

Montana Mining and Exploration—2008

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2008 was a year of extremes. It started with high commodity prices, high operating costs, limited supplies and personnel, yet endless opportunities. Venture capital was seemingly unlimited.

By the end of the second quarter, the money supply began to retract. Commodity prices remained strong but the costs of petroleum-derived products escalated in response to record oil prices. Diesel costs of over \$4.00/gallon and costs of over \$90,000/tire on large trucks depressed the profit margins of many operations.

In the fall oil prices began to decline, but commodity prices collapsed. The belt tightening started; small companies disappeared while larger companies trimmed staff and budgets to make ends meet.

Following a court-derived decision that the Mine Safety and Health Administration was at fault in the Crandall Canyon coal disaster, the agency's new interpretation of their own regulations has established standards that the mining industry has interpreted to be beyond practical limits. Negotiations of citations and fines have been greatly reduced. Enforcement has been described as inappropriately overzealous by some operators. Although the large companies appear to be coping with change, small-scale operations are facing closure for lack of sufficient capital and staff to meet the new agency demands.

Operations

Northwest Region

In the northwest corner of Montana, near Troy, Genesis' Troy mine (Revett Silver, Cu, Ag) achieved stability with 12 months of no lost-time accidents and a steady workforce. Production achieved 4,000 tons per day and reserves are at 6 years and growing. When copper prices declined from +\$4.00/lb to \$1.50/lb, the company reduced wages by 10% and salaries by 20% while hoping costs of fuel and steel would come into line, as they have.

Near Noxon, RC Resources' Rock Creek mine (Revett Silver, Cu, Ag), made significant progress with construction of adit support facilities near the proposed upper portal. However, the Record of Decision and biologic opinion have been appealed

by the environmental groups and are back in court. The operation is also waiting on a Montana Pollution Discharge Elimination System (MPDES) permit. The company has acquired mitigation lands in the West Fisher and Bull Lake areas for grizzly bear impact mitigation. They have completed the water-treatment plant design and are waiting for legal decisions.

Near the Rock Creek mine on the Libby side, Mines Management has continued to work on reopening the Montanore mine (Cu, Ag) and acquiring an operating permit. The decline has been pumped and rehabilitated to 5,000 ft by Small Mines Development (SMD). The draft environmental impact statement is out and comments are being gathered. The company is attempting to match permitting with rehabilitation so that the mine will be ready to continue development when the permit is acquired.

Near Superior, Hageman Construction completed mining for placer gold on the Calumet claim in Quartz creek and has now moved to lower Quartz creek. They are finding good values in gravels adjacent to previously mined ground.

North of Avon, Darden Engineering mined Clark Smith's gold placer in Ophir creek. The skarn-sourced deposit yielded "granola-type" coarse gold, including a few thumb-sized nuggets. The deposit has lessened in grade with a change of bedrock type but plans are in place to continue mining during the coming season.

Southwest Region

In Montana City, Ashgrove Cement maintained production through the year. The market softened as with most operations, but not as severely as in the Midwest.

Near Boulder, Apollo Gold's Montana Tunnels mine (Pb, Zn, Au, Ag) operated steadily while waiting for a permit to expand to the "M" pit. Though the permit was expected in 23 months, the final was produced in more than 50 months. In that period of time commodity prices collapsed and venture capital disappeared. It will be difficult for Apollo to develop the "M" pit under current financial conditions. The property will go under "care and maintenance" when the last of the ore from the current pit is pro-

cessed in the spring of 2009.

In Elkhorn, the Golden Dream mine (Elkhorn Goldfields, Cu, Au) was fully permitted in less than 2 years but failed to secure enough money to begin development. Operations have been suspended.

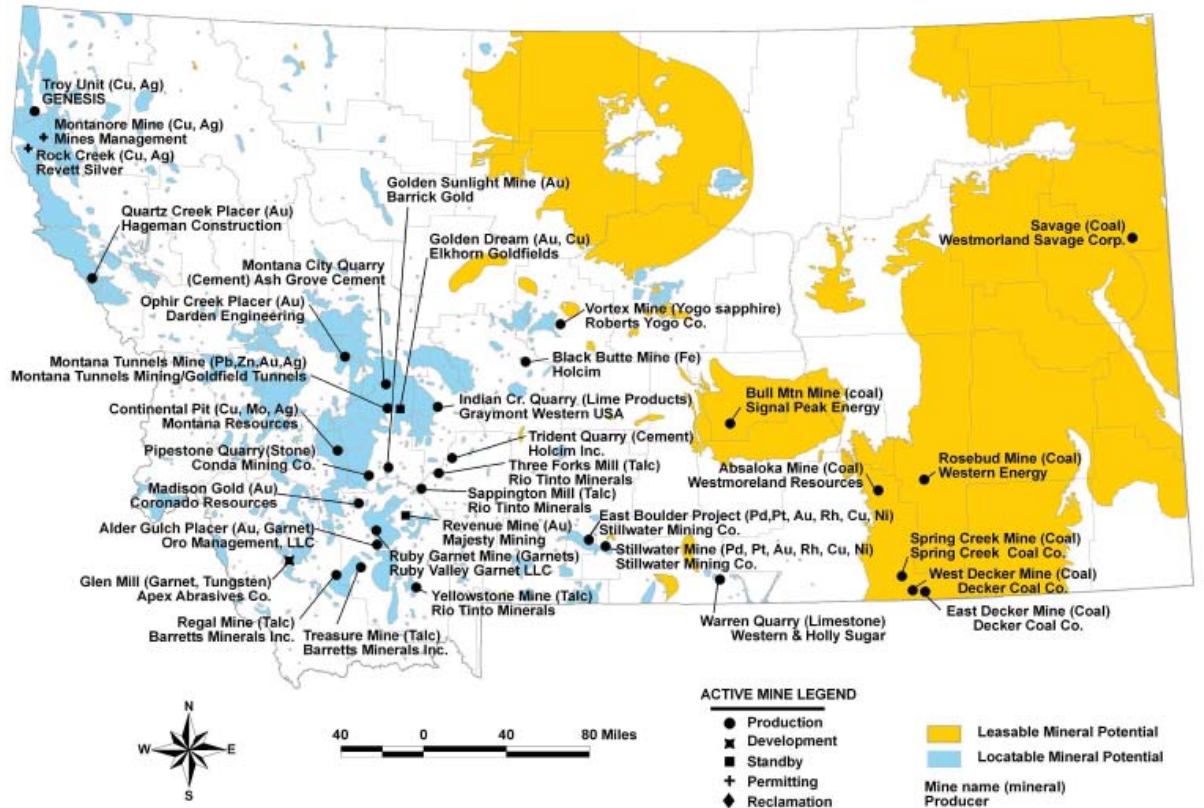
In Butte, Montana Resources, LLP (Cu, Mo, Ag) maintained steady production of copper and molybdenum through the year. They purchased six used 793 Cat haul trucks (240-ton) and a 495 HD-Bucyres shovel (40 yd³ rock bucket) to augment production. Tire availability has increased while cost has significantly decreased. Company profits were reduced under the high cost of oil through the first three quarters of the year. The operation has enjoyed a stable workforce since 2003 and is still profitable at current reduced commodity prices.

Near Whitehall, the Golden Sunlight mine (Barrick Gold) completed the stage "5B" pit while producing out of their underground mine. Production was normal at 119,500 oz of gold. The underground operations will cease in early 2009 as will the mill until 2012. The next three years will be spent stripping 70 million tons of waste to prepare the stage "5C" pit for production. Company geologists believe this last push-back will remove all of the remaining gold resources from the deposit. The operation processed dumps from inactive mines in the area as well as old dumps adjacent to the mine. Gold prices have risen by a third from \$650 per ounce to \$950 per ounce as most other commodities and the general economy have declined.

At Silverstar, Coronado Resources shipped direct ship copper ore to the smelter through the first half of the year from their Madison Gold project. The smelter placed a limit of 20% copper on the company, so 12% native copper ore was blended with 55% copper ore (chalcocite) to create a suitable smelter feed. When copper prices fell the company closed for a while and then started shipping gold ore to the Golden Sunlight mill.

In Virginia City, Moen Builders tested ore in their mill for a New Mexico company. They have been busy all year building and assembling equipment for international mining companies.

North of Townsend, Graymont Western, USA maintained production of burnt lime from the Mission Canyon Formation. The market has softened somewhat, resulting in lower production. Labor has been steady and the company has made no chang-



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es in any equipment. Coal and diesel costs were high during the peak months as were trucking expenses.

Northeast of Three Forks, Holcim continued production of Portland cement at their Trident plant. They report a softening of the market but have not had any layoffs in their staff or labor force. However, they have not filled some open positions. The

corporate office has not been as lucky and has had to close two plants and mothball two other plants in other states. The Trident plant was fortunate to receive some equipment from the plants that closed.

South of Melrose, Apex Abrasives worked steadily in the construction of their new process facility at the old General Electric tungsten mill site. They will reprocess the mill tailings and produce a tungsten concentrate and water-jet cutting media while leaving approximately 15% of the original waste. The company experienced difficulty in hiring and retaining skilled construction labor. By the end of the year, they had assembled the equipment and erected a building around it. They expect to produce tungsten concentrates and garnet water-jet cutting media by spring 2009.

Near Alder, Ruby Valley Garnet, LLC (RVG) embarked upon an extensive redesign of its processing facility. Their goal is to increase production levels to 40,000 tons of processed garnet per year within their existing footprint. The garnets are used for filter-bed, blast, and water-jet cutting media. The garnet market remains strong and RVG has entered into an exclusive distribution agreement with GMA Garnet of Australia, the largest producer and supplier of garnet in the world. In addition to increasing their processing capability at the Alder plant in 2009, RVG is joint-venturing with Oro Management, LLC to recover garnet from the gold dredge tailings in Alder Gulch and hopes to see additional garnet production by mid-summer of 2009.

South and east of Dillon, Barretts Minerals Inc. (Specialty Minerals Inc.) continued to produce talc from their Regal and Treasure mines. The company is working on a new shop and communication facility at the Regal mine. They are currently shopping for a new excavator (250-350 horsepower) and an undercarriage replacement for their Hitachi-1800. They have experienced minor layoffs (~10%) and have not replaced some personnel that retired. Their markets have softened somewhat with the auto industry in decline because the ceramic substrates for the catalytic converters contain a lot of talc.

South of Ennis, Rio Tinto Minerals maintained talc production at their Yellowstone mine. They replaced some maintenance equipment and purchased a snowplow. They are currently backfilling the old North Main pit and have maintained a near zero-change footprint. The company has constructed a

new water-filling station so that pit runoff water can be better utilized for dust control. Their market has softened like other industrial mineral mines. They did not have any layoffs but offered employees an incentive program for early retirement and severance that many accepted. They have added a fine-grind mill in the Three Forks plan but remain very stable on all fronts.

Central Region

The Vortex mine has been reopened by Roberts Yogo Company. The mine is located on the Yogo dike east of Utica. Production is coming from structures previously developed but not mined by the previous owners. The zones narrow but appear to contain substantial amounts of sapphires.

Yellowstone Region

Stillwater Mining Company (Pd, Pt, Rh, Cu, Ni, Co, Au) remains the largest metal mining operation in Montana but posted a loss of \$112.7 million for 2008. Commodity prices declined in mid-summer and demand fell by 60%. With the decline of commodity prices, there has also been a decrease in the availability of used automobile and truck catalytic converters for the company to reprocess in their smelter. In Columbus, the company will complete the second furnace, thus expanding process capacity at the smelter. Overall staff reduction of the corporation is currently at 21%. Most of the reduction occurred at the East Boulder mine.

At Nye, the Stillwater mine continues to develop the lower key haulage infrastructure of the off-shaft area of the mine. The company has refocused operations to ore grade and production costs from tonnage throughput. The result has been to reduce dilution until mine grade is nearly back to original values. Although changes at the Nye site have not been as radical as at the East Boulder mine, the company has incorporated many of the successful cost-cutting measures and will continue to do so.

South of Big Timber, the company suspended operations in the fourth quarter at the East Boulder mine. After laying off all 526 employees, they brought about one-third back. Although development was reduced from four crews to one in the short term, the major reductions were in support personnel and mid-level management. Production expectations have been reduced by tons and increased by ounces. Consequently, the first month

after the change resulted in a larger production of metal. They have mothballed 180 pieces of diesel equipment. Some is scheduled for rehabilitation and some for liquidation. On the surface it appears that the company has chosen a new direction for the better.

Exploration

Exploration started the year off with good funding, anticipation of new discoveries, and a very bright future. By spring, many of the companies were out of funding and completely dead by the fourth quarter. Companies operating on banked money survived while those on stock died.

Even with all the financial gloom and doom, 2008 has been the most active mineral exploration year in Montana for a decade.

Western Region

Near Libby, Great Northern Mining sampled gold placers along the west side of Libby creek.

East of Missoula, Kennecott Utah Copper drilled two deep diamond-drill

holes into a copper-porphphy deposit at Copper Cliff. At Garnet, Grant-Hartford Corporation drilled a number of holes in the vein system that fed the mines at Garnet. They also hoped to find a parallel vein in the same area. The company reported

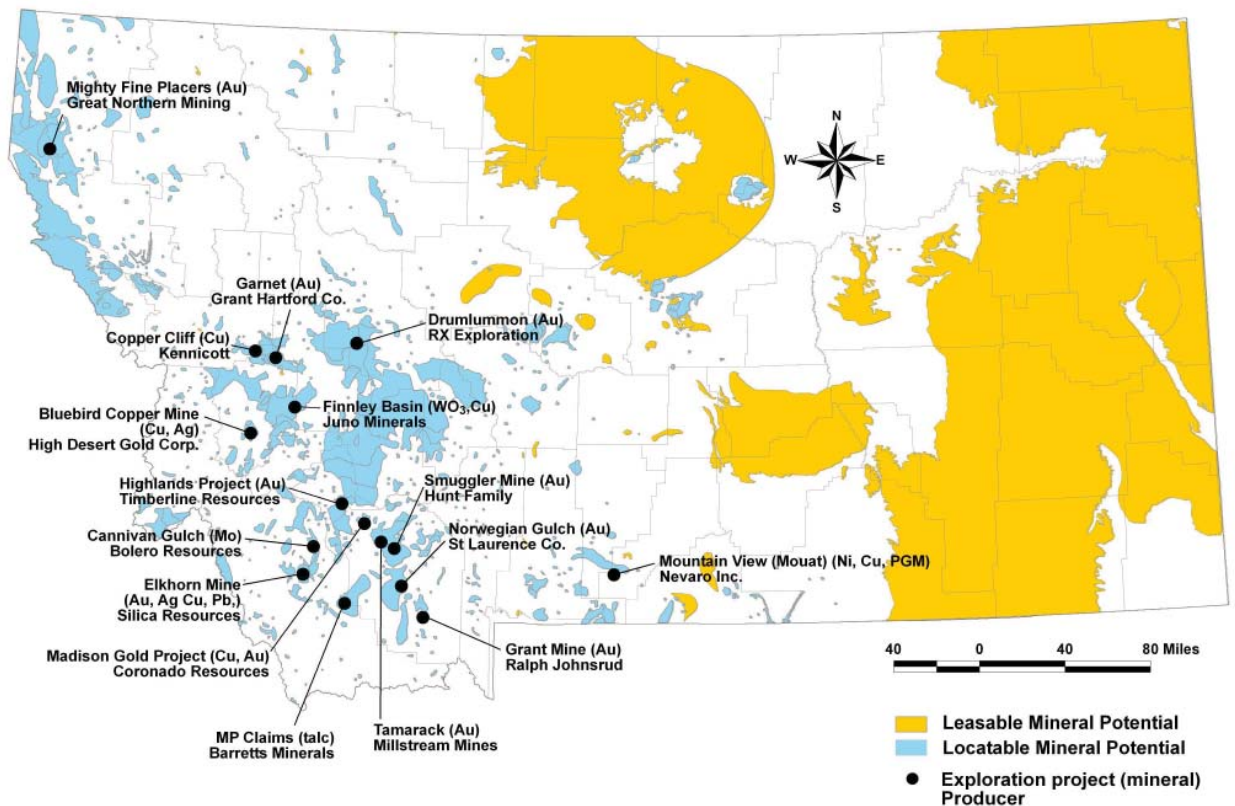
having success in the 2008 drilling program and plans a continuing drill program in 2009.

Southwest of Philipsburg, High Desert Gold Corporation drilled six diamond-drill holes in their search for an orebody.

Near Maxville, Juno Minerals completed an aerial magnetometer survey in the Finnley Basin area. A drilling program for tungsten and copper is planned for 2009. There are tentative plans to support it with mule transport.

Southwestern Region

At Marysville, Rx Exploration drilled the Drumlummon mine, which has produced nearly a million ounces of gold. The program has identified remaining reserves in the old workings plus undiscovered veins in the hanging wall. So far, the drill program off of the 400-ft haulage level has identified 155,518 tons containing 70,703 oz of gold and 1,915,560 oz of silver. A recently acquired MPDES permit will allow the company to dewater the 1,600 ft of dip-length workings so that the diamond drilling program can continue in the coming year. The company plans to drive a decline to access the recently discovered vein



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systems on the 800-ft level and possibly obtain a bulk sample for metallurgical testing.

South of Butte, Timberline Resources Corporation continued drilling their Butte Highlands project. Reserves of 583,253 tons grading 0.335 oz/ton (measured and indicated) and 1,259,263 tons grading 0.268 oz/ton (inferred) have been identified. Further drilling continues to expand the potential of the property. In the coming year, SMD and Timberline Resources, under a joint venture, will drive a decline to prepare for 1,000 ton-per-day production.

In the Twin Bridges area, John Sutton hauled mill tailings from the Rochester area to the Golden Sunlight mill. Similarly, Joe Bardswich and Hart Baitis hauled mine dumps to the Golden Sunlight mill from the Dry Georgia Gulch area.

Near Sheridan, Millstream Mines continued exploration and development of the Tamarack (Au) mine. Bulk samples were processed in their mill with success. Operations have been suspended until contracts for backup rescue have been secured for the underground. The company has temporarily re-focused their efforts on mill expansion of throughput and recovery.

West of Melrose, Bolero Resources drilled two diamond-drill holes on the Cannivan Gulch molybdenum deposit.

East of Dillon, Barretts Minerals drilled six holes on the eastern extension of the Regal mine talc deposit. They also drilled four or five holes on the MP claims.

West of Dillon near the old ghost town of Coolidge, Silica Resources drilled two holes at the Elkhorn porphyry deposit.

At Virginia City, the Grant mine and mill were re-permitted. The underground was rehabilitated and some mineralized zones were rumored to have been found. Work was suspended in early 2009.

Northwest of Norris, the St. Lawrence Company drilled more than 20 shallow (<200 ft) holes in the Norwegian creek area. They were trying to identify gold resources that created the Norwegian creek placer. The results were rumored to have been disappointing as was the core recovery.

Yellowstone Region

Near Nye, Nevoro Inc. has acquired the Stillwater chromite deposit as well as the copper-nickel deposit. Future operations will be focused in the Mountain View mine area, possibly from existing underground access points.

Coal

Coal production continues to be steady with transportation limitations and a nearly fixed market. The total production is up 3.3% to 44,927,614 tons. This year there is one major change that is coming in the Bull Mountain Coal mine, with construction in 2008 and 2009 and production likely in 2010. In July, Boich Companies and First Energy (Ohio companies) acquired 80 percent of the Bull Mountain mine and the right of way for a rail line. The operating company for the partnership is Signal Peak Energy. Both companies have the option to purchase the remaining 20 percent after 18 months.

The company will put in an underground long-wall extraction system and plans to mine 13–14 million tons per year. Only Spring Creek Coal and Western Energy produce in that range. This has the potential to increase coal production by 35 percent in Montana.

Signal Peak initiated development of the 35-mile rail spur in August. The coal will be shipped to Ohio and the company will employ 191 people at peak production.

Existing operations continued production through 2008. Near Decker, Decker Coal Company produced 581,306 tons in April from the East Decker pit. This operation has been closed for a number of years because of excess sodium in the deposit. At the West Decker deposit, production was down 8 percent to 6,411,896 tons.

Spring Creek coal production was up again by 13.8 percent to 17,947,506 tons. Part of the market gain has been in shipping to power generation facilities in Washington state.

At the Absaloka mine, Westmoreland Resources reduced production by 13 percent to 6,391,000 tons.

Near Colstrip, Western Energy Company increased production in their Rosebud mine by 4.0 percent to 12,826,742 tons. Production from the waste coal plant (CELP) decreased by 7.2 percent to 226,070 tons.

Near Roundup, Signal Peak Energy increased production by 36 percent to 186,070 tons.

In the Sidney area, Westmoreland Savage Corporation produced lignite from the Savage Strip mine for their mine-mouth generation facility. Production declined by 46.9 percent to 356,344 tons.