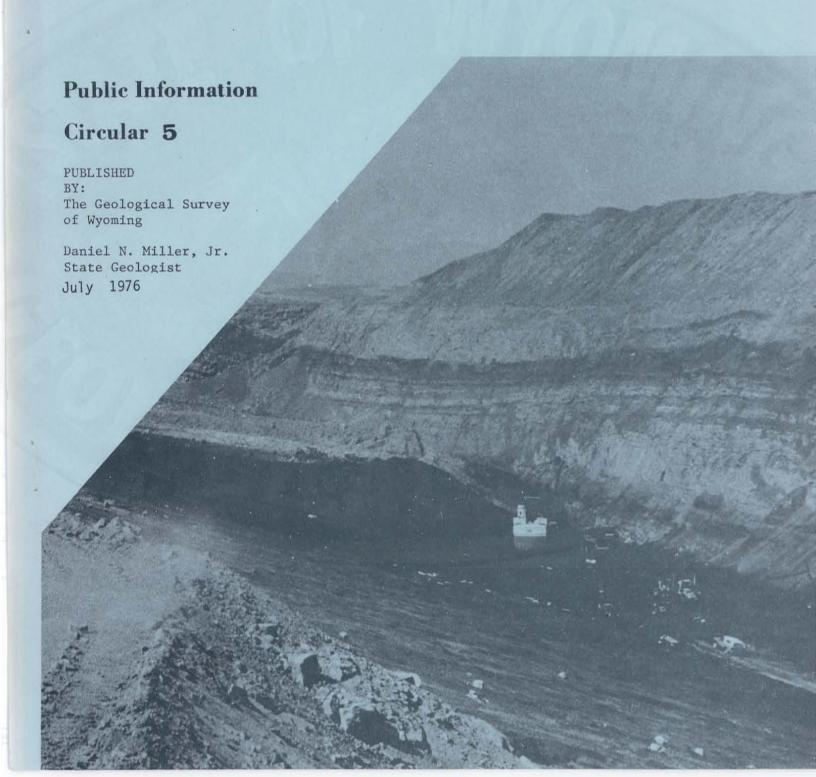
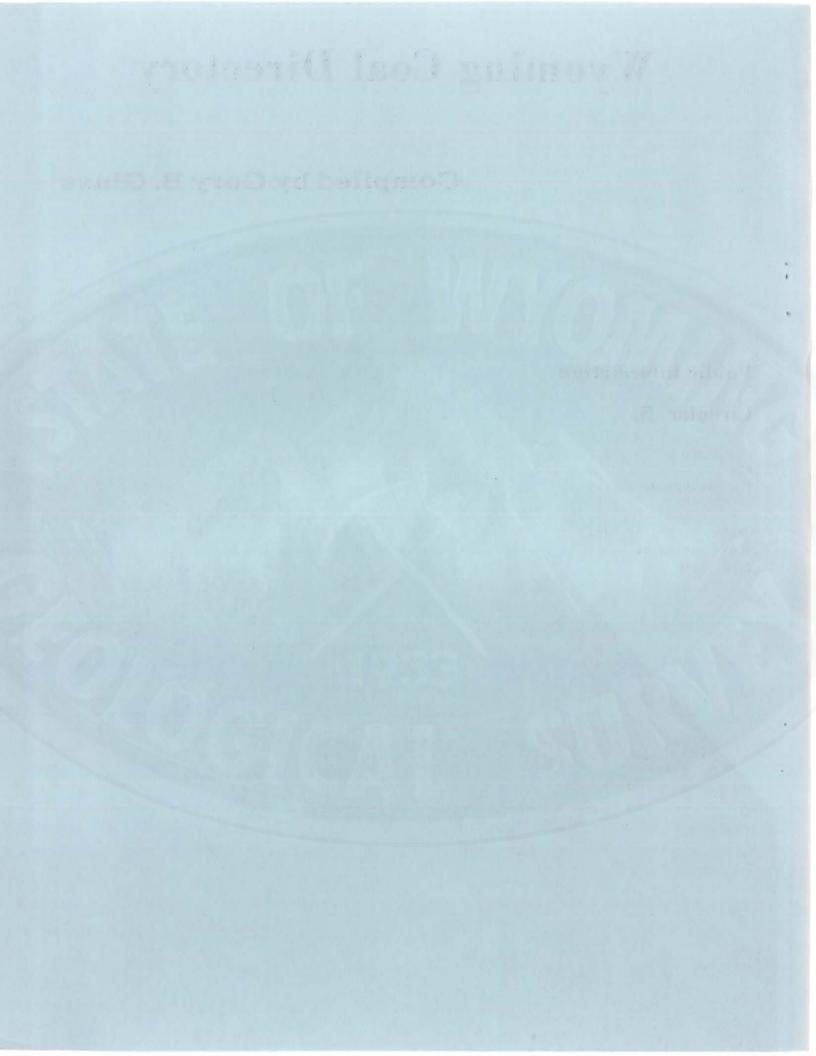
Wyoming Coal Directory

Compiled by Gary B. Glass





Wyoming Coal Directory

COMPILED BY GARY B. GLASS

July 1976



Public Information Circular 5

THE GEOLOGICAL SURVEY OF WYOMING DANIEL N. MILLER, JR. STATE GEOLOGIST

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AGENCIES

COMMISSIONER OF PUBLIC LANDS

A. E. King, Commissioner Capitol Building Cheyenne, WY 82002 (307) 777-7331

DEPARTMENT OF ECONOMIC PLANNING AND DEVELOPMENT

John Niland, Director 720 West 18th Street Cheyenne, WY 82001 (307) 777-7284

Mineral Development

John T. Goodier, Chief - Mineral Development (Address and phone as above)

DEPARTMENT OF ENVIRONMENTAL QUALITY

Robert Sundin, Director
Randolph Wood, Air Quality
Arthur Williamson, Water Quality
Walter Ackerman, Land Quality
State Office Building West
Cheyenne, WY 82002
(307) 777-7391

GEOLOGICAL SURVEY OF WYOMING

Daniel N. Miller, Jr., State Geologist and Director Room 103, Geology Building Box 3008, University Station Laramie, WY 82071 (307) 742-2054 or 766-2286

Coal Office

Gary B. Glass, Staff Geologist (Address and phone as above)

NATURAL RESOURCES RESEARCH INSTITUTE

Walter E. Duncan, Division Director Room 205, NRRI Building Box 3038, University Station Laramie, WY 82071 (307) 766-3322 or 766-3333

OFFICE OF INDUSTRIAL SITING ADMINISTRATION

Blaine E. Dinger, Director Suite 500, Boyd Building Cheyenne, WY 82002 (307) 777-7368

OFFICE OF LAND USE ADMINISTRATION

James G. Ahl, Executive Director Suite 500, Boyd Building Cheyenne, WY 82002 (307) 777-7493

STATE ENGINEER'S OFFICE

George Christopulos, State Engineer State Office Building Cheyenne, WY 82002 (307) 777-7354

STATE INSPECTOR OF MINES

Marino Pierantoni, State Inspector of Mines P. O. Box 1094 Rock Springs, WY 82901 (307) 362-5222

STATE PLANNING COORDINATOR

David Freudenthal 2320 Capitol Avenue Cheyenne, WY 82002 (307) 777-7574

U. S. BUREAU OF LAND MANAGEMENT

Dan Baker, Wyoming State Director Bureau of Land Management Office Federal Building Cheyenne, WY 82001 (307) 778-2220

U. S. BUREAU OF MINES

Charles Koch Liaison Officer for Wyoming P. O. Box 1796 Cheyenne, WY 82001 (307) 778-2220 ext. 2481

U. S. DEPARTMENT OF AGRICULTURE

Milo Jean Hassell Forest Service Surface Environment and Mining (SEAM)

145 Grand Avenue Billings, MT 59103 (406) 245-3143

U. S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

Andrew Decora, Research Director Laramie Energy Research Center P. O. Box 3395 365 North 9th Street Laramie, WY 82070 (307) 742-2115

U. S. GEOLOGICAL SURVEY

Elmer M. Schell, Regional Geologist Branch of Mineral Classification 2001 Federal Building P. O. Box 2372 Casper, WY 82601 (307) 265-5550 ext. 3421

Northern Area

Al Czarnowsky, Mining Supervisor Mining Branch, Conservation Division Post Office Building Billings, MT (406) 245-6711 ext. 6181

Southern Area

J. Paul Storrs, Area Mining Supervisor Mining Branch, Conservation Division Room 6029, Federal Building Denver, CO 80202 (303) 234-3984

Western Area

Jack Moffitt, Area Mining Supervisor Mining Branch, Conservation Division 8432 Federal Building 125 South State Street Salt Lake City, UT 84111 (801) 524-5646

UNIVERSITY OF WYOMING DEPARTMENT OF MINERAL ENGINEERING

Dr. Donald L. Stinson, Head Engineering Building, Room 436 University Station Laramie, WY 82071 (307) 766-5186 or 766-5185

WYOMING MINING ASSOCIATION

William H. Budd, Jr., Executive Secretary 310 West Midwest Avenue P. O. Box 3076 Casper, WY 82601 (307) 265-7060

COAL-FIRED POWER PLANTS

BASIN ELECTRIC POWER COOPERATIVE

316 North 5th Street Bismarck, ND 58501

(See Missouri Basin Power Project)

BLACK HILLS POWER AND LIGHT COMPANY

N. G. Simpson, President W. G. Westre, Vice Pres. Engr. 625 Ninth Street Rapid City, SD 57701 (605) 348-1700

Neil Simpson Plant

Campbell Co.; Wyodak, WY T.50N., R.71W., Section 27 Capacity: 27.7 Mm°(Will be dismantled after completion of the Wyodak plant) Fuel requirements: .2 mtpy*

Osage Plant

Weston Co.; Osage, WY T.46N., R.63W., Section 15 Capacity: 34.5 MW Fuel requirements: .24 mtpy

Proposed Wyodak Plant (Air-cooled)

Campbell Co.; Wyodak, WY
T.50N., R.71W., Section 27
Planned capacity: 330 MW by 1977
(1st unit)
Expansion: 360-660 MW by 1982
(2nd unit)
Total planned capacity: 690-990
MW by 1982
Fuel requirements: 2.5-4 mtpy

IDAHO POWER COMPANY

(See Pacific Power & Light Co.'s Jim Bridger Plant)

*tpy - tons per year **myn - million ⁺mtpy - million tons per year °MW - megawatt or 1 million watts

MISSOURI BASIN POWER PROJECT

(Joint venture of Basin Electric, Tri-State Generation and Transmission and others)

Lloyd Ernst, Wyoming Manager 1810 Capitol Avenue Cheyenne, WY 82002 (307) 634-7955

Proposed Laramie River Station

Platte Co.; Wheatland, WY
T.25N., R.67W., Section 21
Planned capacity: 500 MW by 1979
(1st unit)
Expansion: 500 MW by 1981 (2nd unit)
500 MW by 1982-83
(3rd unit)
Fuel requirements: 5.5 mtpy max.

MONTANA-DAKOTA UTILITIES COMPANY

W. W. Kroeber, Vice President 400 N. 4th Street Bismarck, ND 58501 (701) 224-3000

Acme Plant

Sheridan Co.; Acme, WY T.57N., R.84W., Section 21 Capacity: 12 MW Fuel requirements: 26,000 tpy* (May be shut down in 1976 or 1977)

PACIFIC POWER & LIGHT COMPANY

C. P. Davenport, Vice President 920 S.W. 6th Avenue Portland, OR 97204 (503) 243-1122

Dave Johnston Plant

Converse Co.; Glenrock, WY T.33N., R.74W., Section 18 Capacity: 750 MW Fuel requirements: 2.8 mtpy

Jim Bridger Plant

Sweetwater Co.; Point of Rocks, WY
T.20N., R.103W., Section 3
Capacity: 1000 MW
Expansion: 500 MW by 1978 (3rd unit)
500 MW by 1980 (4th unit)
Total planned capacity: 2000 MW by
1980's
Fuel requirements: 7.5 mtpy max.

(Pacific Power & Light cont.)

Proposed Wyodak (Air-cooled)

(See details under Black Hills Power & Light)

Proposed Sheridan Plant

Sheridan Co.; no specific site Planned capacity: 500 MW by mid 1980's

Fuel requirements: 1.5 mtpy
(In study stage with sites in Washington and Oregon also under consideration; coal would be supplied from
a mine in Sheridan Co., WY or from
the Decker mine in MT even if the
plant wasn't built in Wyoming; considering shipping coal by rail or
slurry pipeline if necessary.)

TIPPERARY CORPORATION

Midland, TX

Proposed Ucross Plant

Sheridan or Johnson Co.; Ucross, WY No specific site or plans given (Status unclear at this time.)

TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.

P. O. Box 29198 Northglenn, CO 80229

(See Missouri Basin Power Project)

UTAH POWER AND LIGHT COMPANY

D. L. Bryner, Vice President P. O. Box 899 1407 West North Temple Salt Lake City, UT 84110 (801) 350-3310

Naughton Plant

Lincoln Co.; Kemmerer, WY
T.21N., R.116W., Section 32
Capacity: 710 MW (3 units)
Expansion: 430 MW by 1978 (4th unit)
430 MW by 1979 (5th unit)
Total planned capacity: 1570 MW by
1979
Fuel requirements: 5 mtpy max.

COAL CONVERSION PLANTS

CARTER OIL COMPANY

F. L. Linauer P. O. Box 120 Denver, CO 80201 (303) 761-6470

Type of plant: Gasification
Size of plant: 250 mmcf/day
Status: Study and planning began
in 1974; possibly planned for the
1980's, although status unclear
Location: Probable site in T.51N.,
R.82W. (Campbell County)

CHAMPLIN PETROLEUM COMPANY

Fort Worth, TX

Type of plant: Gasification Size of plant: 250 mmcf/day Status: Studying feasibility Location: Southern Wyoming

COLORADO INTERSTATE GAS COMPANY

2951 Chambers Road Denver, CO 80239 (303) 364-2631

Type of plant: Gasification Size of plant: Unspecified Status: Studying feasibility Location: Southwestern Wyoming (Sweetwater County)

NORTHERN NATURAL GAS

(Joint venture with Peabody Coal Co. and Cities Service Gas Co.)

J. R. Brady 2223 Dodge Street Omaha, NE 68102 (402) 348-4979

Type of plant: Gasification Size of plant: 250 mmcf/day Status: Studying feasibility of building four plants in Montana and/or Wyoming; current status unclear Location: Montana and Wyoming

PANHANDLE EASTERN PIPE LINE COMPANY

G. J. Kurk, Vice President P. O. Box 1642 Houston, TX 77001

(See Wyoming Coal Gas Company)

TEXACO, INC.

Jim Logan Wyoming Division Story, WY 82842 (307) 683-2830

Type of plant: Gasification
Size of plant: Demonstration
Status: Filed application for joint
funding by ERDA in 1975; application denied in June, 1976; current
status unclear
Location: Sheridan or Johnson County
WYOMING COAL GAS COMPANY

(Joint venture of Wy Coal Gas, Inc., a subsidiary of Panhandle Eastern Pipe Line Co., and Rochelle Coal Co., a subsidiary of Peabody Coal Co.)

H. R. Newsom
P. O. Box 1642
Houston, TX 77001
(713) 664-3401 or 800-442-6910 (a
 toll free information number)

Type of plant: Gasification
Size of plant: 270 mmcf/day
Status: Planned for completion in
1979-1980
Location: T.35N., R.70W., Section
14 (Converse County)
Coal requirements: 9.2 mtpy
Water requirements: 4,750-11,000
acre ft./yr.
Cost: \$1.3 billion

COAL MINES

AMAX COAL COMPANY

W. H. Hopper, President 105 S. Meridian Street Indianapolis, IN 46225 (317) 266-2626

or

Jack Lautenschlager, General Manager 205 Ross Gillette, WY 82716 (307) 682-8857

Federal coal leases: 2 leases totaling 5,880.31 acres (Campbell County) State coal leases: 1 lease of 640 acres (Campbell County)

Belle Ayr South (strip)

A.J. Arnold, Mine Superintendent P. O. Box 1880 Gillette, WY 82716 (307) 682-7295

Campbell Co.; south of Gillette T.48N., R.71W., Section 34
Coal field: Powder River
Coal name: Wyodak-Anderson
Rank: Subbituminous
Coal thickness: 70 ft.
Overburden: 15-200 ft. (30 ft. now)
Mining method: Shovel-truck
Opened: 1972
1975 production: 3,288,000 tons
Est. 1976 production: 5 myn** tons
Est. 1980 production: 10-15 myn
tons

Employees, 1975: 75
Est. employees, 1976: 150
Est. employees, 1980: 225-250
Est. employees, 1985: 225-300
Unit trains, 1975: 7-9 trains/week
Est. total reserves: 400 myn tons

Proposed Belle Ayr North (strip)

Campbell Co.; north of Gillette T.51N., R.72W., Section 27 Coal field: Powder River Coal name: Wyodak-Anderson (2 benches)

Rank: Subbituminous
Coal thickness: 50-120 ft; 15-80 ft.
Overburden: max. 200 ft.
Mining method: Unknown
Opened: Planned for 1977
Est. 1985 production: 15-20 myn tons
Est. employees, 1980: 250

Est. employees, 1985: 250-300 Est. total reserves: 500 myn tons (Amax Coal Company cont.)

Amax Contracts

American Electric Power Co. (AEP), New York, NY Barges some coal into the Ohio River Valley; no details

Indiana & Michigan Electric Co. (AEP) Sullivan, IN 25 yr. contract for est. 200 myn tons @ 7-10 mtpy; begins 1976; for 2600 MW power plant (probably expansion of Breed Plant)

Iowa Southern Utilities Co.
Burlington, IA
No contract details; may no longer
be active; began before 1975; for
207 MW Burlington Plant.

Kansas Gas and Electric Co. and Kansas City Power & Light Co. La Cygne (Kansas City), MO 20 yr. contract for est. 20 myn tons @ 1 mtpy begins 1976; for 630 MW La Cygne Station power plant.

Kansas Power & Light Co. St. Mary's (Topeka), KS 40 yr. contract for 200 myn tons @ est. 5 mtpy; begins 1978; for 2800 MW power plant.

Portland General Electric Co. Boardman, OR. 24 yr. contract for est. 30 myn tons @ 1.2 mtpy; begins 1979; for 550 MW Boardman Station (Est. \$6-6.50 per ton FOB mine).

Public Service Company of Colorado Denver, CO. No contract details; began in 1973; for power plant (est. 1 mtpy).

Public Service Company of Colorado Pueblo, CO

20 yr. contract for 20 myn tons @ est. 1 mtpy began 1973; for 350 MW Comanche Plant.

Southwestern Electric Power Co. Avinger (Cason), TX 25 yr. contract for 42.5 myn tons @ est. 3.5 mtpy begins 1976; for 528 MW Welsh Plant and 530 MW Cason Plant

Southwestern Electric Power Co. and Arkansas Electric Co-Operative Corp. Siloam Springs, AR Contract for 1.75 mtpy begins 1980; no other details; for 530 MW Flint Creek Plant

Est. 1980 production based on these contracts is 24.5 mtpy.

ARCH MINERAL CORPORATION

(Joint venture of Hunt Enterprises and Ashland Oil Co.)

W. G. Heckman, President 500 N. Broadway St. Louis, MO 63102 (314) 231-1010

Federal coal leases: 10 leases totaling 11,815.99 acres (Carbon County) lessee listed as Ark Land Co. or Medicine Bow Coal Co. State coal leases: 90 leases totaling 84,253.35 acres (9 counties)

Seminoe No. 1

John Hamby, Mine Superintendent Box 459 Hanna, WY 82327 (307) 325-6581

Carbon Co.; west of Hanna T.22N., R.83W., Section 7 Coal field: Hanna Coal names: Bed No. 24, Bed No. 25 Rank: Subbituminous Coal thickness: 19-22 ft., 4-7 ft. Overburden: 40-200 ft. Mining method: Dragline Opened: 1972 1975 production: 2,759,168 tons Est. 1976 production: 3 myn tons Est. 1980 production: 3 myn tons Employees, 1975: 120 Est. employees, 1976: 135 Est. employees, 1980: 165 Unit trains, 1974: 6-7 trains/week Est. total reserves: 75 myn tons

Seminoe No. 2 (strip)

Bob Wunderlich, Mine Superintendent (Address as above) (307) 325-6556

Carbon Co.; north of Hanna
T.22N., R.81W., Section 4
Coal field: Hanna
Coal name: Hanna No. 2
Rank: Subbituminous
Coal thickness: 35 ft.
Overburden: 40-250 ft.
Mining method: Dragline
Opened: 1972
1975 production: 2,941,432 tons
Est. 1976 production: 2.5 myn tons
Est. 1980 production: 1.9-2.3 myn
tons

Employees, 1975: 85
Est. employees, 1976: 85
Est. employees, 1980: 85
Unit trains, 1974: 4-5 trains/week
Est. total reserves: 75 myn tons

(Arch Mineral Corp. cont.)

Proposed China Butte Area
(strip)

(Joint venture with Rocky Mountain Energy Co.)

Carbon Co.; southwest of Rawlins T.18N., T.91W., Section 15 Coal field: Little Snake River Coal names: Ft. Union coals designated A-G

Rank: Subbituminous Coal thickness: Range from 4-26 ft. Overburden: Max. 150 ft. Mining Method: Dragline-shovel-

truck Opened: Planned 1979

Est. 1980 production: 1-4 myn tons

Est. employees, 1980: 100 Unit trains: Yes

Unit trains: Yes Est. total reserves: 144 myn tons

Arch Mineral Contracts

Commonwealth Edison Co. Hammond, IN and Waukegan, IL Contract for est. 3 mtpy began 1973; no other details; for 944 MW State Line Plant and 1047 MW Waukegan No. 1 Plant.

Kansas City Power & Light Co.
Kansas City, MO
Contract for 1 mtpy began 1973;
no other details; for power plant.

Wisconsin Electric Power Co. Milwaukee, WI 11 yr. contract for 8 myn tons @ est. 750,000 tpy; for 1500 MW Oak Creek Plant

Other miscellaneous shipments to Nebraska and Iowa power plants.

Est. 1980 production based on these contracts is 4.9 mtpy.

ATLANTIC RICHFIELD

Hugh Evans, Coal Operations Manager 1500 Security Life Building Denver, CO 80202 (303) 573-3518

oz

Brook Beaird 316 South Gillette Avenue Gillette, WY 82716 (Atlantic Richfield cont.)

Federal coal leases: 3 leases totaling 11,684.31 acres (Campbell County) State coal leases: 32 leases totaling 32,757.73 acres (Campbell and

Proposed Black Thunder (strip)

Converse Counties)

Campbell Co.; south of Gillette T.43N., R.70W., Section 27
Coal field: Gillette
Coal name: Wyodak-Anderson
Rank: Subbituminous C
Coal thickness: 60-73 ft.
Overburden: 15-240 ft.
Mining method: Shovel-truck
Opened: Planned for 1977-1979
Est. 1980 production: 10 myn tons
Est. employees, 1980: 225-500
Unit trains: Planned
Est. total reserves: 725 myn tons

Proposed Coal Creek (strip)

Campbell Co.; south of Gillette T.46N., R.70W., Section 18 Coal field: Gillette Coal name: Wyodak-Anderson Opening: Planned for late 1970's Est. 1980 production: 5-10 myn tons Est. employees, 1985: 250-400

Atlantic Richfield Contracts

Nebraska Public Power District Sutherland, NB 20 yr. contract for est. 36 myn tons @ 1.8 mtpy begins 1977; for 600 MW Gerald Gentleman Station

Oklahoma Gas & Electric Co. Muskogee, OK

20 yr. contract for est. 60 myn tons @ 3 mtpy begins 1976; for 1100 MW Muskogee Plant

Southwestern Public Service Co. Amarillo, TX 20 yr. contract for est. 40 myn tons @ 2 mtpy begins 1975; for 720 MW Harrington #1 Plant

Est. 1980 production based on these contracts is 6.8 mtpy.

BIG HORN COAL COMPANY

(Subsidiary of Peter Kiewit Sons, Co.)

John F. Ratchye, Vice President Box 724 Sheridan, WY 82801 (307) 672-3401 or 674-6415

Federal coal leases: 1 lease of 80 acres (Sheridan County) State coal leases: 1 lease of 640 acres (Sheridan County)

Big Horn No. 1 (strip)

Ed Temple, Mine Superintendent (Address and phone as above)

Sheridan Co.; north of Sheridan T.57N., R.84W., Section 22 Coal field: Sheridan Coal names: Monarch, Dietz #3; Dietz #2

Rank: Subbituminous Coal thickness: 22-26 ft., 21-25 ft., 10-11 ft.

Overburden: 15-250 ft.
Mining method: Scraper-shovel-truck
Opened: 1944
1975 production: 787,123 tons
Est. 1976 production: 1 myn tons
Est. 1980 production: 1.5 myn tons
Employees, 1975: 80
Est. employees, 1976: 80
Est. employees, 1980: 80
Unit trains: No

Big Horn Contracts

Illinois Power Co. Havana, IL Contract began prior to 1974; no other details; for 260 MW Havana Plant

Kansas City Power & Light Co.
Kansas City, MO
Contract for est. 350,000 tpy began
before 1973; no other details; for
power plant

Northern States Power Co. Sioux Falls, SD Contract began before 1973; no other details; for 45 MW Lawrence Plant

Northwestern Public Service Co. Aberdeen & Mitchell, SD Contract began before 1973; no other details; for 12.5 MW Aberdeen Plant and 12.5 MW Mitchell Plant

(Big Horn Coal Co. cont.)

Also marketed to Great Western Sugar in Nebraska and Montana; Montanabakota Utilities in Wyoming; other industrial and domestic users in South Dakota, Idaho, Iowa, North Dakota, Minnesota, Washington, and Wyoming

Est. 1980 production from these contracts is 1.5 million tons.

BITTER CREEK COAL COMPANY

(Subsidiary of Rocky Mountain Energy Company)

Suite 500, 1st National Bank Bldg. 621 17th Street Denver, CO 80202 (303) 893-3737

(See Black Butte Coal Co.)

BLACK BUTTE COAL COMPANY

(Joint venture of Bitter Creek Coal Co., a subsidiary of Rocky Mountain Energy Co., and Wytana, Inc. a subsidiary of Peter Kiewit Sons, Co.)

P. O. Box 724 Sheridan, WY 82801 (307) 672-3401

Federal coal leases: 5 leases totaling 14,900 acres were issued in March 1976 under Rosebud Coal Sales State coal leases: None

Proposed Black Butte (strip)

Jim Wilson, Mine Manager Black Buttes Coal Company Box 98 Point of Rocks, WY 82942 (307) 362-6613

Sweetwater Co.; near Point of Rocks T.19N., R.100W., Section 27
Coal field: Rock Springs
Coal names: Deadman, Ute, Lebar,
Nuttal, Overland, Gibralter, Black
Butte, Maxwell, and Hall
Rank: Subbituminous
Coal thickness: 5-26 ft.
Overburden: 40-150 ft.
Mining method: Dragline

(Black Butte Coal Co. cont.)
Opened: Planned for 1978
Est. 1980 production: 4-4.5 myn

Est. 1980 employees: 200-220 Unit trains: Planned

Est. total reserves: 83-110 myn tons

Black Butte Contracts

Idaho Power Co.
Near Boise, ID
20 yr. contract for 82.6 myn tons
@ 4-4.5 mtpy begins 1977; for
1000 MW power plant

Est. 1980 production from this contract is 4-4.5 mtpy.

BRIDGER COAL COMPANY

(Subsidiary of Pacific Power & Light Company)

920 S. W. 6th Avenue Portland, OR 97204 (503) 226-7411

Federal coal leases: 3 leases totaling 8,435.68 acres (Sweetwater County) State coal leases: 1 lease of 1,280

Jim Bridger

Andrew Franklin, Mine Manager P. O. Box 1688 Rock Springs, WY 82901 (307) 382-9741

acres (Sweetwater County)

Sweetwater Co.; near Point of Rocks T.21N., R.100W., Section 20 Coal field: Rock Springs Coal names: Deadman (upper & lower) Rank: Subbituminous Coal thickness: 15-30 ft. Overburden: 40-150 ft. Mining method: Dragline Opened: 1974 1975 production: 1,862,125 tons Est. 1976 production: 1.8 myn tons Est. 1980 production: 7.5 myn tons Employees, 1975: 22 Est. employees, 1976: 30-50 Est. employees, 1980: 200 Unit trains: No; mine mouth plant Est. total reserves: 140 myn tons

(Bridger Coal Co. cont.)

Jim Bridger Contracts

Pacific Power & Light Co. and Idaho
Power Co.

Point of Rocks, WY 140 myn tons are dedicated to the 2000 MW Jim Bridger Plant @ up to 7.5 mtpy

CARTER MINING COMPANY

(Subsidiary of Exxon Corporation)

C. E. Smith, Jr., President P. O. Box 120 Denver, CO 80201 (303) 761-2950

or

Box 209 Gillette, WY 82716 (307) 682-7253

Federal coal leases: 4 leases totaling 15,570.5 acres (Campbell County) State coal leases: 158 leases totaling 152,655.19 acres (4 counties)

Proposed North Rawhide (strip)

Campbell Co.; north of Gillette, WY T.51N., R.72W., Section 13 Coal field: Powder River Coal name: Wyodak-Anderson (2 benches)

Rank: Subbituminous
Coal thickness: 25 and 82 ft.
Overburden: 20-240 ft.
Mining method: Shovel-truck-scraper
Opened: Planned for 1977
Est. 1980 production: 5-12 myn tons
Est. 1985 production: 22 myn tons
Employees, 1976: 110
Est. 1980 employees: 300
Unit trains: Planned
Est. total reserves: 680 myn tons
Proposed Coballo
(strip)

Campbell Co.; south of Gillette T.48N., R.77W., Section 16
Coal field: Powder River
Coal name: Wyodak-Anderson
Rank: Subbituminous
Coal thickness: est. 70 ft.
Overburden: 20-200 ft.
Mining method: Probably shoveltruck-scraper
Opened: Planned for late 1976 or
1977

(Carter Mining Co. cont.)

Est. 1980 production: 2-5 myn tons Est. 1980 employees: 150 Unit trains: Planned Est. total reserves: Unknown

(Announced intentions to open this mine on State and private lands because of the lack of a federal mining permit at the North Rawhide Mine. Current status unclear.)

Carter Contracts

Indiana & Michigan Electric Co. (AEP) IN

30 yr. contract for 150 myn tons 0 5 mtpy begins 1976; for 1300 MW power plant

Omaha Public Power District Nebraska City, NB 20 yr. contract for 31.6 myn tons @ 1.5 mtpy; begins 1978 (Est. \$5.20-5.30 per ton)

COLUMBINE MINING COMPANY

(Affiliate of Midcontinent Coal & Coke of Colorado)

J. A. Reeves, President P. O. Box 158 Carbondale, CO 81623

or

P. O. Box 1356 Rock Springs, WY 82901 (307) 362-3078

Federal coal leases: 1 lease of 1,751.54 acres (Sweetwater County) State coal leases: None

Rainbow No. 8 (deep)

Jim Diamanti, Mine Foreman P. O. Box 158 Rock Springs, WY 82901 (307) 362-3078 or 382-9691

Sweetwater Co.; near Rock Springs T.18N., R.105W., Section 23 Coal field: Rock Springs Coal name: No. 7 bed Rank: Bituminous Coal thickness: 4-6 ft. Maximum depth: 300+ ft. Mining method: Continuous miners and conventional

Opened: 1972

(Columbine Mining Co. cont.)

1975 production: 56,042 tons
Est. 1976 production: 100,000 tons
Est. 1980 production: 200,000 tons
Employees, 1975: 71
Est. employees, 1976: 70
Est. employees, 1980: 70
Unit trains: No

Columbine Contracts

Entire production is converted into synthetic coke at mine mouth plant. Coke is sold to Monsanto Company's phosphorous plant, Soda Springs, ID (formerly owned by Gunn-Quealy Coal Company).

DANA COAL COMPANY

(Subsidiary of Arch Mineral Corp.)

W. G. Heckman, President 319 North 4th Street St. Louis, MO 63102 (314) 231-1010

(See Medicine Bow Coal Company.)

DRAVO CORPORATION

Robert Dickey, III One Oliver Plaza Pittsburgh, PA 15222

(See Rocky Mountain Energy Company.)

DRUMMOND COMPANY

Garry N. Drummond, President P.O. Box 1549 Jasper, AL 35501 (205) 387-0501

(see Rocky Mountain Energy Company)

EL PASO NATURAL GAS COMPANY

(Joint venture with Western Fuel Association)

John P. Jones, Manager P. O. Box 1492 El Paso, TX 79978

Federal coal leases: Only prospecting permits State coal leases: None

(El Paso Natural Gas Co. cont.)

Proposed Thunderbird (strip)

Campbell and Johnson Co.; east of Buffalo T.50N., R.76W.

T.50N., R.76W.

Coal field: Powder River

Coal names: Felix and Ulm

Rank: Subbituminous

Coal thickness: 12-15 ft.

Overburden: Less than 150 ft.

Mining method: Unspecified

Opened: Planned for late 1970's

Est. 1980 production: 3-5 myn tons

Est. 1980 employees: Unspecified

Unit trains: Probable

El Paso Contracts

Western Fuel Association for 1500 MW Laramie River Station, Wheatland, WY, and for unspecified power plants in Colorado, North Dakota and Louisiana. No details on contracts.

ENERGY DEVELOPMENT COMPANY

(Subsidiary of Iowa Public Service Company)

Frank Griffith, President Box 778 Sioux City, IA 55102 (712) 277-7500

or

E. F. Ziolkowski, Vice President Harry Hedgepeth, Mine Manager P. O. Box 36 Hanna, WY 82327 (307) 325-6566 or 325-6725

Federal coal leases: None State coal leases: 1 lease of 640 acres (Carbon County)

Rimrock (strip)

Thomas Bennett, General Superintendent Resource Exploration & Mining Box 6 Hanna, WY 82327 (307) 325-6633

Carbon Co.; west of Hanna T.22N., R.82W., Sections 4 & 9 Coal field: Hanna Coal name: Brooks

(Energy Development Co. cont.)

Rank: Subbituminous
Coal thickness: 7.5 ft.
Overburden: 40-80 ft.
Mining method: Dragline
Opened: 1970
1975 production: 669,400 tons
Est. 1976 production: 700,000 tons
Est. 1980 production: ?
Employees, 1975: 77
Est. employees, 1976: 77
Unit trains: See Vanguard No. 2

Vanguard No. 1

Carbon Co.; west of Hanna
T.22N., R.82W., Section 8
Coal field: Hanna
Coal name: Bed No. 65
Rank: Subbituminous
Coal thickness: 9 ft
Maximum depth: 300-400 ft.
Mining method: Continuous miners
Opened: 1971
1975 production: Included with
Vanguard No. 2

Employees, 1975: 18
Est. 1976 production: Mine closed
Vanguard No. 2
(deep)

Doyce Easterling, General Mine Foreman

P. O. Box 36 Hanna, WY 82327 (307) 325-6566

Carbon Co.; west of Hanna
T.22N., R.82W., Section 18
Coal field: Hanna
Coal name: Bed No. 50
Rank: Subbituminous
Coal thickness: 9.5 ft.
Maximum depth: 300 ft.
Mining method: Continuous miners
and conventional

Opened: 1974
1975 production: 309,786 tons
Est. 1980 production: 1-2 myn tons
Employees, 1975: 134
Est. employees, 1980: 150
Unit trains: 2-3 trains/week

Vanguard No. 3

(Address and phone as above)

Carbon Co.; west of Hanna T.22N., R.82W., Section 7 Coal field: Hanna Coal name: Bed No. 65 Rank: Subbituminous (Energy Development Co. cont.)

Coal thickness: 9 ft.
Maximum depth: Unknown
Mining method: Continuous miners
and conventional

Opened: 1975

1975 production: Included with Vanguard No. 2 Est. 1980 production: 300,000 tons Employees, 1975: 39 Est. employees, 1980: 150

Unit trains: See Vanguard No. 2 Proposed Red Rim Area (strip)

Carbon County; southwest of Rawlins T-20N., R.90W., Section 26
Coal field: Little Snake River
Coal name: Ft. Union coals designated A-H
Rank: Subbituminous
Coal thickness: 4-24 ft.
Overburden: Max. 150 ft.
Mining method: Unspecified
Opened: Planned for 1979
Est. 1980 production: 2-2.5 myn
tons

Est. employees, 1980: 100 Unit trains: Probable Est. total reserves: 99 myn tons

Energy Contracts

Iowa Public Service Co. Salix, IA All production now dedicated to the 520 MW George Neal Plant

FALCON COAL CO., INC. (Falcon Seabord, Inc.) J. L. Jackson, President P. O. Box 629 Jackson, KY 41339 (606) 666-7581

Proposed Mine (strip)

Campbell Co.; south of Gillette
T.51N., R.74W., Section 18, SW 1/4
Coal field: Powder River
Coal name: Felix
Rank: Subbituminous
Coal thickness: Unspecified
Overburden: Unspecified
Mining method: Unspecified
Opened: Planned for 1977 or later
Est. 1977 production: 350,000 tons
Unit trains: Unlikely

FMC COAL COMPANY

609 W. Maple Street W. Pocatello, ID 83201

Federal coal leases: 3 leases totaling 3,968 acres (Uinta and Lincoln Counties) State coal leases: None

Proposed FMC (strip)

Russell E. Hynes Natural Resources Dept. P.O. Box 431 Kemmerer, WY 83101 (307) 877-3916

Lincoln Co.; south of Kemmerer T.20N., R.117W., Section 27
Coal field: Kemmerer
Coal names: Adaville No. 1
Rank: Subbituminous
Coal thickness: 40-60 ft.
Overburden: 40-120 ft.
Mining method: Unknown
Opened: Planned for 1976
Est. 1976 production: 600,000 tons
Est. 1980 production: 1-2 myn tons
Est. 1976 employees: 50-60
Est. 1980 employees: 60-100
Unit trains: No

FMC Contracts

Most production will go to the FMC's Green River trona plant, Green River, Wyoming; some to FMC's process coke plant, Kemmerer, WY

HANNA BASIN COAL COMPANY

(Subsidiary of Rocky Mountain Energy Company)

Suite 900, 621 17th Street Denver, CO 80202 (303) 893-3737

(See Medicine Bow Coal Co.)

IDEAL BASIC INDUSTRIES, INC.

Mayfield R. Shilling, President 821 17th Street Denver, CO 80202 (303) 222-5661

(See Stansbury Coal Company)

KEMMERER COAL COMPANY

John L. Kemmerer, Jr., Chairman 120 Broadway New York, NY 10005 (212) 732-0191

or

Roy Coulson, President Frontier, WY 83121 (307) 877-4452

Federal coal leases: 6 leases totaling 6,584.81 acres (Lincoln Co.) State coal leases: 41 leases totaling 40,391.65 acres (3 counties)

Elkol (strip)

Mike Zakotnik, Jr., General Mgr. Frontier, WY 83120 (307) 877-4452

Lincoln Co.; near Kemmerer T.21N., R.116W., Section 20 Coal field: Kemmerer Coal name: Adaville No. 1 Rank: Subbituminous B Coal thickness: 50-120 ft. Overburden: 130-160 ft. Mining method: Scraper-shovel-truck Opened: 1950 1975 production: 1,015,833 tons 900,000 tons Est. 1976 production: Est. 1980 production: 1 myn tons Employees, 1975: 150 Est. employees, 1976: 150 Est. employees, 1980: 80-150 Unit trains: No

Sorensen (strip)

Mike Zakotnik, General Manager (Address and phone same as above)

Lincoln Co.; near Kemmerer T.21N., R.116W., Section 19, 20, 31 and T.20N., R.117W., Sections 2, 3, 10 Coal field: Kemmerer Coal names: Adaville No. 2 thru Adaville No. 11 Rank: Subbituminous B Coal thickness: 4-35 ft. Overburden: 25-140 ft. (total relief in Big Pit approx. 300-400 ft.) Mining method: Combination of scrapers, draglines, shovels, and trucks Opened: 1963 1975 production: 1,717,258 tons

(Kemmerer Coal Company cont.)

Est. 1976 production: 2.5 myn tons Est. 1980 production: 3-5 myn tons Employees, 1975: 240 Est. employees, 1976: 240-350 Est. employees, 1980: 350-400 Unit trains: No

Proposed North Block Mine Area (strip)

Lincoln Co.; northwest of Kemmerer T.21N., R.116W., Section 5
Coal field: Kemmerer
Coal name: Adaville coals
Rank: Subbituminous
Coal thickness: 2.5-38 ft.
Overburden: 40-240 ft. est.
Mining method: Dragline
Opened: ? Planned for 1978-1980
Est. 1980 production: 2.4 myn tons
Est. employees, 1980: Unspecified
Unit trains: No

Kemmerer Contracts

Allied Chemical Co.
Green River, WY
Contract for up to 600,000 tons
per yr., began 1973; no other details, for Allied's trona plant

Amalgamated Sugar Co.

Id and OR

Contract for several hundred thousand tons per yr.; no other details;

for beet sugar factories

Utah Power & Light Company
Kemmerer, WY
23 yr. contract for est. 100 myn
tons @ 2.5-5 mtpy began prior to
1973; uses all coal mined from the
Sorensen mine; for 710 MW Naughton
Plant (under expansion to 1540 MW)

Miscellaneous cement and domestic contracts in Utah, Wyoming and Nebraska

Est. 1980 production based on these contracts is 4-6 myn tons

KERR-McGEE COAL CORPORATION

(Subsidiary of Kerr-McGee Corporation)

Frank A. McPherson, President North Walker Kerr-McGee Bldg. Oklahoma City, OK 73102 (405) 236-1313 (Kerr-McGee Coal Corp. cont.)

or

405 Church Street Gillette, WY 82716 (307) 682-4721

or

Roy Smith, Wyoming Manager 508 North Fenway Casper, WY 82601 (307) 265-7811

Federal coal leases: 5 leases totaling 8,695.19 acres (Campbell Co.)
State coal leases: 14 leases totaling 6,010.06 acres (4 counties)

Proposed East Gillette (strip)

Campbell Co.; east of Gillette
T.50N., R.71W.
Coal field: Gillette
Coal name: Wyodak-Anderson
Rank: Subbituminous
Coal thickness: 50-75 ft.
Overburden: Less than 200 ft.
Mining Method: Unspecified
Opened: Planned for 1979
Est. 1980 production: 1-7 myn tons
Est. 1985 production: 11-16 myn tons
Est. employees, 1980: 100-250
Unit trains: Planned
Est. total reserves: 378 myn tons

Proposed East Gillette No. 16 (strip)

Campbell Co.; east of Gillette T.50N., T.71W., Section 16
Coal field: Gillette
Coal name: Wyodak-Anderson
Rank: Subbituminous
Coal thickness: 50-75 ft.
Overburden: Less than 200 ft.
Mining method: Unspecified
Opened: Planned for 1978
Est. 1980 production: 4 myn tons
Est. employees, 1980: 100
Unit trains: Planned
Est. total reserves: 68 myn tons

Proposed Jacobs Ranch

Campbell Co.; south of Gillette T.43N., R.70W., Section 15 Coal field: Gillette Coal name: Wyodak-Anderson (3 benches) Rank: Subbituminous Coal thickness: 8 ft.; 43 ft; 6 ft. Overburden: 10-150 ft.

(Kerr-McGee Coal Corp. cont.)

Mining method: Shovel-truck Opened: Planned for 1977-1979 Est. 1980 production: 9-16 myn tons Est. employees, 1980: 250-300 Unit trains: Planned Est. total reserves: 319 myn tons

Kerr-McGee Contracts

Arkansas Power & Light Co. White Bluffs near Redfield, AR 20 yr. contract for 100 myn tons @ 5 mtpy begins 1977; 10 yr option on another 50 myn tons; for 1600 MW White Bluff Plant

Central Louisiana Electric Co. Boyce, LA 20 yr. contract for 34 myn tons @ est. 1.75 mtpy begins 1978; 10 yr. option on another 16 myn tons; for 430-450 MW Rodemaker Station

Gulf States Utilities Co. Westlake near Lake Charles, LA 20 yr. contract for 50 myn tons @ est. 2.5 mtpy begins 1977; for two 540-550 MW power plants

Public Service Company of Oklahoma 16 yr. contract for 50 myn tons @ est. 3.6 mtpy; begins 1978; for 1080 MW Northeastern plant at Colagah, OK

Est. 1980 production based on these contracts is 13.6 myn tons.

MAPCO COALS, INC.

(Division of Mapco, Inc.)

Frederick N. Murray, Chief Geologist Manager of Exploration and Land P. O. Box 3144 Casper, WY 82601 (307) 265-1410

Federal coal leases: None State coal leases: 148 leases totaling 138,226.88 acres (5 counties)

(Hold a large number of contiguous state coal leases in Sheridan and Johnson counties; plans not yet announced).

MEDICINE BOW COAL COMPANY

(Joint venture of Hanna Basin Coal Co., a subsidiary of Rocky Mountain Energy Co., and Dana Coal Co., a subsidiary of Arch Mineral Corp.)

Cedric Hustace, Secretary 550 North Broadway St. Louis, MO 63102 (314) 231-1010

Federal coal leases: Listed under Arch Mineral (Ark Land) State coal leases: Listed under Arch Mineral (Ark Land)

Medicine Bow (strip)

Gene Grubaugh, Mine Superintendent Box R Hanna, WY 82327 (307) 325-6586

Carbon Co.; west of Hanna T.23N., R.83W., Section 32 Coal field: Hanna Coal names: Bed Nos. 62; 63; 64; 65;

Rank: Subbituminous

Coal thickness: 3-10 ft.
Overburden: 20-200 ft.
Mining method: Dragline
Opened: 1975
1975 production: 2,506,379 tons
Est. 1980 production: 3-3.6 myn tons
Employees, 1975: 132
Est. employees, 1980: 135-300
Unit train: 2-3 trains/week
Est. total reserves: 36 myn tons

Medicine Bow Contracts

Iowa Public Service Co. Sioux City, IA Long term contract, but no details; possibly going to the 104 MW Maynard Plant, Waterloo, IA

Kansas City Power & Light Co. Topeka, KS Long term contract, but no details.

Northern Indiana Public Service Co. Wheatfield, IN 10 yr. contract for 15 myn tons @ est. 1.5 mtpy begins 1975; for 500 MW Kankakee Valley Plant

Est. 1980 production based on these contracts is 3.0 myn tons.

MOBIL OIL CORPORATION

E. C. Hixson, Exploration Manager P. O. Box 5444 Denver, CO 80217 (30) 572-3636

(Holds large coal leases in Campbell and Johnson Counties; plans not yet firm; possible coal conversion plant in late 1980's; large contiguous blocks of State coal leases in Johnson County contain an estimated 500 mun tons of coal.)
Federal coal leases: 1 lease of 4000 acres (Campbell County State coal leases: 21 leases totalling 21,482.29 acres (Johnson & two other counties)

Proposed Mine (strip)

Campbell County, south of Gillette T.47N., R.71W., Section 5 Coal field: Gillette Coal name: Wyodak-Anderson Rank: Subbituminous Opened: Planned for 1978-1979? Est. employees, 1985: 650

NORTHWESTERN RESOURCES

(Subsidiary of Western Energy Co., Billings, Montana)

Roger C. Rice, Sr., Manager of Exploration & Development 113 North Broadway Billings, MT 59101 (406) 252-2277

Federal coal leases: 1 lease of 120 acres (Hot Springs County) State coal lease: 4 leases totaling 1,969.6 acres (Hot Springs County)

Grass Creek (strip)

George Hornick, Mine Superintendent Box 608 Thermopolis, WY 82443 (Formerly Dusky Diamond Coal Co.)

Hot Springs Co.; near Grass Creek T.46N., R.99W., Section 26 Coal field: Grass Creek Coal name: Mayfield; Gwin Rank: Subbituminous Coal thickness: 24-32 ft.; unspecified

Overburden: thin Mining method: Front-end loader Opened: 1975

(Northwestern Resources cont.)

1975 production: 2,794 tons Est. 1980 production: 0.7-1.0 myn

Employees, 1975: 1 Est. employees, 1980: 35-50 Unit trains: No

Est. total reserves: 10 myn tons

Northwestern Resources Contracts

Miscellaneous domestic users in Montana and Wyoming

PACIFIC POWER & LIGHT COMPANY

G. A. Duell, Manager Coal Resources 920 S.W. 6th Avenue Portland, OR 97204 (503) 226-7411

Federal coal leases: 12 leases totaling 18,710.06 acres (3 counties) State coal leases: 13 leases tot.

State coal leases: 13 leases total-.
ing 11,040 acres (3 counties)

Dave Johnston Fuel Recovery Pit

Ed Paisley, Mine Superintendent Glen Goss, Mine Manager P. O. Box 298 Glenrock, WY 82637 (307) 436-2713

Converse Co.; near Glenrock T.36N., R.75W., Section 34 Coal field: Glenrock Coal name: School; Badger Rank: Subbituminous C Coal thickness: 30 ft.; 18 ft. Overburden: 60-110 ft. Mining method: Dragline Opened: 1958 1975 production: 3,231,649 tons Est. 1976 production: 2.8 myn tons Est. 1980 production: 2.8 myn tons Employees, 1975: 119 Est. employees, 1976: 110-120 Est. employees, 1980: 110-120 Unit trains: No; private railway Est. total reserves: 125 myn tons

Pacific Power Contract

Pacific Power & Light Co. Glenrock, WY 115 myn tons are dedicated to the

750 MW Dave Johnston Plant @ est. 2.8 mtpy.

PAN EASTERN COAL COMPANY

(Subsidiary of Panhandle Eastern Pipe Line Company)

G. J. Kurk, President P. O. Box 1642 Houston, TX 77001

(See also Rochelle Coal Company)

PEABODY COAL COMPANY

(Subsidiary of Kennecott Copper Corp.)

E. R. Phelps, President 301 N. Memorial Drive St. Louis, MO 63102

or

45 South Main Sheridan, WY 82801 (307) 674-6114

(See also Rochelle Coal Company)

Federal coal leases: 8 leases totaling 19,761.11 acres (Campbell & Sweetwater counties) State coal leases: 6 leases totaling 2000 acres (Campbell & Converse counties)

Proposed Mines

Reportedly studying or planning one or two strip mines in Wyoming; possibly for coal gasification plants of Northern Natural Gas Co.; mines to be located in Powder River Basin

Larger Campbell County lease locations: T.50N., R.71W. T.49N., R.71W.

T.41N., R.70W.

Coal field: Powder River and Gillette

Coal name: Wyodak-Anderson or D

Rank: Subbituminous

Opened: Planned for late 1970's

PETER KIEWIT SONS' COMPANY

Homer A. Scott, Vice President Mines and Quarries

Mining District P. O. Box 746 Sheridan, WY 82801 (307) 672-3401

(See Big Horn Coal Co., Black Butte Coal Co., and Rosebud Coal Sales Company) (Peter Kiewit Sons' Co. cont.)

Federal coal leases: See Big Horn Coal Co., and Rosebud Coal Sales Company State coal lease: 1 lease of 640 acres (Carbon County)

POWDER RIVER COAL COMPANY

(Subsidiary of Peabody Coal Co.)

E. R. Phelps, President 301 N. Memorial Drive St. Louis, MO 63102

(See Rochelle Coal Company)

POTASH CORPORATION OF AMERICA

(Division of Ideal Basic Industries; see Stansbury Coal Company)

PUBLIC SERVICE COMPANY OF OKLAHOMA

R. O. Newman, President 600 S. Main Street Tulsa, OK 74102 (918) 583-3611

Federal coal leases: None State coal leases: None

> Proposed PSO No. 1 (strip)

John Burk, Mine Manager Post Office Building Sheridan, WY 82801

Sheridan Co.; near Montana line T.58N., R.84W., Section 22 Coal field: Sheridan Coal name: Anderson; Dietz Rank: Subbituminous Coal thickness: 20 ft.; 40-50 ft. Overburden: Unspecified Opened: 1976 Est. 1980 production: 500,000 tons Est. employees, 1980: 45 Unit trains: No; plan to share Big Horn or other tipple

Public Service Contracts

Production will be used in the company's 643 MW Northeastern Plant (expanding to 1093 MW by 1979) and the 340 MW Riverside Plant (expanding to 790 MW by 1980).

RESOURCE EXPLORATION AND MINING, INC.

G. H. Bryant, President Sherman Bldg., Room 520 789 Sherman Street Denver, CO 80202 (303) 572-8777

(See Energy Development Co.)

ROCHELLE COAL COMPANY

(Joint venture of Powder River Coal Company, a subsidiary of Peabody Coal Co., and Pan Eastern Coal Co., a subsidiary of Panhandle Eastern Pipe Line)

G. J. Kurk P. O. Box 1642 Houston, TX 77001

or

Peabody Coal Company 45 S. Main Street Sheridan, WY 82801 (307) 674-6114

or

Panhandle Eastern Pipe Line Company Suite 300, Wyoming Building 202 East 2nd Street Casper, WY 82601 (307) 265-9202 Federal coal leases: 2 leases totaling 11,141.39 acres (Campbell Co.) State coal leases: None

Proposed Rochelle (strip)

Campbell Co.; southern boundary T.41N., R.70W., Section 10
Coal field: Gillette
Coal name: Wyodak-Anderson ("D")
Rank: Subbituminous
Coal thickness: 52 ft.
Overburden: 20-150 ft.
Mining method: Dragline
Opened: Planned for 1978-1979
Est. 1980 production:5-11 myn tons
Est. employees, 1980: 225-290
Unit trains: Probably
Est. total reserves: 500 myn tons

Rochelle Contracts

Wyoming Coal Gas Co. (Panhandle Eastern Pipe Line) Converse County, WY Dedicated est. 250 myn tons for a 270 mmcf/day coal gasification plant 0 est. 11 mtpy.

ROCKY MOUNTAIN ENERGY COMPANY

(Subsidiary of Union Pacific Corp.)

John M. Kelly, Chairman of Board James C. Wilson, President E. A. Lang, Vice President Engineering John Brown, Manager, Coal Evaluation 4704 Harlan Street Denver, CO 80212 (303) 433-6841

(See joint ventures with Rosebud Coal Sales [Black Butte Coal Co.]; Arch Mineral [Medicine Bow Coal Co. and China Butte property]; Ideal Basic Industries [Stansbury Coal Co.]; Energy Development Company [Red Rim property]; Sun Oil Co. [Long Canyon property]).

Federal coal leases: None State coal leases: 41 leases totaling 2,587.32 acres (3 counties)

Proposed Atlantic Rim Area

(Joint venture with Drummond Co.; strip) Carbon County; south of Rawlins

T.18N., R.90W., Section 23
Coal field: Little Snake River
Coal name: Mesaverde coals designated A-D
Rank: Subbituminous B
Coal thickness: 3 ft.-9.5 ft.
Overburden: approx. 200 ft.
Mining method: Unspecified
Opened: Planned for 1979
Est. 1980 production: 2 myn tons
Est. total reserves: 65-87 myn tons

Proposed Black Butte (strip; See Black Butte Coal Co.)

Proposed Carbon Basin (strip and/or deep)

Carbon County; south of Carbon T.21N., R.79-80W. Coal field: Hanna Est. total reserves: 276 myn tons (includes strip and deep) (In very early feasibility stage; not in planning stage yet)

Proposed Creston-Cherokee (strip)

Sweetwater & Carbon Co.; near Creston T.19N., R.91-92W. Est. total reserves: 360 myn tons (In very early feasibility stage; not in planning stage yet) (Rocky Mountain Energy Co. cont.)

Proposed Hanna (deep)

(Joint venture with Dravo Corporation) Carbon Co.; north of Hanna T.23N., R.81W., Section 33 Coal field: Hanna Coal name: Bed Nos. 80 and 82 Rank: Subbituminous Coal thickness: 15-20 ft.; 8-15 ft. Overburden: Est. 500-900 ft. Mining method: Continuous miners; retreat longwall panels; conventional Opened: Planned for 1978 Est. 1980 production: 2-2.5 myn tons Est. employees, 1980: Unspecified Unit trains: Plan to use Rosebud's unit train facilities Est. total reserves: 200 myn tons

Proposed Leucite Hills (strip)

Sweetwater Co.; near Superior T.21N., R.102W. and vicinity Coal field: Rock Springs Coal name: Unspecified Opened: Planned for 1981 Est. total reserves: 168 myn tons (Very early stage of study and planning)

Proposed Long Canyon (strip; See Sunoco Energy Development Co.)

Medicine Bow (strip; See Medicine Bow Coal Co.)

Proposed Red Desert (strip)

Sweetwater Co.; north of Wamsutter T.22N., R.94W.
Coal field: Great Divide Basin
Overburden: 0-200 ft.
Est. total reserves: 1108 myn tons
(In very early feasibility stage;
this township leased to Southern
California Edison Company, Los Angeles
for possible liquefaction reserve)

Proposed South Haystack (strip)

Uinta Co.; northeast of Evanston T.17N., R.117W. Coal field: Kemmerer Coal name: Adaville coals Overburden: 0-650 ft. Mining Method: Open pit? Opened: Planned for 1979 Est. total reserves: 58 myn tons (In early planning stages) (Rocky Mountain Energy Co. cont.)

Proposed Stansbury (Reliance) (deep; see Stansbury Coal Company)

Proposed Twin Creek (strip)

(Joint venture with Peter Kiewit Co.)

Lincoln Co.; northwest of Kemmerer T.21N., R.116W., Section 17
Coal field: Kemmerer
Coal name: Adaville coals (32 beds)
Rank: Subbituminous
Coal thickness: 5-60 ft.
Overburden: 40-710 ft.
Mining method: Shovel-truck-scraper
Opened: Planned for 1977
Est. 1980 production: 3 myn tons
Est. employees, 1980: 356
Unit trains: Planned
Est. total reserves: 39 myn tons

Proposed Winton (deep)

Sweetwater Co; Winton, WY T.20N., R.104W. Coal field: Rock Springs Est. total reserves: 55 myn tons (300-1500 ft. of cover) (In very early feasibility stage)

Rocky Mountain Contracts

See individual partners as noted above; Southern Services, Inc., Atlanta GA will receive at least some of the coal from the underground Hanna mine (plants located in Alabama, Georgia, Florida and Mississippi); no details on other proposed mines.

RONCCO COAL COMPANY, INC.

Leo Roncco, President Box 71 Thermopolis, WY 82443 (307) 864-2676 or 864-3819

Federal coal leases: None State coal leases: None

> Roncco (deep)

(Address and phone same as above)

Hot Springs Co.; near Gebo T.44N., R.75W., Section 17 Coal field: Gebo Coal name: Gebo Rank: Subbituminous Coal thickness: 6-9 ft. (Roncco Coal Co., Inc. cont.)

Cover: Approx. 600 ft.

Mining method: Conventional room
and pillar

Opened: 1938
1974 production: 2,830 tons

Est. 1975 production: closed

Unit trains: No

Employees, 1974: 3

Roncco Contracts

Miscellaneous domestic users in Wyoming and Montana

ROSEBUD COAL SALES COMPANY

(Subsidiary of Peter Kiewit Sons'
Company)

John Ratchye, Vice President P. O. Box 724 Sheridan, WY 82801 (307) 325-6881

Federal coal leases: 2 leases totaling 969.46 acres (Carbon and Sweetwater Counties). (Additional leases under Black Butte Coal Co.) State coal leases: 3 leases totaling 1,920 acres (Carbon and Sweetwater Counties)

Rosebud Pit No. 4

Tom Hornbeck, General Supervisor Harold Marvel, Office Manager Frank Shurter, Mine Superintendent P. O. Box 98 Hanna, WY 82327 (307) 325-6881

Carbon Co.; near Hanna T.22N., R.81W., Section 3 Coal field: Hanna Coal name: Bed No. 80 Rank: Subbituminous Coal thickness: 15-20 ft. Overburden: 50-100 ft. Mining method: Dragline

Rosebud Pit No. 5

(Address and phone same as No. 4)

Carbon Co.; near Hanna T.23N., R.81W., Section 34 Coal field: Hanna Coal name: Bed No. 82 Rank: Subbituminous Coal thickness: 11-15 ft. Overburden: 50-80 ft. Mining method: Dragline (Rosebud Coal Sales Co. cont.)

Both Mines Combined

Opened: 1961
1975 production: 1,763,431 tons
Est. 1976 production: 1.9 myn tons
Est. 1980 production: 1.5 myn tons
Employees, 1975: 120
Est. employees, 1975: 135
Est. employees, 1980: 135
Unit trains: 6 trains/week

Rosebud Contracts

Great Western Sugar No details; Utah, Colorado and Nebraska

Iowa Power & Light Co.

Des Moines and Council Bluffs, IA

Contract for est. 0.25 mtpy; no
other details; for 139 MW Council
Bluffs Plant and 338 MW Des Moines
Power Station No. 2

Monolith Portland Cement Co.

Laramie, WY

Contract for Laramie Cement Plant;
no other details

Omaha Public Power District Omaha, NB Contract for est. 0.3 mtpy; no other details; for 646 MW North Omaha Station

Public Service Co. of Colorado Denver and Boulder, CO Contract for est. 0.5 mtpy; no other details; for power plants

Inland Steel Corporation No details

Iowa Public Service Company No details

Nebraska Power and Light Company No details

Miscellaneous domestic, industrial, and municipal users in Colorado, Iowa, Nebraska, Wyoming, Utah, Idaho, Wisconsin, Nevada, Oregon, South Dakota, and Washington

Est. 1980 production based on these contracts is 1.5 myn tons.

SHELL OIL COMPANY

B. G. Long, Manager of Operations Houston, TX

Federal coal leases: 1 lease of 599.44 acres (Campbell County) State coal leases: 1 lease of 160 acres (Johnson County)

Proposed Buckskin (strip)

Campbell Co.; north of Gillette T.51N., R.72W., Section 5 Coal field: Powder River Coal name: Wyodak-Anderson Rank: Subbituminous Coal thickness: 100 ft. with partings

Overburden: 100 ft. max.
Mining method: Unspecified
Opened: Planned 1979-1980
Est. 1980 production: 4 myn tons
Est. employees, 1980: 200?
Unit trains: Unspecified
Est. total reserves: 100 myn tons

Shell Contracts

Reportedly for use in a Houston refinery.

STANSBURY COAL COMPANY

(Joint venture of Rocky Mountain Energy Co., a subsidiary of Union Pacific Corp., and Potash Corp. of America, a subsidiary of Ideal Basic Industries, Inc.)

James C. Wilson, President P. O. Box 8789 Denver, CO 80201 (303) 433-6841

Federal coal leases: 1 lease of 1,644.76 acres (Sweetwater County) State coal leases: None

Proposed Stansbury No. 1 (deep)

Franklin Mink, Mine Superintendent P.O. Box 2088
Rock Springs, WY 82901
(307) 362-6389
Sweetwater Co.; north of Rock Springs T.20N., R.104W., Section 19
Coal field: Rock Springs
Coal names: Rock Springs Nos. 1, 3, 7, 7 1/2, 8, and 9
Rank: Bituminous

(Stansbury Coal Co. cont.)

Coal thickness: 5-13 ft.
Cover: 1800 ft. max.
Mining method: Multiple level; conventional and continuous miners
Opened: Planned for 1976-1978
Est. 1976 production: 50,000 tons
Est. 1980 production: 1.4 myn tons
Est. employees, 1976: 35

Est. total reserves: 90-107 myn tons Stansbury Contracts

Ideal Basic Industries, Inc. For its cement plants in the western states

Est. employees, 1980: 60

SUNOCO ENERGY DEVELOPMENT COMPANY

(Subsidiary of Sun Oil Co.)

Dwight Knott, Mine Representative 314 South Gillette Avenue P.O. Box 1440 Gillette, WY 82716 (307) 682-7295 Federal coal leases: 5 leases totaling 24,598.03 acres (3 counties) State coal leases: 1 lease of 640 acres (Converse County)

Proposed Cordero (strip)

James R. Nichols, Mine Manager (Address and phone same as above)

Campbell Co.; south of Gillette
T.47N., R.71W., Section 23
Coal field: Gillette
Coal name: Nyodak-Anderson
Rank: Subbituminous
Coal thickness: 3 benches, each
20 ft.
Overburden: Less than 200 ft.
Mining method: Shovel-truck
Opened: Planned for 1977
Est. 1980 production: 12 myn tons
Employees, 1975: 146
Est. employees, 1980: 225-400
Unit trains: planned
Est. total reserves: 600 myn tons
Proposed Long Canyon Area
(deep)

(Joint venture with Rocky Mountain Energy Co.)

Sweetwater Co.; northwest of Superior T.21N., R.104W., approx. area Coal field: Rock Springs Coal names: Mesaverde Fm. coals

(Sunoco Energy Develop. cont.)

Rank: Bituminous

Coal thickness: Unspecefied

Cover: 200-1500 ft.

Opened: Planned for 1979

Est. 1980 production: 1 myn tons

Est. employees, 1970: 300-400

Est. total reserves: 72-256 myn tons

(Includes at least 7 myn tons that
 is strippable)

Sunoco Contracts

(Only related to Cordero Mine)

San Antonio City Public Service Board San Antonio, TX 20 yr. contract for 55.5 myn tons 6 est. 2.8 mtpy begins in 1976; for 1,308 MW Sommers Plant (Est. \$5.00 per ton FOB mine)

Western Fuels Association Wheatland, WY 20 yr. contract for 60 myn tons 0 3 mtpy begins in 1979; for 1500 MW Laramie River Station

Est. 1980 production based on these contracts is 5.8 myn tons.

TEXACO, INC.

Jim Logan Wyoming Division Story, WY 82842 (307) 683-2830

(Hold substantial coal lands near Lake De Smet [Johnson County] which they acquired from Reynolds Metals Co.; applied to ERDA for joint funding of a demonstration coal gasification facility in 1976, but turned down in mid-1976; rumored to start a strip mine about 1977; but status unclear) Mine Name ?

(strip)

Johnson Co.; near Buffalo T.52N., R.82W. Coal field: Buffalo Coal name: Healy Rank: Subbituminous Coal thickness: 50-220 ft. Opened: Rumored for 1977, but may hinge on acceptance of ERDA application

Texaco Contracts

No information on any contracts.

WELCH COAL COMPANY

(Subsidiary of Montana-Dakota Utilities Company)

William F. Welch, Resident Manager 1447 Stonegate Drive P.O. Box 1066 Sheridan, WY 82801 (307) 655-9204 Welch (strip)

(Address and phone same as above)

Sheridan Co.; north of Sheridan T.57N., R.85W., Section 22
Coal field: Sheridan
Coal name: Monarch
Rank: Subbituminous
Coal thickness: 5.5-12 ft.
Overburden: 30-90 ft.
Mining method: Front-end loader
Opened: 1949
197 5 production: 18,387 tons
Est. 1976 production: 20,000 tons
Est. 1980 production: Probably will
will be shut down by then
Employees, 1975: 2
Unit trains: No

Welch Contracts

Montana-Dakota Utilities Co. Acme, WY All production dedicated to 12 MW Acme Plant, which is scheduled to shut down in 1976-77.

WESTERN FUEL ASSOCIATION

(Joint venture of Tri-State Generation and Transmission Association, Basin Electric Power Cooperative, and Cajun Electric Power Cooperatives)

Ken Holum, General Manager 1019 19th Street, NW Washington, D. C. 20036

01

Lloyd Ernst, Regional Manager 1810 Capitol Avenue Cheyenne, WY 82002 (307) 634-7955

(See El Paso Natural Gas Co.)

WYODAK RESOURCES DEVELOPMENT CORPORATION

(Subsidiary of Black Hills Power & Light Company)

J. B. French, President Neil Simpson, Vice President Harold E. Ross, Vice President Box 1951 Rapid City, SD 57701 (605) 342-3200

Federal coal leases: 4 leases totaling 1,920 acres (Campbell County) State coal leases: None

Wyodak North & South (strip)

Wilford J. Westre, General Manager P. O. Box 149 Gillette, WY 82716 (307) 682-3410

Campbell Co.; east of Gillette T.50N., R.71W., Section 28
Coal field: Gillette
Coal name: Wyodak-Anderson
Rank: Subbituminous
Coal thickness: 80-110 ft.
Overburden: 20-110 ft.
Mining method: Scraper-front-end
loader
Opened: 1925
1975 production: 786,672 tons
Est. 1976 production: 700,000 tons
Est. 1980 production: 5 myn tons
Employees, 1975: 35
Est. employees, 1980: 150
Unit trains: No

(Wyodak Resources Corp. cont.) Wyodak Contracts

Black Hills Power & Light Co.

Dedicated to the following power
plants:
31.5 MW Kirk Plant, Lead, SD @
120,000 tpy
22.0 MW Ben French Plant, Rapid
City, SD, @ 85,000 tpy
27.7 MW Neil Simpson Plant, Wyodak,
WY, @ 198,000 tpy
34.5 MW Osage Plant, Osage, WY, @
219,000 tpy

Pacific Power & Light Co. and Black Hills Power & Light Co. Wyodak, WY Contract for up to 1.5 mtpy by 1977 and 3 mtpy by 1982; for new 990 MW Wyodak Plant now under construction (1st 330 MW unit to be completed in 1977).

Est. 1980 production based on these contracts is 5 myn tons.

WYTANA, INC.

(Subsidiary of Peter Kiewit Sons', Inc.)

P. O. Box 724 Sheridan, WY 82801

(See Black Butte Coal Company)

COKE PLANTS

COLUMBINE MINING COMPANY

(Affiliate of Midcontinent Coal and Coke Company)

J. A. Reeves, President P. O. Box 158 Carbondale, CO 81623

Carbon Plant

P. O. Box Quealy Rock Springs, WY 82901

Sweetwater Co.; south of Rock Springs T.18N., R.105W., Section 14 (Makes a chemical grade synthetic coke for Monsanto's phosphorous plant in Soda Springs, ID; process is using bituminous coal, but works on other ranks as well.)

FMC CORPORATION

Fritz von Bergen, Director-Coke Chemical Group Headquarters 2000 Market Street Philadelphia, PA 19103 (215) 299-6000

Experimental Process Coke Plant

J. W. Coykendall, Resident Manager Box 431 Kemmerer, WY 83101

Lincoln Co.; near Kemmerer, WY T.20N., R.117W., Section 12 (Makes a chemical and metallurgical grade coke from subbituminous coal.)

IN-SITU EXPERIMENTS

LARAMIE ENERGY RESEARCH CENTER (LERC)

Charles N. Branden, Project Manager U. S. Energy Research & Development Administration

P. O. Box 3395 University Station Laramie, WY 82071 (307) 742-2115

Carbon Co.; Hanna, WY T.22N., R.81W., Section 29 (Hanna site)

(LERC has been conducting experiments since 1972; product gas has not only been collected and analyzed, but some control of the volume, heat value, and quality has been attained.)

LAWRENCE LIVERMORE LABORATORIES

Douglas R. Stephens, Project, Director Inorganic Materials Division Chemistry Department P. O. Box 808 Livermore, CA 94550 (415) 447-1100

Campbell Co.; south of Gillette T.47N., R.72W., Section 7 (Hoe Creek site) (LLL started experimentation in 1975; to date they have done some drilling and explosive fracturing of the coal; they haven't ignited the coal yet.)

PLANNED TRANSPORTATION SYSTEMS

BURLINGTON NORTHERN, INC.

(Joint venture with Chicago and North Western Transportation Co.)

N. M. Lorentzsen, President Transportation Div.

176 E. Fifth Street St. Paul, Minnesota 55101 (612) 298-2121

Proposed Railroad

Plan to build 126 miles of new track between Gillette, WY and Douglas, WY, principally to serve new coal mines in the Powder River Basin. Completion date uncertain, but probably between 1977-1979.

CHICAGO AND NORTH WESTERN TRANSPORTATION COMPANY

(See Burlington Northern, Inc.)

R. A. Sharp, Asst. Vice President
Marketing

400 W. Madison Street Chicago, IL 60606 (312) 454-6000 ENERGY TRANSPORTATION SYSTEMS, INC.

(Joint venture of Peabody Coal Co., Bechtel, Inc., Lehman Brothers, and Kansas-Nebraska Natural Gas Co.)

Frank Odasz, Manage Box 2933 Casper, WY 82601 (307) 265-1800

Proposed Coal Slurry Pipeline

Size of pipe: 38 inch
Length: 1,036 miles
Capacity: 25 mtpy
Location: Campbell, Niobrara, Converse, and Goshen Counties, WY
Destination: Arkansas Power & Light
Co., White Bluffs, AR and City of
Wichita, Kansas (8 mtpy)
Water requirements: 15,000-20,000
acre ft./yr.
Status: Approved by Wyoming legislature, but unable to get rightof-way through Nebraska or Kansas.

GULF INTERSTATE ENGINEERING

(Joint venture with Northwest Pipeline, Salt Lake City, UT)

John G. McMillan, President Harry Eaton, Vice President Houston, TX

Proposed Coal Slurry Pipeline

Size of pipe: 24-30 inches
Length: 800-1100 miles
Capacity: 10 mtpy
Location: Southwestern Wyoming
Destination: Washington, Oregon,
Idaho, and northern California
Water requirements: 7,500 acre
ft./yr.
Status: Studying feasibility for
the 1980's

UNION PACIFIC RAILROAD CO.

N. R. Linse, Market Manager - Energy

1416 Dodge Street Omaha. NB 68179 (402) 281-5822

Maintainence of main line and construction of spur lines to numerous coal mines in southern Wuoming.

Active & Proposed Mines

KEMMERER COAL FIELD

GREEN RIVER REGION ACTIVE COAL MINES IN 1975

BIGHORN BASIN

Kemmerer's Elkol (S)¹ Kemmerer's Sorensen (S) Bridger's Jim Bridger (S) Columbine's Rainbow No. 8 (D)² Northwestern Resources' Grass Creek (S)

PROPOSED NEW COAL MINES

FMC-1976? (S)
Kemmerer's North Block1979 (S)
Rocky Mountain's Twin
Creek-1977 (S)³
Rocky Mountain's South
Haystack Project1979 (S)³

Arch's China Butte-1979 (S)³
Black Butte-1978 (S)
Energy's Red Rim-1979 (S)³
Rocky Mountain's Atlantic
Rim-1979 (S)³
Rocky Mountain's CrestonCherokee-? (S)³
Rocky Mountain's Leucite
Hills-1981 (S)³
Rocky Mountain's Red Desert-? (S)³
Rocky Mountain's Salt Wells-1982 (S)³
Rocky Mountain's Winton-? (D)³
Stansbury-1976-1978 (D)
Sunoco's Long Canyon-1979 (D)³

POWDER RIVER BASIN

HANNA COAL FIELD

ACTIVE COAL MINES IN 1975

Amax's Belle Ayr South (S)
Big Horn's Big Horn No. 1 (S)
PP & L's Dave Johnston (S)
Welch (S)
Wyodak's South Pit (S)

Arch's Seminoe No. 1 (S)
Arch's Seminoe No. 2 (S)
Energy's Rimrock pits (S)
Energy's Vanguard No. 2 (D)
Energy's Vanguard No. 3 (D)
Medicine Bow Strip (S)
Rosebud Pits (S)

PROPOSED NEW COAL MINES

Amax's Belle Ayr North-1977 (S)
ARCO's Black Thunder-1977 (S)
ARCO's Coal Creek-1979? (S)
Carter's North Rawhide-1976? (S)
Carter's Coballo-1976? (S)
El Paso's Thunderbird-1979? (S)³
Falcon-1977?(S)³
Kerr-McGee's Jacobs Ranch-1977 (S)
Kerr-McGee's East Gillette No. 16-1978? (S)
Kerr-McGee's East Gillette-1979? (S)³
Mobil's Unnamed mine-1978-1979 (S)³
Peabody-1980's (S)³
Peabody-1980's (S)³
Public Service Oklahoma's PSO No. 1-1976 (S)
Rochelle-1978 (S)
Shell's Buckskin-1979 (S)³
Sunoco's Cordero-1977 (S)

Rocky Mountain's Hanna-1978 (D) Rocky Mountain's Carbon Basin-? (S or D)

1(S) means strip mine

2(D) means deep mine

3 Mine not in forecast based on announced contracts

Coal Production Forecast

Annual Wyoming Coal Production (In Millions of Tons) With Estimates Based on Announced Contracts Forecast to 1985^{1}

| | Powder River Basin | Hanna Basin | Kemmerer Area | Green River Region | Bighorn Basin | Total |
|------|-----------------------|----------------|------------------|-----------------------|------------------|-------|
| 1972 | 4.2 | 4.2 | 2.1 | 0.4 | .006 | 10.9 |
| 1973 | 5.0 | 6.8 | 2.9 | 0.1 | .006 | 14.8 |
| 1974 | 7.8 | 8.9 | 3.3 | 0.8 | .006 | 20.8 |
| 1975 | 8.5 | 9.6 | 3.6 | 2.1 | .006 | 23.8 |
| 1976 | 14.5 | 10.65 | 4.15 | 4.2 | .01 | 33.5 |
| 1977 | 29.7 | 10.65 | 5.5 | 6.6 | .01 | 51.4 |
| 1978 | 46.0 | 10.9 | 6.4 | 9.7 | .01 | 73.0 |
| 1979 | 57.9 | 11.4 | 6.7 | 13.2 | .01 | 89.2 |
| 1980 | 73.3 | 11.6 | 7.8 | 13.2 | .01 | 105.9 |
| 1981 | 74.8 | 11.6 | 7.8 | 13.2 | .01 | 107.4 |
| 1982 | 80.9 | 11.6 | 7.8 | 13.2 | .01 | 113.5 |
| 1983 | 82.3 | 11.6 | 7.8 | 13.2 | .01 | 114.9 |
| 1984 | 85.8 | 10.9 | 7.8 | 13.2 | .01 | 117.7 |
| 1985 | 86.8 | 10.9 | 7.8 | 13.2 | .01 | 118.7 |
| - | | | | | | |

¹ Includes only one coal gasification plant (Panhandle Eastern) by 1985

Annual Wyoming Coal Production (In Millions of Tons) With Highest Possible Estimates Forecast to 1985^2

| 1972 | 4.2 | 4.2 | 2.1 | 0.4 | .006 | 10.9 |
|-------------------------------|-------|------|------|------|------|-------|
| 1973 | 5.0 | 6.8 | 2.9 | 0.1 | .006 | 14.8 |
| 1974 | 7.8 | 8.9 | 3.3 | 0.8 | .006 | 20.8 |
| 1975 | 8.5 | 9.6 | 3.6 | 2.1 | .006 | 23.8 |
| 1976 | 16.6 | 11.6 | 4.5 | 4.2 | .01 | 36.9 |
| 1977 | 36.1 | 11.8 | 7.0 | 6.6 | .05 | 61.5 |
| 1978 | 62.1 | 12.1 | 8.7 | 9.7 | .10 | 93.7 |
| 1979 | 89.7 | 12.6 | 9.4 | 16.7 | .50 | 128.9 |
| 1980 | 131.1 | 13.8 | 10.8 | 23.7 | 1.0 | 180.4 |
| 1981 | 142.4 | 13.8 | 10.8 | 30.7 | 1.0 | 198.7 |
| 1982 | 162.1 | 13.8 | 10.8 | 30.7 | 1.0 | 218.4 |
| 1983 | 199.1 | 13.8 | 10.8 | 30.7 | 1.0 | 255.4 |
| 1984 | 210.1 | 14.3 | 10.8 | 30.7 | 1.0 | 266.9 |
| 1985 | 224.1 | 14.3 | 10.8 | 30.7 | 1.0 | 280.9 |
| Control of the Control of the | | | | | | |

²Includes seven coal gasification plants by 1985

Additional copies of this circular may be obtained for \$1.00 from:

The Geological Survey of Wyoming P. O. Box 3008, University Station Laramie, Wyoming 82071

ABOUT THE COVER: An electric shovel loads from the Arch Mineral Corp. Seminoe #1 mine in the Hanna Basin. The mining is from the steeply dipping Bed #24. The bed measures 18 feet in the mine.



