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During 2007, mining operations in Montana continued with steady growth. Two existing mines were permitting expansions and one completed a prefeasibility study for an expansion. A medium-sized underground mine progressed rapidly on its way to a permit. A cement plant was waiting for the state to release the final environmental impact study (EIS) on an alternative fuel permit. Small-scale mine owners scrambled to find qualified ore to take advantage of an opportunity to sell gold ore to the Golden Sunlight Mine.

Operations continue to be hampered by high fuel costs, limited equipment availability and large-diameter tire shortages that have plagued the entire industry in recent years. Shortages of skilled labor continue, especially for underground operations. However, the industry is experiencing high commodity prices and demand for products far and above anytime in the recent past.

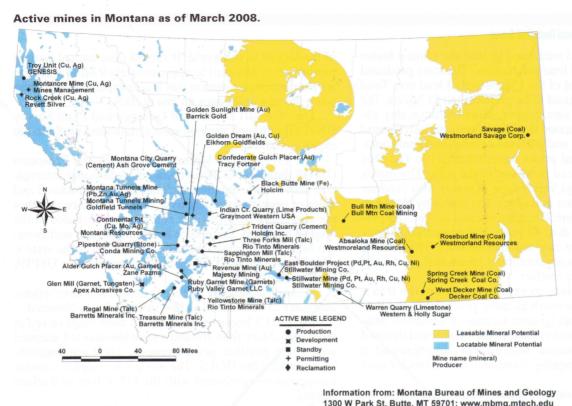
## **Operations**

Genesis's Troy Mine, a wholly owned subsidiary of Revett Silver, achieved targeted production of approximately 3.6 kt/d (4,000 stpd) of copper and silver ore. The underground room-and-pillar mine located south of the

town of Troy in northwestern Montana appears to have achieved a stable workforce and increasing production levels. The company has continued to expand its reserves with an ongoing resource-definition program that includes both surface and underground drilling.

Near Noxon, R.C. Resources (Revett Silver) has persevered for more than a decade in its permitting effort of the Rock Creek copper-silver project. An extensive mitigation program intended to benefit the grizzly bear population includes paying for two fulltime positions for Montana Fish, Wildlife and Parks and land acquisition of key grizzly bear habitat that will be deeded to the U.S. Forest Service (USFS). Pending implementation of the mitigation plan and posting of the reclamation bond, the USFS and Montana Department of Environmental Quality (DEQ) have given approval to drive an evaluation adit into the orebody in 2008. The evaluation adit phase of the project will be followed by completion of a feasibility study and full mine development, assuming the study produces positive results. The evaluation adit is expected to take 18 to 24 months.

On the Libby side of the Cabinet Mountains, Mines Management completed the draft EIS on its Montanore



Mine (copper, silver) plan in late November 2007. The company also raised \$32 million to continue the reserve definition on the deposit that was started by Noranda Minerals in the 1990s. The company will drive 3,000 m (10,000 ft) of development to facilitate 13,700 m (45,000 ft) of diamond drilling. These data will enable completion of a bankable feasibility analysis prior to development. The company is anticipating a record of decision on the project at the end of 2008, while the government agencies are anticipating it in 2009 or 2010. The company plans on developing the underground for drilling this spring.

Near, Superior, John Hagaman produced coarse gold from the Calumet gold placer on Quartz creek. Having produced from the deposit margins for two years and reclaimed much of the existing disturbance, the coming year may see an expanded level of activities in the remaining deposit.

In Butte, Montana Resources had another profitable year of copper, silver and molybdenum production. The company is planning on purchasing two additional trucks and a shovel as well as continuing to upgrade much of its support equipment. Its labor force is steady at 4 percent turnover, mostly from retirements. The profit-sharing program at the mine appears to be popular given the number of new pickup trucks in Butte. Openpit reserves are approximately 488 Mt (538 million st) at 0.26 percent copper and 0.03 percent molybdenum in the current operation. There are 458 Mt (505 million st) at 0.48 percent copper in the adjacent deposit. Drilled underground resources are reported at 3.9 Mt (4.4 million st) at about 0.5 percent copper and 0.04 percent molybdenum. Stripping operations on the north side of the pit intended to eliminate a potential rock failure uncovered some previously unidentified ore.

Near Alder, Ruby Valley Garnet has completed mining the first phase of its Red Wash garnet deposit. The operations have moved onto the adjacent property as it progresses up the drainage towards the garnetiferous gneiss outcrop near the top of the ridge. The wash plant for the operation was reconfigured with a larger jig circuit and more effective finishing circuit, resulting in increased tonnage processed and better recovery rates. The primary market has been blast media (sand blasting) but garnet sand for water-jet cutting is also produced. The prices are up and the demand is steady to increasing.

Ruby Valley has started a sec-

ond operation that will reprocess the Alder Gulch gold dredge piles. This project will reclaim the historic mining damage from the 1880s while recovering garnets and gold. The company completed a test run in the fall and will initiate production during the 2008 season.

South of Melrose, Apex Abrasives has started construction of a process facility designed to separate the scheelite from the garnet sand tailings at the old General Electric millsite. This waste from the Len Tung tungsten (Browns Lake) deposit will be separated into two marketable products, garnet sand that is effective for water jet cutting media and sheelite concentrate. Production is expected to commence in the spring of 2008.

East of Dillon, Barretts Minerals completed a reserve definition-drilling program for the talc at the Regal Mine. The company has moved the county road and completed a redesign and expansion of its waste rock dump. Barretts Minerals has increased its workforce and procured a replacement shovel for one destroyed by fire. A second thickener has been added to the beneficiation plant.

At the Yellowstone Mine, south of Ennis, Rio Tinto Minerals upgraded support equipment with replacements for a grader, lubrication truck and loader. High costs for diesel and explosives are a concern, but the company reported no significant tire shortages and the workforce has been stable. At its Three Forks plant, greenhouse gas emissions were reduced by 26 percent in the fine-grind circuit and similar reductions are planned in the coming year in other sections of the plant.

At Montana City, Ash Grove West maintained cement production at capacity. The company has experienced significant increases in the cost of rail transportation, coke, coal and trucking of its products. Its labor force has reached stability following a recent turnover from retirements. Despite the significant community that has developed between its pit and the plant, operations have continued safely.

North of Boulder, Montana Tunnels Mining (Apollo Gold) completed its pitwall stability project for the Montana Tunnels Mine in January 2007, restarted the mill in March and completed the rebuild on the crusher in August 2007. Montana Tunnels employs 215 people and enjoys a steady workforce, producing lead, zinc, gold and silver. The company has applied for an expansion permit to access remaining openpit minable reserves. The Montana DEQ and contractors are so far behind schedule in their analysis that the mine is in danger of having to close for lack of permits and lack of permitted ore. The new permit will extend operations through 2015.

East of Boulder, Elkhorn Goldfields started permitting its Golden Dream underground gold-copper deposit located near the ghost town of Elkhorn. The application was completed in less than a year and permits and development are expected prior to the second quarter of 2009. Reserve defining drilling has been steady at 6,000 m/a (20,000 ft/year). Reserves are approaching 907 kt (1 million st) at 9.2 g/t (0.27 oz/st) gold equivalent. Mineralization is contained in a chalcopyrite-magnetite skarn in the Meagher limestone. The company has data that partially defines three other deposits. Additional targets remain to be drilled in the vicinity of the current operation.

Near Townsend, Graymont Western USA has submitted to the Montana DEQ a 50-year, life-of-mine permit application for the Indian Creek Quarry. This plan will allow the company to incorporate recently discovered high-purity limestone resources into its production schedule. The plant is producing burnt lime, hydrated lime and precipitated calcium carbonate at near plant capacity in

a strong market.

At Whitehall, Golden Sunlight Mining (Barrick Gold) continued mining its gold deposit at the Golden Sunlight Mine through underground access at 907 t (1,000 stpd) and by openpit. Although the stage 5B pit is nearing completion, the increase in commodity prices has established reserves for a stage 5C pit at 7.25 Mt (8 million st) at 1.8 g/t (0.055 oz/st) gold. The prefeasibility analysis was positive and, coupled with the final EIS and record of decision recommending against pit backfill, the company has applied for an expansion of operations to extend the mine life by three years. The company has also resumed exploration of the property for satellite orebodies. Results so far have been disappointing.

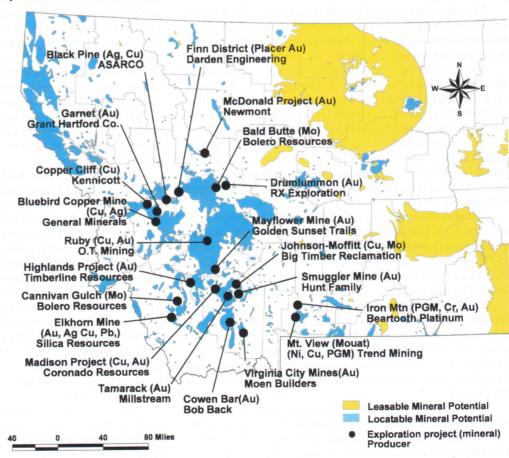
Near Three Forks, Holcim (U.S.) is still waiting on the DEQ for the final EIS and approval on alternative fuel substitution. Its project could consume all of the waste tires in Montana while replacing 20 percent of its coal requirements and a small percentage of its iron needs. The tires will also reduce NO<sub>X</sub> levels by changing the temperature zones in the kilns. The plant is producing cement at capacity and production is sold out. The softening of the residential building boom removed the need for cement rationing and the prices have declined somewhat.

Near Big Timber, Stillwater Mining's East Boulder Mine experienced a decrease in platinum group metal (pgm) production while transitioning from bulk mining methods to more selective methods.

At Nye, Stillwater Mining's Stillwater Mine experienced a significant decrease in production. The end-of-year report documents a one-week strike as one of the reasons but a shortage of experienced mine workers was perhaps more significant. Stillwater tried to compensate for the shortfall by reducing from four crews to three crews and going to a 43-hour week from a 37-hour week. In response, a significant number of senior-level miners and mechanics resigned. At the same time, the company reduced its dependence on contracting companies for development and production. The shortfall in mechanics created a backlog in maintenance and decreased availability of equipment that only served to make a bad situation worse.

Stillwater Mining was heavily hedged on platinum sales and was not able to enjoy the price surge of the past year. Palladium hedges were closer to market prices so the difference between the actual and the potential palladium sales revenue was not so severe. Hedging will

Exploration in Montana as of March 2008.



phase out in early 2008. Of the total metal production for the year, the recycling of catalytic converters represented 50 percent of the revenue.

The company has changed its hiring practices from a minimum age of 21 to 19 and is focusing on local recruiting and its miner training programs. Although it is not likely to solve immediate production problems, the current graduation rate of 100 miners per year provides a long-range solution to the labor problem if the new miners can be enticed to stay. Similar solutions need to be sought for current and future shortfalls in geologists, mining engineers, management and other technical services throughout the industry.

Both Stillwater mines tested biodiesel in production equipment at a 50-percent mixture to diminish diesel particulate matter. The test was a success. However, its needs will exceed the total current production in the region.

## **Exploration**

Mineral exploration in Montana has lagged behind the Canadian provinces and Nevada. Investment dollars have been slow to arrive in the state following campaigns by the preservationist community that culminated in a ban of cyanide used in conjunction with openpit gold mining. With that came a reputation that mining could not be permitted in Montana.

The truth is that, although permitting has been slow in some cases, it has been completed on many projects throughout the state. Discussions with industry and the agencies have indicated that most underground mines can be expected to be permitted in three to four years. Openpits are more of an unknown and most of the mining community agrees that it will take five to 10 years to permit a large, new openpit mine.

Montana experienced a modest increase in exploration activities during the field season but became an exploration target for many new companies by the fall. Activities are expected to ramp up during the next two years.

Southeast of Missoula, Kennecott Exploration drilled three to five holes in pursuit of a deep copper-porphyry target in and around the Copper Cliff area. The drilling confirmed a geophysical target. Downhole geophysics and further drilling are scheduled in the 2008 field season.

The Grant Hartford Co. has permitted a drilling program on gold skarns near Garnet. Pegasus Gold established ore reserves on a number of deposits in this area in the 1990s. The company will focus on higher grade targets within those deposits.

General Minerals has permitted a drilling program in the vicinity of the Bluebird Copper Mine located south of Philipsburg (Middle Fork drainage of Rock Creek). North of Philipsburg, Asarco permitted four holes at the Black Pine Mine (silver, copper) and completed three of the four holes. The holes were about 300 m (1,000 ft) deep.

North of Butte, OT Mining completed final permitting for diamond drilling a nearly 300-m- (1,000-ft-) deep copper porphyry prospect defined by geophysics and geochemistry. The host rock is a Cretaceous pluton that was exposed at the surface prior to burial by Eocene Lowland Creek volcanics. The company is looking for a partner in the project.

South of Butte, Timberline Resources drilled four holes in the Highland Mountains to expand the 18.6 t (600,000 oz) resource identified by Orvana Resources in the 1990s. The target is skarn-hosted gold in the Wolsey Shale.

West of Melrose, Bolero Resources drilled two helicopter-supported holes on the Cannivan Gulch molybdenum deposit. The deposit was discovered and defined by Cypress but was never permitted because of declining prices. The company has proposed reopening reclaimed roads for an in fill drilling program. The proposal has not encountered much opposition.

West of Dillon, Silica Resources has permitted a drilling project at and around the Elkhorn Mine (Coolidge). Early mining operations ceased prematurely when a dam failed in Pattengail creek in the 1920s and destroyed the narrow gauge railroad. The deposit consists of polymetallic sulfide veins that produced recoverable copper, lead, zinc and silver. Gold placers occur on the west side of the ridge near Crystal Park.

Downstream from Bannock, Bob Back is testing a placer deposit on lower Grasshopper Creek. The Cowen Bar has a placer gold history but limited exploration and development.

Near Virginia City, Moen Builders sampled mine dumps in the Browns Gulch and Alder Gulch drainages to identify gold resources that could be shipped to the Golden Sunlight Mine. One of the adits on the Little Lode claim was reopened. The U.S. Grant mill was sold and the mine is being rehabilitated for a diamond drilling project. Moen Builders also contracted some of the renovation work at the Dillon vermiculite mill east of Dillon.

East of Lincoln, Newmont Mining reclaimed 13,700 m (45,000 ft) of drill roads and pads on the McDonald Meadows deposit. Although Newmont has acquired the deposit data, this state trust land is not currently under lease.

Near Nevada Lake, Darden Engineering tested Finn District gold placer gravels on the Stuckey Ranch. Holes were dug in the American, Cattle Gulch and Jefferson creek drainages. The work identified the paleo-stream channels of American, Washington and Madison creek drainages. However, a minable resource has not yet been delineated. Work will continue in 2008.

Near Marysville, RX Exploration contracted rehabilitation work on the main level for the Drumlummon gold mine. Blue Range Engineering completed nearly 550 m (1,800 ft) of the 400 level in preparation for a \$1.5-million underground drilling program to delineate remaining reserves. Surface drilling has confirmed the reserves shown on the mine maps.

West of Marysville, Bolero Resources continued to drill at the Bald Butte molybdenum deposit. The company contracted Ruan Drilling to drill 16, 274- to 396-m (900- to 1,300-ft) diamond drill holes for ore definition. The results are expected to confirm Gulf Minerals' previous work and provide some in fill data.

Southeast of Whitehall, the Mayflower Mine has been sold to Golden Sunset Trails. The company is planning a geophysics program that will be followed by a drilling program off of the 183-m (600-ft) level in search of a parallel structure. Previous drilling by Brimstone Mining identified reserves of 19 kt (21,000 st) grading 85.7 g/t (2.5 oz/st) gold and 582 g/t (17 oz/st) silver. The property appears to have potential on the existing structure of 3.1 t (100,000 oz) of gold and has a complete mining infrastructure in place.

Near Silver Star, Coronado Resources has contracted Blue Range Engineering to develop resources on its Madison project (Broadway-Victoria Mine). Coronado has completed 224 m (736 ft) of decline and 84 m (276 ft)

of crosscuts and development. The company purchased a crusher, mined 608 t (670 st) of 13 g/t (0.38 oz/st) gold and 1.3 kt (1,450 st) of 9.5 percent copper. The copper ore was a mixture of chalcocite and native copper. The gold ore was sold to the Golden Sunlight Mine while the copper ore awaits shipment to an undisclosed site. The company is planning an underground drilling program for ore delineation.

Southeast of Silver Star, Big Timber Reclamation completed a trenching program on the intrusive at the Moffitt-Johnson copper mine. The company has identified molybdenum in the drill core of its copper-pyrite skarn deposit.

East of Sheridan, Millstream Mines continued working on the Tamarack Mine and mill. The company has mined 1.36 kt (1,500 st) of 12.89 g/t (0.4 oz/st) gold that was intercepted during a drive towards drill-indicated resources. Work has been focused on completing the rebuilding the 91-t/d (100-stpd) mill.

Also east of Sheridan, the Hunt family drilled a few holes on the Smuggler Mine. This mine produced gold ore on a small scale from near surface workings before World War II. All mine workings are currently inaccessible.

In the Nye area, Bear Tooth Platinum drilled on a 15-km- (9.3-miles-) long pgm-nickel-copper soil anomaly coinciding with the "B" chromite layer. The company has budgeted for 34 holes totaling 6,000 m (20,000 ft).

Trend Mining planned to reopen the Mouat (Mt. View) Mine for an underground drilling program focused on the copper-nickel zone in the Stillwater Complex. The

mine is located southwest of the Stillwater Mine. It was not possible to confirm any company activities in 2007 at that site.

## Coal

Montana coal production in 2007 was up by 4.1 percent to 39.5 Mt (43.5 million st). Lignite production nearly doubled, but Powder River Basin coal production showed only modest increases. Underground coal production at Roundup was down sharply compared with prior years.

Near Decker, Decker Coal reduced production at the West Decker Mine by 1 percent to 6.35 Mt (7 million st). Spring Creek Coal increased production at the Spring Creek Mine by 8.3 percent to 14.5 Mt (16 million st). Westmoreland Resources increased production at the Absaloka Mine by 8.3 percent to 6.35 Mt (7.3 million st).

Near Colstrip, Western Energy decreased production by 1.5 percent to 10.8 Mt (12.3 million st). Production at the waste coal plant was up 20.1 percent to 222 kt (245,000 st).

Near Sidney, Westmoreland Savage increased production of lignite at the Savage Strip mine by 77.3 percent to 608 Mt (671,100 st).

Near Roundup, Bull Mountain Coal Mining production at the Bull Mountain Mine decreased by 49 percent to 125 kt (137,300 st). The drastic reduction of mining in mid-year was in response to reported financial shortfalls. Resumption of mining to previous levels appears to depend on the resolution of legal issues.