Montana Mines and Exploration — 2009

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2009 was a year of changes for the mining industry. Early in the year, the prices and demand of most commodities remained seriously depressed by the downturn of economic markets in 2008, and the international financial market had nearly dried up for mineral funding. Prices for most metals showed a steady climb through the year, with gold leading the charge. Although prices did not reach previous highs, the market appears to have stabilized by the fourth quarter. Funding for exploration has not recovered and only limited capital was available for projects nearing development and production. Most exploration companies that were heavily dependent on investment capital have ceased to exist. Smaller companies that were producing have been limited to cash flow and profits for capitalization. Larger companies have been stable but most have kept capital-intensive projects on hold until financial uncertainties are resolved. Exploration efforts were at an all-time low.

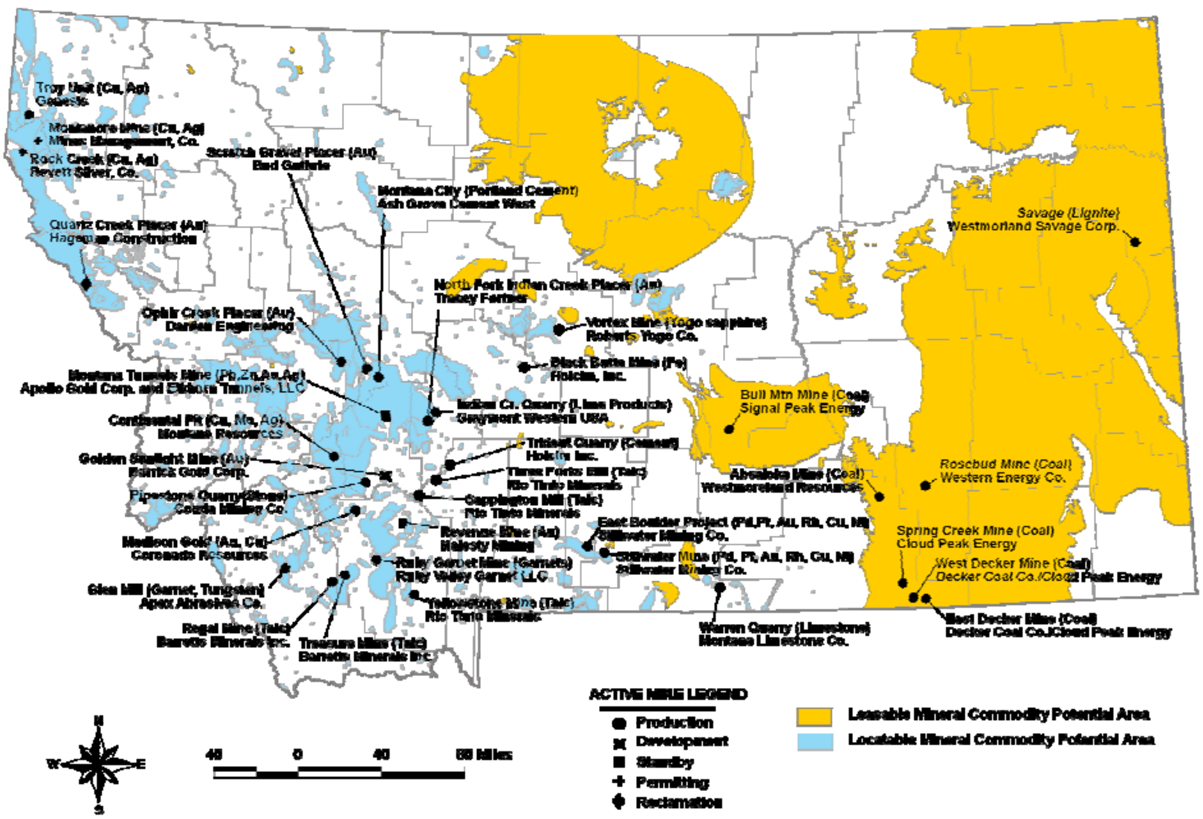
Operators continued to voice concerns about inconsistent interpretation of the rules and regulations by MSHA, poorly prepared inspectors, and this year, personal fines levied against supervisors for allowing untidy work stations. Dust and noise seemed to be a particular focus of inspections.

Some industrial minerals companies in the international market noted recovery beginning at the end of the first quarter followed by steady growth. Local industries tied to the construction trades have realized a very slow recovery. Specialty markets, such as decorative stone, have been severely impacted by crash in the building construction industry. Production costs of some industrial minerals have remained high because of energy prices. Portland cement sales have been flat at low levels.

Operations (Fig. 1)

The Troy Mine, located near Troy in northwestern Montana, is a wholly-owned subsidiary of Revett Silver (operated by Genesis, Inc.). In 2009, they increased copper–silver ore production by 5 percent to 3,700 tons per day. Their labor force has been steady with 180–185 employees.

The 10 percent pay cut for labor (implemented late in 2008) has been fully reversed. Metal production increased by 10 percent for silver but declined by 5–6 percent for copper. The company has continued to expand their reserves in the lower copper–silver zones. Development of the "C" bed, located 370 ft below the main ore body, is planned for 2010 with production scheduled in 2011. Many of the zones contain marginally economic amounts of metal, but the company has identified blocks of economic reserves within those zones.



Active Mines in Montana–April 2010

Revett Silver, owner of the Rock Creek copper–silver project, continued to wait for the appeals and subsequent court decisions to be resolved prior to starting development of the property. They plan to initiate the development of the upper decline in 2010 barring further lawsuits against the permitting agencies.

On the east side of the Cabinet Mountains Wilderness, Mine Management Company ceased rehabilitation work in their decline until the permitting of the Montanore copper–silver mine is completed. The draft environmental impact statement (DEIS) has been completed and the company is waiting for the final record of decision. EPA involvement has caused further delays. The company had planned to start a bankable feasibility study near the end of 2009.

Within the Libby–Kalispell–Thompson Falls area, a large number of small decorative stone quarries constitute a substantial local economic influence. Most of them are located along Pritchard Formation (Super Belt Supergroup) outcrops. Products range from thinly bedded sheets (1–2 in. thick) to various thicker-bedded blocks (3–8 in. thick) used for dry stacking and landscape boulders that may exceed feet in thickness.

Most of the decorative stone products are used in the construction of higher value housing and businesses. The financial decline in 2008 in housing construction did not affect the demand as much as the anticipated 19 percent through the early quarters of 2009. However, the slump caught up in the latter half of 2009; demand is rumored to have dropped by 50 percent. Inventories at many of the stone yards were full by early fall, a time when inventories should have been substantially reduced.

Near Superior, John Hageman and his son produced gold from the lower Quartz Creek placer through late summer. All disturbances were reclaimed after known reserves were exhausted.

Near Avon, Bill Darden briefly produced placer gold on Ophir Creek above Blackfoot City. Further exploration was planned for late fall but was delayed into 2010 when inclement weather settled in.

In southwestern Montana, Bud Guthrie produced placer gold in the Scratchgravel Hills north of Helena. Availability of process water limits production to spring and early summer.

In Helena, Al Ballard produced placer gold from the Pretty Girl placer in Grizzly Gulch. Most of the nuggets and flakes are crystalline and are derived from a skarn that is exposed at various locations throughout the drainage and surrounding area.

Ash Grove Cement West maintained production at Montana City at a reduced rate compared to recent years except for a brief layoff when tremolite was identified in the pit. Subsequent testing of rock and air supplies showed no asbestos-form minerals existed at levels above government standards. The company upgraded dust control systems at the coal mill. Operations focused heavily on cost savings, power monitoring, and efficiency studies.

Apollo Gold Corp. and Elkhorn Tunnels' Montana Tunnels mine (Au, Ag, Pb, Zn) remained in standby mode. Permits have been granted but development capital has been difficult to raise. The open-pit metals mine is located west of Jefferson City and has more than 7 years worth of reserves remaining. It is estimated that $60–$85 million will be necessary to complete the pre-stripping and environmental stipulations of the mine permit. Elkhorn Goldfields and Apollo Gold Corp. have signed a letter of intent to transfer ownership to Elkhorn Goldfields, Inc.

Northwest of Townsend, Tracy Fortner explored, permitted, and started production of placer bench gravels above the north fork of Indian Creek.

Graymont Western U.S.A. maintained production of burnt lime at their plant northwest of Townsend. Demand was down during 2009 and was further negatively impacted by the closure of the Smurfit Stone linerboard plant near Missoula in early 2010.

North of White Sulphur Springs, Holcim's Black Butte mine continued production as Montana's only iron mine. The ore is used in the production of Portland cement.

In Butte, Montana Resources maintained steady production of copper, molybdenum, and silver. Prices climbed steadily through the year. Tire problems of recent years were eliminated as the allotment was raised from 28 to 80 tires per year and the price was reduced from $175,000 per tire to $26,000. The company continued to upgrade production and support. They have completed a new computer control system for the mill. Exploration on the south side of the deposit has increased the reserve base especially for molybdenum. Deeper drilling in the pit has also shown good results. Employment has been steady at 345–348 people who participate in a comfortable profit-sharing program.

Near Whitehall, Barrick Gold Corporation continued stripping waste at their Golden Sunlight mine. Development has been focused on the west and northwest sides of the pit to access the remaining ore in the 5B optimized pit plan. During this 3-year stripping plan, the company has overhauled equipment, expanded the truck fleet with three Cat 785 haul trucks, and rehabilitated the mill. The mill is scheduled to resume production on January 1, 2011. The existing reserves are scheduled to be depleted in 2015. They are also looking for compatible raw ore from underground properties within 100 miles to purchase.

Barrick Gold continues to explore for additional reserves from satellite ore bodies while permitting the ore deposit discovered under the crushing circuit. Preliminary work has been done in anticipation of converting the mill to a gravity-flotation circuit after the ore body is exhausted. This will allow for reprocessing the tailings to recover sulfide minerals for further gold recovery.

West of Whitehall at Pipestone, Conda Mining Company has maintained steady production of railroad ballast and crushed stone from a diorite body.

Near Three Forks, Holcim continued steady production of Portland cement. Some recovery in the market is expected late 2010. The permit for replacing a portion (20 percent) of their fuel needs with worn-out tires has stalled in the Montana Department of Environmental Quality. The DEIS showed no impact on the environment but the final impact statement and record of decision have not been forthcoming. When initially proposed the project would lower pollution potential at the plant while recycling all of the waste tires generated in the Montana.

At Silver Star, Coronado Resources maintained copper and gold production at their Madison Project (formerly the Broadway–Victoria mine). They have direct shipped copper ore and gold ore from different areas of the mine on a mining contract with Blue Range Engineering. Cumulative production of recent years has exceeded 1,750 oz of gold and 1.35 million pounds of copper. Highlights of a limited ore-definition drilling program revealed 45 ft of 0.74 ounces per ton (opt) gold and 17.5 ft of 0.61 opt gold. Nearly every hole drilled intercepted ore.

At Glen, Apex Abrasives completed phase I construction of their process plant at the former General Electric tungsten mill. They will reprocess the garnet-rich tailings in the ponds to produce tungsten concentrates and garnet for water-jet cutting media. Preliminary production prior to seasonal closures produced a highly saleable product. Full production is anticipated with the spring thaw.

At Alder, Ruby Valley Garnet, LLC maintained steady production of garnet from the dry placer deposit in Red Wash. Late in the fall, the company streamlined operations with a change in management and workforce reductions. GMA Garnet (USA) Corporation has contracted Ruby Valley Garnet's total production. The company has continued to expand production.

Exploration this summer delineated hard rock resources of up to 20 percent garnet at the head of the drainage they are currently mining.

Barretts Minerals produces a number of talc products from the Treasure and Regal mines, located east of Dillon. One of the products is used in the production of the ceramic substrate for catalytic converters. The 2008 economic decline triggered a stagnation of U.S. automotive sales which in turn temporarily eliminated the demand for that portion of talc sales. The company had to reduce its work force for most of the year, but has hired all of their production staff back now that sales have increased. As with most of the mining industry, they have not replaced support personnel. In operations, they have continued construction of new shop facilities at the Regal mine while expanding reserves northeast of the Regal mine. The exploration program has yielded some good results.

South of Ennis, talc production was maintained at the Yellowstone mine by Rio Tinto Minerals. Following the labor reduction programs of the previous year, the company maintained labor levels and even hired a few new employees. As with many of the industrial minerals companies, the focus was on cost reduction or optimizing operations. Internal capital was in short supply throughout the industry. Rio Tinto continues to look to divesting the talc business of Rio Tinto Minerals.

In the south-central region, near Big Timber and Columbus, the Stillwater Mining Company maintained production from the largest mine complex in the state. Under adverse financial conditions, the company posted a net loss of $9.2 million. Over the year, they reduced staff by 27 percent, increased production by 6.2 percent, and added a second furnace at the smelter. They lost money on used catalytic converters purchased for recycling when the price for platinum group metals declined in late 2008 and early 2009. Recovery was impaired when used catalytic converters were not available for purchase and recycling. Early in 2009, General Motors backed out of their purchase contract via the bankruptcy court. Because of the tough financial conditions, Stillwater took drastic cost-cutting measures that will improve their future. At the East Boulder mine, they laid off the entire staff (649 people) and then hired 265 back after reevaluating their operations. Cuts were focused on management and support staff.

Almost immediately productivity improved and cash operating costs declined by nearly $40 per ounce of platinum-group metals (PGMs). Changes in mining methods reduced dilution and sidelined most of the fleet of diesel equipment.

On the Nye side, production increased from 394,000 oz of PGMs from 349,000 in 2008. Total operating costs were reduced to $369/oz from $521/oz in 2008. They have reduced equipment, personnel, and dilution through changes in mining methods and are rethinking how they do business. The crisis the company faced in 2009 and survived may be the turning point that makes Stillwater the most improved mining company in the state.

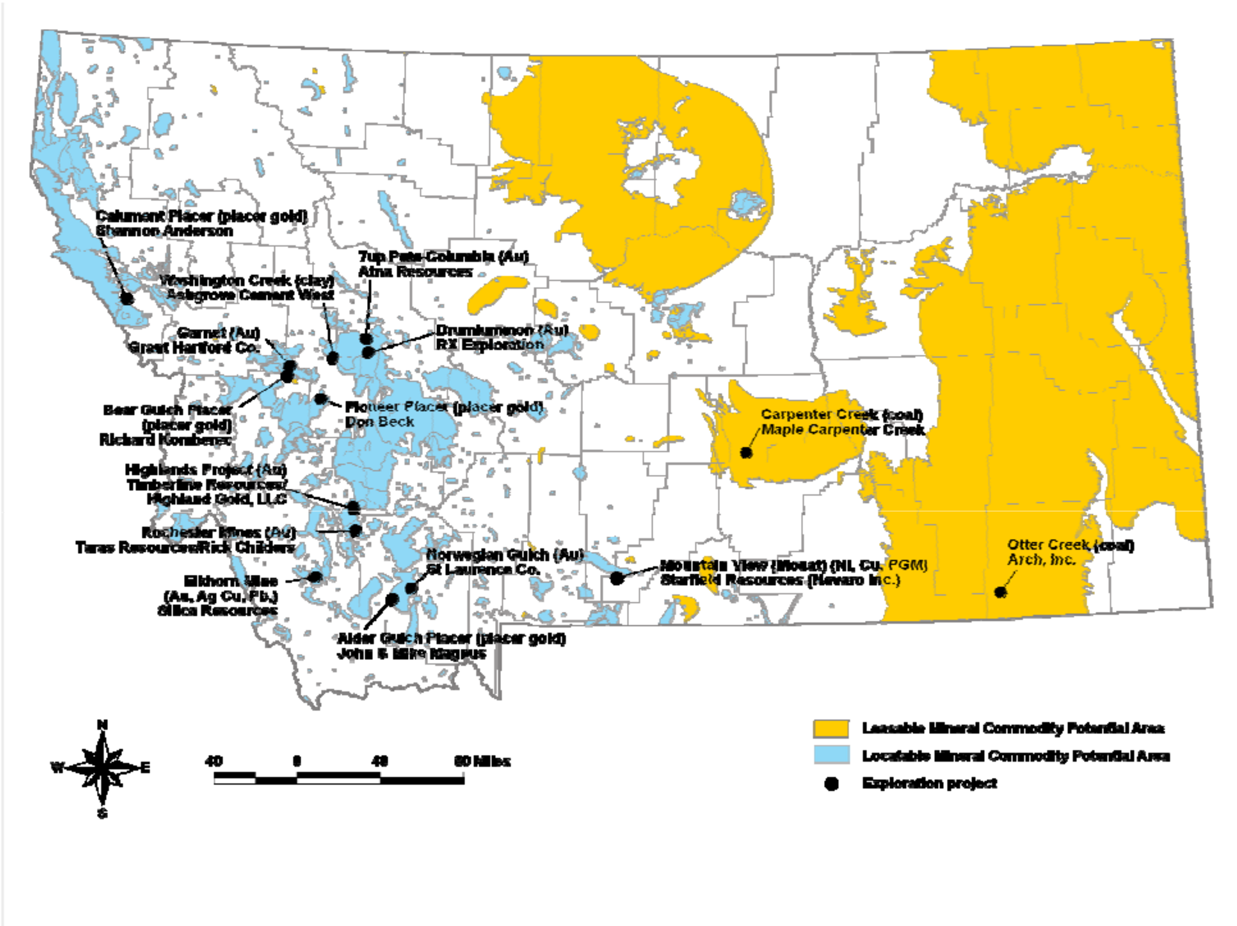
South of Billings, production continued at the Warren Quarry. Montana Limestone Co. produces approximately 650,000 tons per year and provides feed for the Western Sugar cooperative, the Dakota Coal Co. burnt lime plant in Frannie, Wyoming, as well as seven various sized lime products ranging from rip rap to fine grind. The reserves are owned by Bighorn Limestone Co., which is jointly owned by Western Sugar Cooperative and Montana Limestone Co.

Exploration (Fig. 2)

Exploration in Montana has continued at an extremely low level even though the mineral endowment is considerable. This is partly from a common perception that after the gold open-pit cyanide ban, it is impossible to permit a mine in the state. Those companies willing to work in the state have found permitting slower than they would like but possible. However, the outside perception, especially on the investment side, has left projects struggling for capital. There were thirteen projects in 2009 at various levels of activity.

Near Superior, Shannon Anderson purchased the southern half of the Calumet gold placer in Quartz creek. The initial excavation defined the boundaries of the upper end of the remaining deposit. He indicated production would start in 2010.

West of Drummond, Dick Komberec excavated a few pits on his gold placer in lower Bear Gulch just above the dredge tailings. Nearly all of the sites yielded gold but bedrock was not intercepted. Many of the exposures showed 10–15 ft of topsoil. Further work is planned in the future.



In the Garnet ghost town area, Grant Hartford Corporation continued drilling targets for the second year. The company has contracted mapping of the area geology and tested both gold placers and lode deposits. Some initial tests have identified gold-bearing gravel associated with debris flows. Lode deposits were explored by 37,763 ft of reverse-circulation drilling and a small trenching program. The program has identified a resource of 611,244 oz of gold on four zones. There are 70,550 tons of 0.18 opt gold near the Nancy Hanks mine; 72,000 tons of 0.226 opt gold on the Willie vein system; 99,700 oz of gold in the Tostman zone; and a couple of holes in a 5- to 10-ft-thick zone ranging from 0.268 to 0.444 opt gold on the Tiger vein. The company is planning to continue the drilling programs in 2010.

In the Gold Creek area, Don Beck and company tested placer gold gravels near Pioneer. There are indications that production is planned in the coming year.

North of Avon, Ash Grove Cement drilled a clay deposit for use in cement manufacturing in the Nevada creek drainage. The continuity was good but results are not yet available. The clay appears to be hydrothermally-altered volcanic ash that encapsulated auriferous gravel deposits.

East of Lincoln, Atna Resources, Ltd. assembled data on the Columbia (7-Up Pete) mine. This property was drilled by Phelps Dodge and Western Energy in the 1980s and 1990s. The gold and silver occur in veins that are up to 150 ft wide and dip to the west. The original feasibility analysis identified projected production costs of $375/oz gold at open-pit production rates of 75,000 oz per year over 7.5 years. The company is reevaluating the feasibility with some conformation drilling planned in the 2010 field season.

At Marysville, RX Exploration resumed exploration late in the summer on the historic Drumlummon mine. Historic production from this property is nearly 1 million oz of gold and greater amounts of silver. After securing a permit to discharge the mine water, they contracted CDM, Inc. to design and build a water treatment plant for dissolved arsenic. The plant was completed and installed, allowing the company to dewater the 600-level while rehabilitating the number 1 shaft. Current drilling has identified a resource of 155,560 tons containing 70,703 oz of gold and 1,915,560 oz of silver in the Charley vein. On the D-Block, 160,000 tons of rock grading 0.4 opt gold and 4.0 opt silver were identified by prior operators. Numerous preexisting stopes contain ore-grade resources as indicated on historic maps. The drilling has also intercepted previously unknown mineralized structures adjacent and beyond old workings. The company has started a decline to access resources in the D-Block–Charley vein area. This development work will allow them to gather bulk samples to complete metallurgical work. When the water is pumped below the 600-level, the company plans to initiate drilling to expand the known resource base for the mine.

South of Butte, Timberline Resources and Highland Mining, LLC, have joint-ventured the Butte Highlands project. A 16 ft x 16 ft decline is being driven 6,700 ft toward drill intercepts below the historic Butte Highlands mine, a gold–copper skarn. The project is initially designed to facilitate continued drilling of an identified gold resource of 500,000 oz. Approximately 10–15 drill stations will be developed for 120 drill holes. The company is planning on collecting a 10,000-ton bulk sample for metallurgical analysis. Work is scheduled into 2011.

Northwest of Twin Bridges, Taras Resources and Rick Childers have renovated the gravity mill at the Watseca mine. The company plans on reopening old workings in the Rochester area for potential mill feed.

Near Virginia City, John and Mike Magnus have started development on a gold placer in upper Alder Gulch. Due to permitting delays, the project got started just before the first freeze. Full production is scheduled for the 2010 field season.

St. Lawrence Company drove a decline to examine drill intercepts of gold structures in Norwegian Creek.

West of Dillon, Silica Resources, Inc. drilled a number of holes on the Elkhorn mine deposit near the ghost town of Coolidge.

South of Nye, Nevoro, Inc. was acquired by Starfield Resources, Inc. Both companies have interests in copper–nickel ore bodies. This acquisition provides Starfield Resources access to extensive resources of both copper–nickel and chromite deposits. Starfield Resources has not yet announced their intent on activities in the Stillwater Complex.

Coal (Fig.1)

Statewide coal production declined 11.8 percent to 39,642,708 tons for 2009. This reflects a general reduction in demand for industrial energy corresponding to the overall decline in the economy. Late in 2009, Rio Tinto spun off Rio Tinto Energy America to Cloud Peak Energy (CLD). The new company will operate two mines in Wyoming, Spring Creek Coal and a 50 percent ownership of Decker Coal Company. Rio Tinto retained a 48.3 percent ownership of the company.

Production at the individual mines showed significant change at a few sites. Decker Coal Company had a decrease of 34.4 percent in their combined production of the East and West Decker mines. Part of this was reported as a buyout of some long-term contracts. The West Decker mine was down 73 percent in production to 1,720,374 tons. Projections are that the West Decker mine will close in about 1.5 years because of declining quality and increasing overburden. The East Decker mine increased production 393 percent to 2,886,162 tons.

Near Savage, Westmoreland Savage Corporation decreased production by 5.4 percent to 337,061 tons at the Savage strip mine. This is Montana’s only lignite mine. The operation feeds the Lewis and Clark Station which is located in Sidney and owned by the Montana–Dakota Utilities Company.

At Colstrip, Western Energy Company reduced production by 21.2 percent to 10,105,036 tons at the Rosebud mine. This reduction is attributed to a cracked turbine that had to be dismantled and shipped out for repairs at the Penn Power & Light power generation facility. Repairs took nearly 8 months. The Colstrip Energy Limited Project (CELP) plant that dries out waste coal to enhance the quality noted an increase in production of 0.25 percent to 226,646 tons.

Near Hardin, Westmoreland Resources, Inc. produced 5,911,688 tons from their Absaloka mine. Production was down about 7.5 percent from 2008.

The Spring Creek mine located near Decker reduced production by 1.9 percent to 17,608,969 tons of coal.

Signal Peak Energy, LLC increased their 2009 production at the Bull Mountain mine by 364 percent to 866,772 tons with installation of a longwall mining system. They also completed a railroad branch line to the mine from Lockwood to facilitate unit train volumes of coal. The company is slowly increasing production to the anticipated level.

In 2009, Arch Coal, Inc. acquired the private leases for the Otter Creek coal field and added state leases in 2010. Initial production of these resources is anticipated to take 7 years.

Maple Resources Corporation has acquired leases on properties near the Bull Mountain mine. The company has permitted a 300,000-ton test pit located 8 miles south of Melstone. Their interest is in the McCleary and Carpenter coal seams that are initially surface minable. They have not received a mining permit but anticipate operations at their Snider Ranch deposit as well as the Maple Carpenter Creek deposit.

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