



OILFIELD RESEARCH, INC.

Entered 6/19/91

15-1108

WHOLE CORE ANALYSIS REPORT

Clay #1108

Company Columbia Gas Transmission Corp. Elevation 1166.42 File No. 75010004
 Lease Brown-Goshorn & Swann Well 20311 ^{Clay #1108} Formation See Below Date Cored 9/29/75
 Field Grannys Fork Orig. Fluid FW Gel Date Report 10/8/75
 County Clay State W. Va. Type of Core Diamond Permit No. _____
 Location Summers Fork, Henry Dist. Remarks Sampled by client

LITHOLOGICAL ABBREVIATIONS

SAND-SO DOLOMITE-DOL ANHYDRITE-ANHY SANDY-SDY FINE-FN CRYSTALLINE-XLN BROWN-GRN FRACTURED-FRAC SLIGHTLY-SL
 SHALE-SH CHERT-CH CONGLOMERATE-CONS SHALEY-SHY MEDIUM-MED GRAIN-GRN GRAY-GY LAMINATION-LAM VERY-W
 LIME-LM GYPSUM-GYP FOSSILIFEROUS-FOSS LIMEY-LMY COARSE-CSE GRANULAR-GRNL VUGGY-VGY STYLOLITIC-STY WITH-W

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	LITHOLOGY AND REMARKS		
		HORIZONTAL			VERTICAL	Oil	Water
		MAX	90°				
	BIG LIME						
32 1	2031.8 - 32.4	<0.10	<0.10	1.0	10.7	64.3	
	KEENER						
2	2060.2 - 61.8	<0.10	<0.10	7.5	32.7	59.6	
3	2061.8 - 63.3	<0.10	<0.10	4.4	11.2	81.8	
4	2063.3 - 64.5	3.7	2.0	9.0	14.8	55.3	
5	2064.5 - 66.1	0.80	0.80	8.2	8.3	56.4	
6	2066.1 - 67.7	3.9	<0.10	9.7	24.4	48.0	
7	2067.7 - 69.2	<0.10	<0.10	11.3	27.6	42.6	
8	2069.2 - 70.4	0.20	0.20	9.8	30.9	40.9	
9	2070.4 - 72.0	3.3	3.2	9.7	19.1	47.0	
10	2072.0 - 73.2	9.0	<0.10	12.9	23.6	51.2	
11	2073.2 - 74.3	13.	12.	18.0	22.0	48.3	
12	2074.3 - 75.8	12.	11.	16.1	22.8	54.6	
13	2075.8 - 77.3	7.5	7.1	17.2	20.1	50.5	
14	2077.3 - 78.5	18.	15.	21.2	19.0	48.0	
15	2078.5 - 79.5	16.	15.	18.3	18.9	50.3	
	INJUN						
16	2079.5 - 80.7	2.8	2.7	21.4	19.1	51.5	
17	2080.7 - 82.3	3.4	3.2	21.3	20.7	51.8	
18	2082.3 - 83.9	11.	11.	21.7	15.8	52.6	
19	2083.9 - 85.2	15.	15.	21.4	17.2	46.5	
20	2085.2 - 86.5	0.53	0.40	18.9	27.9	48.1	
21	2086.5 - 87.9	3.6	2.7	20.4	21.3	54.2	
22	2087.9 - 89.2	2.0	1.9	20.5	19.9	54.6	
23	2089.2 - 90.5	2.5	2.5	20.5	16.9	55.0	
24	2090.5 - 91.5	6.1	6.1	22.3	16.7	51.1	
25	2091.5 - 93.0	6.1	6.1	23.4	19.6	47.2	

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use this report is made. The interpretations or opinions expressed represent the best judgment of Oilfield Research, Inc. (all errors and omissions excepted) but Oilfield Research, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Entered 15-1108
6/19/91

WHOLE CORE ANALYSIS REPORT

Lease Brown-Goshorn & Swann Well No. 20311

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	LITHOLOGY AND REMARKS	
		HORIZONTAL				
		MAX	90°			
2426	2093.0 - 94.4	8.1	7.5	21.4	Percent Oil 19.1	Percent Water 49.3
2527	2094.4 - 95.4	7.8	6.8	19.7	20.7	52.9
2628	2095.4 - 96.3	<0.10	<0.10	8.6	25.0	61.4
2729	2096.8 - 98.3	1.0	1.0	17.6	20.9	53.7
2830	2098.3 - 00.0	0.38	0.33	13.3	12.4	76.1
SQUAW						
31	2134.0 - 34.8	26.	26.	7.6	43.9	37.4

AVERAGES

2060.2-2073.2	2.2	0.70	9.1	21.3	53.9	(13.0')
2073.2-2100.0	6.6	6.2	19.0	19.7	53.3	(26.8')

All averages are weighted averages