



OILFIELD RESEARCH, INC.

15-1109

Entered 6/19/91
day# 1109

WHOLE CORE ANALYSIS REPORT

Company Columbia Gas Transmission Corporation Elevation N.A. File No. 75011018
 Well 20314 Formation See Below Date Cored 11/1/75
 Field Grannys Fork Drig. Fluid FW Gel Date Report 11/7/75
 County Clay State W. Va. Type Of Core Diamond Permit No. _____
 Location (Waters) Summers Fork Remarks Sampled by client

LITHOLOGICAL ABBREVIATIONS

DOLOMITE-DOL ANHYDRITE-ANHY SANDY-SOY FINE-FN CRYSTALLINE-XLN BROWN-BRN FRACTURED-FRAC SLIGHTLY-SL/
 CHERT-CH CONGLOMERATE-CONG SHALEY-SHY MEDIUM-MED GRAIN-GRN GRAY-GY LAMINATION-LAM VERY-V/
 GYPSUM-GYP FOSSILIFEROUS-FOSS LIMY-LMY COARSE-CSE GRANULAR-GRNL VUGGY-VGY STYLOLITIC-STY WITH-W

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs		POROSITY PERCENT	LITHOLOGY AND REMARKS	
		HORIZONTAL				VERTICAL
		MAX	90°			

INJUN						Oil Percent	Water Percent
1	20	1880.0-81.5	19.	17.	11.7	26.5	47.0
2	21	1881.5-82.8	<0.10	<0.10	6.4	31.8	43.2
3	22	1882.8-84.2	<0.10	<0.10	6.0	21.2	51.8
4	23	1884.2-85.4	0.20	0.16	6.2	18.3	50.0
5	24	1885.4-86.3	0.38	0.26	5.9	25.0	57.2
6	25	1886.3-87.4	<0.10	<0.10	8.0	22.5	50.6
7	26	1887.4-89.4	0.30	0.20	6.2	12.4	51.2
8	27	1889.4-90.9	0.16	0.16	6.0	17.3	46.5
9	28	1890.9-92.2	3.0	2.6	6.7	11.7	53.0
10	29	1892.2-93.5	10.	9.7	7.2	16.3	50.0
11	30	1893.5-95.0	1.8	1.5	4.8	14.9	49.6
12	31	1895.0-96.5	17.	15.	7.7	12.5	50.0
13	32	1896.5-97.8	8.8	8.3	16.4	20.9	52.2
14	33	1897.8-99.2	24.	23.	22.1	18.9	50.7
15	34	1899.2-00.6	8.2	7.5	20.9	19.0	55.1
16	35	1900.6-02.3	21.	21.	17.4	19.9	55.6
17	36	1902.3-03.3	2.4	1.7	21.1	23.2	53.0
18	37	1903.3-04.4	15.	15.	21.5	20.4	50.4
19	38	1904.4-05.8	0.64	0.64	13.8	18.3	56.9
20	39	1905.8-06.9	8.9	8.2	20.4	16.8	52.4
21	40	1906.9-08.4	4.2	4.2	20.4	20.8	54.2
22	41	1908.4-10.0	2.4	2.0	19.8	23.6	56.6
23	42	1910.0-11.4	<0.10	<0.10	16.5	19.9	62.0
24	43	1911.4-12.7	2.4	2.0	19.5	26.2	53.8
25	44	1912.7-14.0	<0.10	<0.10	14.2	20.2	67.4
26	45	1914.0-15.1	<0.10	<0.10	16.3	22.3	59.5
27	46	1915.1-16.7	0.26	0.26	14.8	20.9	60.8

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WHOLE CORE ANALYSIS REPORT

15-1109
Clay 1109 cont.

Lease _____ Well No. _____

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY'S		POROSITY PERCENT	LITHOLOGY AND REMARKS
		HORIZONTAL			
		MAX	90°	VERTICAL	

					Oil Percent	Water Percent
28	1916.7-18.2	0.20	<0.10	16.7	19.5	57.7
29	1918.2-19.6	<0.10	<0.10	13.7	22.7	72.0
30	1919.6-21.2	0.29	0.20	15.1	15.2	68.9
31	1921.2-22.9	<0.10	<0.10	14.7	17.0	75.2
32	1922.9-24.0	<0.10	<0.10	15.8	18.3	69.0
33	1924.0-25.3	<0.10	<0.10	15.1	18.0	72.8
34	1925.3-26.4	<0.10	<0.10	13.4	8.4	76.6
35	1926.4-27.5	<0.10	<0.10	9.6	4.0	91.9
36	1927.5-29.0	<0.10	<0.10	10.1	2.9	94.0
37	1929.0-30.6	<0.10	<0.10	10.4	2.7	93.9
SQUAW						
38	1959.0-60.2	1.8	1.7	21.6	32.4	27.9
39	1960.2-61.2	0.82	0.73	20.6	34.7	20.7

AVERAGES

1880.0 - 1896.5	4.6	4.2	6.9	18.7	49.8	(16.5')
1896.5 - 1925.3	4.7	4.6	17.3	20.0	60.1	(29.8')

FORMATION CORED

Following is the description of the formation cored:

Depth Interval	Description	Elevation	Formation
Feet			

INJUN

- 1880.0 - 1880.5 - Sandstone, fine grained, greenish-blue.
- 1880.5 - 1881.2 - Sandstone, medium grained, pebbles, loosely cemented.
- 1881.2 - 1886.0 - Sandstone, fine grained, slightly calcareous, small pebbles, specks of pyrite and shale.
- 1886.0 - 1891.0 - Sandstone, fine grained, dirty-shaley-small pebbles, tightly cemented.
- 1891.0 - 1896.0 - Dolomite, slightly sandy and calcareous, gray, pin point vugs, shale 1891.6-91.9 feet.
- 1896.0 - 1904.4 - Sandstone, fine grained, greenish, occasional small pebble, specks of pyrite.
- 1904.4 - 1905.8 - Sandstone, silty, dense, occasional small pebble, specks of pyrite.
- 1905.8 - 1910.0 - Sandstone, fine grained, greenish, specks of pyrite interbedded.
- 1910.0 - 1911.4 - Sandstone, silty, dense.
- 1911.4 - 1912.7 - Sandstone, fine grained, greenish, specks of pyrite interbedded.
- 1912.7 - 1926.0 - Sandstone, fine grained, silty, specks of pyrite, shale at 1915.9-16.2 feet.
- 1926.0 - 1930.6 - Sandstone, fine grained, silty, dirty, shaly, large tan shale nodules @ 1928 feet.

SQUAW

- 1959.0 - 1961.2 - Sandstone, fine grained, dark gray, occasional specks of pyrite and mica.