UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

GEOCHEMICAL RESULTS OF 1979 COAL DRILLING IN THE WARRIOR COAL FIELD, TUSCALOOSA, FAYETTE, WALKER, AND MARION COUNTIES, ALABAMA

Compiled By

Sharon Rose O'Donnell and Catherine A. Horsey

Open-File Report 81-617

1981

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INTRODUCTION

One hundred and sixty samples were taken and analyzed between May 10, 1979, and January 18, 1980, from twenty-two of twenty-three coal test holes drilled during 1979, in Tuscaloosa, Fayette, Walker, and Marion Counties, Alabama (Fig. 1 and plate 1). Contributors to this open-file report include Kenneth R. Adams, Philip M. Hunter, Ronald Law, and William Markewich of the United States Geological Survey.

This open-file report contains the geochemical results from the drilling and sampling project and should be used in conjunction with Open-File Report 81-312, "Geophysical and Lithologic Logs of 1979 Coal Drilling in the Warrior Coal Field, Tuscaloosa, Fayette, Walker and Marion Counties, Alabama," by Ronald Law, Robert W. Hall, and Paula K. Tiblin, U.S. Geological Survey, and Catherine A. Horsey, Geological Survey of Alabama.

The purpose of this project was to determine the general distribution, thickness, and quality of potentially strippable and underground minable coal on Federal mineral properties in the western part of the Warrior coal field.

This open-file report contains three tables, a regional location map, and a drill-hole location map. Table 1 gives proximate and ultimate analyses of the 160 coal samples collected from the drilling project as formatted in the National Coal Resource Data System (NCRDS) developed by the United States Geological Survey (USGS). The coal samples were analyzed by the United States Department of Energy (USDOE), Pittsburgh Energy Technology Center, Pittsburgh, Pennsylvania 15236.

Table 2 provides the correlation of sample analyses in this open-file report with Open-File Report 81-312 which contains the stratigraphic and geophysical logs of the 23 drill holes. Sample analyses can be tied to appropriate drill holes and depths within the drill holes by matching sample numbers in Table 1 with sample numbers in Table 2.

Table 2 also offers edits to Open-File Report 81-312. An explanation of the edits is given at the end of Table 2.

Table 3 shows the correlation between the sample numbers and the free swelling index value (coke button).

Figure 1 shows the regional location of the study area in Alabama. Plate 1 shows drill-hole locations as represented in Open-File Report 81-312 and in this open-file report.

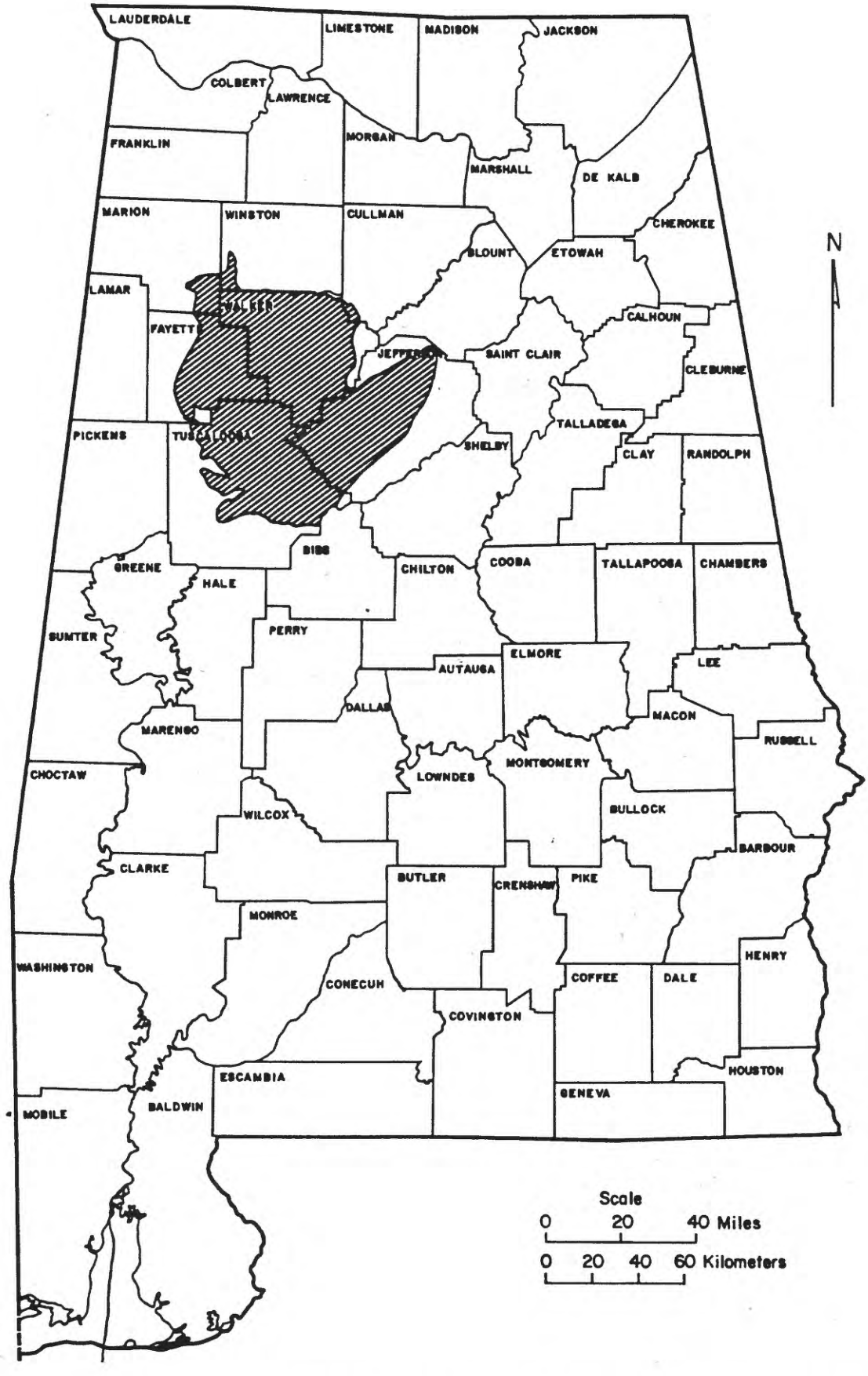

Figure 1.-- Index map of Alabama showing location of Warrior coal field.

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA.
(SAMPLE NUMBERS ARE RELATED TO HOLE NUMBERS IN TABLE 2.)

(ALL ANALYSES EXCEPT BTU ARE IN PERCENT. ORIGINAL MOISTURE CONTENT MAY BE SLIGHTLY MORE THAN SHOWN BECAUSE SAMPLES WERE COLLECTED AND TRANSPORTED IN PLASTIC BAGS TO AVOID METAL CONTAMINATION. TYPE OF ANALYSES: A, AS RECEIVED; B, MOISTURE FREE; C, MOISTURE AND ASH FREE. ALL AS RECEIVED ANALYSES BY COAL ANALYSIS SECTION, U.S. BUREAU OF MINES, PITTSBURGH, PA. TYPES B AND C CALCULATED FROM TYPE A.)

		PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
SAMPLE NO.	TYPE	MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W206856	A	1.8	31.0	45.0	22.2	4.6	62.2	1.5	6.1	3.4	11431	0.01	3.11	0.31
	B	---	31.6	45.8	22.6	4.5	63.3	1.5	4.6	3.5	11641	0.02	3.17	0.32
	C	---	40.8	59.2	----	5.8	81.9	2.0	5.9	4.5	15042	0.02	4.10	0.41
W206857	A	1.7	35.2	45.4	17.7	4.8	64.7	1.5	3.5	7.9	11966	0.01	7.12	0.72
	B	---	35.8	46.2	18.0	4.7	65.8	1.5	2.0	8.0	12173	0.02	7.25	0.74
	C	---	43.7	56.3	----	5.7	80.3	1.9	2.5	9.8	14847	0.02	8.84	0.90
W206858	A	1.8	32.2	48.6	17.4	4.8	66.0	1.7	6.2	3.9	12142	0.01	3.66	0.25
	B	---	32.8	49.5	17.7	4.7	67.2	1.7	4.7	4.0	12365	0.02	3.73	0.26
	C	---	39.9	60.2	----	5.7	81.7	2.1	5.7	4.8	15029	0.02	4.54	0.32
W206859	A	2.8	36.6	48.4	12.2	5.4	70.1	1.7	7.2	3.4	12525	0.01	2.81	0.63
	B	---	37.7	49.8	12.6	5.2	72.1	1.8	4.8	3.5	12886	0.02	2.90	0.65
	C	---	43.1	57.0	----	6.0	82.5	2.0	5.5	4.0	14737	0.02	3.31	0.75
W206860	A	2.3	33.9	48.2	15.6	5.0	68.4	1.6	7.2	2.3	12330	0.01	1.76	0.50
	B	---	34.7	49.3	16.0	4.9	70.0	1.6	5.3	2.4	12620	0.02	1.81	0.52
	C	---	41.3	58.7	----	5.8	83.3	2.0	6.3	2.8	15020	0.02	2.15	0.62
W206882	A	1.8	31.2	47.7	19.5	4.8	64.5	1.7	5.2	4.5	11718	0.02	4.19	0.32
	B	---	31.8	48.6	19.9	4.7	65.7	1.7	3.7	4.6	11933	0.03	4.27	0.33
	C	---	39.7	60.6	----	5.9	82.0	2.2	4.6	5.7	14891	0.03	5.33	0.41
W206883	A	1.7	32.3	51.8	14.2	4.9	71.6	1.7	6.4	1.2	12691	0.01	0.66	0.58
	B	---	32.9	52.7	14.5	4.8	72.8	1.7	5.0	1.2	12911	0.02	0.68	0.60
	C	---	38.4	61.6	----	5.6	85.2	2.0	5.8	1.4	15092	0.02	0.79	0.70
W206884	A	1.9	29.4	47.5	21.2	4.5	62.9	1.6	6.4	3.5	11404	0.01	2.69	0.78
	B	---	30.0	48.4	21.6	4.4	64.1	1.6	4.8	3.6	11625	0.02	2.75	0.80
	C	---	38.2	61.8	----	5.6	81.8	2.1	6.1	4.6	14831	0.02	3.51	1.02
W206885	A	2.3	32.6	60.1	5.0	5.2	79.1	1.9	7.4	1.3	14131	0.01	0.68	0.64
	B	---	33.4	61.5	5.1	5.1	81.0	1.9	5.5	1.3	14464	0.02	0.70	0.66
	C	---	35.2	64.8	----	5.3	85.3	2.1	5.8	1.4	15245	0.02	0.74	0.70
W206913	A	2.7	34.5	42.0	20.8	4.7	62.6	1.4	7.3	3.2	11318	0.01	2.64	0.56
	B	---	35.5	43.2	21.4	4.5	64.3	1.4	5.0	3.3	11632	0.02	2.72	0.58
	C	---	45.1	54.9	----	5.8	81.8	1.8	6.4	4.2	14796	0.02	3.46	0.74

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W206914	A	3.1	39.3	51.4	6.2	5.5	74.7	1.9	8.1	3.5	13563	0.01	2.61	0.92
	B	---	40.6	53.1	6.4	5.3	77.1	2.0	5.5	3.6	13997	0.02	2.70	0.95
	C	---	43.3	56.7	----	5.7	82.4	2.1	5.9	3.9	14955	0.02	2.88	1.02
W206915	A	2.1	37.4	49.6	10.9	5.3	72.1	1.7	6.8	3.2	13098	0.01	2.80	0.37
	B	---	38.2	50.7	11.1	5.2	73.7	1.7	5.0	3.3	13379	0.02	2.87	0.38
	C	---	43.0	57.0	----	5.8	82.9	2.0	5.7	3.7	15056	0.02	3.22	0.43
W206916	A	2.0	34.9	50.0	13.1	5.2	71.0	1.6	6.0	3.1	12663	0.01	2.65	0.45
	B	---	35.6	51.0	13.4	5.1	72.5	1.6	4.3	3.2	12922	0.02	2.71	0.46
	C	---	41.1	58.9	----	5.9	83.6	1.9	5.0	3.7	14916	0.02	3.13	0.54
W206917	A	2.1	37.0	55.9	5.0	5.6	78.6	1.8	7.7	1.2	14113	0.01	0.57	0.59
	B	---	37.8	57.1	5.1	5.5	80.3	1.8	6.0	1.2	14416	0.02	0.59	0.61
	C	---	39.8	60.2	----	5.8	84.6	1.9	6.3	1.3	15193	0.02	0.62	0.64
W207070	A	4.2	31.8	46.7	17.3	4.7	63.3	1.3	6.7	6.7	11554	0.02	6.61	0.12
	B	---	33.2	48.8	18.1	4.4	66.1	1.4	3.1	7.0	12061	0.03	6.91	0.13
	C	---	40.5	59.5	----	5.4	80.7	1.7	3.8	8.5	14720	0.03	8.43	0.16
W207071	A	3.1	31.7	42.9	22.3	4.8	60.5	1.3	9.4	1.6	10976	0.01	1.33	0.30
	B	---	32.7	44.3	23.0	4.6	62.4	1.3	6.9	1.7	11327	0.02	1.38	0.31
	C	---	42.5	57.5	----	6.0	81.1	1.7	8.9	2.2	14715	0.02	1.79	0.41
W207072	A	2.7	38.0	52.0	7.3	5.5	74.4	1.6	7.3	3.9	13572	0.01	3.58	0.30
	B	---	39.1	53.5	7.5	5.3	76.5	1.6	5.0	4.0	13949	0.02	3.68	0.31
	C	---	42.2	57.8	----	5.8	82.7	1.8	5.4	4.3	15081	0.02	3.98	0.34
W207073	A	2.9	34.6	50.4	12.1	5.3	70.4	1.5	9.7	1.1	12697	0.01	0.91	0.14
	B	---	35.6	51.9	12.5	5.1	72.5	1.6	7.3	1.1	13076	0.02	0.94	0.15
	C	---	40.7	59.3	----	5.9	82.8	1.8	8.4	1.3	14939	0.02	1.08	0.17
W207074	A	2.0	26.6	32.9	38.5	4.0	47.3	1.1	7.3	1.9	8588	0.01	1.65	0.19
	B	---	27.1	33.6	39.3	3.9	48.3	1.1	5.6	1.9	8763	0.02	1.69	0.20
	C	---	44.7	55.3	----	6.4	79.5	1.9	9.3	3.2	14436	0.03	2.78	0.33
W207075	A	3.8	35.4	47.2	13.6	5.5	68.0	1.4	9.8	1.7	12180	0.02	0.90	0.73
	B	---	36.8	49.1	14.1	5.3	70.7	1.5	6.7	1.8	12661	0.03	0.94	0.76
	C	---	42.9	57.2	----	6.2	82.3	1.7	7.8	2.1	14747	0.03	1.10	0.89

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

		PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
SAMPLE NO.	TYPE	MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207076	A	4.1	31.0	49.9	15.0	5.0	66.9	1.8	10.7	0.6	11808	0.03	0.20	0.37
	B	---	32.3	52.0	15.6	4.7	69.8	1.9	7.4	0.6	12313	0.04	0.21	0.39
	C	---	38.3	61.7	----	5.6	82.7	2.2	8.7	0.7	14597	0.04	0.25	0.46
W207077	A	3.6	35.2	44.9	16.3	5.2	65.5	1.6	10.3	1.2	11726	0.01	1.11	0.08
	B	---	36.5	46.6	16.9	5.0	68.0	1.7	7.4	1.3	12164	0.02	1.16	0.09
	C	---	44.0	56.1	----	6.0	81.8	2.0	8.9	1.5	14641	0.02	1.39	0.11
W207096	A	3.8	37.8	53.1	5.3	5.7	74.8	2.0	10.2	1.9	13416	0.01	1.37	0.51
	B	---	39.3	55.2	5.5	5.5	77.8	2.1	7.1	2.0	13946	0.02	1.43	0.54
	C	---	41.6	58.4	----	5.8	82.3	2.2	7.5	2.1	14760	0.02	1.51	0.57
W207097	A	4.0	38.0	41.0	17.0	4.9	62.9	1.5	7.6	6.2	11488	0.01	6.06	0.13
	B	---	39.6	42.7	17.7	4.6	65.5	1.6	4.2	6.5	11967	0.02	6.32	0.14
	C	---	48.1	51.9	----	5.6	79.6	1.9	5.1	7.9	14543	0.02	7.68	0.17
W207098	A	3.4	38.7	45.8	12.1	5.4	68.6	1.6	8.9	3.4	12545	0.01	2.54	0.87
	B	---	40.1	47.4	12.5	5.2	71.0	1.7	6.1	3.5	12987	0.02	2.63	0.91
	C	---	45.8	54.2	----	5.9	81.2	1.9	7.0	4.0	14847	0.02	3.01	1.04
W207099	A	3.0	34.3	42.9	19.8	4.7	60.8	1.4	6.8	6.5	11201	0.03	6.43	0.08
	B	---	35.4	44.2	20.4	4.5	62.7	1.4	4.3	6.7	11548	0.04	6.63	0.09
	C	---	44.4	55.6	----	5.7	78.8	1.8	5.4	8.4	14510	0.05	8.34	0.11
W207100	A	3.8	30.7	48.9	16.6	4.8	65.9	1.8	10.2	0.7	11629	0.02	0.26	0.37
	B	---	31.9	50.8	17.3	4.6	68.5	1.9	7.1	0.7	12088	0.03	0.28	0.39
	C	---	38.6	61.4	----	5.5	82.8	2.3	8.6	0.9	14611	0.03	0.33	0.47
W207101	A	3.5	34.8	47.0	14.7	5.1	66.2	1.7	9.6	2.6	12008	0.01	2.26	0.34
	B	---	36.1	48.7	15.2	4.9	68.6	1.8	6.7	2.7	12444	0.02	2.35	0.36
	C	---	42.6	57.5	----	5.8	80.9	2.1	7.9	3.2	14681	0.02	2.77	0.42
W207102	A	2.5	36.6	47.4	13.5	5.0	66.4	1.5	6.6	7.1	12273	0.01	6.27	0.78
	B	---	37.5	48.6	13.9	4.8	68.1	1.5	4.5	7.3	12588	0.02	6.44	0.81
	C	---	43.6	56.4	----	5.6	79.1	1.8	5.2	8.5	14612	0.02	7.47	0.93
W207103	A	3.3	36.2	47.6	12.9	5.2	67.6	1.5	7.8	5.1	12245	0.01	4.83	0.25
	B	---	37.4	49.2	13.3	5.0	69.9	1.6	5.0	5.3	12663	0.02	5.00	0.26
	C	---	43.2	56.8	----	5.8	80.7	1.8	5.8	6.1	14613	0.02	5.77	0.30

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207104	A	3.0	41.9	48.8	6.3	5.8	75.3	1.5	8.9	2.2	13755	0.04	1.90	0.28
	B	---	43.2	50.3	6.5	5.6	77.6	1.6	6.4	2.3	14181	0.05	1.96	0.29
	C	---	46.2	53.8	----	6.0	83.0	1.7	6.9	2.4	15167	0.05	2.10	0.31
W207105	A	2.8	43.4	50.1	3.7	5.9	77.7	1.9	9.1	1.7	14050	0.01	1.04	0.62
	B	---	44.7	51.6	3.8	5.8	79.9	2.0	6.8	1.8	14455	0.02	1.08	0.64
	C	---	46.4	53.6	----	6.0	83.1	2.0	7.1	1.8	15028	0.02	1.12	0.67
W207335	A	3.1	32.5	48.0	16.4	5.0	66.0	1.4	8.1	3.1	11957	0.03	2.92	0.16
	B	---	33.5	49.5	16.9	4.8	68.1	1.5	5.5	3.2	12340	0.04	3.02	0.17
	C	---	40.4	59.6	----	5.8	82.0	1.7	6.6	3.9	14855	0.04	3.63	0.20
W207336	A	1.7	30.8	41.6	25.9	4.5	56.3	1.4	2.7	9.2	10499	0.02	7.49	1.68
	B	---	31.3	42.3	26.4	4.4	57.3	1.4	1.2	9.4	10681	0.03	7.63	1.71
	C	---	42.6	57.5	----	6.0	77.8	1.9	1.6	12.7	14503	0.03	10.35	2.33
W207337	A	2.1	32.6	42.6	22.7	4.5	61.6	1.5	7.7	2.1	11092	0.02	1.99	0.05
	B	---	33.3	43.5	23.2	4.4	62.9	1.5	6.0	2.2	11330	0.03	2.04	0.06
	C	---	43.4	56.7	----	5.7	81.9	2.0	7.8	2.8	14751	0.03	2.65	0.07
W207338	A	2.3	31.3	53.2	13.2	5.0	72.1	1.5	7.4	0.8	12777	0.03	0.49	0.32
	B	---	32.0	54.5	13.5	4.9	73.8	1.5	5.5	0.8	13078	0.04	0.51	0.33
	C	---	37.1	63.0	----	5.6	85.3	1.8	6.3	1.0	15122	0.04	0.59	0.38
W207339	A	1.5	31.5	41.5	25.5	4.3	57.4	1.4	3.8	7.5	10746	0.01	6.93	0.55
	B	---	32.0	42.1	25.9	4.2	58.3	1.4	2.5	7.6	10910	0.02	7.04	0.56
	C	---	43.2	56.9	----	5.7	78.6	1.9	3.4	10.3	14722	0.02	9.50	0.76
W207340	A	1.4	35.0	44.8	18.8	5.0	63.9	1.5	3.3	7.5	11971	0.01	6.80	0.71
	B	---	35.5	45.4	19.1	4.9	64.8	1.5	2.1	7.6	12141	0.02	6.90	0.73
	C	---	43.9	56.2	----	6.1	80.1	1.9	2.6	9.4	15003	0.02	8.53	0.90
W207341	A	1.5	31.1	45.7	21.7	4.7	62.9	1.5	4.1	5.1	11496	0.02	4.96	0.08
	B	---	31.6	46.4	22.0	4.6	63.9	1.5	2.8	5.2	11671	0.03	5.04	0.09
	C	---	40.5	59.5	----	5.9	81.9	2.0	3.6	6.6	14970	0.03	6.47	0.11
W207342	A	1.6	35.8	47.5	15.1	5.2	68.1	1.7	4.1	5.9	12658	0.01	5.73	0.11
	B	---	36.4	48.3	15.4	5.1	69.2	1.7	2.7	6.0	12864	0.02	5.83	0.12
	C	---	43.0	57.0	----	6.0	81.8	2.0	3.2	7.1	15197	0.02	6.89	0.14

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207343	A	2.3	32.3	59.4	6.0	5.2	78.6	1.9	7.3	0.9	14043	0.01	0.46	0.48
	B	---	33.1	60.8	6.1	5.1	80.5	1.9	5.4	0.9	14374	0.02	0.48	0.50
	C	---	35.2	64.8	----	5.4	85.7	2.1	5.7	1.0	15315	0.02	0.51	0.53
W207344	A	2.3	37.0	42.0	18.7	5.2	61.8	1.3	5.0	8.0	11668	0.04	7.59	0.40
	B	---	37.9	43.0	19.1	5.1	63.3	1.3	3.0	8.2	11943	0.05	7.77	0.41
	C	---	46.8	53.2	----	6.3	78.2	1.7	3.7	10.1	14771	0.06	9.62	0.51
W207345	A	2.6	38.2	53.2	6.0	5.7	76.5	1.7	8.6	1.5	13800	0.01	0.68	0.83
	B	---	39.2	54.6	6.2	5.6	78.6	1.8	6.5	1.5	14169	0.02	0.70	0.86
	C	---	41.8	58.2	----	5.9	83.7	1.9	6.9	1.6	15100	0.02	0.75	0.91
W207346	A	2.5	38.2	49.8	9.5	5.6	72.5	1.7	7.1	3.6	13363	0.01	3.41	0.22
	B	---	39.2	51.1	9.7	5.5	74.4	1.7	5.0	3.7	13706	0.02	3.50	0.23
	C	---	43.4	56.6	----	6.1	82.4	1.9	5.5	4.1	15186	0.02	3.88	0.26
W207347	A	3.6	39.1	49.7	7.6	5.8	72.4	1.9	10.9	1.3	13039	0.02	0.91	0.37
	B	---	40.6	51.6	7.9	5.6	75.1	2.0	8.0	1.4	13526	0.03	0.95	0.39
	C	---	44.0	56.0	----	6.1	81.5	2.1	8.7	1.5	14685	0.03	1.03	0.42
W207348	A	2.8	36.0	44.0	17.2	5.1	64.8	1.5	8.6	2.9	11790	0.01	2.55	0.32
	B	---	37.0	45.3	17.7	4.9	66.7	1.5	6.3	3.0	12130	0.02	2.63	0.33
	C	---	45.0	55.0	----	6.0	81.0	1.9	7.6	3.6	14739	0.02	3.19	0.41
W207349	A	3.7	28.9	38.3	29.1	4.5	54.5	1.4	9.8	0.8	9693	0.01	0.62	0.15
	B	---	30.0	39.8	30.2	4.3	56.6	1.5	6.8	0.8	10065	0.02	0.65	0.16
	C	---	43.0	57.0	----	6.1	81.1	2.1	9.7	1.2	14426	0.02	0.93	0.23
W207350	A	3.8	31.2	45.8	19.2	4.9	63.3	1.6	10.4	0.6	11201	0.02	0.17	0.38
	B	---	32.4	47.6	20.0	4.7	65.8	1.7	7.3	0.6	11644	0.03	0.18	0.40
	C	---	40.5	59.5	----	5.8	82.2	2.1	9.1	0.8	14548	0.03	0.23	0.50
W207351	A	4.1	32.9	44.6	18.4	4.9	63.1	1.6	10.5	1.4	11226	0.01	1.21	0.21
	B	---	34.3	46.5	19.2	4.6	65.8	1.7	7.1	1.5	11706	0.02	1.27	0.22
	C	---	42.5	57.6	----	5.7	81.4	2.1	8.8	1.8	14487	0.02	1.57	0.28
W207352	A	3.0	37.8	48.5	10.7	5.2	69.0	1.6	8.4	5.1	12694	0.01	4.99	0.15
	B	---	39.0	50.0	11.0	5.0	71.1	1.7	5.9	5.3	13087	0.02	5.15	0.16
	C	---	43.8	56.2	----	5.6	80.0	1.9	6.6	5.9	14710	0.02	5.79	0.18

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS					BTU VALUE	FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR		SULFATE	PYRITIC	ORGANIC
W207353	A	3.0	39.3	52.2	5.5	5.9	75.9	1.6	8.6	2.5	13658	0.01	1.76	0.70
	B	---	40.5	53.8	5.7	5.7	78.3	1.7	6.1	2.6	14081	0.02	1.82	0.73
	C	---	43.0	57.1	----	6.1	83.0	1.8	6.5	2.7	14928	0.02	1.93	0.77
W207354	A	1.9	30.1	46.9	21.1	4.8	64.5	1.5	6.4	1.5	11584	0.01	1.19	0.32
	B	---	30.7	47.8	21.5	4.7	65.8	1.5	4.8	1.5	11808	0.02	1.22	0.33
	C	---	39.1	60.9	----	6.0	83.8	2.0	6.1	2.0	15046	0.02	1.55	0.42
W207355	A	1.4	33.6	44.1	20.9	4.9	63.6	1.5	4.5	4.7	11597	0.01	4.40	0.32
	B	---	34.1	44.7	21.2	4.8	64.5	1.5	3.3	4.8	11762	0.02	4.47	0.33
	C	---	43.3	56.8	----	6.1	81.9	1.9	4.2	6.1	14927	0.02	5.67	0.42
W207378	A	3.6	33.5	47.3	15.6	5.0	66.6	1.7	10.3	0.7	11862	0.04	0.34	0.31
	B	---	34.8	49.1	16.2	4.8	69.1	1.8	7.4	0.7	12305	0.05	0.36	0.33
	C	---	41.5	58.6	----	5.7	82.4	2.1	8.8	0.9	14682	0.06	0.43	0.39
W207379	A	3.5	33.5	47.2	15.8	4.9	65.7	1.8	9.7	2.0	11743	0.05	1.87	0.09
	B	---	34.7	48.9	16.4	4.7	68.1	1.9	6.8	2.1	12169	0.06	1.94	0.10
	C	---	41.5	58.5	----	5.6	81.4	2.2	8.2	2.5	14553	0.07	2.32	0.12
W207380	A	3.7	36.4	52.1	7.8	5.3	72.9	1.9	10.1	2.0	13038	0.03	1.86	0.11
	B	---	37.8	54.1	8.1	5.1	75.7	2.0	7.1	2.1	13539	0.04	1.94	0.12
	C	---	41.1	58.9	----	5.5	82.4	2.2	7.7	2.3	14733	0.04	2.11	0.13
W207381	A	3.0	38.7	47.8	10.5	5.2	69.2	1.6	6.7	6.8	12706	0.02	6.02	0.79
	B	---	39.9	49.3	10.8	5.0	71.3	1.7	4.2	7.0	13099	0.03	6.21	0.82
	C	---	44.8	55.3	----	5.6	80.0	1.9	4.7	7.9	14690	0.03	6.97	0.92
W207382	A	4.2	37.6	55.6	2.6	5.6	77.4	1.9	10.9	1.7	13832	0.09	1.24	0.35
	B	---	39.3	58.0	2.7	5.4	80.8	2.0	7.5	1.8	14439	0.10	1.30	0.37
	C	---	40.4	59.7	----	5.5	83.1	2.0	7.7	1.8	14842	0.10	1.34	0.38
W207383	A	4.4	32.5	50.5	12.6	5.1	68.1	1.8	11.5	0.9	12093	0.01	0.17	0.70
	B	---	34.0	52.8	13.2	4.8	71.2	1.9	7.9	0.9	12650	0.01	0.18	0.74
	C	---	39.2	60.9	----	5.6	82.1	2.2	9.1	1.1	14571	0.01	0.21	0.85
W207384	A	2.1	35.7	48.8	13.4	5.2	70.4	1.8	6.5	2.7	12716	0.01	2.13	0.51
	B	---	36.5	49.9	13.7	5.1	71.9	1.8	4.7	2.8	12989	0.02	2.18	0.53
	C	---	42.3	57.8	----	5.9	83.3	2.1	5.5	3.2	15050	0.02	2.53	0.61

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207385	A	2.0	35.7	50.9	11.4	5.2	72.9	1.7	6.1	2.7	13109	0.01	2.28	0.41
	B	---	36.4	51.9	11.6	5.1	74.4	1.7	4.4	2.8	13377	0.02	2.33	0.42
	C	---	41.2	58.8	----	5.8	84.2	2.0	5.0	3.1	15139	0.02	2.64	0.48
W207386	A	2.1	31.4	44.4	22.1	4.7	62.8	1.5	6.9	2.1	11369	0.02	1.59	0.48
	B	---	32.1	45.4	22.6	4.6	64.2	1.5	5.1	2.2	11613	0.03	1.63	0.50
	C	---	41.4	58.6	----	5.9	82.9	2.0	6.6	2.8	15000	0.03	2.10	0.64
W207387	A	2.3	33.0	54.5	10.2	5.1	73.3	1.8	7.8	1.8	13236	0.02	1.48	0.35
	B	---	33.8	55.8	10.4	5.0	75.0	1.8	5.9	1.8	13548	0.03	1.52	0.36
	C	---	37.7	62.3	----	5.5	83.8	2.1	6.6	2.1	15128	0.03	1.70	0.41
W207388	A	1.6	32.2	48.0	18.2	4.9	66.6	1.7	5.6	3.1	12098	0.05	2.28	0.76
	B	---	32.7	48.8	18.5	4.8	67.7	1.7	4.2	3.2	12295	0.06	2.32	0.78
	C	---	40.2	59.9	----	5.9	83.1	2.1	5.2	3.9	15086	0.07	2.85	0.95
W207389	A	1.4	30.7	44.3	23.6	4.6	61.2	1.4	3.8	5.2	11300	0.02	4.99	0.19
	B	---	31.1	44.9	23.9	4.5	62.1	1.4	2.6	5.3	11461	0.03	5.07	0.20
	C	---	40.9	59.1	----	5.9	81.6	1.9	3.4	6.9	15068	0.03	6.66	0.26
W207390	A	2.3	33.4	53.7	10.6	5.3	74.4	1.8	7.2	0.8	13287	0.02	0.34	0.42
	B	---	34.2	55.0	10.9	5.2	76.2	1.8	5.3	0.8	13600	0.03	0.35	0.44
	C	---	38.4	61.7	----	5.8	85.4	2.1	5.9	0.9	15256	0.03	0.40	0.49
W207823	A	1.8	34.0	54.0	10.2	5.3	73.5	1.7	7.8	1.6	13407	0.02	1.31	0.25
	B	---	34.6	55.0	10.4	5.2	74.9	1.7	6.3	1.6	13653	0.03	1.34	0.26
	C	---	38.6	61.4	----	5.8	83.5	1.9	7.0	1.8	15236	0.03	1.49	0.29
W207824	A	1.8	29.4	54.4	14.4	4.9	71.8	1.6	6.6	0.6	12726	0.02	0.14	0.43
	B	---	29.9	55.4	14.7	4.8	73.1	1.6	5.1	0.6	12959	0.03	0.15	0.44
	C	---	35.1	64.9	----	5.6	85.7	1.9	6.0	0.7	15187	0.03	0.17	0.52
W207825	A	1.4	24.9	39.0	34.7	3.8	50.5	1.3	3.1	6.5	9314	0.01	6.03	0.41
	B	---	25.3	39.6	35.2	3.7	51.2	1.3	1.9	6.6	9446	0.02	6.12	0.42
	C	---	39.0	61.1	----	5.7	79.0	2.0	2.9	10.2	14578	0.02	9.45	0.65
W207826	A	1.8	31.7	62.6	3.9	5.2	79.8	1.9	7.3	1.9	14510	0.01	1.05	0.80
	B	---	32.3	63.8	4.0	5.1	81.3	1.9	5.8	1.9	14776	0.02	1.07	0.82
	C	---	33.6	66.4	----	5.3	84.6	2.0	6.0	2.0	15388	0.02	1.12	0.85

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	%FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207827	A	2.4	37.7	48.4	11.5	5.1	70.7	1.6	8.3	2.7	12920	0.01	2.30	0.37
	B	---	38.6	49.6	11.8	5.0	72.4	1.6	6.3	2.8	13238	0.02	2.36	0.38
	C	---	43.8	56.2	----	5.6	82.1	1.9	7.2	3.1	15007	0.02	2.68	0.44
W207828	A	2.3	35.7	55.1	6.9	5.5	76.5	1.8	7.7	1.7	13720	0.01	0.79	0.85
	B	---	36.5	56.4	7.1	5.4	78.3	1.8	5.8	1.7	14043	0.02	0.81	0.88
	C	---	39.3	60.7	----	5.8	84.3	2.0	6.2	1.9	15111	0.02	0.88	0.94
W207829	A	2.3	37.8	51.8	8.1	5.3	74.2	1.7	8.7	2.0	13564	0.01	1.51	0.47
	B	---	38.7	53.0	8.3	5.2	76.0	1.7	6.8	2.1	13884	0.02	1.55	0.49
	C	---	42.2	57.8	----	5.6	82.8	1.9	7.4	2.2	15140	0.02	1.69	0.53
W207830	A	4.0	32.2	49.2	14.6	5.1	66.4	1.8	10.8	1.2	11803	0.01	0.84	0.34
	B	---	33.5	51.3	15.2	4.9	69.2	1.9	7.5	1.3	12295	0.02	0.88	0.36
	C	---	39.6	60.5	----	5.7	81.6	2.2	8.9	1.5	14501	0.02	1.04	0.42
W207831	A	3.7	32.0	47.8	16.5	4.9	64.2	1.6	10.8	2.1	11547	0.01	1.77	0.30
	B	---	33.2	49.6	17.1	4.7	66.7	1.7	7.8	2.2	11991	0.02	1.84	0.32
	C	---	40.1	59.9	----	5.6	80.5	2.0	9.4	2.6	14471	0.02	2.22	0.38
W207832	A	2.6	38.2	46.9	12.3	5.1	66.4	1.5	6.9	7.9	12454	0.01	6.87	0.98
	B	---	39.2	48.2	12.6	4.9	68.2	1.5	4.7	8.1	12787	0.02	7.06	1.01
	C	---	44.9	55.1	----	5.7	78.0	1.8	5.4	9.3	14636	0.02	8.08	1.16
W207854	A	2.2	32.6	46.6	18.6	4.8	65.5	1.5	5.9	3.7	11939	0.03	3.28	0.39
	B	---	33.3	47.7	19.0	4.7	67.0	1.5	4.0	3.8	12208	0.04	3.36	0.40
	C	---	41.2	58.9	----	5.8	82.7	1.9	5.0	4.7	15076	0.04	4.15	0.50
W207855	A	1.8	36.2	49.6	12.4	5.2	71.8	1.7	6.0	2.9	13039	0.02	2.58	0.30
	B	---	36.9	50.5	12.6	5.1	73.1	1.7	4.5	3.0	13278	0.03	2.63	0.31
	C	---	42.2	57.8	----	5.8	83.7	2.0	5.1	3.4	15198	0.03	3.01	0.36
W207856	A	1.8	31.1	49.4	17.7	4.9	68.0	1.5	6.5	1.4	12242	0.03	1.05	0.34
	B	---	31.7	50.3	18.0	4.8	69.3	1.5	5.0	1.4	12467	0.04	1.07	0.35
	C	---	38.6	61.4	----	5.8	84.5	1.9	6.1	1.7	15209	0.04	1.31	0.43
W207857	A	1.6	31.9	52.0	14.5	4.8	68.5	1.5	4.1	6.6	12722	0.02	5.89	0.73
	B	---	32.4	52.9	14.7	4.7	69.6	1.5	2.7	6.7	12929	0.03	5.99	0.75
	C	---	38.0	62.0	----	5.5	81.7	1.8	3.2	7.9	15165	0.03	7.03	0.88

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

		PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
SAMPLE NO.	TYPE	MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207858	A	2.1	34.9	58.2	4.8	5.5	79.5	1.8	7.1	1.3	14283	0.04	0.76	0.45
	B	---	35.7	59.5	4.9	5.4	81.2	1.8	5.3	1.3	14590	0.05	0.78	0.46
	C	---	37.5	62.5	----	5.7	85.4	1.9	5.6	1.4	15343	0.05	0.82	0.49
W207859	A	1.8	24.8	39.7	33.7	3.9	51.7	1.3	6.2	3.3	9451	0.03	2.92	0.36
	B	---	25.3	40.4	34.3	3.8	52.7	1.3	4.7	3.4	9624	0.04	2.98	0.37
	C	---	38.5	61.6	----	5.7	80.2	2.0	7.1	5.1	14654	0.05	4.54	0.57
W207860	A	3.2	36.6	46.4	13.8	5.1	67.0	1.7	8.6	3.8	12209	0.01	3.51	0.31
	B	---	37.8	47.9	14.3	4.9	69.2	1.8	5.9	3.9	12613	0.02	3.63	0.33
	C	---	44.1	55.9	----	5.7	80.7	2.1	6.9	4.6	14711	0.02	4.24	0.38
W207861	A	4.4	35.9	55.8	3.9	5.5	75.3	1.7	11.9	1.7	13468	0.02	1.15	0.55
	B	---	37.6	58.4	4.1	5.2	78.8	1.8	8.4	1.8	14088	0.03	1.21	0.58
	C	---	39.2	60.9	----	5.5	82.1	1.9	8.7	1.9	14688	0.03	1.26	0.61
W207902	A	2.3	35.3	49.4	13.0	5.2	70.0	1.7	8.3	1.8	12723	0.01	1.25	0.53
	B	---	36.1	50.6	13.3	5.1	71.7	1.7	6.4	1.8	13023	0.02	1.28	0.55
	C	---	41.7	58.3	----	5.8	82.7	2.0	7.4	2.1	15023	0.02	1.48	0.63
W207903	A	2.1	31.2	43.9	22.8	4.5	61.0	1.5	7.4	2.7	11016	0.01	2.52	0.20
	B	---	31.9	44.8	23.3	4.4	62.3	1.5	5.7	2.8	11252	0.02	2.58	0.21
	C	---	41.6	58.5	----	5.7	81.2	2.0	7.4	3.6	14670	0.02	3.36	0.27
W207904	A	2.6	29.5	50.2	17.7	4.8	66.4	1.7	8.6	0.8	11821	0.01	0.53	0.24
	B	---	30.3	51.5	18.2	4.6	68.2	1.8	6.5	0.8	12137	0.02	0.55	0.25
	C	---	37.0	63.0	----	5.7	83.3	2.1	7.9	1.0	14833	0.02	0.67	0.31
W207905	A	2.7	39.9	46.2	11.2	5.2	69.4	1.7	8.7	3.8	12780	0.01	3.47	0.30
	B	---	41.0	47.5	11.5	5.0	71.3	1.8	6.5	3.9	13135	0.02	3.57	0.31
	C	---	46.4	53.7	----	5.7	80.6	2.0	7.3	4.4	14844	0.02	4.04	0.35
W207906	A	3.1	34.3	45.5	17.1	4.9	63.9	1.7	10.0	2.4	11677	0.01	1.83	0.51
	B	---	35.4	47.0	17.7	4.7	66.0	1.8	7.5	2.5	12051	0.02	1.89	0.53
	C	---	43.0	57.0	----	5.7	80.1	2.1	9.1	3.0	14634	0.02	2.30	0.65
W207907	A	3.6	31.5	48.8	16.1	4.9	66.2	1.8	10.5	0.6	11774	0.01	0.34	0.22
	B	---	32.7	50.6	16.7	4.7	68.7	1.9	7.6	0.6	12214	0.02	0.36	0.23
	C	---	39.2	60.8	----	5.6	82.5	2.2	9.1	0.8	14664	0.02	0.43	0.28

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W207908	A	3.2	34.1	49.6	13.1	5.0	68.3	1.8	11.0	0.8	12210	0.01	0.21	0.56
	B	---	35.2	51.2	13.5	4.8	70.6	1.9	8.4	0.8	12614	0.02	0.22	0.58
	C	---	40.8	59.3	----	5.6	81.6	2.2	9.7	1.0	14589	0.02	0.26	0.68
W207909	A	2.8	35.0	48.2	14.0	5.1	68.3	1.7	9.5	1.2	12250	0.02	0.62	0.59
	B	---	36.0	49.6	14.4	4.9	70.3	1.8	7.2	1.2	12603	0.03	0.64	0.61
	C	---	42.1	57.9	----	5.8	82.1	2.0	8.4	1.4	14725	0.03	0.75	0.72
W208036	A	2.7	38.9	50.6	7.8	5.4	74.0	1.8	9.3	1.7	13446	0.03	1.15	0.48
	B	---	40.0	52.0	8.0	5.2	76.1	1.9	7.1	1.8	13819	0.04	1.19	0.50
	C	---	43.5	56.5	----	5.7	82.7	2.0	7.7	1.9	15025	0.04	1.29	0.54
W208037	A	2.5	33.7	48.4	15.4	4.9	67.5	1.6	8.5	2.1	12206	0.01	1.70	0.38
	B	---	34.6	49.6	15.8	4.7	69.2	1.6	6.4	2.2	12519	0.02	1.75	0.39
	C	---	41.1	59.0	----	5.6	82.2	2.0	7.6	2.6	14869	0.02	2.08	0.47
W208038	A	2.6	36.8	49.9	10.7	5.3	72.0	1.8	8.9	1.3	13016	0.02	0.76	0.47
	B	---	37.8	51.2	11.0	5.1	73.9	1.9	6.8	1.3	13364	0.03	0.79	0.49
	C	---	42.5	57.6	----	5.8	83.1	2.1	7.6	1.5	15014	0.03	0.88	0.55
W208039	A	2.2	38.6	50.1	9.1	5.4	73.4	1.9	8.0	2.2	13387	0.06	1.70	0.49
	B	---	39.5	51.2	9.3	5.3	75.1	1.9	6.2	2.3	13688	0.07	1.74	0.51
	C	---	43.5	56.5	----	5.8	82.8	2.1	6.8	2.5	15094	0.07	1.92	0.56
W208040	A	2.1	39.9	49.0	9.0	5.4	72.2	1.7	8.0	3.8	13303	0.05	3.12	0.61
	B	---	40.8	50.1	9.2	5.3	73.8	1.7	6.3	3.9	13589	0.06	3.19	0.63
	C	---	44.9	55.1	----	5.8	81.2	1.9	6.9	4.3	14965	0.06	3.52	0.69
W208041	A	3.3	31.4	44.6	20.7	4.6	61.1	1.6	9.9	2.1	11113	0.03	1.80	0.29
	B	---	32.5	46.1	21.4	4.4	63.2	1.7	7.2	2.2	11492	0.04	1.87	0.31
	C	---	41.3	58.7	----	5.6	80.4	2.1	9.2	2.8	14624	0.05	2.38	0.39
W208042	A	3.1	36.7	47.2	13.0	5.1	67.1	1.6	9.8	3.5	12324	0.03	2.78	0.67
	B	---	37.9	48.7	13.4	4.9	69.3	1.7	7.3	3.6	12718	0.04	2.87	0.70
	C	---	43.8	56.3	----	5.7	80.0	1.9	8.4	4.2	14690	0.04	3.32	0.80
W208043	A	3.7	37.0	55.4	3.9	5.4	76.2	1.8	11.6	1.1	13685	0.11	0.51	0.48
	B	---	38.4	57.5	4.1	5.2	79.1	1.9	8.6	1.1	14211	0.12	0.53	0.50
	C	---	40.1	60.0	----	5.4	82.5	2.0	9.0	1.2	14812	0.12	0.56	0.52

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W208068	A	2.1	26.8	41.2	29.9	3.8	55.2	1.3	7.5	2.3	10034	0.01	2.02	0.28
	B	---	27.4	42.1	30.5	3.6	56.4	1.3	5.8	2.4	10249	0.02	2.07	0.29
	C	---	39.4	60.6	----	5.3	81.2	1.9	8.3	3.4	14758	0.02	2.98	0.42
W208069	A	2.3	37.4	45.8	14.5	4.7	68.3	1.6	9.0	2.0	12456	0.01	1.44	0.54
	B	---	38.3	46.9	14.8	4.6	69.9	1.6	7.1	2.1	12749	0.02	1.48	0.56
	C	---	45.0	55.1	----	5.3	82.1	1.9	8.4	2.4	14972	0.02	1.74	0.66
W208070	A	2.0	38.4	42.9	18.7	4.7	63.2	1.4	5.8	8.2	12095	0.01	8.09	0.14
	B	---	39.2	43.8	19.1	4.6	64.5	1.4	4.1	8.4	12342	0.02	8.26	0.15
	C	---	48.4	54.1	----	5.7	79.7	1.8	5.1	10.3	15254	0.02	10.21	0.18
W208071	A	2.5	39.0	50.0	8.5	5.4	73.4	1.7	8.1	2.8	13369	0.01	2.60	0.22
	B	---	40.0	51.3	8.7	5.3	75.3	1.7	6.0	2.9	13712	0.02	2.67	0.23
	C	---	43.8	56.2	----	5.8	82.5	1.9	6.6	3.2	15023	0.02	2.93	0.25
W208072	A	3.0	37.2	51.3	8.5	5.2	73.5	1.7	10.3	0.8	13031	0.01	0.34	0.44
	B	---	38.4	52.9	8.8	5.0	75.8	1.8	7.9	0.8	13434	0.02	0.36	0.46
	C	---	42.0	58.0	----	5.5	83.1	1.9	8.6	0.9	14725	0.02	0.39	0.50
W208073	A	2.2	41.9	44.2	11.7	5.1	68.1	1.7	9.5	3.9	12847	0.01	3.42	0.50
	B	---	42.8	45.2	12.0	5.0	69.6	1.7	7.7	4.0	13136	0.02	3.50	0.52
	C	---	48.7	51.3	----	5.6	79.1	2.0	8.8	4.5	14922	0.02	3.98	0.59
W208074	A	2.2	33.5	41.5	22.8	4.4	60.0	1.4	7.0	4.4	10903	0.01	3.50	0.93
	B	---	34.3	42.4	23.3	4.3	61.4	1.4	5.2	4.5	11148	0.02	3.58	0.96
	C	---	44.7	55.3	----	5.5	80.0	1.9	6.7	5.9	14539	0.02	4.67	1.25
W208075	A	2.7	33.8	49.5	14.0	4.7	67.7	1.8	10.3	1.5	12298	0.01	0.96	0.55
	B	---	34.7	50.9	14.4	4.5	69.6	1.9	8.1	1.5	12639	0.02	0.99	0.57
	C	---	40.6	59.4	----	5.3	81.3	2.2	9.5	1.8	14765	0.02	1.16	0.67
W208076	A	2.5	32.9	42.4	22.2	4.6	60.6	1.4	8.4	2.9	10968	0.01	2.24	0.60
	B	---	33.8	43.5	22.8	4.4	62.2	1.4	6.3	3.0	11249	0.02	2.30	0.62
	C	---	43.7	56.3	----	5.7	80.5	1.9	8.2	3.9	14567	0.02	2.98	0.80
W208226	A	2.2	33.2	54.4	10.2	5.1	74.2	1.5	8.2	0.9	13235	0.01	0.39	0.48
	B	---	34.0	55.6	10.4	5.0	75.9	1.5	6.4	0.9	13533	0.02	0.40	0.50
	C	---	37.9	62.1	----	5.5	84.7	1.7	7.1	1.0	15110	0.02	0.45	0.55

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W208227	A	2.0	39.5	48.2	10.3	5.3	72.0	1.6	6.4	4.4	13174	0.01	3.75	0.66
	B	---	40.3	49.2	10.5	5.2	73.5	1.6	4.7	4.5	13443	0.02	3.83	0.68
	C	---	45.1	55.0	----	5.8	82.1	1.8	5.3	5.0	15023	0.02	4.28	0.76
W208228	A	1.7	39.2	53.6	5.5	5.5	78.4	1.7	7.3	1.5	14138	0.01	1.11	0.43
	B	---	39.9	54.5	5.6	5.4	79.8	1.7	5.9	1.5	14383	0.02	1.13	0.44
	C	---	42.3	57.8	----	5.7	84.5	1.8	6.2	1.6	15236	0.02	1.20	0.47
W208229	A	1.6	33.0	48.7	16.7	4.8	68.4	1.5	6.0	2.5	12346	0.01	2.10	0.42
	B	---	33.5	49.5	17.0	4.7	69.5	1.5	4.7	2.5	12547	0.02	2.14	0.43
	C	---	40.4	59.6	----	5.7	83.7	1.8	5.6	3.1	15113	0.02	2.58	0.52
W208230	A	1.3	35.5	54.4	8.8	5.1	75.3	1.5	5.6	3.6	13599	0.01	2.90	0.72
	B	---	36.0	55.1	8.9	5.0	76.3	1.5	4.5	3.7	13778	0.02	2.94	0.73
	C	---	39.5	60.5	----	5.5	83.8	1.7	4.9	4.0	15128	0.02	3.23	0.81
W208231	A	1.6	26.7	38.4	33.3	3.9	51.9	1.1	6.1	3.6	9560	0.01	3.33	0.29
	B	---	27.1	39.0	33.8	3.8	52.8	1.1	4.8	3.7	9715	0.02	3.39	0.30
	C	---	41.0	59.0	----	5.7	79.7	1.7	7.2	5.5	14687	0.02	5.12	0.45
W208232	A	1.4	30.5	49.2	18.9	4.6	66.1	1.4	6.1	2.9	11934	0.01	2.44	0.47
	B	---	30.9	49.9	19.2	4.5	67.0	1.4	4.9	2.9	12104	0.02	2.48	0.48
	C	---	38.3	61.7	----	5.6	83.0	1.8	6.1	3.6	14975	0.02	3.07	0.60
W208233	A	1.4	32.2	50.2	16.2	4.8	69.0	1.5	5.6	2.8	12529	0.01	2.16	0.65
	B	---	32.7	50.9	16.4	4.7	70.0	1.5	4.4	2.8	12707	0.02	2.20	0.66
	C	---	39.1	60.9	----	5.6	83.8	1.8	5.3	3.4	15206	0.02	2.63	0.79
W208234	A	1.4	27.4	46.7	24.5	4.3	61.3	1.4	6.2	2.3	11085	0.01	1.82	0.44
	B	---	27.8	47.4	24.9	4.2	62.2	1.4	5.0	2.3	11242	0.02	1.85	0.45
	C	---	37.0	63.0	----	5.6	82.7	1.9	6.7	3.1	14961	0.02	2.46	0.60
W208235	A	1.6	29.0	55.0	14.4	4.8	71.3	1.7	6.6	1.0	12729	0.01	0.40	0.63
	B	---	29.5	55.9	14.6	4.7	72.5	1.7	5.3	1.0	12936	0.02	0.41	0.65
	C	---	34.5	65.5	----	5.5	84.9	2.0	6.2	1.2	15155	0.02	0.48	0.76
W208236	A	1.3	33.2	61.8	3.7	5.3	82.3	1.9	5.1	1.8	14717	0.01	1.08	0.72
	B	---	33.6	62.6	3.8	5.2	83.4	1.9	4.0	1.8	14911	0.02	1.10	0.73
	C	---	35.0	65.1	----	5.4	86.6	2.0	4.2	1.9	15493	0.02	1.14	0.76

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W208237	A	2.1	41.0	49.4	7.5	5.5	74.6	1.8	7.9	2.6	13594	0.01	2.02	0.62
	B	---	41.9	50.5	7.7	5.4	76.2	1.8	6.2	2.7	13886	0.02	2.07	0.64
	C	---	45.4	54.7	----	5.8	82.5	2.0	6.7	2.9	15039	0.02	2.24	0.69
W208238	A	1.4	39.6	47.1	11.9	5.3	70.3	1.6	5.2	5.7	12893	0.01	4.75	0.90
	B	---	40.2	47.8	12.1	5.2	71.3	1.6	4.0	5.8	13076	0.02	4.82	0.92
	C	---	45.7	54.3	----	5.9	81.1	1.9	4.6	6.6	14872	0.02	5.49	1.04
W208239	A	1.6	34.2	47.3	16.9	4.7	65.0	1.6	5.9	5.9	12007	0.02	5.11	0.82
	B	---	34.8	48.1	17.2	4.6	66.1	1.6	4.6	6.0	12202	0.03	5.20	0.84
	C	---	42.0	58.1	----	5.6	79.8	2.0	5.5	7.2	14734	0.03	6.28	1.01
W208240	A	2.3	31.6	51.4	14.7	4.9	68.9	1.9	8.3	1.3	12300	0.01	0.82	0.48
	B	---	32.4	52.6	15.1	4.8	70.5	1.9	6.4	1.3	12590	0.02	0.84	0.50
	C	---	38.1	61.9	----	5.6	83.0	2.3	7.5	1.6	14821	0.02	0.99	0.58
W208241	A	1.5	34.1	46.8	17.6	5.1	65.9	1.6	6.7	3.2	11983	0.01	2.57	0.57
	B	---	34.6	47.5	17.9	5.0	66.9	1.6	5.4	3.3	12166	0.02	2.61	0.58
	C	---	42.2	57.9	----	6.1	81.5	2.0	6.6	4.0	14813	0.02	3.18	0.71
W208242	A	2.0	32.7	48.8	16.5	4.5	66.0	1.7	10.3	1.0	12104	0.01	0.40	0.55
	B	---	33.4	49.8	16.8	4.4	67.4	1.7	8.7	1.0	12351	0.02	0.41	0.57
	C	---	40.1	59.9	----	5.3	81.0	2.1	10.5	1.2	14853	0.02	0.50	0.68
W208243	A	2.7	32.4	51.9	13.0	5.0	71.0	1.5	8.9	0.6	12696	0.01	0.17	0.43
	B	---	33.3	53.3	13.4	4.8	73.0	1.5	6.7	0.6	13048	0.02	0.18	0.45
	C	---	38.4	61.6	----	5.6	84.2	1.8	7.7	0.7	15062	0.02	0.21	0.52
W208244	A	1.7	41.1	48.9	8.3	5.4	73.8	1.7	7.0	3.7	13569	0.01	2.96	0.75
	B	---	41.8	49.8	8.4	5.3	75.1	1.7	5.6	3.8	13804	0.02	3.02	0.77
	C	---	45.7	54.3	----	5.8	82.0	1.9	6.1	4.1	15078	0.02	3.29	0.84
W208245	A	1.5	31.1	44.5	22.9	4.4	62.6	1.4	5.6	3.1	11145	0.01	2.60	0.46
	B	---	31.6	45.2	23.3	4.3	63.6	1.4	4.3	3.2	11315	0.02	2.64	0.47
	C	---	41.1	58.9	----	5.6	82.8	1.9	5.6	4.1	14744	0.02	3.45	0.62
W208246	A	1.5	36.7	47.0	14.8	5.0	68.8	1.6	4.7	5.2	12546	0.02	4.28	0.88
	B	---	37.3	47.7	15.0	4.9	69.9	1.6	3.4	5.3	12737	0.03	4.35	0.90
	C	---	43.9	56.2	----	5.8	82.2	1.9	4.0	6.2	14991	0.03	5.12	1.06

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	%FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W208247	A	1.6	31.5	43.8	23.1	4.5	63.0	1.3	6.0	2.0	11286	0.01	1.65	0.34
	B	---	32.0	44.5	23.5	4.4	64.0	1.3	4.7	2.0	11470	0.02	1.68	0.35
	C	---	41.8	58.2	----	5.7	83.7	1.7	6.1	2.7	14990	0.02	2.20	0.46
W208248	A	1.2	33.4	46.2	19.2	4.6	65.8	1.4	6.2	2.9	11940	0.01	2.25	0.60
	B	---	33.8	46.8	19.4	4.5	66.6	1.4	5.2	2.9	12085	0.02	2.28	0.61
	C	---	42.0	58.1	----	5.6	82.7	1.8	6.5	3.6	15001	0.02	2.83	0.76
W208249	A	1.2	35.0	53.0	10.8	5.0	72.8	1.6	7.2	2.5	13349	0.01	1.82	0.71
	B	---	35.4	53.7	10.9	4.9	73.7	1.6	6.2	2.5	13511	0.02	1.85	0.72
	C	---	39.8	60.2	----	5.5	82.7	1.8	7.0	2.8	15171	0.02	2.07	0.81
W208250	A	1.6	29.9	47.1	21.4	4.4	62.3	1.4	6.9	3.5	11377	0.01	2.87	0.66
	B	---	30.4	47.9	21.8	4.3	63.3	1.4	5.6	3.6	11562	0.02	2.92	0.68
	C	---	38.8	61.2	----	5.5	80.9	1.8	7.1	4.6	14777	0.02	3.73	0.86
W208398	A	2.3	36.8	49.5	11.4	5.5	71.8	1.7	8.2	1.4	12913	0.01	0.91	0.53
	B	---	37.7	50.7	11.7	5.4	73.5	1.7	6.3	1.4	13217	0.02	0.94	0.55
	C	---	42.7	57.4	----	6.1	83.2	2.0	7.1	1.6	14964	0.02	1.06	0.62
W208399	A	2.4	36.0	50.1	11.5	5.2	70.8	1.7	9.1	1.8	12808	0.01	1.05	0.73
	B	---	36.9	51.3	11.8	5.1	72.5	1.7	7.1	1.8	13123	0.02	1.08	0.75
	C	---	41.8	58.2	----	5.7	82.2	2.0	8.1	2.1	14877	0.02	1.23	0.85
W208400	A	1.6	38.6	42.9	16.9	4.9	66.2	1.3	6.4	4.2	12262	0.01	3.40	0.82
	B	---	39.2	43.6	17.2	4.8	67.3	1.3	5.1	4.3	12462	0.02	3.46	0.84
	C	---	47.4	52.7	----	5.8	81.2	1.6	6.1	5.2	15047	0.02	4.18	1.01
W208401	A	0.9	32.3	47.2	19.6	4.6	66.7	1.4	6.5	1.2	12054	0.01	0.86	0.35
	B	---	32.6	47.6	19.8	4.5	67.3	1.4	5.8	1.2	12164	0.02	0.87	0.36
	C	---	40.6	59.4	----	5.7	83.9	1.8	7.2	1.5	15164	0.02	1.09	0.45
W208402	A	1.6	40.4	47.8	10.2	5.4	72.2	1.6	6.3	4.2	13279	0.01	3.42	0.81
	B	---	41.1	48.6	10.4	5.3	73.4	1.6	5.0	4.3	13495	0.02	3.48	0.83
	C	---	45.8	54.2	----	5.9	81.9	1.8	5.5	4.8	15057	0.02	3.88	0.92
W208403	A	1.9	37.9	46.5	13.7	5.1	69.2	1.6	6.9	3.6	12666	0.01	2.64	0.93
	B	---	38.6	47.4	14.0	5.0	70.5	1.6	5.3	3.7	12911	0.02	2.70	0.95
	C	---	44.9	55.1	----	5.8	82.0	1.9	6.2	4.3	15008	0.02	3.13	1.11

TABLE 1. PROXIMATE,ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W208404	A	1.9	36.5	50.7	10.9	5.2	73.0	1.7	7.2	2.0	13168	0.01	1.42	0.60
	B	---	37.2	51.7	11.1	5.1	74.4	1.7	5.6	2.0	13423	0.02	1.45	0.62
	C	---	41.9	58.2	----	5.7	83.7	2.0	6.3	2.3	15102	0.02	1.63	0.69
W208405	A	2.0	38.3	52.2	7.5	5.3	75.8	1.8	6.4	3.3	13679	0.01	2.83	0.41
	B	---	39.1	53.3	7.7	5.2	77.4	1.8	4.7	3.4	13958	0.02	2.89	0.42
	C	---	42.3	57.7	----	5.6	83.8	2.0	5.1	3.7	15116	0.02	3.13	0.46
W208406	A	1.5	36.2	44.9	17.4	5.0	67.0	1.4	6.4	2.8	12207	0.01	2.50	0.26
	B	---	36.8	45.6	17.7	4.9	68.0	1.4	5.1	2.8	12393	0.02	2.54	0.27
	C	---	44.6	55.4	----	6.0	82.6	1.7	6.2	3.5	15053	0.02	3.09	0.33
W208407	A	1.8	32.1	48.6	17.5	4.8	67.9	1.5	6.8	1.4	12163	0.01	1.08	0.31
	B	---	32.7	49.5	17.8	4.7	69.2	1.5	5.3	1.4	12386	0.02	1.10	0.32
	C	---	39.8	60.2	----	5.7	84.2	1.9	6.4	1.7	15073	0.02	1.34	0.39
W208408	A	1.6	31.3	52.6	14.5	4.9	70.1	1.7	7.1	1.6	12581	0.01	1.51	0.10
	B	---	31.8	53.5	14.7	4.8	71.2	1.7	5.8	1.6	12786	0.02	1.54	0.11
	C	---	37.3	62.7	----	5.6	83.6	2.0	6.8	1.9	14997	0.02	1.81	0.13
W208409	A	1.4	32.3	45.7	20.6	4.6	64.1	1.6	5.2	4.0	11631	0.01	3.03	0.92
	B	---	32.8	46.4	20.9	4.5	65.0	1.6	4.0	4.1	11796	0.02	3.08	0.94
	C	---	41.4	58.6	----	5.7	82.2	2.1	5.1	5.1	14913	0.02	3.89	1.19
W208410	A	2.0	32.6	49.5	15.9	5.0	68.3	1.8	8.3	0.8	12265	0.01	0.58	0.23
	B	---	33.3	50.5	16.2	4.9	69.7	1.8	6.7	0.8	12515	0.02	0.60	0.24
	C	---	39.7	60.3	----	5.8	83.2	2.2	7.9	1.0	14940	0.02	0.71	0.29
W208411	A	1.6	35.0	47.7	15.7	4.9	67.4	1.7	6.2	4.1	12410	0.01	3.99	0.12
	B	---	35.6	48.5	16.0	4.8	68.5	1.7	4.9	4.2	12612	0.02	4.06	0.13
	C	---	42.3	57.7	----	5.7	81.5	2.1	5.8	5.0	15007	0.02	4.83	0.15
W208412	A	1.8	40.7	49.2	8.3	5.4	73.8	1.7	7.3	3.5	13537	0.01	2.84	0.69
	B	---	41.5	50.1	8.5	5.3	75.2	1.7	5.8	3.6	13785	0.02	2.90	0.71
	C	---	45.3	54.7	----	5.8	82.1	1.9	6.3	3.9	15059	0.02	3.16	0.77
W208413	A	1.7	38.9	48.1	11.3	5.2	72.8	1.7	6.6	2.5	13063	0.01	2.21	0.28
	B	---	39.6	48.9	11.5	5.1	74.1	1.7	5.2	2.5	13289	0.02	2.25	0.29
	C	---	44.7	55.3	----	5.8	83.7	2.0	5.9	2.9	15016	0.02	2.55	0.33

TABLE 1. PROXIMATE, ULTIMATE, BTU AND FORMS OF SULFUR ANALYSES OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA. (CONTINUED)

SAMPLE NO.	TYPE	PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FORMS OF SULFUR		
		MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	HYDROGEN	CARBON	NITROGEN	OXYGEN	SULFUR	BTU VALUE	SULFATE	PYRITIC	ORGANIC
W208414	A	2.1	31.0	45.2	21.7	4.6	62.9	1.4	7.5	1.7	11221	0.01	1.47	0.24
	B	---	31.7	46.2	22.2	4.5	64.3	1.4	5.8	1.7	11462	0.02	1.51	0.25
	C	---	40.7	59.3	----	5.7	82.6	1.8	7.4	2.2	14727	0.02	1.94	0.32
W208415	A	2.0	35.6	50.5	11.9	5.4	72.4	1.7	7.5	1.0	12951	0.01	0.46	0.55
	B	---	36.3	51.5	12.1	5.3	73.9	1.7	5.8	1.0	13215	0.02	0.47	0.57
	C	---	41.4	58.7	----	6.0	84.1	2.0	6.6	1.2	15043	0.02	0.54	0.64
W208416	A	1.7	38.0	51.7	8.6	5.3	73.8	1.7	6.7	3.9	13532	0.01	3.42	0.51
	B	---	38.7	52.6	8.8	5.2	75.1	1.7	5.3	4.0	13766	0.02	3.48	0.52
	C	---	42.4	57.6	----	5.7	82.3	1.9	5.8	4.4	15087	0.02	3.82	0.57
W208417	A	1.3	36.9	48.2	13.6	4.9	69.3	1.6	4.7	5.8	12798	0.01	4.97	0.81
	B	---	37.4	48.8	13.8	4.8	70.2	1.6	3.6	5.9	12967	0.02	5.04	0.83
	C	---	43.4	56.7	----	5.6	81.4	1.9	4.2	6.8	15040	0.02	5.85	0.96
W208418	A	1.5	33.7	47.2	17.6	4.8	66.9	1.4	5.7	3.6	12164	0.01	2.62	0.99
	B	---	34.2	47.9	17.9	4.7	67.9	1.4	4.4	3.7	12349	0.02	2.67	1.01
	C	---	41.7	58.4	----	5.7	82.7	1.7	5.4	4.5	15037	0.02	3.25	1.23
W208419	A	1.8	31.5	49.6	17.1	4.7	66.5	1.6	6.5	3.6	12147	0.01	3.17	0.47
	B	---	32.1	50.5	17.4	4.6	67.7	1.6	5.0	3.7	12370	0.02	3.23	0.48
	C	---	38.9	61.2	----	5.6	82.0	2.0	6.0	4.4	14979	0.02	3.92	0.59
W208420	A	2.1	30.0	50.5	17.4	4.7	67.6	1.6	7.8	0.8	12015	0.01	0.43	0.32
	B	---	30.7	51.6	17.8	4.6	69.1	1.6	6.1	0.8	12273	0.02	0.44	0.33
	C	---	37.3	62.7	----	5.6	84.0	2.0	7.4	1.0	14927	0.02	0.54	0.40
W208421	A	1.8	29.1	43.3	25.8	4.5	60.1	1.3	7.3	1.0	10782	0.01	0.57	0.41
	B	---	29.6	44.1	26.3	4.4	61.2	1.3	5.8	1.0	10980	0.02	0.59	0.42
	C	---	40.2	59.8	----	5.9	83.0	1.8	7.9	1.4	14894	0.02	0.79	0.57
W208422	A	1.7	38.5	55.9	3.9	5.6	80.3	1.6	6.7	1.9	14528	0.01	1.42	0.50
	B	---	39.2	56.9	4.0	5.5	81.7	1.6	5.3	1.9	14779	0.02	1.45	0.51
	C	---	40.8	59.2	----	5.7	85.1	1.7	5.5	2.0	15391	0.02	1.51	0.54
W209498	A	1.1	28.2	50.4	20.3	4.4	66.4	1.8	6.5	0.6	11801	0.01	0.13	0.47
	B	---	28.5	51.0	20.5	4.3	67.1	1.8	5.6	0.6	11932	0.02	0.14	0.48
	C	---	35.9	64.1	----	5.4	84.5	2.3	7.0	0.8	15015	0.02	0.17	0.60

TABLE 2 - DATA NECESSARY TO: A.) CORRELATE TABLE 1 SAMPLE ANALYSES WITH OPEN-FILE REPORT 81-312; AND, B.) EDIT OPEN-FILE REPORT 81-312.

HOLE 1 COAL DATA

DEPTH TO COAL SEAMS		COAL SEAM	SAMPLE	EDIT
TOP	BOTTOM	THICKNESS	NUMBER	CODE
99.88	100.13	0.25	W208400	-
105.55	105.76	0.21	W208243	2
109.91	109.94	0.03	-	-
110.19	110.28	0.09	-	-
120.91	121.22	0.31	W208244	-
124.05	124.11	0.06	-	-
208.54	208.61	0.07	-	-
272.22	272.40	0.18	W208245	-
282.85	282.88	0.03	-	-
377.13	377.31	0.18	W208246	-
377.56	377.93	0.37	W200247	2
378.65	378.84	0.19	W208248	-
380.97	381.24	0.27	-	1
381.30	381.55	0.25	W208401	-
392.67	392.86	0.19	W208249	-
393.74	394.26	0.52	W208250	-

HOLE 2 COAL DATA

DEPTH TO COAL SEAMS		COAL SEAM	SAMPLE	EDIT
TOP	BOTTOM	THICKNESS	NUMBER	CODE
102.47	102.57	0.10	-	-
103.02	103.57	0.25	W207344	-
104.30	104.49	0.19	W207345	-
118.29	118.51	0.22	W207346	-
128.35	128.38	0.03	-	-
273.22	273.34	0.12	-	-

TABLE 2. - CONTINUED

HOLE 3 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
66.75	66.87	0.12	-	-
68.24	68.49	0.25	W208226	5
77.88	78.09	0.21	W208227	-
95.65	95.71	0.06	-	-
221.13	221.35	0.22	W208228	-
318.67	319.55	0.88	W208229	5
320.13	320.47	0.34	W208230	-
320.95	321.08	0.13	-	-
325.19	325.25	0.06	-	-
327.05	327.29	0.24	W208231	-
331.68	332.14	0.46	W208232	-
332.14	332.35	0.21	-	1
379.32	379.38	0.06	-	-
466.47	466.80	0.33	W208233	-
466.92	467.32	0.40	W208234	-
476.19	476.65	0.46	W208235	-
477.07	477.74	0.67	W209498	-
537.33	537.39	0.06	-	-
554.28	554.34	0.06	-	-
570.89	570.97	0.08	-	2
584.42	585.31	0.89	W208236	-

HOLE 4 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
9.33	9.39	0.06	-	-
13.50	13.62	0.12	-	-
13.75	13.84	0.09	-	-
146.24	146.43	0.19	W207854	-
156.70	156.97	0.27	W207855	-
235.79	236.83	1.04	W207823	-
237.32	237.80	0.48	W207856	-
238.51	238.60	0.09	W207857	-
249.54	249.94	0.40	W207858	3
259.35	259.38	0.03	-	-
276.61	276.64	0.03	-	-
293.67	293.74	0.07	-	-
377.65	377.80	0.15	-	-
377.95	378.53	0.58	W207859	-
384.66	384.72	0.06	-	-
386.82	386.94	0.12	-	-
387.10	388.28	1.18	W207824	5
451.04	451.10	0.06	-	-
456.38	456.65	0.27	W207825	-
458.45	458.48	0.03	-	-
478.41	479.30	0.89	W207826	-

TABLE 2. - CONTINUED

HOLE 5 COAL DATA

DEPTH TO COAL SEAMS		COAL SEAM	SAMPLE	EDIT
TOP	BOTTOM	THICKNESS	NUMBER	CODE
47.06	47.30	0.24	W207070	-
53.25	53.80	0.55	W207071	-
59.31	59.65	0.34	W207072	-
69.13	69.74	0.61	W207073	-
213.54	213.66	0.12	-	-
270.69	271.15	0.46	W207074	-
369.57	369.81	0.24	W207384	4
369.91	369.97	0.06	W207384	4
370.06	370.27	0.21	W207384	4
371.03	371.76	0.73	W207385	5
373.26	373.29	0.03	-	-
373.68	373.90	0.22	W207386	-
378.04	378.53	0.49	W207387	-
419.74	419.77	0.03	-	-
435.10	435.28	0.18	-	1
531.05	531.48	0.43	W207388	-
537.21	537.39	0.18	-	1
537.58	537.61	0.03	-	-
542.64	542.91	0.27	W207354	-
543.92	544.31	0.39	W207389	4
544.31	544.43	0.12	W207389	4
548.52	548.55	0.03	-	-
584.51	584.55	0.04	-	-
593.96	594.02	0.06	-	-
598.51	598.54	0.03	-	-
601.07	601.10	0.03	-	-
622.74	623.01	0.27	W207390	-
636.27	636.45	0.18	W207355	-

TABLE 2. - CONTINUED

HOLE 6 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
76.72	76.96	0.24	W206913	-
77.42	77.48	0.06	-	-
81.14	81.35	0.21	-	1
88.00	88.36	0.36	W206914	-
176.78	176.81	0.03	-	-
177.27	177.36	0.09	-	-
229.18	229.51	0.33	W206915	5
320.74	321.50	0.76	-	1
321.84	322.36	0.52	W206916	-
328.03	328.39	0.36	W206917	-
334.34	334.64	0.30	W207335	-
470.28	470.34	0.06	-	-
488.08	488.26	0.18	W207336	-
488.90	489.17	0.27	W207337	-
495.64	495.73	0.09	-	-
496.00	496.06	0.06	-	-
496.09	496.34	0.25	-	1
496.34	496.55	0.21	W207338	-
505.72	505.94	0.22	W207339	-
548.85	549.07	0.22	W207340	-
569.84	570.16	0.32	W207341	5
579.21	579.39	0.18	W207342	-
589.70	590.58	0.88	W207343	-

TABLE 2. - CONTINUED

HOLE 7 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
82.84	82.88	0.04	-	-
135.91	136.46	0.55	W206859	-
227.81	230.03	2.22	W206860	5
232.20	232.38	0.18	-	1
237.47	237.77	0.30	W206857	-
266.28	266.31	0.03	-	2
376.76	376.95	0.19	W206856	-
376.98	377.04	0.06	-	-
378.41	378.68	0.27	W206858	-
384.63	385.02	0.39	W206882	-
390.91	391.21	0.30	-	1
391.52	393.28	1.76	W206883	-
398.04	398.22	0.18	-	1
403.68	403.98	0.30	-	1
421.17	421.29	0.12	-	-
425.74	425.81	0.07	-	-
430.41	430.44	0.03	-	-
432.72	432.76	0.04	-	-
456.16	456.47	0.31	W206884	-
474.94	475.00	0.06	-	-
475.40	476.34	0.94	W206885	-
487.77	487.83	0.06	-	-

HOLE 8 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
26.81	26.86	0.05	-	2
27.20	27.26	0.06	-	3
38.89	39.20	0.31	W208412	-
169.79	170.32	0.53	W208413	5
250.85	251.52	0.67	W208414	4
251.76	252.16	0.40	W208414	4
259.11	259.54	0.43	W208415	-
259.60	259.66	0.06	-	-
265.27	265.51	0.24	W208416	-
268.41	268.53	0.12	-	-
271.42	271.45	0.03	-	-
292.39	292.49	0.10	-	-
311.20	311.41	0.21	W208417	-
382.25	382.65	0.40	W208418	-
388.07	388.44	0.37	W208419	5
397.73	399.28	1.55	W208420	5
432.57	432.63	0.06	-	-
436.47	436.53	0.06	-	-
464.12	464.55	0.43	W208421	-
484.18	484.36	0.18	W208422	-
486.22	486.31	0.09	-	-

TABLE 2. - CONTINUED

HOLE 9 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
118.38	118.81	0.43	W208036	4
118.81	118.93	0.12	W208036	4
119.18	119.27	0.09	-	-
196.22	196.90	0.68	W208037	3
197.07	197.33	0.26	W208038	3,5
203.66	203.11	0.55	W208039	3
211.29	211.53	0.24	W208040	-
235.31	235.37	0.06	-	-
256.34	256.41	0.07	-	-
337.19	337.29	0.10	-	2
343.57	343.78	0.21	W208410	-
393.34	393.44	0.10	-	-
409.53	409.83	0.30	-	1
446.04	446.17	0.13	W208411	-

HOLE 10 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
124.24	124.57	0.33	W208237	-
203.52	203.99	0.47	W208398	4
204.00	204.31	0.31	W208398	4
204.70	205.31	0.61	W208399	-
212.32	212.54	0.22	W208238	-
238.38	238.51	0.13	-	-
259.63	259.78	0.15	W208239	-
332.66	332.69	0.03	-	-
340.68	341.03	0.35	W208240	2
346.89	347.20	0.31	W208241	-
347.41	348.02	0.61	W208242	-

TABLE 2. - CONTINUED

HOLE 11 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
125.33	125.67	0.34	W208402	-
203.97	204.64	0.67	W208403	5
216.53	216.99	0.46	W208404	-
222.96	223.21	0.25	W208405	-
247.25	247.38	0.13	-	-
265.33	265.39	0.06	-	-
336.96	337.35	0.39	W208406	-
341.53	341.83	0.30	W208407	-
347.56	347.93	0.37	W208408	-
350.28	350.55	0.27	W208409	-
387.68	387.77	0.09	-	-
415.87	415.96	0.09	-	-

HOLE 12 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
119.21	119.51	0.30	W207827	-
200.99	202.33	1.34	W207902	2,5
211.01	211.41	0.40	W207828	-
215.74	215.92	0.18	W207829	-
241.77	241.89	0.12	-	-
259.93	260.24	0.31	W207903	-
329.15	330.16	1.01	W208068	5
337.20	337.66	0.46	W207904	-
380.02	380.06	0.04	-	-
382.04	382.10	0.06	-	-
383.50	383.53	0.03	-	-
387.22	387.25	0.03	-	-

HOLE 13 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
105.58	105.89	0.31	W208070	-
174.92	175.02	0.10	-	-
186.84	186.91	0.07	-	3
190.36	190.82	0.47	W208069	3
195.89	196.08	0.19	W208071	-
199.74	199.77	0.03	-	-

TABLE 2. - CONTINUED

HOLE 14 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
27.04	27.40	0.36	W208072	-
97.17	97.55	0.38	W208073	2
101.86	101.99	0.13	-	-
125.91	126.03	0.12	-	-
205.83	206.23	0.40	-	1
215.68	215.83	0.15	-	-
221.34	221.73	0.39	W208074	2
227.50	227.78	0.28	W208075	4,5
228.05	228.17	0.12	W208075	4,5
262.13	262.25	0.12	-	-
279.23	279.68	0.45	W208076	-

TABLE 2. - CONTINUED

HOLE 15 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
41.37	41.49	0.12	-	3
44.50	44.59	0.09	-	-
68.54	68.72	0.18	W207905	3
87.87	88.00	0.13	-	-
144.29	144.54	0.25	W207906	-
155.36	155.54	0.18	W208041	-
160.14	160.54	0.40	W207907	-
168.10	168.34	0.24	W207908	4
168.52	168.98	0.46	W207908	4
170.26	170.43	0.17	-	3
213.54	213.76	0.22	W208042	2
261.06	261.43	0.37	W207909	-

HOLE 16 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
58.40	58.73	0.33	W207347	-
80.74	80.86	0.12	-	-
100.98	101.07	0.09	-	-
155.78	156.15	0.37	W207348	-
165.51	165.66	0.15	W207349	-
169.87	170.20	0.33	W207350	-
175.30	175.47	0.17	W207351	2
201.17	201.20	0.03	-	-
205.59	205.68	0.09	-	-
227.35	227.72	0.37	W207352	-
237.68	238.23	0.55	W207353	-

HOLE 17 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
13.93	14.02	0.09	-	-
56.63	56.66	0.03	-	3
66.66	67.03	0.37	W207075	-
75.65	75.74	0.09	-	-
80.35	80.68	0.33	W207076	-
84.95	85.16	0.21	W207077	-
138.14	138.20	0.06	-	-
176.39	176.91	0.52	W208043	-

TABLE 2. - CONTINUED

HOLE 18 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
9.33	9.42	0.09	-	-
13.87	14.11	0.24	W207096	-
39.35	39.49	0.14	W207097	-
58.09	58.42	0.33	W207098	2
112.56	112.81	0.25	W207099	-
125.15	125.24	0.09	-	-
129.66	130.00	0.34	W207100	2
138.17	138.35	0.18	W207101	-
138.59	139.05	0.46	-	1
141.76	141.88	0.12	W207102	-
146.58	146.67	0.09	-	-
174.86	175.14	0.28	W207103	-
204.03	204.19	0.16	W207104	-
206.29	206.75	0.46	W207105	-
207.32	207.40	0.08	-	3

HOLE 19 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
77.75	77.88	0.13	W207860	-
94.06	94.18	0.12	-	-

HOLE 20 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
27.49	27.58	0.09	-	-
28.74	28.77	0.03	-	-
45.54	45.60	0.06	-	-
94.40	94.52	0.12	-	-
110.40	110.61	0.21	W207830	-
113.81	113.93	0.12	W207831	-
144.66	144.69	0.03	-	-
159.53	159.75	0.22	W207832	-
206.04	206.11	0.07	-	-

TABLE 2. - CONTINUED

HOLE 21 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
9.48	9.60	0.12	-	-
19.99	20.18	0.19	-	1
92.55	92.56	0.01	-	-
92.57	92.60	0.03	-	-
92.63	92.81	0.18	W207378	-
99.79	100.07	0.28	W207379	-
102.35	102.50	0.15	W207380	-
117.23	117.32	0.09	-	-
130.85	131.00	0.15	W207381	-
138.29	138.50	0.21	W207382	-
175.53	175.75	0.22	W207383	5

HOLE 22 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
6.00	6.13	0.13	-	-
40.93	41.03	0.10	-	-
54.35	54.89	0.54	-	1

HOLE 23 COAL DATA

DEPTH TO COAL SEAMS TOP	BOTTOM	COAL SEAM THICKNESS	SAMPLE NUMBER	EDIT CODE
13.02	13.08	0.06	-	-
13.20	13.24	0.04	-	-
49.01	49.69	0.68	W207861	-

TABLE 2. - CONTINUED

EDIT CODES:

1. COAL ANALYSES NOT PERFORMED

2. DEPTHS TO TOP AND BOTTOM OF COAL SEAM IN THIS OPEN FILE REPORT ARE CORRECTED DEPTHS ERRONEOUSLY PRESENTED IN OPEN-FILE REPORT 81-312.

3. COAL SEAMS DEPTHS (TOP AND BOTTOM) IN THIS OPEN-FILE REPORT THAT WERE NOT IDENTIFIED IN OPEN-FILE REPORT 81-312.

4. COAL ANALYSIS OBTAINED FROM COMPOSITE SAMPLE OF 2 OR MORE SEAMS.

5. COAL SEAM THICKNESS INCLUDES PARTINGS; HOWEVER, PARTING REMOVED FROM SAMPLE PRIOR TO ANALYSIS. THE FOLLOWING TABLE SHOWS THE COAL SEAM THICKNESS REPORTED AND THE THICKNESS OF COAL SEAMS ACTUALLY SAMPLED FOR ANALYSIS.

(SEE TABLE BELOW)

SAMPLE NUMBER	DEPTH TO COAL SEAM TOP	DEPTH TO COAL SEAM BOTTOM	COAL SEAM THICKNESS	THICKNESS OF COAL SEAM SAMPLED
W208226	68.24	68.49	0.25	0.21
W208229	318.67	319.55	0.88	0.73
W207824	387.10	388.28	1.18	0.95
W207385	371.03	371.76	0.73	0.68
W206915	229.18	229.51	0.33	0.23
W207341	569.84	570.16	0.32	0.23
W206860	227.81	230.03	2.22	1.60
W208413	169.79	170.32	0.53	0.43
W208419	388.07	388.44	0.37	0.30
W208420	397.73	399.28	1.55	1.23
W208038	197.07	197.33	0.26	0.16
W208403	203.97	204.64	0.67	0.62
W207902	200.99	202.33	1.34	1.19
W208068	329.15	330.16	1.01	0.90
W208075	227.50	228.17	0.40	0.37
W207383	175.53	175.75	0.22	0.21

ALL DEPTHS AND THICKNESS ARE IN METERS. THE CONVERSION FACTORS ARE AS FOLLOWS:

1 METER IS EQUAL TO 3.28 FEET

1 METERS IS EQUAL TO 39.36 INCHES

1 METER IS EQUAL TO 100 CENTIMETERS

TABLE 3. FREE SWELLING INDEX (FSI) OF 160 BITUMINOUS SAMPLES FROM KRCRA - ALABAMA.

SAMPLE NO.	FSI	SAMPLE NO.	FSI	SAMPLE NO.	FSI	SAMPLE NO.	FSI
W206856	8.0	W207343	8.0	W207858	8.5	W208237	3.5
W206857	6.0	W207344	8.0	W207859	8.0	W208238	5.0
W206858	8.0	W207345	4.5	W207860	4.5	W208239	4.5
W206859	5.0	W207346	4.5	W207861	1.5	W208240	5.0
W206860	7.0	W207347	5.5	W207902	5.0	W208241	3.0
W206882	8.3	W207348	4.5	W207903	5.5	W208242	5.5
W206883	8.0	W207349	2.5	W207904	6.5	W208243	6.0
W206884	8.0	W207350	4.0	W207905	3.5	W208244	4.0
W206885	8.5	W207351	4.5	W207906	4.0	W208245	7.0
W206913	4.5	W207913	4.5	W207907	4.5	W208246	8.0
W206914	5.0	W207353	4.5	W207908	5.5	W208247	8.0
W206915	6.0	W207354	7.0	W207909	4.0	W208248	7.5
W206916	7.0	W207355	7.5	W208036	5.0	W208249	7.5
W206917	6.0	W207378	4.5	W208037	7.0	W208250	7.0
W207070	5.0	W207379	4.5	W208038	6.0	W208398	5.0
W207071	5.5	W207380	5.0	W208039	5.5	W208399	5.0
W207072	5.0	W207381	4.5	W208040	5.5	W208400	6.0
W207073	4.0	W207382	5.0	W208041	4.5	W208401	7.5
W207074	4.5	W207383	2.0	W208042	6.5	W208402	4.5
W207075	4.0	W207384	7.5	W208043	6.0	W208403	5.0
W207076	2.5	W207385	7.5	W208068	6.0	W208404	5.5
W207077	4.5	W207386	8.0	W208069	5.0	W208405	5.0
W207096	6.0	W207387	7.0	W208070	4.5	W208406	7.5
W207097	4.0	W207388	8.0	W208071	9.0	W208407	7.0
W207098	4.5	W207389	8.0	W208072	5.0	W208408	6.5
W207099	4.5	W207390	8.0	W208073	5.0	W208409	6.0
W207100	3.5	W207823	8.5	W208074	6.0	W208410	5.0
W207101	3.5	W207824	8.5	W208075	5.0	W208411	5.0
W207102	4.5	W207825	8.0	W208076	5.0	W208412	5.0
W207103	5.5	W207826	9.0	W208226	7.0	W208413	6.0
W207104	5.5	W207827	6.5	W208227	7.5	W208414	6.0
W207105	4.0	W207828	8.0	W208228	8.5	W208415	5.5
W207335	6.0	W207829	5.0	W208229	9.0	W208416	6.5
W207336	6.0	W207830	4.5	W208230	8.5	W208417	7.0
W207337	5.5	W207831	3.0	W208231	7.5	W208418	7.0
W207338	5.5	W207832	4.0	W208232	8.5	W208419	7.0
W207339	8.0	W207854	8.0	W208233	8.5	W208420	7.0
W207340	8.5	W207855	7.5	W208234	9.0	W208421	7.0
W207341	7.0	W207856	8.5	W208235	8.5	W208422	9.0
W207342	6.5	W207857	8.0	W208236	9.0	W209498	7.0