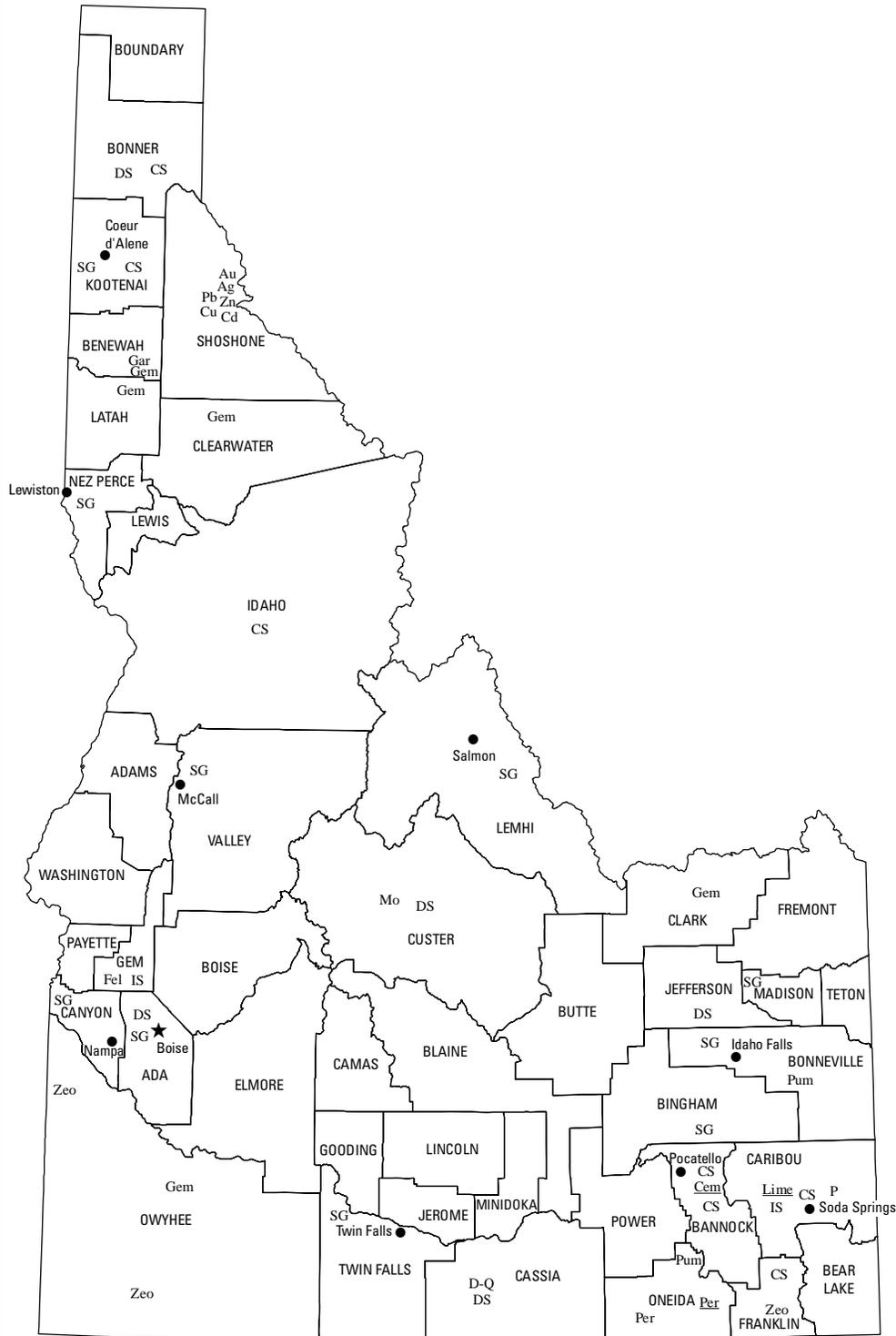




2007 Minerals Yearbook

IDAHO [ADVANCE RELEASE]

IDAHO



LEGEND

- County boundary
- ★ Capital
- City

MINERAL SYMBOLS (Major producing areas)

- Ag Silver
- Au Gold
- Cd Cadmium (byproduct)
- Cem Cement plant
- Cu Copper (byproduct)
- CS Crushed stone
- D-Q Dimension quartzite
- DS Dimension stone
- Fel Feldspar
- Gar Garnet
- Gem Gemstones
- IS Industrial sand
- Lime Lime plant and quarry
- Mo Molybdenum
- P Phosphate rock
- Pb Lead
- Per Perlite
- Per Perlite plant
- Pum Pumice and pumicite
- SG Construction sand and gravel
- Zeo Zeolites
- Zn Zinc

0 25 50 100 Kilometers

Albers equal area projection

THE MINERAL INDUSTRY OF IDAHO

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Idaho Geological Survey for collecting information on all nonfuel minerals.

In 2007, Idaho's nonfuel mineral production¹ was valued at \$779 million (table 1) based upon annual U.S. Geological Survey (USGS) data. This value reflects no increase from the State's total nonfuel mineral value for 2006 (table 1). Idaho was 28th in rank among the 50 States in total nonfuel mineral production value and accounted for 1.1% of the U.S. total. Yet, per capita, the State ranked eighth in the Nation in its minerals industry's value of nonfuel mineral production; with a population of nearly 1.5 million, the value of production was about \$519 per capita.

Molybdenum concentrates, construction sand and gravel, phosphate rock, and silver, in descending order of value, accounted for 77% of the State's total nonfuel mineral production value in 2007; lead, crushed stone, cement (portland and masonry), and lime accounted for an additional 20%. About 46% of the State's total nonfuel mineral value came from the production of industrial minerals, and the remainder from molybdenum concentrates, silver, lead, zinc, copper, gold, and cadmium (a byproduct of zinc concentrates) (descending order of value).

In 2007, the largest increases in value were from lead (up by more than \$25 million), phosphate rock, silver, construction sand and gravel (up by \$12 million), and lime (descending order of change in value; some changes withheld—company proprietary data). Significant, though more moderate, increases took place in crushed stone (up by \$4 million), portland cement, and industrial sand and gravel. These were partially offset by a more than \$80 million decrease in the value of molybdenum concentrates. A smaller yet significant decrease took place in the value of dimension stone (table 1).

In 2007, Idaho continued to rank second of three producing States in the quantities of industrial garnet produced; third of four phosphate rock-producing States; third in the production of silver, lead, and zeolites (descending order of value); fourth in the production of molybdenum concentrates and pumice and pumicite; and the State continued to be a significant producer of construction sand and gravel. The State decreased to ninth from seventh in gemstones production (based upon value).

The narrative information that follows was provided by the Idaho Geological Survey² (IGS). Production data in the text

¹The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 2007 USGS mineral production data published in this chapter are those available as of June 2009. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at <http://minerals.usgs.gov/minerals>.

²Virginia S. Gillerman, Associate Research Geologist/Economic Geologist, authored the text of the State mineral industry information provided by the Idaho Geological Survey.

that follows are those reported by the IGS and are based on the agency's own surveys and estimates or information gathered from company annual reports. They may differ from production figures published by the USGS.

Industry Overview and Trends

In 2007, the value of Idaho's nonfuel mineral production was \$790 million, a slight increase from the 2006 value of \$779 million. This value reflects rising metal prices and healthy markets for construction-related materials and other industrial minerals during most of 2007. Mining employment, not including more than 1,000 employees in three phosphate-related chemical plants, was more than 2,700 jobs in the State. In 2007, the value of sand and gravel exceeded the value of phosphate rock produced in the State. This was because of increases in both volume and price of aggregate produced during the booming construction market. Silver and base-metal prices were also up, and Hecla Mining Co., based in Coeur d'Alene, in Kootenai County, announced record high revenues in 2007 for the 117-year-old company (Hecla Mining Co., 2007).

Exploration and Development Activities

Metals

Cobalt.—Formation Capital Co. in Vancouver, British Columbia, Canada, received the final environmental impact statement (EIS) from the Salmon-Challis National Forest on its proposed underground copper-cobalt-gold mine in Lemhi County. The new operation, referred to as the Idaho Cobalt Project, would be adjacent to the old patented mining claims in the Blackbird mining district. A draft EIS was issued in February by the U.S. Forest Service, and a new feasibility study was released in July by Formation. Updated proven and probable reserves were 2.4 million metric tons (Mt) at 0.559% cobalt, 0.596% copper, and 0.48 grams per metric ton (g/t) gold in the Ram deposit with significant inferred resources and district-wide exploration potential (Formation Capital Corporation, 2007). Formation drilled approximately 150 holes totaling more than 30,000 meters (m) on the Ram deposit which includes multiple stratiform ore horizons. Work continued during 2007 on the EIS including water quality studies and geochemical modeling. The company negotiated land access, hired key personnel, and acquired a ball mill.

Copper.—DDR Copper Inc. reopened the Pope-Shenon Mine south of Salmon in Lemhi County and installed new timbers at the No. 8 portal. The company did minor drilling on the quartz-copper veins (DDR Copper Inc., 2007). The New Jersey Mining Company's Niagara property in the Murray District of Shoshone County is a strata-bound copper-gold-silver deposit

with approximately 14 Mt of resources (Frost and Zientek 2006).

Gold.—The Silver Strand Mine is a small underground gold-silver mine in Kootenai County, northeast of Coeur d’Alene. Mining permits were issued in 2006 for the Silver Strand Mine, and New Jersey constructed a new No. 3 portal. At the Golden Chest Mine near Murray, workers drove a 600-meter ramp below the No. 3 level to access the Idaho vein. The New Jersey Mining Company explored drift mining on the vein at the New Jersey Mine project near Kellogg and had an aggressive initial stage (mapping and geochemical analysis) exploration program in the Murray District. The company staked three telluride-bearing gold prospects—the Gold Butte, Golden Reward, and Mineral Ridge. Mineralization may be related to alkaline intrusive rocks that were intersected in a short drill hole. The company performed ground geophysics, surface work, and initiated permitting for the telluride-bearing gold systems. The New Jersey and the Newmont Mining Cos. established an informal agreement to create a joint venture for exploration of gold deposits within a 98 square-kilometer area north of Murray, ID.

Journey Resources Corp. in Lemhi County acquired 100% of the Musgrove Creek project from Wave Exploration Corp. The Atlas Mining Co. and Newmont have conducted drilling and estimated a resource of 8 Mt at 1.22 g/t gold. The estimate is compliant with the Canadian National Instrument 43–101 mineral resource classification system. Journey Resources reopened the drill roads and drilled five diamond-drill holes that totaled 908 m late in the year. The epithermal vein system is hosted in Proterozoic rocks.

In southwestern Idaho, Vancouver-based Freegold Ventures Ltd. continued work at its 100% lease on the Idaho Almaden Mine east of Weiser in Washington County. Since mid-2006, Freegold has drilled 16,700 m of 131 core and reverse circulation (RC) drilling holes. Phase I was 104 holes and increased the gold resource of more than 550,000 indicated troy ounces of gold. Phase 2 was drilled in the fall of 2007 to look for gold along strike extensions and to test anomalous molybdenum assays discovered in previous drilling. Atlanta Gold Inc. drilled 33 additional core and RC holes at its Atlanta Gold project in Elmore County. Drilling targeted the eastward extension of the proposed Monarch pit area. Because of its proximity to the Middle Fork of the Boise River, the proposed open pit project is controversial in downstream communities such as Boise. With the rise in gold prices, Atlanta shifted its emphasis to exploration for underground ores at the historic district and treated arsenic-rich water draining from old workings.

Molybdenum.—In August, Gentor Resources Inc., a Montana-based company, contracted with AK Drilling, Inc. of Butte, MT, to provide drilling at the Ima Mine located on private land near Patterson in the Lemhi Range (Gentor Resources, Inc., 2007). Polymetallic quartz veins overlie and crosscut a buried granitic intrusive. The veins were previously mined for tungsten with the greatest production taking place from 1937 to 1952. During the 1940s, the U.S. Bureau of Mines assisted with the development of the mine. AMAX Exploration Inc. and Inspiration Development Co. conducted exploration of the

molybdenum deposit at the mine in the 1960s and 1970s. Gentor drilled four deep core holes in 2007 IMA–21 (597 m angle-hole), IMA–22 (700 m), IMA–23A (500 m), and the fourth hole was lost. Lengthy intervals of molybdenum mineralization were intersected in each hole with more than 0.1% molybdenum disulfide (MoS_2) and associated tungsten and silver.

In southwestern Idaho, Mosquito Consolidated Gold Mines Ltd. drilled six deep core holes at the large Cumo molybdenum project near the headwaters of Grimes Creek in Boise County. AMAX discovered molybdenum mineralization in 1963 and drilled portions of the mine until the 1980s. The AMAX estimates 1.5 billion metric tons at 0.09% MoS_2 . Several distinct porphyries are crosscut by narrow quartz-molybdenite veins with minor copper. Total drilling during 2007 was approximately 3,900 m prior to winter shutdown.

Silver.—There was considerable mining and development activity in Idaho’s famous Silver Valley, also known as the Coeur d’Alene District, owing to the high price of copper, byproduct lead, and silver. Since 1884, the district has produced more than 37,100 million metric tons (1.2 billion troy ounces) of silver. Major development projects were underway at its Lucky Friday, Galena, and Sunshine Mines and several other exploration properties. Hecla Mining Co. studied a potential mine expansion and new internal shaft (initially to the 2,000-m depth) to reach deeper portions of the Gold Hunter deposit of its Lucky Friday Mine at Mullan in Shoshone County. Deep drilling to the 2,400-m level indicated a resource of approximately 3,700 t (120 million troy ounces) of silver. Some 45 diamond-drill holes, totaling 7,300 m have explored the Gold Hunter veins between the 1,500-m- and 1,800-m-level crosscuts. Hecla also started surface drilling to explore the shallower “gap” (an unexplored area) between the near-surface, historic Gold Hunter workings and the deep ore body. The company also compiled historic surface and underground exploration information on its 65-square-kilometer property position in the Coeur d’Alene District.

U.S. Silver Corp. continued production at its Galena Mine along with milling at both the Galena and a restarted Coeur d’Alene mill; the two mines are connected underground. U.S. Silver had an aggressive drilling program to delineate silver-lead ores, especially on the 1,040-m level of the Galena Mine. Intercepts included one hole with 1.71 m true thickness grading 489 g/t silver and 21% lead. Sterling Mining Company began production at the Sunshine Mine. The company completed the 1,700-m Sterling tunnel in April. The tunnel has a connection to the Polaris-Silver Summit workings to the east. Sterling refurbished the hoist in the Silver Summit (the ConSil), which was the secondary escape way for the Sunshine Mine, and recommissioned the Jewell shaft to the 945 m level with planned stoping on the 823-m to 945-m levels. In September, ore mining began from the upper Sunshine vein and was sent to the mill bins.

Major exploration projects in the Coeur d’Alene District included SNS Silver Corp., at the Crescent Mine, a 25-million-ounce producer. SNS purchased the property for \$650,000 at the start of 2007 and began surface drilling in May and hired Atlas Faucett Contracting to rehabilitate the Hooper tunnel to reach the Alhambra vein system. Azteca Gold Corp.

formed a joint venture with Silver Royal Apex, Inc. of Wallace to acquire up to 50% of the Silver Valley Two Mile property. Diamond core drilling began at Two Mile Gulch near Osburn and is expected to continue throughout the year (Azteca Gold Corp., 2007). Drilling was to test deep targets identified from a Titan-24 distributed array geophysical survey performed by Quantec Geoscience.

Zinc and Polymetallic Deposits.—Azteca took out a short-term option on the Bunker Hill Mine in Shoshone County from the New Bunker Hill Mining Company. The purchase price (\$46 million) is due when the option expires in March 2008. Bunker Hill was one of the largest mines in the Coeur d'Alene District and was primarily a lead and zinc-producing mine. In September, Thunder Mountain Gold, Inc. purchased the patented mining claims on the South Mountain project in Owyhee County. High-grade copper-gold-lead-silver-zinc-mineralization exposed in the Laxey and Sonneman adits is hosted in polymetallic skarn and replacement deposits. Historically mined grades were 14.5% zinc and 2.4% lead with silver, copper, and gold. Bunker Hill has been on a care-and-maintenance status since 1981. The district is noted for its ilvaite crystals. Thunder Mountain did minor sampling and compilation of historic data.

Other Metal Projects.—Thorium Energy Inc. staked additional claims and did surface sampling at the Lemhi Pass District. The district, which straddles the Idaho-Montana border in the Beaverhead Range, hosts one of the largest resources of thorium and associated rare earth elements in the Nation, according to work by the USGS, other agencies, and private industry (Van Gosen, Gillerman, and Armbrustmacher, 2009). The veins cut Proterozoic siltites and quartzites. Thorium-based fuels are being considered for future nuclear reactors, and rare earths are used in a variety of high-tech applications such as magnets and rechargeable batteries.

Commodity Review

Industrial Minerals

Garnet.—Emerald Creek Garnet Ltd. (a subsidiary of WGI Heavy Minerals Inc.) mined industrial garnet from the St. Maries River floodplain near Fernwood in Benewah County. The company investigated new screens to improve recovery of the finer grained garnets that are more abundant downstream. Markets were steady with high pressure water jets being a principal use. The company constructed an artificial river oxbow on the floodplain as a mitigation project. The Panhandle National Forest had more than 4,200 visitors looking for gem-quality garnets at its revamped garnet dig site near Fernwood. This number represents twice the number of previous permits. The public was not allowed to look for garnets in the creek owing to concerns for water quality, aquatic habitat, and public safety. However, they were directed to a newly developed garnet area of stockpiled garnet-bearing ore (U.S. Forest Service, 2009).

Phosphate Rock.—Three companies, Agrium Inc., J.R. Simplot Co., and Monsanto Co., extracted and processed more than 3.6 Mt of ore from the Permian Phosphoria Formation in southeastern Idaho. Agrium and Simplot produced phosphoric

acid fertilizer for agricultural consumption; Monsanto operated the only elemental phosphorus plant in the country. The phosphorus was used for the company's "Roundup" herbicide production. Monsanto mined more than 907,000 t of phosphate ore from the South Rasmussen Ridge Mine and sent it via triple trailer trucks to its Soda Springs plant in Caribou County. The company had a major drilling program underway at the proposed Blackfoot Bridge Mine. Groundwater and geochemical modeling were underway as part of the permitting studies, and a draft EIS was scheduled to be issued in mid-2008.

Simplot mined more than 2.3 Mt from Panels B and C at the Smoky Canyon Mine near the Idaho-Wyoming border and purchased a new D11 bulldozer. Ore slurry was transported by a 140-kilometer long pipeline to the Don Fertilizer plant at Pocatello. Simplot's complex was just short of a new production record in 2007. In October, staff from the U.S. Forest Service released the final EIS to expand Panels F and G, which could add 14 years of mine life to Smoky Canyon. The decision was controversial and expected to be appealed as the new area includes sections without roads and access issues. Agrium, a Canadian supplier of agricultural products, had a profitable year owing to strong markets and high pricing levels. The company mined about 1.8 Mt of ore, mostly from the C pit, at the Dry Valley Mine, which it acquired in 2005 from FMC Corporation. Agrium contracted with the Washington Group International (a division of URS Corp.) to reclaim the B pit and started stripping at the D pit located further south.

Stone, Dimension.—Idaho's dimension stone producers operated at full capacity owing to a robust housing and construction market for most of 2007. L & W Stone Corp. produced about 32,000 t of purple to gold-colored argillaceous sandstone from the Three Rivers Quarry west of Challis in Custer County. The Three Rivers Quarry produces high-end flagstone that can be ordered in large slabs, pavers, or special cuts. The Ramshorn Quarry near Bayhorse produced a few hundred tons of slaty flagstone. In Cassia County, south of the Snake River Plain, four companies produced Idaho's famous Oakley Stone, a micaceous quartzite quarried on Middle Mountain. Northern Stone Supply Inc. was the largest producer of Oakley Stone and had a good year but experienced slower growth in the fourth quarter owing to the slowdown of the housing market.

Other Industrial Minerals.—Ash Grove Cement Co. operated the State's only cement plant and a large limestone quarry in Inkom located in the southeastern part of the State. Idaho has several small-scale limestone quarries. Hess Pumice Products Inc. in Malad had a good year at its Wright's Creek Pumice Mine and plant in Oneida County. Hess produces pumice for many uses, including stonewashing jeans and lightweight aggregate for the Owens-Corning Cultured Stone, LLC plant located next door. Slowdowns in the housing market forced closure of the Owens-Corning facility in mid-2007, and Hess had to make up for lost sales to that sector with sales in other markets. Hess increased sales in Europe as centuries-old Italian pumice quarries were shut down after the Italian island of Lipari was designated a United Nations Educational, Scientific and Cultural Organization (UNESCO), World Heritage Site owing to its unusual volcanic activity. Idaho Minerals, LLC

(owned by Hess) built a new perlite expander plant in Malad. Perlite was sold for use in potting soils.

Production of sand and gravel and crushed stone for aggregate continued to increase in the first half of 2007 before demand from the housing construction market was reduced. Industrial sand was produced by Unimin Corp. at its Emmett facility. Bear River Zeolite (a wholly owned subsidiary of United States Antimony Corp.) mined and processed clinoptilolite from its quarry and plant near Preston in Franklin County located in southeastern Idaho. Bear River installed a Raymond mill and made other plant improvements. Markets were steady for clinoptilolite during 2007. The mineral's principal uses include filtration, water treatment and remediation, and odor control. In Latah County, i-minerals, inc. explored for clay and feldspar-quartz deposits in the Helmar-Bovill area and conducted a feasibility study of the Kelly's Basin feldspar deposit. The company drilled 1,100 m of HQ-size core in 25 holes to evaluate residual clay in the weathered granodiorite. After restarting its Ten Mile lime plant near Bancroft in 2006, Chemical Lime Co. idled the plant once again in 2007 because of decreased demand in construction and environmental markets.

Metals

Gold and Molybdenum.—New Jersey Mining Co., based in Kellogg, installed cyanide leach tanks and completed a paste tailings impoundment at its mill in Kellogg. The company also installed an electrowinning circuit to produce precious metal dore. Production of molybdenum at the giant Thompson Creek Mine in Custer County was down in 2007 owing to the major phase 6 pushback and waste stripping needed to expand the pit. Production was about 4,200 t of molybdenum. The new expansion extended the mine's life to 2012, and with high prices, additional expansion plans were under review. Particularly noteworthy was the extraction of the 300 millionth pound of molybdenum in April 2007, according to staff from the U.S. Bureau of Land Management.

Silver.—Hecla produced 96,000 kilograms (kg) (3.1 million troy ounces) of silver at its Lucky Friday operation and calculated negative total cash costs owing to byproduct credits from mining the Gold Hunter ore body. Mill upgrades in 2006 improved zinc recoveries during 2007. U.S. Silver produced approximately 37,000 kg (1.2 million troy ounces) of silver in 2007, its first full year of ownership. The company restarted the idle Coeur d'Alene mill in September to produce lead-silver concentrates, while using the Galena mill to process silver-copper ores from the Galena Mine. U.S. Silver repaired the Galena Shaft between the 732 m and 975 m levels. In December, Sterling Mining Co. resumed milling and concentrate shipments from the Sunshine mill. Shoshone Silver Mining Co. reopened the small 91-ton-per-day Lakeview mill in Bonner County. The company worked on water management and ore handling procedures for stockpiled silver-lead ores from the Lakeview District.

Other.—In the energy sector, U.S. Geothermal's binary cycle powerplant began commercial production on November 25, at the Raft River geothermal field in Cassia County (U.S.

Geothermal Inc., 2007). Raft River is Idaho's first geothermal powerplant, although many areas have long used geothermal energy for direct use applications such as heating.

Environmental Issues and Mine Reclamation

Hecla Mining employees won an environmental award from the Northwest Mining Association for their long-term efforts to reclaim the closed Grouse Creek Mine in central Idaho. Dewatering of the tailings pond and treatment of drainage from waste rock dumps and pit areas continued during the year. In the phosphate district, Simplot completed a \$3 million CERCLA project to divert Pole Canyon around an old cross-canyon waste dump and installed an infiltration basin above it in order to reduce selenium leaching from the waste dump.

Legislative and Government Programs

The IGS continued its active participation in the STATEMAP program a component of the congressionally mandated National Cooperative Geologic Mapping Program (NCGMP), through which the USGS distributes Federal funds to support geologic mapping efforts through a competitive funding process. The NCGMP has three primary components: (1) FEDMAP, which funds Federal geologic mapping projects, (2) STATEMAP, which is a matching-funds grant program with State geological surveys, and (3) EDMAP, a matching-funds grant program with universities that has a goal to train the next generation of geologic mappers.

New maps were published as digital Web maps (DWMs) and are available on the IGS Website (www.idahogeology.org). Numerous mine histories and mines and prospects' database are also accessible on the IGS Website. Geologic mapping projects were focused in northern Idaho, although the IGS started a new project around Idaho Falls in eastern Idaho. One goal of this project was to characterize and date the gravels. The IGS published a technical report on porphyry and other molybdenum deposits of Idaho and Montana (Worthington, 2007). Research on the Lemhi Pass thorium-rare-earth deposits was sponsored by the USGS and was conducted by the IGS Boise-based geologist.

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TABLE 1
 NONFUEL RAW MINERAL PRODUCTION IN IDAHO^{1,2}

(Thousand metric tons and thousand dollars)

Mineral	2005		2006		2007	
	Quantity	Value	Quantity	Value	Quantity	Value
Gemstones, natural	NA	469	NA	388	NA	339
Sand and gravel, construction Stone,	18,600 ^r	81,900 ^r	23,800 ^r	117,000 ^r	24,700	129,000
Crushed	4,890	26,300	5,270 ^r	31,700 ^r	5,860	35,600
Dimension	W	W	W	W	16	1,690
Combined values of cadmium (byproduct from zinc concentrates), cement (portland), copper, feldspar, garnet (industrial), gold, lead, lime, molybdenum concentrates, perlite (crude), phosphate rock, pumice and pumicite, sand and gravel (industrial), silver, zeolites, zinc, and values indicated by symbol W	XX	788,000	XX	630,000	XX	612,000
Total	XX	896,000 ^r	XX	779,000 ^r	XX	779,000

^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data. Withheld values included in “Combined value” data. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Data are rounded to three significant digits; may not add to totals shown.

TABLE 2
 IDAHO: CRUSHED STONE SOLD OR USED, BY TYPE¹

Type	2006			2007		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	9	982	\$6,480	8	1,020	\$8,200
Granite	15	806	3,710	12	401	2,120
Traprock	13 ^r	588 ^r	3,260 ^r	28	830	4,090
Sandstone and Quartzite	4	463	2,600	4	482	2,950
Miscellaneous stone	17 ^r	2,430 ^r	15,700 ^r	14	3,120	18,300
Total	XX	5,270 ^r	31,700 ^r	XX	5,860	35,600

^rRevised. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3
IDAHO: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	8	45
Filter stone	W	W
Other coarse aggregate	64	369
Coarse aggregate, graded:		
Bituminous aggregate, coarse	W	W
Bituminous surface-treatment aggregate	W	W
Fine aggregate (-¾ inch):		
Stone sand, bituminous mix or seal	70	346
Other fine aggregate	8	59
Coarse and fine aggregates:		
Graded road base or subbase	803	3,780
Unpaved road surfacing	151	969
Terrazzo and exposed aggregate	W	W
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	782	3,850
Agricultural:		
Limestone	W	W
Poultry grit and mineral food	W	W
Chemical and metallurgical:		
Cement manufacture	W	W
Lime manufacture	W	W
Chemical stone	W	W
Special, mine dusting or acid water treatment	W	W
Unspecified: ²		
Reported	2,120	13,200
Estimated	950	5,700
Total	5,860	35,600

W Withheld to avoid disclosing company proprietary data; included in "Total."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Reported and estimated production without a breakdown by end use.

TABLE 4
IDAHO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	2,100	\$13,500	\$6.45
Plaster and gunite sands	26	183	7.14
Concrete products (blocks, bricks, pipe, decorative, etc.)	175	475	2.71
Asphaltic concrete aggregates and other bituminous mixtures	1,210	7,650	6.33
Road base and coverings	5,810	28,500	4.90
Fill	634	2,410	3.80
Snow and ice control	122	816	6.68
Other miscellaneous uses ²	157	807	5.14
Unspecified: ³			
Reported	5,030	25,700	5.11
Estimated	9,440	49,000	5.19
Total or average	24,700	129,000	5.22

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Includes railroad ballast.

³Reported and estimated production without a breakdown by end use.