# 2009 Minerals Yearbook

## IDAHO [ADVANCE RELEASE]

U.S. Department of the Interior
U.S. Geological Survey

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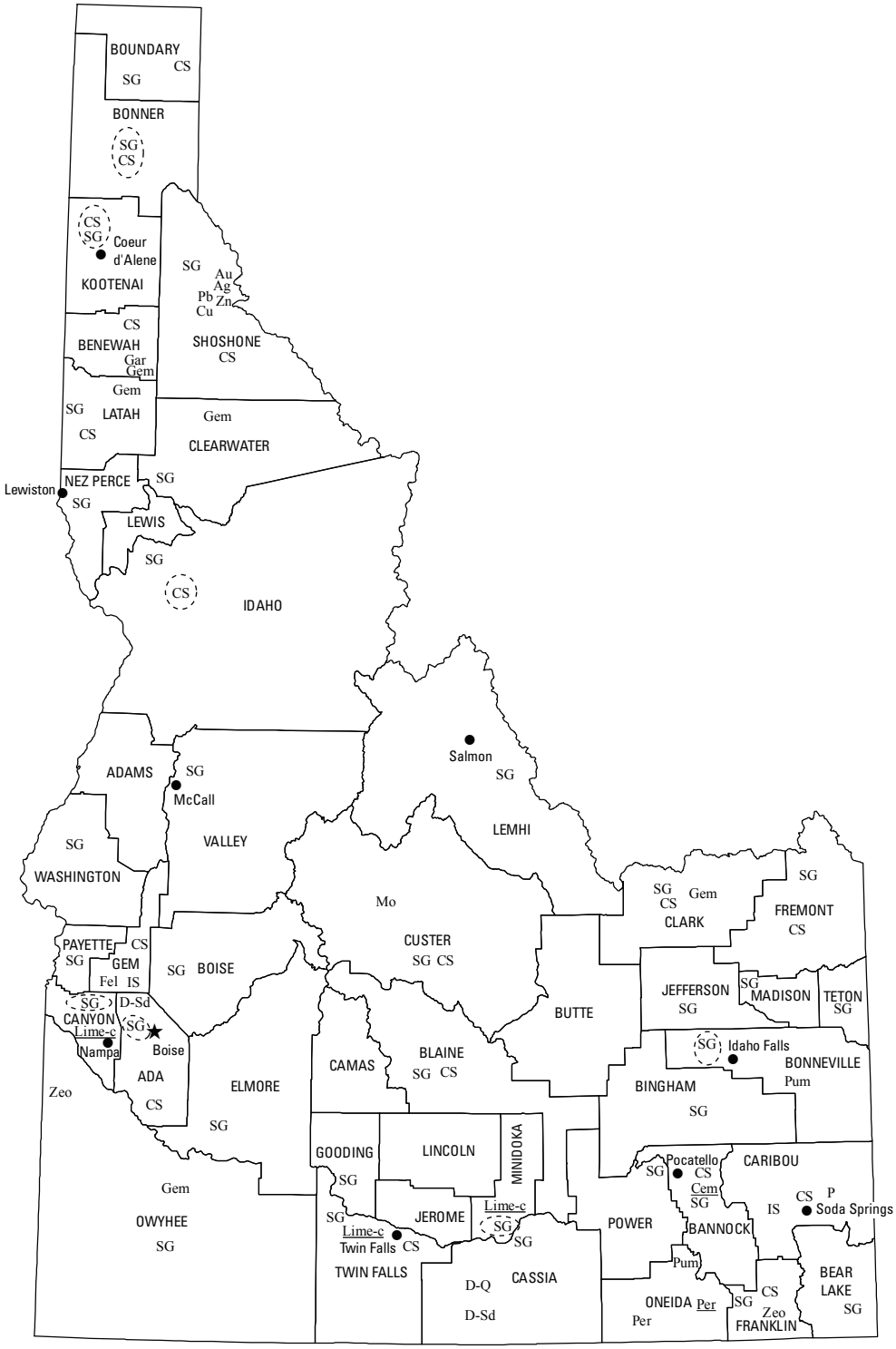
# IDAHO




## LEGEND

County boundary

★ Capital

● City

### MINERAL SYMBOLS
### (Principal producing areas)

| | |
|---|---|
| Ag | Silver |
| Au | Gold |
| Cem | Cement plant |
| Cu | Copper (byproduct) |
| CS | Crushed stone |
| D-Q | Dimension quartzite |
| D-Sd | Dimension sandstone |
| Fel | Feldspar |
| Gar | Garnet |
| Gem | Gemstones |
| IS | Industrial sand |
| Lime-c | Lime plant (captive) |
| 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 |

Concentration of mineral operations

0 50 100 Kilometers

Albers equal area projection

**Source: Idaho Geological Survey/U.S. Geological Survey (2009).**

# 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 2009, Idaho's nonfuel mineral production[1] was valued at $935 million based upon annual U.S. Geological Survey (USGS) data. This was a $136 million, or an almost 13%, decrease from the State's total nonfuel mineral production value of almost $1.1 billion in 2008, which followed a $291 million, or 37%, increase from the total production value of $781 million in 2007. Idaho rose to 21st from 24th in rank among the 50 States in total nonfuel mineral production value and accounted for about 1.6% of the U.S. total production value of $59 billion. Per capita, the State rose in rank from 8th to 7th in the Nation for its mineral industry's value of nonfuel mineral production. With a population of 1.55 million, the value of production was about $605 per capita, significantly down from the per capita production value of $698 in 2008.

Molybdenum concentrates, phosphate rock, silver, construction sand and gravel, and lead, in descending order of production value, accounted for 91% of the State's total nonfuel mineral production value in 2009. About 31% of the State's total nonfuel mineral value came from the production of industrial minerals, and the remaining 69% from the metals produced in the State: cadmium (as a byproduct of zinc concentrates), copper, gold, lead, molybdenum concentrates, silver, and zinc.

Despite the decrease in Idaho's total mineral production value, six commodities increased in value, led by increases in zinc (250%), followed by lime (10%), crude perlite (85%), gemstones (14%), cadmium (as a byproduct of zinc concentrates) (95%), and gold (12%) (data withheld for zinc, lime, crude perlite, cadmium, and gold—company proprietary data). Combined, these six commodities accounted for a $13 million increase in the State's total nonfuel mineral production value (table 1).

Zinc production rose from seventh to third among six producing States in 2009; New York had produced zinc in 2008 but reported no production in 2009. There also were mine closures in Montana, Tennessee, and Washington, which accounted for Idaho's increase in rank. The State also rose in rank for the production of gemstones (based upon value), from 8th to 5th among 50 producing States; feldspar, from 6th to 4th among 7 producing States; crude perlite, from 5th to 4th among 6 producing States; and, gold, from 11th to 10th, among 11 producing States. Most notably, the State declined in rank to fourth from third for both the production of pumice and pumicite and silver.

Idaho remained second in the production of zeolites among six producing States; third in the production of industrial garnets, lead, and phosphate rock, among three, five, and four producing States, respectively; fourth in the production of molybdenum concentrates; and seventh in the production of copper among seven producing States.

The following narrative information was provided by the Idaho Geological Survey[2] (IGS). IGS production data and information, except where otherwise noted, were based upon the agency's own surveys and mine inquiries, company annual reports, and data and information derived from other State government agency sources. These data may differ from USGS annual production figures, which were based upon company responses to USGS surveys and upon USGS estimates.

## Overview

Mineral exploration activity rebounded in the second half of 2009, after a period of less investment and exploration activity, owing to the sharp economic downturn that began in late 2008. Most industrial mineral operations reflected the effects of decreased nationwide industrial and construction activity. Overall, Idaho's total nonfarm employment declined by 6.1% in 2009 (Idaho Division of Financial Management, 2010, p. 5), while mining employment declined by about 25% to just over 2,000 mining jobs (Idaho Division of Financial Management, 2010, p. 20).

## Exploration and Development Activities

### *Metals*

**Cobalt.**—Formation Metals Inc. (formerly Formation Capital Corp., of Vancouver, British Columbia, Canada) was in the final stages of receiving permits for its Idaho Cobalt project near the town of Salmon in Lemhi County. Following approval of its environmental impact statement (EIS) in January, Formation completed discussions with the Forest Service over bond requirements and other details, receiving approval to start construction in December (Formation Metals Inc., 2009). The project, which would produce nearly 1,400 metric tons (t) annually of super-alloy grade, high-purity cobalt metal, has a minimum 10-year mine life with potential for additional reserves (Formation Metals Inc., 2014).

**Gold.**—New Jersey Mining Co. (Kellogg, ID) focused efforts on their Toboggan joint venture with Newmont North America Exploration Ltd. (a subsidiary of Newmont Mining Corp., of Greenwood Village, CO) in the Murray area of Shoshone

[1]The 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 2009 USGS mineral production data published in this chapter are those available as of September 2011. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL http://minerals.usgs.gov/minerals.

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

County. The large property position hosts several gold prospects and Newmont drilled two holes each on the Mineral Ridge, Golden Reward, and Gold Butte structures. The six holes totaled 1,400 meters (m) with the best intercept on the Gold Butte structure where a 4-meter interval assayed 2.52 grams per metric ton (g/t) gold (New Jersey Mining Co., 2009).

Elsewhere in northern Idaho, Premium Exploration (Vancouver, British Columbia, Canada) reported some excellent results from its two-phase drilling program at the Friday-Petsite gold project in the Elk City area in Idaho County. Premium's Phase One program followed up on a gold-in-soil anomaly and drilled seven holes; some extended the mineralized zone southward (Premium Exploration Inc., 2009a). Phase Two drilling in six HQ core holes totaled 2,000 m and intersected down-dip, high-grade values below the bulk-tonnage target (Premium Exploration Inc., 2009b).

In early 2009, Midas Gold Corp. (Vancouver, British Columbia, Canada) acquired the Stibnite property in Valley County, which had been held by Gold Crest Mines. Midas renamed the property Golden Meadows (Midas Gold Corp., 2014).

Atlanta Gold Inc. (Toronto, Ontario, Canada) changed their mine plan in response to both the increased price of gold and local community opposition to a proposed large open pit at the Atlanta gold-silver deposit, 90 km northeast of Boise in Elmore County. The company announced in a Canadian National Instrument (NI) 41–101 report released in April that they would focus exploration on a small open pit and underground mining operation. The updated reported measured and indicated resource is 2.7 million metric tons (Mt) of ore grading 5.28 g/t (0.154 troy ounces per short ton), or 14,300 kg (460,000 troy ounces) gold with over 31,000 kg (one million troy ounces) silver (Atlanta Gold Inc., 2009a). Atlanta was also looking into a potential tungsten byproduct, and purchased several mine buildings, generators, and other facilities from Newmont (Atlanta Gold Inc., 2009b).

**Molybdenum.**—Gentor Resources, Inc. (Toronto, Ontario, Canada) continued to hold the lease and maintain the IMA mine molybdenum-tungsten-silver property at Patterson in Lemhi County. Drilling in 2008 confirmed an inferred resource of 5.2 Mt grading 0.15% molybdenum with exploration potential, but funding limitations restricted activities in 2009 (Gentor Resources Inc., 2009).

**Polymetallic Projects.**—In November, Mosquito Consolidated Gold Mines Ltd. (Vancouver, British Columbia, Canada) released a preliminary economic assessment and scoping study of the CUMO molybdenum-copper porphyry deposit near the Grimes Creek headwaters in Boise County. The deposit was optioned to Mosquito by Cumo Molybdenum Mining Inc. in 2004, but is now 100% owned by American CuMo Mining Corp. (American CuMo Mining Corp., 2009, p. 1). The study identified and reported 598 million t of indicated resource grading 0.11% molybdenum oxide and 0.06% copper as ore. The study, authored by Ausenco, looked at throughput rates of 45,000 to 181,000 tons per day (tpd) for the 1.8 billion t deposit (American CuMo Mining Corp., 2009).

**Rare Earths.**—Thorium Energy changed its name to U.S. Rare Earths, Inc., and refocused the company to concentrate on rare-earth-element (REE) exploration and did additional surface work and claim staking in Lemhi County. The company holds land in the Lemhi Pass and Diamond Creek thorium-REE districts and elsewhere.

## Commodity Review

### *Industrial Minerals*

**Garnets.**—Emerald Creek Garnet Ltd. (Fernwood, ID), a subsidiary of WGI Heavy Minerals (Waterdown, Ontario, Canada), used the market slowdown to make operational improvements at their industrial garnet mine near Fernwood, in Benewah County, in northern Idaho. The company increased production, cut costs, and focused on customer service. The result was an improved market and process outlook by the third quarter. Emerald hired a geologist to better understand the mineral deposit and explore for additional garnet deposits. The Emerald Creek Mine processes alluvial garnets using two wash plants and the flat screens that were installed in 2008.

**Perlite and Pumice.**—Hess Pumice, a locally owned company in Malad, reported significantly lower sales volume and a 43% drop in pumice production, owing to the significant decline in demand from the construction market. The company had to reduce the number of employees but used the downturn year to remodel the grinding plant for newer products such as filler. Hess has been a leader in aggressively marketing the pumice for a wide variety of uses domestically and internationally. That effort has helped reduce the effect of a slumping construction industry, which uses the pumice for lightweight aggregate. The company also conducted research and development testing on alkali-resistant concrete. Idaho Minerals, also owned by Hess, saw perlite sales drop slightly.

**Phosphate Rock.**—Mining continued at southeast Idaho's three open pit phosphate mines in Caribou County. Three processing plants also were in operation, including North America's only elemental phosphorus plant, located at Soda Springs and owned and operated by Monsanto Co. (St. Louis, MO). Ore is shipped by trucks with triple trailers from the South Rasmussen Mine to the Monsanto plant.

J.R. Simplot Co.'s (Boise, ID) Don Plant in Pocatello County produced phosphoric acid and fertilizer. Simplot mined panel E, the last phase of the existing Smoky Canyon Mine, on the Idaho-Wyoming border, 16 km west of Afton, WY. Ore is crushed and sent by a 140-kilometer (87-mile) long slurry pipeline to their Don plant in Pocatello for manufacturing into fertilizer (J.R. Simplot Co., 2014). The company awaited judicial decisions on the fate of panels F and G in the southward expansion of the mine. The U.S. Department of the Interior's Bureau of Land Management and the U.S. Department of Agriculture's U.S. Forest Service approved the expansion in mid-2008 (U.S. Bureau of Land Management, 2008), but the Record of Decision was appealed to the United States Courts for the Ninth Circuit's Court of Appeals by the Greater Yellowstone Coalition and other environmental groups. The existing mine was expected to run out of ore in 2009. The Appeals Court lifted a stay on development in August (Boone, 2009).

Agrium Inc.'s (Calgary, Alberta, Canada) plant at Conda, in Caribou County, produced phosphoric acid and fertilizer.

Agrium also mined the final stages of the Dry Valley Mine, including D pit, the furthest to the south, and reclaimed the C pit. The company prepared to transition operations back to the previously permitted North Rasmussen Ridge Mine because the Dry Valley ores were exhausted.

**Sand and Gravel, Construction, and Stone, Crushed.**—Aggregate, in the form of construction sand and gravel and crushed stone, is one of the most widespread mineral industries in Idaho. There was significant negative impact on the industry owing to the downturn in the construction industry, especially the residential housing market in the State.

**Zeolites.**—Bear River Zeolite (Preston, ID), a subsidiary of U.S. Antimony Corp. (Thompson Falls, MT), continued to operate the zeolite mine and plant at Preston, in Franklin County in southeastern Idaho. Bear River marketed their material for a variety of uses, including filtration, agricultural feeds and carriers, and pozzolan. Value and tonnage of production declined very slightly in 2009 and the company managed to decrease costs. The company added silos and conveyors at the plant.

### *Metals*

**Molybdenum.**—Thompson Creek Metals Co. Inc. (Littleton, CO) reduced personnel and production slightly during the first half of 2009 at their Thompson Creek molybdenum mine near Challis in Custer County owing to the 2008 economic recession and lower molybdenum prices (Thompson Creek Metals Co. Inc., 2009a). Full production was slated to resume in January 2010 (Thompson Creek Metals Co. Inc., 2009b). The Thompson Creek Mine produced 8,100 t (17.8 million pounds) of molybdenum concentrate in 2009 (Thompson Creek Metals Co. Inc., 2009c, p. 16).

**Silver.**—Hecla Mining Co. (Coeur d'Alene, ID) reported that the third quarter of 2009 was one of the best in its history, with a record number of tons of ore and silver ounces mined at their Lucky Friday Mine near Mullan in Shoshone County. Hecla owned and operated two mines: the Lucky Friday and the Greens Creek Mine in Alaska. The Lucky Friday Mine produced 110,000 kg (3.53 million troy ounces) of silver in 2009, a 23% increase over 2008's total of approximately 90,000 kg (2.88 million troy ounces) (Hecla Mining Co., 2010, p. 14).

U.S. Silver Corp. (Toronto, Ontario, Canada) reported record silver and lead production at their Galena mine in the Silver Valley. In 2009, the mine produced 75,500 kg (2.43 million troy ounces) of silver, almost 3,000 t (6.4 million pounds) of lead, and 488 t (1.08 million pounds) of copper. The silver total represented a 41% increase over 2008 (U.S. Silver Corp, 2010).

The Sunshine Mine, near Coeur d'Alene, remained closed for the year. Sterling Mining Co. (Coeur d'Alene, ID) filed for Chapter 11 bankruptcy in March. In November, Alberta Star Development Corp. (Vancouver, British Columbia, Canada) announced that it had reached an agreement to acquire 100% ownership of Sterling's assets, including the Sunshine Mine (Alberta Star Development Corp., 2009). The mine had produced over 11,200 t (360 million troy ounces) of silver since 1904; a Canadian NI 43-101 compliant 2007 report by Behre Dolbear & Co. estimated a remaining measured and indicated resource of 980,000 kg (31.5 million troy ounces) of silver with additional inferred resources (Alberta Star Development Corp., 2009).

## Government Programs and Other Activities

The IGS continued to do geologic mapping through participation in the STATEMAP program. STATEMAP is 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. The IGS published 17 digital geologic maps and 10 additional publications in 2009, in addition to indexing, preserving, and scanning old mine files, mine maps, and oil well logs through funding from the USGS and the Idaho Department of Lands.

Kinross Gold Corp. received the 2009 Hardrock Mineral Environmental Award from the BLM for their closure work at the DeLamar Mine in Owyhee County. Kinross constructed a geotech-engineered water management pond to assist in dewatering the tailings pond (U.S. Bureau of Land Management, 2009).

## References Cited


Alberta Star Development Corp., 2009, Alberta Star announces formal agreement to acquire Sterling Mining Co.: Vancouver, British Columbia, Canada, Alberta Star Development Corp. press release, December 1. (Accessed January 10, 2014, at http://www.alberta-star.com/s/NewsReleases.asp?ReportID=374599&_Type=News-Releases&_Title=ALBERTA-STAR-ANNOUNCES-FORMAL-ACQUISITION-AGREEMENT-TO-ACQUIRE-STERLING-MIN....)

American CuMo Mining Corp., 2009, CUMO property preliminary economic assessment—throughput scoping study report: Vancouver, British Columbia, Canada, prepared by Ausenco Canada Inc., November 18. (Accessed January 20, 2014, at http://cumoco.com/wp-content/uploads/2013/02/2009-Ausenco_CuMo.pdf.)

Atlanta Gold Inc., 2009a, Atlanta Gold completes NI 43–101 technical report and resource estimate at its Atlanta Gold project: Toronto, Ontario, Canada, Atlanta Gold Inc. press release, April 2. (Accessed January 20, 2014, at http://www.atgoldinc.com/news/2009-news/104-atlanta-gold-completes-ni-43-101-technical-report-and-resource-estimate-at-its-atlanta-gold-project.)

Atlanta Gold Inc., 2009b, Atlanta Gold signs definitive agreement for initial purchase of mine buildings and equipment from Newmont USA Ltd.: Toronto, Ontario, Canada, Atlanta Gold Inc. press release, December 4. (Accessed January 20, 2014, at http://www.atgoldinc.com/news/2009-news/80-atlanta-gold-signs-definitive-agreement-for-initial-purchase-of-mine-buildings-and-equipment-from-newmont-usa-limited.)

Boone, Rebecca, 2009, Judge approves Smoky Canyon Mine expansion: Seattle Times [Seattle, WA], August 5. (Accessed January 20, 2014, at http://seattletimes.com/html/businesstechnology/2009606042_apussmokycanyonmine.html.)

Formation Metals Inc., 2009, Formation Metals Inc. receives approval from Forest Service to begin construction on Idaho cobalt mine: Vancouver, British Columbia, Canada, Formation Metals Inc. press release, December 9. (Accessed January 20, 2014, at http://www.formationmetals.com/s/News.asp?ReportID=376473.)

Formation Metals Inc., 2014, Idaho Cobalt Project: Vancouver, British Columbia, Canada, Formation Metals Inc. (Accessed January 20, 2014, at http://www.formationmetals.com/s/IdahoCobalt.asp.)

Gentor Resources Inc., 2009, Gentor provides corporate update: Patterson, ID, Gentor Resources Inc. press release, August 20. (Accessed January 20, 2014, at http://www.gentorresources.com/s/NewsReleases.asp?ReportID=360713&_Type=News-Releases&_Title=Gentor-Provides-Corporate-Update.)

Hecla Mining Co., 2010, Annual report 2009: Coeur d'Alene, ID, Hecla Mining Co., March 12, 84 p.

Idaho Division of Financial Management, 2010, Idaho economic forecast: Boise, ID, Idaho Division of Financial Management Economic Forecast, v. XXXII, no. 1, January. (Accessed January 10, 2014, at http://dfm.idaho.gov/Publications/EAB/Forecast/2010/January/ieffulldocument_Jan2010.pdf.)

J.R. Simplot Co., 2014, Simplot AgriBusiness—Smoky Canyon Mine: Boise, ID, J.R. Simplot Co. factsheet. (Accessed January 20, 2014, at http://www.simplot.com/pdf/us_operations/SmokyCanyon.pdf.)

Midas Gold Corp., 2014, Midas Gold projects—Ownership: Vancouver, British Columbia, Canada, Midas Gold Corp. (Accessed January 20, 2014, at http://www.midasgoldinc.com/s/goldenmeadows.asp?ReportID=445653.)

New Jersey Mining Co., 2009, New Jersey Mining Co. announces gold intercepts for Toboggan project: Kellogg, ID, New Jersey Mining Co. press release, November 4. (Accessed January 20, 2014, at http://www.newjerseymining.com/press_releases/2009/11-04-09_press_release.html.)

Premium Exploration Inc., 2009a, Premium Exploration completes phase-one drill program and extends strike length at Friday-Petsite gold project, Idaho: Vancouver, British Columbia, Canada, Premium Exploration Inc. press release, July 9. (Accessed January 20, 2014, at http://www.premiumexploration.com/news/premium-exploration-completes-phase-one-drill-program-and-extends-strike-length-at-friday-petsite-gold-project-idaho.)

Premium Exploration Inc., 2009b, Premium Exploration completes deep drilling at Friday-Petsite gold project: Vancouver, British Columbia, Canada, Premium Exploration Inc. press release, December 29. (Accessed January 20, 2014, at http://www.premiumexploration.com/news/premium-exploration-completes-deep-drilling-at-friday-petsite-gold-project.)

Thompson Creek Metals Co. Inc., 2009a, Thompson Creek provides update on 2009 operating plans: Littleton, CO, Thompson Creek Metals Co. Inc. press release, February 18. (Accessed January 20, 2014, at http://www.thompsoncreekmetals.com/s/news-releases.asp?ReportID=606774.)

Thompson Creek Metals Co. Inc., 2009b, Thompson Creek announces 30% increase in molybdenum mineral reserves and new 16-year mine plan for Thompson Creek Mine: Littleton, CO, Thompson Creek Metals Co. Inc. press release, November 5. (Accessed January 20, 2014, at http://www.thompsoncreekmetals.com/s/news-releases.asp?ReportID=606788.)

Thompson Creek Metals Co. Inc., 2009c, Form 10–K—2009: U.S. Securities and Exchange Commission, 82 p. (Accessed January 20, 2014, at http://www.thompsoncreekmetals.com/i/pdf/filings/Form10K-2009Q4-amended.pdf.)

U.S. Bureau of Land Management, 2008, Record of Decision—Environmental Impact Statement: Smoky Canyon Mine, Panels F & G: Idaho Falls, ID, U.S. Bureau of Land Management, June 6. (Accessed January 20, 2014, at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm8_047497.pdf.)

U.S. Bureau of Land Management, 2009, Backround information on the 2009 Reclamation and Sustainable Mineral Development Award winners: U.S. Bureau of Land Management press release, October 28. (Accessed January 10, 2014, at http://www.blm.gov/wo/st/en/info/newsroom/2009/october/NR_10_28_2009/NR_10_29_2009A.print.html.)

U.S. Silver Corp., 2010, U.S. Silver announces record production in Q4 09: Toronto, Ontario, Canada, U.S. Silver Corp. press release, January 13. (Accessed January 20, 2014, at http://www.us-silver.com/files/doc_news/2010-01-13_NR.pdf.)

TABLE 1

NONFUEL RAW MINERAL PRODUCTION IN IDAHO[1, 2]

(Thousand metric tons and thousand dollars)

| Mineral | 2007 | | 2008 | | 2009 | |
|---|---|---|---|---|---|---|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| Gemstones, natural | NA | 339 | NA | 430 | NA | 491 |
| Sand and gravel, construction | 24,200 r | 127,000 r | 18,800 r | 107,000 r | 12,900 | 75,000 |
| Stone, | | | | | | |
| Crushed | 6,170 | 37,500 | 5,950 r | 38,800 r | 4,410 | 30,800 |
| Dimension, quartzite, sandstone | 34 | 4,200 | 34 | 4,130 | 25 | 3,370 |
| 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 | XX | 612,000 | XX | 921,000 | XX | 826,000 |
| Total | XX | 781,000 r | XX | 1,070,000 | XX | 935,000 |

[r]Revised. NA Not available. XX Not applicable.

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

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

TABLE 2

IDAHO: CRUSHED STONE SOLD OR USED, BY TYPE[1]

| Type | 2008 Number of quarries | 2008 Quantity (thousand metric tons) | 2008 Value (thousands) | 2009 Number of quarries | 2009 Quantity (thousand metric tons) | 2009 Value (thousands) |
|---|---|---|---|---|---|---|
| Limestone | 6 | 1,170 | $7,060 | 6 | 237 | $3,430 |
| Granite | 10 | 544 | 2,980 | 7 | 282 | 1,390 |
| Traprock | 30 r | 1,500 r | 7,640 r | 38 | 1,710 | 8,660 |
| Sandstone and quartzite | -- r | -- r | -- r | -- | -- | -- |
| Miscellaneous stone | 20 r | 2,730 r | 21,100 r | 25 | 2,180 | 17,400 |
| Total | XX | 5,950 r | 38,800 r | XX | 4,410 | 30,800 |

[r]Revised. XX Not applicable. -- Zero.

[1]Data 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 2009, BY USE[1]

(Thousand metric tons and thousand dollars)

| Use | Quantity | Value |
|---|---|---|
| Construction: | | |
| Coarse aggregate (+1½ inch): | | |
| Riprap and jetty stone | 15 | 107 |
| Other coarse aggregate | 20 | 149 |
| Coarse aggregate, graded: | | |
| Concrete aggregate, coarse | W | W |
| Bituminous aggregate, coarse | W | W |
| Bituminous surface-treatment aggregate | W | W |
| Railroad ballast | W | W |
| Fine aggregate (-⅜ inch): | | |
| Stone sand, bituminous mix or seal | W | W |
| Screening, undesignated | W | W |
| Coarse and fine aggregates: | | |
| Graded road base or subbase | 913 | 4,050 |
| Unpaved road surfacing | 188 | 904 |
| Terrazzo and exposed aggregate | W | W |
| Crusher run or fill or waste | 15 | 53 |
| Other coarse and fine aggregates | 5 | 23 |
| Agricultural: | | |
| Limestone | W | W |
| Poultry grit and mineral food | W | W |
| Special, mine dusting or acid water treatment | W | W |
| Other miscellaneous uses and specified uses not lis | 306 | 3,960 |
| Unspecified:[2] | | |
| Reported | 1,140 | 9,250 |
| Estimated | 1,050 | 7,170 |
| Total | 4,410 | 30,800 |

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

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

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

TABLE 4
IDAHO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2009,
BY MAJOR USE CATEGORY[1]

| Use | Quantity (thousand metric tons) | Value (thousands) | Unit value |
|---|---|---|---|
| Concrete aggregate and concrete products[2] | 1,270 | $9,530 | $7.48 |
| Asphaltic concrete aggregates and other bituminous mixtures | 213 | 1,790 | 8.41 |
| Road base and coverings | 1,940 | 10,800 | 5.56 |
| Fill | 189 | 645 | 3.41 |
| Snow and ice control | 43 | 192 | 4.47 |
| Other miscellaneous uses[3] | 30 | 228 | 7.60 |
| Unspecified:[4] | | | |
| Reported | 3,660 | 20,800 | 5.69 |
| Estimated | 5,540 | 31,000 | 5.60 |
| Total or average | 12,900 | 75,000 | 5.82 |

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes filtration and railroad ballast.
[4]Reported and estimated production without a breakdown by end use.