By	- Kones (SC) and					
in my County a	nd State by	It	Manager of Drilling					
~ 777	Thlim	1. 0	0					
~	Laughlin	āi.	Name of the Park o					
This QNYd	lay of November, 19	77 AC	dress 400 Fairway Drive					
My commission	expires QUNE 17, 19	<u>14</u>	Suite 400					
			Coraopolis, PA 15108					
	January San Da							
	growing. No	wes						
Notary Public,	HULECOHENY Count	ty, Te	elephone (412) 299-7000					
State of	PENNSULUANIA							
	Notarial Seal Cyrithia M. Bowles, Notary Public							
	Objection Two Washington Journa I							
-	My Commission Expires June 17, 1990							
	Member, Pennsylvania Association of Notaties							