

JUL 22 1093

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

Well Operator's Report of Well Work

Farm name:	MOUPIN, WIN	IFRED COMBS	o O	perator	well N	o.: T	ERRA	ALTA#7	392	
LOCATION:	Elevation:	2,196.26	Quadrang	jle: TE	ERRA A	ALTA				
	Latitude:	PORTLAND 3,100 Feet 11,300 Feet	South o	f 39 [Deg.	P 25 Mir 32 Mir	n. 0	Sec.		
P.O. CHA Agent: RICHA Inspector: P Permit Issue Well work (UMBIA GAS TF BOX 1273 RLESTON, WARD L. COTY HILLIP TRACY d: Commenced: Completed:	V 25325-1273 (03/05/98 05-19	-98	Casil & Tubil Size	ng	Used Drilli			Cement Fill Up Cu. Ft	
Permission g Rotary Total Depth	granted on: Cable (feet) depths (ft)	Rig _5.391'			STI	MULATI R DETAI	ON; S LS	EE OPPO	OSITE SIDE	
s coal bein Coal Depths	depths (ft) _ ng mined in (ft) :	See Parea (Y/N) ?	revious P_N							
Gas : Static	cing formation Initial open Final open Time of open rock Pressu	flow <u>471</u> flow <u>N/A</u> en flow betv re <u>1496</u>	MCF/d MCF/d veen initia psig (s	Oil : F I and surface	Initial Final final press	open open 1 tests_ sure) a	flow_ flow _ after		Bbl/d Bbl/d Hours Hours	39
Static rock	d producing Initial open Final open Time of open Pressure	flow en flow betw psig	MCF/d veen initia (surface	F I and pressu	Final final ure) a	open f tests_ after _	flow _	Н	Bbl/d Hours lours	
NTERVALS, I .OG WHICH I	FRACTURING S A SYSTEMA COAL ENCOU	OR STIMULA	TING, PHY D GEOLOC	'SICAL BICAL I	CHAN	IGE, E	TC. 2	. THE	WELL	_
		For: COLUI	MBIA GAS			SION C	CORP.			7

PRE DOSOF

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

Well Operator's Report of Well Work

- On 05-27-98 Halliburton was moved in and rigged up. The well casing was "pickled with 350 gals of 20% FE acid displaced w/ 44,000 SCF N₂. The acid was allowed to flow into a flowback tank. Treated well with 8,000 gals 60 Quality foamed 20% FE acid @ 8BPM and 8,000 gals 60 Quality foamed 15% FE acid. Flushed with 3066 gals 60 Q foamed water.
- Additives: FE1-A,FE-5A, BA-2, HAI-81, SCA-130, PENN-88, and HC-2.
- AVERAGE RATE=3-4BPM

AVERAGE TREATING PRESSURE=2,600 PSIG

- Recovered 51 bbls of 166 bbls total fluids on flowback, 05-27-98.
- Fluids removed from location and transported for disposal @ Max Environmental (ALS) Pittsburgh, PA on 6-04-98.
- Well Work Completed 05-27-98.

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COLUMBIA WELL NO. 7392 & 7393 - LEASE NO. 1090332

Joseph T. Cassidy ------1/3 Int. Fee 239 Singer Ave.
McKees Rocks, Pa. 15136

Bernadette Cole ------4/100 Int. Fee % Robert J. Kraus 3001 Barcelona PLSW Albuquerque, NM. 87121

Robert J. Kraus ------15/100 Int. Fee 3001 Barcelona PLSW Albuquerque, NM 87121

Winifred Maupin -----1/12 Int. Fee 7 - M Research Road Greenbelt, Md. 20770

Gwendolyn Combs Hrs. -----1/12 Int. Fee % Younger Honey Combs 3602 Pilcher Ave.
Nashville, Tenn. 37209

Lucille E. Combs -----1/12 Int. Fee 3941 S.W. 6th Place Gainesville, Fl. 32607

Teresa E. Cox -----7/100 Int. Fee P.O. Box 31156
Dayton, Ohio 45431

Robert B. Cox -----7/100 Int. Fee P.O. Box 31156
Dayton, Ohio 45431

Wayne L. Combs ------1/12 Int. in coal, oil, gas & 578 Ridgewood Dr. other minerals
Daphine, Al. 36526

Robert D. Dewitt ------1/12 Int. in Fee less coal, oil 115 Seemont Dr. gas and other minerals Kingwood, W.Va. 26537



STATE OF WEST VIRGINIA DEPARTMENT OF MINES

OIL AND GAS DIVISION

Quadrangle Kingwood

Permit No. PRES. 20-D

DRILL DEEPER
WELL RECORD

Oil or Gas Well Gas

	ic Seabo						
n Remod		charleston		Casing and Tubing	Used in Drilling	Left in Well	Packers
Farm Bernac	<u>lette Col</u>	Le, et al A	cres 219				
Location (waters)	Salt	lick Creek		Size			
Well No. 7392		T	Elev. 2196.26	16			Kind of Packer
District Portla	and	County Pre	ston	13		•	None
The surface of tract	is owned in	fee by		10			Size of
	A	Address		81/4	i :		
Mineral rights are o				65/8			Depth set
3328 Glenmawr				5 3/16			
Drilling commenced_				<u>* 4½</u>		5391	Perf. top
Drilling completed		October 31, 1	.959	2			Perf. bottom
Date Shot -No	From	то.		Liners Used			Perf. top
With							Perf. bottom
Open Flow /100	ths Water in	n	Inch			^	
/10	ths Merc. in	n	Inch	CASING CEMI	ENTED Yes	SIZE 41/2"	_No. FtDat
Volume		·	Cu. Ft.				
Rock Pressure		lbs	hrs.				
Oil			_bbls., 1st 24 hrs.				_FEETINCHE
WELL ACIDIZED_		\$ '		FEE	rINC	HES	_FEETINCHE
				FEE	rINC	HES	_FEETINCHE
WELL FRACTURE					•		
							·
ROCK PRESSURE . Fresh Water						•	et
Formation	Color	Hard or Soft	Тор	Bottom	Oil, Gas or Water	Depth	Remarks
Drill Deeper F	Record Fr	om 5381)				
		1		1			
Imickonst			•	5300			
Oriskany Helderberg			5300	5390		639.	
Oriskany Helderberg Total Depth			5390	-		539	2
Helderberg			5390	5390 - 5391'		5390	Q
Helderberg			5390	-			2
Helderberg			5390	-	č.		o 1
Helderberg Total Depth	22.22		5390	-	₹-		Q
Helderberg Total Depth Well Surveys F	<u>Run</u>		5390	-	le		2
Helderberg Total Depth Well Surveys F Gamma Ray	<u>Run</u>		5390	-			2
Helderberg Total Depth Well Surveys F			5390	-			
Well Surveys F Gamma Ray Laterolog			5390	-			2
Well Surveys F Gamma Ray Laterolog			5390	-	&		
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WEST VIRGINIA DEPARTMENT OF MINES OIL & GAS DIVISION WELL RECORD

Permit No. Pres 20						Gt	as Wel	.1
Kingwood Quad.						CAS	ING &	TUBING
Company	Hope	Natural	Gas Con	npa ny				
Address	445	Vest Mai	a St., C	larksburg	. W.Ve.	13	42	42
Farm	Marga	aret C. I	Kraus	Acres 219)	103	500	500
Location						8 5/8	1517	1517
Well No.	9636	E	Lev. 219	95		7	5104	5104
District	Port:	Land	Preston	County				
Surface				•		Casin	g ceme	nted:
Mineral						8" set		
Commenced	Marcl	20,195	L			cement		
Completed	June	20,1951				7" set :	ln 60	bags
Date shot	6-21	-51 Depi	th 5263-	-5367		cement :		
				rease by	shot			
Volumo	1,98	L,000 C.I	7.			No coal	rocor	'de d
Fresh Water	2431	·						
Salt Water	None	recorded	ì					
Cuada e a	^	5 4						
Surface	0	54						
Slate	54	240 245						
Limo	240	345						
Slate Shell	345	440		*				
Lime	440	640						
Slate Shell	640	737						
Lime	737	780						
Slate Shell	780	1383						
Wenson	1383	1428						
Slate Shell	1428	3065						
Brown Shale	3065	3106		•			•	
Slate Shell	31,06	3800						
Brown Shale	3800^	4255						
Black Shale	±255	4380						
Lime Tully	4380	4415						
Brown Shale	4415	4914						
Black Shale	4914	5026						
Lime Shell	5026	5040						
Slate Shell	5 040	5060						
Black Lime	5 060	5066						
Brown Break	5066							
Black Lime	5069	5103						
\Chert	5103	5238			•		_	110
Shale - Washington	5238	5248						069
Tri skany	5248	5377	Gas 5	5250 - 5282-	·5338 -5 3'	72	2	195
T.D.	5377							Marie Control of the
•	- 20.000	The state of the s					7	874
	14						more home	0 1 '

5248 2195 -3053

Portland District, Preston County, W. Va. By Hope Natural Gas Co., Clarksburg, W. Va.
Located 0.6 mi. S. of 39° 25' and 4.4 mi. W. of 79° 30' - EC - Kingwood Quadrangle. Elevation, 2195 L. Permit Pres 20. Drilling commenced March 1951; completed June 1951. Volume, 1,981,000 cu. ft. gas after shot. Rock pressure, 2250# in 44 hrs. Gas at 5250-52861. Section based on samples from 4224 to 5372 feet; examined by Russell R. Flowers. Record to RCT from Flowers Feb. 27. 1952. Bottom. Thickness. 4224 - 4255 31 Shale, dark-gray to grayish-black, some grayish-black to black at the bettom, silty 4255 - 4382 127 Shale, grayish-black to black, calcareous TULLY LIMESTONE, 15 FEET Limestone, elive-gray to dark-gray, highly argillaceous to a 4382 - 4397 15 highly calcareous shale at the bottom HAMILTON AND MARCELLUS SHALES, 673 FEET 4397 - 4433 36 Shale, grayish-black to black; calcareous in part 4433 - 4516 83 Shale, dark-gray to grayish-black; small amount is pyritie; slightly calcareous 4516 - 4591 75 Shale, grayish-black, silty in part; trace of calcite Shale, dark-gray to grayish-black; some dark-gray, highly 4591 - 4691 100 dolomitic shale at 4635 to 4697 feet 4691 - 4747 -56 Shale, grayish-black, highly slickensided; a very small amount is highly calcareous 4747 - 4928 Shale, grayish-black and grayish-black to black; (carbonace ous), 181 small amount is pyritic in part; small amount is highly calcareous 4928 - 5002 74 Shale, grayish-black to black, carbonaceous; small amount is pyritic; occasional calcareous streak 5002 - 5018 16 Shale, dark-gray, highly calcareous, with some very shaly limestone; some grayish-black to black shale Shale, grayish-black to black, highly earbonaceous, highly 5018 - 5070 52 calcareous in the lower part; small amount is pyritic HUNTERSVILLE CHERT, 178 FEET 5070 - 5104 34 Shale, dark-gray to black, highly calcareous to a very shaly limestone, pyritic in part; trace of chert at the bottom: a moderate amount of brownish-gray to dusky yellowish brown metabentonite at the top 5104 - 5110 6 Shale, grayish-black, highly silicified with some dark-gray chert at the top to a dark-gray and grayish-black, argillaceous chert at the bettom, somewhat calcareous; some mediumto dark-gray, spicular chert 5110 - 5125 15 Chert, light- to dark-gray (translucent to "dead" - small amount is spicular), some grayish-black (highly argillaceous - mostlin the upper part), calcareous, somewhat dolomitic 5125 - 5150 25 Chert, very light to light-gray (translucent to ordinary, highl

somewhat dolomitic
Chert, mottled light to medium-gray and dark-gray to grayishblack (highly argillaceous), spicular, slightly calcareous
and slightly dolomitic, silty and glauconitic in part

5150 - 5155

5

spicular), some medium- to dark-gray (argillaceous with a little grayish-black silicified shale), slightly calcareous,

(OVER)

*	Top.	Bottom.	Thicknes	8.
		- 5162		Chert, light- to medium-gray (with dark-gray to grayish-
	reas de communicates es sistema management	man or main and the contract of the second against		black; silty, cherty shale), somewhat dolomitic; somewhat
k		- · · · · · · · · · · · · · · · · · · ·		spiculer
	5162	- 5184	22	Chert, medium- to dark-gray (argillaceous), a moderate to large
				amount of grayish-black (very silty, cherty shale), highly
	51 Qli	- 5188)	dolomitic
	2104	- 2100	4	Shale, dark-gray to grayish-black, silicified, very silty;
, , , , , , , , , , , , , , , , , , ,	5188	- 5195	7	chert, dark-gray; trace of dolomite Chert, medium- to dark-gray, with a moderate amount of grayish-
	<i></i>			black (silicified, silty shale), slightly delomitie
	5195	- 5209	14	Chert, medium dark to dark-gray, somewhat argillaceous to a
****				grayish-black, highly silicified share; contains a few
		-	ţ	scattered dolomite rhombs
	5209	- 5222	13	Chert to silicified shale, dark-gray to grayish-black; trace
				of vein dolomite
	5222	- 52 35	13	Shale, grayish-black, silicified; some dark-gray chert in the
			· · · · · · · · · · · · · · · · · · ·	upper part; trace of vein delemite
N. S.	5235	- 5 248	13	Shale, grayish-black to black (carbonaceous), pyritic in the
				lower part, calcareous, dolomitic, and cherty at the bottom
,	701.0	2020		CRISKANY SANDSTONE, 7 ? FEET
	5248	- 52 5 0	2	Sandstone, light- to medium-gray, fine- to medium-grained,
		Andrew Street, and the street of the street		rounded, some coarse (well-rounded, quartz) grains, calca-
	5250	- 5254	<u>la</u>	reous, contains a little dark (shaly) interstitial material
	الالمر			Sandstone, light-gray, very fine to medium-grained, subrounded to rounded, calcareous, a little interstitial (milky) chert
	5254	- 5255	1	Sandstone, light-gray, very fine to medium-grained, subround.
-	<i></i> ,			ed, calcareous
			-	HELDERBERG FORMATION, 117+1 ? FEET
	5255	- 5259	4	Siltstone, light- to dark-gray, some grayish-black (argilla-
				ceous), highly calcareous, pyritic in part; the entire sample
		•		consists of rounded pebble aggregates
	5259	- 5260	1	Shale, grayish-black to black; silt stone, medium dark gray to
Name to the second second	ere con commente a a a a			grayish-black, highly calcareous; most of the cuttings in
				this interval are rounded
The second secon	5260	- 5262	2	Sandstone, light- to medium-gray, very fine to medium-grained,
-	The second second second second second			somewhat argillaceous in part, calcareous; trace of vein
	K262	toff.		calcite
	7202	- 5266	4	Sandstone, light-gray, mostly fine-grained, some medium (rounded
	5266	- 5268	•	grains, calcareous
	7200	- 7200	4 ~	Sandstone, light- to dark-gray, highly calcareous, very shaly
	5268	- 5273	5	to a grayish-black and black shale, pyritic in part Sandstone, very light gray wery fine to medium grained
	,			Sandstone, very light gray, very fine to medium-grained, sub- rounded to rounded, calcareous
* To VM 1985 and a contract and a second contract of	5273	- 5279	6	Sandstone, light-gray, some medium-gray (somewhat argillaceous),
			· management considerate a specific	mostly fine-grained, some medium to coarse grains, highly
				calcareous to a very sandy limestone
Marine	5279	- 5288	9	Sandstone (very highly calcareous) to limestone (very sandy).
		where or the second of the second of the second of		medium to dark gray, very fine to medium grained, some
	£000	- 5293		coarse grains, somewhat shaly: a very small amount of chert
	2200	- 5493	5	Sandstone, light- to medium-gray, some dark-gray (argillaceous).
Accessed to the control of the contr		- 529		mostly fine to medium-grained, very highly calcareous
TORREST TO THE TOTAL THE TOTAL TO THE TOTAL	2673	ー ンムフ 領	4	Sandstone (very highly calcareous) to a sandy limestone,
				medium- to dark-gray, very fine to medium-grained, rounded, some coarse grains, contains some dark (shaly) material
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	5297	- 5307	10	
	ノレフト	- זיינע	TO.	Siltstone to fine sandstone, dark-gray to grayish-black with som
				light to medium-gray (fine to medium-grained sandstone) spot
				very highly calcareous, somewhat shaly
THE RESERVE AND THE PARTY AND			White I filled in the impact of property and the	(Gontd. on p.3)
			1	

.qoT.	Bottom.	Thickness.	
 5307	- 5313	6 Sa	ndstone, medium to medium dark gray (with grayish-black, very shaly streaks), fine- to coarse-grained, rounded, very silty in part, very highly calcareous to a very sandy limestone:
 5313	- 5332	1 9 Sa	trace of chert ndstone, medium-gray, very highly calcareous, with some light- gray limestone, very fine to fine-grained, silty, some medium
	- 5336	4 Sa	to coarse grains, some grayish-black (very shaly) streaks ndstone, medium-gray, very highly calcareous to a very sandy limestone, very fine to fine-grained, subrounded
5336	- <i>535</i> 0	14 Sa	ndstone, light to medium-gray, mostly fine-grained, rounded to well-rounded, calcareous, dark coating on sand grains (interstitial material?)
<i>5</i> 3 <i>5</i> 0	- 5372	22 Si	ltstone, medium- to dark-gray, mostly medium-gray at the bettem, very highly calcareous, slightly cherty
	5377	To	tal depth

077.0020 - Frac

FORM WW-2B

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS WELL WORK PERMIT APPLICATION

1)	Well Operator:	COLUM	BIA GAS T	RANSMISSION	CORPORATIO	V 10456	(J) 637
2)	Operator's Well	Number : <u>Terra Alta</u>	Stg # 7392 (A	.PI 47-077-000 2 0)	3) Elevation :	2,195 feet	
4)	Well type: (a) (b)	If Gas: Production	or n/	Gas X / round Storage X Shallow		Issued of	03/05/1993 6/05/2000
5)	Proposed Target Fo	ormation (s) :		Chert_/ Oriskan	<u>y</u>	(N	<u> </u>
6)	Proposed Total I	Depth : 5,391'	fee	et	Q,	3	
7)	Approximate fresh	h water strata dep	ths: None	Recorded	الْقُرِينَ الْقَالِينَ الْقَالِينِ الْقَالِينِ الْقَالِينِ الْقِينِينِ الْقِينِينِ الْقِينِينِ الْقِ	70	e per Le 11 de la composition de la composition La composition de la
8)	Approximate salt	water strata depth	ns :1	None Recorded			
9)	Approximate coal	seam depths:		<u>1</u>	ONE	<u></u>	
10)	Does land conta	ain coal seams t	ributary to	active mine ?	Yes/ No _2	<u>x_</u> /	
			ne Chert & Oris	kany section. The			
12)	ТҮРЕ	CASING AND SPECIFICATIO			OOTAGE INTE	RVALS ZX	CEMENT
		Size	Grade	Weight per ft.	For drilling	Left in well	Fill - up (cu. ft.)
	conductor	13-3/8"	H-40	48#	42'5"	42'5"	no record
	Fresh Water	10-3/4"	H-40	32#	505'5"	505'5	no record
	Coal	8-5/8"	J-55	24#	1532'3"	1532'3"	40 sks cmt
	Intermediate	7"	J-55	23#	5,165'7"	5,165'7	60 sks cmt 22 sks gel
	Production	4-1/2" J-5	55	12.6#	5,411'	5,411'	2 Stg Cmtd w/ 540 sks cmt
	Tubing						
	<u>Liners</u>		A.44. d. 2018, A.711. A.4. B.412				
<u>PA</u>	CKERS : Kind Sizes Depths	None					
				ion of Oil and	Gas Use Only	,	
	Fee (s) paid: Plat \Bullet W			Reclamation For Bond	ınd	☐ WI	PCP ent

. 2) Operator's Well Number

3) API Well No.: 47 - <u>077</u> - <u>00020</u>

State County Permit No.

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT DIVISION OF ENVIROMENTAL PROTECTION **OFFICE OF OIL & GAS** NOTICE OF APPLICATION FOR A WELL WORK PERMIT

4)	Surface Owner(s) to be se	erved: 5) (a) Coal Operator	
	(a) Name See Attached Page Address	Name	
	(b) Name	(b) Coal Owner (s) with Declaration Name See Attached Page	
		Address	
	(c) Name	Nama	
		NameAddress	
6)	Inspector Philip Tracy	(c) Coal Lessee with Declaration	
	Address Route 2 Box 37-A	Name	
		26283 Address	
	100phone (501)		
	TO THE P	PERSONS NAMED ABOVE TAKE NOTICE THAT	
	Included is the lease or	r leases or other continuing contract by which I hold the right to ext	ract oil and
or g	as <u>OR</u>		
		nation required by Chapter 22, Article 6, Section 8 (d) of the Co	de of Wes
Virg	ginia (see Page 2)		
·	• • •	ired under Chapter 22 of the West Virginia Code I have served co	pies of this
noti	-	n plat and accompanying documents pages 1 through or	_
	ed parties by:		
110411		rvice (Affidavit attached)	
		ail (Postmarked postal receipt attached)	
		(Notice of Publication attached)	
	Publication ((Notice of Publication attached)	
	I have read and under	rstand Chapter 22-6 and 38 CSR 11-18 and I agree to the terms and	l conditions
ofa	ny permit issued under this ar		Conditions
or a		ty of law that I have peronally examined and am familiar with the i	information
cub	nitted on this application fo	orm and all attachments, and that based on my inquiry of those	indivdual
		•	illulvuual
111111		aining the information is true, accurate and complete.	aludina th
		there are significant penalties for submitting false information, in	ciuding the
poss	sibility of fine and imprisonm		
~~~~	FIGUAL SEAL	Well Operator Columbis Gas Transmission Corporation	
	FICIAL SEAL  LIC STATE OF WEST VIRGINIA	By: rechard L. Cory	
	JUDY M. HENLEY	Its: Manager - Well Dervices	<del></del>
	CORKLE AVENUE, S. E.  CHARLESTON, WV 25325 - 1273	Address P.O. Box 1273	<del></del>
	ISSION EXPIRES 11 - 22 - 99	Charleston, WV 25325-1273	
		Telephone (304) 357-3034	-
Sub	sribed and sworn before me t	this //th day of Mounter, 19 97 Notary Public	
	~ WILMAN IN. NP	Noiary Public	