

*Source: University of Colorado, Business Research Division, Graduate School of Business Administration.

1981 STEAM ELECTRIC GENERATION

Plant	Nameplate Rating (MW)	Net Generation kW/h (x1000)	Coal Consumed (TNS)	Fuel Consumed (NG (MCF))	Oil (bbl)
Central Telephone & Util. Corp.					
Canon City	38.5	253,613	156,857		
Pueblo	30.0	93,383		1,525,401	334
Pueblo (IC)	30.0	895			1,141
Rocky Ford	7.5	33,043		542,208	
Rocky Ford (IC)	10.0	871			1,525

Colo. Ute Electric Assoc., Inc.				
Hayden #1	190.0	1,083,385	538,350	3,184
Hayden #2	275.4	1,595,906	770,948	5,121
Nucla	37.8	78,891	55,314	
Bullock	10.0	23,644	17,785	386
Craig #1	447.0	2,571,429	1,304,614	28,476
Craig #2	447.0	2,817,154	1,437,323	21,630

Ft. St. Vrain (NU)	342.0	750,480			-
Total	<u>3,460.5</u>	<u>12,633,192</u>	<u>6,074,075</u>	<u>10,066,932</u>	<u>87,336</u>
Grand Totals	5,508.7	23,898,101	11,775,281	12,300,646	152,478

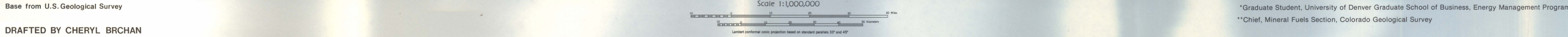
Source: Federal Energy Regulatory Commission, **Municipal Electric Utilities, Annual Reports**
DOE/EIA-0095(80) Inventory of Power Plants in the United States.

Total Utility Consumption	11,775,781 Tons
Imports	2,708,430 Tons
In-State	9,067,351 Tons

Source	Percentage
COAL	81.9%
IMPORTED	18.8%
OIL-GAS	8.3%
HYDROELECTRIC	6.9%
NUCLEAR	2%
COLORADO	0.31%

Owner	Plant	Nameplate Rating (MW)	kWh Generated (x 1000)
City of Colorado Springs	Manitou Ruxton	5.0	15
		1.0	2
Colorado Ute Elec. Assn., Inc.	Ames Tacoma	4.0	10,027
		7.5	7,704
City of Denver	Williams Fork	3.0	7,149

*Pump storage facility used 398,464 mw for pumping

DOI: <https://doi.org/10.58783/cgs.rs26.cqpb6335>

The authors wish to give special thanks to Dr. John P. Byrden - Coordinator of the Energy Management Program, Graduate School of Business and Public Management, who set up this intern program and to Russell Frum of the Colorado Mining Association who helped with the coal statistics. Also the following people from government and industry who supplied valuable information: Gerald Anderson, Martin Marietta; Dennis Pappas, CSU; Mel Harnad, CFI; Joe Hutton, D&RGW; John H. Wirt, Colorado Division of Mines; Bruce Kinney, Colorado Department of Highways; Tim Koth, Ideal Basic; Scott Leonhart, Getty Oil; Arvin Michael, PSC; and Graham Taylor, Colorado Energy Research Institute.

	Approximate coal region boundary
DENVER REGION	Coal region name
DURANGO FIELD	Coal field name
 8	Surface mine and number (keyed to Coal Statistics Table)
 5	Underground mine and number (keyed to Coal Statistics Table)
	Railroad
	Generalized coal movement direction
Scale: 0 10 Percent of total Colorado production	

- ☐ Coal/oil/gas fired (major facilities)
- ☐ Coal fired - mine mouth
- ☐ Hydroelectric
- ☐ Nuclear
- ☐ Standby (oil/gas)

Category	Steam (%)	Coning (%)	Industrial & Local (%)
In-State	42%	58%	0%
Out-Of-State	42%	58%	21%

* C.G.S. estimations
Actual amounts vary due to operator reports and withdrawal from stock

Major Consumers (In Tons)	
Colorado Fuel and Iron Corp.	732,000 (Allen and Maxwell) (Colo.)
Pueblo, Colorado	229,000 (Bokoshe, Oklahoma) (Colo.)
	<hr/> 961,000
Martin Marietta Cement	64,548 (Northern Coal Co.) (Colo.)
Lyons, Colorado	
Ideal Basic Industries	228,000 (Edna Strip) (Colo.)
Florence and Fort Collins	6,000 (Wyoming)
	<hr/> 234,000
Coeur	51,845 (Grassy Creek) (Colo.)
Golden, Colorado	39,873 (Hayden Gulch) (Colo.)
	31,714 (Empire Strip) (Colo.)
	15,527 (Viking Strip) (Colo.)
	2,699 (Keenesburg) (Colo.)

TOTAL INDUSTRIAL CONSUMPTION	1,501,206
IMPORTS	235,000
IN-STATE	1,266,206

In 1980 the proven reserves of oil in Colorado were 260 million barrels. Estimated undiscovered resource was approximately 1.975 billion barrels. These figures are based upon existing technology and do not include oil from oil shale.

Due to the location of the wells that produce this gas and existing pipelines, not all of this gas was consumed within Colorado, but part was exported into interstate commerce. This amounts to 143.0 Bcf imported and 81.2 Bcf exported for a net import into Colorado of 61.8 Bcf. Added to Colorado production of 197.0 Bcf is this 61.8 Bcf of imported gas and 2.4 Bcf of gas withdrawn from storage. Natural gas converted to other products amounted to 26.9 Bcf and an additional 13.7 Bcf was used as lease and pipeline fuel.

At the end of 1981, Colorado's natural gas reserves were estimated at 3.2 Tcf.

Source: Colorado Oil and Gas Conservation Commission, Annual Report (1981).

Colorado Public Utilities Commission.

Interstate Transmission and Pipeline Companies
personal communication.

Statistics of Interstate Natural Gas Pipelines
Companies, 1980: DOE/EIA-0145(80).

U.S. Crude Oil, Natural Gas, and Liquid Reserves,
1981 Annual Report, DOE/EIA-0216(81).

COUNTY	PRODUCTION		
	GAS (Mcft)	GAS SALES (Mcft)	To 1-1-82 GAS (Mcft)
ADAMS	18,142,889	16,924,227	20,070,773
ARAPAHO	3,633,393	3,351,010	92,563,791
ARCHULETA	10,781	10,781	198,078
BENT	5,929,224	5,903,077	85,443,667
BIG HORN	1,161,398	1,015,856	14,605,366
BOULDER	1,448,070	528,533	656,847
CHEYENNE	2,957,409	32,950	1,572,037
DOLORES	109,442	892,393	13,200,861
EL PASO	1,844,125	1,844,125	11,757,814
GARFIELD	8,878,977	8,835,183	7,532,502
HUERFANO	127	0	2,502,567
JACKSON	2,310,484	191,764	668,101,699
JEFFERSON	0	0	3,820
KIOWA	240,678	201,149	33,885,676
KIT CARSON	1,444,674	14,675	54,351
LA PLATA	28,161,329	28,004,026	22,411,438
LAGUNA	465,509	403,192	825,106
LAS ANIMAS	0	0	2,880,191
LOGAN	1,544,431	1,203,841	196,059,897
MESA	4,684,745	4,662,231	74,897,695
MOFFAT	177,635,095	172,976,976	56,826,930
MONTEZUMA	1,041,010	889,689	24,420,280
MONTROSE	0	0	5,000
MORGAN	1,443,224	1,233,851	184,168,205
PHILLIPS	4,819	4,819	67,582
PITO	1,299,527	1,124,792	9,070,917
PROBORS	2,184,539	25,999,123	1,190,729,826
RIER	11,083	0	972,455
SAN MIGUEL	1,200,713	1,128,672	26,357,698
SEDBWICK	103,020	103,020	6,116,862
SHERMAN	2,050,566	2,050,566	53,778,045
WELD	59,870,680	58,609,468	453,441,186
YUMA	4,920,264	4,891,504	13,348,139

Condensate production is included as oil production. A tabulation showing Hydrocarbon Gas, Carbon Dioxide, and Helium production is as follows:

	1981	CUMULATIVE
HYDROCARBON GAS (Mcf)	197,054,674	4,178,308,663

CARBON DIOXIDE (Mcf)	3,440,000	664,960.061
HELIUM (Mcf) (Los Angeles County)		50.000

Source: Colorado Oil and Gas Conservation Commission
"Oil & Gas Statistics, 1981."

Total Natural Gas Production	200,494,674
CO ₂ Production	3,440,000
Net Hydrocarbon Gas Production	197,054,674
Imported Natural Gas	143,082,815
Colorado Production Exported	81,279,864
Net Imported	61,802,951
Natural Gas Placed in Storage	33,973,029
Gas Withdrawn from Storage	36,457,636
Net gain (+) or loss (-)	- 2,484,607

Natural Gas Available for Consumption	
Colorado Production	197,054,674
Net Import	61,802,951
Gas from Storage	2,484,607
	<u>261,342,232</u>

Natural Gas Converted in Gas Plants	
To other Products (Butane, Propane, NGL, etc.)	26,996,488
Natural Gas Used as Lease and Pipeline Fuel	13,782,000

Total Natural Gas Available to Consumer	220,563,744
---	-------------

Residential	(37.2%)	81,968,532
Industrial	(30.7%)	67,666,271
Commercial	(26.7%)	58,889,453

Electric Utility Fuel	(5.4%)	12,039,487
Total Consumed	(100.0%)	220,563,744

Balance *****

Production of crude oil in Colorado in 1981 totaled 30,408,638 barrels. This was a 2% increase over 1980 production. Of this total production, over one-half came from Rio Blanco County (Rangely Field), with Adams, Cheyenne, Washington, and Weld Counties adding over 10 million more barrels and the remainder produced from 25 other Colorado counties.

Colorado, though producing a significant amount of crude oil, refined considerably less than it consumed. Due to historic patterns of oil field locations and pipelines, most of Colorado's crude production is channeled to out-of-state refineries, while the bulk of refined petroleum products consumed in the state are refined out of state.

Actual movements over specific pipelines constitutes proprietary information. However, existing pipeline capacities give an idea of the potential movements within the state. The capacities, directions, and products carried may be changed with relatively minor alterations. Pipelines account for about 65% of the crude oil movement in Colorado, 33% by tank-truck, and 2% cannot be accurately determined. In 1977 Colorado had more pipelines carrying crude and refined products than in 1981. One major line was converted to natural gas liquids.

Petroleum products consumption in Colorado during 1981 was 62,548,757 barrels. This figure represents the actual consumption + 5%. Variations are due to changes in stocks at refineries, pipelines, terminals, and distributors.

Refining capacity in Colorado is currently at 87,300 barrels per day.

Product Pipelines		
Company	Capacity Bbls/day	Size
Amoco	20,000±	6"
Chase	50,000	10"
Medicine Bow	20,000	6"
Mid-America	65,000	6"
Phillips	36,000	8"
	14,000	6"
Wyco	50,000	8"-6"

Amoco	145,000	20"-22"
	12,000	10"
	6,000	6"
Bonanza	20,000±	6"
Cheyenne	4,000	8"
Conoco	55,000	10"
Diamond Shamrock	7,000	6"
Matador	3,000	4"-3"
	1,000	4"
Permian Corporation	5,300	6"
	1,200	4"
Pure Transportation Company	60,000	12"
	60,000-40,000	12"-10"
	25,000	6"-8"

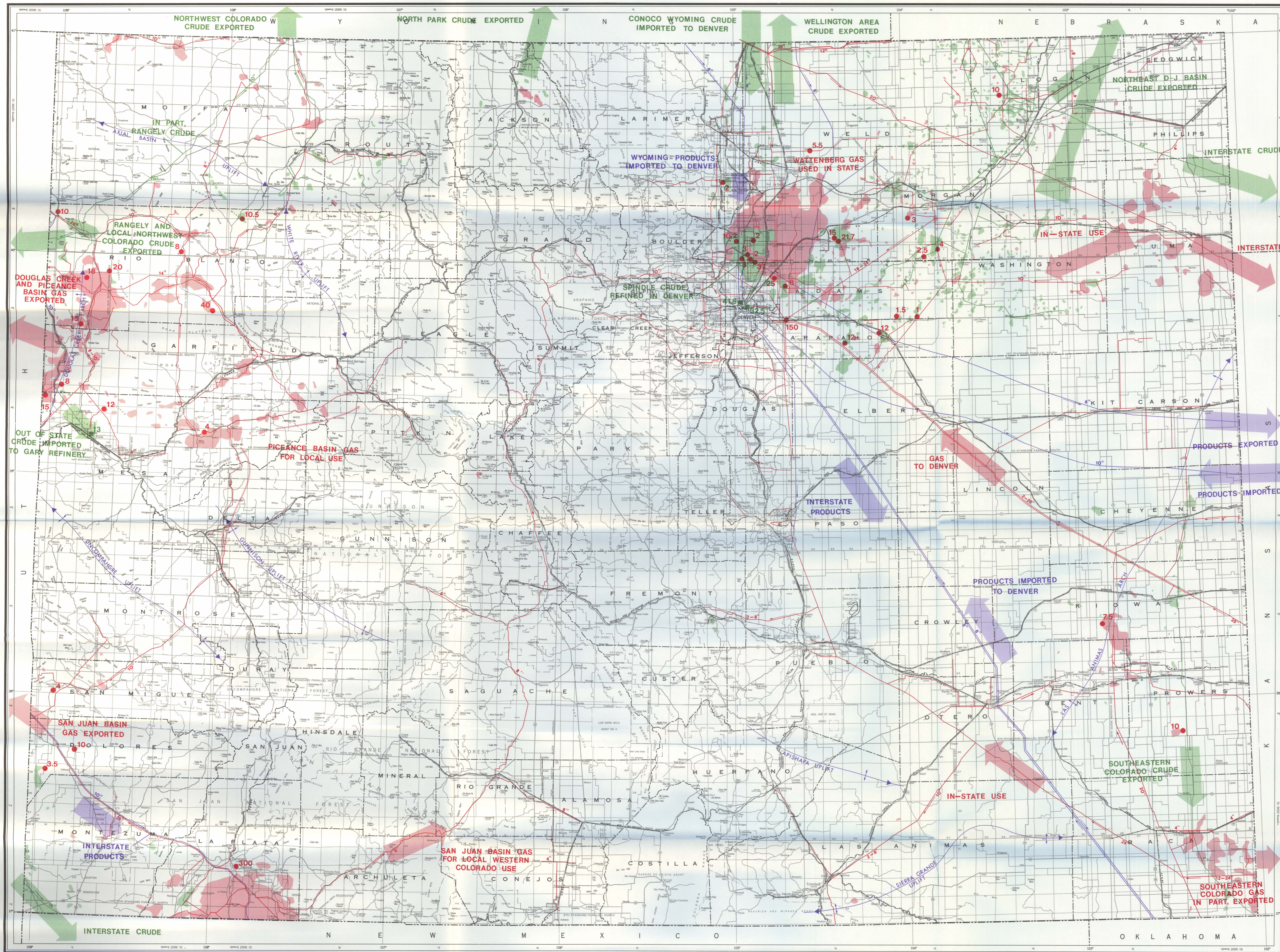
Product	Bbls*	% Total
Gasoline (regular)	32,366,864	51.75
Gasoline (unleaded)	12,327,547	19.71
Diesel	8,256,921	13.20
Kerosene-based jet fuel	4,439,328	7.10
Propane	2,041,555	3.26
#2 Heating Oil	1,253,754	2.00
Non-utility #5, #6, fuel oil	643,865	1.03
Kerosene	346,807	0.55
Other residual fuel oil	317,084	0.51
Other mid-distillates	284,375	0.45
Aviation Gasoline	231,015	0.37
Naphtha-based jet fuel	36,005	0.06
Utility Use #5, #6 fuel oil	3,537	.01

*One barrel equals 42 U.S. gallons

Source: Colorado Office of Energy Conservation

	%	Amount/Bbls
Pipeline	64.70	19,074,389
Truck	32.65	9,928,420
Misc.	2.65	805,829
	<u>100.00</u>	<u>30,408,638</u>

Source: Oil Deposition and Refining, Petroleum Information, 1981 publications.



	Oil field	$\frac{q^o}{D^o}$	Crude oil pipeline, direction of flow & diameter		Oil movement direction
	Gas field	$\frac{q^g}{D^g}$	Natural gas pipeline, direction of flow & diameter		Gas movement direction
	Refinery Showing capacity in thousand barrels/day.	$\frac{q^r}{D^r}$	Products pipeline, direction of flow & diameter		Product movement direction

The authors wish to give special thanks to Dr. John P. Byrden-Coordinator of the Energy Management Program, Graduate School of Business and Public Management, University of Denver, who set up this intern program. Also the following people and organizations who supplied valuable information: Ron Cattany, formerly with the Colorado Office of Energy Conservation; Colorado Oil and Gas Conservation Commission; Colorado Public Utilities Commission; and the Interstate Transmission and Pipeline Companies.

Category	Percentage
RESIDENTIAL	37.2%
INDUSTRIAL	30.7%
COMMERCIAL	26.7%
ELECTRIC UTILITIES	5.4%

Natural Gas Input	195,327,771 Mcf
Natural Gas Output	168,331,283
Converted to Other Products	26,996,488 Mcf

Gas Products Produced		
Condensate	(4.0%)	439,927 Bbls
Butane	(18.6%)	2,025,947
Propane	(25.4%)	2,773,841
Gasoline	(16.2%)	1,763,802
NGL Mix	(8.7%)	945,000
LPG	(0.9%)	101,424
Crude Oil	(0.0%)	1,315
Other	(26.2%)	286,016
Total		10,914,272 Bbls

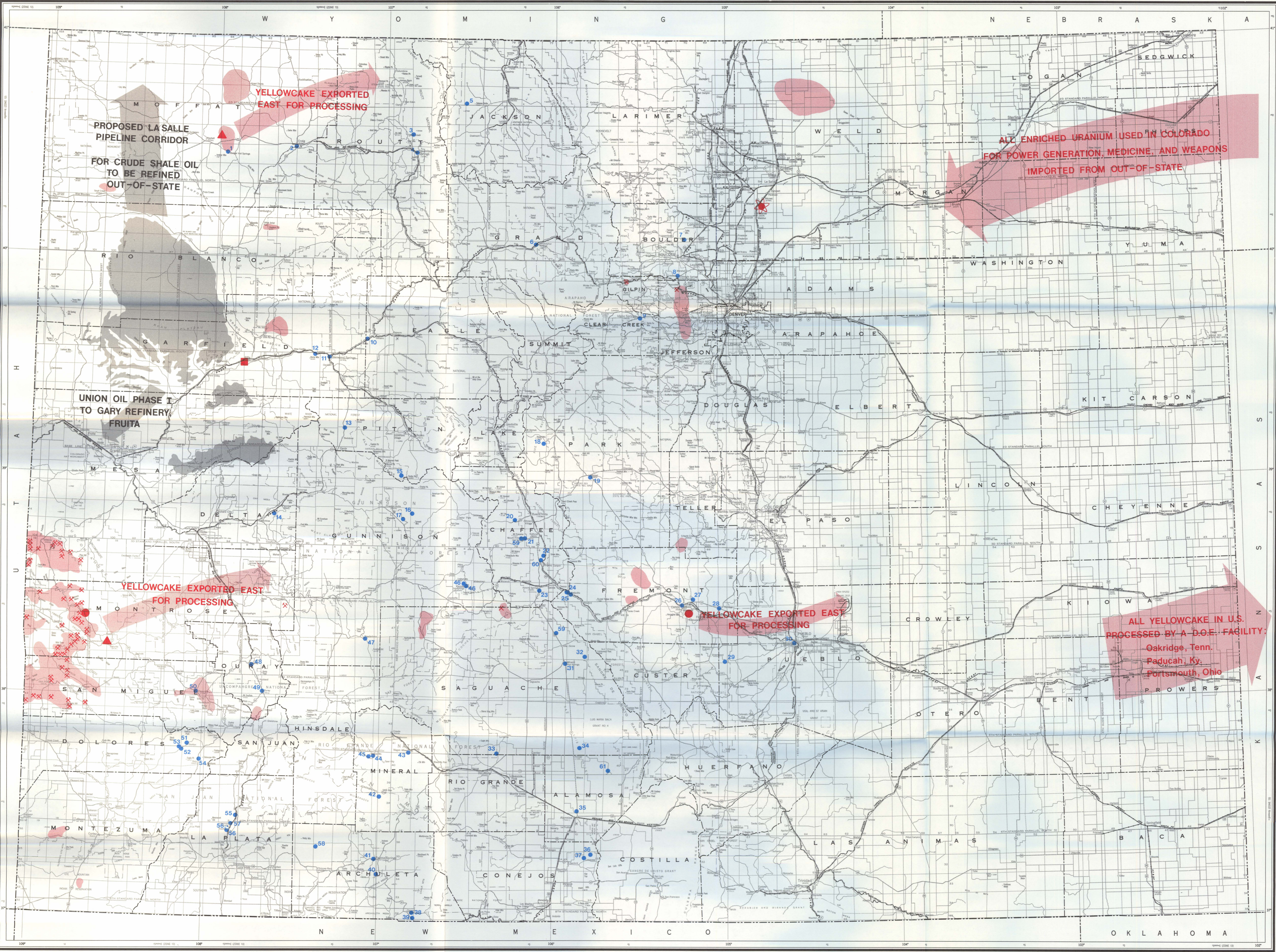
Gas from Storage	2,484,607
	<u>261,342,232</u>

To other Products (Butane, Propane, N.G.L., etc.)	26,996,488
Natural Gas Used as Lease and Pipeline Fuel	13,782,000
Total Natural Gas Available to Consumer	220,563,744
Total Natural Gas Used by Consumers	
Residential (37.2%)	81,968,532
Industrial (30.7%)	67,666,271
Commercial (26.7%)	58,889,453

Total Consumed	(100.0%)	220,563,744
Balance		*****

COLORADO ENERGY BALANCE – 1981 Plate 3
URANIUM, OIL SHALE, AND GEOTHERMAL PRODUCTION, MOVEMENT AND CONSUMPTION

COMPILED BY WILLIAM A. BRACKETT*, RODNEY C. GARRISON*, AND L. R. LADWIG**



Base from U.S. Geological Survey
Drafted by Anne Magee
Scale 1:1,000,000
*Graduate Student, University of Denver Graduate School of Business, Energy Management Program
**Chief, Mineral Fuels Section, Colorado Geological Survey

ACKNOWLEDGMENTS

The authors wish to give special thanks to Dr. John P. Byrden - Coordinator of the Energy Management Program, Graduate School of Business and Public Management, University of Denver, who set up this intern program. Also the following people and organizations who supplied valuable information: Richard H. Pearl, Colorado Geological Survey (C.G.S.), geothermal; Donna Collins, C.G.S., uranium; and Bill Chenoweth, Department of Energy, Grand Junction, uranium.

OIL SHALE	GEOTHERMAL	URANIUM
Oil shale occurrence area	Geothermal spring or well and site no.	Nuclear power plant
Product movement	Uranium processing mill	Uranium occurrence area
	Vanadium processing plant	Product movement
	Uranium heap leach recovery operation	

EXPLANATION

OIL SHALE

The Piceance Basin of western Colorado contains some of the richest oil shale deposits in the world. These oil shales were deposited in ancient lakes during Eocene time—some 50 to 60 million years ago. The Green River Formation oil shale is technically a sedimentary marlstone composed of dolomite, calcite, clay minerals, feldspar, and quartz containing syngenetic kerogen, a solid organic material which yields shale oil, hydrocarbon gases, and carbon when heated to 900°F.

Colorado oil shale resources are placed at a total of 1200 billion barrels in beds at least 100 feet thick that contain over 30 gallon and 840 billion barrels in lesser deposits 15 feet thick and at least 15 gal./ton. This makes the Piceance Basin, slightly more than 1500 sq. miles, one of the richest single hydrocarbon deposits in the world.

Associated with the Green River Formation are sodium-carbonate minerals. In Colorado these are nahcolite (NaHCO₃), a potential source of dry industrial stack gas sulfur scrubbing agent, and dawsonite (NaAlCO₃H₂CO₃), a potential source of alumina. Estimated resources of these minerals in Colorado is 29 billion tons of nahcolite and 19 billion tons of dawsonite.

Development of these resources during 1981 indicated commercial production by mid 80s to late 80s, but recent changes in world oil prices and demand have generally set back most of these schedules.

During 1981 approximately 196,000 bbls of oil was produced by Occidental at Logan Wash, and 26,320 bbls by Rio Blanco Oil Shale Company.

Source: U.S. Geological Survey

URANIUM

Current uranium ore production in Colorado comes from two major, geologically distinct areas: the Central City area and the Uravan Mineral Belt. Other areas of uranium mineralization include protions of Moffat, Sagache, and Weld Counties, which have produced or may produce in the future.

The Schwartzwalder Mine, about eight miles northwest of Golden, in the Central City uranium area, is the largest uranium mine in Colorado and is a prime example of vein-type uranium deposits in North America. Uranium from this mine occurs as veins of pitchblende associated with sulfide minerals.

The Uravan mineral belt is an arcuate belt extending from western Montrose and San Miguel Counties through southwestern Mesa County and into eastern Utah. Ore bodies are contained in continental sandstones with the mineralized rock forming elongate podlike masses and irregular bodies called "rolls." Numerous small mines produce ore in this area.

After the uranium ore is mined, it is shipped to either the Cotter Corporation mill in Canon City or the Union Carbide Corporation mill in Uravan. A small amount of ore is purchased by General Electric at its buying station in Naturita and shipped to Blanding, Utah. Also, one company ships ore from another state to be milled in Colorado and two mines export ore to be milled in another state. At these mills uranium concentrate called "yellowcake" is produced from uranium ore. Concentrate is also produced using the heap-leaching process, extracting uranium from old uranium tailings. Two plants in Colorado use this method and produce a very small amount of concentrate. From both types of plants, the uranium is shipped to a federal enrichment plant.

After the ore is processed into enriched uranium, most is used as fuel for nuclear power plants. Colorado has one such plant at Plattville (Fort St. Vrain), a high temperature helium cooled reactor, utilizing thorium as well as uranium as feed stock. During 1981 this plant generated 750,480 kwh of electricity.

1981 COLORADO URANIUM STATISTICS

ORE PRODUCTION-FROM 67 MINES	480,000 TONS*
CONCENTRATE PRODUCTION (YELLOWCAKE)	800 TONS
CONSUMPTION (EQUIVALENT TO YELLOWCAKE)	20 TONS
NET EXPORT (YELLOWCAKE)	880 TONS

*Equal to 1200 tons of yellowcake at 25 U₃O₈

Source: U.S. Department of Energy

COLORADO URANIUM RESOURCES (1977)

Tons U₃O₈ Yellowcake*

Potential Resource	PROBABLE	POSSIBLE	SPECULATIVE	TOTAL
	101,000	82,000	37,000	220,000**

* At forward cost of \$30/lb U₃O₈

** An estimated 3,750 tons of U₃O₈ reserves were delineated along the Front Range of Colorado since this estimate

Source: Colorado Energy Resource Handbook, Volume 3- Uranium, Colorado Energy Research Institute, December 1977

Donna Collins, Colorado Geological Survey

1982 - COLORADO OIL SHALE PROJECTS

Project	Index No.	Technology	Estimated Production	Current Update (April 1983)
Ca Tract Rio Blanco Oil Shale Co. Standard Indiana	1	Original plan was modified-in-situ. Presently developing plans for an open pit with surface retorting.	No estimate of future production. Produced 26,300 Bbls oil from in-situ burn.	Completing a Lurgi-pilot plant in Hannville, PA and trying to obtain 8400 acres for off-tract disposal.
Cb Tract Cathedral Bluffs Oil Shale Co. Occidental, Tenneco	2	Original plan was modified in-situ. Present plans for modified in-situ and above-ground retorting.	Projected 13,500 Bbls/day by 1988 if funding is approved.	Applied to U.S. Synthetic Fuels Corp. for loan guarantee. Continuation of project depends upon this funding.
Clear Creek Shale Oil Project Chevron Shale Oil Co. (Standard California), Conoco	3	Underground and open-pit mining with surface retorting and upgrading. Staged turbulent bed retort.	Ultimate 100,000 Bbls/day. Phase development of 10,000 Bbls/day (25,000 Tons-shale/day)	Plan first phase construction to start in 1985; production by mid-1989s. Currently building a 350 ton/day semeworks at Salt Lake City.
Colony Shale Oil Project Exxon	4	Underground mining, surface retorting using TOSCO II RETORT	Between 1985-72 produced 180,000 Bbls oil at a semeworks retort and demonstration mine. Proposed 450,000 Bbls/day by mid-1980s	May 1983, Exxon phased out entire project. Retaining a work force for maintenance and reclamation.
Logan Wash Occidental	5	Location of modified in-situ experiments.	During early 1982 retorts 7 and 8 were burned producing 186,000 Bbls oil.	Research winding down, with only retort monitoring and reclamation work continuing.
Mahogany Shale Project Phillips	6	No specifics as to process type.	No announced plans.	Site exploration and offsite studies being conducted.
Pacific Shale Project Soho, Cleveland-Cliffs, Superior	7	12,600 acres private land, room and pillar mine, above ground Superior Circular Grate Retort	100,000 Bbls/day by late 1990s, start-up by 1990. Uses 164,700 TPD raw shale.	In planning stage, with a Draft EIS due in late 1983.
Horse Draw Multi-Mineral Corporation	8	Underground mine, for recovery of shale oil, nahcolite and dawsonite.	Research in conjunction with USBM. Company research facility 85% complete in Grand Junction. No specific plans for production.	Project on hold.
Parachute Project Mobil Oil	9	Hold 10,000 acres. Underground room and pillar mine, surface retort.	Projected 100,000 Bbls/day (160,000 TPD raw shale) by late 1990s.	In planning stage, with a Draft EIS due in late 1983.
Parachute Creek Shale Oil Program Union Oil	10	Underground mine with surface retort. 20,000 acres oil shale, 10,000 acres valley land.	Phase I-10,000 Bbls/day in late 1983, the first commercial shale oil project in U.S. Phase II - 90,000 Bbls/day by 1994.	Construction proceeding with start-up late in 1983. Ten-year contract with OOD for 33-million barrels military diesel and jet fuel. Seeking Synthetic Fuels Corp. assistance for Phase II.
BX In-Situ Oil Shale Project Equity Oil	11	Super heated steam injected into the shale. DOE joint project.	No future plans.	Project being evaluated.

1981 COLORADO URANIUM MINES AND MILLS

County	No. Mines	No. Mills	Mill Capacity Ton-ore/day	No. Employees (est.)
Fremont	1	1	1500	165
Glenn	1	1		160
Jefferson	14	1		59
Mesa	1			253
Montrose	35	1	1300	183
Saguache	1			140
San Miguel	15			154

Source: Colorado Division of Mines

GEOTHERMAL

The geothermal resources of Colorado, are represented by the 61 thermal springs and wells found throughout the western one-half of the State. These resources, which can be properly classified as hydrothermal resources, range in temperature from a low of 70°F to a high of 181°F. Due to the geologic complexity of western Colorado no generalized comment can be made regarding the geological conditions surrounding these areas. To some degree all the areas appear to be fault controlled, and are associated with rocks ranging in age from Precambrian to Recent.

Preliminary evaluation of each thermal area has shown that the 61 thermal areas may contain from 4,880,000,000,000 B.T.U.'s of heat energy (4.8 to 13.2 Quads). Exploration work by major energy companies has failed to locate any area in Colorado having reservoir characteristics suitable for the generation of electricity.

While the hydrothermal resource areas are widely scattered throughout western Colorado some of the areas are found in close proximity to urban areas and the thermal waters could be used for a wide range of direct application uses. For example, they could be used for district heating systems such as was recently developed in Pagosa Springs, or for a variety of such other uses as:

Space heating	Laundry
Greenhouses	Algae growing
Fish farming	Agriculture
Recreation	Medicinal

Development of Colorado's hydrothermal resources has slowed recently due to the downturn in the economy and prices of energy. Development efforts in the late 1970s showed that the geothermal resources of Colorado could play an important part in supplying the energy needs of local areas.

Source: Colorado's Hydrothermal Resource Base-An Assessment, by Richard H. Pearl, 1979, Resource Series 6, Colorado Geological Survey.

COLORADO GEOTHERMAL SITE CHARACTERISTICS

Site	Site No.	Surface Temp.	Discharge gal./min.	Water Quality (TDS)**
Antelope Warm Springs	44	90	3	151
Birds Warm Springs	45	86	15	168
Brands Ranch Well	5	108	80	262
Brown's Canyon Warm Spgs.	22	77	3	494
Browns Grotto Warm Spgs.	60	73	3	494
Canon City Warm Springs	26	104	200	1230
*Cebolla Hot Springs	47	104	20	1460
Centennial Creek Warm Spg	16	77	80	401
*Clark Artesian Well	30	77	12	1210
Colonel Chinn Well	14	108	1	2130
*Cottonwood Hot Springs	15	100	50	1910
*Craig Warm Water Well	2	39	24	896
Dexter Warm Spring	38	68	50	195
Don K. Ranch Well	29	82	25	1700
Dotsier Warm Spring	10	90	1500	10,400
Dunton Hot Spring	51	108	25	1340
Dutch Crowley Well	39	158	75	575
*Eldorado Springs	8	79	200	101
Eoff Well	40	102	50	1500
*Fenrose Artesian Well	28	82	130	1480
Fremont Natatorium Spg	17	95	18	1370
Fulinwidder Warm Spring	58	62	11	352
Geyser Warm Spring	52	82	100	1620
*Glenwood Hot Springs	11	124	2678	21,500
Hartsel Hot Springs	19	126	50	2330
Haystack Butte Well	7	82	4	1200
Horseshoe Hot Spring	59	181	18	345
*Hot Sulphur Springs	6	111	55	1220
*Idaho Hot Springs	9	115	52	2110
*Juniper Hot Springs	1	100	18	1150
*Lemon Hot Springs	50	91	10	2810
Mapco State Well 1-32	61	---	34	2889
*McIntyre Warm Springs	17	57	5	165
*Mineral Hot Springs	31	140	100	690
*Mt. Princeton Hot Spgs.	21	162	60	351
*Orvis Hot Springs	48	126	20	2490
*Ouray Hot Springs	49	156	200	1620
*Pagosa Springs	41	136	300	3320
Paradise Hot Springs	53	115	30	6180
*Penny Hot Springs	3	133	22	2660
Piedra River Warm Spgs.	58	---	---	---
*Pinkerton Hot Springs	55	91	80	3990
*Poncha Hot Springs	23	160	235	697
Rainbow Hot Springs	42	104	45	161
*Ranger Warm Springs	17	81	150	474
*Rhodes Warm Springs	18	75	200	194
Rico	54	111	60	2790
Rout Hot Springs	3	147	65	539
*Sand Dunes Well	34	111	50	334
*Shaws Warm Spring	33	86	40	424
South Canyon Hot Spg	12	120	18	800
*Spiesland Well	35	104	50	311
*Steamboat Springs	4	102	200	6170
Stinking Springs	38	81	24	899
Stratton Warm Spring	57	---	---	---
Swissvale Warm Spring	25	82	145	500
*Tipp/Tumble Hot Spgs.	56	111	1	3340
*Valley View Hot Springs	32	99	135	252
*Wagon Wheel Gap Spgs.	43	135	60	1620
*Lower and Upper Wauvita Hot Springs	46	176	40	549
*Weilsville Warm Spg	24	91	200	484

*Currently developed for beneficial use

**Total dissolved solids

Source: R.H. Pearl, Colorado Geological Survey