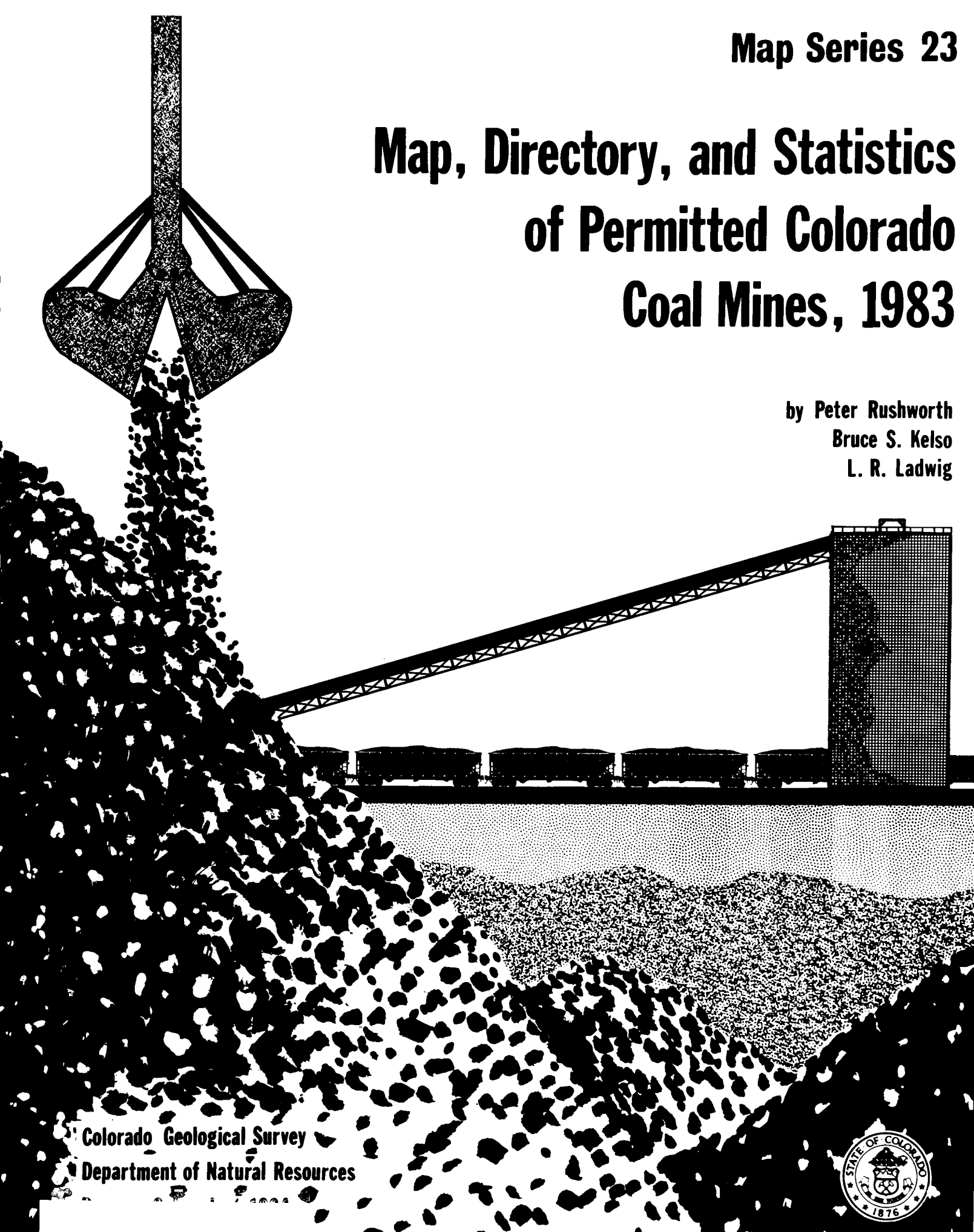


Map Series 23

Map, Directory, and Statistics of Permitted Colorado Coal Mines, 1983

by **Peter Rushworth**
Bruce S. Kelso
L. R. Ladwig



Colorado Geological Survey
Department of Natural Resources



MAP SERIES 23

MAP, DIRECTORY, AND STATISTICS OF PERMITTED COLORADO COAL MINES, 1983

by

Peter Rushworth, Bruce S. Kelso, and L. R. Ladwig



Colorado Geological Survey
Department of Natural Resources
Denver, Colorado 80203

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PREFACE

This directory is an update and revision of Map Series 15 published in 1981. The purpose of the publication is to provide insight into the Colorado coal industry. This report presents geologic, production and location data for permitted Colorado coal mines.

Data were compiled from previous Colorado Geological Survey publications and the following sources:

- Office of Surface Mining, Dept. of Interior
- Division of Mines, Dept. Natural Resources, State of Colorado
- Mined Land Reclamation Division, Dept. Natural Resources, State of Colorado
- State Board of Land Commissioners, Dept. Natural Resources, State of Colorado
- Keystone Coal Industry Manual 1983

Additional information was obtained by contacting individual mine personnel via mail and telephone. Mine information is presented for active, interim and reclamation permits. Exploration mines are not included due to restriction of access to these Mined Land Reclamation Division files. The accompanying map locates mines and lists them by county, coal mine name and parent company.

Production data is tabulated by portal by the Colorado Division of Mines. Mines are plotted on the map by common permit area, but split out by portal in the text. A permit area may contain more than one portal, however, a permit area is not necessarily contiguous.

The information contained in this report is the best available at the time of writing, August 1, 1983. Accuracy and completeness cannot be guaranteed. Neither the Colorado Geological Survey nor the authors assume responsibility for incidental or consequential damages arising out of use of these report materials.

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Mine Name Chimney Rock Coal Strip
M.L.R.B. Permit No. C-023-81 O.S.M. Permit No. CO 0030
Map No. 1
Previous Mine Names Martinez Strip

Location Information

County Archuleta
Location (Sec., T., R.) portions of sec. 29 & 30, T33 1/2N, R4W,
Coal Region San Juan River Field Pagosa Springs
Topographic Quadrangle (7 1/2') Chimney Rock

Company Information

Mine Operator Chimney Rock Coal
Address P.O. Box 52A, Star Route 3, Pagosa Springs, CO 81147
Contacts Mike Stairwalt Telephone (303) 883-2293
Parent Company Perma Resources Corp.
Address 105 East Kiowa Suite 200 Colorado Springs, CO 80901 - 2679
Contacts Dave Smaldone Telephone (303) 475-7005

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date Nov. 1976
No. of Employees 60 Union Affiliation _____
No. of Acres in Permit 140
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Fruitland Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) A, B, & C
Coal Thickness(es) A: 4-5' B: 11' C: 9'
Dip of Bedding 12°NE Strike of Bedding N50°W
Overburden Thickness(es) over A: 74' others range 32.5'-130'
Interburden Thickness(es) ranges: 6.7'-11.7'

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	B	B	C	A
Rank	HVBA	HVBA		
Moisture(%)	1.48	4.38	5.93	4
Ash(%)	10.90	10.63	18.00	15
Fixed Carbon(%)				50
Volatile Matter(%)				31
Sulfur(%)	0.48	0.85	0.44	0.7
Heating Value(Btu/lb)	13,244	13,230	11,668	12,600
Free Swelling Index		6	6	
Hardgrove Grindability				
Ash-Softening Temp.(°F)				2,700
Methane Characteristics				
Reflectance Data				

Coal Production

1983 Production Thru 7/83	143,288
Cumulative Production Thru 12/82	677,521
Projected Production (tpy) 1985	600,000
Projected Production (tpy) 1988	
Remaining Reserves/Life of Mine	1,251,000 recoverable
Production (t) 1981	255,013
Production (t) 1982	259,477

Sales Data

Percent In-State	0	Destination	Local	Use	Domestic
Percent Out-Of-State	100	Destination	AZ 60%	Use	Steam
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		Trucks			
FOB Mine Price (\$) Contract					
Shifts per day		Production Per Shift			
Equipment	Overburden drills, bulldozers, front-end loaders				
Haulage	Trucks				
Preparation Plant		Tipple			
Domestic Purchase Available				Price	

Additional Information and Comments

Strip ratio 6:1 cover/coal
Auger mining proposed

ARCHULETA

Mine Name Blue Ribbon
M.L.R.B. Permit No. C-047-81 O.S.M. Permit No. CO 0027
Map No. 2
Previous Mine Names _____

Location Information

County Delta
Location (Sec., T., R.) sec. 2, T13S, R91W

Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Bowie

Company Information

Mine Operator Blue Ribbon Coal Company
Address P.O. Box 58, Delta, CO 81416
Contacts William Bower Telephone (303) 874-7561
Parent Company Western Associated Coal Corp. (managing partner)
Address 410 17th St., Suite 2300, Denver, CO 80202
Contacts W. S. Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method room & pillar
Mine Status producing Start-up Date 1952
No. of Employees 15 Union Affiliation non-union
No. of Acres in Permit 340
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Fork Geologic Age Cretaceous
Coal Zone(s) or Bed(s) E

Coal Thickness(es) Average - 6'

Dip of Bedding 3°-5°NE Strike of Bedding N77°W
Overburden Thickness(es) 0-1500'

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	E (typical as received)		E (dry basis)	
Rank	HVBB		HVBB	
Moisture(%)	8 - 10			
Ash(%)	5 - 10		5 - 10	
Fixed Carbon(%)			48 - 53	
Volatile Matter(%)			35 - 38	
Sulfur(%)			0.5	
Heating Value(Btu/lb)	12,600			
Free Swelling Index	1.0			
Hardgrove Grindability	47 - 49			
Ash-Softening Temp.(°F)	2,350			
Methane Characteristics	< = 100 cu.ft./t			
Reflectance Data	--			

DELTA

Coal Production

1983 Production Thru 7/83	44,115		
Cumulative Production Thru 12/82	534,163		
Projected Production (tpy) 1985	175,000	1988	175,000
Remaining Reserves/Life of Mine	5 years at 175,000 tpy		
Production (t) 1981	129,055	1982	150,963

Sales Data

Percent In-State	5	Destination	Use	Domestic
Percent Out-Of-State	95	Destination	Wyoming	Use Industrial
Percent Export		Destination		Use
Transportation Mode/Mixed Modes	Truck to rail			
FOB Mine Price (\$) Contract	under production cost			
Shifts per day	1	Production Per Shift	350 (short)	
Equipment	CM, SC, roof bolters			
Haulage	Conveyors			
Preparation Plant	Tipple uses Terror Creek / Delta site			
Domestic Purchase Available	Yes		Price	Call

Additional Information and Comments

Chemical coke process

Mine Name Orchard Valley
M.L.R.B. Permit No. C-038-81 O.S.M. Permit No. CO 0012
Map No. 3
Previous Mine Names _____

Location Information

County Delta
Location (Sec., T., R.) portions of sec. 7, 12, 13, 18, 19, 24, 25, 29, 30, 31, 32, T13S, R92W
Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Gray Reservoir

Company Information

Mine Operator Colorado Westmoreland Inc.
Address P.O. Box E Paonia, CO 81428
Contacts Ronald Stucki Telephone (303) 527-4135
Parent Company Westmoreland Coal Co.
Address 9034 E. Easter Place Englewood, CO 80112
Contacts Christopher K. Seglem Telephone (303) 779-0902

General Information

Mine Type underground Mining Method continuous, conventional
Mine Status producing Start-up Date 1976
No. of Employees 250 Union Affiliation _____
No. of Acres in Permit 1185.8
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Mesaverde Group Geologic Age Cretaceous
Coal Zone(s) or Bed(s) D
Coal Thickness(es) 4-27'
Dip of Bedding 2°-5° NNE Strike of Bedding _____
Overburden Thickness(es) 450-1800'
Interburden Thickness(es) _____

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	D			
Rank	B			
Moisture(%)	9.5			
Ash(%)	8.0			
Fixed Carbon(%)				
Volatile Matter(%)				
Sulfur(%)	0.5			
Heating Value(Btu/lb)	11,000			
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics	minimal			
Reflectance Data				

DELTA

<u>Coal Production</u>			
1983 Production Thru 7/83	743,532		
Cumulative Production Thru 12/82			
Projected Production (tpy) 1985	1988		
Remaining Reserves/Life of Mine	5.6 million tons	40 years	
Production (t) 1981	976,796	1982	1,246,197

<u>Sales Data</u>			
Percent In-State	25 ± 5	Destination	Use
Percent Out-Of-State	75 ± 5	Destination	Indiana Use steam
Percent Export		Destination	Use
Transportation Mode/Mixed Modes	train (DRGW)		
FOB Mine Price (\$) Contract			
Shifts per day	Production Per Shift		
Equipment	cm, 4 roof bolters, 6 dusters		
Haulage	5 conveyors, 12 SC		
Preparation Plant	crusher, breaker Tipple		
Domestic Purchase Available	Price		

Additional Information and Comments

Capacity 1,800,000 tpy with no new hires

Northern Indiana Public Service

Mine Name Red Canyon Mine No. 1
M.L.R.B. Permit No. C-034-81 O.S.M. Permit No. CO 0029
Map No. 4
Previous Mine Names _____

Location Information

County Delta
Location (Sec., T., R.) portions of sec. 2, 11, & 12; T13S, R95W
Coal Region Uinta Field Grand Mesa
Topographic Quadrangle (7 1/2') Cedaredge

Company Information

Mine Operator Grand Mesa Coal Co.
Address P.O. Box 226, 1st & Columbia, Delta, CO 81416
Contacts Larry Reschke Telephone (376) 856-6402/874-7561
Parent Company Western Associated Coal Corp. - managing partner
Address 410 17th St., Suite 2300, Denver, CO 80202
Contacts William Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method continuous
Mine Status producing Start-up Date 1916
No. of Employees 5 Union Affiliation non-union
No. of Acres in Permit 450+ (interim)
Surface: Federal _____ Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Cretaceous
Coal Zone(s) or Bed(s) E
Coal Thickness(es) E:4.9-7.5'
Dip of Bedding about 5 1/2% Strike of Bedding S 85 E
Overburden Thickness(es) up to 700'; 1800' in later years of
30-year plan
Interburden Thickness(es) 130' above D seam

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	E	Typical E
Rank	HVCB	HVCB
Moisture(%)	14	12 - 16 (ar)
Ash(%)	9	7.4 - 11.0 (dry)
Fixed Carbon(%)	45	48.0 - 52.0 (dry)
Volatile Matter(%)	32	37.0 - 40.0 (dry)
Sulfur(%)	0.55	0.4 - 0.5 (dry)
Heating Value(Btu/lb)	10,600	10,600 (ar)
Free Swelling Index	0	0
Hardgrove Grindability	47	47 - 52
Ash-Softening Temp.(°F)	2,300	2,300
Methane Characteristics	< 100 cu.ft./t mined	
Reflectance Data		

DELTA

Coal Production

1983 Production Thru 7/83	5,418		
Cumulative Production Thru 12/82	366,365		
Projected Production (tpy) 1985	40,000	1988	175,000
Remaining Reserves/Life of Mine	30 million in place/30 yrs. at 0.5 mrpy		
Production (t) 1981	137,698	1982	64,442

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	truck/train	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment	CM and SC	
Haulage		
Preparation Plant	None	Tipple
Domestic Purchase Available	yes	Price call

Additional Information and Comments

Later mining to A & B seam (after 30 years)

Mine Name Red Canyon No. 2
M.L.R.B. Permit No. C-034-81 O.S.M. Permit No. CO 0071
Map No. 4
Previous Mine Names None

Location Information

County Delta
Location (Sec., T., R.) portions of Sec. 2, 11, 12, T13S, R95W
Coal Region Uinta Field Grand Mesa
Topographic Quadrangle (7 1/2') Cedaredge

Company Information

Mine Operator Grand Mesa Coal Co.
Address P.O. Box 226, 1st and Columbia, Delta, CO 81416
Contacts Larry Reschke Telephone (303) 856-6402
Parent Company Western Associated Coal Corp. - managing partner
Address 410 17th Street, Suite 2300, Denver, CO 80202
Contacts William Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method (proposed) continuous
Mine Status proposed (Proposed) Start-up Date (when market allows)
No. of Employees _____ Union Affiliation none
No. of Acres in Permit 450
Surface: Federal _____ Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Form Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) _____
Coal Thickness(es) 8-11 feet
Dip of Bedding 5 1/2 Strike of Bedding N85W
Overburden Thickness(es) up to 830; 2,000' in later years of 30 year plan
Interburden Thickness(es) 130' below E Seam

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____ Typical D (Green Valley)
 Rank _____ HVCB
 Moisture(%) _____ 10-14 (ar)
 Ash(%) _____ 15 (dry)
 Fixed Carbon(%) _____ 50-52 (dry)
 Volatile Matter(%) _____ 32-36 (dry)
 Sulfur(%) _____ 0.55-0.65 (dry)
 Heating Value(Btu/lb) _____ 10,400 (ar)
 Free Swelling Index _____ 0
 Hardgrove Grindability _____ 47
 Ash-Softening Temp.(°F) _____ 2300
 Methane Characteristics _____ anticipated < 100 ft /T mined
 Reflectance Data _____

DELTA

Coal Production

1983 Production Thru 7/83 _____ 0
 Cumulative Production Thru 12/82 _____ 0
 Projected Production (tpy) 1985 _____ market dependent 1988 market dependent
 Remaining Reserves/Life of Mine _____ 42 million in place, 42 years at 0.5 mtpy
 Production (t)1981 _____ 1982 _____

Sales Data

Percent In-State _____ Destination _____ Use _____
 Percent Out-Of-State _____ Destination _____ Use _____
 Percent Export _____ Destination _____ Use _____
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day _____ Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant _____ planned _____ Tipple _____
 Domestic Purchase Available _____ Price _____

Additional Information and Comments

Mine Name Tomahawk Strip
M.L.R.B. Permit No. C-009-81 O.S.M. Permit No. CO 0016
Map No. 5
Previous Mine Names _____

Location Information

County Delta
Location (Sec., T., R.) portions of: sec. 10, 15 & 16 T13S R95W

Coal Region Uinta Field Grand Mesa
Topographic Quadrangle (7 1/2') Hell's Kitchen

Company Information

Mine Operator Quinn Coal Co.
Address P.O. Box 265 Eckert, CO 81418
Contacts Stewart Snyder Telephone (303) 856-3400
Parent Company Texasgulf, Inc.
Address High Ridge Park Stamford, CT 06904
Contacts _____ Telephone (203) 358-5000

General Information

Mine Type surface Mining Method haulback
Mine Status idle Start-up Date 1947
No. of Employees 11 (?) Union Affiliation _____
No. of Acres in Permit 316
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Mesaverde Group Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) A, C, D, E, F

Coal Thickness(es) A:2.5', B:4.9', C:8.7', D:7.6', E:7.2', F:13.4'

Dip of Bedding 2.5°-4°NNE Strike of Bedding _____
Overburden Thickness(es) 60'

Interburden Thickness(es) 4-30' (A-F)

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____
 Rank _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

DELTA

Coal Production

1983 Production Thru 7/83 0
 Cumulative Production Thru 12/82 421,626
 Projected Production (tpy) 1985 _____ 1988 _____
 Remaining Reserves/Life of Mine _____
 Production (t)1981 101,336 1982 41,915

Sales Data

Percent In-State _____ Destination _____ Use _____
 Percent Out-Of-State _____ Destination _____ Use _____
 Percent Export _____ Destination _____ Use _____
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day _____ Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant _____ Tipple _____
 Domestic Purchase Available _____ Price _____

Additional Information and Comments

Equipment sold _____

Mine Name Bacon Mine
M.L.R.B. Permit No. C-030-81 O.S.M. Permit No. CO 0075
Map No. 6
Previous Mine Names _____

Location Information

County El Paso
Location (Sec., T., R.) portions of sec. 29 & 30, T14S, R64W
Coal Region Denver Field Colorado Springs
Topographic Quadrangle (7 1/2') Corral Bluffs

Company Information

Mine Operator Nurseries Inc. of Wyoming
Address 1790 Old Franceville Coal Mine Road, Colorado Springs, CO 80909
Contacts _____ Telephone 683-2588
Parent Company A. T. Massey
Address 1536 Cole Blvd., Suite 180, Golden, CO 80401
Contacts Bryan Archer Telephone 233-5284

General Information

Mine Type surface Mining Method strip
Mine Status idle Start-up Date _____
No. of Employees 11 (?) Union Affiliation non-union
No. of Acres in Permit 460
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Laramie Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) A & B
Coal Thickness(es) A : 9'-10' B : 1'-2'
Dip of Bedding 3°-5°NE Strike of Bedding N40°W
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Composite (ar)			
Rank	SubBC			
Moisture(%)	21.0			
Ash(%)	10.0			
Fixed Carbon(%)	38.1			
Volatile Matter(%)	30.9			
Sulfur(%)	0.38			
Heating Value(Btu/lb)	8,815			
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

EL PASO

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	42,357		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	42,357	1982	0

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes		
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available	no	Price

Additional Information and Comments

For sale

Mine Name Dorchester No. 1
M.L.R.B. Permit No. C-014-81 O.S.M. Permit No. CO 0057
Map No. 7
Previous Mine Names _____

Location Information

County Fremont
Location (Sec., T., R.) portions of Sec. 19, 30, T20S, R69W and
Sec. 25, 26, T20S, R70W.
Coal Region Canon City Field Canon City
Topographic Quadrangle (7 1/2') Rockvale

Company Information

Mine Operator Dorchester Coal
Address P.O. Box 449, Florence, CO 81226
Contacts Mike Morgan Telephone (303) 784-6395
Parent Company Dorchester Coal Company
Address 9350 E. Arapahoe, Suite 300, Englewood, CO 80112
Contacts Dean Massey Telephone (303) 790-8444

General Information

Mine Type underground Mining Method continuous, conventional
Mine Status producing Start-up Date March 1980
No. of Employees 55 Union Affiliation _____
No. of Acres in Permit 415 interim
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Vermejo Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Manley, Vento, Pine Gulch, Dirty Jack O'Lantern,
Red Arrow
Coal Thickness(es) Manley: 3-5', Vento: 1-5', Pine Gulch: 3-11',
Dirty Jack O'Lantern: 1-6', Red Arrow: 3-7'
Dip of Bedding 6°W Strike of Bedding N to N25E
Overburden Thickness(es) 0-1300'

Interburden Thickness(es) Manly-Vento: 104', Vento-Pine Gulch: 110',
Pine Gulch-Dirty Jack O'Lantern: 27', Dirty Jack O'Lantern-Red Arrow: 29'

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
---------------------	----------	----------	----------	----------

Seam	<u>Dirty Jack</u>			
Rank	<u>B</u>			
Moisture(%)	<u>10</u>			
Ash(%)	<u>10</u>			
Fixed Carbon(%)	<u>35</u>			
Volatile Matter(%)	<u>44</u>			
Sulfur(%)	<u>0.6</u>			
Heating Value(Btu/lb)	<u>11,000</u>			
Free Swelling Index	<u>0.5</u>			
Hardgrove Grindability	<u>45</u>			
Ash-Softening Temp.(°F)	<u>2,650</u>			
Methane Characteristics	<u>minimal</u>			
Reflectance Data	<u></u>			

FREMONT

Coal Production

1983 Production Thru 7/83	<u>431,546</u>		
Cumulative Production Thru 12/82	<u>856,914</u>		
Projected Production (tpy) 1985	<u>900,000</u>	1988	<u>900,000</u>
Remaining Reserves/Life of Mine	<u>20 years</u>		
Production (t)1981	<u>172,599</u>	1982	<u>584,832</u>

Sales Data

Percent In-State	<u>57</u>	Destination	<u>1</u>	Use	<u>steam, cement</u>
Percent Out-Of-State	<u>43</u>	Destination	<u>Texas</u>	Use	<u>industrial</u>
Percent Export	<u></u>	Destination	<u></u>	Use	<u></u>
Transportation Mode/Mixed Modes	<u>rail/truck</u>				
FOB Mine Price (\$) Contract	<u>\$26.90</u>				
Shifts per day	<u>1</u>	Production Per Shift	<u>880</u>		
Equipment	<u>2 cm, 1 cutter, 2 roofbolters</u>				
Haulage	<u>4 SC, conveyors</u>				
Preparation Plan	<u>heavy media, 3 deisters</u>				
Domestic Purchase Available	<u>Yes</u>	Price	<u>call</u>		

Additional Information and Comments

<u>1</u>	<u>Southern Colorado Power, Kaiser and Martin Marietta Cement</u>
<u>2</u>	<u>Lone Star Industries and Texas Industries</u>
<u></u>	
<u>Furloughed 150 workers Sept. 15, 1983</u>	
<u></u>	
<u></u>	
<u></u>	
<u></u>	

Mine Name GEC Strip
M.L.R.B. Permit No. C-037-81 O.S.M. Permit No. CO 0056
Map No. 8
Previous Mine Names _____

Location Information

County Fremont
Location (Sec., T., R.) portions of sec. 24 & 25, T20S, R70W
" " sec. 19 & 30, T20S, R69W
Coal Region Canon City Field Canon City
Topographic Quadrangle (7 1/2') Rockvale

Company Information

Mine Operator GEC Minerals, Inc.
Address P.O. Box 225, Florence, CO 81226
Contacts L. K. Chen Telephone (303) 784-6891
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date 1977
No. of Employees 25 Union Affiliation _____
No. of Acres in Permit 720
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Vermejo Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) D, E, G, J, K
Coal Thickness(es) 2-4' each
Dip of Bedding 2-5° WSW Strike of Bedding _____
Overburden Thickness(es) 100 - 130 ft.
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam

Rank	HVCB
Moisture(%)	10
Ash(%)	9
Fixed Carbon(%)	48
Volatile Matter(%)	33
Sulfur(%)	1.0
Heating Value(Btu/lb)	11,000
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	2,250
Methane Characteristics	
Reflectance Data	

FREMONT

Coal Production

1983 Production Thru 7/83	28,200	
Cumulative Production Thru 12/82	399,801	
Projected Production (tpy) 1985	1988	
Remaining Reserves/Life of Mine	10 million tons recoverable	
Production (t)1981	75,904	
	1982	77,779

Sales Data

Percent In-State	70	Destination	Use
Percent Out-Of-State	30	Destination	New Mexico Use
Percent Export		Destination	Use
Transportation Mode/Mixed Modes	truck/rail		
FOB Mine Price (\$) Contract			
Shifts per day	1	Production Per Shift	400
Equipment	1 strip shovel, 2 drills, 4 bulldozers, 5 frontend loaders, 1 auger		
Haulage	6 haul trucks		
Preparation Plant	Tipple		
Domestic Purchase Available	yes	Price	

Additional Information and Comments

Strip ratio 12:1	cover/coal
Mine closed 10-83	

Mine Name Newlin Creek
M.L.R.B. Permit No. C-045-81 O.S.M. Permit No. CO 0055
Map No. 9
Previous Mine Names _____

Location Information
County Fremont
Location (Sec., T., R.) portions of sec. 30 & 31, T20S, R69W

Coal Region Canon City Field Canon City
Topographic Quadrangle (1/ 1/2') Rockvale

Company Information
Mine Operator Harrison Peltron
Address P.O. Box 48 Florence, CO 81226
Contacts Jim Irvin, Don Herrera Telephone (303) 784-4227
Parent Company Harrison Western (Engineer)
Address 1208 Quail St., Denver, CO 80215
Contacts Mike Bertoldi Telephone (303) 234-0273

General Information
Mine Type underground Mining Method continuous/room & pillar
Mine Status producing Start-up Date 1977
No. of Employees 12 Union Affiliation non-union
No. of Acres in Permit 207 (Interim)
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information
Geologic Unit Vermejo Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Shamrock
Coal Thickness(es) 3-7'
Dip of Bedding 4°E Strike of Bedding N60E
Overburden Thickness(es) 145'
Interburden Thickness(es) N/A

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam Shamrock
 Rank B
 Moisture(%) 11
 Ash(%) 8
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) 0.42
 Heating Value(Btu/lb) 13,574 (dry ash-free)
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics none
 Reflectance Data _____

FREMONT

Coal Production

1983 Production Thru 6/83 27,101
 Cumulative Production Thru 12/82 234,411
 Projected Production (tpy) 1985 70,000 1988 70,000
 Remaining Reserves/Life of Mine 7,500,000 t / 107 years
 Production (t)1981 72,359 1982 38,847

Sales Data

Percent In-State 90 Destination Canon City Use
 Percent Out-Of-State _____ Destination _____ Use
 Percent Export _____ Destination _____ Use
 Transportation Mode/Mixed Modes rail/truck
 FOB Mine Price (\$) Contract _____
 Shifts per day 1 Production Per Shift 280
 Equipment Continuous - Lee Norse 265 LN38IE conventional I5-RU
 Haulage 16 SC
 Preparation Plant N/A Tipple N/A
 Domestic Purchase Available yes Price \$54.50/ton

Additional Information and Comments

Opening new portal in another seam

Mine Name Twin Pines
M.L.R.B. Permit No. CO-588-83 O.S.M. Permit No. CO 0047
Map No. 10
Previous Mine Names _____

Location Information
County Fremont
Location (Sec., T., R.) Sec. 2, T20S, R70W

Coal Region _____ Field _____
Topographic Quadrangle (7 1/2') _____

Company Information
Mine Operator Twin Pines Coal Company
Address 1780 Brookside Avenue, Canon City, CO 80212
Contacts _____ Telephone _____
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information
Mine Type _____ Mining Method _____
Mine Status reclaiming Proposed Start-up Date _____
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 120 (reclamation)
Surface: Federal _____ Private _____
Mineral: Federal _____ Private _____

Geologic Information
Geologic Unit _____ Geologic Age _____
Coal Zone(s) or Bed(s) _____
Coal Thickness(es) _____
Dip of Bedding _____ Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam _____
 Rank _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

FREMONT

Coal Production

1983 Production Thru 7/83 _____
 Cumulative Production Thru 12/82 _____
 Projected Production (tpy) 1985 _____ 1988 _____
 Remaining Reserves/Life of Mine _____
 Production (t)1981 _____ 1982 _____

Sales Data

Percent In-State _____ Destination _____ Use _____
 Percent Out-Of-State _____ Destination _____ Use _____
 Percent Export _____ Destination _____ Use _____
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day _____ Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant _____ Tipple _____
 Domestic Purchase Available _____ Price _____

Additional Information and Comments

Mine Name McClane Canyon
M.L.R.B. Permit No. C-004-80 O.S.M. Permit No. CO 0026
Map No. II
Previous Mine Names _____

Location Information

County Garfield
Location (Sec., T., R.) portions of sec. 15, 16, 21 & 22, T7S, R102W

Coal Region Uinta Field Book Cliffs
Topographic Quadrangle (7 1/2') Howard Canyon

Company Information

Mine Operator Salt Creek Mining Co.
Address P.O. Drawer L, Fruita, CO 81521
Contacts Bill Anderson Telephone (303) 858-1396
Parent Company Sheridan Enterprises, Inc.
Address P.O. Drawer K, Fruita, CO 81521
Contacts Wm. Bosworth Telephone (303) 858-3033

General Information

Mine Type underground Mining Method room & pillar
Mine Status idle Start-up Date 1977
No. of Employees 5 Union Affiliation non-union
No. of Acres in Permit 248
Surface: Federal X Private _____
Mineral: Federal X Private _____

Geologic Information

Geologic Unit Mt. Garfield Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Cameo

Coal Thickness(es) 17-22'

Dip of Bedding 3% NE Strike of Bedding _____
Overburden Thickness(es) 0-1000'

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	Cameo			
Rank	HVCB			
Moisture(%)	9.9			
Ash(%)	16.1			
Fixed Carbon(%)	42.41			
Volatile Matter(%)	33.27			
Sulfur(%)	0.66			
Heating Value(Btu/lb)	10,388			
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

GARFIELD

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	191,019		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine	23,432,000 tons		
Production (t) 1981	53,516	1982	70,465

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	truck/rail	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available		Price

Additional Information and Comments

Mine Name Munger Canyon
M.L.R.B. Permit No. C-020-81 O.S.M. Permit No. CO 0069
Map No. 12
Previous Mine Names Loma Complex

Location Information

County Garfield
Location (Sec., T., R.) portions of sec. 15, 16, 21, 22, T7S, R102W

Coal Region Uinta Field Book Cliffs
Topographic Quadrangle (7 1/2') Howard Canyon

Company Information

Mine Operator Salt Creek Mining
Address P.O. Drawer L, Fruita, CO 81521
Contacts Bill Anderson Telephone (303) 858-1396
Parent Company Sheridan Enterprises, Inc.
Address P.O. Drawer K, Fruita, CO 81521
Contacts Wm. Bosworth Telephone (303) 858-3033

General Information

Mine Type underground Mining Method room & pillar
Mine Status idle Start-up Date 1977
No. of Employees 4 Union Affiliation non-union
No. of Acres in Permit 776
Surface: Federal Private
Mineral: Federal Private

Geologic Information

Geologic Unit Mt. Garfield Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Cameo and Upper Carbonera

Coal Thickness(es) Cameo: 5-26'; Carbonera: 4-7'

Dip of Bedding 2°NE Strike of Bedding _____
Overburden Thickness(es) 0-1500'

Interburden Thickness(es) _____

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
---------------------	----------	----------	----------	----------

Seam	All Seams			
Rank	HVCB			
Moisture(%)	6.7-13.9			
Ash(%)	8.7-20.6			
Fixed Carbon(%)				
Volatile Matter(%)				
Sulfur(%)	0.38-0.94			
Heating Value(Btu/lb)	9,500 - 11,500			
Free Swelling Index	0.5-1.5			
Hardgrove Grindability	45-50			
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

GARFIELD

Coal Production

1983 Production Thru 7/83	0	
Cumulative Production Thru 12/82	100,952	
Projected Production (tpy) 1985		1988
Remaining Reserves/Life of Mine	61,183,000	
Production (t)1981	0	1982 0

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	rail	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available	Price	

Additional Information and Comments

Mine Name Sunlight Mine O.S.M. Permit No. CO 0062
M.L.R.B. Permit No. C-046-81
Map No. 13
Previous Mine Names _____

Location Information

County Garfield
Location (Sec., T., R.) _____ portions of: sec. 33 & 34; T7S, R89W

Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Cattle Creek

Company Information

Mine Operator Apache Energy and Minerals
Address 13131 W. Cedar Drive, Lakewood, CO 80228
Contacts D. Ross-Brown Telephone (303) 988-3033
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method room & pillar
Mine Status idle Start-up Date 1901
No. of Employees 1 Union Affiliation _____
No. of Acres in Permit 180
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Lower Mesaverde Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) A, B, C, & D

Coal Thickness(es) A : 10', B : 3', C : 4', D : 8'

Dip of Bedding 42-44°W Strike of Bedding _____
Overburden Thickness(es) 370-1500'

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	C			
Rank	HVB			
Moisture(%)	4.0			
Ash(%)	6.0			
Fixed Carbon(%)	50.7			
Volatile Matter(%)	39.3			
Sulfur(%)	1.5			
Heating Value(Btu/lb)	12,610			
Free Swelling Index	1			
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

GARFIELD

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	179,047		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine	2.4 million tons recoverable		
Production (t)1981	989	1982	1,218

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes		
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage	pneumatic	
Preparation Plant	Tipple	
Domestic Purchase Available		Price

Additional Information and Comments

Purchased by Apache Energy and Minerals, October, 1983

Mine Name Bear No. 3 Mine
M.L.R.B. Permit No. C-033-81 O.S.M. Permit No. CO 0068
Map No. 14
Previous Mine Names Bear No. 1, Bear No. 2

Location Information

County Gunnison
Location (Sec., T., R.) portions of sec. 8, 17; T13S, R90W

Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Somerset

Company Information

Mine Operator Bear Coal Co., Inc.
Address Somerset, CO 81434
Contacts William A. Bear Telephone (303) 929-5775
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method continuous
Mine Status producing Start-up Date 1934
No. of Employees 41 Union Affiliation UMWA
No. of Acres in Permit 300
Surface: Federal _____ Private X
Mineral: Federal X Private _____

Geologic Information

Geologic Unit Mesaverde Group Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) B,C,D,E,F

Coal Thickness(es) B: 10' - 20'; C: 6' - 9'; D: 0' - 7';
E: 4' - 8'; F: 2' - 10'

Dip of Bedding 3.5-6.25°NE Strike of Bedding _____
Overburden Thickness(es) few hundred to 1400 ft

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	C
Rank	B
Moisture(%)	8.5
Ash(%)	8.0
Fixed Carbon(%)	52.0
Volatile Matter(%)	38.0
Sulfur(%)	0.5
Heating Value(Btu/lb)	12,400
Free Swelling Index	3.5
Hardgrove Grindability	42
Ash-Softening Temp.(°F)	2,550
Methane Characteristics	
Reflectance Data	

GUNNISON

Coal Production

1983 Production Thru 7/83	98,611
Cumulative Production Thru 12/82	4,165,901, No. 2 and 3
Projected Production (tpy) 1985	250,000
Projected Production (tpy) 1988	250,000
Remaining Reserves/Life of Mine	49 years
Production (t)1981	259,392
Production (t)1982	91,845(Nos. 2 and 3)

Sales Data

Percent In-State	10	Destination	various	Use	steam
Percent Out-Of-State	90	Destination	various	Use	steam
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		rail (DRGW)			
FOB Mine Price (\$) Contract					
Shifts per day	2	Production Per Shift	500		
Equipment	2 cm, 4 roofbolters				
Haulage	4 SC, 3 scoops				
Preparation Plant		Tipple			
Domestic Purchase Available	no			Price	

Additional Information and Comments

Bear No. 1 and No. 2 permanently sealed July 27, 1982

Bear Coal may be purchased indirectly through the North Fork Coal Yard at Bowie, Colorado. Coal is prepared by Terror Creek Co., Bowie, Colorado

Mine Name Hawk's Nest East
M.L.R.B. Permit No. C-016-81 O.S.M. Permit No. CO 0014
Map No. 15
Previous Mine Names _____

Location Information

County Gunnison
Location (Sec., T., R.) portions of sec. 1, 2, 3, 10, 11, 12, T13S R90W

Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Somerset

Company Information

Mine Operator Western Slope Carbon
Address Somerset, CO 81434
Contacts Tom Muncy/Tony Durando Telephone (303) 929-5815
Parent Company Northwest Energy Company (Williams Companies)
Address 315 E. 200 South P.O. Box 1526 Salt Lake City, UT 84110
Contacts Wayne Hall Telephone (801)583-8800

General Information

Mine Type underground Mining Method continuous & longwall
Mine Status idle Start-up Date 1976
No. of Employees _____ Union Affiliation UMWA
No. of Acres in Permit 2,050
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Bowie & Paonia Mbr, Mesaverde Geologic Age Cretaceous
Coal Zone(s) or Bed(s) A, Lower B, Upper B, C, D, Wild Seam, E

Coal Thickness(es) A: 3" to several feet, lower B: 6-7', Upper B: 13-14', C: 6-7', D: 6-14', Wild Seam: 5.5-10', E: 4'-12+'

Dip of Bedding 3.5° Strike of Bedding _____

Overburden Thickness(es) to 2200'

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	E
Rank	HvBA
Moisture(%)	4.4
Ash(%)	7.8
Fixed Carbon(%)	48.2
Volatile Matter(%)	39.5
Sulfur(%)	0.8
Heating Value(Btu/lb)	12,690
Free Swelling Index	2.5
Hardgrove Grindability	50
Ash-Softening Temp.	
Methane Characteristics	
Reflectance Data	

GUNNISON

Coal Production

1983 Production Thru 7/83	0	
Cumulative Production Thru 12/82	1,991,985	
Projected Production (tpy) 1985	1988	
Remaining Reserves/Life of Mine	30 million tons	
Production (t)1981	617,630	
	1982	53,338

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	rail	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available		Price

Additional Information and Comments

For sale, equipment out

Corporate takeover of Northwest Energy by the Williams Companies (9-83). Williams Companies also hold interest in Peabody Coal Holding Company.

Mine Name Hawk's Nest West
M.L.R.B. Permit No. C-016-81 O.S.M. Permit No. CO 0014
Map No. 15
Previous Mine Names _____

Location Information

County Gunnison
Location (Sec., T., R.) portions of Sec. 1, 2, 3, 10, 11, 12, T13S, R90W
Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Somerset

Company Information

Mine Operator Western Slope Carbon
Address Somerset, CO 81434
Contacts Tom Muncy / Tony Durando Telephone (303) 929-5815
Parent Company Northwest Energy Company (Williams Companies)
Address 315 E. 200 South / P.O. Box 1526, Salt Lake City, UT 84110
Contacts Wayne Hall Telephone (801) 534-3695

General Information

Mine Type underground Mining Method continuous & longwall
Mine Status idle Start-up Date 1970
No. of Employees _____ Union Affiliation UMWA
No. of Acres in Permit 2,050
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Bowie & Paonia Mbr. - Mesaverde Geologic Age Cretaceous
Coal Zone(s) or Bed(s) A, Lower B, Upper B, C, D, Wild Seam, E
Coal Thickness(es) A : 3" - several feet, Lower B : 6-7', Upper B : 13-14',
C : 6-7', D : 6-14', Wild Seam : 5.5-10', E : 4'7"-12+
Dip of Bedding 3.5° Strike of Bedding _____
Overburden Thickness(es) to 2200'
Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____ E _____
 Rank _____ HvB _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____ 0.63 _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

Coal Production

1983 Production Thru 7/83 _____ 0 _____
 Cumulative Production Thru 12/82 _____ 1,939,870 _____
 Projected Production (tpy) 1985 _____ 1988 _____
 Remaining Reserves/Life of Mine _____
 Production (t)1981 _____ 84,461 _____ 1982 _____ 557,337 _____

Sales Data

Percent In-State _____ Destination _____ Use _____
 Percent Out-Of-State _____ Destination _____ Use _____
 Percent Export _____ Destination _____ Japan _____ Use _____
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day _____ Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant _____ Tipple _____
 Domestic Purchase Available _____ Price _____

Additional Information and Comments

_____ For sale -- equipment out _____

GUNNISON

Mine Name Mt. Gunnison No. 1
M.L.R.B. Permit No. C-007-80 O.S.M. Permit No. CO 0021
Map No. 16
Previous Mine Names _____

Location Information

County Gunnison
Location (Sec., T., R.) portions of sec. 8, 9, 15, 16, 17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, T13S, R90W; and portions of sec. 3, 4, 5, 8, 9, 10, 15, 16, 21, 22, T14S, R90W
Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Somerset and Minnesota Pass

Company Information

Mine Operator West Elk Coal Co., Inc.
Address Box 591, Somerset, CO 81434
Contacts Curtis W. Foster Telephone (303)929-5015
Parent Company Anaconda Minerals
Address 555 17th Street, Denver, CO 80202
Contacts Mr. Charles Smith Telephone (303) 293-4000

General Information

Mine Type underground Mining Method continuous
Mine Status producing Start-up Date 1982
No. of Employees 70 Union Affiliation non-union
No. of Acres in Permit 1500
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Mesaverde Geologic Age Cretaceous
Coal Zone(s) or Bed(s) F

Coal Thickness(es) 7'

Dip of Bedding 3-5° SW - NE Strike of Bedding _____
Overburden Thickness(es) 300-1200'

Interburden Thickness(es) N/A

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	F			
Rank	B			
Moisture(%)	10			
Ash(%)	7			
Fixed Carbon(%)	47.7			
Volatile Matter(%)	35.7			
Sulfur(%)	0.45			
Heating Value(Btu/lb)	11,000-12,300			
Free Swelling Index				
Hardgrove Grindability	44-64			
Ash-Softening Temp.(°F)	2350			
Methane Characteristics	None noted to date			
Reflectance Data				

Coal Production

1983 Production Thru 6/83	145,784
Cumulative Production Thru 12/82	96,760
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	60 million tons, 40 years
Production (t)1981	0
	1982 96,760

Sales Data

Percent In-State	100	Destination	Cameo Plant	Use	steam
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		rail (DRGW)			
FOB Mine Price (\$) Contract					
Shifts per day	2 production, 1 utility	Production Per Shift	800		
Equipment	2 cm, 2 roofbolters				
Haulage	4 diesel ram cars				
Preparation Plant		Tipple	yes		
Domestic Purchase Available	coal sales available			Price	

Additional Information and Comments

Mine Name Ohio Creek Coal Mine No. 2
M.L.R.B. Permit No. C-002-80 O.S.M. Permit No. CO 0031
Map No. 17
Previous Mine Names _____

Location Information

County Gunnison
Location (Sec., T., R.) NE Sec. 16 & NW Sec. 15, T15S, R86W
Coal Region Uinta Field Crested Butte
Topographic Quadrangle (7 1/2') Squirrel Creek

Company Information

Mine Operator Ohio Creek Mine
Address 117 S. 8th St., Gunnison, CO 81230
Contacts Paul McCormick Telephone (303) 641-4225
Parent Company Paul McCormick
Address 3567 S. Dawson, Aurora, CO 80014
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method room & pillar
Mine Status idle Start-up Date 1952
No. of Employees 7 Union Affiliation _____
No. of Acres in Permit 80
Surface: Federal _____ Private X
Mineral: Federal X Private _____

Geologic Information

Geologic Unit Mesaverde Geologic Age Cretaceous
Coal Zone(s) or Bed(s) C or No. 2, (Nos. 1 & 3 not minable)
Coal Thickness(es) 4-7'
Dip of Bedding 3° NW Strike of Bedding _____
Overburden Thickness(es) 0-200'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	C
Rank	HVCB
Moisture(%)	12.3
Ash(%)	5.6
Fixed Carbon(%)	46.4
Volatile Matter(%)	35.7
Sulfur(%)	0.5
Heating Value(Btu/lb)	11,080
Free Swelling Index	0
Hardgrove Grindability	
Ash-Softening Temp.(°F)	
Methane Characteristics	
Reflectance Data	

GUNNISON

Coal Production

1983 Production Thru 7/83	4,499
Cumulative Production Thru 12/82	76,800
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	45 years
Production (t)1981	2,211
	1982
	7,103

Sales Data

Percent In-State	100	Destination	Central	Use	domestic
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes					
FOB Mine Price (\$) Contract					
Shifts per day		Production Per Shift			
Equipment					
Haulage					
Preparation Plant		Tipple			
Domestic Purchase Available	yes			Price	

Additional Information and Comments

Gunnison - Crested Butte

Works mainly in winter

Mine Name Somerset
M.L.R.B. Permit No. C-022-81 O.S.M. Permit No. CO 0032
Map No. 18
Previous Mine Names _____

Location Information

County Delta and Gunnison
Location (Sec., T., R.) portions of Sec. 34, 35, 36, T12S, R91W;
portions of Sec. 1, 2, 3, 12, T13S, R91W; portions of Sec. 6, 7, 8,
T13S, R90W
Coal Region Uinta Field Somerset
Topographic Quadrangle (7 1/2') Bowie & Somerset

Company Information

Mine Operator U.S. Steel
Address P.O. Box 1, Somerset, CO 81434
Contacts Lloyd Miller Telephone (303) 929-5115
Parent Company U.S. Steel Mining Company, Inc. Western District
Address P.O. Box 807, East Carbon, UT 84520
Contacts Robert Yourston Telephone (801)888-4431

General Information

Mine Type underground Mining Method continuous
Mine Status producing Start-up Date 1903
No. of Employees 214 Union Affiliation UMWA
No. of Acres in Permit 155 (interim)
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Bowie Member Geologic Age Cretaceous
Coal Zone(s) or Bed(s) B - 2
Coal Thickness(es) 14'-21'
Dip of Bedding 3-6°NE Strike of Bedding NW
Overburden Thickness(es) 200-2000'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	B
Rank	HVBB
Moisture(%)	3.8 - 8.2
Ash(%)	8.1
Fixed Carbon(%)	54.2
Volatile Matter(%)	37.7
Sulfur(%)	0.53
Heating Value(Btu/lb)	12,070 - 12,970
Free Swelling Index	4.0 - 4.5
Hardgrove Grindability	48 - 49
Ash-Softening Temp.(°F)	2400
Methane Characteristics	gassy
Reflectance Data	

GUNNISON

Coal Production

1983 Production Thru 7/83	344,729
Cumulative Production Thru 12/82	28,897,574
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	20 million tons
Production (t)1981	668,622
	1982
	453,473

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	100	Destination Orem, Utah
Percent Export	Destination	Use met
Transportation Mode/Mixed Modes	train (DRGW)	Use
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment	8 cm, 9 rb	
Haulage	belt & rail, 7 con, 17 sc, 13 loco	
Preparation Plant	Wellington, Utah	Tipple yes
Domestic Purchase Available	no	Price

Additional Information and Comments

U.S. Steel - captive mine
 Direct train right-of-way to Utah blocked by landslide at
 Thistle, Utah. Landslide bypassed with a tunnel.

Mine Name Colorado Coal Mine No. 1
M.L.R.B. Permit No. C-024-81 O.S.M. Permit No. CO 0079
Map No. 19
Previous Mine Names _____

Location Information

County Huerfano
Location (Sec., T., R.) Sec. 25 & 36, T27S, R67W

Coal Region Raton Field Walsenburg
Topographic Quadrangle (7 1/2') Walsenburg North and Huerfano Butte

Company Information

Mine Operator Colorado Coal Mining Co.
Address P.O. Box 410, Walsenburg, CO 81089
Contacts _____ Telephone (303) 738-1831
Parent Company Perma Resources Corp.
Address 105 E. Kiowa, Suite 200, Colorado Springs, CO 80901 - 2679
Contacts Dave Smaldone Telephone (303) 475-7005

General Information

Mine Type surface Mining Method _____
Mine Status idle Start-up Date _____
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 951.58
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Vermejo Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Lower Robinson, Pryor, Walsen, Lenox, Cameron

Coal Thickness(es) 1.5-4.5'

Dip of Bedding 2-5° W - SW Strike of Bedding _____
Overburden Thickness(es) max. 200 feet

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Lower Robinson
Rank	
Moisture(%)	7
Ash(%)	15
Fixed Carbon(%)	46
Volatile Matter(%)	33
Sulfur(%)	0.62
Heating Value(Btu/lb)	10,700
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	2450
Methane Characteristics	
Reflectance Data	

HUERFANO

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	27,334		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	0	1982	27,334

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	rail	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available		Price

Additional Information and Comments

Mine Name Viking Strip
M.L.R.B. Permit No. C-031-81 O.S.M. Permit No. CO 0053
Map No. 20
Previous Mine Names Pryor Strip

Location Information

County Huerfano
Location (Sec., T., R.) portions of Sec. 18, 19, T29S, R65W, and
Sec. 13, 24, T29S, R66W
Coal Region Raton Field Walsenburg
Topographic Quadrangle (7 1/2') Pryor

Company Information

Mine Operator Ravenwood Coal Company
Address P.O. Box 205, Aguilar, CO 81020
Contacts Tom Sullivan Telephone (303) 846-5544
Parent Company Viking Coal Co.
Address 6954 Webster, Arvada, CO 80003
Contacts Ken Churches Telephone (303) 422-4000

General Information

Mine Type surface Mining Method strip
Mine Status idle Start-up Date 1978
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 234
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Vermejo Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Robinson, Walsen, Lenox, Cameron

Coal Thickness(es) Robinson: 4-6'; Walsen: 3'; Lenox: 4-5'; Cameron: 4-5'

Dip of Bedding 3% Strike of Bedding --
Overburden Thickness(es) 0-50'

Interburden Thickness(es) R-W: 60', W-L: 30', L-C: 40'

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam

Cameron

Rank

Moisture(%)

3.81

Ash(%)

8.75

Fixed Carbon(%)

Volatile Matter(%)

Sulfur(%)

0.89

Heating Value(Btu/lb)

13,012

Free Swelling Index

Hardgrove Grindability

Ash-Softening Temp.(°F)

Methane Characteristics

Reflectance Data

HUERFANO

Coal Production

1983 Production Thru 7/83 0

Cumulative Production Thru 12/82 128,410

Projected Production (tpy) 1985 1988

Remaining Reserves/Life of Mine

Production (t)1981 37,014 1982 1,858

Sales Data

Percent In-State Destination Use

Percent Out-Of-State Destination Use

Percent Export Destination Use

Transportation Mode/Mixed Modes

FOB Mine Price (\$) Contract

Shifts per day Production Per Shift

Equipment

Haulage

Preparation Plant Tipple

Domestic Purchase Available Price

Additional Information and Comments

Mine Name Bourg Mine
M.L.R.B. Permit No. C-021-81 O.S.M. Permit No. CO 0073
Map No. 21
Previous Mine Names _____

Location Information

County Jackson
Location (Sec., T., R.) S 1/2, SE 1/4, Sec. 7; N 1/2, NE 1/4, Sec. 18; T9N, R78W
Coal Region North Park Field North Park
Topographic Quadrangle (7 1/2') Walden

Company Information

Mine Operator Walden Coal Co.
Address P.O. Box 37, Walden, CO 80434
Contacts Walter Ayres Telephone _____
Parent Company Flatiron Companies
Address P.O. Box 229, Boulder, CO 80306
Contacts Scott Patten Telephone (303) 444-2151

General Information

Mine Type surface Mining Method open pit/strip
Mine Status producing Start-up Date 1980
No. of Employees 13 Union Affiliation non-union
No. of Acres in Permit 170
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Coalmont Fm Geologic Age Paleocene
Coal Zone(s) or Bed(s) Lower and Upper
Coal Thickness(es) Lower: 25.5' / Upper: 16.5'
Dip of Bedding 8°+ Strike of Bedding _____
Overburden Thickness(es) 0-140'
Interburden Thickness(es) 80'

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam				
Rank				
Moisture(%)	19.2			
Ash(%)	6.3	5		
Fixed Carbon(%)	41.0			
Volatile Matter(%)	33.5			
Sulfur(%)	0.27			
Heating Value(Btu/lb)	9640	9900		
Free Swelling Index	0			
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

JACKSON

Coal Production

1983 Production Thru 7/83	45,665			
Cumulative Production Thru 12/82		175,275		
Projected Production (tpy) 1985			1988	
Remaining Reserves/Life of Mine				
Production (t)1981	94,634		1982	76,641

Sales Data

Percent In-State		Destination		Use	
Percent Out-Of-State	100	Destination	Laramie, WY	Use	industrial
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		truck/rail			
FOB Mine Price (\$) Contract					
Shifts per day		Production Per Shift			
Equipment					
Haulage					
Preparation Plant		Tipple	yes		
Domestic Purchase Available		yes		Price	see below

Additional Information and Comments

<u>Domestic Coal Prices</u>	
Treated Stoker	\$33/ton
Untreated Stoker	\$32/ton
Lump	\$30/ton

Mine Name Canadian Strip
M.L.R.B. Permit No. C-026-81 O.S.M. Permit No. CO 0017
Map No. 22
Previous Mine Names _____

Location Information

County Jackson
Location (Sec., T., R.) portions of Sec. 2, 10, 11; T8N, R78W
Coal Region North Park Field North Park
Topographic Quadrangle (7 1/2') Gould NW and Johnny Moore Mtn.

Company Information

Mine Operator Wyoming Fuel Company
Address P.O. Box 782, Walden, CO 80480
Contacts Glenn Murdock Telephone (303) 723-8440
Parent Company KN Energy
Address 445 Union, Suite 310, Lakewood, CO 80228
Contacts Mike Kolin Telephone (303) 989-1740

General Information

Mine Type surface Mining Method open pit haulback
Mine Status idle Start-up Date 1975
No. of Employees 1 Union Affiliation non-union
No. of Acres in Permit 500
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Coalmont Fm Geologic Age Paleocene
Coal Zone(s) or Bed(s) Sudduth
Coal Thickness(es) 8-30'
Dip of Bedding 24°-35°SE to SW Strike of Bedding _____
Overburden Thickness(es) 0-460'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Coalmont
Rank	Sub B
Moisture(%)	13.39
Ash(%)	9.35
Fixed Carbon(%)	46.87
Volatile Matter(%)	34.25
Sulfur(%)	0.5
Heating Value(Btu/lb)	10,928
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	
Methane Characteristics	
Reflectance Data	

JACKSONCoal Production

1983 Production Thru 7/83	0
Cumulative Production Thru 12/82	658,678
Projected Production (tpy) 1985	
Projected Production (tpy) 1988	
Remaining Reserves/Life of Mine	1.2 million
Production (t)1981	136,024
Production (t) 1982	0

Sales Data

Percent In-State		Destination		Use
Percent Out-Of-State	100	Destination	Midwest	Use
Percent Export		Destination		Use
Transportation Mode/Mixed Modes				
FOB Mine Price (\$) Contract				
Shifts per day		Production Per Shift		
Equipment				
Haulage				
Preparation Plant		Tipple		
Domestic Purchase Available			Price	

Additional Information and Comments

250,000 tpy capacity

Mine Name Kerr Coal Mine
M.L.R.B. Permit No. C-006-80 O.S.M. Permit No. CO 0022
Map No. 23
Previous Mine Names Marr Strip

Location Information

County Jackson
Location (Sec., T., R.) Sec. 15, 22, 23, 25, 26, 35 T9N R78W; Sec 2 T8N R78W
Coal Region North Park Field North Park
Topographic Quadrangle (7 1/2') Johnny Moore Mtn.

Company Information

Mine Operator Kerr Coal Co.
Address Box 773457, Steamboat Springs, CO 80477
Contacts David Gossett Telephone (303) 879-7310
Parent Company Energy Fuels
Address P.O. Box 487 1515 Arapahoe, Denver, CO 80202
Contacts Brad Doores Telephone (303) 623-8317

General Information

Mine Type surface Mining Method bulldozers & scrapers
Mine Status producing Start-up Date 1974
No. of Employees 7 Union Affiliation _____
No. of Acres in Permit 1963
Surface: Federal _____ Private _____
Mineral: Federal X Private X State X

Geologic Information

Geologic Unit Coalmont Fm Geologic Age Early to Mid Tertiary
Coal Zone(s) or Bed(s) Sudduth
Coal Thickness(es) 36-75' (Avg. 50')
Dip of Bedding 6° Strike of Bedding _____
Overburden Thickness(es) 230'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Sudduth
Rank	Sub B
Moisture(%)	11.12
Ash(%)	10.64
Fixed Carbon(%)	42.06
Volatile Matter(%)	36.18
Sulfur(%)	0.2
Heating Value (Btu/lb)	10,800
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	
Methane Characteristics	
Reflectance Data	

JACKSON

Coal Production

1983 Production Thru 7/83	23,768
Cumulative Production Thru 12/82	3,205,706
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	
Production (t)1981	287,954
	1982
	114,808

Sales Data

Percent In-State	7	Destination	Walden, CO	Use	steam
Percent Out-Of-State	93	Destination	Illinois	Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes	truck - 2%, rail - 98% (UP)				
FOB Mine Price (\$) Contract					
Shifts per day	Production Per Shift				
Equipment	2 frontend loaders, 4 bulldozers, 1 drill				
Haulage	8 haul trucks				
Preparation Plant	crushers, screens	Tipple	yes		
Domestic Purchase Available	yes				Price

Additional Information and Comments

Corn Products, Inc., Pekin, ILL
Midwestern Utilities

Mine Name King Coal Mine
M.L.R.B. Permit No. C-035-81 O.S.M. Permit No. CO 0043
Map No. 24
Previous Mine Names _____

Location Information

County La Plata
Location (Sec., T., R.) portions of: sec. 29, 31, 32; T35N, R11W
Coal Region San Juan River Field Durango
Topographic Quadrangle (7 1/2') Kline

Company Information

Mine Operator National King Coal, Inc.
Address 4424 County Road 120, Hesperus, CO
Contacts Leon Every Telephone (303) 385-4528
Parent Company National King Coal, Inc.
Address 1015 1/2 Main, Durango, CO 81301
Contacts Brad Gosche Telephone (303) 259-2416

General Information

Mine Type underground Mining Method continuous, conventional
Mine Status producing Start-up Date 1936
No. of Employees 15 Union Affiliation non-union
No. of Acres in Permit 350
Surface: Federal _____ Private X
Mineral: Federal X Private _____

Geologic Information

Geologic Unit Upper Menefee Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Upper

Coal Thickness(es) 5.5-6'

Dip of Bedding 3° S - SW Strike of Bedding _____
Overburden Thickness(es) Max - 300'

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Upper
Rank	B
Moisture(%)	3.5
Ash(%)	5.8
Fixed Carbon(%)	58.66
Volatile Matter(%)	38.0
Sulfur(%)	0.84
Heating Value(Btu/lb)	13,529
Free Swelling Index	5
Hardgrove Grindability	
Ash-Softening Temp.(°F)	
Methane Characteristics	
Reflectance Data	

LA PLATA

Coal Production

1983 Production Thru 7/83	31,568
Cumulative Production Thru 12/82	760,503
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	1.67 million tons
Production (t)1981	135,368
	1982
	121,068

Sales Data

Percent In-State	20	Destination		Use	steam
Percent Out-Of-State	80	Destination	NM, UT	Use	steam
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		truck			
FOB Mine Price (\$) Contract		\$23.50			
Shifts per day	1	Production Per Shift		250	
Equipment	2 cm, 1 roofbolter				
Haulage	4 sc				
Preparation Plant	no	Tipple			
Domestic Purchase Available		yes - limited		Price	\$52/ton

Additional Information and Comments

Ideal Cement, Albuquerque
Rio Algon, Utah

Mine Name Carbon Junction
M.L.R.B. Permit No. _____
Map No. 25
Previous Mine Names _____

Location Information

County La Plata
Location (Sec., T., R.) Sec. 33, T35N, R9W
Coal Region San Juan River Field _____
Topographic Quadrangle (7 1/2') _____

Company Information

Mine Operator Pueblo Coal, Inc.
Address 25825 E. Highway 160, Durango, CO 81301
Contacts Jim Hendricks Telephone (303) 259-3731
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type <u>surface</u>	Mining Method _____
Mine Status <u>planning</u>	Proposed Start-up Date <u>1984</u>
No. of Employees _____	Union Affiliation _____
No. of Acres in Permit <u>117 (expected issue Sept. 1983)</u>	
Surface: Federal _____	Private <u>X</u>
Mineral: Federal _____	Private <u>X</u>

Geologic Information

Geologic Unit Fruitland Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) _____
Coal Thickness(es) _____
Dip of Bedding _____ Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____
 Rank _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

LA PLATA

Coal Production

1983 Production Thru 7/83 _____
 Cumulative Production Thru 12/82 _____
 Projected Production (tpy) 1985 _____ 1988 _____
 Remaining Reserves/Life of Mine _____
 Production (t)1981 _____ 1982 _____

Sales Data

Percent In-State _____ Destination _____ Use _____
 Percent Out-Of-State _____ Destination _____ Use _____
 Percent Export _____ Destination _____ Use _____
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day _____ Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant _____ Tipple _____
 Domestic Purchase Available _____ Price _____

Additional Information and Comments

Mine Name Allen Mine
M.L.R.B. Permit No. C-012-81, pend.: 77-375 O.S.M. Permit No. CO 0049
Map No. 26
Previous Mine Names _____

Location Information

County Las Animas
Location (Sec., T., R.) Section 22 & 23, T33S, R68W
Coal Region Raton Mesa Field Trinidad
Topographic Quadrangle (7 1/2') Vigil

Company Information

Mine Operator CF&I Steel Corp.
Address Weston Co. 81091
Contacts T.J. Augustine, Gen. Supt. Telephone (303) 868-2761
Parent Company CF&I Steel Corp.
Address P.O. Box 316, Pueblo, CO 81002
Contacts J.G. Wark Mgr. Mines Telephone (303) 561-6622

General Information

Mine Type underground Mining Method continuous and longwall
Mine Status idle* Start-up Date 1952
No. of Employees 43 Union Affiliation UMWA
No. of Acres in Permit 3585 (interim)
Surface: Federal _____ Private 100%
Mineral: Federal _____ Private 100%

Geologic Information

Geologic Unit Raton Fm (Middle) Geologic Age Upper Cretaceous-Tertiary
Coal Zone(s) or Bed(s) Allen
Coal Thickness(es) 4'-7'
Dip of Bedding 1-3% NE Strike of Bedding N-N35°W
Overburden Thickness(es) 400' to 1200'
Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

	Allen (raw)	Allen (washed)
Seam Rank	B	B
Moisture(%)	5.4	9.1
Ash(%)	35.0	10.2
Fixed Carbon(%)	35.2	51.7
Volatile Matter(%)	29.2	38.1
Sulfur(%)	0.38	0.48
Heating Value(Btu/lb)	9,400	13,150
Free Swelling Index		6.2
Hardgrove Grindability		55 - 60
Ash-Softening Temp.(°F)		2400
Methane Characteristics		
Reflectance Data		

LAS ANIMAS

Coal Production

1983 Production Thru 7/83	0
Cumulative Production Thru 12/82	18,175,847 washed, 26,055,421 raw
Projected Production (tpy) 1985	unknown
Projected Production (tpy) 1988	unknown
Remaining Reserves/Life of Mine	15 years
Production (t)1981	486,705, 776,199 raw
Production (t)1982	220,763, 319,886 raw

Sales Data

Percent In-State	captive	Destination	Pueblo-CFI	Use	met
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		unit train	50 cars (C&W, Weston)		
FOB Mine Price (\$) Contract					
Shifts per day		Production Per Shift			
Equipment	CM, LW, Dusters				
Haulage	SC, conveyors, haul trucks				
Preparation Plant	breakers	Tipple	yes		
Domestic Purchase Available	no	Price			

Additional Information and Comments

* Mine idle since June 1982, coal properties of CF&I acquired by KN Energy November 1983.

Mine Name Animas Mine
M.L.R.B. Permit No. C-043-81 O.S.M. Permit No. CO 0052
Map No. 27
Previous Mine Names _____

Location Information

County Las Animas
Location (Sec., T., R.) portions of sec. 31, 32 & 36, T33S, R64W

Coal Region Raton Mesa Field Trinidad
Topographic Quadrangle (7 1/2') Starkville

Company Information

Mine Operator Sundance Coal
Address P.O. Box 751, Trinidad, CO 81082
Contacts Art Van Zandt Telephone (303) 846-9251
Parent Company Sundance Oil
Address 1675 Larimer, Suite 800, Denver, CO 80220
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method room & pillar
Mine Status producing Start-up Date 1979
No. of Employees 64 Union Affiliation _____
No. of Acres in Permit 415
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Vermejo & Raton Fm Geologic Age Upper Cretaceous & Paleocene
Coal Zone(s) or Bed(s) Upper Starkville
Coal Thickness(es) 4-8'
Dip of Bedding 3-4°W Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____
 Rank HVBB _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

LAS ANIMAS

Coal Production

1983 Production Thru 7/83 36,661 _____
 Cumulative Production Thru 12/82 _____
 Projected Production (tpy) 1985 _____ 1988 _____
 Remaining Reserves/Life of Mine 10 million tons recoverable _____
 Production (t)1981 _____ 1982 _____

Sales Data

Percent In-State Destination Use _____
 Percent Out-Of-State 100 Destination NE, TX Use met _____
 Percent Export Destination Use _____
 Transportation Mode/Mixed Modes truck _____
 FOB Mine Price (\$) Contract _____
 Shifts per day Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant Tipple _____
 Domestic Purchase Available Price _____

Additional Information and Comments

Mine Name Helen Mine
M.L.R.B. Permit No. C-043-81 O.S.M. Permit No. CO CO 0052
Map No. 27
Previous Mine Names _____

Location Information

County Las Animas
Location (Sec., T., R.) portions of Sec. 31, 32, 36, T33S, R64W

Coal Region Raton Mesa Field _____
Topographic Quadrangle (7 1/2') Starkville

Company Information

Mine Operator Sundance Coal
Address P.O. Box 751, Trinidad, CO 81082
Contacts Art Van Zandt Telephone (303) 846-9251
Parent Company Sundance Oil
Address 1675 Larimer, Suite 800, Denver, CO 80220
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method room and pillar
Mine Status idle Start-up Date 1983
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 415
Surface: Federal _____ Private State _____
Mineral: Federal _____ Private State _____

Geologic Information

Geologic Unit Vermejo and Raton Fm Geologic Age Upper Cretaceous and Paleocene
Coal Zone(s) or Bed(s) Upper Starkville
Coal Thickness(es) 4-8'
Dip of Bedding 3-4°W Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam _____

Rank _____

Moisture(%) _____

Ash(%) _____

Fixed Carbon(%) _____

Volatile Matter(%) _____

Sulfur(%) _____

Heating Value(Btu/lb) _____

Free Swelling Index _____

Hardgrove Grindability _____

Ash-Softening Temp.(°F) _____

Methane Characteristics _____

Reflectance Data _____

HVBB

LAS ANIMAS

Coal Production

1983 Production Thru 7/83 14,580

Cumulative Production Thru 12/82 _____

Projected Production (tpy) 1985 _____ 1988 _____

Remaining Reserves/Life of Mine _____

Production (t)1981 _____ 1982 _____

Sales Data

Percent In-State _____ Destination _____ Use _____

Percent Out-Of-State _____ Destination _____ Use _____

Percent Export _____ Destination _____ Use _____

Transportation Mode/Mixed Modes _____

FOB Mine Price (\$) Contract _____

Shifts per day _____ Production Per Shift _____

Equipment _____

Haulage _____

Preparation Plant _____ Tipple _____

Domestic Purchase Available _____ Price _____

Additional Information and Comments

Mine Name Maxwell Mine
M.L.R.B. Permit No. C-013-81, Pend. 77-374 O.S.M. Permit No. CO 0050
Map No. 28
Previous Mine Names "B" Mine

Location Information

County Las Animas
Location (Sec., T., R.) sec. 29, T33S, R67W

Coal Region Raton Mesa Field Trinidad
Topographic Quadrangle (7 1/2') Vigil

Company Information

Mine Operator CF&I Steel Corp.
Address Weston, CO 81091
Contacts T.J. Augustine, Gen. Supt. Telephone (303) 868-2761
Parent Company CF & I Steel Corp.
Address P.O. Box 316 Pueblo, CO 81002
Contacts J.G. Wark Mgr. Mines Telephone (303) 561-6622

General Information

Mine Type underground Mining Method continuous
Mine Status idle Start-up Date 1976
No. of Employees 4 Union Affiliation UMWA
No. of Acres in Permit 3138 (interim)
Surface: Federal 6% Private 94%
Mineral: Federal 6% Private 94%

Geologic Information

Geologic Unit Raton Fm Geologic Age Upper Cretaceous-Tertiary
Coal Zone(s) or Bed(s) Maxwell

Coal Thickness(es) 4 - 11.3 feet

Dip of Bedding 1% NE (pitch) Strike of Bedding NW
Overburden Thickness(es) 400' to 1200'

Interburden Thickness(es) _____

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	Maxwell (raw)		Maxwell (washed)	
Rank	B			
Moisture(%)	4.8	9.1		
Ash(%)	24.6	9.9		
Fixed Carbon(%)	43.8	56.6		
Volatile Matter(%)	31.6	33.5		
Sulfur(%)	0.35	0.45		
Heating Value(Btu/lb)	11,400	13,200		
Free Swelling Index		6.4		
Hardgrove Grindability		55 - 60		
Ash-Softening Temp.(°F)		2400		
Methane Characteristics				
Reflectance Data				

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	620,239 washed,	957,281 raw	
Projected Production (tpy) 1985	unknown	1988	unknown
Remaining Reserves/Life of Mine	40 years		
Production (t)1981	175,184 washed,	227,019 raw	1982 0

Sales Data

Percent In-State	captive	Destination	Pueblo-CFI	Use	met
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes	rail (C&W, Weston)				
FOB Mine Price (\$) Contract					
Shifts per day	Production Per Shift				
Equipment	CM, roof bolters, dusters				
Haulage	conveyors, SC				
Preparation Plant	breakers	Tipple	yes		
Domestic Purchase Available	no			Price	

Additional Information and Comments

* Mine idle since October 1981. CF&I coal properties acquired by KN Energy November 1983.

Mine Name Trinidad Basin
M.L.R.B. Permit No. C-048-81 O.S.M. Permit No. CO 0051
Map No. 29
Previous Mine Names Delagua

Location Information

County Las Animas
Location (Sec., T., R.) portions of sec. 15, 21, 22, T31S, R65W
Coal Region Raton Mesa Field Trinidad
Topographic Quadrangle (7 1/2') Del Agua and Trinidad

Company Information

Mine Operator Trinidad Basin Mining, Inc.
Address P.O. Box 783, Trinidad, CO 81082
Contacts Vance Mills Telephone (303) 846-2300
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type surface Mining Method haulback
Mine Status producing Start-up Date 1978
No. of Employees 11 Union Affiliation non-union
No. of Acres in Permit 1125
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Raton Fm Geologic Age Cretaceous - Tertiary
Coal Zone(s) or Bed(s) Del Agua, Cass
Coal Thickness(es) Del Agua: 4.5'-6.0', Cass: 3.5'-4.5'
Dip of Bedding 2-5°W Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) 80-100'

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____
 Rank _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

LAS ANIMAS

Coal Production

1983 Production Thru 7/83 30,194
 Cumulative Production Thru 12/82 245,535
 Projected Production (tpy) 1985 1988
 Remaining Reserves/Life of Mine
 Production (t)1981 65,039 1982 71,739

Sales Data

Percent In-State Destination Use
 Percent Out-Of-State 100 Destination TX, NM Use steam
 Percent Export Destination Use
 Transportation Mode/Mixed Modes truck/rail
 FOB Mine Price (\$) Contract
 Shifts per day 1 Production Per Shift 500
 Equipment
 Haulage
 Preparation Plant Tipple yes
 Domestic Purchase Available Price

Additional Information and Comments

Mine Name Cameo No. 1 Mine
M.L.R.B. Permit No. C-041-81 O.S.M. Permit No. CO 0020
Map No. 30
Previous Mine Names _____

Location Information

County Mesa
Location (Sec., T., R.) portions of sec. 20, 21, 22, 23, 26, 27, 28, 29, 34, 35, T10S, R98W, Sec. 1 & 2, T11S, R98W
Coal Region Uinta Field Grand Mesa
Topographic Quadrangle (7 1/2') Cameo

Company Information

Mine Operator Powderhorn Coal Company
Address P.O. Box 1430, Palisade, CO 80526
Contacts Dale Fenwick Telephone (303) 464-7951
Parent Company Western Associated Coal Corp. (managing partner)
Address 410 17th St., Ste. 2300, Denver, CO 80202
Contacts W. S. Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method continuous
Mine Status idle Start-up Date 1979
No. of Employees _____ Union Affiliation non-union
No. of Acres in Permit combined Cameo and Roadside 7491
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Mt. Garfield Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Cameo B seam

Coal Thickness(es) 7.3 - 9.4

Dip of Bedding 5% Strike of Bedding N65W
Overburden Thickness(es) 0-2000'

Interburden Thickness(es) Cameo B seam lies 400 - 450 ft. above the Palisade Seam, which occurs at the base of the Mount Garfield Formation

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	Cameo B (ROM)	Cameo B (shipped)	
Rank	HVBB		
Moisture(%)	7.7	9.5	
Ash(%)	17.34	9.1	
Fixed Carbon(%)	41	45	
Volatile Matter(%)	34	36	
Sulfur(%)	0.84	0.57	
Heating Value(Btu/lb)	10,344	11,800	14,450 (daf)
Free Swelling Index	0.5	0.5	
Hardgrove Grindability	47		
Ash-Softening Temp.(°F)		2700	
Methane Characteristics	150 - 200 ft /t mined		
Reflectance Data			

MESA

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	4,852,972		
Projected Production (tpy) 1985	400,000	1988	500,000
Remaining Reserves/Life of Mine	30 million tons		
Production (t)1981	283,072	1982	124,634

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	rail (DRGW)	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment	cm, cutters, roofbolters, drills	
Haulage	sc	
Preparation Plant	heavy media	Tipple
Domestic Purchase Available	yes	Price call mine

Additional Information and Comments

Southern Company Services, Gulfport, MS

Purchased by Powderhorn Coal 12-31-81, Western Associated holds 50% interest

Mine Name The Roadside Mine
M.L.R.B. Permit No. C-041-81 O.S.M. Permit No. CO 0020
Map No. 30
Previous Mine Names _____

Location Information

County Mesa
Location (Sec., T., R.) portions of sec. 20, 21, 22, 23, 26, 27, 28, 29, 34, 35, T10S, R98W, and sec. 1 & 2, T11S, R98W
Coal Region Uinta Field Grand Mesa
Topographic Quadrangle (7 1/2') Cameo

Company Information

Mine Operator Powderhorn Coal Company
Address P.O. Box 1430, Palisade, CO 80526
Contacts Dale Fenwick Telephone (303) 464-7951
Parent Company Western Associated Coal Corp. (managing partner)
Address 410 17th St., Ste. 2300, Denver, CO 80202
Contacts W. S. Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method room & pillar
Mine Status producing Start-up Date 1977
No. of Employees 220 Union Affiliation non-union
No. of Acres in Permit (2 mines, Cameo and Roadside) 7491
Surface: Federal Private
Mineral: Federal Private

Geologic Information

Geologic Unit Mt. Garfield Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Cameo B seam

Coal Thickness(es) 4.4 - 9.4

Dip of Bedding 5% Strike of Bedding N65W
Overburden Thickness(es) 0-2000'

Interburden Thickness(es) Cameo B seam lies 400 - 450 feet above the Palisade Seam, which occurs at the base of the Mount Garfield Formation

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Cameo B (ROM)	Cameo B (shipped)
Rank	HVCB	
Moisture(%)	7.7	9.3
Ash(%)	17.34	9.1
Fixed Carbon(%)	41	47
Volatile Matter(%)	34	35
Sulfur(%)	0.84	0.57
Heating Value(Btu/lb)	10,344	11,800
Free Swelling Index	2.5	0.5
Hardgrove Grindability	47	
Ash-Softening Temp.(°F)		2700
Methane Characteristics		
Reflectance Data		

MESA

Coal Production

1983 Production Thru 7/83	417,817		
Cumulative Production Thru 12/82	3,418,905		
Projected Production (tpy) 1985	1,000,000	1988	900,000
Remaining Reserves/Life of Mine	33 million tons, recov. w/new leases/37 yr		
Production (t)1981	664,427	1982	929,323

Sales Data

Percent In-State	minimal	Destination	Use
Percent Out-Of-State	100	Destination	Gulport, MS Use steam
Percent Export		Destination	Use
Transportation Mode/Mixed Modes	rail (DRGW)		
FOB Mine Price (\$) Contract			
Shifts per day	3	Production Per Shift	3,500
Equipment	2 cm, 1 lhd, roofbolters, 3 sc		
Haulage	sc, conveyors		
Preparation Plant	heavy media	Tipple	
Domestic Purchase Available	yes	Price	call mine

Additional Information and Comments

Southern Company Services Power Plant

Plant revisions made in 1982 and 1983.

Mine was purchased 12-31-81 and Powderhorn Coal was formed.

Mine Name Fruita Mine No. 1
M.L.R.B. Permit No. C-015-81 O.S.M. Permit No. CO 0054
Map No. 31
Previous Mine Names _____

Location Information

County Mesa
Location (Sec., T., R.) portions of: sec. 29 & 30, T8S, R101W,
Coal Region Uinta Field Book Cliffs
Topographic Quadrangle (7 1/2') Ruby Lee Reservoir

Company Information

Mine Operator Dorchester Coal Company
Address 2795 Skyline Ct., Grand Junction, CO 81501
Contacts Gary DeLuzio Telephone (303) 245-6370
Parent Company Dorchester Coal Company
Address 9350 E. Arapahoe, Ste. 300, Englewood, CO 80112
Contacts Dean Massey Telephone (303) 790-8444

General Information

Mine Type underground Mining Method continuous room & pillar
Mine Status idle Start-up Date 1978
No. of Employees 1 Union Affiliation _____
No. of Acres in Permit 150 (both No. 1 and No. 2)
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Mt. Garfield Fm Geological Age Cretaceous
Coal Zone(s) or Bed(s) Cameo
Coal Thickness(es) Cameo: 10-25'+
Anchor: 4-6'
Dip of Bedding 3-4° Strike of Bedding N55E
Overburden Thickness(es) 0 - 1900'
Interburden Thickness(es) Cameo-Anchor: 350'

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	Cameo			
Rank				
Moisture(%)	11			
Ash(%)	10			
Fixed Carbon(%)	45			
Volatile Matter(%)	33			
Sulfur(%)	0.6			
Heating Value(Btu/lb)	11,300			
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

MESA

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	14,288		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	2,416	1982	0

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes		
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available	Price	

Additional Information and Comments

* Dorchester holds adjacent Federal coal leases comprising 15,804 acres

For correspondence regarding mine contact Dean Massey

Dorchester is in the process of permitting three 2.5 mtpy coal operations on adjacent federal coal leases. Permits are anticipated in late 1984 or early 1985.

Mine Name Fruita Mine No. 2
M.L.R.B. Permit No. C-015-81 O.S.M. Permit No. CO 0054
Map No. 31
Previous Mine Names _____

Location Information

County Mesa
Location (Sec., T., R.) portions of: sec. 29 & 30, T8S, R101W,
Coal Region Uinta Field Book Cliffs
Topographic Quadrangle (7 1/2') Ruby Lee Reservoir

Company Information

Mine Operator Dorchester Coal Company
Address 2795 Skyline Ct., Grand Junction, CO 81501
Contacts Gary DeLuzio Telephone (303) 245-6370
Parent Company Dorchester Coal Company
Address 9350 E. Arapahoe, Ste. 300, Englewood, CO 80112
Contacts Dean Massey Telephone (303) 790-8444

General Information

Mine Type underground Mining Method continuous room & pillar
Mine Status idle Start-up Date 1978
No. of Employees 3 Union Affiliation _____
No. of Acres in Permit 7490 (interim)
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Mt. Garfield & Anchor Tongue Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Cameo & Anchor
Coal Thickness(es) Cameo - 10-25+'
Anchor - 4-6+'
Dip of Bedding 3-4° Strike of Bedding N55E
Overburden Thickness(es) Anchor - 450 - 2300
Interburden Thickness(es) Cameo-Anchor: 350'

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam _____
 Rank _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp. _____
 Methane Characteristics _____
 Reflectance Data _____

MESA

Coal Production

1983 Production Thru 7/83 0
 Cumulative Production Thru 12/82 0
 Projected Production (tpy) 1985 1988
 Remaining Reserves/Life of Mine _____
 Production (t)1981 0 1982 0

Sales Data

Percent In-State Destination Use
 Percent Out-Of-State Destination Use
 Percent Export Destination Use
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day Production Per Shift
 Equipment _____
 Haulage _____
 Preparation Plant Tipple
 Domestic Purchase Available Price

Additional Information and Comments

Mine Name Colowyo Coal Mine
M.L.R.B. Permit No. C-019-81 O.S.M. Permit No. CO 0015
Map No. 32
Previous Mine Names _____

Location Information

County Moffat
Location (Sec., T., R.) portions of: sec. 13, 22, 23, 24, 26, 27, 33, 34, T4N, R93W; portions of: sec. 2, 3, 4, 9, 10, T3N, R93W
Coal Region Uinta Field Danforth Hills
Topographic Quadrangle (7 1/2') Ninemile Gap, Axial

Company Information

Mine Operator Colowyo Coal Co.
Address 5731 Hwy 13, Meeker, CO 81641
Contacts E. K. Olson, President Telephone (303) 824-4451
Parent Company W. R. Grace & Co. - New York; Hanna Mining Co. - Cleveland
Address Partnership
Contacts T. R. Fowler, G. A. Siler Telephone (214) 658-1053
(216) 589-4330

General Information

Mine Type surface Mining Method dragline & truck/shovel
Mine Status producing Start-up Date 1976
No. of Employees 404 Union Affiliation non-union
No. of Acres in Permit 5,550
Surface: Federal X (3%) Private X (97%)
Mineral: Federal X (100%) Private _____

Geologic Information

Geologic Unit Williams Fork Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Y3 and Y2, X, A2 + A3, B, C, D, E, F,

Coal Thickness(es) 57.8' total; Y3 + Y2: 6.8', X : 12.3,
A2 + A3 : 6.7', B : 5.3', C : 6.0', D : 10.1', E : 6.8', F : 5.4',
Dip of Bedding 0-20°N Strike of Bedding E-W
Overburden Thickness(es) 400' Total overburden and interburden

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	X	D	E	COMPOSITE
Rank				Sub A
Moisture(%)	14.3			14.81
Ash(%)	4.6			5.06
Fixed Carbon(%)				46.23
Volatile Matter(%)				33.90
Sulfur(%)	0.4			0.4
Heating Value(Btu/lb)	10,553	10,626	10,984	10,728
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

MOFFAT

Coal Production

1983 Production Thru 7/83	1,700,696		
Cumulative Production Thru 12/82	12,028,551		
Projected Production (tpy) 1985	3,550,000	1988	4,300,000
Remaining Reserves/Life of Mine	122,000,000		
Production (t)1981	3,130,390	1982	3,153,419

Sales Data

Percent In-State	20	Destination	City of Colo.	Spgs.	Use steam
Percent Out-Of-State	80	Destination	Texas *	Use	steam
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes			train		
FOB Mine Price (\$) Contract					
Shifts per day	3	Production Per Shift			
Equipment					
Haulage					
Preparation Plant	No	Tipple	yes		
Domestic Purchase Available		no		Price	

Additional Information and Comments

* Central Power and Light

Mine Name Eagle No. 5
M.L.R.B. Permit No. C-044-81 O.S.M. Permit No. CO 0019
Map No. 33
Previous Mine Names _____

Location Information

County Moffat
Location (Sec., T., R.) portions of: sec. 31 & 32, T6N, R91W and
portions of: sec. 5 & 6, T5N, R91W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Round Bottom & Caster Gulch

Company Information

Mine Operator Empire Energy Corp.
Address P.O. Box 68, Craig, CO 81626
Contacts Sam Cario Telephone (303) 824-8246
Parent Company Amoco Minerals Company (Cyprus Coal)
Address 6900 S. Yosemite, Englewood, CO 80112
Contacts R. F. Slack Telephone (303) 740-5100

General Information

Mine Type underground Mining Method continuous
Mine Status producing Start-up Date early 1970's
No. of Employees 170 Union Affiliation UMWA
No. of Acres in Permit 3561 (interim)
Surface: Federal X Private X State X
Mineral: Federal X Private X State X

Geologic Information

Geologic Unit Williams Fork Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) C E F P

Coal Thickness(es) Average 11 ft minable

Dip of Bedding 8-25% Strike of Bedding _____
Overburden Thickness(es) 0-900' to P

Interburden Thickness(es) C-E: 0-2000; E-F: 0-1900, F-P: 0-1900

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	F	P	C
	Sub B	Sub B	Sub B
Rank			
Moisture(%)	8.93-12.84	14.83-17.60	7.99-11.92
Ash(%)	4.99-10.36	3.25-5.38	5.79-15.81
Fixed Carbon(%)	41.75-52.85	43.89-46.92	37.49-47.29
Volatile Matter(%)	35.43-38.83	30.97-35.23	34.91-37.60
Sulfur(%)	0.46-0.57	0.33-0.46	0.48-0.61
Heating Value(Btu/lb)	10,377-11,567	10,237-10,914	9,864-11,753
Free Swelling Index			
Hardgrove Grindability			
Ash-Softening Temp.(°F)			
Methane Characteristics			
Reflectance Data			

MOFFAT

Coal Production

1983 Production Thru 7/83	418,128		
Cumulative Production Thru 12/82	3,429,587		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	693,062	1982	1,200,681

Sales Data

Percent In-State	40	Destination	Use
Percent Out-Of-State	60	Destination	Use
Percent Export		Destination	Use
Transportation Mode/Mixed Modes	rail (DRGW)		
FOB Mine Price (\$) Contract			
Shifts per day	3	Production Per Shift	1,500
Equipment	6 cm, 4 rockdusters, 3 pumps		
Haulage	12 sc		
Preparation Plant		Tipple	yes
Domestic Purchase Available			Price

Additional Information and Comments

41% recovery

Mine Name Eagle No. 9
M.L.R.B. Permit No. C-044-81 O.S.M. Permit No. CO 0019
Map No. 33
Previous Mine Names _____

Location Information

County Moffat
Location (Sec., T., R.) portions of: Sec. 31 & 32 T6N R91W and
portions of: Sec. 5 & 6 T5N R91W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Round Bottom & Caster Gulch

Company Information

Mine Operator Empire Energy Corp.
Address P.O. Box 68, Craig, CO 81626
Contacts Sam Cario Telephone (303) 824-8246
Parent Company Amoco Minerals Company (Cyprus Coal)
Address 6900 S. Yosemite, Englewood, CO 80112
Contacts R. F. Stack Telephone (303) 740-5100

General Information

Mine Type underground Mining Method continuous, room & pillar
Mine Status idle Start-up Date 1978
No. of Employees 6 Union Affiliation UMWA
No. of Acres in Permit 3561 (interim)
Surface: Federal X Private X State X
Mineral: Federal X Private X State X

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Cretaceous
Coal Zone(s) or Bed(s) _____

Coal Thickness(es) 11 feet average minable

Dip of Bedding 7-10°N Strike of Bedding _____
Overburden Thickness(es) 0-900' to P

Interburden Thickness(es) C-E: 0-2000, E-F: 0-1900, F-P: 0-1900

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	E
Rank	Sub B
Moisture(%)	7.94-13.86
Ash(%)	5.84-9.76
Fixed Carbon(%)	42.71-45.69
Volatile Matter(%)	35.72-39.05
Sulfur(%)	0.41-0.51
Heating Value(Btu/lb)	10,179-11,155
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	
Methane Characteristics	
Reflectance Data	

MOFFAT

Coal Production

1983 Production Thru 7/83	42		
Cumulative Production Thru 12/82		491,672	
Projected Production (tpy) 1985			1988
Remaining Reserves/Life of Mine			
Production (t)1981	70,854		1982 271

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes		
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available		Price

Additional Information and Comments

Mine Name Trapper Mine
M.L.R.B. Permit No. C-010-81 O.S.M. Permit No. CO 0013
Map No. 34
Previous Mine Names _____

Location Information

County Moffat
Location (Sec., T., R.) Portions of Sec. 5 & 6 T5N R90W; portions of Sec. 1, 2, 3, 4, 5 T5N R91W; portions of Sec. 30, 31 & 32 T6N R90W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Castor Gulch

Company Information

Mine Operator Trapper Mining, Inc.
Address P.O. Box 187, Craig, CO 81626
Contacts Gary Stubblefield Telephone (303) 824-4401
Parent Company Colorado Ute, Salt River, Tri-State and Platte River
Address c/o Salt River Project, P.O. Box 1980, Phoenix, AZ 85001
Contacts Karl S. Abel Telephone (602) 273-5900

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date 1977
No. of Employees 215 Union Affiliation Operating Engineers
No. of Acres in Permit 10,335
Surface: Federal _____ Private X State X
Mineral: Federal X Private X State X County X

Geologic Information

Geologic Unit Williams Fork Geologic Age Cretaceous
Coal Zone(s) or Bed(s) H, I, Q, R
Coal Thickness(es) H : 4' I : 9' Q : 13' R : 4'
Dip of Bedding 16% Strike of Bedding S-N
Overburden Thickness(es) 30-140'
Interburden Thickness(es) 2' - 50'

Coal Quality	Sample 1	Sample 2	Sample 3	Sample 4
Seam	Average			
Rank	Sub B			
Moisture(%)	16			
Ash(%)	8			
Mixed Carbon(%)	48			
Volatile Matter(%)	33			
Sulfur(%)	0.45			
Heating Value(Btu/lb)	9,800			
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)	2,120			
Methane Characteristics				
Reflectance Data				

Coal Production

1983 Production Thru 7/83	1,248,230		
Cumulative Production Thru 12/82	10,208,969		
Projected Production (tpy) 1985	2,265,000	1988	2,240,000
Remaining Reserves/Life of Mine	68 million tons		
Production (t)1981	2,093,012	1982	2,001,106

Sales Data

Percent In-State	captive	Destination	Craig Station 1&2	Use	steam
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes	haul trucks				
FOB Mine Price (\$)	Contract				
Shifts per day	3 stripping/5 days	Production Per Shift	9,000 tons/day		
Equipment	3 draglines, 3 drills, 9 bulldozers, 2 front end loaders				
Haulage	6 haul trucks, 2 shifts, 5 days per week				
Preparation Plant	N/A	Tipple	N/A		
Domestic Purchase Available	no		Price		

Additional Information and Comments

Strip ratio	8.5 feet/foot of coal				
Colorado Ute Electric Association, Tri-State Generation and Transmission Association and Platte River Power Authority purchased mine from Utah International July 20, 1983					

Mine Name Nucla Strip
M.L.R.B. Permit No. C-008-81 O.S.M. Permit No. CO 0001
Map No. 35
Previous Mine Names _____

Location Information
County Montrose
Location (Sec., T., R.) portions of Sec. 25, 31 & 36 T47N R16W

Coal Region San Juan River Field Nucla-Naturita
Topographic Quadrangle (7 1/2') Nucla

Company Information
Mine Operator Peabody Coal
Address P.O. Box 550, Nucla, CO 81424
Contacts C. N. Benson Telephone (303) 864-7361
Parent Company Peabody Coal Company
Address 12015 E. 46th Ave., Denver, CO 80239
Contacts Thomas Wainwright Telephone (303) 337-5903

General Information
Mine Type surface Mining Method strip
Mine Status producing Start-up Date 1959
No. of Employees 16 Union Affiliation UMWA
No. of Acres in Permit 384
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information
Geologic Unit Dakota Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) #1 & #2
Coal Thickness(es) #1: 1.6'-3.3' #2: 5.9'-7.9'
Dip of Bedding 1°-2° SW Strike of Bedding N25°W to N45°W
Overburden Thickness(es) 0-100'
Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam Dakota

Rank B

Moisture(%) 6.7

Ash(%) 15.1

Fixed Carbon(%) 47.0

Volatile Matter(%) 30.7

Sulfur(%) 0.81

Heating Value(Btu/lb) 11,680

Free Swelling Index _____

Hardgrove Grindability _____

Ash-Softening Temp.(°F) 2750

Methane Characteristics _____

Reflectance Data _____

MONTROSE

Coal Production

1983 Production Thru 7/83 34,672

Cumulative Production Thru 12/82 1,955,668

Projected Production (tpy) 1985 _____ 1988 _____

Remaining Reserves/Life of Mine _____

Production (t)1981 60,260 1982 61,237

Sales Data

Percent In-State 100 Destination Colo. Ute PowerUse steam

Percent Out-Of-State _____ Destination _____ Use _____

Percent Export _____ Destination _____ Use _____

Transportation Mode/Mixed Modes haultruck

FOB Mine Price (\$) Contract _____

Shifts per day _____ Production Per Day 450

Equipment 2 draglines, 2 drills, 2 bulldozers, 1 front end loader

Haulage 2 haultrucks

Preparation Plant _____ Tipple _____

Domestic Purchase Available nil Price _____

Additional Information and Comments

Nucla Power Plant to add atmospheric fluidized bed combustion unit

Mine Name Bear Creek (Coal Basin Mines)
M.L.R.B. Permit No. C-017-81 O.S.M. Permit No. CO 0011
Map No. 36
Previous Mine Names _____

Location Information

County Pitkin & Gunnison
Location (Sec., T., R.) Sec. 31 & 32, T9S, R89W; Sec. 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 28, 29, 30, T10S R89W; Sec. 1, 12, 13, 24 & 25, T10S R90W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Placita & Elk Knob

Company Information

Mine Operator Mid-Continent Resources, Inc.
Address P.O. Box 158, Carbondale, CO 81623
Contacts Doug Bowman Telephone (303) 963-2581
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method continuous
Mine Status idle Start-up Date 1969
No. of Employees 35(?) Union Affiliation _____
No. of Acres in Permit 7,173 (all 5 Coal Basin Mines)
Surface: Federal X Private X
Mineral: Federal 15% Private 85%

Geologic Information

Geologic Unit Williams Fork Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) B
Coal Thickness(es) 5 1/2° - 8°
Dip of Bedding 10-15°SW Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	B			
Rank	MVB			
Moisture(%)	6.96			
Ash(%)	6.72			
Fixed Carbon(%)	68.62			
Volatile Matter(%)	24.66			
Sulfur(%)	0.61			
Heating Value(Btu/lb)	14,500			
Free Swelling Index	9			
Hardgrove Grindability				
Ash-Softening Temp.				
Methane Characteristics				
Reflectance Data				

PITKIN

<u>Coal Production</u>			
1983 Production Thru 7/83	0		
Cumulative Production Thru 12/80		814,294	
Projected Production (tpy) 1985			1988
Remaining Reserves/Life of Mine			
Production (t)1981	0	1982	0

<u>Sales Data</u>			
Percent In-State	Destination	Use	
Percent Out-Of-State	Destination	Use	
Percent Export	Destination	Use	
Transportation Mode/Mixed Modes			
FOB Mine Price (\$) Contract			
Shifts per day	Production Per Shift		
Equipment			
Haulage			
Preparation Plant	to central plant	Tipple	
Domestic Purchase Available	no	Price	

Additional Information and Comments

Mine Name Coal Basin (Coal Basin Mines)
M.L.R.B. Permit No. C-017-81 O.S.M. Permit No. CO 0011
Map No. 36
Previous Mine Names _____

Location Information

County Pitkin & Gunnison
Location (Sec., T., R.) Sec. 31 & 32, T9S, R89W; Sec. 4-11, 14-21, 28-30
T10S, R89W; Sec. 1, 12, 13, 24, 25, T10S, R90W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Placita & Elk Knob

Company Information

Mine Operator Mid-Continent Resources, Inc.
Address P.O. Box 158, Carbondale, CO 81623
Contacts Doug Bowman Telephone (303) 963-2581
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method continuous, room & pillar
Mine Status idle Start-up Date 1900-1909, 1974 to pres.
No. of Employees 115 (?) Union Affiliation _____
No. of Acres in Permit 7,173 (all 5 coal basin mines)
Surface: Federal Private
Mineral: Federal 15% Private 85%

Geologic Information

Geologic Unit Williams Fork Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) B
Coal Thickness(es) 5 1/2 - 8'
Dip of Bedding 10-15°SW Strike of Bedding N80°W
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	B			
Rank				
Moisture(%)	--			
Ash(%)	8.4			
Fixed Carbon(%)	68.3			
Volatile Matter(%)	22.8			
Sulfur(%)	0.5			
Heating Value(Btu/lb)	14,500			
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics	gassy			
Reflectance Data				

PITKIN

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	2,005,225		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	92,998	1982	51,287

Sales Data

Percent In-State		Destination	Use
Percent Out-Of-State		Destination	Use
Percent Export		Destination	Use
Transportation Mode/Mixed Modes			
FOB Mine Price (\$) Contract			
Shifts per day		Production Per Shift	
Equipment	2 cm, 2 loaders		
Haulage	conveyors, sc		
Preparation Plant		Tipple	
Domestic Purchase Available	no		Price

Additional Information and Comments

Mine Name Dutch Creek No. 1 (Coal Basin Mines)
M.L.R.B. Permit No. C-017-81 O.S.M. Permit No. CO 0011
Map No. 36
Previous Mine Names _____

Location Information

County Pitkin & Gunnison
Location (Sec., T., R.) Sec. 31 , 32 T9S R89W; Sec. 4-11, 14-21, 28-30
T10S R89W; Sec. 1, 12, 13, 24, 25 T10S R90W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Placita & Elk Knob

Company Information

Mine Operator Mid-Continent Resources, Inc.
Address P.O. Box 158, Carbondale, CO 81623
Contacts Doug Bowman Telephone (303) 963-2581
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method longwall
Mine Status producing Start-up Date 1956
No. of Employees 189 Union Affiliation _____
No. of Acres in Permit 7,173 (all of 5 Coal Basin mines)
Surface: Federal X Private X
Mineral: Federal 15% Private 85%

Geologic Information

Geologic Unit Lower Mesaverde Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) B

Coal Thickness(es) 5 1/2'-8'

Dip of Bedding 11-13°NW Strike of Bedding N-NE
Overburden Thickness(es) _____

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam B
 Rank mvB
 Moisture(%) 0.8
 Ash(%) 7.5
 Fixed Carbon(%) 69.0
 Volatile Matter(%) 22.7
 Sulfur(%) 0.5
 Heating Value(Btu/lb) 14,500
 Free Swelling Index
 Hardgrove Grindability
 Ash-Softening Temp.(°F)
 Methane Characteristics
 Reflectance Data

PITKIN

Coal Production
 1983 Production Thru 7/83 127,452
 Cumulative Production Thru 12/82 6,568,665
 Projected Production (tpy) 1985 1988
 Remaining Reserves/Life of Mine
 Production (t)1981 45,386 1982 77,463

Sales Data
 Percent In-State Destination Use
 Percent Out-Of-State Destination Use
 Percent Export Destination Use
 Transportation Mode/Mixed Modes
 FOB Mine Price (\$) Contract
 Shifts per day Production Per Shift
 Equipment
 Haulage
 Preparation Plant Tipple
 Domestic Purchase Available Price

Additional Information and Comments

Mine Name Dutch Creek No. 2 (Coal Basin Mines)
M.L.R.B. Permit No. C-017-81 O.S.M. Permit No. CO 0011
Map No. 36
Previous Mine Names _____

Location Information

County Pitkin & Gunnison
Location (Sec., T., R.) Sec. 31 & 32 T9S R89W; Sec. 4-11, 14-21, 28-30
T10S R89W; Sec. 1, 12, 13, 24, 25 T10S R90W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Placita & Elk Knob

Company Information

Mine Operator Mid-Continent Resources, Inc.
Address P.O. Box 158, Carbondale, CO 81623
Contacts Doug Bowman Telephone (303) 963-2581
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method continuous
Mine Status producing Start-up Date 1965
No. of Employees 206 Union Affiliation _____
No. of Acres in Permit 7,173 (all 5 Coal Basin mines)
Surface: Federal Private
Mineral: Federal 15% Private 85%

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Dutch Creek

Coal Thickness(es) 4-20'

Dip of Bedding 10-15°SW Strike of Bedding N40°W
Overburden Thickness(es) about 2500'

Interburden Thickness(es) _____

Mine Name L. S. Wood (Coal Basin Mines)
M.L.R.B. Permit No. C-017-81 O.S.M. Permit No. CO 0011
Map No. 36
Previous Mine Names _____

Location Information

County Pitkin & Gunnison
Location (Sec., T., R.) Sec. 31 & 32 T9S R89W; Sec. 4-11, 14-21, 28-30
T10S R89W; Sec. 1, 12, 13, 24, 25 T10S R90W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Placita & Elk Knob

Company Information

Mine Operator Mid-Continent Resources, Inc.
Address P.O. Box 158, Carbondale, CO 81623
Contacts Doug Bowman Telephone (303) 963-2581
Parent Company _____
Address _____
Contacts _____ Telephone _____

General Information

Mine Type underground Mining Method continuous
Mine Status idle Start-up Date 1966
No. of Employees 98(?) Union Affiliation _____
No. of Acres in Permit 7,173 (all 5 Coal Basin Mines)
Surface: Federal Private
Mineral: Federal 15% Private 85%

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) B
Coal Thickness(es) 5 1/2'-8'
Dip of Bedding 10-15°SW Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	B			
Rank	MVB			
Moisture(%)	6			
Ash(%)	7			
Fixed Carbon(%)	70			
Volatile Matter(%)	23			
Sulfur(%)	0.5			
Heating Value(Btu/lb)	14,500			
Free Swelling Index	9			
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

PITKIN

<u>Coal Production</u>			
1983 Production Thru 7/83	0		
Cumulative Production Thru 12/82	4,622,334		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	224,642	1982	156,859

<u>Sales Data</u>			
Percent In-State	Destination	Use	
Percent Out-Of-State	Destination	Use	
Percent Export	Destination	Use	
Transportation Mode/Mixed Modes	train		
FOB Mine Price (\$) Contract			
Shifts per day	Production Per Shift		
Equipment	3 cm, 3 loaders		
Haulage	conveyors, sc		
Preparation Plant	Tipple		
Domestic Purchase Available	no	Price	

Additional Information and Comments

Mine Name North Thompson Creek Mine No. 1
M.L.R.B. Permit No. C-025-81 O.S.M. Permit No. CO 0025
Map No. 37
Previous Mine Names _____

Location Information

County Pitkin
Location (Sec., T., R.) portions of Sec. 31 & 35 T8S, R89W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Stony Ridge

Company Information

Mine Operator Snowmass Coal Co.
Address P.O. Box 980, Carbondale, CO 81623
Contacts Mike Kennedy Telephone (303) 963-3440
Parent Company Western Associated Coal Corp. (managing partner)
Address Suite 2300, 410 17th St., Denver, CO 80202
Contacts W. S. Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method longwall, continuous
Mine Status producing Start-up Date 1951
No. of Employees 52 Union Affiliation non-union
No. of Acres in Permit 1565, affected area 385 acres
Surface: Federal X Private X
Mineral: Federal 90% Private 10%

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Cretaceous
Coal Zone(s) or Bed(s) A
Coal Thickness(es) 7-10'
Dip of Bedding 27-30°W Strike of Bedding _____
Overburden Thickness(es) 0-1500'; 1500-3000 ft in later years of mine plan
Interburden Thickness(es) Rollins Sandstone immediately below

<u>Coal Quality</u>	Sample 1	Sample 2	Sample 3	Sample 4
Seam	A			
Rank	HVAB			
Moisture(%)	5.0 7.0 (ar)			
Ash(%)	11 (dry)			
Fixed Carbon(%)	59 (dry)			
Volatile Matter(%)	30 (dry)			
Sulfur(%)	0.75 (dry)			
Heating Value(Btu/lb)	15,500 (daf) (ar) = 13,004 (dry)			
Free Swelling Index	8-9			
Hardgrove Grindability	80-85			
Ash-Softening Temp.(°F)	2,600			
Methane Characteristics	200-300 cu ft/ton mined			
Reflectance Data				

PITKIN

Coal Production

1983 Production Thru 7/83	11,187		
Cumulative Production Thru 12/82	1,375,057		
Projected Production (tpy) 1985	90,000	1988	300,000
Remaining Reserves/Life of Mine	27 million tons in place above 3000' deep		
Production (t)1981	115,185	1982	97,553

Sales Data

Percent In-State	20	Destination	Use
Percent Out-Of-State	30	Destination	Use
Percent Export	50	Destination	Use
Transportation Mode/Mixed Modes	(DRGW) rail, 84 car unit train		
FOB Mine Price (\$) Contract			
Shifts per day	2	Production Per Shift	1300 tpd
Equipment	longwall, road header, cm		
Haulage	45 sc		
Preparation Plant	1	Tipple	
Domestic Purchase Available	yes	Price	call mine

Additional Information and Comments

1	1 Heavy media washer, 4 flotation units, 3 cyclones, 2 centrifuges, 1 thickener, 1 breaker, 2 wash tables.
	New fine coal circuit installed in 1982 - disc filters, froth cells, etc.
	Testing shows excellent met coal with desirable fluidity characteristics.

Mine Name North Thompson Creek Mine No. 3
M.L.R.B. Permit No. C-025-81 O.S.M. Permit No. CO 0025
Map No. 37
Previous Mine Names _____

Location Information

County Pitkin
Location (Sec., T., R.) portions of Sec. 31 & 35 T8S R89W
Coal Region Uinta Field Carbondale
Topographic Quadrangle (7 1/2') Stony Ridge

Company Information

Mine Operator Snowmass Coal Co.
Address P.O. Box 980, Carbondale, CO 81623
Contacts Mike Kennedy Telephone (303) 963-3440
Parent Company Western Associated Coal Corp. (managing partner)
Address Suite 2300, 410 17th St., Denver, CO 80202
Contacts W. S. Tate Telephone (303) 825-1966

General Information

Mine Type underground Mining Method longwall
Mine Status idle Start-up Date 1955
No. of Employees 2 Union Affiliation non-union
No. of Acres in Permit 1,565 (includes mine 1 and mine 3)
Surface: Federal _____ Private X
Mineral: Federal 90% Private 10%

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Sunshine
Coal Thickness(es) 8-10' thickness in lower cover, seams thin to 5'
in greater cover
Dip of Bedding 27-30°W Strike of Bedding _____
Overburden Thickness(es) 0-3000'
Interburden Thickness(es) approximately 1,000 ft above Rollins Sandstone

Mine Name Deserado Mine
M.L.R.B. Permit No. C-018-81 O.S.M. Permit No. CO 0038
Map No. 38
Previous Mine Names _____

Location Information

County Rio Blanco
Location (Sec., T., R.) portions of Sec. 1,2,3,4,10,11;T2N,R101W,
Sec. 22,23,26,27,28,32,33,34,35,36;T3N,R101W
Coal Region Uinta Field Lower White River
Topographic Quadrangle (7 1/2') Rangely NE & Cactus Reservoir

Company Information

Mine Operator Western Fuels-Utah, Inc.
Address P.O. Box 1067, Rangely, CO 81648
Contacts Raja Upadhyay Telephone (303) 675-8431
Parent Company Western Fuels Association, Inc.
Address 700 Jefferson Bldg., 1225 19th St., NW, Washington, DC 20036
Contacts Lloyd Ernst Telephone (202) 463-6580

General Information

Mine Type underground Mining Method longwall, room & pillar
Mine Status producing and developing Start-up Date mid 1982
No. of Employees 75 Union Affiliation _____
No. of Acres in Permit 6,000
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) A/B, B/C & D
Coal Thickness(es) B: 6.4', B/C: 6-12', D: 4.5-10'
A/B/C 4-17'; O: 0-10'
Dip of Bedding 3-7° Strike of Bedding N46W
Overburden Thickness(es) 0-1400'
Interburden Thickness(es) 10-50'

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	A/B/C	D		
Rank	Sub A	Sub A		
Moisture(%)	12.0	11.3		
Ash(%)	16.1	13.1		
Fixed Carbon(%)				
Volatile Matter(%)				
Sulfur(%)	0.41	0.44		
Heating Value(Btu/lb)	9,400	10,000		
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)	2,550	2,600		
Methane Characteristics	Low	Low		
Reflectance Data				

RIO BLANCO

Coal Production

1983 Production Thru 7/83	136,160			
Cumulative Production Thru 12/82	32,113 (raw)			
Projected Production (tpy) 1985	398,300 (clean)	1988	765,000 (clean)	
Remaining Reserves/Life of Mine	35 years			
Production (t)1981	0	1982	32,113	

Sales Data

Percent In-State		Destination		Use	
Percent Out-Of-State	captive	Destination	Utah	Use	steam
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		unit train			
FOB Mine Price (\$) Contract					
Shifts per day		Production Per Shift			
Equipment					
Haulage					
Preparation Plant	Baum Jig	Tipple			
Domestic Purchase Available		no		Price	

Additional Information and Comments

'Fuel supply for Bonanza Power Project, Utah

Mine Name Northern No. 1
M.L.R.B. Permit No. C-032-81 O.S.M. Permit No. CO 0008
Map No. 39
Previous Mine Names _____

Location Information

County Rio Blanco
Location (Sec., T., R.) NE 1/4 SE 1/4, Sec. 21, T2N, R93W

Coal Region Uinta Field Danforth Hills
Topographic Quadrangle (7 1/2') Veach Gulch, Red Elephant Point

Company Information

Mine Operator Northern Coal Company
Address P.O. Box 2140, Meeker, CO 81461
Contacts Hank Coufas Telephone (303) 878-3666
Parent Company InterNorth
Address 2223 Dodge, Omaha, NE 68102
Contacts Mike Walker Telephone (402) 633-5643

General Information

Mine Type underground Mining Method room & pillar, continuous
Mine Status idle Start-up Date 1979
No. of Employees 7 Union Affiliation _____
No. of Acres in Permit leased lands (4 mines)
Surface: Federal _____ Private _____
Mineral: Federal 1417 Private _____

Geologic Information

Geologic Unit Williams Fork Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) FF

Coal Thickness(es) 9' average

Dip of Bedding 12° to 18° NW Strike of Bedding _____
Overburden Thickness(es) _____

Interburden Thickness(es) _____

Coal Quality Sample 1 Sample 2 Sample 3 Sample 4

Seam	Average			
Rank	Sub B			
Moisture(%)	11.6-18.0			
Ash(%)	3.6-7.4			
Fixed Carbon(%)	45.8-49.6			
Volatile Matter(%)	33.1-35.4			
Sulfur(%)	0.18-0.52			
Heating Value(Btu/lb)	10,400-11,300			
Free Swelling Index	1.0			
Hardgrove Grindability				
Ash-Softening Temp.(°F)				
Methane Characteristics				
Reflectance Data				

RIO BLANCO

<u>Coal Production</u>				
1983 Production Thru 7/83		0		
Cumulative Production	12,044	8-18-81		
Projected Production (tpy) 1985			1988	
Remaining Reserves/Life of Mine				
Production (t)1981	5,800		1982	0

<u>Sales Data</u>				
Percent In-State		Destination		Use
Percent Out-Of-State		Destination		Use
Percent Export		Destination		Use
Transportation Mode/Mixed Modes				
FOB Mine Price (\$) Contract				
Shifts per day		Production Per Shift		
Equipment				
Haulage				
Preparation Plant		Tipple		
Domestic Purchase Available			Price	

Additional Information and Comments

Mine Name Northern No. 2
M.L.R.B. Permit No. C-032-81 O.S.M. Permit No. CO 0008
Map No. 39
Previous Mine Name _____

Location Information

County Rio Blanco
Location (Sec., T., R.) NE 1/4, SE 1/4, Sec. 21, T2N, R93W
Coal Region Uinta Field Danforth Hills
Topographic Quadrangle (7 1/2') Veach

Company Information

Mine Operator Northern Coal Co.
Address P.O. Box 2140, Meeker, CO 81461
Contacts Hank Coufas Telephone 753-8669
Parent Company InterNorth
Address 2223 Dodge, Omaha NE 68102
Contacts Mike Walker Telephone (402) 633-5643

General Information

Mine Type underground Mining Method room & pillar & longwall
Mine Status _____ Start-up Date _____
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 7860 in leased lands (4 mines)
Surface: Federal _____ Private _____
Mineral: Federal _____ Private _____

Geologic Information

Geologic Unit Williams Fork Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) P
Coal Thickness(es) 9' average
Dip of Bedding 12° to 18° NW Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam _____
 Rank _____
 Moisture(%) _____
 Ash(%) _____
 Fixed Carbon(%) _____
 Volatile Matter(%) _____
 Sulfur(%) _____
 Heating Value(Btu/lb) _____
 Free Swelling Index _____
 Hardgrove Grindability _____
 Ash-Softening Temp.(°F) _____
 Methane Characteristics _____
 Reflectance Data _____

RIO BLANCO

Coal Production

1983 Production Thru 7/83 _____ 0 _____
 Cumulative Production Thru 12/82 _____ 0 _____
 Projected Production (tpy) 1985 _____ 1988 _____
 Remaining Reserves/Life of Mine _____
 Production (t)1981 _____ 0 _____ 1982 _____ 0 _____

Sales Data

Percent In-State _____ Destination _____ Use _____
 Percent Out-Of-State _____ Destination _____ Use _____
 Percent Export _____ Destination _____ Use _____
 Transportation Mode/Mixed Modes _____
 FOB Mine Price (\$) Contract _____
 Shifts per day _____ Production Per Shift _____
 Equipment _____
 Haulage _____
 Preparation Plant _____ Tipple _____
 Domestic Purchase Available _____ Price _____

Additional Information and Comments

Mine Name Northern No. 3
M.L.R.B. Permit No. C-032-81 O.S.M. Permit No. CO 0008
Map No. 39
Previous Mine Names _____

Location Information

County Rio Blanco
Location (Sec., T., R.) NE 1/4, SE 1/4, Sec. 21, T2N, R93W

Coal Region Uinta Field Danforth Hills
Topographic Quadrangle (7 1/2') Ninemile Gap

Company Information

Mine Operator Northern Coal Company
Address P.O. Box 2140, Meeker, CO 81461
Contacts Hank Coufas Telephone (303) 878-3666
Parent Company InterNorth
Address 2223 Dodge, Omaha, NE 68102
Contacts Mike Walker Telephone (402) 633-5643

General Information

Mine Type underground Mining Method _____
Mine Status _____ Start-up Date _____
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 7,860 in leased lands (4 mines)
Surface: Federal _____ Private _____
Mineral: Federal _____ Private _____

Geologic Information

Geologic Unit Williams Fork Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) P

Coal Thickness(es) 14' average

Dip of Bedding 12°-18°NW Strike of Bedding _____
Overburden Thickness(es) _____

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam _____

Rank _____

Moisture(%) _____

Ash(%) _____

Fixed Carbon(%) _____

Volatile Matter(%) _____

Sulfur(%) _____

Heating Value(Btu/lb) _____

Free Swelling Index _____

Hardgrove Grindability _____

Ash-Softening Temp.(°F) _____

Methane Characteristics _____

Reflectance Data _____

RIO BLANCO

Coal Production

1983 Production Thru 7/83 _____ 0

Cumulative Production Thru 12/82 _____ 0

Projected Production (tpy) 1985 _____ 1988 _____

Remaining Reserves/Life of Mine _____

Production (t)1981 _____ 0 _____ 1982 _____ 0

Sales Data

Percent In-State _____ Destination _____ Use _____

Percent Out-Of-State _____ Destination _____ Use _____

Percent Export _____ Destination _____ Use _____

Transportation Mode/Mixed Modes _____

FOB Mine Price (\$) Contract _____

Shifts per day _____ Production Per Shift _____

Equipment _____

Haulage _____

Preparation Plant _____ Tipple _____

Domestic Purchase Available _____ Price _____

Additional Information and Comments

Mine Name Rienau No. 2
M.L.R.B. Permit No. C-032-81 O.S.M. Permit No. CO 0008
Map No. 39
Previous Mine Names _____

Location Information

County Rio Blanco
Location (Sec., T., R.) sec. 29, T2N, R93W

Coal Region Uinta Field Danforth Hills
Topographic Quadrangle (7 1/2') Rattlesnake Mesa

Company Information

Mine Operator Northern Coal Co.
Address P.O. Box 2140, Meeker, CO 81461
Contacts Hank Coufas Telephone (303) 878-3666
Parent Company InterNorth
Address 2223 Dodge, Omaha, NE 68102
Contacts Mike Walker Telephone (402) 633-5643

General Information

Mine Type underground Mining Method room & pillar, continuous
Mine Status idle Start-up Date 1965
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 7,860
Surface: Federal _____ Private _____
Mineral: Federal _____ Private _____

Geologic Information

Geologic Unit Mesaverde Group Geologic Age Cretaceous
Coal Zone(s) or Bed(s) G

Coal Thickness(es) 13.1'

Dip of Bedding 20°N Strike of Bedding _____
Overburden Thickness(es) _____

Interburden Thickness(es) _____

Mine Name Sulphur Creek
M.L.R.B. Permit No. C-027-81 O.S.M. Permit No. CO 0082
Map No. 40
Previous Mine Names _____

Location Information
County Rio Blanco
Location (Sec., T., R.) part of Sec. 10 T1N R94W
Coal Region Uinta Field Danforth Hills
Topographic Quadrangle (7 1/2') Meeker

Company Information
Mine Operator Sulphur Creek Mine, Inc.
Address Box 130, Meeker, CO 81641
Contacts Roger Patel Telephone (303) 878-9931
Parent Company William H. Lackey and Assoc., Inc.
Address _____
Contacts _____ Telephone _____

General Information
Mine Type Underground Mining Method _____
Mine Status idle Start-up Date _____
No. of Employees _____ Union Affiliation _____
No. of Acres in Permit 7.28 (interim)
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information
Geologic Unit Williams Fk. & Iles Fm. Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Fairfield, Major & Sulphur Creek
Coal Thickness(es) Fairfield: 6.9'-12' / Major: 5-10';
Sulphur Creek: 5.5'-6.5'
Dip of Bedding 17°NW Strike of Bedding N11°E
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Mine Name Apex No. 2
M.L.R.B. Permit No. C-011-81 O.S.M. Permit No. CO 0037
Map No. 41
Previous Mine Names _____

Location Information

County Routt
Location (Sec., T., R.) portions of Sec. 21 & 22; T4N, R86W

Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Rattlesnake Butte

Company Information

Mine Operator Sunland Mining Corp.
Address P.O. Box 55, Oak Creek, CO 80467
Contacts David R. Canning (V.P.) Telephone (303) 736-8181
Parent Company Pyro Energy Corporation
Address 653 South Hebron Ave., Evansville, IN 47715
Contacts _____ Telephone (812) 473-8600

General Information

Mine Type underground Mining Method Room & Pillar/continuous
Mine Status producing Start-up Date 1965
No. of Employees 12 Union Affiliation _____
No. of Acres in Permit 240
Surface: Federal _____ Private X
Mineral: Federal X Private _____

Geologic Information

Geologic Unit Iles Fm (Lower Mesaverde) Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Lower Pinnacle

Coal Thickness(es) 5'

Dip of Bedding 7° Strike of Bedding N50W
Overburden Thickness(es) 450'

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Lower Pinnacle
Rank	B
Moisture(%)	8.5
Ash(%)	7.48
Fixed Carbon(%)	47
Volatile Matter(%)	37
Sulfur(%)	0.6
Heating Value(Btu/lb)	11,758
Free Swelling Index	1
Hardgrove Grindability	38
Ash-Softening Temp.(°F)	2,300
Methane Characteristics	
Reflectance Data	

ROUTT

Coal Production

1983 Production Thru 7/83	13,444
Cumulative Production Thru 12/82	1,289,869
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	1.2 million tons
Production (t)1981	22,547
	1982 46,959

Sales Data

Percent In-State	75	Destination	Use
Percent Out-Of-State	25	Destination	Use
Percent Export		Destination	Use
Transportation Mode/Mixed Modes	truck		
FOB Mine Price (\$) Contract			
Shifts per day	1	Production Per Shift	250
Equipment	1 cm		
Haulage	2 sc		
Preparation Plant	no	Tipple	yes
Domestic Purchase Available	yes	Price	\$36

Additional Information and Comments

Domestic stoker available (oiled) \$36/ton

Mine Name Edna Mine
M.L.R.B. Permit No. C-001-80 O.S.M. Permit No. CO 0010
Map No. 42
Previous Mine Names _____

Location Information

County Routt
Location (Sec., T., R.) Portions of Sec, 19, 30, 31, T5N, R85W; portions of Sec. 36, T5N, R86W; portions of Sec. 7, 18, 19 T4N, R85W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Oak Creek, Rattlesnake Butte, & Cow Creek

Company Information

Mine Operator Pittsburg & Midway Coal
Address P.O. Box 176, Oak Creek, CO 80467
Contacts F. H. Haller Telephone (303) 736-8111
Parent Company Gulf Oil Corp.
Address 1720 So. Bellaire St., Denver, CO 80222
Contacts John Hinton Telephone (303) 758-1700

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date 1945
No. of Employees 80 Union Affiliation UMWA
No. of Acres in Permit 4354
Surface: Federal _____ Private _____
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Fork Fm. Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Lennox, Wadge & Wolfcreek
Coal Thickness(es) Lennox - 3-4'; Wadge - 5-11'; Wolfcreek - 13.5'
mining Wadge only
Dip of Bedding about 8-14°W-NW Strike of Bedding _____
Overburden Thickness(es) Lennox - 0-50'; Wadge - 0-90'; Wolfcreek - 0-200+'
Interburden Thickness(es) Lennox-Wadge: 35-40'
Wadge-Wolfcreek: about 100'

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam _____

Rank _____

Moisture(%) _____

12.5

Ash(%) _____

9.5

Fixed Carbon(%) _____

43.3

Volatile Matter(%) _____

34.7

Sulfur(%) _____

0.6

Heating Value(Btu/lb) _____

10,500

Free Swelling Index _____

Hardgrove Grindability _____

Ash-Softening Temp.(°F) _____

Methane Characteristics _____

Reflectance Data _____

ROUTT

Coal Production

1983 Production Thru 7/83 355,607

Cumulative Production Thru 12/82 19,254,505

Projected Production (tpy) 1985 _____ 1988 _____

Remaining Reserves/Life of Mine _____

Production (t)1981 1,000,921 1982 717,865

Sales Data

Percent In-State 60 Destination _____ Use _____

Percent Out-Of-State 40 Destination _____ Use _____

Percent Export _____ Destination _____ Use _____

Transportation Mode/Mixed Modes rail (DRGW)

FOB Mine Price (\$) Contract _____

Shifts per day 1 Production Per Shift 5,000

Equipment 1 dragline, 2 shovels, 2 drills, 6 bull dozers, 1 front-end loader

Haulage _____

Preparation Plant crusher, screens Tipple yes

Domestic Purchase Available no Price _____

Additional Information and Comments

Energy No. 1 - surface
Mine Name Foidel Creek - underground
M.L.R.B. Permit No. 79-177 O.S.M. Permit No. CO 0003
Map No. 43
Previous Mine Names Main Mine

Location Information

County Routt
Location (Sec., T., R.) Sec. 7, 8, 9, 10, 16, 17, 18, 19, 24, 30, T4N R86W
Sec. 12, 13, 14, 23, 24, 25, 26, T4N R87W, Sec. 19, 20, 21, 28, 29, 30, 31,
32, 33, 34, T5N R86W, Sec. 24, 25, 36, T5N R87W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Mt. Harris, Milner, Dunckly & Rattlesnake Butte

Company Information

Mine Operator Colorado Yampa Coal Co.
Address P.O. Box 774288, Steamboat Springs, CO 80477
Contacts Carl Consalus Telephone (303) 879-3800
Parent Company Getty Minerals
Address 3810 Wilshire Boulevard, Los Angeles, CA 90010
Contacts J.D. Spaulding Telephone (213) 739-2733

General Information

Mine Type surface and underground Mining Method strip-dragline, contin.
Mine Status producing Start-up Date 1962
No. of Employees 300 Union Affiliation UMWA
No. of Acres in Permit 6687
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Fork Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Wadge Seam
Coal Thickness(es) 7-11'
Dip of Bedding 5°+ Strike of Bedding N5°W
Overburden Thickness(es) 0-140'
Interburden Thickness(es)

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Wadge
Rank	Sub B
Moisture(%)	9
Ash(%)	7.1
Fixed Carbon(%)	46.5
Volatile Matter(%)	37.2
Sulfur(%)	0.41
Heating Value(Btu/lb)	11,321
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	2700
Methane Characteristics	none
Reflectance Data	

ROUTT

Coal Production

1983 Production Thru 7/83	1,515,697
Cumulative Production Thru 12/82	27,090,322
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	40 years
Production (t)1981	3,351,352
	1982
	2,880,373

Sales Data

Percent In-State	67	Destination	Illinois'	Use	steam
Percent Out-Of-State	33	Destination	Denver 2	Use	steam
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes			rail (DRGW)		
FOB Mine Price (\$) Contract					
Shifts per day	2			Production Per Shift	
Equipment	draglines, shovels, drills, frontend loaders				
Haulage	haultrucks				
Preparation Plant			Tipple		
Domestic Purchase Available	no			Price	

Additional Information and Comments

'Decatur, Illinois - Illinois Power Co.
 2 Public Service of Colorado

Foidel Creek is the name of the underground operation going in from the highwall at Energy No. 1. The operating company for the underground mine is Twenty-Mile Coal Company, also a subsidiary of Getty Oil.

Mine Name Energy No. 2
M.L.R.B. Permit No. 79-177 O.S.M. Permit No. CO 0003
Map No. 43
Previous Mine Names Fish Creek

Location Information

County Routt
Location (Sec., T., R.) Sec. 7,8,9,10,16,17,18,19,24,30 T4N R86W, Sec. 12, 13,14,23,24,25,26,T4N R87W, Sec. 19,20,21,28,29,30,31,32,33,34,T5N, R86W, Sec. 24,25,36 T5N R87W
Coal Region Green River Field Yampa Coal Field
Topographic Quadrangle (7 1/2') Mt. Harris, Milner, Dunckley, and Rattlesnake Butte

Company Information

Mine Operator Colorado Yampa Coal Co.
Address P.O. Box 774288, Steamboat Springs, CO 80477
Contacts Carl Consalus Telephone (303) 879-3800
Parent Company Getty Minerals
Address 3810 Wilshire Boulevard, Los Angeles, CA 90010
Contacts J. D. Spaulding Telephone (213) 739-2733

General Information

Mine Type surface Mining Method strip-dragline
Mine Status idle Start-up Date 1972
No. of Employees _____ Union Affiliation UMWA
No. of Acres in Permit 6,687
Surface: Federal X Private X
Mineral: Federal X Private X

Geologic Information

Geologic Unit Williams Fork Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Fish Creek Seam
Coal Thickness(es) 3-4'
Dip of Bedding 5°+ Strike of Bedding N5°W
Overburden Thickness(es) 0-80'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Fish Creek
Rank	Sub B
Moisture(%)	10
Ash(%)	7.3
Fixed Carbon(%)	47.3
Volatile Matter(%)	34.1
Sulfur(%)	0.4
Heating Value(Btu/lb)	11,200
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	2405
Methane Characteristics	none
Reflectance Data	

ROUTT

Coal Production

1983 Production Thru 7/83	0
Cumulative Production	4,366,028 (12-80)
Projected Production (t) 1985	1988
Remaining Reserves/Life of Mine	
Production (t) 1981	0
	1982 0

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes	rail	
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available	no	Price

Additional Information and Comments

Mine Name Energy No. 3
M.L.R.B. Permit No. C-036-81
Map No. 44
Previous Mine Names Middle Creek

Location Information

County Routt
Location (Sec., T., R.) portions of Sec. 1, 2, 12, 13, 24, T5N, R86W
portions of Sec. 18 & 19, T5N, R85N
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Cow Creek

Company Information

Mine Operator Colorado Yampa Coal Company
Address P.O. Box 774288, Steamboat Springs, CO 80477
Contacts Carl Consalus Telephone (303) 879-3800
Parent Company Getty Minerals
Address 3810 Wilshire Blvd., Los Angeles, CA 90010
Contacts J. D. Spaulding Telephone (213) 739-2733

General Information

Mine Type surface & underground Mining Method strip/continuous
Mine Status idle Start-up Date 1975
No. of Employees _____ Union Affiliation UMWA
No. of Acres in Permit 1860
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Mesaverde Group Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Wadge

Coal Thickness(es) 7-10'

Dip of Bedding 8-14°W Strike of Bedding N5°W
Overburden Thickness(es) 0-100' for surface mine
100-800' for underground mine

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Wadge
Rank	
Moisture(%)	9
Ash(%)	8
Fixed Carbon(%)	46
Volatile Matter(%)	37
Sulfur(%)	0.5
Heating Value(Btu/lb)	11,200
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	
Methane Characteristics	
Reflectance Data	

ROUTT

Coal Production

1983 Production Thru 7/83	0		
Cumulative Production Thru 12/80		2,441,988	
Projected Production (tpy) 1985			1988
Remaining Reserves/Life of Mine			
Production (t)1981	0		1982 0

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes		
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment		
Haulage		
Preparation Plant	Tipple	
Domestic Purchase Available	no	Price

Additional Information and Comments

May resume production in short-term

Mine Name Grassy Creek Coal Mine No. 1
M.L.R.B. Permit No. C-039-81 O.S.M. Permit No. CO 0005
Map No. 45
Previous Mine Names _____

Location Information

County Routt
Location (Sec., T., R.) portions of: sec. 20, 21, 28, 29, 31 & 32, T5N, R87W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Mount Harris & Dunckley

Company Information

Mine Operator The Rockcastle Company
Address P.O. Box AA, Hayden, CO 81639
Contacts Robert Sherman Telephone (303)879-7110
Parent Company Rockcastle Company
Address P.O. Box 1038, Janesville, WI 53545
Contacts _____ Telephone (608) 754-2291

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date 1978
No. of Employees 10 Union Affiliation _____
No. of Acres in Permit 1081 (interim)
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Iles Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Pinnacle & Blacksmith

Coal Thickness(es) Pinnacle: 6-7'

Dip of Bedding 14-16°N Strike of Bedding _____
Overburden Thickness(es) _____

Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Pinnacle	Blacksmith
Rank		
Moisture(%)	12	10.5
Ash(%)	9	4.0
Fixed Carbon(%)	52	
Volatile Matter(%)	34	
Sulfur(%)	0.5	0.4
Heating Value(Btu/lb)	11,500	11,465
Free Swelling Index		
Hardgrove Grindability		
Ash-Softening Temp.(°F)		
Methane Characteristics		
Reflectance Data		

ROUT

Coal Production

1983 Production Thru 7/83	40,354		
Cumulative Production Thru 12/82	762,388		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine			
Production (t)1981	215,179	1982	175,420

Sales Data

Percent In-State	98	Destination	Coors'	Use
Percent Out-Of-State	2	Destination	midwest	Use
Percent Export		Destination		Use
Transportation Mode/Mixed Modes		rail		
FOB Mine Price (\$) Contract				
Shifts per day		Production Per Shift		
Equipment				
Haulage				
Preparation Plant		Tipple		
Domestic Purchase Available	yes		Price	

Additional Information and Comments

'Golden, Colorado

Mine Name Hayden Gulch
M.L.R.B. Permit No. C-003-80 O.S.M. Permit No. CO 0018
Map No. 46
Previous Mine Names _____

Location Information

County Routt
Location (Sec., T., R.) portions of: sec. 30 & 31, T5N, R88W,
portions of: sec. 10, 14, 15, 22, 23, T6N, R88W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Hayden Gulch & Hayden

Company Information

Mine Operator Yampa Mining Company (H-G Coal Company)
Address P.O. Box HH, Hayden, CO 81639
Contacts Roger Green Telephone (303) 276-3751
Operating Company Morrison-Knudsen, Inc.
Address Boise, Idaho
Contacts _____ Telephone _____

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date 1979
No. of Employees 60 Union Affiliation _____
No. of Acres in Permit 1272
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Williams Fork Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) 5 beds
Coal Thickness(es) 22' total
Dip of Bedding 5°NE Strike of Bedding _____
Overburden Thickness(es) 9-50'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam _____
Rank _____
Moisture(%) _____
Ash(%) _____
Fixed Carbon(%) _____
Volatile Matter(%) _____
Sulfur(%) _____ 0.43
Heating Value(Btu/lb) _____ 9978
Free Swelling Index _____
Hardgrove Grindability _____
Ash-Softening Temp. _____
Methane Characteristics _____
Reflectance Data _____

ROUT

Coal Production

1983 Production Thru 7/83 _____ 298,983
Cumulative Production Thru 12/82 _____ 2,092,620
Projected Production (tpy) 1985 _____ 675,000 _____ 1988 _____
Remaining Reserves/Life of Mine _____ 3 years
Production (t)1981 _____ 577,973 _____ 1982 _____ 583,186

Sales Data

Percent In-State _____ Destination _____ Use _____
Percent Out-Of-State _____ 100 _____ Destination TX, midwest _____ Use _____
Percent Export _____ Destination _____ Use _____
Transportation Mode/Mixed Modes _____ rail _____
FOB Mine Price (\$) Contract _____
Shifts per day _____ 2 _____ Production Per Shift _____ 2,500
Equipment _____ 2 shovels, 1 overburden drill, 2 front-end loaders, 2 D-9, 1 D-10
Haulage _____ 5 haultrucks
Preparation Plant _____ crusher _____ Tipple _____ yes
Domestic Purchase Available _____ yes _____ Price _____

Additional Information and Comments

Mine Name Meadows No. 1
M.L.R.B. Permit No. C-029-81 O.S.M. Permit No. CO 0007
Map No. 47
Previous Mine Names _____

Location Information

County Routt
Location (Sec., T., R.) portions of: sec. 11, 14, 23, 24, 25, 26, T6N, R87W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Milner

Company Information

Mine Operator Sun Coal Co.
Address P.O. Box 26, Milner, CO 80477
Contacts _____ Telephone (303) 276-3746
Parent Company A. T. Massey
Address 1536 Cole Blvd., Golden, CO 80401
Contacts Bryan Archer Telephone (303) 233-5284

General Information

Mine Type surface Mining Method scrapers and dozers
Mine Status idle Start-up Date 1977
No. of Employees 5 (?) Union Affiliation non-union
No. of Acres in Permit 199
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Iles Fm Geologic Age Cretaceous
Coal Zone(s) or Bed(s) Pinnacle
Coal Thickness(es) 6.7-8.5'
Dip of Bedding 18% WNW Strike of Bedding _____
Overburden Thickness(es) 40-50'
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Pinnacle
Rank	HVCB
Moisture(%)	9
Ash(%)	6
Fixed Carbon(%)	46
Volatile Matter(%)	39
Sulfur(%)	0.40
Heating Value(Btu/lb)	11,500
Free Swelling Index	
Hardgrove Grindability	
Ash-Softening Temp.(°F)	2700
Methane Characteristics	
Reflectance Data	

ROUTT

Coal Production

1983 Production Thru 7/83	0
Cumulative Production Thru 12/82	508,847
Projected Production (tpy) 1985	1988
Remaining Reserves/Life of Mine	140,000 tons
Production (t)1981	9,756
	1982
	0

Sales Data

Percent In-State	Destination	Use
Percent Out-Of-State	Destination	Use
Percent Export	Destination	Use
Transportation Mode/Mixed Modes		
FOB Mine Price (\$) Contract		
Shifts per day	Production Per Shift	
Equipment	Draglines, overburden drills, bulldozers, frontend loaders	
Haulage	haultrucks	
Preparation Plant	crushers	Tipple yes, 600 T/hr
Domestic Purchase Available		Price

Additional Information and Comments

Shutting down - property for sale

Mine Name Seneca II
M.L.R.B. Permit No. C-005-80 O.S.M. Permit No. CO 0006
Map No. 48
Previous Mine Names _____

Location Information

County Routt
Location (Sec., T., R.) portions of: sec. 27, 34, 35, 36; T6N, R87W
portions of: sec. 1, 2, 3, 11, 12, 13; T5N, R87W
Coal Region Green River Field Yampa
Topographic Quadrangle (7 1/2') Milner, Mt. Harris

Company Information

Mine Operator Peabody Coal Company
Address Drawer D, Hayden, CO 81639
Contacts D. D. Zulian Telephone (303) 276-3707
Parent Company Peabody Coal Company
Address 12015 E. 46th Avenue, Denver, CO 80239
Contacts Thomas Wainwright Telephone (303) 337-5903

General Information

Mine Type surface Mining Method area surface
Mine Status producing Start-up Date 1968
No. of Employees 89 Union Affiliation UMWA
No. of Acres in Permit 3,375
Surface: Federal _____ Private X State X
Mineral: Federal X Private X State X

Geologic Information

Geologic Unit Lower Williams Fork Fm Geologic Age Upper Cretaceous
Coal Zone(s) or Bed(s) Wolf Creek, Wadge, Lennox
Coal Thickness(es) Wolf Creek : 16', Wadge : 9', Lennox : 4'
Dip of Bedding 6° to 19° Strike of Bedding _____
Overburden Thickness(es) _____
Interburden Thickness(es) _____

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	Wolf Creek	Wadge	Lennox	Wadge
Rank	B	B	B	B
Moisture(%)	--	9.8	--	11.25
Ash(%)	10.3	9.5	13.6	10.1
Fixed Carbon(%)				45.4
Volatile Matter(%)				32.31
Sulfur(%)	0.52	0.53		0.5
Heating Value(Btu/lb)	12,090	11,950	11,860	10,700
Free Swelling Index				
Hardgrove Grindability				
Ash-Softening Temp.(°F)				2620
Methane Characteristics				
Reflectance Data				

ROUT

Coal Production

1983 Production Thru 7/83	750,447		
Cumulative Production Thru 12/82	14,366,351		
Projected Production (tpy) 1985		1988	
Remaining Reserves/Life of Mine	32 million tons		
Production (t)1981	1,227,945	1982	1,313,711

Sales Data

Percent In-State	100	Destination	Hayden'	Use	steam
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		haul truck			
FOB Mine Price (\$) Contract	\$12/T				
Shifts per day	2	Production Per Shift	3,250		
Equipment	2 draglines, 3 drills, 2 loaders, 7 tractors, 2 coal drills				
Haulage	8 haul trucks				
Preparation Plant		Tipple			
Domestic Purchase Available	no			Price	

Additional Information and Comments

'Hayden Station Power Plant - Colorado Ute
Auger mining proposed

Mine Name Keenesburg Strip
M.L.R.B. Permit No. C-028-81
Map No. 49 Federal Mine ID No. 05-03515
Previous Mine Names _____

Location Information

County Weld
Location (Sec., T., R.) portions of: sec. 25, 26, 35 & 36, T3N, R64W
Coal Region Denver Field Boulder-Weld
Topographic Quadrangle (7 1/2') Klug Ranch, Tampa

Company Information

Mine Operator Coors Energy Co.-Keenesburg
Address P.O. Box 359, Keenesburg, CO 80643
Contacts John Nelson Telephone (303) 659-8520
Parent Company Coors Energy
Address P.O. Box 467, Golden, CO 80401
Contacts Don McDonald Telephone (303) 278-7030

General Information

Mine Type surface Mining Method strip
Mine Status producing Start-up Date Sept. 1981
No. of Employees 65 Union Affiliation none
No. of Acres in Permit 1525
Surface: Federal _____ Private X
Mineral: Federal _____ Private X

Geologic Information

Geologic Unit Laramie Formation Geologic Age Cretaceous
Coal Zone(s) or Bed(s) No. 7
Coal Thickness(es) 5'-8'
Dip of Bedding 1° to south Strike of Bedding _____
Overburden Thickness(es) 60-160'
Interburden Thickness(es) none

Coal Quality

Sample 1

Sample 2

Sample 3

Sample 4

Seam	No. 7
Rank	Sub B
Moisture(%)	28.3
Ash(%)	7.68
Fixed Carbon(%)	34.55
Volatile Matter(%)	29.85
Sulfur(%)	0.37
Heating Value(Btu/lb)	8,079
Free Swelling Index	0
Hardgrove Grindability	69.5
Ash-Softening Temp.(°F)	2,200
Methane Characteristics	
Reflectance Data	

WELD

Coal Production

1983 Production Thru 7/83	83,424		
Cumulative Production Thru 12/82	142,944		
Projected Production (tpy) 1985	552,000	1988	600,000
Remaining Reserves/Life of Mine	20 years		
Production (t)1981	7,293	1982	135,651

Sales Data

Percent In-State	captive	Destination	Golden'	Use	steam
Percent Out-Of-State		Destination		Use	
Percent Export		Destination		Use	
Transportation Mode/Mixed Modes		truck			
FOB Mine Price (\$)	Contract				
Shifts per day	1 dragline, 1 bulldozer	Production per Shift	1000		
Equipment	1 dragline, 1 bulldozer, bucket wheel excavator				
Haulage	3 haultrucks - overburden, 3 haultrucks - coal				
Preparation Plant	no	Tipple	yes		
Domestic Purchase Available	no			Price	

Additional Information and Comments

'Coors

APPENDIX A
STATISTICAL SUMMARY

APPENDIX A
STATISTICAL SUMMARY

Table 1 presents information relating to coal mine ownership by parent company. Also presented are data pertaining to percent change in production from year to year starting in 1980. An estimate of 1983 production was made based on production figures for the first seven months of 1983. Productivity figures are also presented. Data relating to percent change and production per employee are unadjusted for working partial years, seasonal operations or employee layoffs.

Sixteen of 30 coal mines producing coal in both 1982 and 1983 decreased production ranging from 2.1 to 85 percent. The remaining coal mines experienced production increases from 2.3 to 182 percent.

TABLE 1 - COAL MINE OWNERSHIP PERCENT CHANGE
IN PRODUCTION AND PRODUCTIVITY

<u>PARENT COMPANY</u>	<u>COAL MINES</u>	<u>PERCENT CHANGE 1980-1981</u>	<u>PERCENT CHANGE 1981-1982</u>	<u>PERCENT CHANGE 1982-1983 (Estimated)</u>	<u>ESTIMATED 1983 PRODUCTION PER EMPLOYEE</u>
Anaconda	Mt. Gunnison No. 1	--	--	Startup 1982	5,200
A. T. Massey	Bacon	9.2	--	--	--
	Meadows No. 1	--	--	--	--
Amoco Minerals	Eagle No. 5	46.3	73.2	-40.3	4,200
	Eagle No. 9	-60.7	--	--	--
Apache Energy and Minerals	Sunlight	-23.9	23.2	--	--
Bear Coal CF & I	Bear No. 3	8.4	-64.5	84.1	4,100
	Allen	-13.4	-54.6	--	--
	Maxwell	-12.8	--	--	--
Colorado Ute Coors Energy	Trapper	3.9	-4.4	6.9	10,000
	Keenesburg Strip	--	Startup 1981	5.4	2,800
Dorchester Coal	Dorchester No. 1	125.4	238.8	8.0	5,500
	Fruita No. 1	--	--	--	--
	Fruita No. 2	-77.5	--	--	--
Energy Fuels Flatiron Companies	Kerr Coal Mine	-62.6	-60.1	-60.5	5,800
	Bourg Strip	2265.8	-19.0	2.1	6,000
GEC Minerals	GEC Strip	24.4	2.5	-37.8	1,900
Getty Mineral Resources	Energy No. 1	0.41	-14.0	-9.8	8,700
	Energy No. 2	--	--	--	--
	Energy No. 3	--	--	--	--
Gulf Companies Harrison Western InterNorth	Edna Strip	-2.5	-28.3	-15.1	7,600
	Newlin Creek	-29.5	-46.3	19.6	3,900
	Northern No. 1	-90.8	--	--	--
	Northern No. 2	--	--	--	--
	Northern No. 3	--	--	--	--
	Rienau No. 2	-15.2	-53.3	--	--
KN Energy Mid-Continent Resources	Canadian Strip	209.7	--	--	--
	Bear Creek	--	--	--	--
	Coal Basin	-28.6	-44.8	--	--
	Dutch Creek No. 1	-71.0	70.6	182.1	1,200
	Dutch Creek No. 2	42.1	-6.0	119.7	2,600
	L.S. Wood	1.6	-30.1	--	--
Paul McCormick Morrison- Knudsen	Ohio Creek No. 2	52.6	221.2	8.6	1,100
	Hayden Gulch	0.97	4.5	-12.1	8,500
National King Coal Company	King Coal	45.6	-10.6	-55.3	1,300

<u>PARENT COMPANY</u>	<u>COAL MINES</u>	<u>PERCENT CHANGE 1980-1981</u>	<u>PERCENT CHANGE 1981-1982</u>	<u>PERCENT CHANGE 1982-1983 (Estimated)</u>	<u>ESTIMATED 1983 PRODUCTION PER EMPLOYEE</u>
Northwest Energy (Williams Cos.)	Hawk's Nest East	83.7	-91.3	--	--
	Hawk's Nest West	1307.7	559.8	--	--
Peabody Coal	Nucla Strip	-34.6	1.7	-2.9	3,700
	Seneca II	-31.0	7.0	-2.1	14,500
Perma Resources	Chimney Rock Strip	2927.2	1.8	-5.3	4,100
	Colorado Coal Mine No. 1	--	--	--	--
	Carbon Junction	--	--	--	--
Pueblo Coal	Apex No. 2	429.7	108.3	-50.9	1,900
Pyro Energy	Grassy Creek Mine No. 1	-5.4	-18.5	-60.6	6,900
	Rockcastle Company	276.9	31.7	--	--
Sheridan Enterprises	McClane Canyon	--	--	--	--
	Munger Canyon	--	--	--	--
Sulphur Creek Mine Inc.	Sulphur Creek	--	--	--	--
	Sundance Oil	Animas	-52.5	--	--
TexasGulf	Helen	--	--	--	--
	Tomahawk Strip	320.9	58.6	--	--
Trinidad Basin Mining Inc.	Trinidad Basin	-4.0	10.3	-27.8	4,700
	Twin Pines	--	--	--	--
U.S. Steel Mining	Somerset	-21.7	-32.2	30.3	2,800
Viking Coal Co.	Viking	57.4	-95.0	--	--
	Western Associated Coal	Blue Ribbon	33.0	17.0	-49.9
Western Associated Coal	Cameo No. 1	36.6	-56.0	--	--
	Red Canyon No. 1	47.6	53.2	-85.6	1,900
	Red Canyon No. 2	--	--	--	--
	Roadside	21.3	39.9	-22.9	3,300
	NTC No. 1	184.0	-15.3	--	--
Western Fuels	NTC No. 3	146.6	162.6	--	--
	Deserado Mine	--	--	Startup 1982	3,100
Westmoreland Coal	Orchard Valley	28.2	27.6	2.3	5,100
W.R. Grace/Hanna	Colowyo	16.7	0.74	-7.5	7,200

Table 2 presents production data by portal as reported to the Colorado Division of Mines for the years 1980 to 1983. Production data is available through July 31, 1983. Colorado coal production is projected to decrease in 1983 by about nine percent. Coal sales probably fell considerably more since stockpiling at the mine has increased. The retreat in coal demand decreases the number of high-cost producers, and benefits low-cost producers in the mid-term. Economies-of-scale favor large mines as the following table demonstrates:

<u>YEAR</u>	<u>NO. PORTALS</u>	<u>AVERAGE PRODUCTION PER PORTAL (TONS)</u>
1980	48	379,000
1981	49	395,000
1982	45	411,000
1983 (est.)	33	504,000

Small operators with favorable working conditions, high quality coal and/or captive markets should also be able to remain in the market. Table 3 is a listing of coal mines by designated coal region.

Table 4 depicts the trade balance of coal produced in Colorado. Data for 1981 coal production were obtained from "Colorado Energy Balance-1981- Plate 1; Coal Production and Distribution and Electrical Power Generation" compiled by W. R. Taylor and L. R. Ladwig. Estimates of the scope of the 1983 coal product markets were obtained from the mines and/or estimated from industry sources.

TABLE 2 - PRODUCTION DATA

MINE NAME	JULY 31, 1983				ESTIMATED 1983 PRODUCTION
	1980 PRODUCTION	1981 PRODUCTION	1982 PRODUCTION	CUMULATIVE PRODUCTION	
Chimney Rock	8,424	255,013	259,477	143,288	246,000
Blue Ribbon	97,013	129,055	150,963	44,115	76,000
Orchard Valley	761,824	976,796	1,246,197	743,532	1,275,000
Red Canyon No. 1	93,257	137,698	64,442	5,418	9,000
Red Canyon No. 2	-	-	-	-	-
Tomahawk Strip	24,076	101,336	41,915	-	-
Bacon Mine	38,778	42,357	-	-	-
Dorchester No. 1	76,574	172,599	584,832	431,546	740,000
GEC Strip	60,994	75,904	77,779	28,200	56,000
Newlin Creek	102,591	72,359	38,847	27,101	54,000
Twin Pines	-	-	-	-	-
McClane Canyon	14,200	53,516	70,465	-	-
Munger Canyon	-	-	-	-	-
Sunlight	1,300	989	1,218	-	-
Bear No. 3	239,217	259,392	91,845	98,611	169,000
Hawks Nest East	336,141	617,630	53,338	-	-
Hawks Nest West	6,000	84,461	557,337	-	-
Mt. Gunnison No. 1	-	-	96,760	145,784	292,000
Ohio Creek No. 2	1,448	2,211	7,103	4,499	5,000
Somerset	854,697	668,622	453,473	344,729	591,000
Colorado Coal Mine	-	-	27,334	-	-
Viking Strip	23,514	37,014	1,858	-	-
Bourg Strip	4,000	94,634	76,641	45,665	78,000
Canadian Strip	43,915	136,024	-	-	-
Kerr Coal	759,000	287,954	114,808	23,768	41,000
National King	92,963	135,368	121,068	31,568	54,000
Carbon Junction	-	-	-	-	-
Allen Mine	561,727	486,705	220,763	-	-
Animas	11,742	5,576	-	36,661	40,000
Helen	-	-	-	14,580	15,000
Maxwell Mine	200,959	175,184	-	-	-
Trinidad Basin	67,757	65,039	71,739	41,157	71,000
Cameo No. 1	207,208	283,072	124,634	-	-
The Roadside	547,651	664,427	929,323	417,817	716,000
Fruita No. 1	-	-	-	-	-
Fruita No. 2	10,737	2,416	-	-	-
Colowyo	2,682,659	3,130,390	3,153,419	1,700,696	2,915,000
Eagle No. 5	473,773	693,062	1,200,681	418,128	717,000
Eagle No. 9	180,259	70,854	271	42	nil
Trapper Mine	2,014,376	2,093,012	2,001,106	1,248,230	2,140,000
Nucla Strip	92,068	60,260	61,237	34,672	59,000
Bear Creek	5,280	-	-	-	-
Coal Basin	130,278	92,998	51,287	-	-
Dutch Creek No. 1	156,533	45,386	77,463	127,452	218,000
Dutch Creek No. 2	181,144	257,492	241,927	310,000	532,000
L. S. Wood	220,930	224,642	156,859	-	-

MINE NAME	JULY 31, 1983				ESTIMATED 1983 PRODUCTION
	1980 PRODUCTION	1981 PRODUCTION	1982 PRODUCTION	CUMULATIVE PRODUCTION	
North Thompson Creek No. 1	40,555	115,185	97,553	11,187	19,000
North Thompson Creek No. 3	1,812	4,469	11,736	-	-
Deserado Mine	-	-	32,113	136,160	233,000
Northern No. 1	63,079	5,800	-	-	-
Northern No. 2	-	-	-	-	-
Northern No. 3	-	-	-	-	-
Rienau No. 2	144,815	122,781	57,228	-	-
Sulphur Creek	-	-	-	-	-
Apex No. 2	4,257	22,547	46,959	13,444	23,000
Edna Mine	1,026,389	1,000,921	717,865	355,607	610,000
Energy No. 1	3,337,611	3,351,352	2,880,373	1,515,697	2,598,000
Energy No. 2	-	-	-	-	-
Energy No. 3	-	-	-	-	-
Grassy Creek	227,386	215,179	175,420	40,354	69,000
Hayden Gulch	552,626	557,973	583,186	298,983	513,000
Meadows No. 1	27,940	9,756	-	-	-
Seneca II	1,778,916	1,227,945	1,313,711	750,447	1,286,000
Keenesburg Strip	-	7,293	135,651	102,691	176,000

No. of Portals Reporting	48	49	45	-	33
Total	18,590,393	19,332,648	18,480,204	-	16,636,000
Average	379,000	395,000	410,700	-	504,000

TABLE 3 - COAL MINES BY REGION
(Mine Name, County, Map Number)

CANON CITY REGION

Dorchester No. 1; Fremont; (7)
GEC Strip; Fremont; (8)
Newlin Creek; Fremont; (9)
Twin Pines; Fremont; (10)

DENVER REGION

Bacon Mine; El Paso; (6)
Keenesburg Strip; Weld; (49)

GREEN RIVER REGION

Eagle No. 5; Moffat; (33)
Eagle No. 9; Moffat; (33)
Trapper Mine; Moffat; (34)
Apex No. 2; Routt; (41)
Edna Mine; Routt; (42)
Energy No. 1/Foidel Creek; Routt; (43)
Energy No. 2; Routt; (43)
Energy No. 3; Routt; (44)
Grassy Creek Coal Mine No. 1; Routt; (45)
Hayden Gulch; Routt; (46)
Meadows No. 1; Routt; (47)
Seneca II; Routt; (48)

NORTH PARK REGION

Bourg Mine; Jackson; (21)
Canadian Strip; Jackson; (22)
Kerr Coal Mine; Jackson; (23)

RATON MESA REGION

Colorado Coal Mine No. 1; Huerfano; (19)
Viking Strip; Huerfano; (20)
Allen Mine; Las Animas; (26)
Animas Mine; Las Animas; (27)
Helen Mine; Las Animas; (27)
Maxwell Mine; Las Animas; (28)
Trinidad Basin; Las Animas; (29)

SAN JUAN RIVER REGION

Chimney Rock Coal Strip; Archuleta; (1)
King Coal Mine; La Plata; (24)
Carbon Junction; La Plata; (25)
Nucla Strip; Montrose (35)

UINTA REGION

Blue Ribbon; Delta; (2)
Orchard Valley; Delta; (3)
Red Canyon No. 1; Delta; (4)
Red Canyon No. 2; Delta; (4)
Tomahawk Strip; Delta; (5)
McClane Canyon; Garfield; (11)
Munger Canyon; Garfield; (12)
Sunlight Mine; Garfield; (13)
Bear Mine No. 3; Gunnison; (14)
Hawk's Nest East; Gunnison; (15)
Hawk's Nest West; Gunnison; (15)
Mt. Gunnison No. 1; Gunnison; (16)
Ohio Creek Coal Mine No. 2; Gunnison; (17)
Somerset; Gunnison; (18)
Cameo No. 1; Mesa; (30)
The Roadside Mine; Mesa; (30)
Fruita Mine No. 1; Mesa; (31)
Fruita Mine No. 2; Mesa; (31)
Colowyo Coal Mine; Moffat; (32)
Bear Creek; Pitkin (36)
Coal Basin; Pitkin; (36)
Dutch Creek No. 1; Pitkin; (36)
Dutch Creek No. 2; Pitkin; (36)
L. S. Wood; Pitkin; (36)
North Thompson Creek Mine No. 1; Pitkin; (37)
North Thompson Creek Mine No. 3; Pitkin; (37)
Deserado Mine; Rio Blanco; (38)
Northern No. 1; Rio Blanco; (39)
Northern No. 2; Rio Blanco; (39)
Northern No. 3; Rio Blanco; (39)
Rienau No. 2; Rio Blanco; (39)
Sulphur Creek; Rio Blanco; (40)

TABLE 4 - IMPORT-EXPORT DATA

MINE NAME	1981	EST. 1983	PERCENT CHANGE	1981	EST. 1983	PERCENT CHANGE
	IN-STATE PRODUCTION	IN-STATE PRODUCTION		OUT-OF- STATE PRODUCTION	OUT-OF STATE PRODUCTION	
Chimney Rock	7,435	nil	--	247,576	245,500	-0.8
Blue Ribbon	44,500	3,800	-91.46	84,555	71,800	-15.1
Orchard Valley	--	318,700	--	--	956,000	--
Red Canyon No. 1	--	--	--	--	--	--
Red Canyon No. 2	--	--	--	--	--	--
Tomahawk Strip	--	--	--	--	--	--
Bacon Mine	--	--	--	--	--	--
Dorchester No. 1	59,552	421,700	608.1	114,190	318,100	178.6
GEC Strip	36,932	33,800	-8.5	38,973	14,500	-62.8
Newlin Creek	--	48,800	--	--	5,400	--
Twin Pines	28,380	--	--	--	--	--
McClane Canyon	20,721	--	--	31,677	--	--
Munger Canyon	--	--	--	--	--	--
Sunlight	2,000	--	--	--	--	--
Bear No. 3	260,653	16,900	-93.5	34,776	152,100	337.4
Hawk's Nest East	--	--	--	--	--	--
Hawk's Nest West	--	--	--	--	--	--
Mt. Gunnison No. 1	--	292,000	--	--	--	--
Ohio Creek No. 2	2,490	7,700	209.2	--	--	--
Somerset	nil	nil	--	668,557	600,000	-10.3
CCMC No. 1	--	--	--	--	--	--
Viking Strip	35,493	--	--	506	--	--
Bourg Mine	236	nil	--	94,398	78,300	-17.1
Canadian Strip	16,330	--	--	124,248	--	--
Kerr Coal Mine	14,200	2,900	79.6	273,800	37,900	-86.2
King Coal	9,310	10,800	16.0	133,450	43,300	-67.6
Carbon Junction	--	--	--	--	--	--
Allen Mine	468,705	--	--	--	--	--
Animas Mine	--	--	--	--	--	--
Helen Mine	--	--	--	--	--	--
Maxwell	--	--	--	--	--	--
Trinidad Basin	175,184	nil	--	65,038	51,800	-20.4
Cameo No. 1	--	--	--	283,072	--	--
The Roadside	--	nil	--	664,427	716,300	7.8
Fruita No. 1	--	--	--	--	--	--
Fruita No. 2	--	--	--	--	--	--
Colowyo	1,162,102	583,100	-49.8	2,400,945	2,332,400	-2.9
Eagle No. 5	272,800	286,700	5.1	457,326	430,100	-6.0
Eagle No. 9	--	--	--	70,854	--	--
Trapper Mine	2,093,012	2,139,900	2.2	--	--	--
Nucla Strip	74,684	59,400	-20.5	--	--	--
Bear Creek	--	--	--	--	--	--
Coal Basin	1,213	--	--	91,786	--	--
Dutch Creek No. 1	1,213	--	--	44,173	--	--
Dutch Creek No. 2	1,213	--	--	256,280	531,600	107.4
L. S. Wood	1,213	--	--	223,431	--	--

MINE NAME	1981	EST. 1983	PERCENT CHANGE	1981	EST. 1983	PERCENT CHANGE
	IN-STATE PRODUCTION	IN-STATE PRODUCTION		OUT-OF- STATE PRODUCTION	OUT-OF STATE PRODUCTION	
NTC No. 1	--	3,800	--	116,049	15,300	-86.8
NTC No. 3	--	--	--	3,605	--	--
Deserado Mine	--	--	--	--	233,400	--
Northern No. 1	18,697	--	--	--	--	--
Northern No. 2	--	--	--	--	--	--
Northern No. 3	--	--	--	--	--	--
Rienau No. 2	16,145	--	--	161,940	--	--
Sulphur Creek	--	--	--	--	--	--
Apex No. 2	16,658	17,300	3.9	1,996	5,800	190.6
Edna	561,178	365,800	-34.8	439,591	243,800	-44.5
Energy No. 1	2,618,668	1,740,900	-33.5	792,787	857,500	8.2
Energy No. 2	--	--	--	--	--	--
Energy No. 3	--	--	--	--	--	--
GCCM No. 1	191,981	67,800	-64.7	44,026	1,400	-96.8
Hayden Gulch	99,519	--	-100.0	746,823	512,500	-31.4
Meadows No. 1	--	--	--	--	--	--
Seneca II	1,227,945	1,286,500	4.8	--	--	--
Keenesburg Strip	7,293	143,000	1860.8	--	--	--
REPORTED TOTAL	9,547,655	7,851,300	-24.6	8,710,855	8,454,800	-10.6

Discrepancies and errors are inherent in this analysis since the data are not reported to the State, but must be ascertained indirectly. Movements in and out of stockpiles distorts trade balance data since it is assumed that production data reflect coal shipments.

The 1981 and 1983 data for in-state and out-of-state coal shipments are presented for mines as available. No attempts were made to account for mine startups, shutdowns or idlings in the estimate of 1983 production. Percent change data should be examined in conjunction with actual production data.

Between 1981 and 1983 production destined for in-state consumption apparently decreased by 24 percent from 9,550,000 tons to 7,200,000 tons. The decrease may be ascribed to declines in industrial use and coal-fired electrical generation. Similarly, production destined for out-of-state or for export declined nearly 11 percent from 8,711,000 tons in 1981 to 7,800,000 tons in 1983.

Table 5 lists coal mines by parent company, form of corporate ownership and coal production. The forms of corporate ownership recognized in this report are petroleum companies, conglomerates and consortiums, captive producers, construction-related and independents.

Table 6 summarizes coal production by corporate ownership type. The largest coal producing corporate entity is the petroleum industry. In 1983 the top four producers are as follows:

<u>Company</u>	<u>Estimated 1983 Production</u>
W.R. Grace/Hanna (Colowyo)	2,915,000
Getty (Energy No. 1)	2,598,000
Colorado Ute (Trapper)	2,140,000
Peabody (Seneca II)	<u>1,345,000</u>
Total	8,998,000

The four largest producers comprise over 50 percent of Colorado's 1983 estimated annual production.

Producers owned by petroleum-related companies continue to dominate the Colorado market. However, this segment of the market contains 15 entities. The largest coal producer has no more than 15 percent of the State's coal production. Coal companies with a petroleum-related parent suffered the greatest retreat in coal production, nearly a 27 percent decline between 1981 and 1983. Other coal producing entities limited loss of market share to a maximum of 12 percent in the same time period.

TABLE 5 - COAL PRODUCTION AND CORPORATE STRUCTURE

PETROLEUM COMPANIES

PARENT COMPANY	MINE NAME	MINE TYPE AND STATUS	PRODUCTION(T)	
			1981	1983 est.
Anaconda (ARCO)	Mt. Gunnison No. 1	U,A	--	292,000
AMOCO (Cyprus Coal)	Eagle No. 5	U,A	693,062	717,000
	Eagle No. 9	U,I	70,854	nil
Dorchester Gas (Dorchester Coal)	Dorchester No. 1	U,A	172,599	740,000
	Fruita No. 1	U,I	--	--
	Fruita No. 2	U,I	2,416	--
Energy Fuels Getty	Kerr Coal Mine	S,A	287,954	41,000
	Energy No. 1	U,A	3,351,352	2,598,000
	Energy No. 2	U,I	--	--
	Energy No. 3	U,I	--	--
Gulf (Pittsburgh & Midway)	Edna Strip	S,A	1,000,921	610,000
InterNorth	Northern No. 1	U,I	5,800	--
	Northern No. 2	U,I	--	--
	Northern No. 3	U,I	--	--
	Rienau No. 2	U,I	122,781	--
KN Energy	Canadian Strip	S,I	136,024	--
Northwest Energy (Williams Companies)	Hawk's Nest East	U,I	617,630	--
	Hawk's Nest West	U,I	84,461	--
Occidental (Sheridan)	McClane Canyon	U,I	53,516	--
	Munger Canyon	U,I	--	--
Sundance Oil	Animas Mine	U,A	5,576	40,000
	Helen Mine	U,I	--	15,000
Texas Gulf	Tomahawk Strip	S,I	101,336	--
Eastern Gas (Western Assoc. Coal)	Blue Ribbon	U,A	129,055	76,000
	Cameo No. 1	U,I	283,072	--
	Red Canyon No. 1	U,A	137,698	9,000
	Red Canyon No. 2	U,Proposed	--	--
	The Roadside Mine	U,A	664,427	716,000
	North Thompson Creek No.1	U,A	115,185	19,000
Perma Resources	North Thompson Creek No.3	U,I	4,469	--
	Chimney Rock Coal Strip	S,A	255,013	246,000
	Colorado Coal Mine No. 1	S,I	--	--
Royal Dutch Shell (A.T. Massey)	Bacon Mine	S,I	42,357	--
	Meadows No. 1	S,I	9,756	--
SUBTOTAL			8,347,314	6,119,000

CONGLOMERATES AND CONSORTIUMS

<u>PARENT COMPANY</u>	<u>MINE NAME</u>	<u>MINE TYPE AND STATUS</u>	<u>PRODUCTION(T)</u>	
			<u>1981</u>	<u>1983 est.</u>
Peabody Coal	Nucla Strip	S,A	60,260	59,000
	Seneca II	S,A	1,227,945	1,286,000
W.R. Grace/Hanna	Colowyo	S,A	3,130,390	2,915,000
SUBTOTAL			4,418,595	4,260,000

CAPTIVE PRODUCERS

<u>PARENT COMPANY</u>	<u>MINE NAME</u>	<u>MINE TYPE AND STATUS</u>	<u>PRODUCTION(T)</u>	
			<u>1981</u>	<u>1983 est.</u>
C.F. & I.	Allen Mine	U,I	486,705	--
	Maxwell Mine	U,I	175,184	--
U.S. Steel	Somerset	U,A	668,622	591,000
Western Fuels	Deserado Mine	U,A	--	233,000
Colorado Ute	Trapper Mine	S,A	2,093,012	2,140,000
Coors	Keenesburg Strip	S,A	7,293	176,000
SUBTOTAL			3,430,816	3,140,000

CONSTRUCTION-RELATED

<u>PARENT COMPANY</u>	<u>MINE NAME</u>	<u>MINE TYPE AND STATUS</u>	<u>PRODUCTION(T)</u>	
			<u>1981</u>	<u>1983 est.</u>
Flatiron Companies	Bourg Strip	S,A	94,634	78,000
Morrison/Knudsen	Hayden Gulch	S,A	557,973	513,000
Harrison/Peltron	Newlin Creek	S,A	72,359	54,000
SUBTOTAL			724,966	645,000

INDEPENDENTS

<u>PARENT COMPANY</u>	<u>MINE NAME</u>	<u>MINE TYPE AND STATUS</u>	<u>PRODUCTION(T)</u>	
			<u>1981</u>	<u>1983 est.</u>
Bear Coal	Bear No. 3	U,A	259,392	169,000
Apache Energy	Sunlight Mine	U,I	989	--
Paul McCormick	Ohio Creek No. 2	U,I	2,211	5,000
National King Coal	King Coal Mine	U,A	135,368	54,000
Pueblo Coal	Carbon Junction	S,Planning	--	--
Pyro Energy	Apex No. 2	U,A	22,547	23,000
GEC Minerals	GEC Strip	S,A	75,904	56,000
Viking Coal	Viking Strip	S,I	37,014	--
Rockcastle	Grassy Creek	S,A	215,179	69,000
Sulphur Creek	Sulphur Creek	U,I	--	--
Trinidad Basin	Trinidad Basin	S,A	65,039	71,000
Westmoreland	Orchard Valley	U,A	976,796	1,275,000
Twin Pines	Twin Pines	S,Reclamation	--	--
Mid-Continent Resources	Bear Creek	U,I	--	--
	Coal Basin	U,I	92,998	--
	Dutch Creek No. 1	U,A	45,386	218,000
	Dutch Creek No. 2	U,A	257,492	532,000
	L.S. Wood	U,I	224,642	--
SUBTOTAL			2,410,957	2,472,000

S - Surface
U - Underground
A - Active
I - Inactive

TABLE 6 - SUMMARY OF COAL PRODUCTION BY CORPORATE OWNERSHIP

<u>CORPORATE STRUCTURE</u>	<u>1981 PRODUCTION (TONS)</u>	<u>PERCENT OF TOTAL</u>	<u>1983 PRODUCTION (EST) (TONS)</u>	<u>PERCENT OF TOTAL</u>	<u>PERCENT CHANGE</u>
Petroleum	8,347,314	43.18	6,119,000	36.78	-26.69
Conglomerates and Consortiums	4,418,595	22.86	4,260,000	25.61	-3.59
Captive Producers	3,430,816	17.75	3,140,000	18.87	-8.48
Construction-Related	724,966	3.75	645,000	3.88	-11.03
Independents	2,410,957	12.47	2,472,000	14.86	2.53
TOTAL	19,332,648	100.00	16,636,000	100.00	-13.95

VOLATILE MATTER (daf)	USA COAL CLASSIFICATION	VITRINITE REFLECTANCE R _{m0}	CAKING PROPERTIES	HYDROCARBON GENERATION	COALIFICATION	SPORE COLOR	DIAGENESIS
68	PEAT	0.2		EARLY DIAGENETIC METHANE	DIAGENETIC GELIFICATION	YELLOW	SMECTITE
64							
60	LIGNITE	0.3		PEAK OIL GENERATION	FIRST COALIFICATION JUMP	YELLOW	SMECTITE
56							
52	SUB-BITUMINOUS	0.4		PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
48		C					
44		B					
44	C	0.5	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
40		A					
40	HIGH-VOLATILE	0.6	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
36		B					
32	A	0.7	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
32	A	0.8					
28	BITUMINOUS	1.0	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
24		A					
24	MEDIUM-VOLATILE BITUMINOUS	1.2	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
20		A					
20	LOW-VOLATILE BITUMINOUS	1.4	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
16		A					
12	SEMI-ANTHRACITE	1.6	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
8		A					
8	ANTHRACITE	1.8	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
4		A					
4	META-ANTHRACITE	2.0	CAKING COALS	PEAK WET-GAS GENERATION PEAK DRY-GAS GENERATION OIL-DEATH LINE	SECOND COALIFICATION JUMP	YELLOW TO DARK BROWN	ANALCITE QUARTZ OVERGROWTH
		A					
		3.0		WET-GAS DEATH LINE		BLACK	SERITIZATION CHLORITIZATION
		4.0					
				CATAGENETIC GAS			

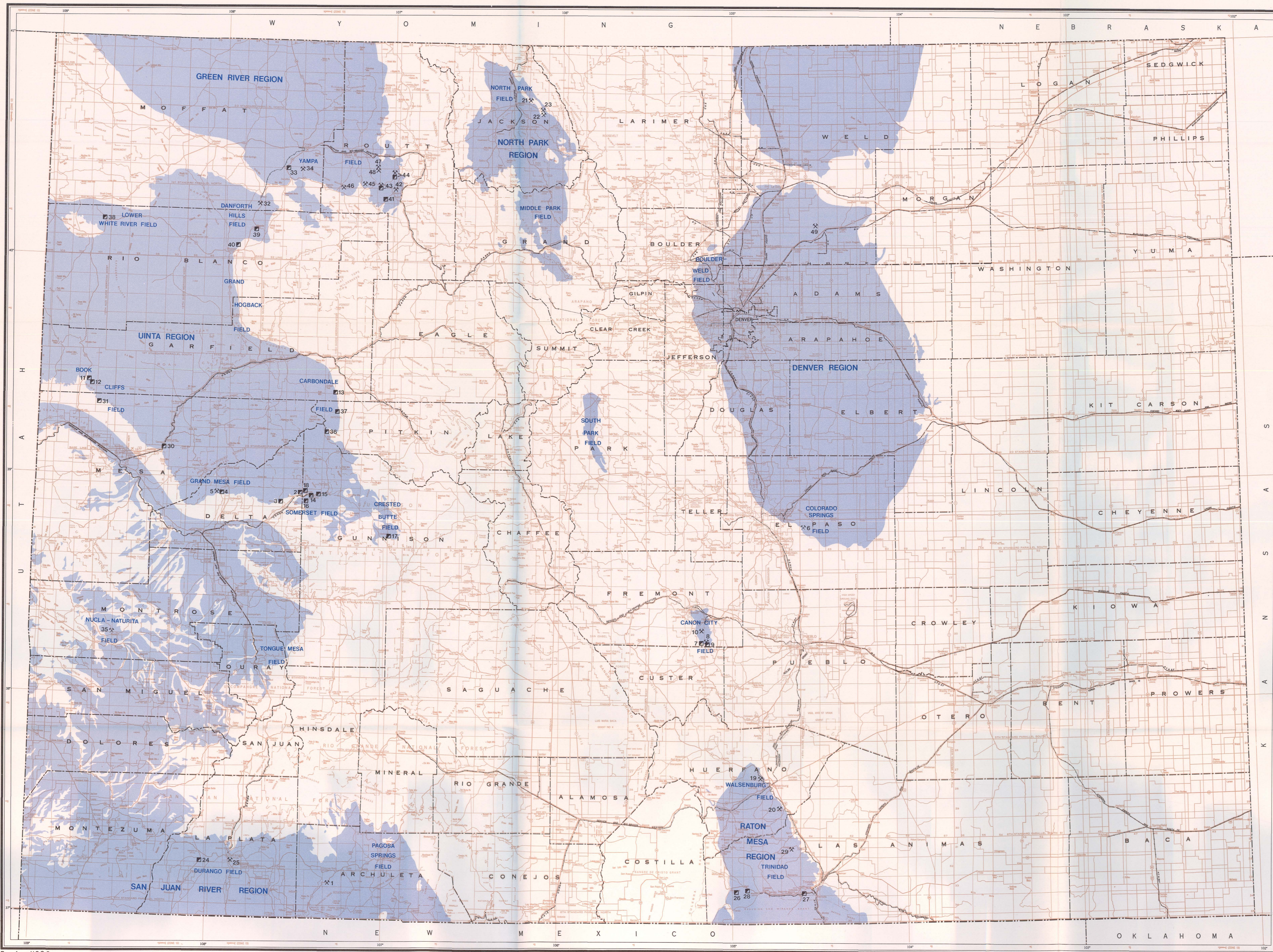
COMPILED BY PETER RUSHWORTH

(MODIFIED FROM HANDBOOK OF COAL PETROLOGY, 1975)

TABLE 7. Coal Classification Chart

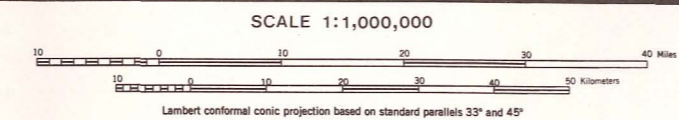
Map of Permitted Colorado Coal Mines, 1983

by Peter Rushworth, Bruce S. Kelso, and L. R. Ladwig



Base from U.S.G.S.

Drafted by Cheryl Brchan



COAL MINE INFORMATION

Map No.	COAL MINE INFORMATION
1	ARCHULETA Chimney Rock Coal Strip; Perma Resources Corp.
2	DELTA Blue Ribbon; Western Associated Coal Corp. Orchard Valley; Westmoreland Coal Company Red Canyon No. 1; Western Associated Coal Corp. Red Canyon No. 2; Western Associated Coal Corp. Tomahawk Strip; TexasGulf, Inc.
6	EL PASO Bacon Mine; A.T. Massey
7	FREMONT Dorchester No. 1; Dorchester Coal Company GEC Strip; GEC Minerals, Inc. Newlin Creek; Harrison-Western Twin Pines; Twin Pines Coal Company (reclamation only)
11	GARFIELD McCleane Canyon; Sheridan Enterprises, Inc. Munger Canyon; Sheridan Enterprises, Inc. Sunlight Mine; Apache Energy and Minerals
14	GUNNISON Bear No. 3 Mine; Bear Coal Co., Inc. Hawk's Nest East; Northwest Energy Co. (Williams Companies) Hawk's Nest West; Northwest Energy Co. (Williams Companies) Mt. Gunnison No. 1; Anaconda Minerals Ohio Creek Coal Mine No. 2; Paul McCormick Somerset; U.S. Steel Mining Co., Inc.
19	HUERFANO Colorado Coal Mine No. 1; Perma Resources Corp. Viking Strip; Viking Coal Company
21	JACKSON Bourg Mine; Flatiron Companies Canadian Strip; KN Energy Kerr Coal Mine; Energy Fuels
24	LA PLATA King Coal Mine; National King Coal, Inc. Carbon Junction; Pueblo Coal, Inc.
26	LAS ANIMAS Allen Mine; C.F. & I. Steel Corp. (KN Energy) Animas Mine; Sundance Oil Helen Mine; Sundance Oil Maxwell Mine; C.F. & I. Steel Corp. (KN Energy) Trinidad Basin; Trinidad Basin Mining, Inc.
30	MESA Cameo No. 1 Mine; Western Associated Coal Corp. The Roadside Mine; Western Associated Coal Corp. Fruita Mine No. 1; Dorchester Coal Company Fruita Mine No. 2; Dorchester Coal Company
32	MOFFAT Colowyo Coal Mine; W.R. Grace/Hanna Mining Company Eagle No. 5; Amoco Minerals Eagle No. 9; Amoco Minerals Trapper Mine; Colorado Ute Cooperative
35	MONTROSE Nucla Strip; Peabody Coal Company
36	PITKIN Bear Creek; Mid-Continent Resources, Inc. Coal Basin; Mid-Continent Resources, Inc. Dutch Creek No. 1; Mid-Continent Resources, Inc. Dutch Creek No. 2; Mid-Continent Resources, Inc. L.S. Wood; Mid-Continent Resources, Inc. North Thompson Creek Mine No. 1; Western Associated Coal Corp. North Thompson Creek Mine No. 3; Western Associated Coal Corp.
38	RIO BLANCO Deserado Mine; Western Fuels Association, Inc. Northern No. 1; InterNorth Northern No. 2; InterNorth Northern No. 3; InterNorth Rienau No. 2; InterNorth Sulphur Creek; Lackey and Associates, Inc.
41	ROUTT Apex No. 2; Pyro Energy Corp. Edna Mine; Gulf Oil Corp. Energy No. 1/Foidel Creek; Getty Minerals Energy No. 2; Getty Minerals Energy No. 3; Getty Minerals Grassy Creek Coal Mine No. 1; Rockcastle Company Hayden Gulch; Morrison-Knudsen, Inc. (operator) Meadows No. 1; A.T. Massey Seneca II; Peabody Coal Company
49	WELD Keenesburg Strip; Coors Energy

EXPLANATION

- ✕ 47 Surface mine and number
- 24 Underground mine and number
- COAL REGION Coal region name
- TRINIDAD FIELD Coal field name
- Approximate extent of known and speculated coal resource areas
- Railroads

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