



WR-35 Rev (5-01)

DATE: <u>5/3/07</u> API #: <u>47-031-00003</u>

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Charles Ralph Lusby	Oper	rator Well No.:	9058			
LOCATION: Elevation: 1954	Quadrangle: <u>Needmore</u>					
District: Lost River County: Hardy  Latitude: 14,816 Feet South of 39 Deg. 02 Min. 30 Sec.  Longitude 5,272 Feet West of 78 Deg. 50 Min. 00 Sec.						
Company: Columbia Gas Transmission Corp	Casing & Tubing	Used in drilling	Left in well	Cement fill		
Address: 1700 MacCorkle Ave SE	4-1/2"	6731 ft	6725 ft	up Cu. Ft.		
Charleston, WV 25325-1273	4-1/2	0/3111	6/23 II	445 cu ft		
Agent: Paul Amick	All other exic	ting casing left	<u> </u>	<u> </u>		
Inspector: Bill Hatfield / Craig Duckworth	An onici exis	ting casing left	ın weii.			
Date Permit Issued: 12/28/05	-					
Date Well Work Commenced: 3/20/06						
Date Well Work Completed: 1/22/07			<b></b>			
Verbal Plugging:		<u> </u>				
Date Permission granted on:			<u> </u>			
Rotary X Cable Rig Total Depth (feet): 6854	<u> </u>	<u> </u>				
		<u> </u>				
Fresh Water Depth (ft.): not applicable		The state of the s				
Salt Water Donth (St.)		<u> </u>				
Salt Water Depth (ft.): not applicable	0400 3 C	ringt l				
Is coal being mined in area (N/Y)? no	\$ 0.000°	22022				
Coal Depths (ft.):	1/4/2	2001				
Coal Deptilis (it.).				oranica de la composition della composition dell		
OPEN FLOW DATA	Environment Lenvironment	artment of mail Protection				
Producing formation Oriskany Sand			- 6080			
Gas: Initial open flow not applicable	MCE/d Oil: I	nitial open flo	not emplied	abla Db1/J		
Gas: Initial open flow <u>not applicable</u> MCF/d Oil: Initial open flow <u>not applicable</u> Bbl/d Final open flow <u>8800</u> MCF/d Final open flow <u>0</u> Bbl/d						
Time of open flow between initial and final tests <u>not applicable</u> Hours						
Static rock Pressure 1267 psig (surface pressure) after +72 Hours						
Second Producing formation <u>not applical</u>	ole Pay 2	zone depth (ft)	not applicab	<u>le</u>		
Gas: Initial open flow MCF/d Oil: Initial open flow Bhl/d						
Final open flow MCF/d Final open flow Rb1/d						
Time of open flow between initial and final tests Hours						
Static rock Pressure psig (su	irface pressure	e) after	Hours			
NOTE: ON BACK OF THIS FORM PUT THE FINTERVALS, FRACTURING OR STIMULATIN LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE VICENCE Signed:	OLLOWING: 1 G, PHYSICAL GEOLOGICAL WELLBORE.	l). DETAILS (	OF PERFORATE TC. 2). THE WE ALL FORMAT	7T T		

By: James E, Amos - Senior Storage Engineer - Columbia Gas Transmission Corp

HARDY DODS

This is an existing production well that was converted to a natural gas storage well. Below is a summary of work performed.

- 1) Tubing pulled, 4-1/2" casing ran and cemented, new API wellhead installed, and acid stimulation.
- 2) Baker Atlas ran GR-Neutron and cement bond log (SBT).

**90** 

\* Note that no earthen pit was utilized. Workover and flowback treatment fluids recovered via steel tanks and transported to LAD in Wheeling, WV for disposal/processing.

With\_\_\_

Open Flow



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STATE OF WEST VIRGINIA

## DEPARTMENT OF MINES

OIL AND GAS DIVISION 4

REVISED -

Quadrangle Moorefield, WELL RECORD Permit No Hardy-3 Oil or Gas Well Gas Company United Fuel Gas Company Left in Well Casing and Packers Address P.O. Box 1273 Charleston 25, W. Va. Drilling Tubing Farm Anna Baughman, et al \_Acres 878 Merger Stone Lick Size Location (waters)\_\_\_ Elev. Z 1965.0216 46' Cemented <u>9058-T</u> Well No\_\_\_\_ Kind of Packer\_ Hardy District South Fork County EX 11-3/4" 2093' Lynes The surface of tract is owned in fee by\_ Size of\_\_\_

Mineral rights are owned by Ernest R. Walker, Agt., et al Depth set\_ \_\_\_\_Address Needmore, W. Va. \_\_\_Route#1 5 3/16. <u>6765°</u> <u>6759'</u> 6759t 31/2 6-23-62 Drilling commenced\_\_\_ Perf. top\_ Drilling completed 12- 9-62 Perf. bottom... Liners Used Perf. top\_

8 % 5/8

7111'

\_/10ths Merc. in\_ \_\_Inch SIZE\_\_\_\_No. Ft\_ CASING CEMENTED\_\_\_ Volume 4.555 M - Oriskany \_Cu. Ft. 48 \_\_\_hrs.

Inch

COAL WAS ENCOUNTERED AT\_\_\_ FEET. INCHES \_bbls., 1st 24 hrs. FEET\_\_\_INCHES\_\_ \_\_FEET\_ \_INCHES WELL ACIDIZED\_ \_INCHES\_ FEET\_ INCHES

WELL FRACTURED\_

## RESULT AFTER TREATMENT\_

Formation

ROCK PRESSURE AFTER TREATMENT.

Color

Hard or

/10ths Water in.

\_\_\_\_Address\_

Fresh Water 49 115' 150' Salt Water\_ Feet\_ \_Feet\_

Bottom

Top

	12 J. MARNA 1 1	1	
Cheming-Brailier	O	4710	Water at 49'; 115'; 150' (50 bbls.
Harrell Shale	30 4140 4710	5010	per day)
"Industrial Differ	, <u> </u>	5800	
Marcellus Shale	5800 5800	6630	Gas show at 6782-6800' - Orisk.
Metabentonite - Troca - 46	6 * 6 6 2 4	6630	
Meedmore Shale	6630	6756	Gas at 6838 6845' 24/10 Merc. 2" 762
Oriskany Sand	6756 6780 6980	6980	crisk
		7550	Salt Water at 8930', filled up 1200'
Tonoloway-Wills Creek /	7 6 STALP 7550-	8645	in 7-5/8" hole 48,000 P.P.M. cl.
Williamsport-Bloomburg	- 2 × × × × × × × × × × × × × × × × × ×	8700	Bo Aon of Keeper
McKenzie Formation	7 2 10 8645- 8700	8890	Hole plugged back from 10,584' to
Keefer Sand	4403 <b>8890</b>	8930	6887
Clinton Shale Rose How	3 59 50 8930	9350	
Elinton Sand - USAGRADA	<u>[ 설계하다 9350                                   </u>	9580	Bridge plug set at 6894 with 7' of
Viuniata Formation	9580	10,247	cal seal
Oswego Sand	10,247	10,400	· · · · · · · · · · · · · · · · · · ·
Martinsburg Formation	10/4/0 10,500	10,584	Oriskany perforated from 6788-6804',
Motel Danth	10 =81:1	and the same of th	6806 68601 6871 68801 1

Total Depth 6836-6860', 6874-6880', 4 shots per foot.

RECEIVED

West Virginia Dept. of Mines

Original open flow - 24/10 Merc. 2" 762 M Acidized 12-18-62 with 300 gallons MCA and 10,000 gallons 15% HC1 APR 1964

Oil, Gas or Water

(6,000 gallons retarded and 4,000 gallons regulard and 130 Mcf nitrogs

Depth

3½" x 8"

Perf. bottom.

Remarks

Shut in 12-31-62 in 3\(\frac{1}{2}\)" tubing.

6630 9580

Formation	Color	Hard or Soft	Top 4	Bottom	Oil, Gas or Water	Depth Found	Remarks
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		The state of the s			LOGS RUN: Velocity		
					Gamma Ray	Density	- 14-44
	<sub>gener</sub> e.				Dipleter Induction		
:					Gamma Ray Casing Col.		
N. C.					Hydrocarbo	Analysis L	8
					Note: Botto	m half of G	iberson 3½" x
	1.41				of 3½ ext	ternal upset	and 3 joints tubing left
							epth 6794'.
							at Appalachia burgh, Penna.
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		-					gantown, W.Va.
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APPROVED.

(Title)

Aupt., Civil Engineering Dept.