

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CORE-HOLE DRILLING AND COAL ANALYSIS REPORT FOR NINE HOLES
DRILLED DURING 1977 IN THE NUCLA COAL FIELD,
MONTROSE COUNTY, COLORADO

By

D. V. Haines

Open-File Report 78-899

1978

This report has not been edited for conformity
with Geological Survey editorial standards or
stratigraphic nomenclature.

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ILLUSTRATION

Figure 1. Structure-contour map drawn on top of coal
bed No. 2----- in pocket

TABLE

Table 1. Calculated coal reserve base from seven holes drilled
in T. 47 N., R. 15 W., sec. 31, lot 1----- 4

GS-5. East of lot 1, bed No. 2 is projected to occur in a small area beneath a hill west of the GS-6 drill hole. This area was inaccessible to the drill rig owing to heavy brush and trees. Areas off the main ridge in lot 1 were also inaccessible to the rig because of steep slopes and rocky, uneven ground. Structure contours were not drawn on the No. 3 bed because of insufficient drill-hole data.

DEPTH AND THICKNESS OF COAL

The No. 2 bed averages about 6.3 feet in thickness in the U.S.G.S. drill holes and ranges in depth from 0 at the outcrop to 23.9 feet in hole GS-1. The No. 3 bed, in holes GS-6 and -7, consists of two thin seams separated by about 2.5 feet of rock. The upper seam is 1.4-1.5 feet thick and the lower seam is 1.0-1.3 feet thick. The depth of the No. 3 bed in lot 1 ranges from 0 at the outcrop to about 59 feet in hole GS-1.

RESERVE BASE CALCULATIONS

Bed No. 2.--The areas underlain by bed No. 2 in lot 1 were measured by planimeter to obtain 25.01 coal acres, 157.56 acre-feet, and 278,881 tons of coal (using a factor of 1,770 tons/acre-ft). All of the coal in bed No. 2 is considered to be in the reliability category "measured".

Bed No. 3.--It is estimated that bed No. 3 underlies 48.50 acres in lot 1 and the average thickness in the two seams is 3.3 feet. Data from drill-holes GS-6 and -7, as well as the data from Peabody holes 317 and 342, were used to determine the average thickness. The total acreage is 160.05 acre-feet and 288,000 tons of coal (using a factor of 1,800 tons/acre-ft). All of the coal in bed No. 3 is in the "measured" category. The coal reserve base tonnages are given in table 1.

A factor of 1,770 tons per acre-foot is used for the No. 2 bed as the average Btu/lb value indicates a rank of subbituminous C coal under ATSM Designation D388-66. The No. 2 bed is a former bituminous coal which has been weathered at this location. A factor of 1,880 tons per acre-foot is used for the No. 3 beds as the average Btu/lb indicates a rank of bituminous coal.

Table 1.--Calculated coal reserve base from seven holes drilled in T. 47 N., R. 15 W., sec. 31, lot 1, Montrose County, Colorado

	Estimated maximum overburden (feet)	Average thick- ness (feet) ¹	Total acres under- lain ²	Total acre/ feet	Estimated tonnage
MEASURED COAL					
Bed No. 2 (upper):					
Main area-----	0-24	6.3	23.50	148.05	262,048
Minor area-----	0 -8	6.3	1.51	9.51	16,833
Total bed No. 2			25.01	157.56	278,881
Bed No. 3 (lower):					
B-----	0-59	1.9	48.5	92.15	165,870
A-----	0-64	1.4	48.5	67.90	122,220
Total bed No. 3			48.5	160.05	288,090

¹Average thicknesses for bed No. 3 include Peabody holes 342 and 317.

²Acres underlain by bed No. 3 are estimated; acres of bed No. 2 are derived from planimeter measurements.

355' →
FWL

355' → FWL	31			

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S.G. FORM
Form Number C-19917
Date effective _____

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Comp. coal lease application C-19917 of
Lessee or permittee Peabody Coal Co.,
Address 301 N. Memorial Dr., St. Louis, Mo. 63102
Driller Mike Elliott, Big Sky Drilling Co.
Commenced drilling May 4, 1977 Finished May 4, 1977
Hole No. GS-1 Sec. 31 T. 47N R. 15W M. NM State Colo.
Method of drilling Air/rotary Logged by Elliott

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines
David V. Haines
(Title) Geologist

Date July 11, 1977

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole relative to sea level 5,778.29 FORMATION RECORD

DEPTH				Thickness of stratum		Geologic formation; character of rock; oil, gas and water horizons; coal and other mineral occurrences
From	To	Feet	Inches	Feet	Inches	
0	0	2	0	2	0	DAKOTA SANDSTONE: Sand and sandstone
2	0	4	5	2	5	Sandstone
4	5	7	11	3	6	Shale
7	11	8	7	0	8	Coal, soft (smut)
8	7	10	0	1	5	Shale
10	0	16	5	6	5	Sandstone
16	5	23	11	7	6	Sandstone and shale
23	11	24	11	1	0	Coal
24	11	25	0	0	1	Siltstone
25	0	25	1	0	1	Coal
25	1	25	2	0	1	Siltstone
25	2	30	2	5	0	Coal, crumbly, iron-stained, pyritic
30	2	31	2	1	0	Shale
T.D.						

Cored

(Attach continuation sheets if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYU.S. Land Office
Fossil Number C-19917
Date effective _____

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.Address 301 N. Memorial Dr., St. Louis, Mo. 63102Driller Mike Elliott, Big Sky Drilling Co.Commenced drilling May 4, 1977 Finished May 4, 1977Hole No. GS-2 Sec. 31 T. 47 N. R. 15 W. M. NMEM State Colo.Method of drilling Air/rotary Logged by Elliott

Locate hole correctly, giving distance in feet from N., or S. and E., or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines

David V. Haines

Date July 11, 1977(Title) Geologist

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level 5,802.61 FORMATION RECORD

DEPTH				Thickness of stratum		Geologic formations; character of rock; oil, gas and water horizons; and other mineral occurrences
From—		To—				
Feet	Inches	Feet	Inches	Feet	Inches	
0	0	2	0	2	0	DAKOTA SANDSTONE: Sand and sandstone
2	0	5	5	3	5	Sandstone
5	5	7	7	2	2	Shale
7	7	7	10	0	3	Sandstone
7	10	8	2	0	4	Shale
8	2	9	0	0	10	Coal, soft (smut)
9	0	11	5	2	5	Shale
11	5	17	5	6	0	Sandstone
17	5	20	6	3	1	Shale
20	6	21	6	1	0	Coal
21	6	21	8	0	2	Siltstone and coal
21	8	26	10	5	2	Coal
26	10	27	2	0	4	Shale
27	2	27	10	0	8	Siltstone. TD = 27'10".

Cored

(Attach continuation sheets if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S. Land Office
Serial Number C-19917
Date effective

LITHOLOGIC Data effective _____
LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.

Address 501 N. Memorial Dr., St. Louis, Mo. 63102

Driller Mike Elliott, Big Sky Drilling Co.

Commenced drilling May 4, 1977 Finished May 4, 1977

Hole No. GS-3 Sec. 31 T. 47 N R. 15 W M. NM State Colo.

Method of drilling Air/rotary Logged by Elliott

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines

David V. Haines

(Title) Geologist

Date July 11, 1977

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level 5,826.40

FORMATION RECORD

[illegible]

(Attach continuation sheets if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S. Land Office
 Serial Number C-19917
 Date effective

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

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Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.

Address 501 N. Memorial Dr., St. Louis, Mo. 63102

Driller Mike Elliott, Big Sky Drilling Co.

Commenced drilling May 4, 1977 Finished May 4, 1977

Hole No. GS-4 Sec. 31 T. 47 N R. 15 W M. 1444 State Colo.

Method of drilling Air/rotary..... Logged by Elliott

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines

David V. Haines

(Title) Geologist

Date July 11, 1977

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole

relative to sea level ... 5,783.33

FORMATION RECORD

[illegible]

(Attach continuation sheets if necessary)

GC 878-853

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S. Land Office
 Serial Number C-19917
 Date effective

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.

Address 301 N. Memorial Dr., St. Louis, Mo. 63102

Driller Mike Elliott, Big Sky Drilling Co.

Commenced drilling May 1, 1977 Finished May 4, 1977

Hole No. GS-5 Sec. 31 T. 47 N. R. 15 W. M. NMPM State Colo.

Method of drilling Air/rotary Logged by Elliott

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines
David V. Haines

Date July 11, 1977

(Title) _____ Geologist

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level ...5,789.54

FORMATION RECORD

[illegible]

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYU. S. GEOLOGICAL SURVEY
Form Number C-19917
Date effective _____

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.Address 501 N. Memorial Dr., St. Louis, Mo. 63102Driller Mike Elliott, Big Sky Drilling Co.Commenced drilling May 5, 1977 Finished May 5, 1977Hole No. GS-6 Sec. 31 T. 47 N R. 15 W M. NMPM State Colo.Method of drilling Air/Rotary Logged by Elliott

Locate hole correctly, giving distance in feet from N., or S., and E., or W., line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines

David V. Haines

(Title) GeologistDate July 11, 1977

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole relative to sea level 5,824.65 INFORMATION RECORD

DEPTH				Thickness of stratum		Geologic formation; character of rock; oil, gas and water horizons; coal and other mineral occurrences
From—		To—				
Feet	Inches	Feet	Inches	Feet	Inches	
0	0	2	8	2	8	DAKOTA SANDSTONE: Shale and sandstone
2	8	5	0	2	4	Sandstone, hard
5	0	6	0	1	0	Shale and sandstone
6	0	11	7	5	7	Shale
11	7	19	0	7	5	Sandstone
19	0	19	2	0	2	Coal
19	2	22	4	3	2	Shale
22	4	27	6	5	2	Sandstone and shale
27	6	29	10	2	4	Sandstone
29	10	31	0	1	2	Shale
31	0	32	5	1	5	Coal
32	5	32	11	0	6	Shale
32	11	33	11	1	0	Shale, carbonaceous
Continued						

Cored

(Attach continuation sheets if necessary)

GPO 878-553

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S. Land Office _____
Serial Number C-19917 _____
Date effective _____

LITHOLOGIC Date Section.....
LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Lessee or permittee _____
 Address _____
 Driller _____
 Commenced drilling _____ Finished _____
 Hole No. GS-6 _____ Sec. _____ T. _____ R. _____ M. _____ State _____
 Method of drilling _____ Logged by _____

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; if hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) _____

Date _____ (Title) _____

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level

FORMATION RECORD -- continued

[illegible]

(Attach continuation sheets if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U. S. Land Office

Field Number C-19917

Date effective

LITHOLOGIC
LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.Address 301 N. Memorial Dr., St. Louis, Mo. 63102Driller Mike Elliott, Big Sky Drilling Co.Commenced drilling May 5, 1977 Finished May 5, 1977Hole No. GS-7 Sec. 31 T. 47 N. R. 15 W. M. NMPM State Colo.Method of drilling Air/Rotary Logged by Elliott

Locate hole correctly, giving distance in feet from N., or S. and E., or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed)

David V. Haines

David V. Haines

(Title) GeologistDate July 11, 1977

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole

relative to sea level 5,847.68

FORMATION RECORD

DEPTH				Thickness of stratum		Geologic formations; character of rock; oil, gas and water horizons; coal and other mineral occurrences
From	Index	To	Index			
Feet	Index	Feet	Index	Feet	Index	
0	0	2	5	2	5	DAKOTA SANDSTONE: Sand and sandstone
2	5	7	0	4	7	Sandstone
7	0	13	0	6	0	Shale
13	0	18	6	5	6	Sandstone
18	6	18	8	0	2	Coal
18	8	24	0	5	4	Sandstone and shale
24	0	28	8	4	8	Sandstone
28	8	30	4	1	8	Shale
30	4	30	7	0	3	Coal
30	7	30	10	0	3	Shale
30	10	32	4	1	6	Coal
32	4	33	6	1	2	Shale
33	6	34	7	1	1	Shale, carbonaceous
Continued						

Cored

(Attach continuation sheets if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S. 1-240520

F del Number C-19917

Data effective

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Lessee or permittee _____

Address _____

Driller

Commenced drilling ----- Finished -----

Hole No. GS-7 Sec. T. R. M. State

Method of drilling _____ Logged by _____

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) _____

Date _____ (Title) _____

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level

FORMATION DECCRD -- continued

[illegible]

(Attach continuation sheets if necessary)

GPO 878-853

9-1147

Budget Bureau No. 42-R352.4
Form ApprovedUNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYU. S. Land Office _____
Field Number C-19917
Date effective _____

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.Address 301 N. Memorial Dr., St. Louis, Mo. 63102Driller Mike Elliott, Big Sky Drilling Co.Commenced drilling May 5, 1977 Finished May 5, 1977Hole No. GS-8 Sec. 31 T. 47 N. R. 15 W. M. NMPM State Colo.Method of drilling Air/Rotary Logged by Elliott

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Haines
David V. HainesDate July 11, 1977(Title) Geologist

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level 5,794.54

FORMATION RECORD

DEPTH				Thickness of stratum		Geologic formations; character of rock; oil, gas and water horizons; coal and other mineral occurrences
From—		To—				
Feet	Inches	Feet	Inches	Feet	Inches	
0	0	1	6	1	6	Sand and sandstone
1	6	6	0	4	6	Shale and sandstone
6	0	7	4	1	4	Coal, soft (smut)
7	4	9	2	1	10	Shale
9	2	12	2	3	0	Sandstone
12	2	12	10	0	8	Shale and sandstone
12	10	16	0	3	2	Sandstone
16	0	20	4	4	4	Shale
20	4	20	7	0	3	Coal
20	7	20	10	0	3	Shale
20	10	21	10	1	0	Coal
21	10	22	0	0	2	Shale and coal
22	0	26	11	4	11	Coal
Continued						

Cored

(Attach continuation sheets if necessary)

GPO 878-853

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U.S. Land Office _____
Serial Number C-19917 _____
Date effective _____

LITHOLOGIC Data effective.....
LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Lessee or permittee
 Address
 Driller
 Commenced drilling Finished
 Hole No. GS-8 Sec. T. R. M. State
 Method of drilling Logged by

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) _____

Date _____ (Title) _____

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Elevation of top of hole
relative to sea level

FORMATION RECORD -- continued

[illegible]

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

U. S. Laid Off

Cardal Number C-19917

Date effective

LITHOLOGIC

LOG OF PROSPECT BORE HOLE

Logs of prospect bore holes are to be transmitted in duplicate to the Regional Mining Supervisor immediately upon completion of hole or shaft, or when work has been suspended indefinitely.

Competitive coal lease application

Lessee or permittee C-19917 of Peabody Coal Co.

Address 301 N. Memorial Dr., St. Louis, Mo. 63102

Driller Mike Elliott, Big Sky Drilling Co.

Commenced drilling May 5, 1977 _____ Finished May 5, 1977 _____

Hole No. GS-9 Sec. 31 T. 47 N. R. 15 W. M. NM State Colo.

Method of drilling Air/Rotary..... Logged by Elliott

Locate hole correctly, giving distance in feet from N. or S. and E. or W. line of section; when hole is not vertical, give direction and angle.

The information given herewith is a complete and correct record of the bore hole and all work done thereon, so far as can be determined from all available records.

(Signed) David V. Harris

David V. Haines

Date July 11, 1977

(Title) Geologist

The United States Criminal Code, 18 U. S. C. 1001 makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.

Elevation of top of hole
relative to sea level 5,815.57

FORMATION RECORD

DEPTH				Thickness of stratum		Geologic formations; character of rocks; oil, gas and water horizons; coal and other mineral occurrences
From—		To—				
Feet	Inches	Feet	Inches	Feet	Inches	
						DAKOTA SANDSTONE:
0	0	1	6	1	6	Sand and sandstone
1	6	3	0	1	6	Sandstone
3	0	7	6	4	6	Shale and sandstone
7	6	8	11	1	5	Coal, soft (smut)
8	11	10	0	1	1	Shale
10	0	13	6	3	6	Sandstone
13	6	14	0	0	6	Shale and sandstone
14	0	15	6	1	6	Sandstone
15	6	18	4	2	10	Shale
18	4	19	4	1	0	Coal
19	4	19	7	0	3	Shale and coal
19	7	23	11	4	4	Coal
23	11	24	4	0	5	Shale
T.D.						

(Attach continuation sheets if necessary)

GPO 878-853

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73808

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 1A, DRILL CORE, HOLE GS-1,
CAN NO: - 23.9-25.9 ft.

OPERATOR: -

MINE: -

STATE: CO COUNTY: MONTROSE

BED: #2

TOWN: -

DATE OF SAMPLING: 5-4-77

DATE RECEIVED: 6-7-77

DATE OF REPORT: 6-17-77

COLLECTOR: D. HAINES

	COAL		COAL		COAL	
	AIR DRY LOSS	14.3	[AS RECD.]	[MOIST FREE]	[MOIST, ASH FREE]	
PROXIMATE ANALYSIS						
MOISTURE		23.3		N/A		N/A
VOLATILE MATTER		25.8		33.6		42.0
FIXED CARBON		35.7		46.6		58.0
ASH		15.2		19.8		N/A
SULFUR		3		4		5

HEATING VALUE(BTU/LB) 6497 8473 10567

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73809

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS-D, 18, DRILL CORE, HOLE GS-1,
CAN NO: 25.9-27.9 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

	COAL	COAL	COAL
	[AS RECD.]	[MOIST FREE]	[MOIST, ASH FREE]

AIR DRY LOSS 16.5

PROXIMATE ANALYSIS

MOISTURE	25.7	N/A	N/A
VOLATILE MATTER	27.2	36.6	40.5
FIXED CARBON	39.9	53.7	59.5
ASH	7.2	9.7	N/A

SULFUR	3	4	5
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HEATING VALUE[BTU/LB]	7285	9803	10861
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73810

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 1C, DRILL CORE, HOLE GS-1,
CAN NO: - 27.9-30.2 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS	15.0	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST, ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	24.6	N/A	N/A
VOLATILE MATTER	27.4	36.4	39.8
FIXED CARBON	41.5	55.0	60.2
ASH	6.5	8.6	N/A

SULFUR	.4	.5	.6
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HEATING VALUE[BTU/LB]	7699	10206	11170
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73811

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 2A, DRILL CORE, HOLE GS-2
CAN NO: - 24.8-26.8 ft.

OPERATOR: -

MINE: -

STATE: CO COUNTY: MONTROSE

BED: #2

TOWN: -

DATE OF SAMPLING: 5-4-77

DATE RECEIVED: 6-7-77

DATE OF REPORT: 6-17-77

COLLECTOR: D. HAINES

AIR DRY LOSS 15.0 COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST, ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	24.4	N/A	N/A
VOLATILE MATTER	26.8	35.5	39.2
FIXED CARBON	41.6	55.0	60.8
ASH	7.2	9.5	N/A

ULTIMATE ANALYSIS

HYDROGEN	5.2	3.3	3.6
CARBON	48.4	64.1	70.8
NITROGEN	.8	1.1	1.2
SULFUR	.3	.4	.4
OXYGEN [IND]	38.1	21.7	24.0

HEATING VALUE [BTU/LB] 7514 9938 10985

SULFUR FORMS BY ATOMIC ABSORPTION

SULFATE	.01	.01	.01
PYRITIC	.12	.16	.17
ORGANIC	.17	.22	.25

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAE NO. K73812

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 28, DRILL CORE, HOLE GS-2,
CAN NO: - 22.8-24.8 ft.

OPERATOR: -

STATE: CO COUNTY: MONTROSE

TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77

DATE RECEIVED: 6- 7-77

DATE OF REPORT: 6-20-77

COLLECTOR: D. HAINES

AIR DRY LOSS 15.9 COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST, ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	25.8	N/A	N/A
VOLATILE MATTER	27.0	36.4	40.6
FIXED CARBON	39.4	53.1	59.4
ASH	7.8	10.5	N/A

ULTIMATE ANALYSIS

HYDROGEN	5.2	3.1	3.5
CARBON	46.7	62.9	70.3
NITROGEN	.8	1.1	1.3
SULFUR	.3	.4	.5
OXYGEN (IND)	39.2	22.0	24.5

HEATING VALUE[BTU/LB] 7200 9702 10838

SULFUR FORMS BY ATOMIC ABSORPTION

SULFATE	.01	.01	.01
PYRITIC	.14	.19	.22
ORGANIC	.15	.20	.23

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO: K73813

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 2C, DRILL CORE, HOLE GS-2
CAN NO: 20.5-22.8 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS	COAL		COAL	
	[AS RECD.]	[MOIST FREE]	[MOIST, ASH FREE]	
15.2				

PROXIMATE ANALYSIS

MOISTURE	24.1	N/A	N/A
VOLATILE MATTER	25.4	33.4	42.5
FIXED CARBON	34.3	45.2	57.5
ASH	16.2	21.4	N/A

ULTIMATE ANALYSIS

HYDROGEN	4.8	2.8	3.6
CARBON	41.0	54.0	68.7
NITROGEN	.7	.9	1.2
SULFUR	.3	.3	.4
OXYGEN [IND]	37.0	20.6	26.1

HEATING VALUE[B.T.U./LB] 6230 8205 10439

SULFUR FORMS BY ATOMIC ABSORPTION

SULFATE	.01	.01	.01
PYRITIC	12	16	20
ORGANIC	14	18	23

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73814

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS.D, 3A, DRILL CORE, HOLE GS-3
CAN NO: 23.4-25.4 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS	8.4	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST,ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	16.7	N/A	N/A
VOLATILE MATTER	28.9	34.7	38.0
FIXED CARBON	47.2	56.6	62.0
ASH	7.2	8.7	N/A

SULFUR	.4	.5	.5
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HEATING VALUE[BTU/LB]	9026	10834	11862
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73815

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS,D, 38, DRILL CORE, HOLE GS-3
CAN NO: 21.4-23.4 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS	9.7	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST,ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	18.1	N/A	N/A
VOLATILE MATTER	28.9	35.3	38.5
FIXED CARBON	46.2	56.4	61.5
ASH	6.8	8.3	N/A

SULFUR	4	4	5
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HEATING VALUE(BTU/LB)	8772	10710	11684
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73816

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS,D, 3C, DRILL CORE, HOLE GS-3
CAN NO: 18.8-21.4 ft.

OPERATOR: -

MINE: -

STATE: CO COUNTY: MONTROSE

BED: #2

TOWN: -

DATE OF SAMPLING: 5-4-77

DATE RECEIVED: 6-7-77

DATE OF REPORT: 6-17-77

COLLECTOR: D. HAINES

AIR DRY LOSS 8.2

COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST,ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	18.1	N/A	N/A
VOLATILE MATTER	24.2	29.6	39.8
FIXED CARBON	36.6	44.7	60.2
ASH	21.1	25.7	N/A

SULFUR

3	.3	.4
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HEATING VALUE(BTU/LB)

6715

8196

11033

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73817

ORGANIZATION: USGS, DENVER (CONSERVATION) SAMPLE ID: USGS-D, 4, DRILL CORE, HOLE GS-4, CUTTINGS
CAN NO: - 7.3-14.0 ft.

OPERATOR: - MINE: -
STATE: CO COUNTY: MONTROSE BED: #2
TOWN: -

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS 15.6 COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST, ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	23.9	N/A	N/A
VOLATILE MATTER	25.8	33.9	39.8
FIXED CARBON	39.1	51.3	60.2
ASH	11.2	14.8	N/A

SULFUR 3 4 .4

HEATING VALUE(BTU/LB) 7145 9392 11022

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73818

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS-D, 5, DRILL CORE, HOLE GS-5,
CAN NO: -

CUTTINGS

5.4-11.7 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6- 7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS 17.7

	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST,ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	27.5	N/A	N/A
VOLATILE MATTER	24.6	34.0	41.6
FIXED CARBON	34.6	47.6	58.4
ASH	13.3	18.4	N/A

SULFUR	2	3	4
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HEATING VALUE[BTU/LB] 6192 8538 10463

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73819

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 6A, DRILL CORE, HOLE GS-6
CAN NO: - 34.8-36.1 ft.

OPERATOR: -

STATE: CO COUNTY: MONTROSE

MINE: -

BED: ~~#2~~ #3 (lower bed)

DATE OF SAMPLING: 5-4-77

DATE RECEIVED: 6-7-77

DATE OF REPORT: 6-17-77

COLLECTOR: D. HAINES

AIR DRY LOSS 1.0 COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST, ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	2.9	N/A	N/A
VOLATILE MATTER	29.4	30.3	42.8
FIXED CARBON	39.3	40.4	57.2
ASH	28.4	29.3	N/A

ULTIMATE ANALYSIS

HYDROGEN	4.3	4.1	5.8
CARBON	55.0	56.7	80.1
NITROGEN	.9	.9	1.3
SULFUR	.9	.9	1.3
OXYGEN [IND]	10.5	8.1	11.5

HEATING VALUE [BTU/LB]

9678

9971

14101

SULFUR FORMS BY ATOMIC ABSORPTION

SULFATE	.02	.02	.03
PYRITIC	.36	.37	.52
ORGANIC	.50	.52	.74

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO: K73820

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS,D, 68, DRILL CORE, HOLE GS-6
CAN NO: - 31.0-32.4 ft.

OPERATOR: -

STATE: CO COUNTY: MONTROSE

TOWN: -

MINE: -

BED: ~~#2~~ #3 (lower bed)DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS 1.3 COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST,ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	3.9	.....	N/A	.....	N/A
VOLATILE MATTER	32.9	.....	34.2	.....	39.1
FIXED CARBON	51.2	.....	53.3	.....	60.9
ASH	12.0	.....	12.5	.....	N/A

ULTIMATE ANALYSIS

HYDROGEN	5.1	.....	4.9	.....	5.6
CARBON	69.5	.....	72.4	.....	82.7
NITROGEN	1.1	.....	1.1	.....	1.3
SULFUR	.6	.....	.6	.....	.7
OXYGEN [IND]	11.7	.....	8.5	.....	9.8

HEATING VALUE[BTU/LB] 12266 12768 14594

SULFUR FORMS BY ATOMIC ABSORPTION

SULFATE	.01	.....	.01	.....	.01
PYRITIC	.14	.....	.14	.....	.16
ORGANIC	.44	.....	.46	.....	.53

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO: K73821

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS.D, 7A, DRILL CORE, HOLE GS-7
CAN NO: - 34.6-35.6 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: ~~#2~~ #3 (lower bed)

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6- 7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS	1.1	COAL	
		[AS RECD.]	[MOIST FREE]
		COAL	COAL
		[MOIST FREE]	[MOIST, ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	2.8	N/A	N/A
VOLATILE MATTER	27.8	28.6	40.9
FIXED CARBON	40.2	41.3	59.1
ASH	29.2	30.1	N/A

SULFUR	.5	.5	.8
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HEATING VALUE[BTU/LB]	9656	9932	14199
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73822

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS-D, 78, DRILL CORE, HOLE GS-7
CAN NO: 30.8-32.3 ft.

OPERATOR: -
STATE: CO COUNTY: MONTROSE
TOWN: -

MINE: -
BED: ~~12~~ #3 (lower bed)

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: O. HAINES

AIR DRY LOSS	.9	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST, ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	3.0	N/A	N/A
VOLATILE MATTER	32.1	33.1	42.7
FIXED CARBON	43.1	44.4	57.3
ASH	21.8	22.5	N/A

SULFUR	.8	.8	1.0
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HEATING VALUE [BTU/LB]	10826	11163	14406
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73823

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS,D, 8A, DRILL CORE, HOLE GS-8
CAN NO: - 24.9-26.9 ft.

OPERATOR: -

STATE: CO COUNTY: MONTROSE MINE: -
TOWN: - BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6- 7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

	COAL		COAL		COAL	
	[AS RECD.]	[MOIST FREE]	[MOIST FREE]	[MOIST,ASH FREE]		
AIR DRY LOSS	11.5					
PROXIMATE ANALYSIS						
MOISTURE	19.1		N/A			N/A
VOLATILE MATTER	28.1		34.8			39.4
FIXED CARBON	43.3		53.5			60.6
ASH	9.5		11.7			N/A
SULFUR	.4		.4			.5

HEATING VALUE[BTU/LB] 8209 10149 11492

COAL ANALYSIS REPORT
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73824

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 88, DRILL CORE, HOLE GS-8
CAN NO: 22.9-24.9 ft.

OPERATOR: -
STATE: CO COUNTY: MONROSE
TOWN: -

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS	15.2	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST, ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	23.7	N/A	N/A
VOLATILE MATTER	27.8	36.4	39.6
FIXED CARBON	42.5	55.7	60.4
ASH	6.0	7.9	N/A

SULFUR	3	4	5
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HEATING VALUE[B.T.U./LB.]	7876	10322	11202
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73825

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS-D, 8C, DRILL CORE, HOLE GS-8
CAN NO: - 20.3-22.9 ft.

OPERATOR: -

MINE: -

STATE: CO COUNTY: MONTROSE

BED: #2

TOWN: -

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77

COLLECTOR: O. HAINES

AIR DRY LOSS	13.0	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST, ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	21.4	N/A	N/A
VOLATILE MATTER	25.5	32.4	39.9
FIXED CARBON	38.3	48.8	60.1
ASH	14.8	18.8	N/A

SULFUR	.3	.3	.4
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HEATING VALUE(BTU/LB)	6955	8853	10904
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73826

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 9A, DRILL CORE, HOLE GS-9
CAN NO: - 21.9-23.9

OPERATOR: -

MINE: -

STATE: CO COUNTY: MONTROSE

BED: #2

TOWN: -

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77

COLLECTOR: D. HAINES

	COAL		COAL	
	[AS RECD.]	[MOIST FREE]	[MOIST, ASH FREE]	COAL
AIR DRY LOSS	12.0			
PROXIMATE ANALYSIS				
MOISTURE	20.7	N/A	N/A	N/A
VOLATILE MATTER	29.5	37.2	40.6	40.6
FIXED CARBON	43.2	54.4	59.4	59.4
ASH	6.6	8.4	N/A	N/A
SULFUR	4	4	5	5

HEATING VALUE[B.T.U./LB.] 8393 10586 11551

COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73827

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS, D, 98, DRILL CORE, HOLE GS-9-19.9-21.9 ft.

OPERATOR: -

STATE: CO COUNTY: MONTROSE

MINE: -
BED: #2

DATE OF SAMPLING: 5-4-77

DATE RECEIVED: 6-7-77

DATE OF REPORT: 6-17-77

COLLECTOR: D. HAINES

AIR DRY LOSS	14.3	COAL [AS RECD.]	COAL [MOIST FREE]	COAL [MOIST, ASH FREE]
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PROXIMATE ANALYSIS

MOISTURE	22.6	N/A	N/A
VOLATILE MATTER	27.6	35.7	39.4
FIXED CARBON	42.5	54.8	60.6
ASH	7.3	9.5	N/A

SULFUR	3	.4	.4
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HEATING VALUE [BTU/LB]	7860	10156	11218
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COAL ANALYSIS REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

LAB NO. K73828

ORGANIZATION: USGS, DENVER (CONSERVATION)

SAMPLE ID: USGS,D, 9C, DRILL CORE, HOLE GS-9
CAN NO: - 18.3-19.9 ft.

OPERATOR: -

MINE: -

STATE: CO COUNTY: MONTROSE

BED: #2

TOWN: -

DATE OF SAMPLING: 5-4-77 DATE RECEIVED: 6-7-77 DATE OF REPORT: 6-17-77
COLLECTOR: D. HAINES

AIR DRY LOSS 13.4

COAL [AS RECD.] COAL [MOIST FREE] COAL [MOIST,ASH FREE]

PROXIMATE ANALYSIS

MOISTURE	21.1	N/A	N/A
VOLATILE MATTER	24.1	30.5	43.5
FIXED CARBON	31.3	39.7	56.5
ASH	23.5	29.8	N/A

SULFUR

.....	2	3	4
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HEATING VALUE(BTU/LB) 5765 7303 10405