

IDAHO MINING AND EXPLORATION, 2006
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With commodity prices still “red hot,” Idaho’s preliminary value for nonfuel mineral production in 2006 was estimated by the U.S. Geological Survey at \$810 million. This is slightly down from the final 2005 total of \$ 906 million for Idaho’s nonfuel mineral production value; the 2005 value is a new record for Idaho. Molybdenum from the Thompson Creek mine makes up over half the value due to the mine’s sizeable production and the metal’s sustained high price. Molybdenum oxide sold in the mid- \$ 20’s per pound range in 2006 and \$ 25-40 per pound range in 2005. Precious and base metals from northern Idaho were also significant contributors, as metals accounted for 63% of the state’s mineral value in 2006 (Figure 1). New Jersey Mining’s Golden Chest mine contributed a full year of gold production. The price of silver, Idaho’s signature metal, was sterling as it traded from \$8 to \$14 per ounce during the year. In addition, the preliminary 2006 statistics show significant jumps in both quantity and value of crushed stone, construction sand and gravel, and cement, reflecting the vibrant residential and commercial construction ongoing in many parts of Idaho during the year.

Principal minerals by value in 2006 were molybdenum concentrates, construction sand and gravel, phosphate rock, silver, and crushed stone. Idaho ranked second in industrial garnet and zeolite production, third in phosphate rock and silver and fourth in molybdenum and pumice production and 26th overall among the states, according to the U.S. Geological Survey. Mining employment peaked at 2,416 in the second quarter of 2006 and was down to 2,318 by the end of the year. Overall, this was about 10% higher than 2005, reflecting workers needed for new operations and development work. The phosphate processing plants also employ over 1,000 chemical workers in southeastern Idaho.

Metal mining

It was a busy year for miners and investors in the fabulous Coeur d’Alene District in Shoshone County in north Idaho. Over 1.193 billion ounces of silver have been produced from the extensive and high grade quartz-siderite-sulfide veins, which contain significant lead or copper in addition to silver. Two large underground mines, the Lucky Friday and the Galena, were in operation and a third, the Sunshine, had underground development underway. In addition, a new gold mine, the Golden Chest mine, operated at Murray, just north of the main district. Miners were reported to be in short supply, and exploration was lively.

Hecla’s Lucky Friday Unit was a shining light with a 19% increase in silver production to over 2.87 million troy ounces of silver at a total cash cost of \$3.65 per ounce from the Gold Hunter expansion area. Multiple veins were mined from both the 4900 and the new 5900 access levels (Figure 2). By-product metal values contributed to lowering the cash costs. Just as critically, the silver resource increased by 34% (to 117 million ounces) due to development and exploration drilling. The 5900 level access drift was completed as well as mill improvements such as a third-stage crushing circuit and additional flotation capacity. Hecla also acquired land for a new tailings facility in

anticipation of the lengthened mine life. Exploration drilling from the 5900 level intersected mineralized veins down near the 7900 level and generated better understanding of the multi-vein Gold Hunter system. Mining uses both mechanized and conventional slusher stopes to keep costs down and take advantage of the narrower, high grade tetrahedrite-rich veins. The mine had over 170 employees in the summer.

On June 1, 2006, U.S. Silver Corporation acquired Coeur Silver Valley, including the operating Galena mine and mill, and the Coeur and Caladay mines. Production for 2006 from the Galena was over 1.3 million troy ounces of silver with by-product copper. U.S. Silver increased exploration and development at the Galena, implemented a new and more focused and efficient mining plan, and started needed infrastructure maintenance. The company has over 150 employees and has been training miners. Exploration, including 59,630 feet of diamond drilling by U.S. Silver, discovered a new high grade zone on the 2400 level with separate zones of silver/copper and silver/lead veins. High grade intercepts (over 40 ounce/ton silver and a lead zone) on the 3400 level are also being evaluated. The company was making needed repairs to utilize the nearby Coeur mill in 2007, allowing for two separate metallurgical circuits to treat the different ores on the property. Production in 2007 is expected to increase substantially.

Sterling Mining Company was pursuing an aggressive development program at the Sunshine mine near Kellogg. The first blast for the new Sterling Tunnel was on January 31, 2006, and by year end the 12-foot wide tunnel was in over half of the 5700 feet needed to connect with the Polaris Drift-Silver Summit Tunnel. The underground access will be used to drill "Upper Country" target areas of the Sunshine and Yankee Boy veins and up-dip projections of the Silver Syndicate and other veins, including areas identified from surface geophysics as well as compilation of the old maps. Drill stations were cut as the tunnel advanced. Sterling is refurbishing the Sunshine mill and Jewell shaft and stations, including the power and pumping capacity at the Jewell and Silver Summit escapeway. Employment was up to 30 persons by year's end. In October, Sterling purchased (for \$4.5 million in cash and land) the Sunshine tailings facility from EMC, a subsidiary of Formation Capital Corporation, who had acquired it along with the Big Creek refinery and hydrometallurgical plant for their cobalt project in Lemhi County. Essential Metals Corporation (EMC) continued to operate the Big Creek plant as a custom precious metal refinery.

New Jersey Mining, based in Kellogg, operated the Golden Chest mine at Murray. It was the first full year of production for the small (450 tonnes per month), underground gold mine. High grade ore was mined from the Katie-Dora vein, and the company drilled nine diamond holes on the nearby, deeper Idaho vein. New Jersey has about 300,000 probable ounces of gold blocked out. Ore is hauled to the New Jersey mill at Kellogg on a truck-loadable garbage dumpster.

New Jersey also began construction at the newly permitted (late 2005) Silver Strand mine. Work included driving a new adit, road work, and construction of office and dry buildings and water management facilities. Ore reserves (proven, probable and possible) stand at 17,500 tonnes with 5.87 grams/tonne gold and 337 grams/tonne silver. Ore will be shipped to the mill at Kellogg, where the company was constructing a concentrate leach tank circuit to enable onsite dore production. Cyanide neutralization and paste tailings disposal or backfill will be used to minimize water use and

environmental impacts. Startup of the mill was expected in early 2007, along with production and development work at the Silver Strand.

Thompson Creek Mining had an excellent year at its large, open pit molybdenum mine near Challis in Custer County. Production is in the range of 11 million pounds a year of molybdenum, and the pit mining and stripping was in Phases 5 and 6. The privately held Thompson Creek Mining Company was purchased in October by Blue Pearl Mining Ltd., a Canadian “junior.” Purchase price for Thompson Creek was \$ 575 million plus additional payments of up to \$ 125 million contingent on molybdenum prices, and monies due vendors as of closing date. The sale included all of the company assets, including the mine and mill in Custer County, the 75% interest in the Endako mine and plant in British Columbia, and the metallurgical refinery in Langeloth, Pennsylvania. Molybdenum is a key component in high-end steel alloys and pipelines, valued for its corrosion-resistant properties. Blue Pearl, which paid for the acquisition through a combination of equity offerings and debt facilities, has an interest in the Davidson deposit, an underground molybdenum deposit in British Columbia.

There are still a few small gold mines around the state. One is the Bond mine at Pierce, Idaho. Known originally as the Crescent, it was the first recorded lode mine in the state. Gold Pan Dan currently extracts gold from the #3 tunnel.

Meridian Gold Company’s Beartrack mine in Lemhi County won the Bureau of Land Management’s National 2006 Hard Rock Mine Reclamation award. The gold mine west of Salmon, Idaho, opened in 1994 and completed mining in March of 2000. Production was approximately 700,000 ounces of gold from the open pit, heap leach operation. Throughout its lifespan, the mine received strong support from the local community and maintained the highest standards for environmental performance. Pre-mine planning predictions for the 648-acre site, estimated in the original permits, were close to the final project impacts. Ray Henderson of the Salmon-Challis National Forest made the nomination. The mine offices are still on site, but most reclamation work is complete.

Phosphate industry

Caribou County in southeastern Idaho hosts three open pit phosphate mines that annually extract over 4 million tons of ore from the Permian Phosphoria Formation. The resource is in apatite-rich beds of the organic-rich shale of the Meade Peak Member. The phosphate rock is processed into either phosphoric acid fertilizers or elemental phosphorus. The industry is the economic mainstay of southeastern Idaho. All the companies were cooperating with agencies to study and remediate selenium releases from historic mine waste dumps.

Monsanto mined Phase 2 of the South Rasmussen Ridge mine and did concurrent reclamation and backfilling (Figure 3). The mine bought a new Hitachi shovel. Increased fuel costs have heavily impacted the operation, as the ore travels in company-owned triple trailers on the private haul road to the company’s elemental plant at Soda Springs. All the plant’s output is used to manufacture Round-up herbicide. Mine and plant employ 450 Monsanto employees plus another 250 contractors. Monsanto also drilled and continued permitting work for their proposed Blackfoot Bridge mine which has complicated geology and groundwater issues.

J.R. Simplot operates the Smoky Canyon mine near the Wyoming border. It is the largest operation and produced over 2 million tons of ore in 2005. Mining was underway in the B and C pits, with the A, D, and E portions being reclaimed. Ore is sent through an 87-mile long slurry pipeline to the Don Plant in Pocatello, where it is transformed into a variety of fertilizer products. The plant had record production in 2005 and 2006 was nearly as good. The Draft Environmental Impact Statement to expand into the F and G panels, also known as the Manning and Deer Creek leases, was released at the very end of 2005 and comments were due in 2006. The additional reserves in F and G are critical to the mine, but the area lies within the Sage Creek Roadless Area and the best access is across private lands. The company caused quite a controversy in the summer when they said they would consider using eminent domain under an obscure state law to put an access road across a ranch. The company had offered \$ 2.1 million to buy the 467-acre ranch, but the offer was turned down. As with other phosphate areas, a major issue in the DEIS was management of water and selenium. Both current and proposed mine plans require backfilling and capping of seleniferous overburden to prevent environmental releases.

Agrium operated the Dry Valley mine, a former FMC property, after purchasing Astaris' assets there in 2005 and mothballing their Rasmussen Ridge mine. Agrium acquired the C and D pit and was mining from the C pit primarily. Washington Group is the contract miner and employs about 100 people. Production is approximately 2 million tons per year. Ore is sent by rail during the shipping season to Agrium's phosphoric acid fertilizer plant at Conda, which employs another 260 persons. The company was also doing delineation drilling on the D pit resource and constructing two large dewatering pits with synthetic liners.

Other industrial minerals

Idaho has a great variety of small industrial mineral operations, mostly located in southern Idaho. The Gem State produces jasper, opal, and of course, star garnets. An Environmental Impact Statement for the Idaho Panhandle Forest's recreational garnet dig collected nearly as many public comments and controversies as a large mine would. The popular site revamped procedures to let visitors use sluice boxes on pre-mined gravel piles instead of doing their own digging. The garnet deposits are alluvial in nature and are found in riparian areas near St. Maries.

Idaho is second nationally in industrial garnet production. Emerald Creek Garnet, a subsidiary of WGI Heavy Minerals, Inc., mined and processed industrial grade garnets from the Emerald and Carpenter Creek basins and newly permitted reserves near the St. Maries River in Benewah County. Market prices were improved but sales volume was down slightly. The company was in a rebuilding phase, both domestically and overseas in India.

Sand and gravel and crushed stone production were up, and other construction commodities had good years. Ash Grove Cement operated above plant capacity again at its facility in Inkom in southeastern Idaho. They shipped over 300,000 tons of cement and were importing clinker from another plant.

Dimension stone production included the Oakley stone quarries on Middle Mountain south of Oakley in Cassia County. Northern Stone Supply has the largest operation; Oakley Valley Stone, American Stone, and Scrivanich Natural Stone also

quarry the attractive tan to silver-colored micaceous quartzite. At Boise, Table Rock Sandstone and Gerhard Borbonus Landscaping quarried silicified sandstone for use as high end landscaping and building stone. Idaho Travertine operated a stone cutting facility in Idaho Falls. L and W Stone continued to expand its Three Rivers stone quarry west of Challis. L and W worked on an Environmental Impact Statement required for the expansion. Approximately 30,000 tons of the multi-colored argillaceous sandstone is quarried each season.

Hess Pumice produced 180,000 tons of pumice in 2005 and at least that much in 2006 from their expanded Wrights Creek mine north of Malad. Much of the pumice goes to the new Owens Corning plant which manufactures cultured stone for housing construction. Hess Pumice has grown to over 110 employees, and the company has become the leading supplier of finely ground, processed pumice in the United States, Canada, Brazil, Germany, United Kingdom, Japan, and most of Southeast Asia. Ironically, a rival Italian pumice quarry has now been declared a World Heritage site and is shut down, thus providing Hess with an easier entry into European markets. Idaho Minerals, also owned by Hess, mined and expanded perlite, used principally in potting soil. U.S. Grout and a new company, BK Pumice, which makes cosmetics, are also owned by Hess and operate from Malad.

Bear River Zeolite, operated by U.S. Antimony Corporation, had 15 employees working round-the-clock at the zeolite mine and crushing and bagging plant near Preston in southeastern Idaho. Sales and prices were good and markets include water filtration and remediation, odor control, wastewater treatment and other uses for the high quality, high cation exchange capacity clinoptilolite. Last year's expansion brought plant capacity to 150,000 tons per year.

Energy

U.S. Geothermal commissioned Ormat Nevada, Inc., to construct Idaho's first geothermal power plant at the Raft River project in Cassia County. The first plant will be a 10MW binary facility, but additional phases are already being planned at the property south of Malta. A \$ 34 million financing was obtained in August. In the 1970's the Department of Energy constructed a 5-MW demonstration project at Raft River.

Idaho held two oil and gas lease auctions during the year for a total of 125 parcels of state land. The BLM also had a lease sale. Main target areas are in the Overthrust Belt of the southeastern Idaho and the far western end of the Snake River Plain.

Exploration

2006 saw an increase in exploration around all parts of Idaho. Rising metal prices, especially gold and silver, were a clear reason. Many projects drilled previous discoveries, but some grass roots exploration was noted as well.

In the industrial minerals sector, i-minerals, inc., continued work at its Helmer-Bovill feldspar-quartz-kaolin project in Latah County in northern Idaho. The company drilled 4 large diameter holes at their Kelly's Basin feldspar/quartz deposit, hosted in granodiorite. The program was designed to test the block model based on a 200-foot drill grid and developed by SRK Consulting as part of an ongoing feasibility study. They also obtained material for additional metallurgical testing by Minerals Research Laboratory in North Carolina.

New Jersey Mining Company had an aggressive exploration program in the greater Coeur d'Alene District. This included development work planned at the Coleman vein, claim staking at the newly discovered Gold Butte and CA prospects (an old Cominco Sullivan-type geophysical target) near Murray, and acquisition of the Niagara copper-silver deposit near Murray in December. Niagara was explored by Earth Resources in the 1970's and an updated resource calculation, based on surface sampling and eight diamond drillholes, suggests a resource of 14.2 million tonnes with 20 grams per tonne silver and 0.46% copper, hosted in the Revett Quartzite. Additional exploration and drilling is expected in 2007 on several of New Jersey's properties.

Also in north Idaho, Valencia Ventures, Inc., completed a preliminary assessment of the Buffalo Gulch deposit within the Idaho Gold project near Elk City. Previous exploration included 150 RC holes drilled by Bema Gold Corporation from 1985-1988 and 9 HQ diamond drill holes by Idaho Consolidated Metals Corporation in 1996. The open pit, oxide indicated resource is 4.5 Mt at 0.8 grams/tonne gold (115,750 ounces) at Buffalo Gulch. Golder Associates Ltd. completed a recent NI 43-101 assessment calculating a \$ 7.5 million Net Present Value for the project. Beartooth Platinum retains a 49% interest in the property, which also includes mineralized zones at three other gold prospects on the Orogrande Shear Zone: the Friday/Petsite, Deadwood, and Dixie zones with potential resources in excess of 700,000 ounces. Late in the year Valencia and Beartooth announced an agreement to sell 100% of their interest to Clearwater Mining Company, a private company. Purchase price includes a CDN \$ 1.5 million payment to the sellers, with the bulk of it due on receipt of mine permits.

Kimberly Gold Mines held the Rescue Mine at Warren and small mines in the Marshall Mountains. They had rehabilitated the Rescue mill in 2004. Sidney Resources also worked property in the Warren district.

Journey Resources Corporation and Trio Gold Corporation announced results from 2006 exploration at the Empire Mine Project near Mackay in the Alder Creek Mining District of Custer County, Idaho. Journey is currently earning a 50% lease interest in the project. The claims cover a polymetallic skarn which hosts copper, zinc, gold and silver mineralization. To date, 33 holes, including 5 core holes, have been drilled in the AP pit area. Some 2006 intercepts include 9 meters grading 0.26% copper and 5.7 grams/tonne gold in JRC27, and 76 meters of 0.44% copper in JRC26. Results will be used to complete a feasibility study on potential for a SX-EW copper-zinc operation. A 1997 report by Cambior Exploration USA, Inc., estimated the mineable portion of the deposit at 33 million tons grading 0.44% copper, 0.20% zinc, 0.25 grams/tonne gold, and 6.6 grams/tonne silver, at a 1:1 strip ratio. More work is planned in 2007.

Journey also drilled the Musgrove Creek Gold Project, located 25 miles southwest of Salmon, Idaho. The Musgrove area had several operating gold mines between 1908 and the mid 1930s. The deposit is an epithermal system hosted in Precambrian Apple Creek Formation; it is a short distance southwest of the Beartrack mine along the Trans-Challis Fault system. Journey is earning a 100% lease interest in the 86 unpatented claims. In May, Journey completed an updated Technical Report which examined existing geologic information and the 2004 NI 43-101 compliant mineral resource calculation (8 million tonnes at 1.22 grams/tonne Au for 9,761 kg gold). Based on the recommendations from the report, geologic mapping and sampling and approximately

10,000 feet of RC drilling were completed. To date, 41 holes, totaling 11,248 meters have been drilled. Significant intercepts from 2006 include numerous intervals of anomalous gold in the 0.02 to 0.04 ounce per ton range with assays up to 0.21 ounce per ton gold. Additional work is planned in 2007.

Salmon River Resources, a Vancouver junior, drilled the CAS property on Iron Creek. Sulfide mineralization, including cobalt and arsenopyrite with high gold was discovered on logging roads in the 1970's. The privately held property was drilled by Nevada Contact in 2002. Salmon River drilled 5 diamond drill holes, totaling 2100 feet, into the Apple Creek Formation (Figure 4).

Formation Capital Corporation, U.S., with offices in Salmon, Idaho, has been conducting mineral exploration in the Idaho Cobalt Belt since 1993 and discovered a new deposit in the Blackbird District several years ago. Formation is proposing to develop the Idaho Cobalt Project (ICP), which will consist of an underground cobalt-copper-gold mine, mill, and ancillary facilities on 145 unpatented claims. Formation is a wholly owned subsidiary of Formation Capital Corporation, headquartered in Vancouver, BC, Canada. A Draft Environmental Impact Statement was being prepared under the jurisdiction of the Salmon-Challis National Forest during 2006, and the long-awaited document was released to the public early in 2007. The ICP will consist of an 800-ton per day mine and mill complex to mine cobalt-copper-gold reserves at an annual production rate of 280,000 tons of ore at full production. There are sufficient reserves and resources for 10 to 12 years of operation. Estimated annual production is 2.6 million pounds of cobalt, 2 million pounds of copper, and 3,400 ounces of gold averaged over the mine life. Underground mining methods will be used to extract ore from two deposits, the Ram and the Sunshine. Ore will be conveyed to a nearby mill situated on a high plateau locally referred to as the Big Flat. Concentrate from the mill will be trucked to an offsite processing facility and sent to their hydrometallurgical facility in Kellogg, Idaho. Water quality concerns, due to past mining activities in the district, have been a major focus of the NEPA process. The Company and the Agencies have been working closely for several years to develop a mining operation plan which will have a minimal effect on the surrounding area. The operation will disturb less than 125 acres, will largely be an underground mining operation with all openings above the water table and will utilize no dangerous chemicals. Tailings will be dry stacked or backfilled underground and waste rock will be lined and covered. Advanced water treatment techniques will be employed to meet clean water standards and a post mining contingency plan including pump back wells and water treatment will be employed.

Freegold Ventures Limited had a 34,000-foot drilling program underway since July at the Idaho Almaden gold project in Washington County. The property, which Freegold holds a 100% lease interest in, is 13 miles east of Weiser and was once the state's largest mercury mine. The drilling, approximately half core and half RC, along with 4000-feet of large diameter metallurgical core, was designed to confirm the prior drilled resource, to upgrade the geologic database, and to test for extensions of known hot springs mineralization. The property has a 43-101 compliant indicated resource estimate of over 551,000 ounces (at a grade of 0.021 ounce/ton) with additional inferred resources. More work is planned for 2007.

Kilgore Minerals Ltd. commenced diamond drilling in July at its Kilgore property in eastern Idaho's Clark County. Prior work from 1983 to 1996 by several majors

outlined over 450,000 ounces of gold in an indicated and inferred resource. Kilgore drilled the late Tertiary epithermal system and a newly discovered soil anomaly (Dog Bone Ridge) in 2004, intersecting high (10 feet of 0.465 ounces per ton gold) and low grade gold mineralization in the Elsa Zone at some distance from the previous drilling. In 2006, Kilgore drilled ten holes for a total of 10,902 feet. Strongly anomalous alteration and lower grade gold mineralization was intersected over a wide area.

Hell and High Water Mining trenched and sampled a most interesting high placer deposit near the Edna Creek road north of Idaho City in the Boise Basin. The Boise Basin produced over 2.3 million ounces of gold historically. Old hand placer piles of massive white quartz represent an unknown source for the gold on the placer claims. Closer to Boise, Desert Minerals apparently decided not to pursue its small cyanide milling operation at Blacks Creek in Elmore County.

Atlanta Gold Corporation held a public open house after its revised Supplemental Plan of Operations was accepted by the Boise National Forest in mid-year. Work on the Draft Environmental Impact Statement was delayed due to corporate reorganizations. The company did raise \$ 4 million in financing for the project. Some residents in Boise are concerned about the proposed mine's potential impact on water quality of the Middle Fork of the Boise River.

Kobex Resources Ltd. was in the middle of drilling two holes at the Cumo molybdenum deposit in Boise County, when the company returned the property to Mosquito Consolidated Gold Mines Limited in order to pursue other interests. Discovered by AMAX Exploration in the 1963, Cumo was extensively explored in the 1970's. A 1982 AMAX block model calculated an indicated resource of 1.3 billion tons of 0.093% MoS₂ at a 0.05% cutoff with a higher grade core to the multiple intrusive system. Mineralization is fairly deep but includes some copper. The 2006 program included two holes for a total of 1085 meters (3560 feet), plus surface mapping. Mosquito reports that Hole 27 had 563 meters grading 0.085% MoS₂ with mineralization from 130-1849 feet in depth. Hole 28-06 intersected 515 meters (1640 feet) grading 0.096% MoS₂. Mosquito plans to continue with additional infill and extension drilling.

State Activities

Recipients of the 2005-2006 Idaho Department of Lands (IDL) Reclamation Awards included: U.S. Antimony Corporation, Eric Wilson (IDL), Meridian's Beartrack mine, Kinross DeLamar Mining, Pat Trainor (Payette National Forest), Bruce Schuld (IDEQ), Monsanto, Nu-West Industries, and Unimin Corporation.

The Idaho Geological Survey (IGS) continued an active geologic mapping program. New maps are released as Digital Web Maps (DWMs) in pdf format on the website: www.idahogeology.org. Maps released included the Deadwood, Murphy, and Orofino 100K quadrangle geologic maps, Long Valley surficial geology, geologic maps for Idaho Falls, Lewiston, and Bonner County areas, and the Oil and Gas Exploration Drilling map. The IGS also had a research project underway on the Lemhi Pass Thorium District. More information is available for these and other Survey activities on the IGS website or from staff.

Idaho Non-fuel Mineral Production

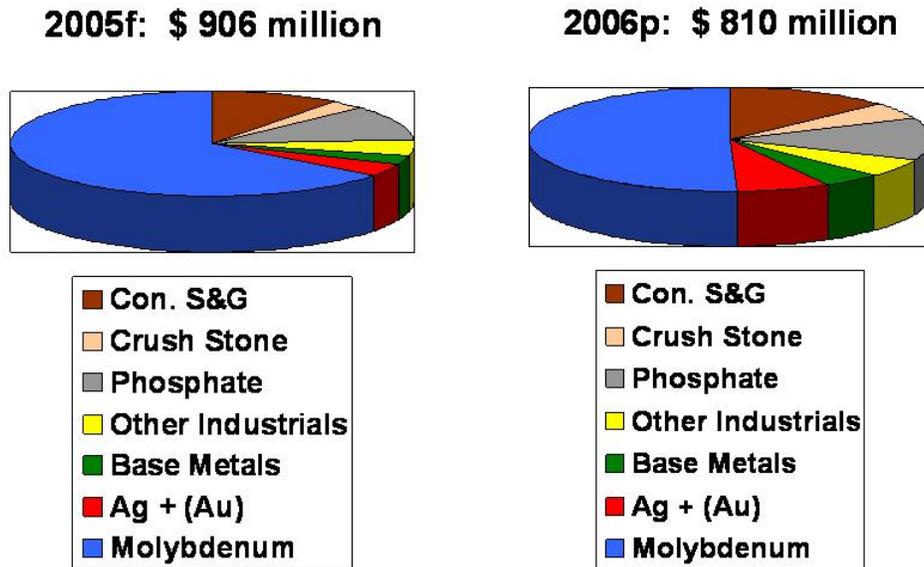


Figure 1. Final 2005 and preliminary 2006 non-fuel mineral production values in Idaho, based on U.S. Geological Survey data.



Figure 2. Hecla's Lucky Friday mine, Gold Hunter 40 vein, 5850 level, Shoshone County, Idaho.



Figure 3. Monsanto's Horseshoe Dump that encapsulates seleniferous waste, South Rasmussen mine, Caribou County, Idaho.



Figure 4. Diamond drill rig on CAS property near Iron Creek, Lemhi County, Idaho.