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Coal Beneath Federal Lands in the United States—Mines, Reserves, and Resources





Circular 1570
Version 1.1, August 2026

U.S. Department of the Interior
U.S. Geological Survey

Cover.

Background, A train load of coal on the mainline railroad in the Powder River Basin. Photograph by the U.S. Geological Survey Coal Assessment Team.

Top, Draglines remove overburden rock from multiple coal beds in a surface mine on Federal lands in the Yampa coal field in northwest Colorado. Photograph by Brian N. Shaffer, U.S. Geological Survey.

Bottom, An electric mining shovel loading coal into a haul truck in the pit of a surface mine on Federal lands in the Powder River Basin in northeastern Wyoming. Note that the top of the subbituminous coal bed being mined is above the top of the shovel. Photograph by the U.S. Geological Survey Coal Assessment Team.

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By Brian N. Shaffer, Michelle N. Johnston, and Scott A. Kinney

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Conversion Factors

U.S. customary units to International System of Units

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
feet (ft)	0.3048	meter (m)
	Mass	
pound, avoirdupois (lb)	0.4536	kilogram (kg)
ton, short (2,000 lb)	0.9072	metric ton (t)

International System of Units to U.S. customary units

Multiply	By	To obtain
	Length	
micrometer (μm)	3.937×10^{-5}	inch (in)
	Mass	
gram (g)	0.03527	ounce, avoirdupois (oz)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

°F = (1.8 × °C) + 32.

Abbreviations

BLM	Bureau of Land Management
bst	billion short tons
EIA	U.S. Energy Information Administration
MSHA	Mine Safety and Health Administration
mst	million short tons
NCRA	National Coal Resource Assessment
OSMRE	Office of Surface Mining Reclamation and Enforcement
SEC	U.S. Securities and Exchange Commission
st	short tons
USGS	U.S. Geological Survey

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Plain Language Summary

There are 34 coal mines on Federal lands, mostly west of the Mississippi River. In 2024, 261,690,308 short tons of coal were mined from Federal lands. The conterminous United States has about 355,771,000,000 short tons of coal resources beneath Federal lands. Alaska also has an estimated 140,000,000,000 short tons of available coal resources but may contain as much as 5,500,000,000,000 short tons of identified and undiscovered coal resources.

Abstract

The U.S. Geological Survey (USGS) compiled a list of coal mines and tabulated the coal reserves and available coal resources beneath Federal lands in the conterminous United States. Coal resources beneath Federal lands in Alaska are also discussed in this report.

In 2024, the 34 coal mines on Federal lands produced more than 261 million short tons of coal. Surface mining is used at 23 of the coal mines, and underground mining is used at 11. These 34 coal mines control more than 4.2 billion short tons of reported coal reserves. Most of the coal mines (31) and more than 98 percent of the reported coal reserves are on Federal lands west of the Mississippi River. Of all the States, Wyoming has the most coal mines on Federal lands (14) and produces the most coal from Federal lands. The Powder River Basin has the most coal mines per basin or coal field operating on Federal lands (12 in Wyoming, 2 in Montana).

Most of the available coal resources in the conterminous United States are also west of the Mississippi River. There are five basins or coal fields in the West that each contain available coal resources of more than 25 billion short tons. The USGS estimates that more than 355 billion short tons of available coal resources remain beneath Federal lands in the conterminous United States.

Alaska contains substantial quantities of coal resources. The USGS estimates that Alaska has at least 140 billion short tons of identified available coal resources but may ultimately have as much as 5.5 trillion short tons of coal resources.

Introduction

The U.S. Geological Survey (USGS) assesses the quantity and quality of available coal resources and reserves in the basins and coal fields of the United States, with an emphasis on Federal lands. This report provides an overview of coal mines operating on Federal lands (fig. 1), the reported coal reserves for each of those mines, available coal resources beneath Federal lands, and a brief discussion on coal resources in Alaska.

Table 1 contains a list of coal mines on Federal lands that shows the State where the mines are, type of mining (surface or underground), type of coal, mine's operating company, basin or coal field where the production is, amount of coal produced in 2024, and reported coal reserves for those mines. Table 2 lists the six States mining coal on Federal lands, the number of coal mines on Federal lands in each State, the total 2024 coal produced from Federal lands, and the reported coal reserves remaining beneath Federal lands. Table 3 shows the estimated available coal resources beneath Federal lands. The most recent comprehensive assessment of the Nation's coal resources was the multiyear National Coal Resource Assessment (NCRA), which assessed coal resources in five priority coal-producing regions: the (1) northern and central areas of the Appalachian Basin, (2) Illinois Basin, (3) Gulf Coast, (4) Colorado Plateau, and (5) Northern Rocky Mountains and Great Plains (Dennen, 2009). Coal resources in the southern area of the Appalachian Basin were not assessed by the NCRA.

These assessment results were published in a series of USGS Professional Papers between 1999 and 2007 (Dennen, 2009). Coal resource assessment studies (for individual basins and coal fields) that have been completed since the comprehensive NCRA reports include the Powder River Basin assessment in Wyoming and Montana (Luppens and others, 2015) and the Little Snake River coal field and Red Desert area assessment in south-central Wyoming (Scott and others, 2019).

Coal resources by rank and distribution beneath Federal lands in the conterminous United States, along with coal mines on Federal lands, are shown in figure 1.

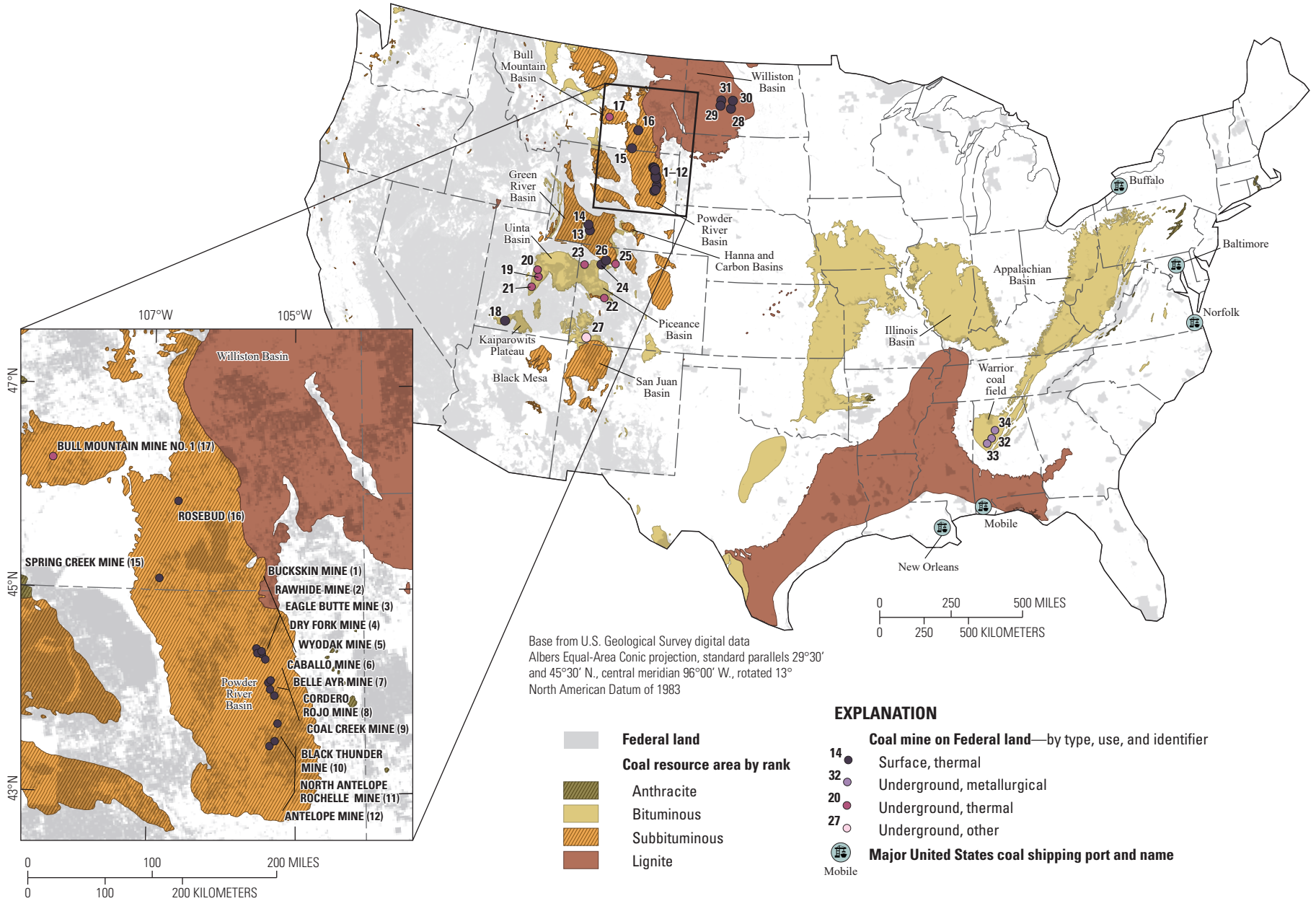


Figure 1. Map showing coal resources by rank and distribution on Federal lands in the conterminous United States. The coal resources by rank data are from East (2013). The individual numbers shown on the map refer to current (as of 2024) coal mines on Federal lands and correspond to the mines in table 1. The inset map shows the individual coal mines in the Powder River Basin in Wyoming and Montana.

Table 1. A list of coal mines and reported coal reserves beneath Federal lands, as of 2024.

[Data for the reported 2024 production come from the U.S. Energy Information Administration (EIA, 2026b). st, short tons; No., number; U, underground mining methods; M, metallurgical coal; BC, Blue Creek; LLC, Limited Liability Corporation; WCF, Warrior coal field; BLM, Bureau of Land Management; Peabody, Peabody Energy Corporation; S, surface mining methods; T, thermal coal; LP, Limited Partnership; GRB, Green River Basin; OSMRE, U.S. Office of Surface Mining Reclamation and Enforcement; Inc., Incorporated; PB, Piceance Basin; MSHA, Mine Safety and Health Administration; O, other; SJB, San Juan Basin; UB, Uinta Basin; Core, Core Natural Resources, Inc., CMB, Central Montana Basins; PRB, Powder River Basin; Co., Company; BNI, Baukol-Noonan, Incorporated; LTD, Limited; WB, Williston Basin; KP, Kaiparowits Basin; N/A, not available; Boyd, John T. Boyd Company; MTech, Mining Technology]

Mine name	Number on figure 1 map	Mine type	Type of coal mined	Operating company	Coal basin or field	2024 reported coal production beneath Federal lands (in st)	Reported coal reserves beneath Federal lands (in st)	Reported coal reserves source
Alabama								
Blue Creek Mine No. 1	32	U	M	Warrior Met Coal BC, LLC	WCF	208,760	36,300,000	BLM, 2026b
Mine No. 4	33	U	M	Warrior Met Coal Mining, LLC	WCF	2,769,238	16,900,000	BLM, 2026b
Shoal Creek Mine	34	U	M	Peabody Southeast Mining, LLC	WCF	2,102,725	16,000,000	Peabody, 2025
Colorado								
Colowyo Mine	24	S	T	Colowyo Coal Company, LP	GRB	1,713,919	81,660,000	OSMRE, 2017b
Deserado Mine[1]	23	U	T	Blue Mountain Energy, Inc.	PB	1,907,363	7,304,000	BLM, 2026a; MSHA, 2026
Foidel Creek Mine	25	U	T	Peabody Twentymile Mining, LLC	GRB	995,706	9,000,000	Peabody, 2025
King II Mine	27	U	O	GCC Energy, LLC	SJB	582,342	4,660,000	OSMRE, 2017f
Trapper Mine	26	S	T	Trapper Mining, Inc.	GRB	1,521,960	19,100,000	OSMRE, 2016
West Elk Mine	22	U	T	Mountain Coal Company, LLC	UB	3,705,019	34,500,000	Core, 2025
Montana								
Bull Mountain Mine No. 1	17	U	T	Signal Peak Energy, LLC	CMB	7,067,888	22,800,000	OSMRE, 2025c
Rosebud	16	S	T	Westmoreland Rosebud Mining, LLC	PRB	5,978,039	33,800,000	OSMRE, 2025e
Spring Creek Mine	15	S	T	Navajo Transitional Energy Co.	PRB	13,053,955	39,900,000	OSMRE, 2025f
North Dakota								
Center Mine[2]	28	S	T	BNI Coal, LTD	WB	4,240,336	6,130,000	OSMRE, 2024b
Coyote Creek Mine[3]	29	S	T	Coyote Creek Mining Co., LLC	WB	1,913,979	5,200,000	OSMRE, 2024a
Falkirk Mine[2]	30	S	T	Falkirk Mining Co.	WB	7,400,184	2,200,000	OSMRE, 2018b
Freedom Mine[3]	31	S	T	The Coteau Properties Co.	WB	11,860,169	76,900,000	OSMRE, 2025d
Utah								
Coal Hollow (Alton) Mine[4]	18	S	T	Alton Coal Development, LLC	KP	0	30,800,000	OSMRE, 2019
Gentry No. 3 Mine	19	U	T	Gentry Mountain Mining, LLC	UB	292,122	N/A	N/A
Skyline No. 3 Mine	20	U	T	Canyon Fuel Co., LLC	UB	2,963,808	42,000,000	OSMRE, 2017g
Sufco Mine	21	U	T	Canyon Fuel Co., LLC	UB	3,099,164	55,700,000	OSMRE, 2017e
Wyoming								
Antelope Mine	12	S	T	Navajo Transitional Energy Co.	PRB	14,984,446	378,400,000	OSMRE, 2025b
Belle Ayr Mine	7	S	T	Eagle Specialty Materials, LLC	PRB	14,628,974	208,400,000	OSMRE, 2017a
Black Thunder Mine	10	S	T	Thunder Basin Coal Co., LLC	PRB	44,480,976	378,000,000	Core, 2025
Buckskin Mine[5]	1	S	T	Kiewit Mining Group	PRB	6,752,570	107,000,000	Boyd, 2011; MSHA, 2026
Caballo Mine	6	S	T	Peabody Caballo Mining, LLC	PRB	10,788,438	168,000,000	Peabody, 2025
Coal Creek Mine[5]	9	S	T	Thunder Basin Coal Co., LLC	PRB	1,552,309	125,000,000	Boyd, 2011; MSHA, 2026
Cordero Rojo Mine	8	S	T	Navajo Transitional Energy Co.	PRB	4,314,678	288,400,000	OSMRE, 2017c
Dry Fork Mine	4	S	T	Western Fuels - Wyoming, Inc.	PRB	3,962,853	222,300,000	OSMRE, 2017d
Eagle Butte Mine[6]	3	S	T	Eagle Specialty Materials, LLC	PRB	11,035,284	225,400,000	Mtech, 2014; MSHA, 2026

Table 1. A list of coal mines and reported coal reserves beneath Federal lands, as of 2024.—Continued

[Data for the reported 2024 production come from the U.S. Energy Information Administration (EIA, 2026b). st, short tons; No., number; U, underground mining methods; M, metallurgical coal; BC, Blue Creek; LLC, Limited Liability Corporation; WCF, Warrior coal field; BLM, Bureau of Land Management; Peabody, Peabody Energy Corporation; S, surface mining methods; T, thermal coal; LP, Limited Partnership; GRB, Green River Basin; OSMRE, U.S. Office of Surface Mining Reclamation and Enforcement; Inc., Incorporated; PB, Piceance Basin; MSHA, Mine Safety and Health Administration; O, other; SJB, San Juan Basin; UB, Uinta Basin; Core, Core Natural Resources, Inc., CMB, Central Montana Basins; PRB, Powder River Basin; Co., Company; BNI, Baukol-Noonan, Incorporated; LTD, Limited; WB, Williston Basin; KP, Kaiparowits Basin; N/A, not available; Boyd, John T. Boyd Company; MTech, Mining Technology]

Mine name	Number on figure 1 map	Mine type	Type of coal mined	Operating company	Coal basin or field	2024 reported coal production beneath Federal lands (in st)	Reported coal reserves beneath Federal lands (in st)	Reported coal reserves source
Wyoming—Continued								
North Antelope Rochelle Mine	11	S	T	Peabody Powder River Mining, LLC	PRB	59,793,304	1,300,000,000	Peabody, 2025
Rawhide Mine	2	S	T	Peabody Caballo Mining, LLC	PRB	9,049,452	80,000,000	Peabody, 2025
Wyodak Mine	5	S	T	Black Hills Energy	PRB	3,686,049	172,000,000	Black Hills Corporation, 2026
Black Butte and Leucite Hills Mine	13	S	T	Black Butte Coal Co.	GRB	433,842	9,200,000	OSMRE, 2025a
Jim Bridger Mine	14	S	T	Bridger Coal Co.	GRB	2,850,457	8,800,000	OSMRE, 2018a

[1]Subtracted the MSHA production data (MSHA, 2026; 2013–24) from the short tons listed in the BLM (2026a) report.

[2]Production was from private, State, and Federal lands.

[3]Production was from private, State, and Federal lands; Federal resources only.

[4]Reported as active in 2023; not listed in 2024.

[5]Subtracted the MSHA production data (MSHA, 2026; 2012–24) from the reserves listed in Boyd (2011).

[6]Subtracted the MSHA production data (MSHA, 2026; 2013–24) from the short tons listed in the MTech (2014) report.

Table 2. The 2024 total coal mines, reported production, and reported reserves beneath Federal lands per State.

[Data for the reported 2024 production come from the U.S. Energy Information Administration (EIA, 2026b). Data for the reported coal reserves for each State come from the following sources: for Alabama, the Peabody Energy Corporation (Peabody; 2025) and Bureau of Land Management (BLM; 2026b); for Colorado, the U.S. Office of Surface Mining Reclamation and Enforcement [OSMRE; 2016, 2017b, f), Peabody (2025), Core Natural Resources, Inc. (Core; 2025), BLM (2026a), and Mine Safety and Health Administration (MSHA; 2026); for Montana, the OSMRE (2025c, e, f); for North Dakota, the OSMRE (2018b, 2024a, b, 2025d); for Utah, OSMRE (2017g, e, 2019), and for Wyoming, the John T. Boyd Company (Boyd; 2011), Mining Technology (MTech; 2014), OSMRE (2017a, c, d, 2018a, 2025a, b), Core (2025); Peabody (2025); MSHA (2026), and Black Hills Corporation (2026)]

State	Number of mines	2024 reported coal production beneath Federal lands (in short tons)	Percentage of coal produced from Federal lands	Reported coal reserves beneath Federal lands (in short tons)	Percentage of coal reserves beneath Federal lands
Eastern State					
Alabama	3	5,080,723	1.94	69,200,000	1.64
Western States					
Colorado	6	10,426,309	3.98	156,224,000	3.71
Montana	3	26,099,882	9.97	96,500,000	2.29
North Dakota	4	25,414,668	9.71	90,430,000	2.15
Utah	4	6,355,094	2.43	128,500,000	3.05
Wyoming	14	188,313,632	71.96	3,670,900,000	87.16
Total of Western States	31	256,609,585	98.06	4,142,554,000	98.36
Total	34	261,690,308	100	4,211,754,000	100

Table 3. Available coal resources beneath Federal lands in major coal-bearing areas in the conterminous United States.

[Wyo., Wyoming; Mont., Montana; ft, feet; bst, billion short tons; N. Dak., North Dakota; USGS, U.S. Geological Survey; Colo., Colorado; N/A, not applicable; >, greater than; <, less than; N. Mex., New Mexico; Ariz., Arizona]

Area	States	Available resources of Federal coal holdings (in short tons)	Coal rank	Notes and comments	Available coal resources source
Powder River Basin	Wyo., Mont.	180,890,000,000	Subbituminous	Available coal resources shown are those at cover depth of less than 500 ft; Available resources to 3,000 ft cover depth are 833.9 bst; minimum coal bed thickness is 2.5 ft. The 2.61 bst of coal produced between 2015 and 2024 has been subtracted from the available resources.	Luppens and others, 2015
Williston Basin	N. Dak	27,160,000,000	Lignite	Compilation of the resource assessments for four major coal beds in the basin.	Ellis and others, 1999b
Green River Basin—Little Snake River coal field, Red Desert area	Wyo.	10,800,000,000	Subbituminous	N/A	Scott and others, 2019
Green River Basin—Yampa coal field	Colo.	N/A	Bituminous	N/A	N/A
Green River Basin—Rock Springs Uplift	Wyo.	1,240,000,000	Subbituminous	Coal resources were >2.5 ft thick. Excludes areas already leased or permitted by Jim Bridger and Black Butte Mines.	Ellis and others, 1999b
Piceance Basin—Deserado Area	Colo.	431,000,000	Bituminous	Coal resources were >1.2 ft thick. Excludes areas leased or permitted by Deserado Mine	Brownfield and others, 2000a
Piceance Basin—Danforth Hills coal field	Colo.	16,220,000,000	Bituminous	Coal resources were >1.2 ft thick and at <3,000 ft cover depth. Available resources were estimated using the percentage of Federal coal for all coal resources in each assessment subarea.	Brownfield and others, 2000b
Piceance Basin—southern portion	Colo.	33,800,000,000	Bituminous	Coal resources at <3,000 ft cover depth.	Hettinger and others, 2000b
San Juan Basin (SJB)	Colo., N. Mex	42,000,000,000	Bituminous and subbituminous	Coal resources were >1.2 ft thick and at <3,000 ft cover depth.	Fassett, 2000
Uinta Basin—Book Cliffs coal field	Utah	3,500,000,000	Bituminous	Coal resources were >4.0 ft thick and at <3,000 ft cover depth.	Kirschbaum and Biewick, 2000
Uinta Basin—Southern Wasatch Plateau	Utah	5,300,000,000	Bituminous	Coal resources were >1.2 ft thick and at <3,000 ft cover depth. Available resources listed are combined for the Southern Wasatch Plateau and Book Cliffs.	Dubiel and others, 2000
Kaiparowits Plateau	Utah	28,000,000,000	Bituminous	Coal resources were >3.5 ft thick and at <3,000 ft cover depth.	Hettinger and others, 2000a

Table 3. Available coal resources beneath Federal lands in major coal-bearing areas in the conterminous United States.—Continued

[Wyo., Wyoming; Mont., Montana; ft, feet; bst, billion short tons; N. Dak., North Dakota; USGS, U.S. Geological Survey; Colo., Colorado; N/A, not applicable; >, greater than; <, less than; N. Mex., New Mexico; Ariz., Arizona]

Area	States	Available resources of Federal coal holdings (in short tons)	Coal rank	Notes and comments	Available coal resources source
Black Mesa	Ariz.	3,700,000,000	Bituminous and subbituminous	Coal resources calculated for the coal beds of the Wepo Formation only because of sparse data.	Nations and others, 2000
Hanna and Carbon Basins	Wyo.	1,630,000,000	Subbituminous	Coal resources were >2.5 ft thick.	Ellis and others, 1999a
Central Montana Basins—Bull Mountain Basin	Mont.	1,100,000,000	Bituminous and subbituminous	The percentage of Federal coal ownership is not given for the resource assessment.	Stricker, 1999
Total		355,771,000,000			

Because of the complicated nature of mineral-estate ownership, this report assumes that Federal surface ownership generally includes mineral-estate ownership, meaning that the Federal Government owns the surface and any underlying mineral or energy resources, as was assumed in previous Federal land resource allocations (Gautier and others, 1998). Federally owned land includes land managed by the Bureau of Land Management (BLM), National Park Service, U.S. Forest Service, U.S. Fish and Wildlife Service, Department of Energy, Department of War, U.S. Bureau of Reclamation, and Tennessee Valley Authority (Schenk and others, 2025).

Coal Rank Classifications

Coal ranks are classified by their degree of alteration or coalification, driven by increasing heat and pressure, from lignite to anthracite (Wood and others, 1983). Coal rank classification is based on the analysis of the dry, mineral-matter-free heat value, fixed carbon, and volatile matter. These parameters are chosen because they are consistent, with very little variance, within each coal rank (Wood and others, 1983). Lignite has undergone the lowest degree of alteration

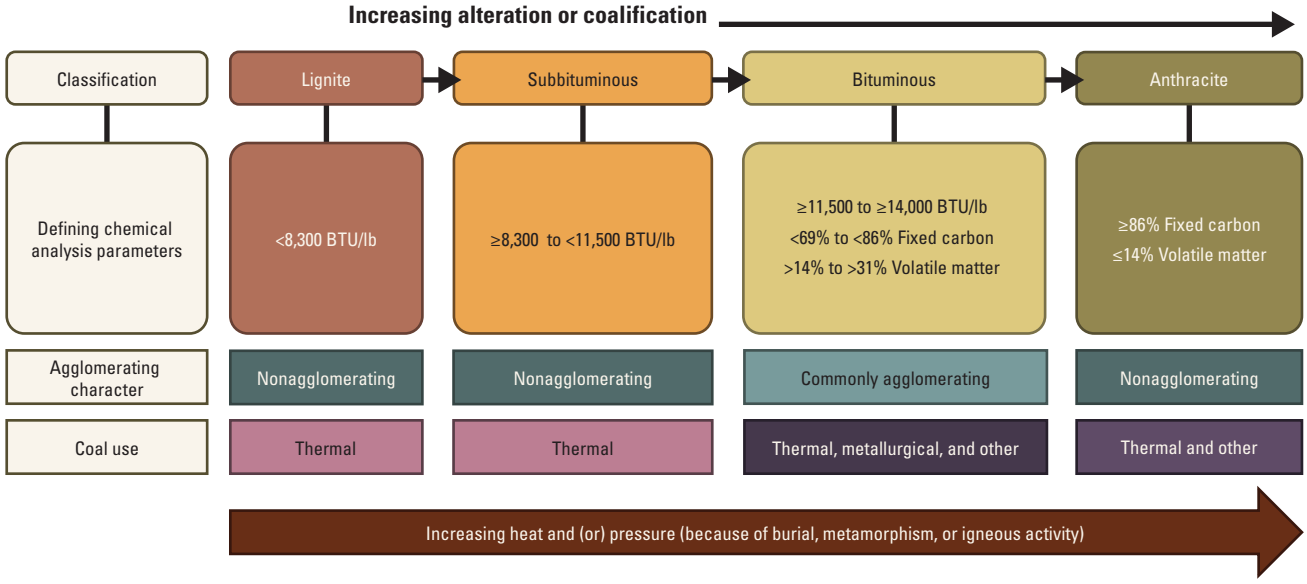


Figure 2. A flow chart showing the progression of coal rank classifications as heat and pressure increase the alteration or coalification of coal. Also shown are the defining chemical analysis parameters and agglomerating character for each coal rank classification. Classification parameters from Wood and others, 1983 (p. 17). <, less than; >, greater than; ≤, less than or equal to; ≥, greater than or equal to; %, percent; BTU/lb, British thermal units per pound.

or coalification. As the coal deposit is subjected to increasing heat and (or) pressure, coal rank transitions from lignite to subbituminous, then bituminous, and finally anthracite, which is the coal rank classification that has undergone the highest degree of alteration or coalification. Figure 2 shows the progression of coal rank classification, based on the increasing degree of alteration or coalification, and the defining chemical analysis parameters for each coal rank.

Figure 2 also shows how the physical and chemical parameters of coal factor into the designation of coal rank. Agglomerating coal is defined by Wood and others (1983, p. 5) as "coal that, during volatile matter determinations, produces either an agglomerate button capable of supporting a 500-gram weight without pulverizing, or a button showing swelling or [a porous or honeycomb] cell structure." If the coal is metallurgical-grade, an agglomerate coke button will form when a 1-gram sample of coal, crushed to pass through a 250-micrometer sieve, is placed in a crucible and heated to a temperature of 800–820 degrees Celsius. This heat causes the coal to soften and swell, then resolidify into a porous mass or "button" (Trippi and others, 2021). Agglomerating is a distinguishing characteristic of metallurgical coal, which is an essential ingredient in the conventional steelmaking process. Nonmetallurgical-grade coals will not agglomerate.

Coal Resources and Coal Reserves

The discussion of "coal resources" and "coal reserves" can be confusing because these terms are often mistakenly applied when quantifying coal deposits (Shaffer and others, 2026). "Coal resources" (fig. 3) are defined as natural "deposits of coal in the Earth's crust, in such forms and amounts that economic extraction is currently or potentially feasible" (Wood and others, 1983, p. 19). "Original coal resources" are coal beds that are (1) less than 6,000 feet deep and (2) greater than 14 inches thick for anthracite and bituminous coal or greater than 30 inches thick for subbituminous and lignite coal before any coal is extracted (Wood and others, 1983). "Remaining coal resources" are a subset of original coal resources that remain after subtracting coal that has been (1) previously mined, (2) left as pillars in abandoned mines or barriers between mines, and (3) sterilized (not extractable because of previous mining activities). "Available coal resources" are a subset of remaining coal resources and are calculated by subtracting coal quantities that cannot be mined because of land use, environmental, or societal restrictions from the remaining coal resources. Available coal resources also exclude coal that is not extractable because of geologic anomalies, such as near-surface weathering or oxidation, technical or mining limitations caused by excessive cover depths, high-stripping ratios, and coal bed thickness (too thick or thin; Luppens and others, 2009).

"Coal reserves" are a subset of available coal resources where the coal can be sold at market value for a profit after deducting extraction and processing costs (Luppens and others, 2009). Beyond that definition, the use of the term "coal reserves" in this report also implies that the coal is in a mining permit area or is within a block of coal with active mining operations, although Wood and others (1983) specify that "the term *reserves* [original emphasis] need not signify that extraction facilities are in place or operative" (p. 18). Figure 3 is a flow chart for resource and reserve classifications in this report.



A coal shovel loading coal into a haul truck from a thin coal bed in the pit of a surface mine on Federal lands in the Yampa coal field in northwest Colorado. Photograph by David C. Scott, U.S. Geological Survey.

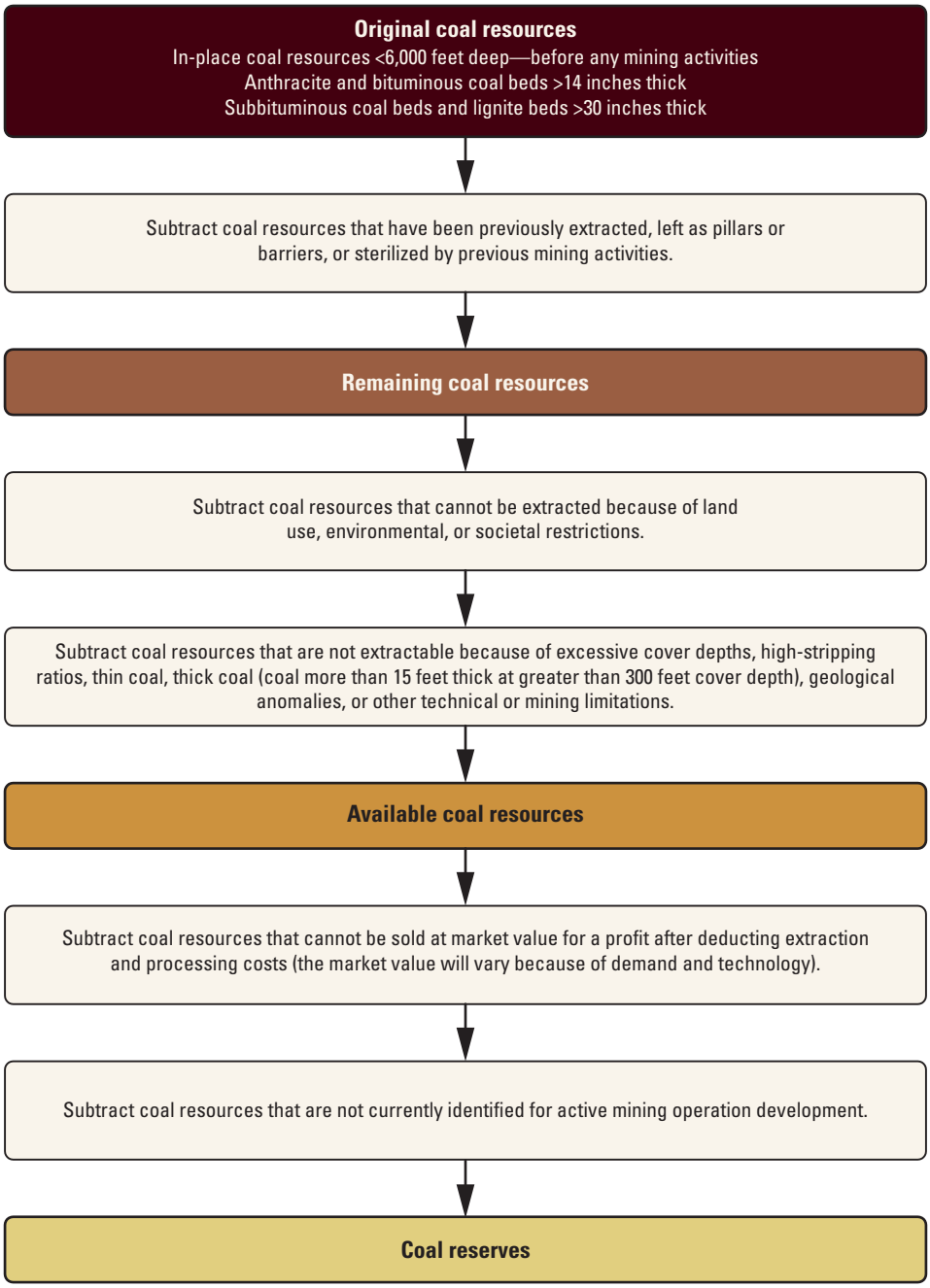


Figure 3. A flow chart of coal resources and reserve classifications. Figure adapted from Wood and others (1983, fig. 3) and Luppens and others (2009, fig. 3). <, less than; >, greater than.

Coal Mines on Federal Lands

In 2024 (the most recent year with annual production data available as of 2026), 34 coal mines in six states produced coal from reserves entirely or partially beneath Federal lands (U.S. Energy Information Administration [EIA], 2026b), as shown in table 1. One mine, the Coal Hollow (Alton) Mine in Utah (table 1; no. 18 in fig. 1), reported no production in 2024, after being listed as a surface mining operation in 2023 (EIA, 2026a). The locations of these coal mines on Federal lands are shown in figure 1 and are annotated based on the mining method used at the mine (surface or underground) and by the end use of the coal produced (thermal, metallurgical, or other). Surface coal mining methods (highwall, contour stripping, auger, and other methods) are used at 23 of these mines, and underground coal mining methods (longwall, room and pillar) are used at the remaining 11 mines (table 2). Additional information on types of surface and underground mining methods can be found on the Kentucky Geological Survey (2025) website.

The 34 coal mines on Federal lands produced 261,690,308 short tons (st; or 261.7 million short tons [mst]; 1 st equals 2,000 pounds) of coal in 2024 (table 2), which accounted for 51.06 percent of the overall U.S. coal production (EIA, 2025). Two additional mines, the Emery Mine in Utah and the Kemmerer Mine in Wyoming, hold Federal leases but are mining coal from either State or private lands and are not included in this report's estimates (T.M. Mamayev, Office of Natural Resources Revenue, unpub. data, 2026).

As of 2024, Wyoming has the most coal mines on Federal lands (14 mines), followed by Colorado (6), North Dakota (4), Utah (4), Alabama (3), and Montana (3). Wyoming led the Nation in coal production from Federal lands in 2024 by a wide margin (188,313,632 st, or 188.3 mst), followed, as shown in table 2, by Montana, North Dakota, Colorado, Utah, and Alabama (EIA, 2026b). Collectively, the 31 mines in the Western United States (defined here as States west of the Mississippi River) accounted for approximately 98 percent of coal produced from Federal land (table 2). The North Antelope Rochelle Mine, operating in the Powder River Basin in Wyoming (no. 11, table 1 and fig. 1 inset map), produced more coal than any other mine operating on Federal lands in 2024, with 59,793,304 st (or 59.8 mst; EIA, 2026b), as well as more coal than any coal mine operating on State or privately-held lands in the United States in 2024 (EIA, 2026b). The Black Thunder Mine, also in the Powder River Basin, Wyoming (no. 10, table 1 and fig. 1 inset map), produced 44,480,976 st (or 44.5 mst) in 2024 (EIA, 2026b). These two mines produced 39.85 percent of coal mined from Federal lands in 2024.

Of the 31 coal mines on Federal lands in the Western United States, 29 mines produced coal used for electrical generation (thermal coal), 1 mine (King II Mine in southwestern Colorado, refer to table 1 and fig. 1) produced coal used in the cement-making process, and 1 mine is idled (temporarily closed; Coal Hollow [Alton] Mine in Utah, refer to table 1 and fig. 1). In Alabama, 3 coal mines on Federal lands produced coal used in the conventional steelmaking process (metallurgical coal).

Coal Reserves Beneath Federal Lands

Coal mining operations on Federal lands require coal reserves to sustain future mining. The reported coal reserves for the coal mines on Federal lands are shown in table 1. Differences in the U.S. Securities and Exchange Commission (SEC) reporting requirements between publicly owned and privately held companies often make determining reported reserves for coal mines difficult. Publicly owned companies are required by the SEC to report their reserves in their annual reports and 10-K forms, which are available to the public (for example, Black Hills Corporation, 2026). Because privately owned companies are not required by the SEC to report their reserves to the public, their reported reserves beneath Federal lands are derived from a variety of sources, including reports by the Office of Surface Mining Reclamation and Enforcement, the BLM, the Mine Safety and Health Administration, and mining industry journal publications (for example, Mining Technology [MTech], 2014). Typically, the reports by Federal government agencies (Office of Surface Mining Reclamation and Enforcement, BLM) only report reserves calculated for the Federal leases held by the mining operation, whereas the SEC reports, for publicly owned companies, do not break down reported reserve quantities by Federal, State, or private ownership.

Almost all the mines in the Powder River Basin in Wyoming (fig. 1 inset map) reported reserves larger than 125,000,000 st (or 125 mst), as shown in table 1, with the North Antelope Rochelle Mine having the largest reported reserves at 1,300,000,000 st (or 1,300 mst). Wyoming is the state with the largest reported reserves, totaling 3,670,900,000 st (or 3,671 mst; table 2), comprising more than 87 percent of the reported reserves beneath Federal lands. The reported reserves for Colorado (156,224,000 st, or 156.2 mst; table 2), Utah (128,500,000 st, or 128.5 mst; table 2), and Montana (96,500,000 st, or 96.5 mst; table 2) trail Wyoming's reserves. The reported reserves beneath Federal lands in North Dakota total 90,430,000 st (or 90.4 mst; table 2). The metallurgical coal reserves for the three mines operating on Federal lands in Alabama are 69,200,000 st (or 69.2 mst). Overall, the reported reserves beneath Federal lands are 4,211,754,000 st (or 4,212 mst; table 2). Most (98.36 percent) of the reported reserves for coal mines on Federal lands are in the Western United States.

Coal Resources Beneath Federal Lands

Coal resources are beneath Federal lands throughout the United States, but almost all those coal resources are west of the Mississippi River, as shown in figure 1. There are few Federal lands underlain by Paleozoic coal-bearing areas east of the Mississippi River or lignite-bearing areas along the Gulf Coast Basin, so available coal resources for those Federal lands have not been assessed. Table 3 shows available resources on Federal lands in major coal-bearing areas in the conterminous United States, as reported in many USGS coal assessment reports.

The Powder River Basin, spanning across northeastern Wyoming and southeastern Montana (fig. 1), holds the largest quantity of available coal resources of any coal-bearing area in the conterminous United States. The Powder River Basin contains an estimated 180,890,000,000 st of subbituminous coal (or 180.9 bst; Luppens and others, 2015). The Williston Basin, in western North Dakota and eastern Montana, contains an estimated 27,160,000,000 st of lignite (or 27.2 bst; Ellis and others, 1999b). The Powder River Basin and Williston Basin are major producers of thermal coal for electrical power generation in the United States. Other

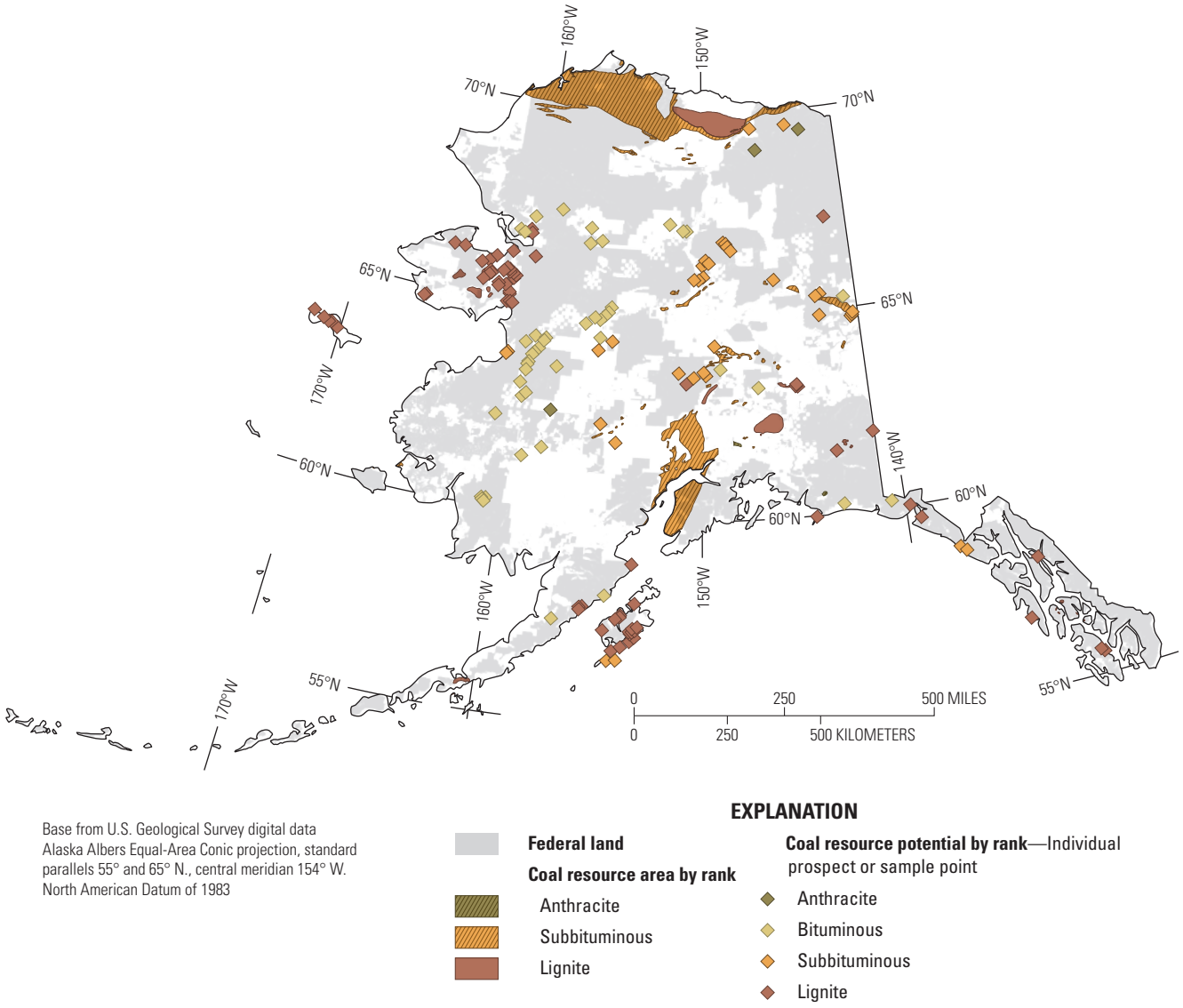


Figure 4. Map of Alaska showing Federal lands and known coal fields. Individual coal samples and prospects indicate coal fields that are undefined or poorly defined (Merritt and Hawley, 1986).

areas containing large quantities of available coal resources include the San Juan Basin in southwestern Colorado and northwestern New Mexico (42,000,000,000 st, or 42.0 bst of subbituminous–bituminous coal; Fassett, 2000), the southern portion of the Piceance Basin in western Colorado (33,800,000,000 st, or 33.8 bst of subbituminous–anthracite coal; Hettinger and others, 2000b), and the Kaiparowits Plateau in southern Utah (28,000,000,000 st, or 28.0 bst of subbituminous–bituminous coal; Hettinger and others, 2000a). Overall, the estimated available coal resources beneath Federal lands in the conterminous United States totals 355,771,000,000 st (or 355.8 bst; table 3). This total does not include potential available coal resources in the Warrior coal field in Alabama, which holds metallurgical-grade bituminous coal resources; the Warrior coal field resources have not been assessed by the USGS since the 1960s.



A train load of coal on the mainline railroad in the Powder River Basin. Photograph by the U.S. Geological Survey Coal Assessment Team.



A dragline removing overburden rock from a thick coal bed in a surface mine on Federal lands in the Powder River Basin in northeast Wyoming. Photograph by the U.S. Geological Survey Coal Assessment Team.

Alaska Coal Resources

Alaska contains substantial quantities of coal resources, ranging from lignite to anthracite in rank. According to Flores and others (2004), Alaska's coal fields hold an estimated 140,000,000,000 st (or 140.0 bst) of identified available coal resources. Because of Alaska's remoteness and lack of detailed geologic mapping and exploration drill hole data, Flores and others (2004) estimate that Alaska may ultimately contain as much as 5,500,000,000,000 st (or 5.5 trillion short tons) of identified and undiscovered coal resources.

The Federal Government owns 224 million acres of land in Alaska, which amounts to 61.4 percent of the total land ownership (Alaska Department of Natural Resources, 2025). The quantity of coal resources beneath all Federal lands in Alaska is unknown. Figure 4 shows the extent of Federal lands in Alaska, relation of those lands to known coal fields, and many coal samples and prospects throughout Alaska. There is currently (as of 2026) only one coal mine operating in Alaska, which is not mining on Federal land.

Summary

As of 2024, 34 coal mines produce coal from Federal lands, consisting of 29 mines producing thermal coal for electrical power generation, 3 mines producing metallurgical coal for steelmaking, 1 mine producing thermal industrial coal for cement-making operations, and 1 mine that was idled. In 2024, 51.06 percent of the coal produced in the United States was mined from Federal lands. Wyoming has the most coal mines operating on Federal lands (14 mines), followed by Colorado (6), North Dakota (4) and Utah (4), and Alabama (3) and Montana (3). Wyoming produced the most coal from Federal lands (188,313,632 short tons [st], or 188.3 million short tons [mst]) in 2024, accounting for almost 72 percent of the total production from Federal lands. Wyoming also has the mine (North Antelope Rochelle) that not only produces the most coal from Federal lands but also produces the most coal of any mine in the United States (59,793,304 st, or 59.8 mst, in 2024), regardless of surface ownership (Federal, State, or private). More than 98 (98.06) percent of coal produced from Federal lands is west of the Mississippi River.

Reported coal reserves for the coal mines on Federal lands are estimated to contain approximately 4.21 billion short tons (bst). More than 98 (98.36) percent of the reported coal reserves are west of the Mississippi River, mostly in the Powder River Basin in Wyoming and Montana. The Powder River Basin has 10 coal mines that report remaining coal reserves of more than 125 mst, and 2 mines that have remaining coal reserves less than 125 mst. Of the Powder River Basin mines, the North Antelope Rochelle Mine has the most remaining coal reserves at 1.3 bst.

Abundant available coal resources, ranging in rank from lignite to anthracite, remain beneath Federal lands throughout the United States, mostly west of the Mississippi River. USGS coal assessment studies identified 355,771,000,000 st (or 355.8 bst) of available coal resources beneath Federal lands. The Powder River Basin contains approximately 180,890,000,000 st (or 180.9 bst) of available subbituminous coal resources beneath Federal lands, which is 50.75 percent of the total available resources. The San Juan Basin, southern

portion of the Piceance Basin, Kaiparowits Plateau, and Williston Basin each contain estimated available coal resources on Federal lands in excess of 25,000,000,000 st (or 25.0 bst).

Alaska contains substantial quantities of coal resources, with an estimated 140.0 bst of identified available coal resources. Unidentified coal resources are estimated at 5.5 trillion short tons, although the actual quantity of coal resources beneath Federal lands in Alaska is unknown. The Federal Government owns more than 61 percent of the land in Alaska, and mapped coal fields, coal samples, and prospects overlap most of those Federal lands.

Overall, coal mined on Federal lands represents a substantial amount of the total annual coal produced in the United States. Reported coal reserves and available coal resources on Federal lands are abundant. Additional assessment studies could provide an opportunity to (1) confirm and better define available coal resources in basins and coal fields on Federal and non-Federal lands throughout the United States and (2) examine and discuss possible environmental, societal, and technical limitations associated with developing and mining those coal resources.

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