Table 2. Proximate and ultimate analyses, heat content, forms of sulfur, free-swelling index, ash-fusion temperature determinations, Hardgrove grindability indexes, and equilibrium moistures for 19 lignite samples from the San Sebastian Formation (Oligocene) in northwestern Puerto Rico (PAGE 1 OF 7 PAGES).

[All analyses, in percent, except those of heat contents, free-swelling indexes, ash-fusion temperatures and Hardgrove grindability indexes. For each sample number, the analyses are reported three ways: first, as received; second, moisture free; and third, moisture and ash free. All analyses by a commercial testing laboratory following ASTM standards. G for ash-fusion temperatures means "greater than". Sample number is USGS identification number. The USGS makes no claims as to the accuracy of rank calculated from these parameters. 1. as-received; 2. dry basis; 3. dry and ash-free basis; 4. as-received to equilibrium moisture basis].

December Noisture			PROXIMATE ANALYSIS			spanner	IS	HEAT CONTENT						
DCA-1 23.06 24.98 8.46 1.56 50.00 3.57 4.50 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.40 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1	ample . umber		Moisture			Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Sul fur	KCal/KG .	Btu/lb	Lab Number
DCA-1 23.06 24.98 8.46 1.56 50.00 3.57 4.50 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.42 1.00 5.40 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 5.40 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1					4 T					04.05	0.45	200	570	U253180
11. 28	OCA-1	23.06	24.98											WEJJIOC
11A 30.49 28.76 17.69 11.41 42.14 4.60 15.42 119 35.86 1.79 1.289 2.300 W2531 1.60 66.66 3.37 4.57 1.70 24.65 6.7 300 540 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.80 1.70 1.70 1.80 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.80 1.70 1.70 1.70 1.80 1.70 1.70 1.70 1.80 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.7														
1A 30.49 28.76 17.69 11.41 42.14 4.60 15.42 .19 35.86 1.79 1.289 2.300 W2531														
18			23.06	8.68	1.60	66.66	3.37	4.5/	.07	24.03	.01	300	340	
18				47 (0		12.11	/ 60	15 /2	10	35.86	1.79	1.289	2,300	W25319
18	1A													
18														
18														
10			30.49	17.20	11.13	41.12	4.70	13.03	•••	31112				
1C		20.70	70 47	15 05	9 12	45 00	4 50	11.62	.19	35.66	2.13	930	1,680	W25319
24.30 30.34 12.78 2.67 54.21 4.36 11.74 119 35.09 2.15 2,920 5,260 1C 24.30 30.34 12.78 2.67 54.21 4.36 11.74 119 35.09 2.15 2,920 5,260 1C 24.30 30.34 12.78 2.67 54.21 4.36 11.74 119 35.09 2.15 2,920 5,260 1C 24.30 30.34 12.78 2.67 54.21 4.36 11.79 10.10 119 9.89 .61 695 1,250 1.250	1B										3.05	1,330	2,400	
1C 24.30 30.34 12.78 2.67 54.21 4.36 7.04 .14 33.82 .43 480 870 1C 24.30 30.34 12.78 2.67 54.21 4.36 7.04 .14 33.82 .43 480 870 1B.35 3.83 77.82 1.39 10.10 .19 9.89 .61 695 1,250 24.30 13.89 2.90 58.91 3.77 7.65 .15 29.05 .47 1,740 940 2A 32.12 32.07 21.35 16.83 29.75 5.35 23.24 .43 37.77 3.46 2,100 3,780 W2531												3,890		
1C												2.920	5,260	
10.			29.38	16.02	0.21	40.37	4.43	11.74	• • • •	33.01				
10.			70.71	42 70	2 (7	. 5/ 21	4.36	7 04	.14	33.82	.43	480	870	•••••
2A 32.12 32.07 21.35 16.83 29.75 5.35 23.24 .43 37.77 3.46 2.100 3.780 W2531 55.92 44.08 55.92 44.08 4.63 60.87 1.14 24.30 9.06 5.500 9.900 3.780 32.12 21.33 16.82 29.73 5.35 23.22 .43 37.81 3.46 2.100 3.780 28 20.09 24.40 7.70 0.10 67.80 3.44 1.41 .04 27.01 .30 30 50 W2531 9.8 68 94 1.87 06 7.05 40 40 70 98.74 1.26 9.11 18.12 58 68.31 3.88 360 640 91.11 18.12 58 68.31 3.88 360 640 20.09 8.14 11 71.67 3.00 1.49 94. 23.49 32 30 50 20.12 21.33 16.82 29.77 5.17 23.56 38 37.97 8.15 2,130 3,830 W2531 55.34 44.66 3.67 54.51 87 22.09 18.86 4,920 8.850 30.12 24.58 19.84 25.46 5.00 24.21 39 36.56 8.38 2,190 3,930 20 29.89 25.02 9.07 .04 65.87 3.45 2.34 71.66 25.77 00 55.54 11.53 670 1.210 99.62 38 71.16 25.77 00 55.54 11.53 670 1.210 99.62 38 71.16 25.77 00 55.54 11.53 670 1.210	1C												1,250	
24 32.12 32.07 21.35 16.83 29.75 5.35 23.24 .43 37.77 3.46 2,100 3,780 W2531 28 32.12 32.07 21.35 16.83 29.75 5.35 23.24 .43 37.77 3.46 2,100 3,780 W2531 31.43 24.77 43.80 2.60 34.21 .64 13.66 5.09 3,100 5,570 55.92 44.08 4.63 60.87 1.14 24.30 9.06 5,500 9,900 32.12 21.33 16.82 29.73 5.35 23.22 .43 37.81 3.46 2,100 3,780 28 20.09 24.40 7.70 0.10 67.80 3.44 1.41 .04 27.01 .30 30 50 W2531 10.19 .13 89.68 .94 1.87 .06 7.05 .40 40 70 98.74 1.26 9.11 18.12 .58 66.31 3.88 360 640 20.09 8.14 .11 71.67 3.00 1.49 .04 23.49 .32 30 50 20 20 30.12 32.01 23.92 19.30 24.77 5.17 23.56 .38 37.97 8.15 2,130 3,830 W2531 55.34 44.66 3.67 54.51 .87 22.09 18.86 4,920 8,850 55.34 44.66 3.67 54.51 .87 22.09 18.86 4,920 8,850 55.34 44.66 3.67 54.51 .87 22.09 18.86 4,920 8,850 30.12 24.58 19.84 25.46 5.00 24.21 .39 36.56 8.38 2,190 3,930 .20 20 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W2531 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150														
2A 32.12 32.07 21.35 16.83 29.75 5.35 23.24 .43 37.77 3.46 2.100 3.780 W2531 31.43 24.77 43.80 2.60 34.21 .64 13.66 5.09 3.100 5.570 55.92 44.08 4.63 60.87 1.14 24.30 9.06 5.500 9.900 32.12 21.33 16.82 29.73 5.35 23.22 .43 37.81 3.46 2.100 3.780 20.09 24.40 7.70 0.10 67.80 3.44 1.41 .04 27.01 .30 30 50 40 70 10.19 .13 89.68 .94 1.87 .06 7.05 .40 40 70 98.74 1.26 9.11 18.12 .58 68.31 3.88 360 640 98.74 1.26 9.11 18.12 .58 68.31 3.88 360 640 20.09 8.14 .11 71.67 3.00 1.49 .04 23.49 .32 30 50 20.19 8.14 .11 71.67 3.00 1.49 .04 23.49 .32 30 50 20.19 8.16 2.10 35.18 28.39 36.43 2.33 34.65 .55 14.05 11.99 3.130 3.830 W2531 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 37.97 8.15 2.130 3.830 W2531 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.18 28.39 36.43 2.33 34.65 35.14 35.14 35.15 35.18 28.39 36.43 2.33 34.65 35.14 35.16 35.18 28.39 36.43 2.33 34.65 35.14 35.15 35.18 28.39 36.43 2.33 34.65 35.14 35.15 35.18 28.39 36.43 2.33 34.65 35.14 35.15 35.15 35.18 28.39 36.43 2.33 34.65 35.14 35.15 35.15 35.16 .														
2A 32.12 32.07 21.35 18.03 29.17 33.00 21.00 3.421 .64 13.66 5.09 3.100 5.570			24.30	13.89	2.90	30.91	3.11	1.03			• • • •			
2A		70.40	72 07	21 75	14 87	20 75	5 35	23.24	.43	37.77	3.46	2,100	3,780	W25319
28	.2A			21.33										
28														
28														
28			32.12	21.33	10.02	29.13	3.33	23.22	.43	31.01		-,		
28	_	20.00	2/ /0	7 70	0 10	67 80	3 44	1.41	.04	27.01	.30	30	50	W25319
2C1+L2C2 30.12 32.01 23.92 19.30 24.77 5.17 23.56 .38 37.97 8.15 2,130 3,830 W2531 35.18 28.39 36.43 2.33 34.65 .55 14.05 11.99 3,130 5,630 55.34 44.66 3.67 54.51 .87 22.09 18.86 4,920 8,850 30.12 24.58 19.84 25.46 5.00 24.21 .39 36.56 8.38 2,190 3,930 2D 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W2531 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210	.28											40	70	
2C1+L2C2 30.12 32.01 23.92 19.30 24.77 5.17 23.56 .38 37.97 8.15 2,130 3,830 W2531 35.18 28.39 36.43 2.33 34.65 .55 14.05 11.99 3,130 5,630 55.34 44.66 3.67 54.51 .87 22.09 18.86 4,920 8,850 30.12 24.58 19.84 25.46 5.00 24.21 .39 36.56 8.38 2,190 3,930 2D 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W2531 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 .80 150 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210													640	
2C1+L2C2 30.12 32.01 23.92 19.30 24.77 5.17 23.56 .38 37.97 8.15 2,130 3,830 W2531 35.18 28.39 36.43 2.33 34.65 .55 14.05 11.99 3,130 5,630 55.34 44.66 3.67 54.51 .87 22.09 18.86 4,920 8,850 30.12 24.58 19.84 25.46 5.00 24.21 .39 36.56 8.38 2,190 3,930 2D 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W2531 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 .80 150 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210													50	
2C1+L2C2 30.12 32.01 23.92 19.30 24.77 3.17 25.02 30.12 35.18 28.39 36.43 2.33 34.65 .55 14.05 11.99 3,130 5,630 36.12 35.18 28.39 36.43 2.33 34.65 .55 14.05 11.99 3,130 5,630 3.12 24.58 19.84 25.46 5.00 24.21 .39 36.56 8.38 2,190 3,930 2D 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W2531 3.12 3.12 3.12 3.13 3.13 3.13 3.13 3.			20.09	0.14	.11	71.07	3.00	1.47	•••					
2C1+L2C2		70.45	72.04	27 02	10 30	24. 77	5 17	23.56	.38	37.97	8.15	2,130	3,830	W25319
20 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W2531 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210	.2C1+L2C2											3,130		
2D 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W25310 110 110 110 110 110 110 110 110 110														
2D 29.89 25.02 9.07 .04 65.87 3.45 2.34 .00 27.29 1.05 60 110 W25319 20 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 150 150 150 150 150 150 150 150 15														
20 29.89 25.02 9.07 .04 65.67 5.49 25.54 1.40 80 150 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210		•••	30.12	24.20	17.04	23.40	2.00	27121						
27.87 25.02 7.07 12.10 .05 87.85 .87 3.13 .00 6.75 1.40 80 150 12.10 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210 99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210	00	20.00	25 02	0.07	0/.	65 87	3 45	2.34	.00	27.29	1.05	60	110	W25319
99.62 .38 7.16 25.77 .00 55.54 11.53 670 1,210	.20											80	150	
77.02 .30 20 20 71.20 08 60 100												670	1,210	
												60	100	

			FORMS OF SU	JLFUR		ASH-FUS	ION TEMPERATURE	c, °c		
Sample Number	Air-dried Loss	Sulfate	Pyritic	Organic	Free- swelling index	Initial deformation	Softening	Fluid	Hardgrove Grindability index	Lab Number
MOCA-1	21.31	0.11	0.54	0.00	0.0	1,210	1,310	1,400	125	W253180
		.15 1.12	5.39	.00						
		.11	.55	.00						
L1A	23.91	.87	.15	.77	0.0	1 /00	1.520	4.5100		
		1.23	.21	1.07	0.0	1,480	1,520	1,540G	71	W253196
		3.01	.51	2.62						
		.85	.15	.75						
L1B	24.47	.95	.18	1.00	0.0	1,480	1,500	1,540G	95	W253197
	•••	1.35	.26	1.44		1,100	1,500	1,,,400	77	M233197
	•••	3.93	.76	4.20						
		.96	.18	1.01						
L1C	25.81	.13	.13	.17	0.0	1,480	1,540G	1,540G	175	
	•••	.18	.18	.25						
	•••	.81	.81	1.13						
		.14	.14	.18						
L2A	26.83	.20	1.19	2.07	0.0	1,230	1,390	1,480	47	W253192
		.29	1.75	3.05				.,		#235172
	•••	.52	3.11	5.43						
		.20	1.19	2.07						
L2B	20.74	.19	.09	.02	0.0	1,530	1,540G	1,540G	175	W253193
	•••	.25	.12	.03						
		2.42	1.16	.30						
		.20	.10	.20						
.2C1+L2C2	21.59	2.12	3.33	2.70	0.0	1,080	1,100	1,240	67	W253194
	•••	3.12	4.90	3.97			•	.,	•	***************************************
	•••	4.91	7.71	6.24						
	•••	2.18	3.42	2.78						
20	21.16	.80	.21	.04	0.0	1,230	1,470	1,540G	64	W253195
	•••	1.07	.28	.05				.,		HLJ3173
	•••	8.81	2.31	.41		1				
	•••	.75	.20	.04						

		PROXI	HATE ANALYS	IS		ULTIHATE ANALYSIS				HEAT CONTENT			
ample umber	Equilibrium Moisture	Moisture	Volatile Hatter	Fixed Carbon	Ash	Hydrogen	Carbon	Nitrogen	0xygen	Sul fur	KCal/KG	Btu/lb	Lab Number
													Description of
3A	23.88	31.84	13.65	4.84	49.67	4.65	8.35	0.18	34.67	2.48	680	1,230	W253189
			20.02	7.11	72.87	1.60	12.26	.27	9.37	3.63	1,010	1,810	
			73.79	26.21		5.90	45.19	1.00	34.53	13.38	3,700	6,660	
	•••	23.88	15.26	5.39	55.47	3.89	9.33	.20	28.35	2.77	760	1,370	
38	31.29	33.69	22.74	17.91	25.66	5,44	22.33	-43	37.22	8.92	2,060	3,710	W253190
			34.30	27.00	38.70	2.51	33.68	.65	11.01	13.45	3,110	5,600	
			55.95	44.05		4.09	54.94	1.06	17.97	21.94	5,070	9,140	
		31.29	23.56	18.56	26.59	5.23	23.14	.45	35.35	9.24	2,140	3,850	
3C	25.69	25.16	18.88	8.77	47.19	3.97	13.19	.19	31.45	4.01	1,130	2,030	W253191
36	23.09	25.10	25.22	11.73	63.05	1.55	17.63	.26	12.16	5.35	1,510	2,710	
			68.26	31.74		4.20	47.72	.70	32.90	14.48	4,080	7,340	
		25.69	18.75	8.71	46.86	4.02	13.10	.19	31.86	3.98	1,120	2,020	
4A	33.58	32.57	24.09	17.42	25.92	5.26	23.62	.33	41.31	3.56	2,010	3,610	W253181
***	33.30	***	35.73	25.83	38.44	2.40	35.03	.50	18.35	5.28	2,980	5,360	
	// / //		58.04	41.96	10 10	3.90	56.90	.81	29.81	8.58	4,840	8,710	P
		33.58	23.73	17.16	25.53	5.35	23.27	.33	42.02	3.51	1,980	3,560	
4B	23.45	27.64	25.87	16.35	30.14	4.38	18.98	.29	32.48	13.73	1,760	3,160	W253182
40	23.43		35.76	22.58	41.66	1.77	26.23	.40	10.97	18.97	2,430	4,370	
	***		61.29	38.71		3.03	44.96	.69	18.81	32.51	4,160	7,480	
		23.45	27.37	17.30	31.89	3.99	20.08	.31	29.22	14.53	1,860	3,340	
A+L48	31.63	27.63	15.81	4.56	52.00	3.98	7.86	.11	30.84	5.21	620	1,120	W253183
			21.84	6.31	71.85	1.23	10.86	.15	8.72	7.19	860	1,550	
			77.59	22.41		4.37	38.58	.53	30.98	25.54	3,060	5,510	
		31.63	14.94	4.31	49.13	4.38	7.43	.10	34.04	4.92	590	1,060	
4C	27.42	29.63	18.66	7.68	44.03	4:76	14.75	.34	34.35	1.77	1,280	2,300	W253184
			26.51	10.92	62.57	2.06	20.96	.48	11.42	2.51	1,820	3,270	
			70.82	29.18		5.50	55.99	1.28	30.52	6.71	4,850	8,730	
		27.42	19.25	7.92	45.41	4.56	15.21	.35	32.64	1.83	1,320	2,370	
O.	33.45	37.04	27.25	21.87	13.84	6.03	29.92	.56	44.30	5.35	2,640	4,740	W253185
	33.43		43.28	34.73	21.99	2.99	47.52	.89	18.11	8.50	4,180	7,520	
1	***		55.48	44.52		3.83	60.91	1.14	23.22	10.90	5,360	9,640	
		33.45	28.80	23.12	14.63	5.74	31.63	.59	41.76	5.66	2,780	5,000	

		PROXI	MATE ANALYS	313		ULTIMATE ANALYSIS					NTENT-	1.6	
Sample Number	Equilibrium Moisture	Moisture	Volatile Matter	Fixed Carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Sul fur	KCal/KG	Btu/lb	Lab Number
L3A	23.88	31.84	13.65	4.84	49.67	4.65	8.35	0.18	34.67	2.48	680	1,230	W253189
			20.02	7.11	72.87	1.60	12.26	.27	9.37	3.63	1,010	1,810	
	:		73.79	26.21		5.90	45.19	1.00	34.53	13.38	3,700	6,660	
	•••	23.88	15.26	5.39	55.47	3.89	9.33	.20	28.35	2.77	760	1,370	
L3B	31.29	33.69	22.74	17.91	25.66	5.44	22.33	.43	37.22	8.92	2,060	3,710	w253190
	•••	•••	34.30	27.00	38.70	2.51	33.68	.65	11.01	13.45	3,110	5,600	
			55.95	44.05		4.09	54.94	1.06	17.97	21.94	5,070	9,140	
	•••	31.29	23.56	18.56	26.59	5.23	23.14	.45	35.35	9.24	2,140	3,850	
L3C	25.69	25.16	18.88	8.77	47.19	3.97	13.19	.19	31.45	4.01	1,130	2,030	W253191
		•••	25.22	11.73	63.05	1.55	17.63	.26	12.16	5.35	1,510	2,710	
			68.26	31.74	•••	4.20	47.72	.70	32.90	14.48	4,080	7,340	
	•••	25.69	18.75	8.71	46.86	4.02	13.10	.19	31.86	3.98	1,120	2,020	
L4A	33.58	32.57	24.09	17.42	25.92	5.26	23.62	.33	41.31	3.56	2,010	3,610	W253181
	•••	•••	35.73	25.83	38.44	2.40	35.03	.50	18.35	5.28	2,980	5,360	
	•••		58.04	41.96		3.90	56.90	.81	29.81	8.58	4,840	8,710	
		33.58	23.73	17.16	25.53	5.35	23.27	.33	42.02	3.51	1,980	3,560	
L4B	23.45	27.64	25.87	16.35	30.14	4.38	18.98	.29	32.48	13.73	1,760	-3,160	W253182
	•••	•••	35.76	22.58	41.66	1.77	26.23	.40	10.97	18.97	2,430	4,370	
	•••	•••	61.29	38.71	•••	3.03	44.96	.69	18.81	32.51	4,160	7,480	
	•••	23.45	27.37	17.30	31.89	3.99	20.08	.31	29.22	14.53	1,860	3,340	
L4A+L4B	31.63	27.63	15.81	4.56	52.00	3.98	7.86	.11	30.84	5.21	620	1,120	W253183
	•••		21.84	6.31	71.85	1.23	10.86	.15	8.72	7.19	860	1,550	
	•••	•••	77.59	22.41	•••	4.37	38.58	.53	30.98	25.54	3,060	5,510	
		31.63	14.94	4.31	49.13	4.38	7.43	.10	34.04	4.92	590	1,060	
L4C	27.42	29.63	18.66	7.68	44.03	4:76	14.75	.34	34.35	1.77	1,280	2,300	w253184
	•••		26.51	10.92	62.57	2.06	20.96	.48	11.42	2.51	1,820	3,270	
			70.82	29.18	•••	5.50	55.99	1.28	30.52	6.71	4,850	8,730	
		27.42	19.25	7.92	45.41	4.56	15.21	.35	32.64	1.83	1,320	2,370	
L4D	33.45	37.04	27.25	21.87	13.84	6.03	29.92	.56	44.30	5.35	2,640	4,740	W253185
	•••	•••	43.28	34.73	21.99	2.99	47.52	.89	18.11	8.50	4,180	7,520	
			55.48	44.52		3.83	60.91	1.14	23.22	10.90	5,360	9,640	
		33.45	28.80	23.12	14.63	5.74	31.63	.59	41.76	5.66	2,780	5,000	

		PROXI	MATE ANALYS	15		ULTIM	ATE ANALYS	IS		HEAT CON	ITENT		
Sample Number	Equilibrium Moisture	Hoisture	Volatile Matter	Fixed Carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Sulfur	KCal/KG	Btu/lb	Lab Number
10:110	71 //	20.01	14.71	7.01	49.37	4.33	10.99	0.24	32.58	2.49	920	1,660	W253186
4C+L4D	31.46	28.91	20.69	9.87	69.44	1.55	15.46	.33	9.71	3.51	1,300	2,330	
			67.71	32.29	07.44	5.07	50.59	1.08	31.77	11.49	4,240 .	7,620	
	•••	31.46	14.18	6.76	47.60	4.58	10.60	.23	34.60	2.40	890	1,600	
4F	33.12	37.26	27.73	21.10	13.91	5.94	29.67	.57	45.79	4.12	2,620	4,710	W25318
41	33.12	37.20	44.21	33.62	22.17	2.82	47.30	.91	20.24	6.56	4,180	7,510	
			56.80	43.20		3.62	60.77	1.17	26.01	8.43	5,370	9,650	
		33.12	29.56	22.49	14.83	5.59	31.63	.61	42.95	4.39	2,790	5,020	
4G	28.48	32.06	12.68	1.49	53.77	4.52	5.10	.08	28.54	7.99	210	380	W25318
40	20.40	32.00	18.67	2.19	79.14	1.37	7.50	.12	.11	11.76	310	550	
			89.49	10.51		6.57	35.95	.58	.53	56.37	1,470	2,650	
		28.48	13.35	1.57	56.60	4.17	5.37	.08	25.36	8.41	220	400	

			FORMS OF SU	ILFUR		ASH-FUS	ION TEMPERATURE,	°c		
Sample Number	Air-dried Loss	Sulfate	Pyritic	Organic	Free- swelling index	Initial deformation	Softening	Fluid	Hardgrove Grindability index	Lab Number
	27.20	4.04	0.4/	1 71	0.0	1,390	1,440	1,540G	81	w253186
L4C+L4D	23.29	1.04	0.14	1.31	0.0	1,370	1,110	.,		٠.
		1.46	.20 .65	6.06						
		4.78 1.00	.13	1.26						
		1.00	. 13	1.20						
L4F	29.73	1.37	.09	2.66	0.0	1,160	1,190	1,220	76	W253187
L4F	27.13	2.18	.14	4.24	0.0	.,				
		2.80	.18	5.45						
		1.46	.10	2.84						
	•••	1.40	.10	2.04						
L4G	27.39	1.08	.21	6.70	0.0	1,490	1,520	1,540G	121	W25318
144	21.39	1.58	.31	9.87						
		7.57	1.49	47.31						
		1.14	.22	7.05						