









Deep Well

WEST VIRGINIA DEPARTMENT OF MINES OIL & GAS DIVISION WELL RECORD

Permit No. Kan - 1547 Clendein Quad. Gas Well

Casing & Tubing

~		7 ~ ~		# CO C 25 ##	0 0 00 00 00 00 00 00	0
*	P. O. Box R. L. Tho Pigeon Ro X-52A-711 Elk Coun Roscoe L. 8/28/50 1/2 51 1/3/51 With 100# 44/10ths 2,862 M C 630 lbs. 205 feet	mas, et al ost Br. of I I Elev. 10 ty Kanawha Thomas, et gel. water in 7" oriskany 19 hrs.	, 25., W. Va. Acres 77.5 ndian Ck.	10-3/4 8-5/8 7"	1442 1656 5200	1442 1656 5200
				* * * * * *	7045	
Soil	0	12	-Pencil Cave	1642	1645	
Sand	12	25	-Big Lime	1645	1800	
Blue Mud	25	60	-Injun	1800	1830	7070 00
Sand	60	100	Black Lime	1830	1850 Gas	
Slate & Mud	1.00	200	100 6	* ~ ~ ^	0000	Weir
Sand	200	2 35	-Weir sand	1850	2050	
Slate & Mud	2 35	270	Slate & shs.		2365	
Sand	270	325	Berea shs.		2380	
Slate	325	340	Slate & shs.		3385	
Black Lime	340	360	Brown shale		3450	
Blue Mud	360	385	Slate & shs.		3950	
Sand & Slate,			Brown shale		4 050	
shs.	385	860	Slate & shs.	4050	4362	
Dark Lime	860	885	White Slate	4362	4685	
Slate	885	920	Dark slate	4685	4800	
Salt sand	920	1150	Brown shale	4800	5065	
Slate & coal	1150	1155	Slate	5065	5095	
Sandy Lime	1155	1.200	Brown shale	5095	5130	
-Sand	1200	1438	-Black shale	5130	5168	
Slate	1438	1440	Corniferous			
Li.me	1440	1444	Lime	5168	5296	
Slate	1444	1450	Oriskany sand	5296	5317 TD	
Red Rock	1450	1455	Gas 5308-5315			3. M
Slate	1455	1460	,	,, .	Orisk	
Red Rock	1460	1480				
Dark Lime	1480	1510	Test before sh	ot 18/10 W	7" 1.831	М
Slate	1510	1.520	Shot 1/3/51 wi			
Red rock	1520	1.540	to 5317. Test	.,		and the second s
Slate	1540	1549	W 7" 2,862 M	A 141 9 COLUE	z Siloo i l	7 3.0
-Ma xon	1549	1575	" " " " OO " ""			
Slate	1575	1577	Final open flo	m. 2.862 M	- Oricka	n sr
Little Lime	1577	1615	19 hr. r. p. 6		- CILSAG	rry
			To itte te he o	5077		
Slate	1615	1625	Shut in 1/3/51	in 7 11 000		
Shell	1625	1627	DITOR TIT TO ST	an i cas	T1120	
Pencil Cave	1627	1635				
Lime	1635	1642	5/68 5	296		
			1029_1	03-9		
			1029	1267		

23-Jun-92 API # 47- 39-01547 W

|Cement |

MAR 0 3 1995

State of West Virginia Division of Environmental Protection Section of Oil and Gas

Permitting Office of Oil & Gas

Well Operator's Report of Well Work

Farm name:

THOMAS GODBEY R

Operator Well No.: 7111

LOCATION:

Elevation: 1029.00 Quadrangle: BLUE CREEK

District: ELK

County: KANAWHA

| Casing | Used in | Left

Latitude: 5900 Feet South of 38 Deg. 25Min. 0 Sec. Longitude 8300 Feet West of 81 Deg. 25 Min. 0 Sec.

Company: COLUMBIA GAS TRANSMISSION 1700 MacCORKLE AVENUE S.E.

CHARLESTON, WV 25314-0000

Agent: ROBERT C. WEIDNER

Inspector: CARLOS W. HIVELY 06/24/92

Permit Issued: Well work Commenced:

08/16/93

Well work Completed:

9/24/93

Verbal Plugging

Permission granted on:

Rotary x Cable Total Depth (feet)

Fresh water depths (ft) 150

Salt water depths (ft)

Is coal being mined in area (Y/N)? N Coal Depths (ft): APP: 1000

&		2020	Fill Up	
Tubing	Drilling	in Well	Cu. Ft.	
Size		 		
10-3/4"	1513'	-0-	_	
8-5/8"	1660'	 1660'	Squeeze= cemented 285-sx+-	 W/
7 ¹⁸	5247'	 5247' <i>.</i>	-	des electes estados elle
2-3/8"	5305'	5305'		Somite disclosurings describiges agrees
				* delignosis mone

OPEN FLOW DATA

N/A

- Additional Information on back -

Producing formation ORISKANY SANDSTONE Pay zone depth (ft) 5296-5317 Gas: Initial open flow 6700 MCF/d Oil: Initial open flow Bbl/d
Final open flow 790 MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests Hours Time of open flow between initial and final tests Static rock Pressure 1486 psig (surface pressure) after

Second producing formation

Pay zone depth (ft)

Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow MCF/d Final open flow Time of open flow between initial and final tests

Bbl/d 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. WELL LOG- SEE PREVIOUSLY

SUBMITTED INFORMATION

For: COLUMBIA GAS TRANSMISSION CORP.

KILLED THE WELL AND PULLED 2-3/8" TUBING.

RAN CBL ON 7" CASING.

- RAN VERTILOG ON 7" CASING.
- STRING SHOT AND BACKED OFF 1014' OF 7" CASING.

RAN CBL ON 8-5/8" CASING.

- PERFORATED 8-5/8" CASING @ 500' with 4 shots/ft for 1 ft.
- SQUEEZED CEMENTED BEHIND 8-5/8" CASING W/ 285 SACKS OF CLASS A CEMENT -CEMENT RETURNS TO THE SURFACE.
- 8) RAN CBL ON 8-5/8" CASING.
- 9) GROUTED BEHIND TOP JOINT OF 8-5/8" CASING.
- 10)
- RAN 1017' OF NEW 7" 23#/FT CASING.
 PRESSURE TESTED 7" CASING TO 2000 psi FOR 20 MINUTES TESTED O.K. 11)
- INSTALLED NEW 8-5/8" X 7" API 3000 FLANGED CASING HEAD. 12)
- 13) CLEANED OUT HOLE W/ 6-1/8" BIT TO 5305'.
- RAN NEW 2-3/8" 4.6#/FT 10 R TUBING TO 5305'. 14)
- SPOTTED 1000 GAL. OF 20% FE ACID W/ ADDITIVES AND PUMPED ACID INTO FORMATION. 15)
- 16) SWABBED WELL; FLOWED WELL.

	FOR	M WW-2B					Pā	ge_1of_1
			DEPART	STAT MENT OF E	E OF WEST CNERGY, DIV	<u>VIRGINIA</u> VISION OF OI	L AND GAS	eed 6/24/92 Ques 6/24/94
				WELL WO	RK PERMIT	APPLICATION	٤ ,	ques, 6/24/94
	1)	Well Ope	erator: C	OLUMBIA GAS	TRANSMISSIO	ON CORP. ()	450 (4)	255
	2)	Operato	's Well	Number:Wel	7 No. 7111,	Coco A Storag	e 3) E]	evation:1029'
	4)	Well typ	oe: (a)	0il_/	or Gas	5 <u>X</u> /		
			(b)	If Gas:		n/ Undergr p_X/	ound Storag	
	5)	Proposed	l Target	Formation	(s):	Oriskany		
	6)	Proposed	l Total D	epth:53	17'	feet		Office of Oil & Gas Permitting
	7)	Approxim	nate fres	h water s	trata dept	hs: <u>150' est</u>		<u> </u>
	8)	Approxim	mate salt	water de	pths:	380' est	· \ \ \ \ \ \ \ \ \ \ \ \ \	WV Division of
	9)	Approxim	mate coal	seam dep	ths:	1,000 est.		WV Division of ronmental Protection
	10)	Does lar	nd contai	n coal se	ams tribut	ary to acti	ve mine? Y	es/ No <u>x</u> /
	11)	Proposed	Well Wo	rk: A) Pul	1 & replace	2-3/8" tubing	and partial n	replacement of the
	12)	/" csg. wellhead	B) Pertora	ate & squee	ze the 8-5/8	B" casing. C)	Install 3000	psi API flanged
				CASIN	G AND TUBI	NG PROGRAM		
	TYPE		S	PECIFICAT	IONS	FOOTAGE IN	TERVALS	CEMENT
	alternative constitutive consti		Size	Grade	, -	For drilling	Left in well	Fill-up (cu. ft.)
1/2	Condu	ıctor						
25	Fresi	n Water						
	Coal		10-3/4"	-	45.5	1513'	-0-	
	Inter	<u>cmediate</u>	8-5/8"		32	1660'	1660'	comb. gel/cement approx. 1000' -
	Produ	uction	7"	MID	23	5247'	5247'	224 cu. ft.
	Tubir	ıq .	2-3/8"		4.6	5288'	5288'	
	Liner	:s						
	PACKE	ERS : Kin						
	.25	ノ Siz くう Dep	ths set					
	1	· · · · · · · · · · · · · · · · · · ·			<i></i>			
1	17	3	F	சூ Diviso	n or Oll a	ind Gas Use	Only	
1	73	う Fee(s) p			n of Oll a ork Per mi t	1	Only amation Fun	d WPCP
	12 12 12 12 12 12 12 12 12 12 12 12 12 1	Fee(s) p			ork Per mi t	1	_	d WPCP Agent

Page	1 of	- -	1)	
(09/	87)		2)	Operator's well number Well 7111, Coco A Storage Field
File	Copy		3)	API Well No: 47 - 039 - 01547-Rewor
				State - County - Permit
				VIRGINIA VISION OF OIL AND GAS
		NOTICE AND APPLICAT	ION FO	OR A WELL WORK PERMIT
4)		wner(s) to be served		5) (a) Coal Operator: WV Division of
	(a) Name Address	Godbey R. Thomas 177 Pinch Ridge Rd.		Name none Address [Environmental Protection]
		Elkview, WV 25071		Address
	(b) Name			(b) Coal Owner(s) with Declaration
				Name none Address
	(c) Name			
	Address _			NameAddress
6)	Inspector	<u>Carlos Hively</u> 223 Pinch Ridge Road		(c) Coal Lessee with Declaration
		Elkview, WV 25071		Name none Address
	Telephone	(304) - <u>965-6069</u>		
		TO THE PERSON(S) NAM	ED ABC	OVE TAKE NOTICE THAT:
contr	Included	is the lease or lease which I hold the right	es or	other continuing contract or extract oil and gas <u>OR</u>
<u>X</u>	Included	is the information re	eguire	ed by Chapter 22B. Article 1
Secti	ion 8(d) o	f the Code of West V	irqini	a (see page 2)
I hav	r certify e served	copies of this notice	ier Ch e and	apter 22B of the <u>West Virginia Code</u> application, a location plat, and
accon	mpanyıng d	cuments pages 1 thro	ough _	on the above named parties, by:
	Pers	onal Service (Affiday	vit at	tached)
	Publ	ication (Notice of Pu	ed pos ublica	tal receipt attached)
to th	I have re ne terms a	ad and understand Chand conditions of any	apter	22B and 38 CSR 11-18, and I agree t issued under this application.
	I certify	under penalty of law	w that	I have personally examined and am
famil	lar with	the information submi	itted	on this application form and all
respo	inments, a	nd that based on my i r obtaining the infor	inquir cmatio	y of those individuals immediately n, I believe that the information
is tr	ue, accur	ate, and complete.		
<u> </u>	l am awar	e that there are sign	nifica	nt penalties for submitting false fine and imprisonment.
	OFFICE	ALSEAL & Well Opera	ator _	COLUMBIA GAS TRANSMISSION CORP.
	NOTAR' STATE OF W	Y PUBLIC By:	-a	lidher
	MARY P	PADSONIC TUBE		r, Drilling & Maintenance
Standard Standard	St Albana Weet	C C	harles	ton, WV 25325-1273
Subsc		sworn before me this		
			7/1	day of, 1992
Mv co	mmission e	expires / ary	TA	Notary Public
٠٠٧ - ٢٠٠	muraaiuu (evalues / OC	cro	ner 10, 1974.

039-1547- Frac Issued 09/14/95

	n)	direction.	THE OWNER WHEN THE PARTY WHEN THE PARTY WE SHOULD S
\UG 25	3	1995	DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
	aa!.	a. @l	WELL WORK PERMIT APPLICATION

	7		WELL WOR	K PERMIT A	PPLICATION		-
Offic	poj Qil&Gas	ator:	COLUMBIA	GAS TRANSMI	SSION CORPORA	ATION (10450)	4) 258 4)
						3) Elev	
1) [Well type	: (a) C)il_/	or Gas	X		
		(b) I	f Gas: P	roduction Deep	_/ Undergr	ound Storage Shallow	<u>X</u> //
5) I	Proposed	Target F	Formation((s):Or	riskany Sand		
6) 1	Proposed	Total De	epth:53	317	_ feet		
7) .	Approxima	te fres	n water st	rata dept	hs:150	O' est.	
8)	Approxima	te salt	water de	oths:	38	O' est.	
9)	Approxima	te coal	seam dep	ths:	1,00	O' est.	
						ve mine? Ye	
11)	Proposed	Well Wo	rk: S	timulate the	existing Sto	rage Formation	(Oriskany)
12)			·	,	NG PROGRAM		
TYPE		S			FOOTAGE IN	ITERVALS	CEMENT
		Size		Weight	For drilling	Left in well	Fill-up (cu. ft.)
Condi	ictor	'/				- 1/1/a	SAHOUSEN
	n Water	95/AL	INFORMATI	ON THE SAME	AS SUBMITTED	IN 1992 EXCEPT	FOR 2858/
Coal		10		ITEM NO.	11.		awan
	rmediate	11		1/1		5247	
	uction	1	1. (1)	JAW .			/
Tubi		23/0				5305	
Line		070					
PACK		d					
EAUN	Siz	es					
	Deg	ths set					

₩₩-9 (1) WW-2B

| Fee(s) paid: Well Work Permit | | Reclamation Fund | | WPCP | Bond _

For Divison of Oil and Gas Use Only

|__| Agent

Page Form	1 of1 ww2-A	WV Division of Environmental Protection	1)	Operator's well number
	37) Copy	AUG 29 1995	3)	Well 7111, Coco A Storage Field API Well No: 47 - 039 - 01547 - FRAC
	* * *	Permitting		State - County - Permit
				VIRGINIA
		DEPARTMENT OF ENERG	Y, DI	VISION OF OIL AND GAS
		NOTICE AND APPLICAT	ION F	OR A WELL WORK PERMIT
4)		wner(s) to be served		5) (a) Coal Operator:
	(a) Name Address _	Godbey R. Thomas 177 Pinch Ridge Rd. Elkview, WV 25071		NameAddress
	(b) Name	Elkview, WV 25071		(b) Coal Owner(s) with Declaration
	Address _			Name
	(c) Name			Address
	Address _			Name
				Address
6)	Inspector	Carlos Hively		(c) Coal Lessee with Declaration
		223 Pinch Ridge Road Elkview, WV 25071		NameAddress
		(304) - 965-6069		
		TO THE PERSON(S) NAM	ED AB	OVE TAKE NOTICE THAT:
				other continuing contract or
				extract oil and gas <u>OR</u> ed by Chapter 22B, Article 1,
	ion 8(d) o	f the Code of West V	/irgin	ia (see page 2)
T ha				hapter 22B of the West Virginia Code application, a location plat, and
	mpanying d	ocuments pages 1 thr	ough	on the above named parties, by:
. '	Pers	onal Service (Affidational Service (Affidati	vit a	ttached) stal receipt attached)
	Publ	ication (Notice of F	ublic	ation attached)
+0 +	I have re	ad and understand Ch	apter	22B and 38 CSR 11-18, and I agree at issued under this application.
	I certify	under penalty of la	w tha	t I have personally examined and am
				on this application form and all ry of those individuals immediately
resp	onsible fo	or obtaining the info	rmati	on, I believe that the information
is t		ate, and complete.	nific	ant penalties for submitting false
info		ncluding the possibi	lity	of fine and imprisonment.
	FFICIAL S	EAL 3 D		COLUMBIA GAS TRANSMISSION CORPORATION Chard L Coty Williams L. Coty
NOTARY	PUBLIC, STATE OF W BRENDA GHOSH	<i>A</i>		nager, Well Services
,	P. O. BOX 1273	Address _	Р.	0. Box 1273
	CHARLESTON, WV 2			arleston, WV 25325-1273 04) 357-3034
Jubs	cribed and	sworn before me th		
G2	nenda.	Ghosh		Notary Public
Мус	ommission	expires may 1	16, á	2000
		Ø		

RECEIVED
WV Division of Environmental Protection

WR535_5 NUL 13 1999

11-Mar-99 API # 47- 39-01547 F

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

THOMAS, GODBEY R Farm name:

Operator Well No.: COCO "A" 7111

LOCATION:

Elevation: 1,029.00 Quadrangle: BLUE CREEK

District:

County: KANAWHA

Latitude: 5900 Feet South of 38 Deg. 25Min. 0 Sec. Longitude 8300 Feet West of 81 Deg. 25 Min. 0 Sec.

Company: COLUMBIA GAS TRANSMISSION

P. O. BOX 1273

CHARLESTON, WV 25325-1273

Agent: RICHARD L. COTY

Inspector: CARLOS HIVELY

Permit Issued:

03/12/99

Well work Commenced: Well work Completed:

05-12-99

__06-16-99

Verbal Plugging

Rig

Salt water depths (ft) 1010' - 1020'

Is coal being mined in area (Y/N)? No Coal Depths (ft): 1150' - 1155'

Casing	Used in	Left	Cement Fill Up
Tubing	Drilling	in Well	
Size			
8-5/8", 2	8 1b	1660'	To surface
7", 23 11		5247'	To3343'
4-1/2",	11.6 1b	5341'	90 sx

OPEN FLOW DATA * Storage well - Rates and pressures variable

Producing formation Oriskany	Pay zone depth (ft) <u>5300' - 5</u> 3
Gas: Initial open flow N/A MCF/d Oil	: Initial open flow N/A Bbl/d
Final open flow N/A MCF/d	Final open flow N/A Bbl/d
Time of open flow between initial	and final tests $_{M/A}$ Hours
Static rock Pressure N/A psig (sur	face pressure) after N/A Hours
Second producing formation	Pay zone depth (ft)
	: Initial open flowBbl/d
Final open flow MCF/d	Final open flowBbl/d
Time of open flow between initial	and final tests Hours
Static rock Pressure psig (sur	face pressure) afterHours

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: COEUNBIJA GAS TRANSMISSION CORP. Paul Amick By:_ Date: 07/09/99

Pulled 5178' of 2-3/8" tubing. Drilled well 50' deeper, ran 5341' of 4-1/2", 11.6 lb, N-80 casing and cemented with 90 sx of Class "A" cement (10% salt), perf'd Oriskany 5300' - 5312' with 6 SPF, and pumped an N2-Assist Deltafrac using 500 gallons of 28% HCL, 417 bbls of water, 152 MSCF N2, and 33,350 lbs of 20/40 sand at 1 - 4 PPG.