New Mexico Bureau of Mines and Mineral Resources
Open-File Report No. OF-265

VITRINITE REFLECTANCE AND KEROGEN ANALYSES OF THE GREAT WESTERN DRILLING CO. NO. 1 HOSPAH-SANTA FE (MCKINLEY COUNTY), CONTINENTAL OIL COMPANY NO. 1 SOUTH DULCE (RIO ARRIBA COUNTY), EL PASO NATURAL GAS COMPANY NO. 50 SAN JUAN UNIT 29-5 (RIO ARRIBA COUNTY), AND PAN AMERICAN PETROLEUM CORPORATION NO. 1 PAGOSA JICARRILLA (RIO ARRIBA COUNTY) WELLS, NEW MEXICO

By Judy A. Russell
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December 19, 1979

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VITRINITE REFLECTANCE ANALYSIS

Enclosed are copies of the vitrinite reflectance analysis for the four wells from the San Juan Basin. The low-gray Ro mean is probably the best reflectance value to use in evaluating the samples. I question some of the values for the deeper samples, especially in the Great Western #1 Hospah, because of oxidation of the samples.

If you have any questions, feel free to contact me. Please keep the results confidential for a year.

Hope the holiday season is joyous for you and everyone at the Bureau.

Sincerely yours,

Judy A. Russell

JAR:sw

Attachment

Great Western #1 Hospah-Santa Fe	1-17N-9W	McKinley Co.
Conoco #1 South Dulce	6-28N-2W	Rio Arriba Co.
EPNG #50 San Juan Unit 29-5	7-29N-5W	Rio Arriba Co.
Pan Am #1 Pagosa Jicarilla	23-32N-3W	Rio Arriba Co.

TABLE 1

VITRINITE REFLECTANCE AND VISUAL KEROGEN ANALYSIS OF DITCH SAMPLES, GREAT WESTERN #1 HOS-PAH, Mckinley, NEW MEXICO 1-17N-9W

Depth in Feet	Low Gray Ro Mean	% of Population	High Gray Ro Mean	% of Population	Contamination Ro Mean	% of Population	TAI	Maturity	Kerogen	Remarks
300'	0.48	29%		71%			2	Immature	Cellulosic	
900'	0.50	9%	1.09/1.94 1.08/2.14	91%			1+		"	
1600'	0.51 .	10%	1.06/2.18	90%			2	"	"	
2200'	0.45	10%	1.08/2.05	90%				"	"	
2800'	0.47	9%	1.15/1.97	91%			Barren	"	"	
3320'	0.49	3%	1.16/2.08	97%			2	"	"	
4100'	Insuff. Data						Barren	Indeterminate	"	Insufficient Data for Ro Analysis
4700'	Insuff. Data						"	"	"	"
5300'	Insuff. Data							"	"	"
5900'	1.91	98%			0.93	1%	" -	Overmature	"	
6500'	Barren						"	Indeterminate	"	Insuff. amt. of organic residue
7200'	2.02	98%			1.17	1%	"	Overmature	"	
7700'	2.02	55%			1.33	44%	"	"	"	

TABLE 1
VITRINITE REFLECTANCE AND VISUAL KEROGEN ANALYSIS OF DITCH SAMPLES,
CONOCO NO. 1 S. DULCE, SAN JUAN BASIN, NEW MEXICO 6-28N-2W

Depth in Feet	Low Gray Ro Mean	% of Population	High Gray Ro Mean	% of Population	Contamin-ation Ro Mean	% of Population	TAI	Maturity	Kerogen	Remarks
10700'	1.90	91%			0.84	8%	4 to 4+	Overmature	Cellulosic	Very sparse Kerogen slide
11300'	2.11	87%			0.79	12%	---	"	"	Kerogen slide Barren
12050'	1.96	94%			0.77	5%	4 to 4+	"	"	
12650'	2.45	92%			1.26	7%	4 to 4+	"	"	
13298'	2.14	94%			1.33	5%	4 to 4+	"	"	

TABLE 1

VITRINITE REFLECTANCE AND VISUAL KEROGEN ANALYSIS OF DITCH SAMPLES, CONOCO NO. 1 S. DULCE, RIO ARRIBA, NEW MEXICO 6-28N-2W

Depth in Feet	Low Gray Ro Mean	% of Population	High Gray Ro Mean	% of Population	Contamination Ro Mean	% of Population	TAI	Maturity	Kerogen	Remarks
1100'	0.81	2%	1.53/2.81	95%						
							---	Mature	Cellulosic	
1100'	1.00	33%	1.71	20%	0.70	47%	3	"	"	
2000'	1.12	10%	1.55	87%	0.71	3%	3	"	"	
2600'	0.96	15%	1.56	85%	0:66	0%	3	"	"	
3100'	0.98	19%	1.59	80%	0.68	1%	3	"	"	
3700'	1.12	12%	1.61	67%	0.69	21%	3	"	"	
4330'	1.06	26%	1.49	69%	0.70	5%	3	"	"	
4900'	1.01	33%	1.60	62%	0.67	5%	3	"	"	
5600'	1.24	27%	1.67	67%	0.75	6%	3	"	"	
6000'	1.22	49%	1.58	49%	0.75	2%	3	"	"	
6600'	1.26	32%	1.68	57%	0.31/0.76	0%	3	"	"	
7200'	1.18	21%	1.65	74%	0.78	4% -	4-	"	"	
7800'	1.08	7%	1.81	92%			4 to 4+	"		
8300'	1.19	9%	1.86	80%	0.88	11%	4 to 4+			
9000'	1.89	94%	3.01	3%	1.07	1%	4 to 4+	Overmature		
9600'	-------						---	-----		Kerogen slide Barren
10200'	-------						---	---		

TABLE 1

VITRINITE REFLECTANCE AND VISUAL KEROGEN ANALYSIS OF DITCH SAMPLES, EPNG#50, SAN JUAN 29-5, RIO ARRIBA, NEW MEXICO 7-29N-5W

Depht in feet	Low Gray Ro Mean	% of Population	High Gray Ro Mean	% of Population	Contamin-ation . Ro Mean	% of Population	TAI	Maturity	Kerogen	Remarks
2550'	0.82	3%	1.52	97%			2+	Mature	Cellulosic	
3320'	0.80	93%	1.18	7%			no slide "		---	No kerogen Slide.
3650'							no slide ---		---	No kerogen or Ro slide
8170'	0.87	9%	2.11	91%			3	Mature	Cellulosic	
8200'	1.75	96%			0.97	4%	no slide	Overmature"		
8795'	---				0.74	100%	Barren	---	---	No indefineous vitrinite
9300'	2.05	99%			0.24/0.74	1%		Overmature	Cellulosic	
9880'	2.17	96%			0.30/0.75	4%	3+	"	"	
10300'	2.03	97%			1.09 0.20/1.30	2%	Barren		"	
10800'	2.05	94%			0.61/1.30	4%	Barren		"	
11300'	2.17	94%			0.89/1.50	5%	Barren	"	"	
11800'	1.96	80%			0.93/1.50	18%	Barren		"	
12300'	2.15	92%			1.18	8%	4 to 4+	"	"	
12800'	2.13	96%			0.85/1.39	2%	" Barren		"	
13300'	2.37	96%			0.84/1.49	2%	4 to 4+	"	"	
13800'	2.50	97%			0.82	1%	Barren	"	"	
14410'	2.92	100%					Barren	"	"	

TABLE 1

VITRINITE REFLECTANCE AND VISUAL KEROGEN ANALYSIS OF DITCH SAMPLES,
PAN AM #1 PAGOSA, RIO ARRIBA, MEXICO 23-32N-3W

Depth in Feet	Low Gray Ro Mean	% of Population	High Gray Ro Mean	% of Population	Contamination Ro Mean	% of Population	TAI	Maturity	Kerogen	Remarks
150'	0.76	53%	1.37	47%	0.25	0	Barren	Transitional Immature to Mature	Cellulosic	Extensive reworking
700'	0.96 -	28%	1.56	69%	0.60	1%	2	"	"	"
1500'	1.23	70%	0.73	29%			Barren	"	"	"
2000'	1.39	96%	0.78	4%			3	"		
2500'	1.40	4%			0.39%	0%	3	Overmature	"	
3100'	1.53	100					Barren	"	"	
3600'	1.49	90%			0.88	10%	Barren	"	"	
4100'	1.50	69%			0.87	31%	3-	"	"	
4700'	1.89	93%			0.93	5%	Barren	"	"	
5300'	1.72	71%			0.86	29%		"	"	
5900'	2.09	100%					"	"	"	
6400'	2.12	100%					"	"	"	
7000'	Indeterminate							Indeterminate	"	Sparse kerogen slide
7600'	"						"	"	"	"
8200'	"						"	"	"	
8800'	"						"		"	
9400'	No indeg. vitrinite						"	"		

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VITRINITE REFLECTANCE AND VISUAL KEROGEN ANALYSIS OF DITCH SAMPLES,
PAN AM #1 PAGOSA, RIO ARRIBA, NEW MEXICO 23-32N-3W

depth in feet	Low Gray Ro Mean	% of Population	High Gray Ro Mean	% of Population	Contamination Ro Mean	% of Population	TAI	Maturity	Kerogen	Remarks
10000'	2.57	100%					4-	Overmature	Cellulic	
10600'	2.11	100%					Barren	"	"	
11100'	2.48	100%					"		"	
11500'	2.54	100%					"	"	"	