

UTAH MINING 2025

METALS, INDUSTRIAL MINERALS, URANIUM, AND COAL

*by Andrew Rupke, Stephanie E. Mills, Michael D. Vanden Berg,
Noah Christensen, and Taylor Boden*



CIRCULAR 140
UTAH GEOLOGICAL SURVEY
UTAH DEPARTMENT OF NATURAL RESOURCES
2026

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Cover photo: *Cargill harvests salt at their Great Salt Lake operation.*

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STATE OF UTAH

Spencer J. Cox, Governor

DEPARTMENT OF NATURAL RESOURCES

Joel Ferry, Executive Director

UTAH GEOLOGICAL SURVEY

Darlene Batatian, Director

PUBLICATIONS

contact

Natural Resources Map & Bookstore

1594 W. North Temple

Salt Lake City, UT 84116

telephone: 801-537-3320

toll-free: 1-888-UTAH MAP

website: utahmapstore.com

email: geostore@utah.gov

UTAH GEOLOGICAL SURVEY

contact

1594 W. North Temple, Suite 3110

Salt Lake City, UT 84116

telephone: 801-537-3300

website: geology.utah.gov

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INTRODUCTION

Utah Mining Highlights 2025

- The value of commodities produced from mining in Utah during 2025 is estimated to be \$5.0 billion, including metallic minerals, industrial minerals, uranium, and coal.
- In 2025, Utah produced 10 of the 60 critical minerals from the 2025 U.S. Geological Survey (USGS) updated list: beryllium, copper, lead, palladium, phosphate, platinum, potash (potassium), silver, tellurium, and uranium.
- In 2025, the USGS ranked Utah 7th nationally for production of nonfuel minerals, which includes metals and industrial minerals.
- In early 2026, the State of Utah purchased US Magnesium's facility as part of efforts to preserve and protect Great Salt Lake. The facility had previously produced magnesium metal, lithium carbonate, and other byproducts but had been idle since late 2024.
- Fluorspar production commenced in early 2026 at the Lost Sheep mine in Juab County, making Utah the only significant U.S. fluorspar producer and adding another produced commodity to Utah's critical mineral tally.
- Lisbon Valley mine, now Copper One, restarted copper mining in early 2026 after being purchased by Mariana Minerals. Milford Mining, which restarted copper mining in late 2024, ramped up production through 2025. These operations join Bingham Canyon in supporting a strong copper production outlook for the state.
- Utah coal production rebounded slightly in 2025 to 8.5 million tons, but is expected to decrease to about 6.4 million tons in 2026 due to the idling of the Skyline and Gentry mines.
- As of early 2026, Wolverine Fuels is Utah's sole coal operator and is currently mining coal at three mines: Sufco, Fossil Rock, and Emery Valley.

2025 Utah Mining Industry Summary

The estimated combined value of Utah's extractive resource production in 2025 totaled approximately \$9.7 billion, including production of metals and industrial minerals (\$4.4 billion), natural gas and natural gas liquids (\$1.1 billion), crude oil (\$3.7 billion), uranium (\$15 million), and coal (\$530 million) (Figure 1). Utah's diverse mining industry (metals, industrial minerals, uranium, and coal) accounted for \$5.0 billion (51%) of total

extractive resource production, an increase of \$360 million from the 2024 revised value (nominal dollars), but lower than peak values reached in 2011 (\$5.3 billion, nominal dollars). Mining activities in Utah currently produce base metals, precious metals, industrial minerals, uranium, and coal (Figure 2). Throughout this report, production is designated in US short tons (t) or million short tons (Mt) unless otherwise indicated.

Metallic minerals accounted for \$2.5 billion in production value; notably, copper accounted for about 56% (\$1.4 billion) of Utah's metal production value. Base metal production contributed \$2.0 billion and included copper, beryllium, and molybdenum (Figure 3). Precious metals produced in Utah include gold and silver, and 2025 production was valued at \$450 million (Figure 3). Industrial minerals produced in Utah include sand and gravel, crushed stone, salt, potash, cement, lime, phosphate, uintaite (Gilsonite®), pozzolan, clay, gypsum, and other commodities (Figure 2). The estimated value of industrial mineral production in 2025 was \$1.9 billion (Figure 3), a slight 1.6% increase over the revised 2024 estimate. The most valuable industrial mineral group in 2024, estimated at \$720 million, was the construction material commodity group which includes sand and gravel, crushed stone, and dimension stone. The value of Utah coal production decreased by 9.6% in 2025 to \$530 million due to a decrease in average price (Figure 3).

Notably, Utah is the only state to produce beryllium concentrate, potassium sulfate, and uintaite (Gilsonite®); of these commodities, beryllium and potassium sulfate (a type of potash), were included in the USGS 2025 list of critical minerals (U.S. Geological Survey, 2025). Utah also hosts important mineral processing facilities including the only conventional uranium mill in the U.S., which can also process vanadium ore to produce vanadium pentoxide and monazite ore to produce intermediate rare earth products; one of only two copper smelters in the U.S.; and a custom beryllium mill supporting the largest global producer of beryllium. However, the rare earth element ore is not mined in Utah and therefore is not counted within the production values for this report.

In 2025, the USGS ranked Utah as 7th nationally for production of nonfuel minerals, which includes metals and industrial minerals (Table 1). In 2023 and 2024, Utah was ranked 11th, but was in the top ten for a decade prior to that. The USGS estimate for Utah's 2025 nonfuel mineral production value was \$3.9 billion (compared to the Utah Geological Survey [UGS] estimate of \$4.4 billion), which accounted for 3.5%

Value of Utah Energy and Mineral Production

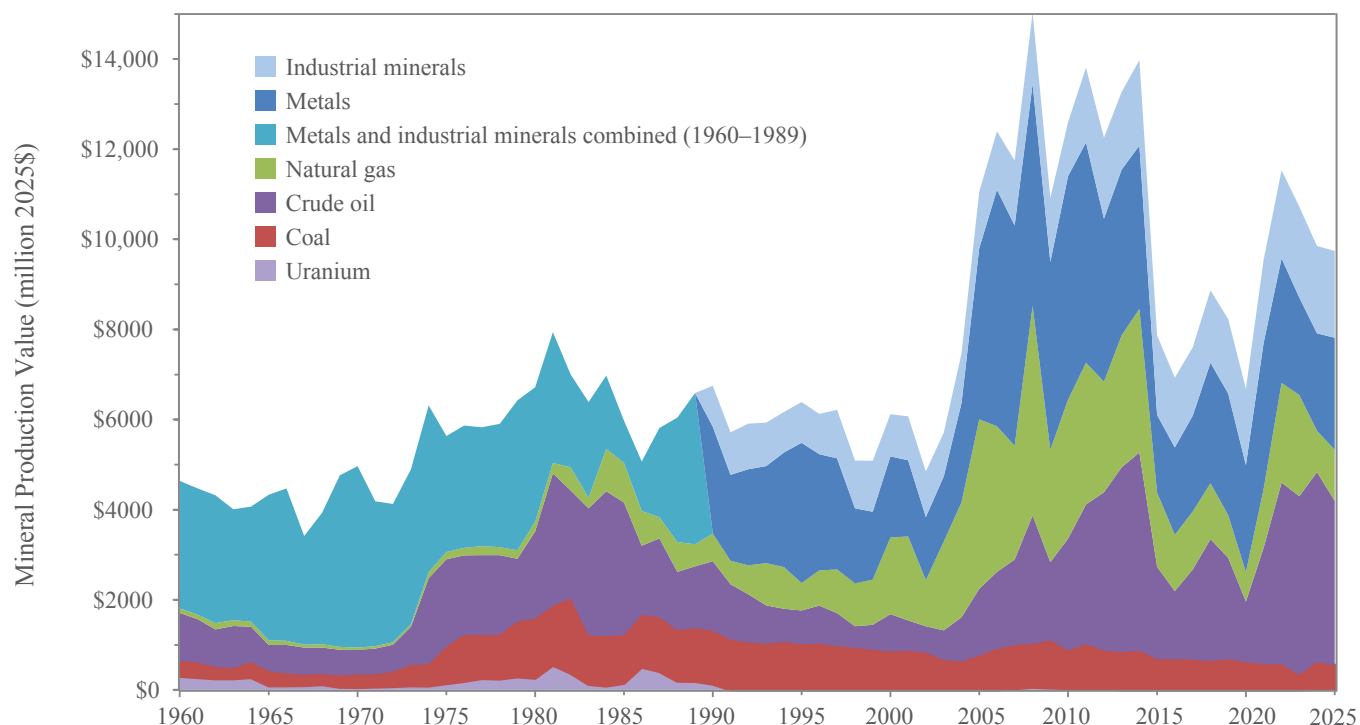


Figure 1. Annual value of Utah energy and mineral production, inflation adjusted to 2025 dollars, 1960–2025. Source: Utah Geological Survey; U.S. Geological Survey; Utah Division of Oil, Gas and Mining; U.S. Energy Information Administration; Utah Tax Commission.

of the U.S. total, with cement, copper, gold, salt, and sand and gravel listed as principal commodities (U.S. Geological Survey, 2026a). In addition, Utah was the 13th largest coal producer of 20 coal-producing states in 2025 and accounted for 1.6% of total U.S. coal production (U.S. Energy Information Administration, 2026a).

In the 2025 Fraser Institute annual survey of mining companies, Utah was ranked as the 38th most favorable state/nation out of 68 international jurisdictions for overall mining investment attractiveness (Table 1) (Mejia and Aliakbari, 2026). This ranking represents a significant decrease from 2023 and 2024 when Utah was ranked 1st of 86 and 11th of 82, respectively. The investment attractiveness index considers a combination of a region's geologic favorability (Utah ranked 37th in this category) and the disposition of government policies toward exploration and development (Utah ranked 12th in this category).

The minerals regulatory program within the Utah Division of Oil, Gas and Mining (OGM) approved no large mine permits, six small mine permits, and fifteen exploration permits in 2025 (Table 1) (Kim Coburn, OGM, written communication, March 2026). The Utah Trust Lands Administration (UTLA, formally the Utah School and Institutional Trust Lands Administration), which manages Utah's 7.8 million total acres of trust land, issued 29 new mineral leases in 2025, a drop from 45 in 2024 (Table 1). The UTLA leases were issued for the following commodities: sand and gravel (11), metalliferous minerals (7),

building stone (4), limestone (2), coal (1), asphaltic sands (1), lithium (1), potash (1), and volcanic material (1) (Andy Bedingfield, UTLA, written communication, March 2026).

In 2025, approximately 6100 new unpatented mining claims (based on unique serial numbers located in 2025) were filed on federal lands in Utah. This number is an increase from the revised total of approximately 2800 claims filed in 2024. In decreasing order, new claims in 2025 were in Box Elder and Beaver Counties, both over 1000 new claims, as well as Millard, Washington, Juab, and Garfield Counties, all of which recorded over 500 new claims. Approximately 4750 claims in 2025 were lode claims and 1360 were placer claims.

Recent contributions by the Utah mining industry to the state tax base were significant (Figure 4). The metal, industrial mineral (non-metal), sand and gravel, and coal mining industries paid about \$90 million in property taxes in 2024, up 20% from 2023 (calendar year totals, data for 2025 not yet available). These industries also contributed \$12 million in mining-related severance taxes in 2024 and \$21 million in 2025 (state fiscal year). All extractive industries, including oil and gas, paid \$87 million in federal mineral lease disbursements in the 2025 state fiscal year. About 1.4% of Utah's gross domestic product came from the mining industry in 2024, 1.6% if oil and gas are included. Mining employment in Utah was down slightly (-2.1%) from 2024 to 2025, but wage growth rose by about 4.5% (Figure 5).

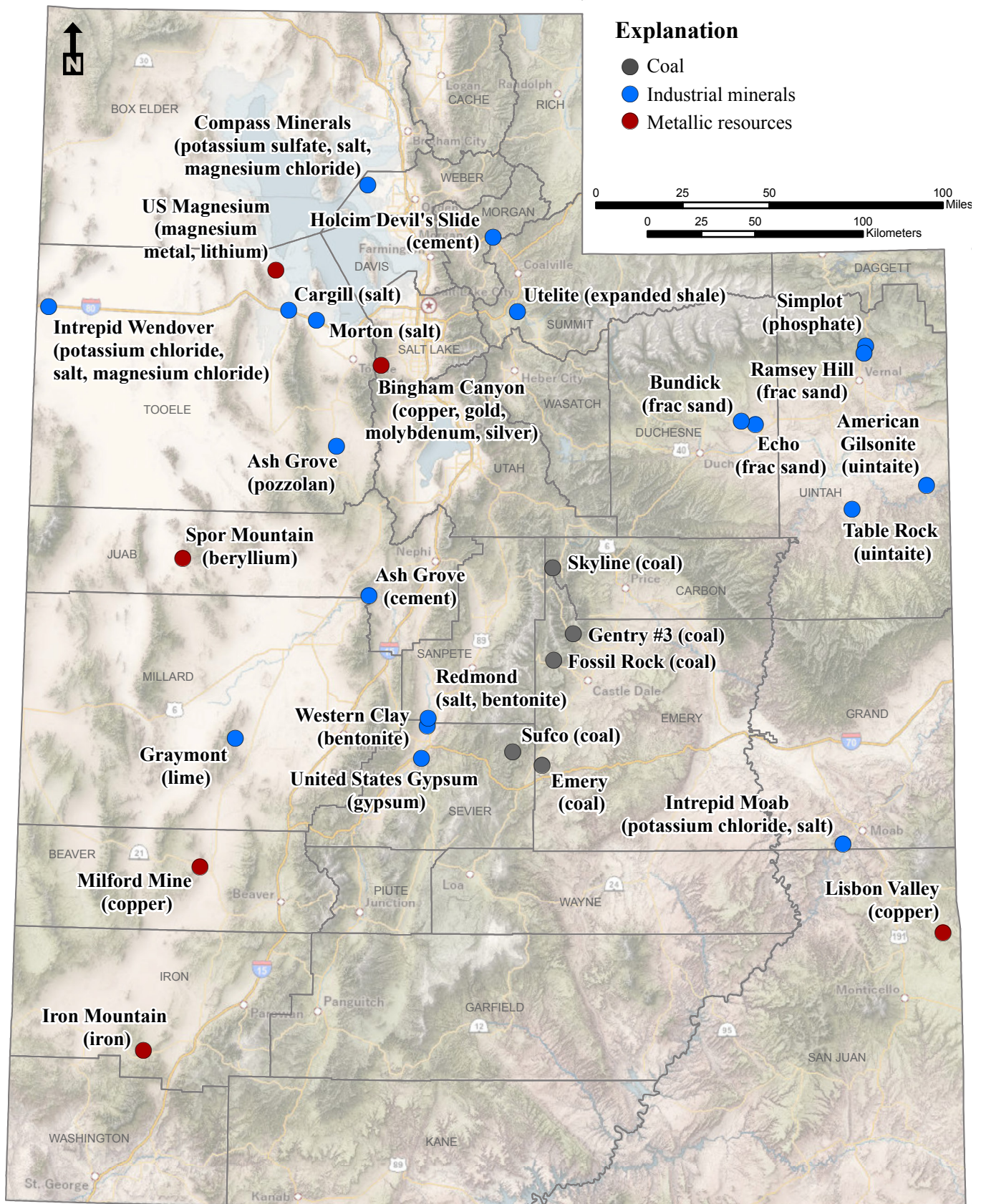


Figure 2. Select metal, industrial mineral, and coal production locations in Utah. Basemap provided by Utah Geospatial Resource Center (UCRC).

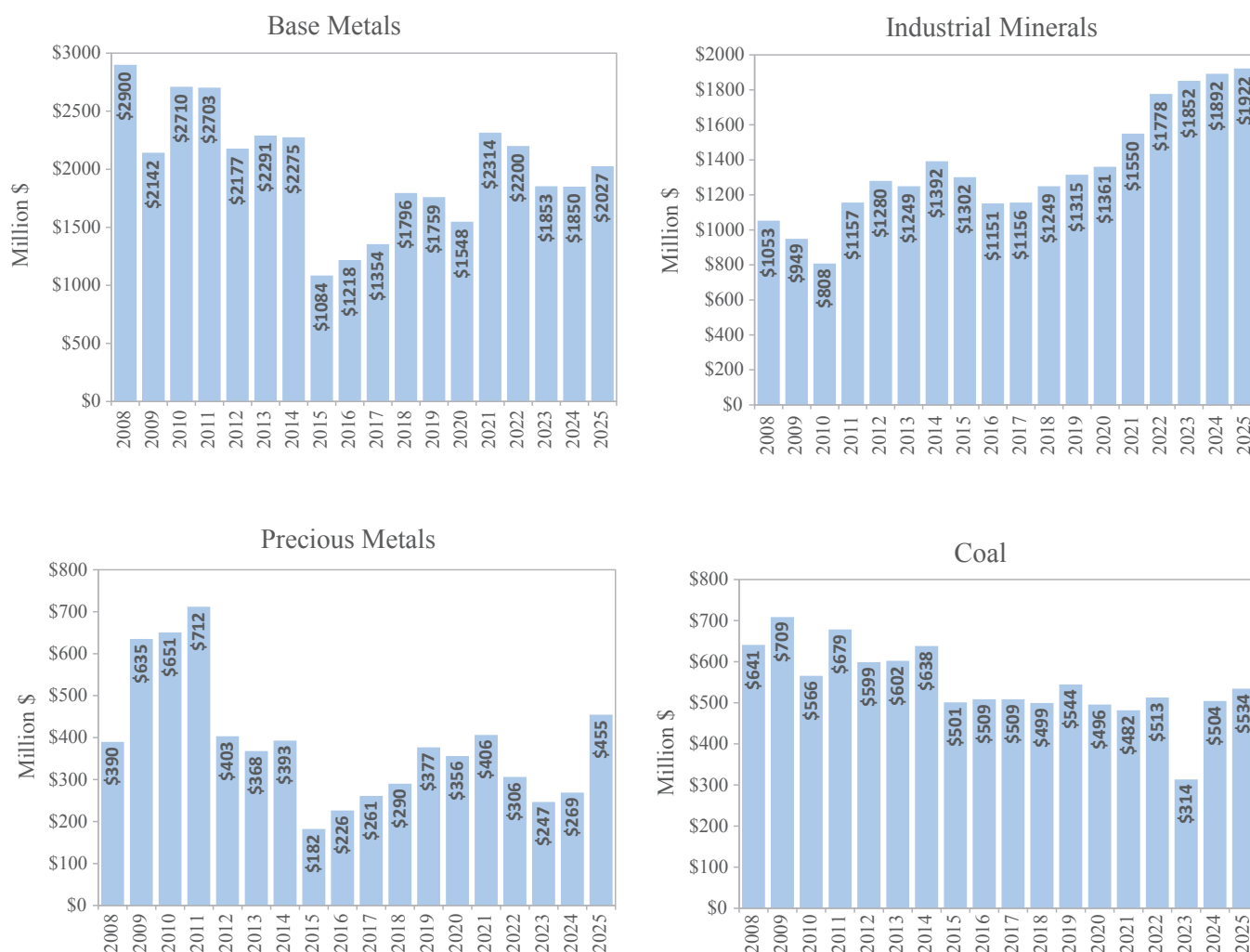


Figure 3. Annual value of Utah mineral production in nominal dollars, 2008–2025. Data source: Utah Geological Survey.

Table 1. Utah mining rankings and statistics.

Utah mining ranking or statistic	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
USGS rank of U.S. nonfuel mineral production value (metals and industrial minerals)	7th	5th	8th	10th	8th	8th	7th	8th	7th	8th	11th	11th	7th
Fraser Institute annual survey of mining companies (favorability of mining jurisdiction)	15th of 112	14th of 122	9th of 109	11th of 104	15th of 91	7th of 83	14th of 76	25th of 77	11th of 84	17th of 62	1st of 86	11th of 82	38th of 68
U.S. EIA rank for coal production by state	14th of 25	13th of 25	13th of 25	10th of 25	11th of 24	12th of 23	11th of 23	10th of 22	10th of 21	12th of 21	14th of 21	13th of 21	13th of 20
New OGM approved large mine permits	4	2	2	0	0	1	4	2	1	1	6	2	0
New OGM approved small mine permits	13	11	12	7	11	13	11	4	12	4	8	15	6
New OGM approved exploration permits	9	14	17	11	9	6	8	9	18	10	14	19	15
UTLA mineral leases issued	62	56	32	53	57	36	41	38	68	74	43	45	29
New BLM mining claims filed	2360	3110	975	5370	5710	5360	2280	3590	5060	8700	10400	2800	6100

Note: USGS = U.S. Geological Survey, EIA = U.S. Energy Information Administration, OGM = Utah Division of Oil, Gas and Mining, UTLA = Utah Trust Lands Administration, BLM = U.S. Bureau of Land Management

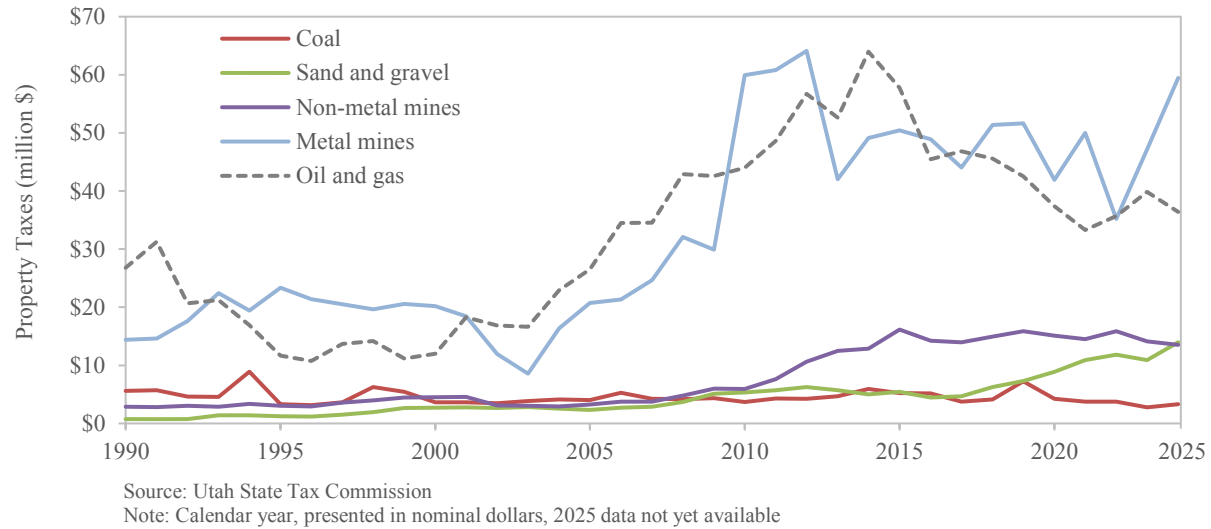
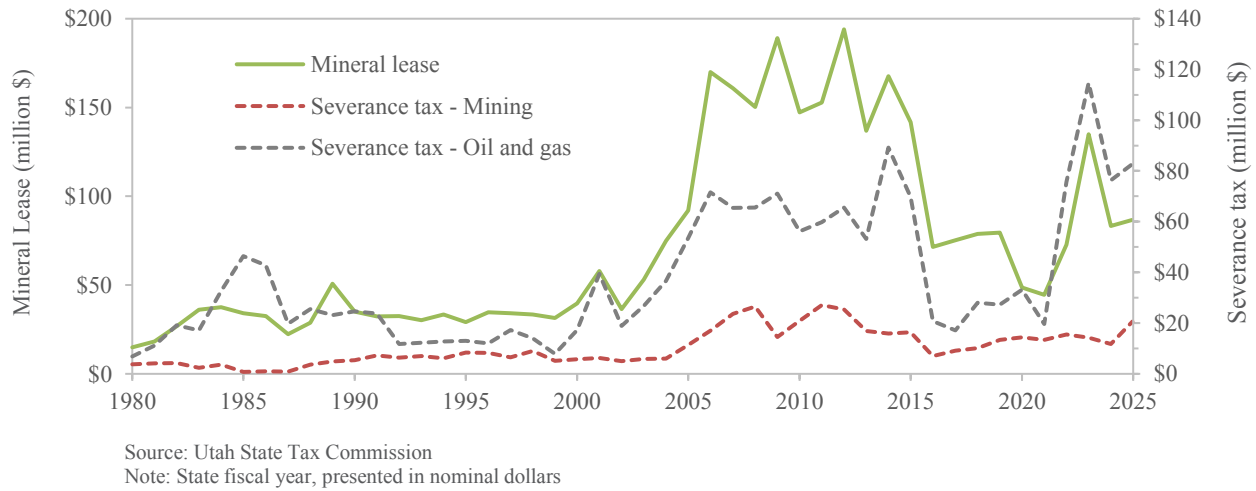
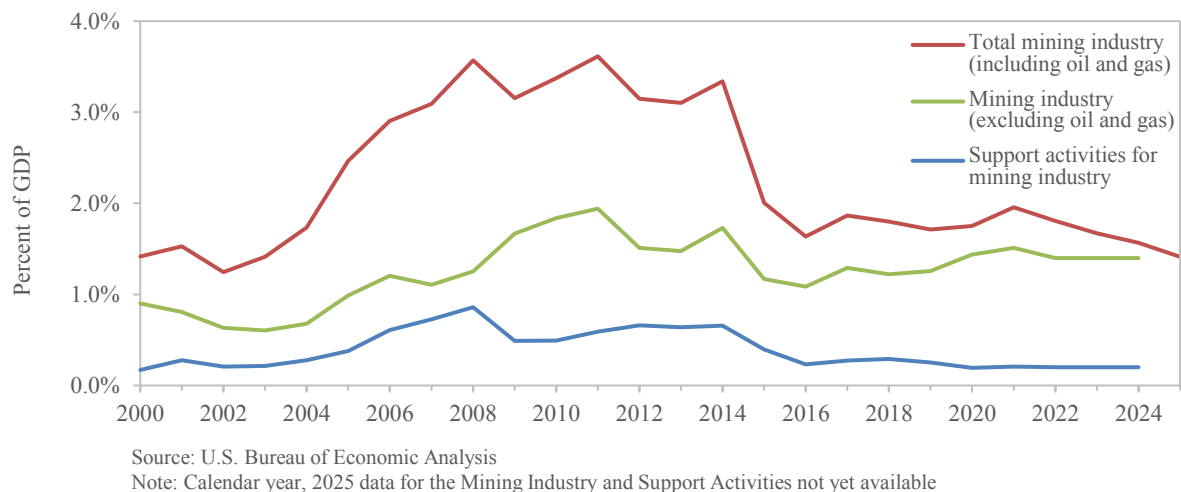
A.**Resource Industry Property Tax****B.****Resource Industry Revenue and Taxes****C.****Resource Industry Percentage of Utah's GDP**

Figure 4. Utah mining economic indicators. **A)** Property taxes charged against the mining industry, 1990–2024. **B)** Mineral lease revenue and severance taxes, 1980–2025. **C)** Percentage of Utah's gross domestic product (GDP) from mining-related activities, 2000–2025.

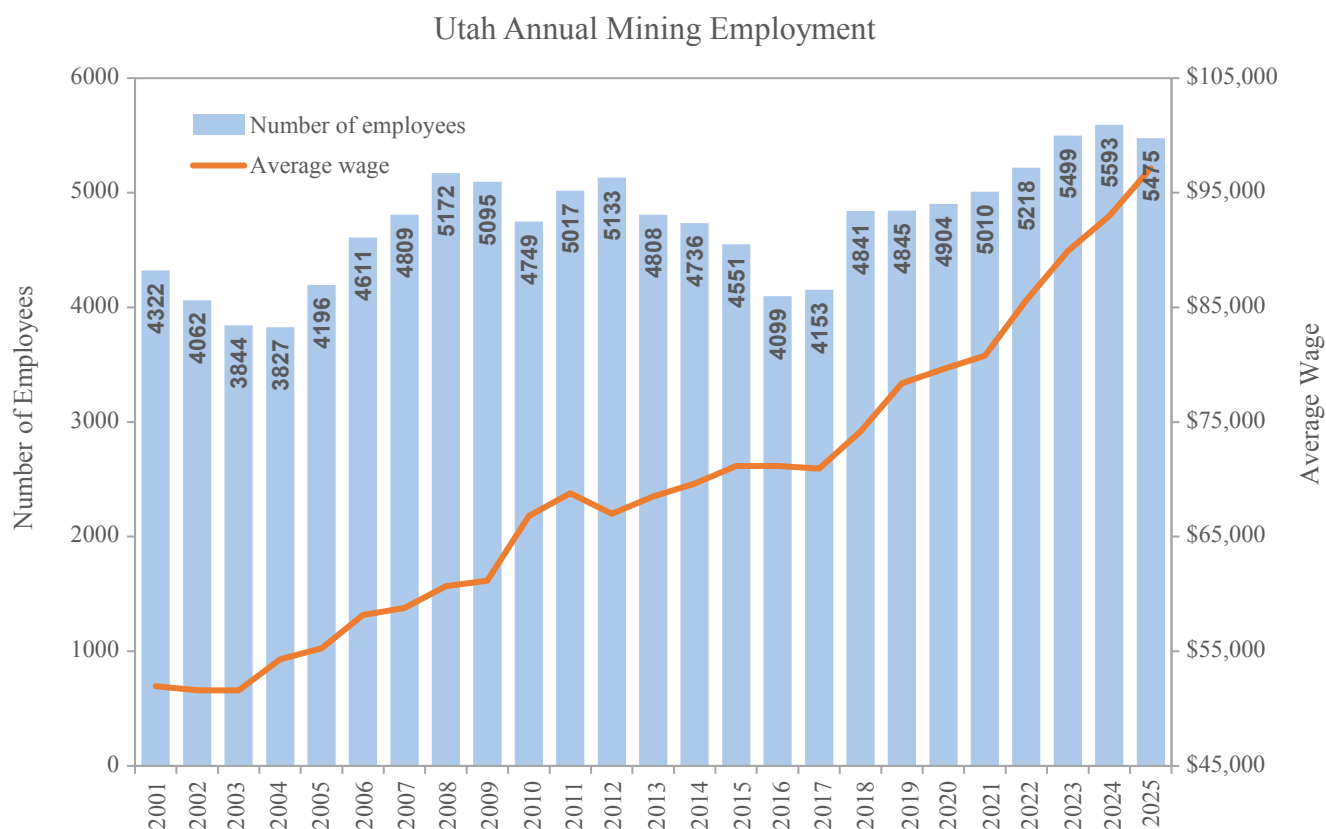


Figure 5. Average annual mining employment and salaries (in nominal dollars) in Utah. Includes metal, industrial mineral, and coal mines and facilities; excludes oil and gas. Source: Utah Department of Workforce Services.

Critical Minerals

Critical minerals are defined as those necessary for economic or national security and have a supply chain vulnerable to disruption. The USGS updated the critical mineral list in 2025, adding 10 commodities compared to the previous list from 2022 (U.S. Geological Survey, 2022, 2025). In 2025, ten critical minerals were produced in Utah (beryllium, copper, lead, palladium, phosphate, platinum, potash [potassium], silver, tellurium, and uranium) and four more were either in recent production (lithium, magnesium metal, rhenium) or in near-term development (fluorspar). In addition to the produced and production-level critical minerals, Utah hosts known resources of six more (aluminum, indium, gallium, germanium, vanadium, and zinc) plus additional resources of lithium. The Energy Fuels mill¹ near Blanding, Utah, is also one of the only domestic mineral processing facilities able to produce intermediate rare earth products, such as neodymium praseodymium oxalate and heavy rare earth concentrate, from monazite ore sourced outside of Utah.

More details on the produced and production-level Utah critical mineral operations are given below, and further information can be found in Mills and Rupke (2023, 2026).

- **Beryllium:** Utah is the only domestic producer of beryllium, sourced from the Spor Mountain mining district in Juab County. Based on estimated global production, Spor Mountain alone accounted for nearly 55% of global beryllium production (U.S. Geological Survey, 2026a). The amount of ore remaining at Spor Mountain can support mining for at least 75 years (Materion, 2024).
- **Copper:** Utah is a domestic leader in copper production, mainly from the world-class Bingham Canyon deposit, but also from other deposits around the state such as Milford and Lisbon Valley. Utah is also unique in being home to one of only two copper smelters in the United States, making Utah a key copper hub for the country.
- **Silver:** Silver is produced as a byproduct of copper mining at the Bingham Canyon mine. Silver, along with gold (which is not a critical mineral), is recovered when the ~99% copper anodes are converted to high purity >99.99% copper cathodes. Silver and gold are recovered from the “anode slimes” resulting from the anode to cathode conversion.
- **Lithium:** Utah has multiple established resources of lithium, but the only production has been as a byproduct of

¹ Previously referred to as the White Mesa mill.

magnesium metal production from Great Salt Lake brines by US Magnesium. Lithium has been produced in Utah since 2020, but US Magnesium idled their operation in late 2024. In early 2026, the State of Utah purchased US Magnesium's assets including the facility and water rights for \$30 million as a step towards lake preservation. This purchase likely ends production from the facility for the foreseeable future.

- **Tellurium:** Bingham Canyon, operated by Kennecott Utah Copper Company (a subsidiary of Rio Tinto), produces tellurium as a byproduct of the copper refining process. A new tellurium recovery plant was built in 2021 and initial production began in May 2022. Annual capacity is designed to produce 22 t of tellurium, roughly 3% of global demand (Rio Tinto, 2023). The tellurium produced at Bingham Canyon is shipped to Canada, where it is used in the production of solar panels.
- **Rare Earth Elements (REEs):** Although no REEs are mined in Utah, the Energy Fuels mill in Blanding has been developing various REE processing circuits. In 2025, the mill completed initial pilot runs producing high-purity dysprosium oxide and terbium oxide. Due to its license as a uranium mill, the Energy Fuels mill is the only domestic facility able to process monazite sands for REEs.
- **Platinum and palladium:** Bingham Canyon produces modest amounts of platinum and palladium as a byproduct of the precious metal refining process. The platinum and palladium are hosted in a crude selenium byproduct and are not refined to pure elemental form.
- **Potash:** Utah is one of only two potash-producing states, and potash is produced at three locations within the state (Great Salt Lake, Bonneville Salt Flats, Paradox Basin) by two companies. Utah produces both potassium chloride and potassium sulfate and is the only domestic producer of the latter.
- **Phosphate:** Phosphate rock is produced north of Vernal by Simplot where it is concentrated and then sent to Wyoming for processing. Utah is one of four states that mines phosphate rock.
- **Lead:** Like platinum and palladium, minor amounts of lead are produced as a byproduct of the copper mining process at Bingham Canyon. The lead is not refined to its elemental form, rather is produced as lead carbonate resulting from the smelting process, which can be used in battery manufacturing.
- **Magnesium (metal):** Utah had, in recent years, been the only domestic producer of magnesium metal, which was produced from Great Salt Lake brines via solar evaporation and electrolytic processing by US Magnesium. Since 2022, US Magnesium had not produced magnesium metal and the operation was idled in late 2024. As noted above, the State of Utah purchased US Magnesium's assets in early 2026.
- **Fluorspar:** After several years of mine and processing facility development, Ares Strategic Mining commenced fluorspar production in early 2026 at the Lost Sheep mine, historically Utah's most productive fluorspar mine. Assuming continued successful production, this makes Utah the only significant domestic fluorspar producer.
- **Uranium:** Utah is a domestic leader in uranium production, both in active mining at the La Sal Project in south-east Utah and in uranium processing at the Energy Fuels mill in Blanding, Utah. In 2025, the La Sal Project produced 44,869 tons of ore, and the mill produced 1,015,000 pounds of finished uranium oxide.

BASE AND PRECIOUS METALS

Production

Production Value Summary

Utah's total metalliferous resource production was \$2.5 billion in 2025, of which \$2.0 billion came from base metals and \$450 million came from precious metals (Figure 6). The 2025 metalliferous resource production value is a minor increase from a revised 2024 production value of \$2.1 billion. The Bingham Canyon operation remains the state's most valuable metalliferous resource, accounting for \$1.8 billion production value alone. Individual commodity updates are given below in order of decreasing mineral production value.

- **Copper:** Copper was mined at the Bingham Canyon and Milford mines in 2025. Production from Bingham has faced challenges in the open pit due to slope stability challenges which is partially offset by the commencement of underground mining of higher grade skarns. Milford production remained relatively modest as the operation came out of care and maintenance and ramped up during 2025; production is expected to increase in 2026. Lisbon Valley mine did not produce during 2025. However, with the recent acquisition by Mariana Minerals the mine recommenced operations in April 2026. The price of copper increased in 2025 and is expected to continue moderate gains given the continued global push towards electrification in infrastructure and consumer technologies.
- **Gold and silver:** Gold and silver were produced only by Bingham Canyon in 2025; neither the Kiewit nor Trixie mines produced gold or silver in 2025. Production of both gold and silver increased in 2025, likely due to accessing higher grade mineralization from underground mining. The price of both gold and silver increased notably in 2025, both hitting all time high prices. Continued geopolitical and economic uncertainty are likely to continue driving investment in precious metals.

- **Molybdenum:** Bingham Canyon mine is the only producer of molybdenum in Utah. In 2025 molybdenum production increased notably due to higher molybdenum grades related to sequencing shifts in the pit and an updated molybdenum flotation circuit following a \$120 million upgrade investment in 2023.
- **Beryllium:** Beryllium production from Spor Mountain remained consistent in 2025 from 2024, though the price of beryllium increased. The increase in price is likely due to beryllium’s use in aerospace and defense products. Spor Mountain continues to be the global leader in beryllium mining, accounting for nearly 55% of global production.

Mining Operation Updates

- **Bingham Canyon:** Operations at Bingham Canyon focused on navigating open-pit geotechnical instability and transitioning toward new production zones. Refined copper output fell by 31% in 2025 due to a planned 45-day smelter shutdown and restricted access to the primary ore face. Restored access to higher grade ore is planned for 2027. To offset the current open-pit constraints, the mine accelerated underground development, successfully achieving first production from the North Rim Skarn (NRS) in December 2025. NRS production

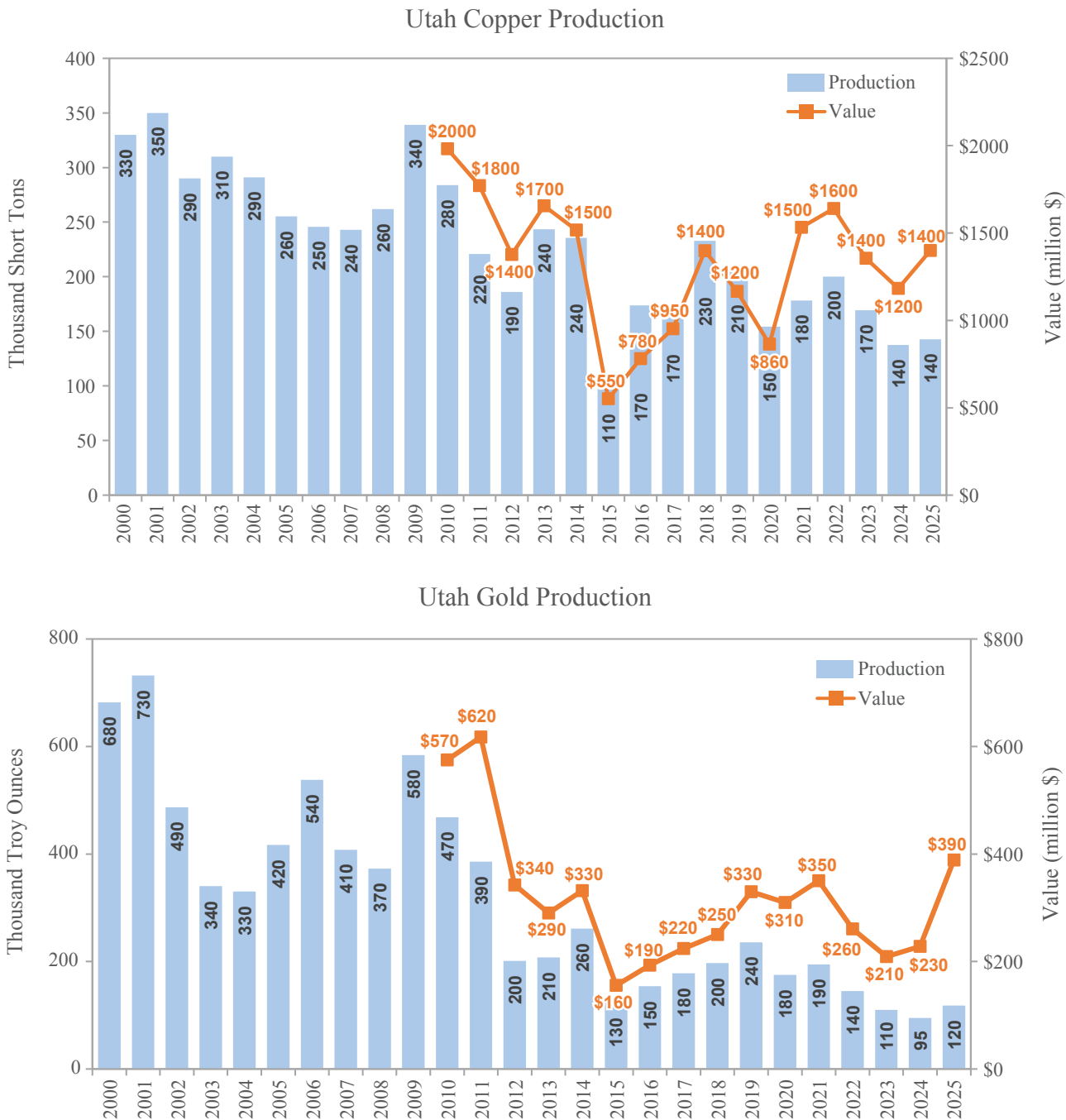


Figure 6. Production (since 2000) and value (since 2010) of select metals. Value in nominal dollars.

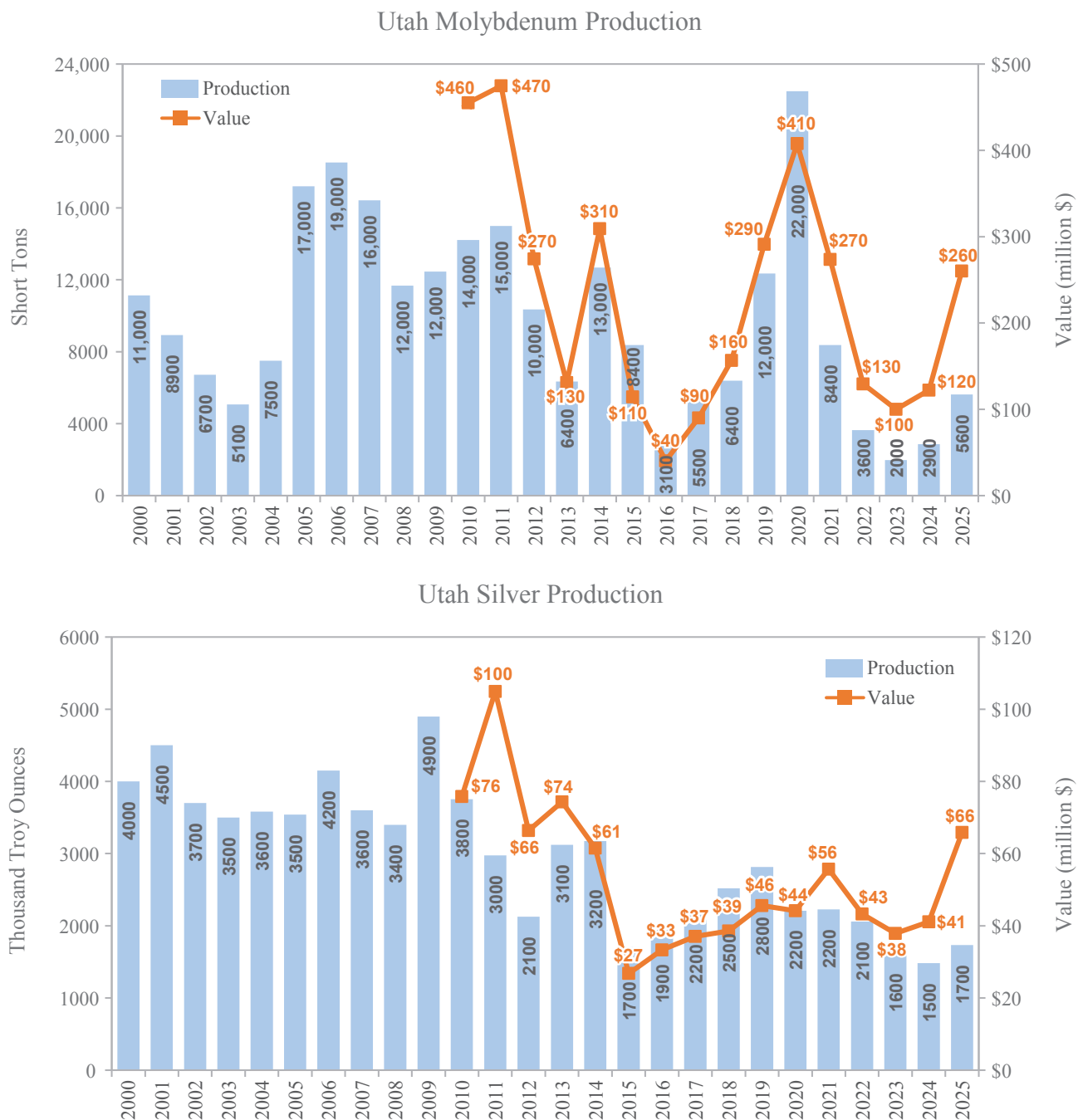


Figure 6 Continued. Production (since 2000) and value (since 2010) of select metals. Value in nominal dollars.

joins the successful underground mining of the Lower Commercial Skarn (LCS), which began in early 2023. Kennecott advanced its decarbonization goals by achieving commercial operations at its 25 MW Phase 2 solar facility in late 2025.

- Milford Mining:** Milford Mining Company continued mining and processing restart after a five-year closure and expanded the workforce from 8 to 160 people. Oxide ore is processed on site through a solution-extraction electrowinning (SX-EW) plant that produces copper cathode. Rio Tinto provided Milford Mining a \$5M loan to facilitate increased copper production; under the 3 year

partnership, copper concentrate from the Milford mine will be delivered to Kennecott's Salt Lake City smelter for processing. To handle the increased volume of waste rock and processed byproduct, the company expanded its flotation mill and SX-EW processing plants, and secured a permit in February 2026 to merge and elevate its East and West Intermediate Tailings Disposal Facilities. Milford Mining announced a technology collaboration with Furnace Japan to recover tungsten and other secondary critical minerals from old mine tailings.

- Lisbon Valley:** Following an operational shutdown in late 2024, the Lisbon Valley copper mine in San Juan

County, Utah, was acquired by the venture-backed technology startup Mariana Minerals in late 2025, transitioning the site into what is now called the Mariana Copper One operation. The open-pit asset targets sedimentary-hosted copper deposits along the Lisbon Valley anticline, which are processed onsite using SX-EW to yield high-purity copper cathodes. Throughout late 2025 and into 2026, Mariana Minerals partnered with the legacy Lisbon Valley Mining Company team to implement a specialized software architecture designed to run the facility via automated data pipelines and autonomous mining equipment. Under this new management, a ceremonial reopening blast was executed in April 2026 to restart active mining. Ore reserves and resources account for nearly 900 million pounds of copper.

- **Iron Mountain:** Following the restart of active production in 2020, open-pit operations at the Iron Mountain mine were abruptly suspended in April 2025. Prior to the shutdown, beneficiated magnetite ore averaging ~65% Fe was transported by dedicated rail loop to the Port of Long Beach for export to global refining markets. However, citing steep fluctuations in international market conditions and rising production costs, Utah Iron placed the site into an indefinite care and maintenance status through the remainder of 2025 and into 2026.
- **Spor Mountain:** Materion Resources maintained steady open-pit operations at its Spor Mountain mine in Juab County, Utah, which remains the only active primary source of beryllium in the U.S. Materion utilized contracted overburden stripping alongside its own fleet to haul ore to onsite stockpiles, where it was blended and trucked to the company's nearby facility in Delta, Utah, for processing into intermediate beryllium hydroxide.

Exploration and Development

The following section provides details on some of Utah's larger exploration programs during 2025. The information presented here is not an exhaustive list of all exploration being conducted in Utah; it represents a sample of significant exploration progress from companies who have made their projects public.

- **Cactus, Beaver County (San Francisco district):** Hawk Resources began drilling at the Cactus project in early 2026. Two initial holes tested geophysical anomalies at the Copperopolis and Wasp prospects. Two subsequent holes shifted to testing potential near surface mineralization in the Cactus corridor, and both holes yielded shallow (<330 ft) coarse visible copper mineralization. Individual spot measurements taken by pXRF range between 4% and 37% Cu. Lab assays and further drill results are pending.
- **Mercur, Tooele County (Mercur district):** Revival Gold completed a Preliminary Economic Assessment for Mercur in 2025 detailing 95,600 oz Au per year over a 10-year mine life with an all-in sustaining cost of \$1363 per oz Au. They also completed a 115 drillhole program totaling 42,600 ft (32,800 ft reverse circulation, 9800 ft core); initial results include 3.0 g/t Au over 70 ft from 250 ft depth; 0.78 g/t Au over 230 ft from 195 ft depth; and 1.4 g/t gold over 145 ft from 110 ft depth. A follow up 52,500 ft drilling program started in early 2026 (39,400 ft to upgrade and expand the resource, and 13,100 ft to support engineering and design). Revival Gold aims to achieve gold production at Mercur in 2029.
- **Phoenix Copper, San Juan County (Lisbon Valley district):** Diablo Resources undertook a maiden RC drill program of six holes across the Philadelphia prospect, located in the CC Claim Block northwest of Lisbon Valley copper mine. Results from the wide-spaced reconnaissance drilling include 16 ft at 1.33% Cu from 105 ft depth and 1.02% Cu over 34.4 ft, including 3.99% Cu over 4.92 ft, from 120 ft depth. Thirteen surface samples at the Fair Dinkum prospect, located in the Stateline Claim Block southeast of Lisbon Valley copper mine, returned an average of 1.12% Cu, with a maximum of 2.76% Cu and 92 g/t Ag.
- **Star Range, Beaver County (Star district):** Diablo Resources acquired 100% of the Star Range Silver-Antimony Project in 2025. Initial surface sampling returned grades of 2760 g/t Ag and 1.24 g/t Au at the North Star prospect, and 1460 g/t Ag and 4.37 g/t Au at the South Star prospect. Nine priority drill targets were defined using drone aeromagnetics, with an IP geophysical survey planned at North Star. The company staked 52 new unpatented lode claims, increasing the Star Range Project area to 4600 acres.
- **Thompson Knolls, Millard County (Kings Canyon district):** BCM Resources initiated phase 4 drilling at the Thompson Knolls porphyry deposit in early 2026. Hole TK15 reached 3995 ft depth, the deepest for the project to date. Pyroxene-diopside skarn extended from 1950 ft to 3900 ft and skarn intensity increased with depth. The skarn zone included patchy magnetite-pyrite-chalcocopyrite mineralization with most intense zones containing up to 20% sulfide (including 5% chalcocopyrite). Assays and further drill results pending.
- **West Desert, Juab County (Fish Springs district):** American West completed a Maiden Resource Estimate (MRE) for Cu, Zn, and Ag in early 2023: 33.7 Mt at 3.83% Zn, 0.15% Cu, and 9.08 g/t Ag for 1.3 Mt Zn, 49 Kt Cu, and 9.8 Moz Ag. In later 2023, the MRE was updated to include In and Au: 33.7Mt at 20g/t In and 0.1g/t Au for 23.8 million oz of indium and 119 thousand oz of gold. In early 2026, American West Metals initiated a 16,400 ft diamond drilling campaign targeting high-grade indium, Apex-style gallium, and further West Desert-style mineralization. Early results include 255 ft of visual skarn mineralization containing sphalerite and chalcocopyrite, assays pending. In addition to the drilling program, the company undertook a 378-sample historical mine waste sampling program that yielded high grades of critical and base metals, including peak values of 1639 g/t Ag, 160.1 g/t In, 44 g/t Ge, 916 g/t Te, 2.26% Cu, 24.52% Zn, and 31.30% Pb.

INDUSTRIAL MINERALS

Production

Industrial mineral production in Utah during 2025 had an estimated value of \$1.9 billion, which was 1.6% higher than the revised 2024 value (Figure 3). The largest contributor was the construction aggregate (sand and gravel, crushed stone) and dimension stone group. These products had a combined value of \$720 million (a 9.9% increase from 2024) and accounted for 37% of Utah’s total industrial mineral production value in 2025. The second largest contributor was the potash, salt, and magnesium chloride group, which are all brine- and evaporite-derived commodities. These products had a combined value of \$510 million in 2025 (an 0.4% decrease from 2024) and accounted for 27% of the industrial mineral total. The third-largest contribution to the value of industrial minerals production came from the Portland cement, pozzolan, lime, and limestone product group. These products had a combined value of nearly \$380 million in 2025, a 0.8% increase from 2024, and accounted for 20% of the total industrial mineral value. Together, these three commodity groups contributed 84% of the total 2025 value of industrial minerals produced in Utah. The remaining value came from phosphate, uintaite, clay and shale, silica and industrial sand, and gypsum.

Sand and Gravel, Crushed Stone, and Dimension Stone

Sand and gravel, crushed stone, and dimension stone are produced by many private and government entities. Given the numerous producers of this commodity group, the UGS does not survey all the operators and relies on USGS data for statewide production estimates. During 2025, approximately 37 Mt of sand and gravel was produced in Utah (2.8% more than the revised 2024 production estimate) worth \$560 million (U.S. Geological Survey, 2026b) (Figure 7). About 13 Mt of crushed stone worth \$130 million (U.S. Geological Survey, 2026b) represented a 12% production increase from revised 2024 estimates (Figure 7). Several thousand tons of dimension stone were also produced. Sand and gravel and crushed stone are construction aggregates used in applications such as concrete aggregate, asphalt aggregate, and road base.

Potash, Salt, and Magnesium Chloride

The brine- and evaporite-derived commodities produced in Utah include potash, salt (NaCl), and magnesium chloride. Potash is produced as potassium sulfate (sulfate of potash or SOP) and potassium chloride (muriate of potash or MOP). Potash production in Utah totaled 420,000 t and was valued at approximately \$230 million in 2025 (Figure 8). Compass Minerals produces potassium sulfate from Great Salt Lake

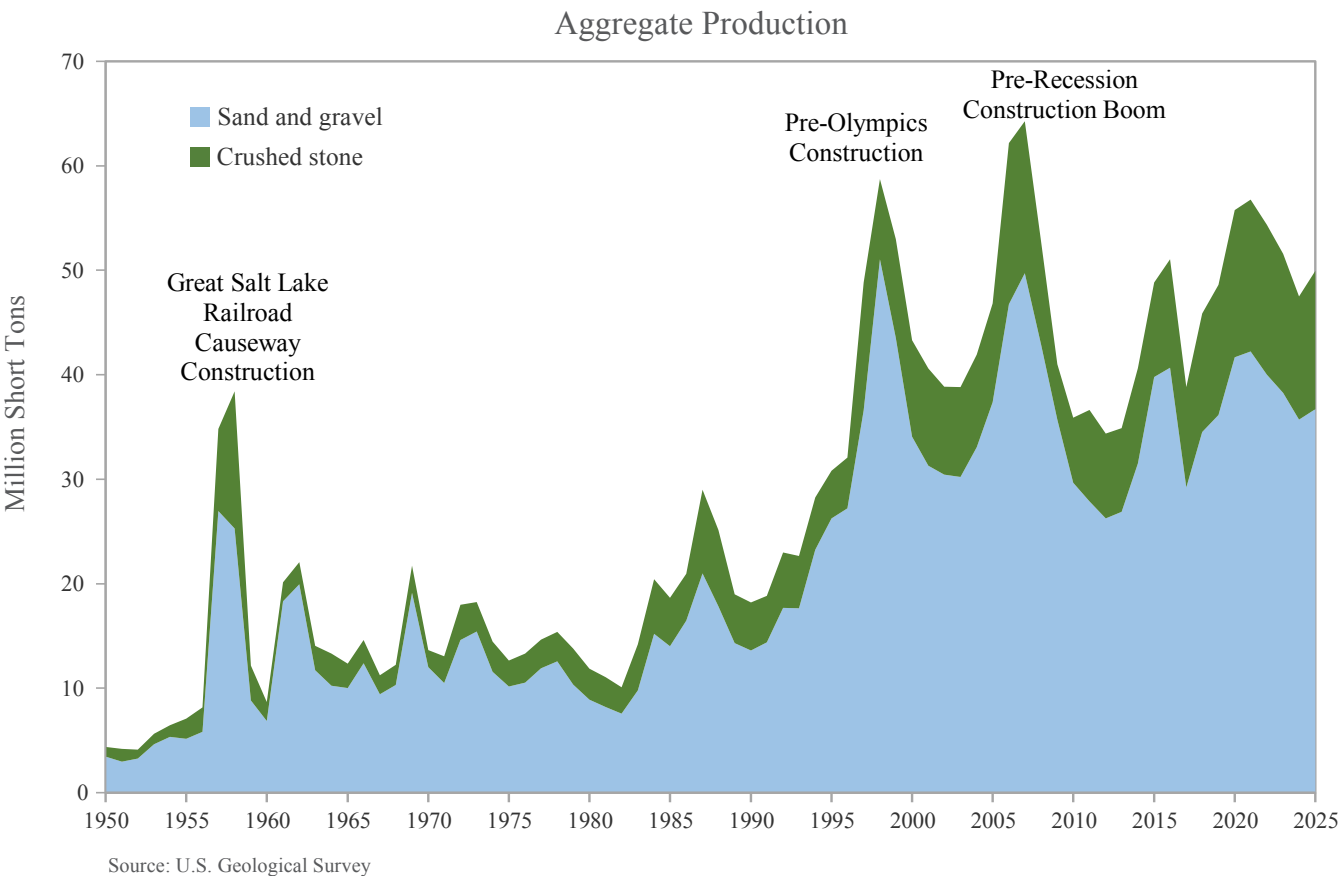


Figure 7. Utah aggregate production, 1950–2025.

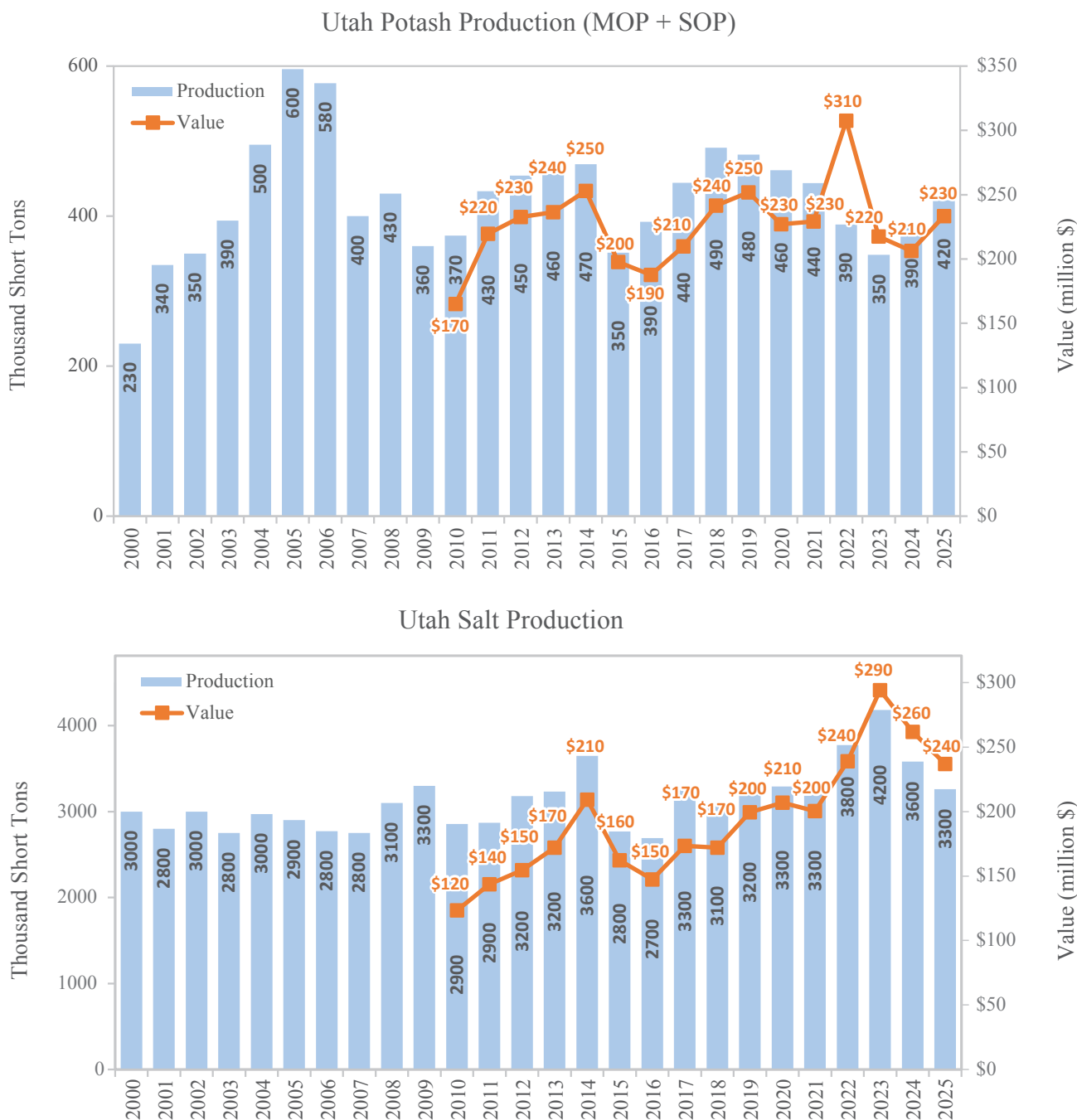


Figure 8. Production (since 2000) and value (since 2010) of potash (all types) and salt. Values in nominal dollars. Data source: Utah Geological Survey.

brine, Intrepid Potash-Wendover produces potassium chloride from shallow brines in the Great Salt Lake Desert, and Intrepid Potash-Moab produces potassium chloride from a solution mining operation targeting deep, subsurface evaporites of the Pennsylvanian-age Paradox Formation (Figure 2). Potassium sulfate generally has a higher (+\$310 per ton in 2025) market value than potassium chloride, but the primary use of both types of potash is fertilizer.

About 3.3 Mt of salt was produced in Utah in 2025, with an estimated production value of \$240 million (Figure 8). Salt production was about 8.9% lower than 2024. About 83% of the salt

was produced from Great Salt Lake brine by operators around the lake including Cargill Salt, Compass Minerals, and Morton International (Figure 2). The remainder of the salt production in the state was from Redmond Minerals, Intrepid Potash-Moab, and Intrepid Potash-Wendover (in descending production order). Redmond Minerals operates an underground mine near Redmond in Sanpete County (Figure 2) that produces salt from the Jurassic-age Arapien Shale. Salt produced in Utah is used for various purposes including road deicing, water treatment, agricultural supplements, and industrial applications. Redmond Minerals and Morton International also produce food-grade salt from their respective facilities at Redmond and Great Salt Lake.

In 2025, magnesium chloride brine production in Utah had an estimated production value of about \$41 million. The magnesium chloride brine was produced by Intrepid Potash-Wendover and Compass Minerals; the latter also produced small amounts of magnesium chloride flake. Magnesium chloride is commonly used as a premium road deicer and as a dust suppressant for unpaved roads.

The most significant source of brine-derived products in Utah is Great Salt Lake. An estimated 3.2 Mt of total material was produced from Great Salt Lake brine in 2025, including salt, potash, and magnesium chloride. Production in 2025 was lower than our 2024 estimate of 3.3 Mt. The estimated value of mineral and brine production (including salt, potash, and magnesium chloride) from Great Salt Lake in 2025 was about \$410 million. A recent study by the UGS examines how some of the important resources (lithium, magnesium, and potassium) in Great Salt Lake's brine have changed over time (Rupke, 2025).

Portland Cement, Pozzolan, Lime, and Limestone

Together, Ash Grove Cement and Amrize (formerly Holcim) produced about 1.6 Mt of portland cement in Utah during 2025, having an estimated value of \$240 million. Ash Grove Cement operates the Leamington quarry and plant east of Leamington in Juab County, and Amrize operates the Devil's Slide quarry and plant east of Morgan in Morgan County (Figure 2). Portland cement production and value have been fairly stable for the past several years. Besides limestone, Ash Grove and Amrize also produce smaller amounts of sandstone, clay, and shale as raw materials for portland cement production.

Pozzolan materials are typically high in silica and alumina and have cementitious properties that are useful to partially replace and, in some cases, enhance portland cement. Other benefits of pozzolans, compared to conventional cement production, include reduced manufacturing cost and reduced greenhouse gas emissions. In 2024, Ash Grove Cement acquired Geofortis' pozzolan mine in Rush Valley at Faust, Tooele County. The pozzolan resource is a tephra (volcanic ash) in the Tertiary-age Salt Lake Formation, and production from the mine expanded by about 28% from 2024 to 2025.

During 2024, Graymont Western U.S. remained the sole producer of lime in Utah and their production was roughly equivalent to 2024. Graymont produces high-calcium quicklime and dolomitic quicklime from their quarry and plant in the Cricket Mountains about 35 miles southwest of Delta in Millard County (Figure 2). Lime is used for flue gas desulfurization, steel production, and a variety of other construction, chemical, and industrial applications.

In Utah, limestone is produced for both crushed stone and specialty purposes. Limestone produced for crushed stone is used for common construction aggregate and is included

in the sand and gravel, crushed stone, and dimension stone commodity group tally. During 2024, a few million tons of limestone was produced for specialty purposes; most of this production was used to manufacture cement and lime (discussed above). However, a few smaller operations, such as Diamond Mountain Resources in Uintah County, intermittently produce limestone for flue-gas desulfurization at coal-fired power plants or other uses such as "rock dust" for coal mines.

Phosphate

Simplot Phosphates continues to be the major phosphate producer in Utah and mines ore from the Meade Peak Member of the Permian-age Phosphoria Formation. Their phosphate operation is located 12 miles north of Vernal in Uintah County (Figure 2). In 2025, the mine produced nearly 3.7 Mt of ore. The ore yielded about 1.4 Mt of phosphate concentrate (about 30% P_2O_5) after processing. The concentrate is transported in slurry form through a 96-mile underground pipeline to the Simplot fertilizer plant near Rock Springs, Wyoming. More than 95% of the phosphate rock mined in the United States is used to manufacture phosphoric acids to make ammonium phosphate fertilizers and animal feed supplements (U.S. Geological Survey, 2026a).

Since 2020, phosphate has also been produced at the Diamond Creek mine near Diamond Fork in Utah County for use as organic fertilizer. In 2025, Falcon Isle Resources mined a few thousand tons of phosphate rock from a roughly 7-ft-thick zone of the Meade Peak Member of the Permian-age Phosphoria Formation.

Uintaite (Gilsonite®)

Uintaite (also spelled "Uintahite" and commonly referred to as Gilsonite, a trademarked name) is a shiny, black, solid hydrocarbon that occurs in a swarm of narrow, but laterally and vertically extensive, veins in the Uinta Basin. It has been mined since the late 1880s, mostly in Utah with some minor production in the Colorado part of the basin. The largest producer of uintaite is American Gilsonite Company, with mines and processing facilities in southeastern Uintah County (Figure 2). Table Rock Minerals, LLC, also produced uintaite at the TRM #1 mine in the Uinta Basin south of Ouray in Uintah County. Over the past many years, uintaite production from the Uinta Basin has ranged up to about 85,000 t per year, depending on market conditions (specific production and price data are proprietary). Utah is the only place in the world that contains large deposits of uintaite, which has been shipped worldwide for use in numerous and diverse products including asphalt paving mixes, coatings, inks, and paints (Boden and Tripp, 2012). More recently, the oil and gas industry has used uintaite as an additive in drilling fluids. Uintaite helps control fluid loss and seepage, increase wellbore stability, prevent loss of circulation, and stabilize shale formations.

Clay and Shale

A few hundred thousand tons of clay and shale were produced in Utah in 2025 including bentonite, common clay, high-alumina clay, and expanded shale. Clay is produced at various small and large mines, often on an intermittent basis. Consequently, year-over-year production and value estimates are subject to significant change. Some of the largest producers of clay and shale products are Utelite (expanded shale), Interstate Brick (common clay), Ash Grove Cement (high-alumina clay), Amrize (high-alumina clay), Western Clay (bentonite), and Redmond Minerals (bentonite). Uses for bentonite include well drilling and foundry operations, various civil engineering applications, and as litter-box filler. Common clay is largely used to make bricks, whereas most high-alumina clay from Utah is used to make portland cement. Applied Minerals Inc. intermittently produces a small amount of specialty clay (halloysite) from the Dragon mine in the Tintic Mountains.

Expanded shale in Utah is produced by Utelite at their quarry and plant near Wanship in Summit County (Figure 2). Expanded shale is a lightweight aggregate, sometimes called “bloated shale,” mainly used by the construction industry. It is produced by rapidly heating high-purity shale, derived from the Cretaceous-age Frontier Formation, to about 2000°F causing it to expand and vitrify. The resulting aggregate is durable, inert, uniform in size, and lightweight, having a density about one-half that of conventional aggregates. The material is used in roofing tile, concrete block, structural concrete, and horticultural additives, as well as for highway construction and geotechnical fill.

Silica and Industrial Sand

Silica and industrial sand production in Utah had an estimated 2025 value of about \$56 million. On Stansbury Island, Bolinder Resources mines quartzite from the Devonian-Mississippian-age Stansbury Formation as a source of industrial silica used as a flux at the Kennecott smelter. Some of the quartzite is also used as construction aggregate. Frac sand is relatively pure quartz sand that is used for hydraulic fracturing stimulations in oil and gas wells and a few companies are locally supplying frac sand to operations in the Uinta Basin. North of Vernal, Ramsey Hill Exploration produces frac sand from the Triassic-Jurassic-age Nugget Sandstone and unconsolidated Quaternary mixed alluvial and eolian deposits (Figure 2). More recently, two companies have begun producing frac sand from the Brennan Basin Member of the Eocene-age Duchesne River Formation. Wildcat Sand operates the Echo mine and SM Energy operates the Bundick mine, both of which are west of Roosevelt (Figure 2). At least one sandstone horizon within the Brennan Basin Member is sufficiently quartz rich and friable for relatively easy disaggregation.

Gypsum

Three operators produced at least 560,000 t of gypsum in 2025 in Utah. The estimated value of 2025 gypsum production is about \$6.6 million. The Utah gypsum producers were Progressive Contracting, Inc., Diamond K Gypsum, and Sunroc Corp. Utah gypsum is commonly used in raw or crude form by regional cement companies as an additive to retard the setting time of cement and by the agriculture industry as a soil conditioner. In the past, lesser amounts of higher value calcined gypsum were used to make wallboard by United States Gypsum, but their wallboard plant near Sigurd in Sevier County was idled in 2025. Most of the gypsum extracted in Utah is from the Jurassic-age Carmel Formation or the Arapien Shale.

Exploration and Development

Exploration and development activities for industrial minerals in Utah have centered on lithium with additional activity related to a few other commodities (Table 2). This summary generally excludes the activities of smaller aggregate or construction material operations, which are difficult to track but are often a significant part of industrial mineral exploration and development. The information in this section is largely from company websites, press releases, OGM records, and personal communications. Several companies are pursuing lithium in Utah, primarily in brines, and hold land positions in a variety of places in Utah including the Paradox Basin and the Great Salt Lake Desert (e.g., the Bonneville Salt Flats, Pilot Valley). Because of the high magnesium content of Utah’s brines, DLE technology would likely be needed to exploit lithium from Utah’s brine deposits. Multiple DLE technologies are in development, but wide deployment of DLE technology has yet to be realized. Notable exploration and development updates from 2025 and early 2026 are below. The relevant commodity is noted at the beginning of each bullet point.

- **Lithium:** Intrepid Potash, Wendover continues to pursue lithium production from their facility near Wendover in the Great Salt Lake Desert. Their final byproduct brine, that has been through multiple evaporation stages, can reach concentrations of over 1500 ppm lithium. They are actively working with two companies to develop DLE processing technology for their brine.
- **Lithium:** After setting aside pursuit of lithium production for a period of time, in mid 2026, Compass Minerals entered into an agreement with EnergyX, a DLE company, to design and construct a lithium facility that would utilize some of Compass Minerals’ brine. The planned production capacity of the facility is 30,000 tons per year after a period of ramping up. Initial production is targeted for 2030.
- **Lithium:** Anson Resources has been pursuing lithium resources in subsurface brines in the Paradox Basin within

Table 2. Select exploration and development projects in Utah, 2025.

Project	County	Company ¹	Mining District ²	Commodity	2025-2026 Activity
Antimony Canyon	Garfield	American Tungsten & Antimony Ltd. (Trigg Minerals)	Antimony	Sb	Mapping, trenching, and a targeted drill campaign commenced at the end of May 2025. Surface sampling yield grades up to 29.4% Sb. Known mineral-ization was extended ~3280 ft north.
Apex Mine	Washington	Blue Moon Metals Inc./Teck Resources Ltd.	Tutsagubet	Cu, Ga, Ge	Blue Moon Metals acquired project from Teck Resources.
Cactus*	Beaver	Hawk Resources Ltd. (Alderan Resources Ltd.)	San Francisco	Au, Cu	Began ~13,100 ft drilling program across six targets, targeting high-grade breccia pipes and deep geophysical anomalies.
Claybank/ Beryllium Butte/ Meteor	Juab	Rockland Resources Ltd.	Spor Mountain/ Honeycomb Hills/ Trout Creek	Be, Ga, Rb	Field programs executed across all three projects. Claybank: tentative drill-ing approval received; 31 samples collected from historical stockpiles. Beryllium Butte: assays of 39.3 ppm Ga and 1420 ppm Rb. Meteor: new beryllium and tungsten claims added.
Coyote Knoll	Juab	Triumph Gold Corp.	Desert Mountain	Ag, Au	Acquired project. Confirmed epithermal mineralization, with surface grab samples returning up to 720 g/t Ag and 1.43 g/t Au. Future exploration plans to integrate geophysical surveys and geological mapping to delineate targets for potential drilling.
Deer Trail	Piute	DT Mining LLC (MAG Silver Corp.)/ Pan American Silver Corp.	Mount Baldy-Ohio	Cu-Au	MAG Silver bought by Pan American Silver.
Detroit Gold	Juab/Millard	Infield Minerals Corp./Hawk Resources	Drum Mountain	Au	Infield entered into an option agreement in May 2026 to acquire 100% inter-est from Hawk. Drill targets are being explored.
Drum	Juab	Silver Range Resources	Drum Mountain	Ag, Au	Staked property. Plans to advance exploration through geological mapping, prospecting, and integrated geochemical and geophysical surveys. Sampling conducted during staking returned concentrations up to 0.93 g/t Au and 13.8 g/t Ag.
Dry Wash	Garfield	Grand Gulf Energy Ltd.	Antimony	Sb	Field sampling confirmed visible stibnite at 0.2%–1% by volume. Geophysi-cal surveys and detailed mapping planned.
Dutch Mountain Tungsten	Tooele	American Tungsten & Antimony Ltd. (Trigg Minerals)	Gold Hill	W	Acquired project and tungsten mill, completed surface sampling. Drilling NOI underway.
Flatiron**	Garfield	IsoEnergy Ltd.	South Henry Mountains	U	Commenced 15,000 ft drill program. First follow-up exploration since 1980s.
Goldstrike/ Antimony Ridge	Washington	Liberty Gold Corp.	Goldstrike	Au, Sb	Antimony mineralization discovered at Antimony Ridge, surface sampling up to 5.7% Sb and 3.57 g/t Au.
Great Salt Lake***	Box Elder	Compass Minerals, EnergyX	n/a	Li	Entered into an agreement to develop a lithium facility that would process Compass Minerals' brine.
Great Salt Lake***	Box Elder	Waterleaf Resources	n/a	Li	Conducted a pilot test of DLE technology on north arm brine from Great Salt Lake in first half of 2025.
Green River Lithium***	Grand	Anson Resources Ltd.	n/a	Li	Reported in-place indicated and inferred resource of 852,000 t LCE from sub-surface brines; re-entered well in the southern part of project area.
Harts Point	San Juan	American Atomics Inc. (Atomic Mineral Corp)	n/a	U	Permitted for 15 drill holes at Harts Point targeting Moss Back member of the Chinle Formation at 1500 ft depth.
Lost Sheep mine***	Juab	Ares Strategic Mining	Spor Mountain	F (fluorspar)	Began production in early 2026.
Mercur*	Tooele	Revival Gold Inc.	Mercur	Au	Completed Preliminary Economic Assessment outlining 95,600 oz Au per year over 10-year mine life. Completed 115 hole drilling program totaling 42,600 ft (32,800 ft RC, 9800 ft core). Intercepts include 1.27 g/t Au over 145 ft and 2.74 g/t Au over 69 ft. Planned 2026 drilling program of 39,400 ft for resource expansion, and 13,100 ft to support engineering and design. Intent for production in 2029.
Modena Draw	Iron	Progressive Contracting, Inc.	n/a	Pozzolan	Permitted a small mine with OGM to extract pozzolanic material from vol-canic deposits in Modena Draw.
Paradox Lithium***	Grand	Anson Resources Ltd.	n/a	Li	In-place indicated and inferred resource estimate of 1.7 Mt of LCE in sub-surface brines within Pennsylvanian- and Mississippian-age units.
Phoenix Copper*	San Juan	Diablo Resources Ltd.	Lisbon Valley	Cu	Maiden RC drill program completed at Philadelphia prospect yielding 1.02% Cu over 34.4 ft, incl 3.99% Cu over 4.92 ft, from 120 ft.
Red Antler	Tooele	Almadex Minerals Ltd.	Gold Springs	Ag, Au	Acquired project. Surface sampling returned up to 21.8 g/t Ag. Mapping and geophysics underway.
Silicon Ridge***	Utah	Ionic Mineral Technologies	Lake Mountains	Halloysite (clay)	Evaluating a halloysite deposit in the southern Lake Mountains; completed extensive shallow drilling in 2025; evaluating a variety of products/coprod-ucts including halloysite, alumina, REEs, etc.
Slipstream	Box Elder	Visionary Metals Corp.	Lucin	Ag, Au, Cu	Acquired 468 claims and secured a 5-year UTLA exploration agreement for 2,584 acres. Mapping and geophysics planned at the beginning of 2026 to refine drill targets, with diamond drilling at the end of 2026.
South Lisbon Valley East	San Juan	American Atomics Inc. (Atomic Mineral Corp)	Lisbon Valley	U	Acquired project. Permits submitted for 18–20 drillholes targeting uranium belt on northeast side of Lisbon Valley anticline.
Star Range*	Beaver	Diablo Resources Ltd.	Star	Ag, Sb	Acquired project. Surface sampling returned results of 2760 g/t Ag and 1.24 g/t Au at North Star, and 1460 g/t Ag and 4.37 g/t Au at South Star. 52 new unpatented lode claims staked, increasing the Star Range total project area to 4600 acres.
Stateline	San Juan	Uranium American Resources Inc./ Jag Minerals Pty Ltd.	La Sal	U, V	Acquired project. Planning airborne EM, passive seismic, and AI drainage modeling for subsurface targeting.
Thompson Knolls*	Millard	BCM Resources Corp.	Kings Canyon	Cu	Commenced Phase 4 drilling program; first hole reached 3995 ft, deepest on the project, and intercepted nearly 2000 ft of pyroxene-diopside skarn.
Tony M**	Garfield	IsoEnergy Ltd.	South Henry Mountains	U	2100-ton underground bulk-sampling program and metallurgical testing to support a Preliminary Economic Assessment (PEA) planned for late 2026.
Utah Lithium Project	San Juan	Mandrake Resources	n/a	Li	In 2024, released in-place inferred resource estimate of 3.6 Mt of LCE in subsurface brines for their project in the Lisbon Valley area.
Vanadium King	Emery	Metals One/Thor Energy PLC	Temple Mountain	U, V	Metals One executed a purchase agreement for the acquisition of 75% of Thor Energy's US uranium/vanadium portfolio.
West Desert*	Juab	American West Metals Ltd.	Fish Springs	Ag, Au, Cu, Ga, In, Mo, Zn	16,400 ft drill program launched early 2026. Early results include 255 ft of visual skarn mineralization containing sphalerite and chalcopyrite, assays pending. 378-sample historical mine waste sampling program yielded peak values of 1639 g/t Ag, 160.1 g/t In, 44 g/t Ge, 916 g/t Te, 2.26% Cu, 24.52% Zn, and 31.30% Pb.
Yellow Cat**	Grand	Anson Resources Ltd.	Thompson	U, V	24-hole, 3280 ft shallow aircore and diamond drilling commenced early March 2026 with goal of confirming mineralization across ~3 mi between historical workings, confirmed 1.5 mi of strike length.

¹Parentheses indicate alternative or previous company names, forward slash indicates change of ownership or joint venture.

²As defined in Krahulec (2018).

*More detail on these projects provided in the Base and Precious Metals section text.

**More detail on these projects provided in the Uranium section text.

***More detail on these projects provided in the Industrial Minerals section text.

two large land blocks near Moab (Paradox Lithium project) and Green River (Green River Lithium project) in Grand County. Anson has defined an Australian Joint Ore Reserves Committee (JORC)-compliant resource estimate that contains an in-place indicated and inferred 1.7 Mt of LCE in brine in the Pennsylvanian-age Paradox Formation and underlying Mississippian-age carbonates for their Paradox Lithium project (Anson Resources, 2023). In mid 2026, they released an updated JORC-compliant resource estimate for their Green River Lithium project based on 2024 drilling and re-entry of the Mt Fuel Skyline Geyser 1-25 well. The updated estimate includes an in-place indicated and inferred resource of 852,000 tons of LCE with an average concentration of 128 mg/L Li within brines in the Mississippian-age Leadville Limestone (Anson Resources, 2026).

- **Lithium:** Waterleaf Resources, a subsidiary of Lilac Solutions (a company that produces lithium extraction technology), conducted a pilot test of their DLE process at Great Salt Lake. The pilot facility is on the north arm of the lake north of Rozel Point/Spiral Jetty. In late 2025 they announced that their pilot test was successful with a reported average lithium recovery of 87% from lake brine at 69 mg/L Li.
- **Fluorspar:** For several years, Ares Strategic Mining has been working towards reopening the Lost Sheep fluorspar mine in the Spor Mountain district in Juab County. In early 2026 they commenced production making the Lost Sheep mine the only significant domestic fluorspar producer. Historically, the Lost Sheep mine was the most productive fluorspar mine in Utah and has produced about 170,000 t of fluorspar from a series of mineralized breccia pipes. Since 2020, Ares has completed exploration drilling, geophysical surveys, and geologic mapping to delineate the fluorspar resources of their land holdings which span much of the Spor Mountain area. Processing capabilities have been developed and located in Delta. Ares has also indicated that they are investigating the potential for byproduct gallium and germanium at the mine.
- **Potash:** Two companies in the Paradox Basin mobilized drilling campaigns in 2026 to evaluate potential potash resources in the Pennsylvanian-age Paradox Formation: Sage Potash and American Critical Minerals. Sage Potash completed a PEA in 2025 for their project east of Monticello, Utah.
- **Potash:** A project that was previously close to development was a potassium sulfate project at Sevier Lake/Playa. Crystal Peak Minerals had delineated a resource (Brebner et al., 2018) and received permits and approvals for development, but was unable to raise sufficient capital to advance the project. In mid 2025, Peak Minerals received approval from the BLM for the initial phase of their project. No announcements have been made regarding a potential timeline for development.

- **Halloysite (alumina, REEs, etc.):** Ionic Mineral Technologies has leased an area in the southern part of the Lake Mountains in Utah County where they are evaluating a halloysite deposit that they have named Silicon Ridge. They have drilled over 100 exploration holes to define the deposit. They are evaluating multiple products from the deposit, including halloysite applications and/or production of alumina, REEs, and other critical metals (e.g., gallium). Ionic holds another drill-defined halloysite deposit, the Halloysite Hills, in Juab County.

URANIUM

Production

In 2025, the U.S. uranium market experienced considerable growth as domestic producers rapidly increased mining and processing. Driven by steady uranium prices around \$75 to \$85 per pound and new government funding aimed at reducing reliance on foreign imports, domestic producers revived idle projects and active mining took place in Wyoming, Texas, Utah, and Nebraska. The domestic resurgence allowed U.S. mining companies to lock in long-term supply contracts with nuclear power utilities, which require steady domestic fuel sources to meet rising electricity demands.

In Utah, Energy Fuels continued underground extraction at its La Sal Project (including the La Sal, Beaver, and Pandora mines) to provide a steady stockpile of conventional uranium ore. In 2025, the three mines together produced 44,869 tons of mineralized material. Processing of this material, alongside higher-grade ore from the Pinyon Plain mine, started at the Energy Fuels mill in late 2025 and is projected to continue throughout 2026. In 2025, the mill processed and produced 1,015,000 pounds of finished uranium oxide. For 2026, the company is targeting a significantly expanded production run of 1.5 million to 2.5 million pounds of finished uranium oxide. Beyond traditional uranium extraction, the mill completed initial pilot runs of high-purity (99.9%) dysprosium oxide, accumulating nearly 30 kilograms by early 2026. In late 2025 and early 2026, the mill transitioned its pilot circuit to terbium oxide, producing its first kilogram of 99.9% pure material in March 2026. Large-scale commercial output is not slated to begin until the expanded heavy REE circuits come online (targeted for 2027 and beyond).

Exploration and Development

Anfield Energy transitioned the past-producing Velvet-Wood mine and Shootaring Canyon mill from an idle state toward active redevelopment. Benefiting from expedited federal and state environmental reviews, Anfield officially broke ground and reopened the Velvet-Wood portal in November 2025. Current work is focused on mine dewatering, road work, and underground machinery procurement to start active mining by

mid-2026. Processed ore from Velvet-Wood will be shipped to the Shootaring Canyon Mill, one of only three licensed conventional uranium mills in the United States. Anfield is targeting the mill's restart timeline for 2027, aiming for a long-term processing capacity of up to 3 million pounds of uranium oxide per year.

Other uranium-focused exploration projects are described below. The information presented here is not an exhaustive list of all exploration being conducted in Utah; it represents significant exploration progress from companies who have made their projects public.

- **Flatiron, Garfield County (South Henry Mountains district):** IsoEnergy launched the first systematic exploration campaign at the project since the 1980s, completing a three-hole initial drilling phase in late 2025 to map the boundaries of the underground sandstone channel. In April 2026, the company mobilized rigs to execute the next phase of the program, which consists of seven deeper surface rotary and core holes totaling 11,000 feet. Assay results pending.
- **Tony M, Garfield County (South Henry Mountains district):** IsoEnergy completed a 2100-ton underground bulk-sampling program between late 2025 and early 2026 to evaluate mining rates, equipment sizing, and grade-control structure. Additional metallurgical testing was also completed. Both bulk-sampling and metallurgical testing will support a Preliminary Economic Assessment (PEA) planned for late 2026.
- **Yellow Cat, San Juan County (Thompson district):** Anson Resources commenced a 24-hole, 3280 ft shallow aircore and diamond drilling program in early March 2026 to test mineralization continuity along a nearly 3-mile-strike-length, confirmed 1.5 mi mineralization trend. Assay results pending.

COAL

Production and Distribution

Three Utah coal operators produced 8.5 Mt of coal valued at \$534 million from five underground mines in 2025 (Figures 9–11; Table 3). Production was just 7.0 million tons in 2023, the lowest since 1975, but increased 6.5% in 2024 to 7.4 Mt, and increased another 14% in 2025. These production increases mostly came from Wolverine's Skyline and Sufco mines, as well as increases at Wolverine's new Fossil Rock mine. In contrast, the Gentry and Emery mines had lower production in 2025, as both operations idled in November 2025. Average annual employment at active or recently active mines increased slightly in 2025 to 1357, as Wolverine staffed up at the new Fossil Rock mine (Figure 9). However, employment is expected to decrease significantly in 2026, to about 1160, with the idling of the Skyline and Gentry mines. Coal

mining productivity, the amount of coal produced in tons per employee hour, peaked in 2002 at 8.0 tons/employee hour, before dropping to an average of 4.4 tons/employee-hour between 2018 and 2022 (Figure 9). Productivity dropped to 2.5 tons/employee-hour in 2023 and increased slightly to 2.7 tons/employee-hour in 2024 and increased again to 2.8 tons/employee-hour in 2025.

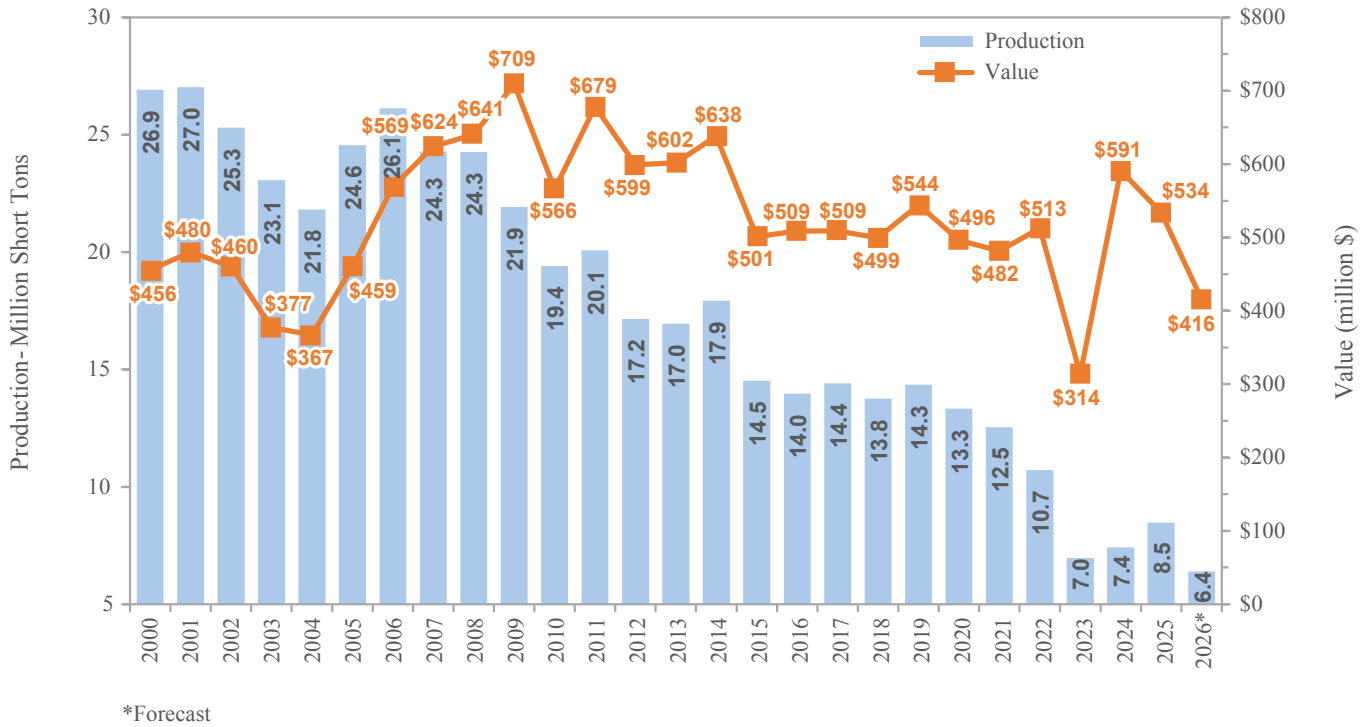
Demand at Utah coal-fired power plants was fairly stable from 2000 to 2015 at about 15.2 Mt a year, but dropped to an average of 11.6 Mt between 2016 and 2021, including a dip in 2020 to 10.5 Mt due to the COVID-19 pandemic (Figure 12). Utah power plant consumption dropped significantly again in 2022, to 10.2 Mt, and again in 2023 and 2024, down to 7.5 Mt and 7.7 Mt, respectively, as the Intermountain Power Plant (IPP) continued to ramp down operations and less coal was used at Hunter and Huntington as these plants flex power output based on availability of new solar energy resources. However, coal consumption at Utah's power plants increased in 2025 to 8.3 Mt, based on Hunter and Huntington increasing their coal use by 52%, from 3.4 Mt in 2024 to 5.1 Mt in 2025. This dramatic increase is most likely a reflection of increased electricity demand as well as a response to recent high natural gas prices. The Bonanza power plant in the eastern Uinta Basin, which burns coal from Colorado, has continued to operate as a true baseload power plant with capacity factors in the mid-70% range. Coal consumption and electricity generation at Bonanza dipped in 2025 due to a turbine failure in the summer months, but the plant returned to full capacity in the fall. The coal units at IPP were officially idled in November 2025 after burning just under 2.0 Mt of coal. The future of IPP's coal units will depend on state intervention and electricity market dynamics. Coal consumption at Utah power plants is expected to fall in 2026 to about 7.0 Mt with IPP going offline.

Power flexing or closure at other U.S. coal-fired power plants has also reduced domestic demand for Utah coal. As recently as 2001, Utah sent nearly 16 Mt of coal to other states, but this number has dropped substantially to just 175,000 t delivered in 2025. Utah operators took advantage of a stronger foreign export market, sending an estimated 2.8 Mt of coal per year overseas to Asia between 2017 and 2023; however, foreign exports decreased to only 937,000 t in 2024 and are expected to remain near that level in 2025 (Figure 12).

During our annual coal mine visits in spring 2026, all mine operators reported concern over the continued softening demand for Utah coal, exacerbated by the idling of the coal units at IPP. In fact, low demand forced two smaller mines, Emery and Gentry to shut down operations in late 2025, with only Emery returning to production in early 2026 after the mine was sold to Wolverine Fuels. The unexpected shut down (due to water infiltration) of the Skyline mine, which produced 38% of Utah's coal in 2025, changed the supply picture in Utah, but it also coincidentally put supply more inline with expected 2026 demand. Wolverine Fuels will be the sole coal

A.

Utah Coal Production and Value



B.

Utah Coal Production by Land Ownership and Employment

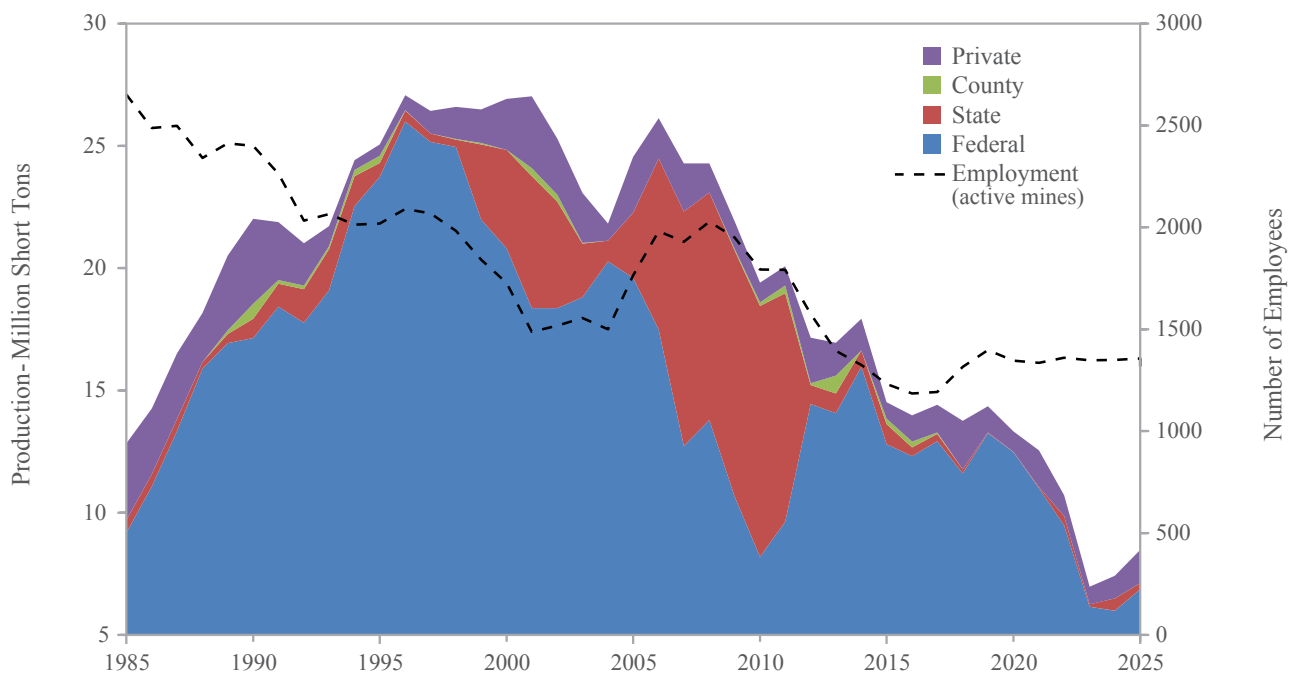


Figure 9. A) Utah coal production and value in nominal dollars, 2000–2026. Data source: Utah Geological Survey and U.S. Energy Information Administration. **B)** Utah coal production by land ownership and employment at active mines, 1985–2025. Data source: Utah Geological Survey and Mine Safety and Health Administration.

C. Utah Coal Production by County and Productivity

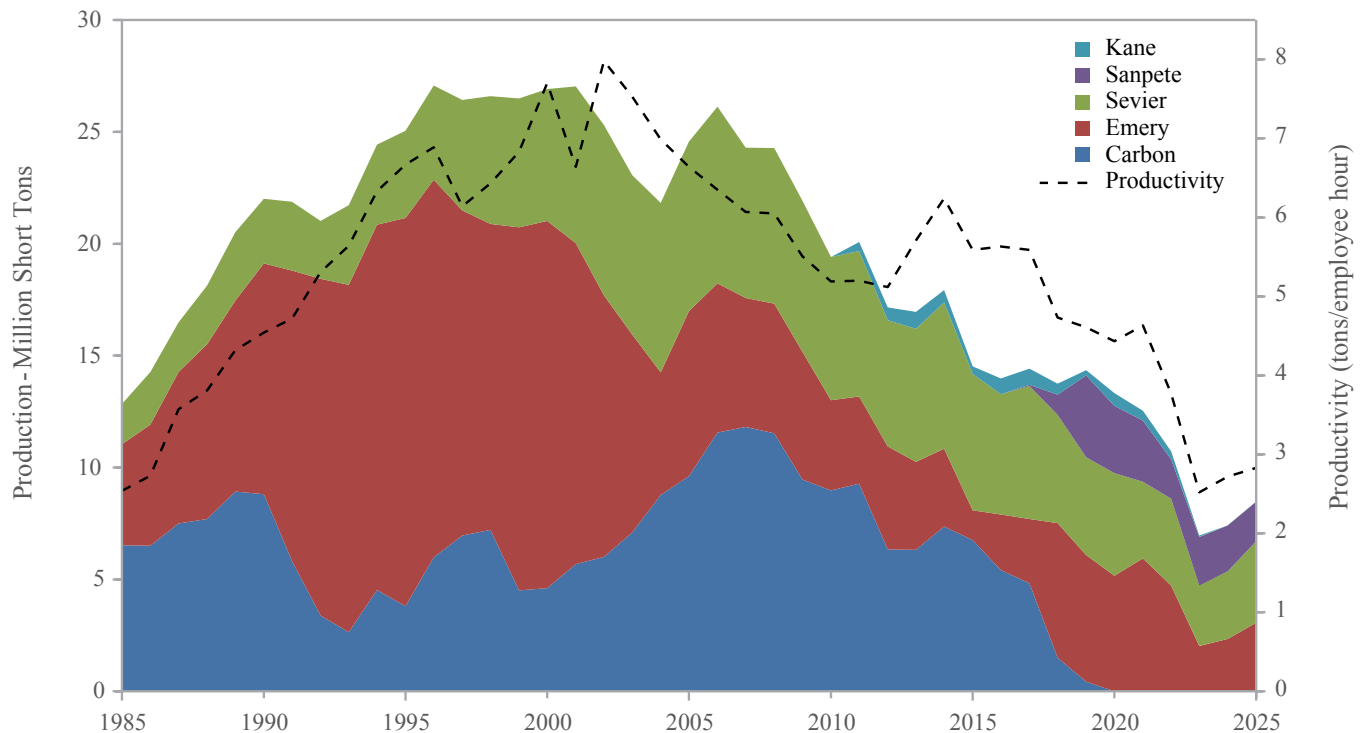


Figure 9 Continued. C) Utah coal production by county and coal mining productivity, 1985–2025. Data source: Utah Geological Survey and Mines Safety and Health Administration.

operator going forward and will depend on Sufco and new longwall production at Fossil Rock to meet most demand in 2026. The Emery Valley mine will have the capacity to produce up to 1 Mt of coal per year, ideal for blending often high ash coal from Wolverine’s longwall operations.

For the first time in the history of Utah’s coal industry (except for maybe the very early days), after the idling of the Dugout Canyon mine in 2019, coal is no longer produced in Carbon County (Figure 9). In contrast, Sanpete County hosted significant coal production for the first time starting in 2017 when operations at the Skyline mine moved to the southwestern Flat Canyon area. Coal production in 2025 came from Emery (3.1 Mt, 36%), Sevier (3.6 Mt, 43%), and Sanpete (1.8 Mt, 21%) Counties. With Skyline shut down, 2026 production will only take place in Emery and Sevier Counties. In 2025, the majority of Utah coal, 7.5 Mt, was produced from the Wasatch Plateau coalfield and 0.9 Mt came from the Emery mine in the Emery coalfield (Table 3). When operations ceased at the Lila Canyon mine in 2023, it marked the first time in the history of Utah coal mining when the venerable Book Cliffs coalfield had zero coal production.

Nearly all Utah coal production in 2025, 81% (6.9 Mt), was produced from federal land, whereas only 257,000 t (3.0%) was from state-owned land (Figure 9). Federal coal production has dominated in Utah since 2012, when the now-closed Deer Creek mine’s state-owned Mill Fork coal tract revert-

ed back to federal ownership after a 22 Mt coal production threshold was reached. This reversion dramatically increased the amount of coal produced on federal land, from 48% in 2011 to 84% in 2012. The remainder of Utah’s 2025 coal production came from private lands (16%, 1.4 Mt) at the Gentry, Emery, and Skyline mines. Once the Fossil Rock mine increases production in the Cottonwood tract, state-owned production will significantly increase. The now idled Lila Canyon mine and active Emery Valley mine both experienced changes to surrounding land ownership when the John D. Dingell, Jr. Conservation, Management, and Recreation Act was finalized in early 2025. Significant coal resource tracts near both mines will convert from federal ownership to state (UTLA) ownership, facilitating a more streamlined permitting process for future mining.

The total amount of Utah coal distributed to the U.S. market in 2025 was 6.9 Mt, an increase over the 6.6 Mt distributed in 2024, but much lower than the 12 Mt distributed in 2020 (Figure 12). As recently as 2008, Utah operators distributed 25 Mt of coal; over 9.2 Mt was exported to other states and 16 Mt was used in-state. In 2025, only 175,000 t of Utah coal was shipped to other states, whereas 6.7 Mt was used locally. The vast majority of Utah coal, about 94% (6.4 Mt), went to the electric utility market, mainly within the state. Utah coal deliveries to the industrial sector totaled 417,000 t in 2025, which is significantly less than peak deliveries of 4.4 Mt in 2003. Consumption of coal in Utah is now higher

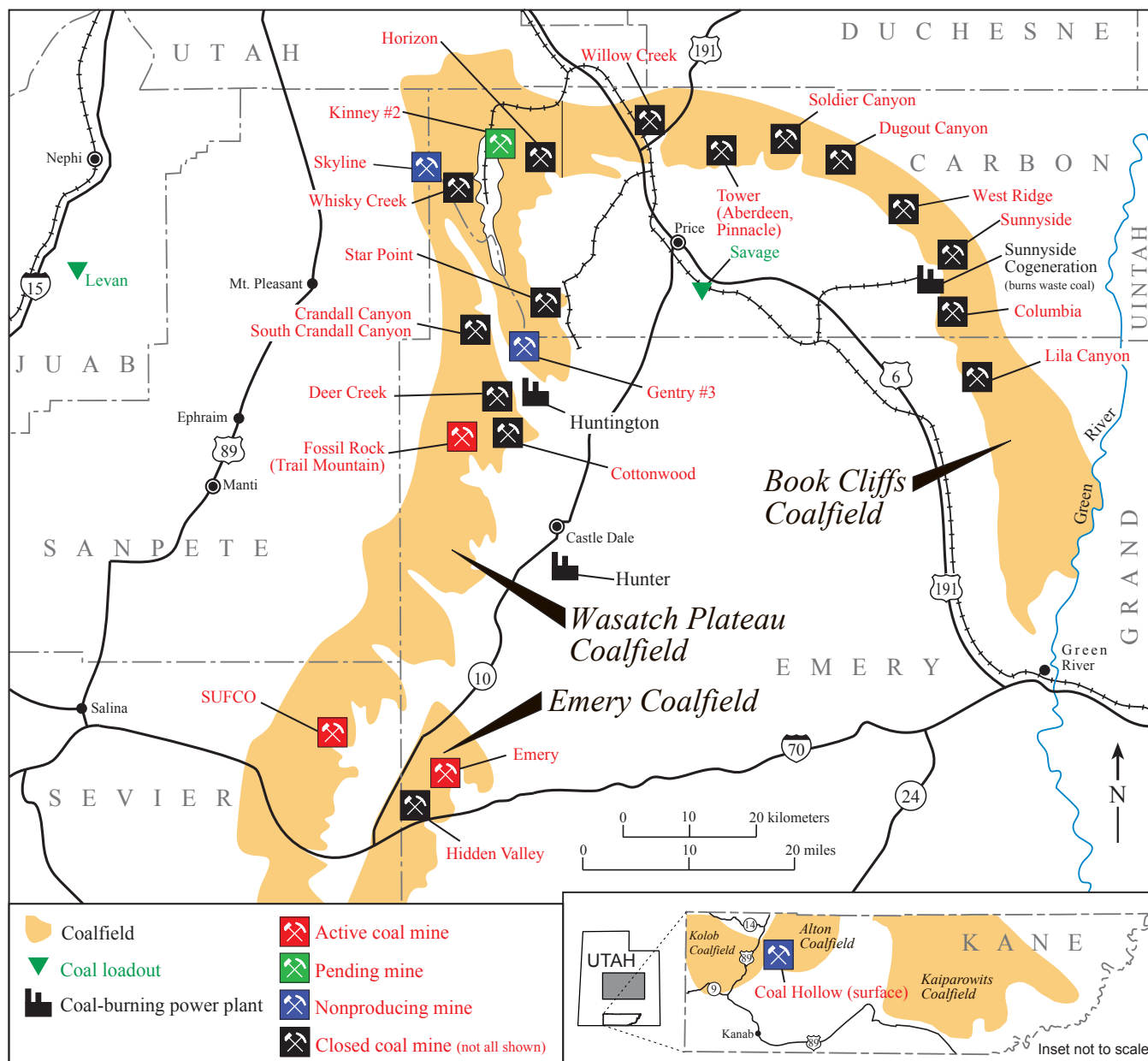


Figure 10. Location and status (at time of publication) of Utah coal mines and associated facilities.

than in-state distribution, indicating that coal imports to Utah were significantly higher than in previous years. Utah power plants consumed 8.7 Mt of coal in 2025 (this includes about 235,000 t of waste coal burned at the Sunnyside power plant) and about 220,000 t used at industrial facilities, the latter being significantly lower than in the 1990s to mid-2010s (Figure 12). Also of note, the Sunnyside power plant shut down in fall 2025 due to a turbine failure and it is unclear if the plant will restart operations.

Foreign exports of Utah coal averaged 2.9 Mt per year in the 1990s, peaking at 5.3 Mt in 1996 (Figure 12). Beginning in the early 2000s, foreign exports dropped dramatically, with no exports reported in 2007. Starting in 2008, Utah coal exports revived, reaching 2.9 Mt in 2014, before dropping again in 2015 to only about 0.7 Mt and 1.0 Mt in 2016. High demand and

high international prices spurred increased exports between 2017 and 2023, but prices softened significantly in 2024 resulting in much fewer export opportunities (937,000 t in 2024 and an estimated 900,000 t in 2025). With diminished port capacity on the West Coast of the United States, Utah operators have sought out alternate port facilities (e.g., Gulf of Mexico) to send their coal overseas, but this is only economic when international prices are high. A renewed push by the Trump administration to increase export capabilities, especially on the West Coast could create new markets for Utah coal.

For detailed statistics on Utah's coal industry (including information previously published in the annual Utah Coal Report), refer to the data tables located on the UGS's Utah Energy and Mineral Statistics website: <https://geology.utah.gov/energy-minerals/info/energy-mineral-statistics/>.

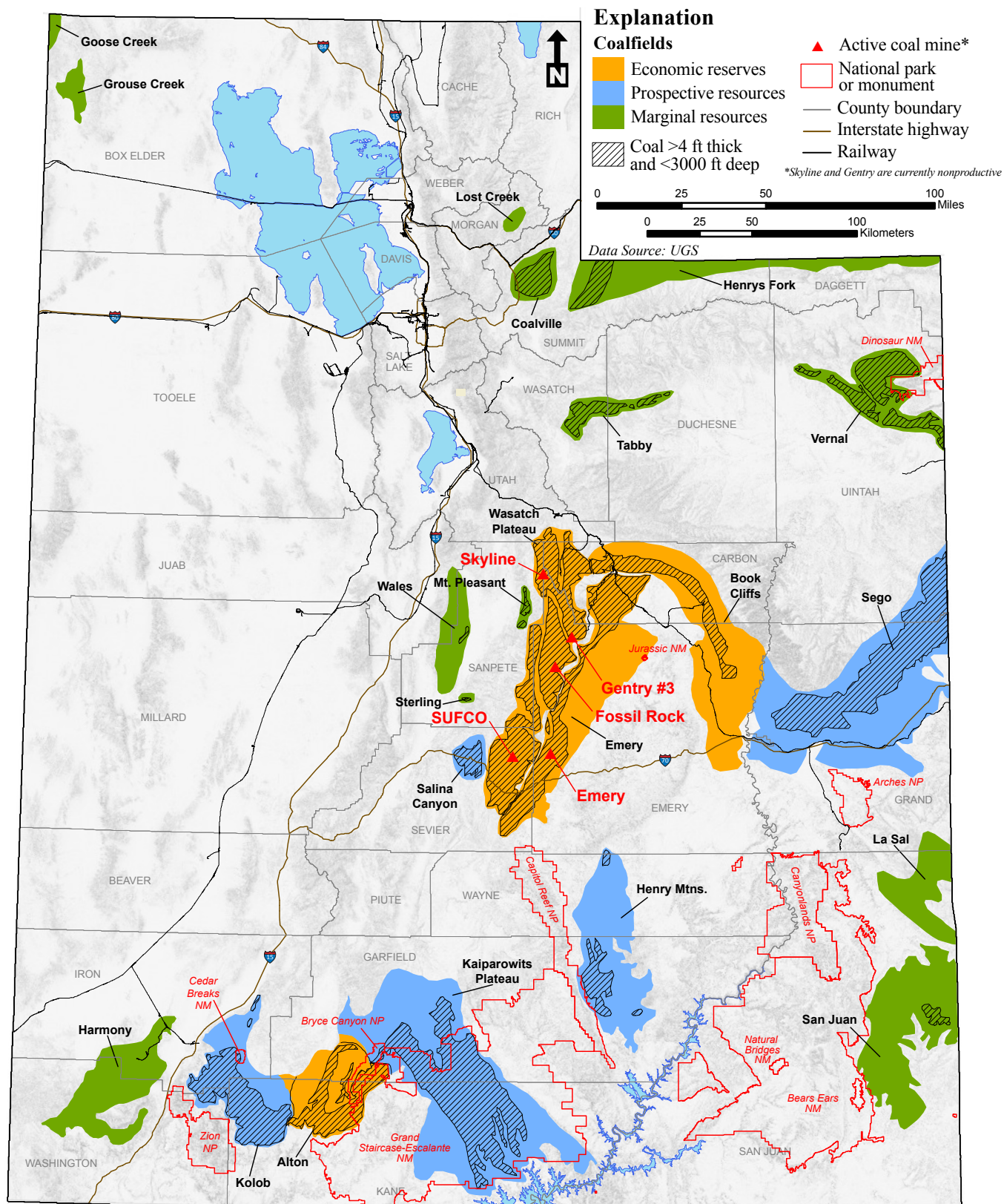


Figure 11. Location of active Utah coal mines and coalfields.

Table 3. Coal production in Utah by coal mine, 2010–2026.

Company	Mine ¹	County	Coalfield	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026*
				thousand short tons																
Canyon Fuel Company, LLC - Wolverine Fuels, LLC ²	Dugout Canyon	Carbon	Book Cliffs	2307	2395	1588	561	676	763	650	626	557	430	--	--	--	--	--	--	--
	Skyline #3	Carbon/Sanpete/Emery ³	Wasatch Plateau	3050	2950	1954	3135	4170	4409	4767	4389	3614	3896	3713	3530	2521	2830	2994	3215	200
	SUFCO	Sevier	Wasatch Plateau	6398	6498	5651	5959	6539	6095	5375	5947	4842	4374	4601	3425	3882	2692	3023	3640	3500
Fossil Rock Resources, LLC - Wolverine Fuels LLC	Fossil Rock (Trail Mtn.)	Emery	Wasatch Plateau	--	--	--	--	--	--	--	--	--	--	--	--	--	--	45	549	1850
Emery Valley Resources, LLC - Wolverine Fuels LLC ⁴	Emery Valley	Emery	Emery	999	--	--	4	--	--	--	135	442	694	474	1171	1063	798	1065	936	850
Altius Construction, LLC - COP Coal Development Co. ⁵	Gentry #3	Emery	Wasatch Plateau	--	--	--	--	--	218	170	205	102	562	660	511	600	420	292	139	1
	Gentry #4	Emery	Wasatch Plateau	--	592	1004	875	1061	757	724	754	893	488	11	--	--	--	--	--	--
East Mountain Energy - PacifiCorp	Deer Creek	Emery	Wasatch Plateau	2954	3143	3295	2785	2083	15	--	--	--	--	--	--	--	--	--	--	--
Hidden Splendor Resources, Inc. - America West Resources, Inc.	Horizon	Carbon	Wasatch Plateau	270	370	210	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah Land Resources, Inc. - ACNR Holdings, Inc. ⁶	West Ridge	Carbon	Book Cliffs	3355	3566	2579	2629	2514	1580	--	--	--	--	--	--	--	--	--	--	--
Emery County Coal Resources - ACNR Holdings, Inc. ⁶	Lila Canyon	Emery	Book Cliffs	72	157	304	257	335	350	1587	1638	2816	3664	3296	3471	2299	159	--	--	--
Alton Coal Development, LLC	Coal Hollow	Kane	Alton	--	403	570	747	555	316	671	724	488	240	569	434	354	67	--	--	--
	Burton #1	Kane	Alton	--	--	--	--	--	11	34	--	--	--	--	--	--	--	--	--	--
Total				19,405	20,074	17,155	16,953	17,933	14,513	13,978	14,417	13,753	14,347	13,325	12,542	10,719	6966	7418	8479	6401

Source: UGS coal company questionnaire

*Forecast

¹ All mines are underground except Coal Hollow, which is a surface mine.

² Bowie Resources bought Canyon Fuel from Arch Coal in summer 2013. In late 2018, Bowie changed their name to Wolverine Fuels.

³ 2025 production by county: Sanpete = 1,769,123 tons; Emery = 1,445,953 tons. 2024 production by county: Sanpete = 2,050,743 tons; Emery = 943,117 tons. 2023 production by county: Sanpete = 2,179,666 tons; Emery = 650,486 tons. 2022 production by county: Sanpete = 1,758,956 tons; Emery = 762,244 tons. 2021 production by county: Sanpete = 2,750,773 tons; Emery = 778,989 tons. 2020 production by county: Sanpete = 3,000,319 tons; Emery = 712,681 tons. 2019 production by county: Sanpete = 3,645,133 tons; Emery = 250,695 tons. 2018 production by county: Sanpete = 906,716 tons; Emery = 1,765,410 tons; Carbon = 941,447 tons. 2017 production by county: Sanpete = 43,949 tons; Emery = 136,203 tons; Carbon = 4,208,538 tons. 2010-2016: all production in Carbon County.

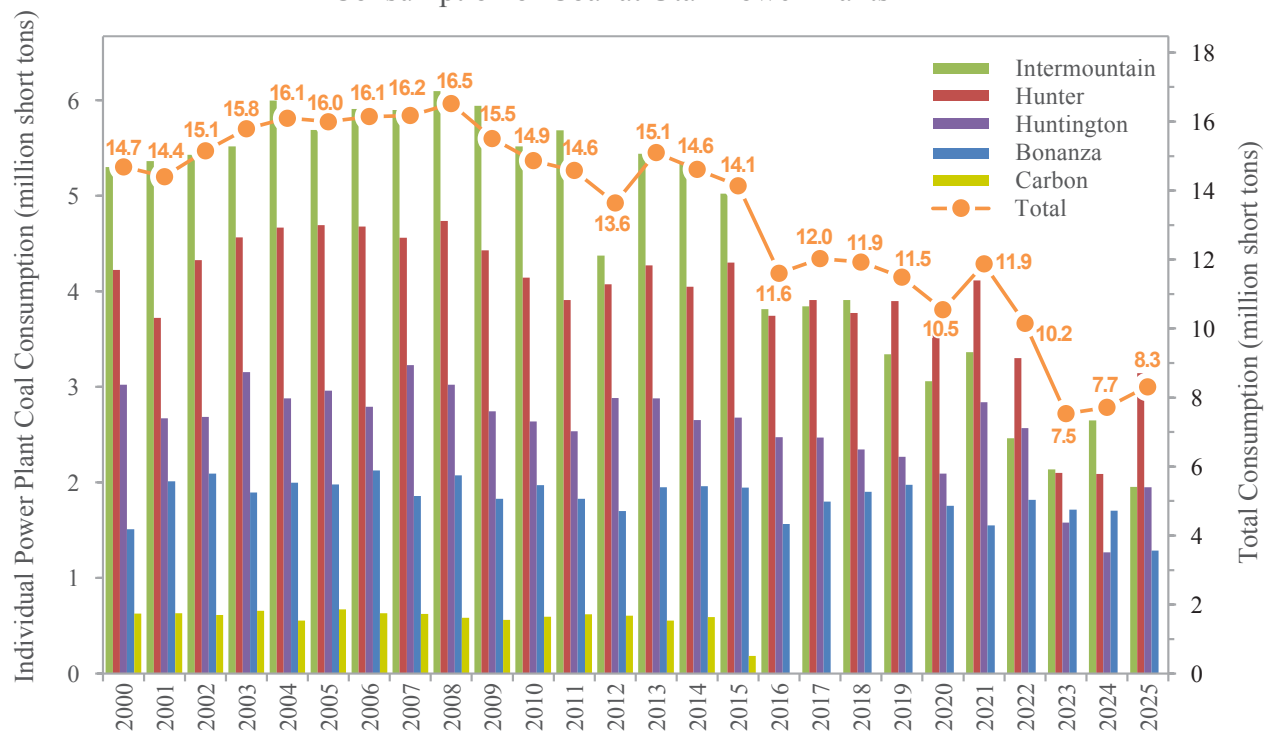
⁴ Bronco bought the Emery mine from CONSOL Energy in 2015. Wolverine bought the Emery mine from Bronco in early 2026 and renamed it Emery Valley.

⁵ COP (or now Altius Construction) bought the Castle Valley mines when Rhino went into bankruptcy in late 2020, mines were renamed Gentry. In summer 2010, Rhino bought the Castle Valley mines from C.W. Mining (Co-op); mines were formerly called Bear Canyon.

⁶ ACNR Holdings, Inc. was previously Murray Energy.

A.

Consumption of Coal at Utah Power Plants

**B.**

Distribution of Utah Coal by Destination and Coal Imports into Utah

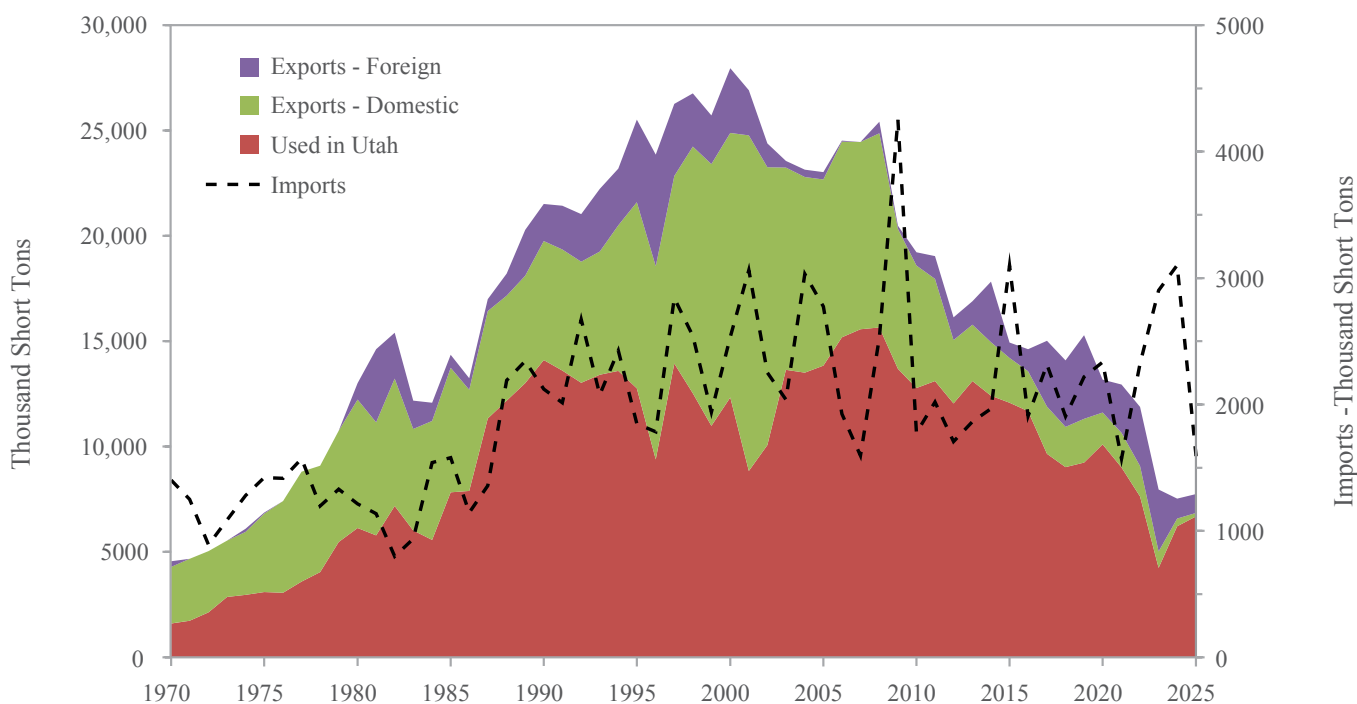


Figure 12. A) Consumption of coal at Utah power plants, 2000–2025. Data source: U.S. Energy Information Administration. Notes: (1) A generator at the Intermountain Power Plant was offline for several months in 2012, resulting in decreased coal consumption. The coal units at IPP idled in Nov. 2025. (2) The Bonanza power plant in Uintah County gets its coal from the Deserado mine just over the border in Colorado. (3) The Carbon plant, Carbon County, shut down in spring 2015. (4) The Sunnyside plant in Carbon County is not included since it burns waste coal, and it is currently shut down due to a turbine failure. **B)** Distribution of Utah coal by final destination plotted with Utah coal imports, 1970–2025. Data source: Utah Geological Survey and U.S. Energy Information Administration.

C.

Consumption of Coal in Utah by End Use

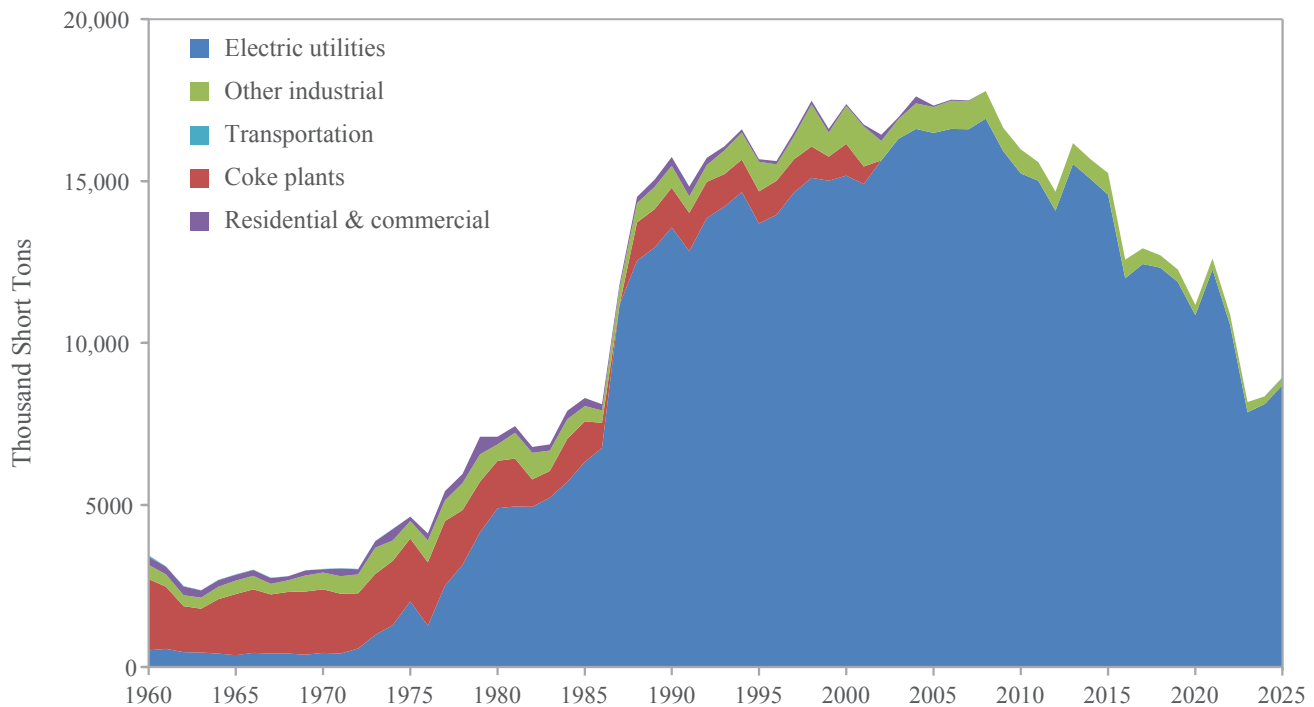


Figure 12 Continued. C) Consumption of coal in Utah by end use, 1960–2025. Data source: U.S. Energy Information Administration. Notes: Electric utilities include waste coal burned at Sunnyside.

Exploration/Development Updates for 2025/2026

- Lila Canyon mine:** Production halted in September 2022 when a “thermal event” was detected in a mined-out area of the underground workings. After extensive work to extinguish the fire, miners re-entered the mine in early 2023, but rehabilitation efforts were unsuccessful. The mine was “indefinitely idled” in late 2023 after minor production of 159,000 t for the year. Significant coal reserves are still present in the area, most notably the Williams Draw tract to the south, which recently transferred to state (UTLA) ownership via the Dingell Act.
- Gentry mine:** COP Coal Development, LLC, bought the Castle Valley mines when Rhino Resources went into bankruptcy in late 2020—the mines were renamed Gentry. Gentry mine #4 was closed in early 2020 and all mining was shifted to the Hiawatha seam in the Gentry #3 mine. Challenging geology kept production lower than previous years, only reaching 139,000 t in 2025 before the mine was idled in November 2025 due to lack of coal demand. Significant coal reserves are available to the west and north of current working, but it is uncertain if the mine will be able to restart operations.
- Emery Valley mine:** Production at the Bronco-owned Emery mine more than doubled in 2021 as four continuous miner machines were brought online and this level of production continued into 2022 (about 1.1 Mt), decreased slightly in 2023 to 798,000 t, but ramped back up in 2024 to 1.1 Mt. Bronco Energy idled the Emery mine in November 2025, after producing 936,000 t, due to lack of coal demand and the loss of contracts. Wolverine Fuels purchased the Emery mine (renaming it Emery Valley) in February 2026 and production restarted shortly thereafter, with 2026 production expected to be about 850,000 t. In addition, with the finalization of the Dingell Act, new coal reserves in the Walker Flat area have been transferred to state (UTLA) jurisdiction.
- Sufco mine:** Longwall development shifted to the federal Greens Hollow tract while production finished in the federal Pines district to the northeast (finished in spring 2023). Longwall production in Greens Hollow started in 2024 with production reaching 3.0 Mt, and increased in 2025 with production reaching 3.6 Mt. Continued Greens Hollow longwall operations should achieve about 3.5 Mt of production in 2026.
- Skyline mine:** Operations at the Skyline mine shifted to the Lower O’Connor B seam in the Flat Canyon area in 2017. Complicated geology (e.g., faults, water infiltration, etc.) was the cause for less production in 2022, down about 1 Mt from 2021, but production rebounded back to 2.8 Mt in 2023, 3.0 Mt in 2024, and 3.2 Mt in 2025. Unfortunately, mining operations intersected an unmapped fault that resulted in very significant water infiltration into the mine. Wolverine was forced to idle the operations in January 2026. It is unclear if the mine will be able to reopen, beyond some modest CM mining in areas closer to the portals.

- **Fossil Rock mine:** Owned by Fossil Rock Resources, LLC, a subsidiary of Wolverine Fuels, this UTLA coal tract contains nearly 50 Mt of mineable coal in the Hiawatha seam. Wolverine re-entered the Trail Mountain mine in 2023 and completed necessary rehabilitation in mid-2024. A small amount of coal was produced in 2024 (about 45,000 t) as continuous miner machines started development in the new workings. Production in 2025 reached 549,000 t as longwall development continued, and full-scale longwall production started in spring 2026, with expected production reaching about 1.9 Mt for the year. Full year longwall production could yield up to 3 or 4 Mt of coal per year.
- **Coal Hollow mine:** Alton Coal Development has completed mining on the northern private lease as well as the areas to the south which are private surface, but federal coal. The mine was idled in mid-2023 (and remains idle to date) after producing only 67,000 t due to delays in permitting an additional federal block to the west of the current facilities.
- **Kinney #2 mine:** Coal Energy Group 3, LLC, have submitted a permit application for the Kinney #2 mine to OGM. This permit application has been under review by OGM through 2025, and OGM has still identified deficiencies in the permit that need to be addressed before moving forward (as of early 2026). This proposed mine is located just east of the town of Scofield, Utah, in the Wasatch Plateau coalfield. Underground mining via continuous miner machines is planned in the Hiawatha seam on roughly 448 acres.

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