Idaho Mining & Exploration 2010

Virginia S. Gillerman
Idaho Geological Survey
Boise, Idaho

NWMA, Dec. 8, 2010
Idaho Non-fuel Mineral Production

2008 set a new record and Idaho’s largest ever value – Over $1 billion worth of minerals!

Data from USGS
For 2009 and 2010, would expect silver and base metal sectors to expand.
2010 Economic Highlights

Economic Recession in US – but global metals demand – "BRIC" countries developing.

Supply vs. Demand
Global Uncertainty

Attention on "critical minerals".
Coeur d’Alene District

1884 – 2009: Over 1.2 billion troy ounces Silver
(> 37,588 metric tons Ag)
Pouring sheave deck for new shaft (11/30/10)
Comparison of NSR Contours - 2007 to 2009

Lucky Friday Exploration Success: Need for Internal Shaft
Lucky Friday: Gold Hunter

Placing lower hoist drum halves

Surface exploration – later in talk
U.S. Silver Corporation
Galena shaft caved from 2400 to 3200 level in 1998.
U.S. Silver: Galena Mine

Silver Vein
SILVER OPPORTUNITY PARTNERS (Electrum Group)
New Jersey Mining Company

Silver Strand mine
~ 4.57 ppm Au
322 ppm Ag

New Jersey Mill
Kellogg, Idaho

See talk Thursday AM
New Jersey Mining: Golden Chest mine, Murray, Idaho

Hanging wall of the Idaho fault in the Golden Chest mine.

0.27 meter of 864 gpt Au
Proposed Plan
Upper Basin of the Coeur d'Alene River, Bunker Hill Mining and Metallurgical Complex Superfund Site

EPA
United States Environmental Protection Agency Region 10

July 12, 2010

190 pages long
30 days for Review

50-90 Year Program
$1.34 Billion
U.S. Geothermal Raft River Power Plant
Thompson Creek Metals

3rd Qtr. Mo at $15/lb., Up from 2009.
Costs @ $5.50/lb.

2010: 24 million pounds Mo
Future Growth at Thompson Creek

Thompson Creek pit geology

Challis Volcanics
~49 Ma

Metasediments
~345 Ma

Pat Hughes Skock
~88 Ma

JUST MOLY!
P&P reserve of 150 million metric tons @ 0.084% Mo.

Uses:
Steels, jet engines, alloys

Thompson Creek Mine Plan
GEOLOGY OF THE IDAHO PHOSPHATE DISTRICT

- Permian Phosphoria Fm.
- Meade Peak Member (5 m.y. of deposition about 265 m.a.?)
- Phosphatic black shale – restricted marine basin with upwelling organic-rich currents
- P, + C, V, U, Mo, Se, etc.
- Apatite

(Piper, 2001)
Monsanto – development & exploration

Blackfoot Bridge Mine EIS
J.R. Simplot Company
Smoky Canyon mine

Best Safety Year EVER – and proud of it!

Panels C & B, tailings ponds

Phosphate rock slurry is piped 87 miles to Don Fertilizer Plant, Pocatello. (350 employees)
Simplot: Reclamation

Dinwoody Cover System Test Phase 1

Test Area

Borehole Permeameters
Agrium

Dry Valley D pit backfill

Phosphoric Acid Plant, Conda
Central Farmers – Georgetown Canyon Fertilizer Facility Remedial Action Plan Implementation 2009 - 2010

Geologic Society of America 2010 Annual Meeting Denver, Colorado November 3, 2010
Georgetown Canyon

Phase II – 2010 – Stream Channel

2600+ feet of new stream channel
P Exploration

Inferred Resource of 120 million tons at ~ 23% \( P_2O_5 \), plus V zones.
Aggregate 2010
Highway Construction

US 95: Sandpoint Bypass, North Idaho

I-84: Boise Valley
Emerald Creek Garnet: WGI Heavy Minerals

- Mining mostly on Carpenter Creek.
- Volume about same as 2009.
- Markets soft in first half; better late in year.
- Concurrent reclamation after big year in 2009.

Flat deck screen handles same volume as multiple trommels.
Production down. Also down at Oakley Stone quarries.
Idaho Travertine

- Was Idaho Travertine but leased and renamed in 2008.
- New owner returned company to Orchard family. Back to original name in April.
- Quarry is 40 miles east of Idaho Falls.
- Custom cutting facility in Idaho Falls. Large saws.

www.idahotravertine.com
Table Rock Sandstone

- Table Rock Quarry, Boise
- Blasted in November.
- New business building at BSU.
- Gerhard Borbonus Landscaping and stone fabrication facility.

“Castle” on Warm Springs Ave., Boise
Hess Pumice
Idaho Minerals
U.S. Grout

Malad, Idaho

Perlite expander plant

Wrights Creek mine

Grouting at Lake Mead Intake #2
Bear River Zeolite
Preston, Idaho

Markets: Removal of radioactive contaminants, animal nutrition, water filtration, oil/gas well reagents, water treatment, fertilizer, etc.

2010 sales and production up 30%. Sold 2500 tons to DOE to recover Sr\textsuperscript{90} at demo site in NY.
Exploration 2010

YES!
Oil and Gas: Bridge Resources Corp.

JV with Paramax Resources Ltd.

Island Capitol 1-19

Western Idaho Basin Project, Payette County
Bridge/Paramax JV: Western Idaho Basin

Willow Project ML Investments 1-10 Well

5.8 mmcfgd, 100 bopd, 3/8” choke
i-minerals: Helmer-Bovill area

Drilling N of WBL area

Good Clay!
Hecla Silver Valley Drilling - 2010

20 holes = 34K feet; 2,000 soil samples; Upper Grouse 700 portal reopened.
United Mining Group: Crescent mine

Countess Decline Portal

UMG buy in (50% +) from owner SNS
Two Mile Gulch Project, Osburn, Idaho
New Jersey Mining/Newmont Toboggan Joint Venture

Toboggan Creek

See talk Thursday AM.

Core and RC drilling Surface Work

Results pending.
Premium Exploration, Inc.

- Major 2010 drill program on Friday-Petsite property.
- Using detailed geophysical surveys to map zone and target holes.
- PFR2010-15: 1.2 g/t Au over 107 meters, along Friday Fault.
Formation Capital Corp., U.S.

- Idaho Cobalt Project
  - Cu-Co-Au UG mine
- Permits Approved
- Seeking Financing
  - Industrial bonds
  - BNP Paribas
- Site Clearing
- Drilling
- REE evaluation

Bill Wood signing accepted POO (12/2009).
Idaho Cobalt Project

February logging operation on mill area

R10-03 setup in September, 2010
6 diamond drill holes
Otis Capital: Kilgore Project

Sinter
Midas Gold: Golden Meadows

- Drilled 44 core holes, 33,881 ft.
- 12 line-km IP
- 43-101 West End
  > 1.3 million oz. Au, (ind.+inf.)
- Hangar Flats
- Meadow Crk discovery

Stibnite, Idaho
Mosquito Consolidated: Cumo

- Purchased private land.
- Drilled 3 DDH on patented Baby claim group.
- Waiting on FS EA for exploration drilling (July, 2010 draft for public comments)
- Public concern & ICL opposition
Atlanta Gold Inc.: Atlanta

NO CYANIDE! Flotation Plant scenario. Take As out of source area.

2010: 39,075’ of core drilled.

- Drilled 5,055’ RC
  - Intrusive Breccia: 5 holes, extensive Au.
  - Polymetallics: 2 holes, good grade 400 ft below Sonneman level.

See talk Thursday AM
Lots of other exploration going on!

How can IGS help your program?

- Search by commodity REE, Co, Mo, Ta, etc., location.
- MPM, over 8000 mines and prospects.
- Mineral Property Files, over 2600 files archived.
- Geologic mapping, publications online.
- Research capability.

Bloomberg

Rare Earth Prices Soar Even as China Pledges Supply
By Mark Truper and Sopai Rahman - Oct 20, 2010

Rare-earth prices have jumped as Chinese export quotas cramped worldwide supplies for the elements used in the manufacture of disk drives, wind turbines and smart bombs.

Prices have climbed sevenfold in the last six months for cerium oxide, which is used for polishing semiconductors, and other elements have more than doubled, according to Metal-Pages Ltd. in London, which tracks rare-earth prices.

Actions by China, which produces more than 90 percent of the world's rare earths, have drawn criticism from U.S. lawmakers and officials in Japan and Germany. China reduced its second-half export quota for the minerals by 72 percent in July. It is now further restricting exports, according to industry participants.

"Materials are still being held up in customs and shipments are delayed," Jeff Green, president of J.A. Green & Company LLC in Washington, who represents miners and users of the elements, said in a telephone interview yesterday. "Many believe rare-earth quotas for the second half of 2010 are exhausted, leaving materials unavailable for sale."
New Exploration Tools from IGS

www.idahogeology.org

Come see the friendly folks in Idaho!
Slide 1

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Virginia S. Gillerman
Idaho Geological Survey
Boise, Idaho

NWMA, Dec. 8, 2010

Special Thanks to Earl Bennett, Dean of the Silver Valley, for his assistance; also to numerous agency and company geologists for supplying information.

Slide 2

Idaho Non-fuel Mineral Production

Mining was one of two industries that actually added more jobs in last national employment report – healthcare was the other. From Dec. 3 or so. Not just adding to gross domestic product – but adding good paying jobs.

Slide 3

By Commodity

2009 data not available yet. Moly price dropped at end of 2008, but other commodities did also. 2009 mid-year resurgence of metals continued whole-heartedly into 2010.
2010 Economic Highlights


Supply vs. Demand
Global Uncertainty
Attention on “critical minerals”.

Metal prices better than a year ago.
Dec. 3, 2010: Gold futures closed above $1400/oz. Up 14% in 3 months. Silver closed over $29/oz. Poor job market and other negative news seems to be good for precious metals especially.

Coeur d’Alene District

1884 – 2009:
Over 1.2 billion troy ounces Silver (> 37,588 metric tons Ag)

Hecla Mining Company
Lucky Friday mine

~7800
# 4 Shaft project
Golden Hunter Deposit
Pouring sheave deck for new shaft (11/30/10)

Hecla is finding the silver at their Lucky Friday mine near Mullan. The Friday crews achieved record number of tons mined this year. Currently mining the Gold Hunter ore body and working on the pillar between underhand stopes off 4900 level and upper stopes off the 5900 level. Started filling the new tailings impoundment. For the future, the new deep discoveries may be Idaho’s premier project, as Hecla is evaluating development of major internal shaft to expand deeper to mine new discoveries on Gold Hunter vein system at Lucky Friday mine. Board
expects to make final decision in early 2011. See diagram of shaft levels – would extend at least to 7800 level.

#4 Shaft project cost $150-200 million and increase silver production by as much as 50% plus extend mine life substantially. The company is debt-free and really likes these high silver and base metal prices.

Completion of the shaft project, which would take until 2014, would lead to expanded yearly silver output from the Friday. Grades of the new project are projected to increase to about 14 opt Ag vs. current head grades of around 10 opt. Good progress on excavation of hoist room and placing foundations for main hoist.

Equipment received to date includes permanent hoist, ug concrete trucks and sinking plant facilities.

High grade GH vein in stopes – probably around 5900 level, and drill core from 1800 feet down below. Current production 2010 was 2.5 million ounces Ag in first 9 months at total cash cost of $ 3.67 per ounce due to byproduct credits. Drilling continued this year with about 28,000’ of exploration drilling and 14,000’ of delineation drilling on Gold Hunter vein sets. Some rather nice grades around the 6500 level, such as 30 vein intercept of 5 feet of 22 opt Ag and 110 vein with 6.9 feet of 43 opt Ag, and just as good down another 1000
feet. Exploring strong veining to east of current LF extension as well.

See cross sections last year and Art Campo’s talk tomorrow on geology of Gold Hunter.

U.S. Silver on its way to profitable year with 1.7 million ounces Ag produced through 3rd Qtr. 2010. Mining and milling at Galena and operating nearby Coeur mill. Production back to normal after contractor accident in summer, and costs decreasing with greater tons and good grades. Completed Galena Shaft repair in March, providing full access to 2400-3200 levels from Galena and #3 shafts.

Galena shaft repair est. at $6 million.
Slide 11

Had 2 diamond drills working all year and that will continue. Through 3rd quarter, completed over 35,000 feet of exploration drilling. Mining on multiple veins, but especially the Silver vein, 220 vein and the 175 vein, a new high grade Pb-Ag vein off 5200 level. The Pb-Ag ore is processed at the Coeur mill with Ag-Cu at Galena circuit. Combination of slusher stopes and diesel-accessed areas. About 225 employees.

Slide 12

Famous Sunshine mine has produced over 360 million ounces Ag. In May, Silver Opportunity Partners LLC announced acquisition of all assets of Sterling Mining Company, inc. historic Sunshine mine. Approved by US Bankruptcy Court with high bid of $24 million. Sterling had acquired lease/purchase option from Sunshine Precious Metals Inc. (SPMI) after mine shut down in 2001. Sterling had reopened it in 2007, drove the Sterling Tunnel and restarted mining of upper levels, but could not make go of it due to financial problems and mine closed again in September 2008. Silver Opportunity is part of Electrum Group, a large investment group with multiple global mining properties and considerable experience. (Owner is Thomas Kaplan). Plan is to spend time carefully studying the mine’s assets, infrastructure and resource potential. About 29 people working at site late in year.

Robert Higdem, 2010  208-783-2892 (Ext 202)
Putting together an exploration/development plan.
Dewatered almost to the 3700 foot level
Employ 29 people

As of September 22, 2009, 13 people employed by Sterling and pumps have been turned on in the Sunshine. Funds provided by Minco ($1 million this summer and hopefully more to follow). SNS has not been paid yet (9/22/2009, Robert Higdem, Sterling) but will have to be paid according to the court’s decision.

Sep 01, 2009, SPMI Clarifies That Legal Controversy Over Sunshine Mine Continues

August 20, 2009, Minco Silver extended to Sterling an additional US$1,000,000 line of credit to fund Sterling's expenses and costs associated with the Sunshine Mine Bankruptcy in March, 2009.

August 19, 2009, Sterling Mining Company (the “Company”) has regained possession of the Sunshine Mine after a ruling from the United States Bankruptcy Court District of Idaho granted Sterling’s motion for turnover. The Company took physical possession of the mine site on Wednesday afternoon, August 19, 2009.

June 01, 2009, Minco Silver Updates Sterling's Bankruptcy

Feb 23, 2009, Minco Silver Forecloses on Sterling Mining Company

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3100 Jewel to 3000 Silver Summit
Shaft Escapeway = 10,600 feet
New Jersey Mining has two small mines in development/production and mill in Kellogg with cyanide and flotation circuits. Company finished development of ore block above adit level at Silver Strand mine, closer to Coeur d’Alene. New permit last couple years. Can see some of high grade oxide ore in face. Had some metallurgical difficulties with silver recovery. Working on better plan, but ran into this:

Drilled into some real high grade at their Golden Chest mine in Murray. Tried to expose more from underground, but bad ground kept them out for now.

Earl: Here is some of the high grade gold we drilled at the Golden Chest in June this year. The intercept was 27 cm of 864 gram/tonne gold in a banded vein in the Idaho fault zone at a depth of 58 m below surface. We chased this intercept underground and found a decent package of veins in the vicinity but bad ground prevented us
from actually reaching the intercept. More drilling from underground will be done.

Fred

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Kellogg, Idaho. New Jersey Mining Company (NJMC: OTCBB) announced in June that it intercepted a high grade banded vein in the hangingwall of the Idaho fault at the Golden Chest mine near Murray, Idaho. The intercept in Hole 10-01 was 0.27 of a meter of 864.48 grams per tonne (gpt) gold at a depth of 58 meters below the surface. In addition, Hole 10-01 intercepted other mineralization including the Claggett vein in the footwall of the Idaho Fault. The Claggett vein intercept was 0.9 meter grading 14.7 gpt gold. Because the high grade intercept is within 10 meters of underground workings it was decided to explore the area by driving mine openings from the nearby ramp. A 17 meter crosscut was driven through the Idaho fault zone and several quartz veins were crossed. The veins were then followed by drifting on them for 10 meters. Finally, a raise was driven up dip about 12 meters on the veins toward the high grade intercept. Extremely difficult ground conditions and a high rate of groundwater inflow were encountered in the raise, making the operation unsafe to continue. The veins which were explored contain base metal sulfides and occasional grains of visible gold. The aggregate thickness of the veins is about 0.7 of a meter. Gold grades
ranged from 1 gpt to over 15 gpt, averaging about 4 gpt. The Idaho fault is a thrust fault which appears to be the main conduit for gold-bearing solutions that formed the various veins. The larger veins are generally in the footwall of the fault in a quartzite unit. In this case, gold-bearing veins are near the upper strand of the fault and thus offer additional potential for exploration. The best choice of methods to explore the fault zone is to drill short core holes from underground openings. Plans are being made to conduct underground and surface drilling at the Golden Chest to increase the resource base. Further exploration depends on obtaining the necessary funding to proceed.

The EPA has proposed a massive expansion of the Upper Coeur d'Alene River Basin cleanup plan. The EPA's proposed plan has a 50-90 year implementation timeline with a projected cost of $1.34 billion in today's dollars, threatening future mining jobs in Idaho's Silver Valley. NWMA provided oral testimony at an EPA public meeting as well as a listening session hosted by U.S. Senator Mike Crapo (R-ID). NWMA's testimony focused on the importance of protecting current and future mining jobs in the region. We also stressed the need for EPA to heed the advice of the National Academy of Sciences and break the site into more manageable units which can be
cleaned up quickly and delisted from Superfund.

In response to overwhelming public opposition to the proposed plan and multiple requests for additional time to study a plan of such epic proportions, the EPA extended the comment period to November 23, 2010. **NWMA will be submitting detailed written comments and initiated an Action Alert to solicit member comments as well**

*Retired teacher in green shirt is Jean Vosberg. Final statement was for the EPA to “get the hell out of the Silver Valley.”*

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Review of locations – all previous up in Silver Valley, a few miles east of Spokane. Discuss exploration in Silver Valley later.

Will now shift to the large operations in central Idaho (TC Mo) and southeast Idaho’s Phosphate belt. Raft River Geothermal plant, owned by U.S. Geothermal continued to operated as planned. Company involved in $10 million DOE-funded project to test EGS (enhanced geothermal system). Lead researcher is EGI, part of University of Utah; a US Geothermal well at Raft River will be the test site. Objective is to study well stimulation by “cold” water injection. Boise-based US Geothermal is actively developing properties in Oregon and Nevada. Several other hot spots for geothermal exploration around the state.
Thompson Creek Metals operates large Thompson Creek mine in Custer County. 4th largest primary molybdenum mine in world. Having an excellent year with strengthening Moly prices. In 2009, produced just under 18 million pounds of Mo, but on track to produce about 24 million pounds in 2010 (undoubtedly new record) due to higher grade ore in mining phase. 375 full-time employees and producing out of Phase 6 orebody, with stripping on Phase 7. Concentrate shipped to roaster at Langeloth, PA.

Excellent drill results from last few years have expanded mine plan. Released new NI 43-101 reserve (based on $ 10/lb. Mo price) late last year with new mine plan (see section) which will lower the pit bottom and pushback both high walls in Phase 8. Extends mine life to 2025. (Proven and Probable reserves of about 150 million metric tons at 0.084 % Mo.) Working on EIS for expansion. Necessary to raise tailings dam and deal with move onto federal land for some of facilities (but not mine proper). Expect draft out late in 2011. Exploration drilling is continuing.
Southeast Idaho is home to 3 large phosphate mines and 3 large chemical processing plants (boxes). Increased need globally for food and thus fertilizer has kept phosphate markets strong. Economic mainstay of SE Idaho. Open pit mines, ore is 25-30% P2O5. 2 types of plants: Elemental (only in North America) and Phosphoric Acid or fertilizer plants.

Phosphoria and black organic shales enrich other elements: P, plus C, V, U, Mo, Se, etc. Selenium enriched in center waste shales and easily released if material is oxidized and has water flowing through old waste dumps, etc. Quite a problem.

Monsanto continued mining phases 4-6 at their South Rasmussen mine with over 9 million tons ore and waste moved. Ore trucked to only elemental plant in hemisphere. Elemental P goes into Roundup herbicide. Company changed its marketing strategy to counter cheap imports of off-brand material from competitors. Plant operated at capacity.
Continued drilling at new Blackfoot Bridge mine property, which was awaiting final EIS, currently in review in Washington, DC. Key feature of new mine proposal is extensive use of Geosynthetic Clay Liner Laminate (GCLL) cover system to reduce water infiltration and selenium leaching. Particularly sensitive site due to proximity to Blackfoot River a few hundred feet to north. River impacted by selenium, presumably due to historic mining in drainage. Lots of comments, added overburden seepage management plan as further insurance to protect water resources. Exploration drilling on leases at Caldwell Canyon.

Simplot mined at their Smoky Canyon mine near Wyoming border – both at Panel B and panel F. FY 2010, set record for pumping slurry – over 1.8 million dry short tons, and moved a record 25 million tons of material in past year. Much in preparation for mining at new Panel F and G. Increased # of employees about 20%. Having safest year on record. Recall from last year, the approval of Final EIS on Panel F and G expansion was appealed by environmental groups. Oral arguments heard October, 2010, for final appeal before 9th Circuit Court with no decision yet. Work allowed to progress. Simplot makes fertilizer at Don Plant in Pocatello. Fantastic market conditions. Plant product is sold out for year. Also doing exploration drilling at Dairy Syncline.
Slide 24

Backfilling Panel E with waste rock from Panel F. Working on better designs for cover systems at Panel F and G. Using the Dinwoody Formation, a shaly unit, as part of clay cap and cover that will reduce infiltration and minimize potential leaking. Test plots monitored with borehole permeameters to measure hydraulic conductivity, lysimeters, and other tools. Also gained Forest Service acceptance of new reclamation seed mix. Planted 42 acres with over 20,000 trees and shrubs.

Slide 25

Mining Panel D at Dry Valley mine, backfilling Panels C and D. Dry Valley operations will end about mid-2011. Preparing North Rasmussen Ridge Mine for production. Drilling core and RC (about 17 holes) at Rasmussen Valley site (at very southern end of Rasmussen Ridge mine. Agrum submitted mine plan for new Rasmussen Valley mine to agencies in March, 2010. Expect public scoping meetings to start in first half of 2011.
Nu-West is subsidiary of Agrium. One of talks in excellent session organized on hydrogeology of phosphate mining at GSA meeting in November. Talk by Mitch Hart of Nu-West focused on clean-up of 1950’s and 60’s era fertilizer plant in Georgetown Canyon in far southeastern Idaho. Multi-year project.

Project started in 2001 with demolition of old structures, 2004-8 site investigation of surface and groundwater, and 2009-2010 removal and capping of contaminated material, including elemental phosphorus, plus stream channel relocation. Good effort by Agrium to remediate old problem areas.
New player, Stonegate Agricom Ltd., has acquired the Paris Hills Phosphate project in Bear Lake County near southeastern Idaho. Drilling started in late September. Two zones in Phosphoria. Drilled by RMP in 2008 originally by ESI in 70’s. Stonegate Acquired rights from Rocky Mountain Resources Corp. Several historic phosphate mines in area, dating back to 1903. Early underground development of phosphate noted high V-bearing horizons as well. Two zones of inferred resource totalling 120 million tons at over 23% P2O5 and also V resources. Acreage 2,114 and would be underground mining?

Many smaller industrial mineral operations. Important to rural communities. May employ 2 guys to 30 or more. Construction-related industries, particularly those with residential markets, still down significantly due to housing market and general economic malaise. Some of the more specialty ones doing a bit better.

Ash Grove Cement plant in Inkom, no longer mining limestone, but converted to crushing clinker from Durkee plant.
Aggregate 2010
Highway Construction

North Idaho sand and gravel pits and concrete producers kept busy supplying material for North-South bypass of US-95 around town of Sandpoint.

Emerald Creek Garnet
WGI Heavy Minerals

- Mining mostly on Carpenter Creek.
- Volume about same as 2009.
- Markets soft in first half; better late in year.
- Concurrent reclamation after big year in 2009.

2010: About the same as last year. One washing plant on Carpenter Creek. Doing concurrent reclamation and some exploration. Forest Service runs tourist garnet digs – going very well. 5000 visitors about.

Nov. 2009:
Despite the poor economic conditions, WGI’s operations have returned positive results for the third quarter by improving production flows, managing expenses and responding to customer needs. TGI, our supply partner in India, has increased production of garnet by bringing on capacity in Andhra Pradesh. This capacity is associated with TGI’s production of ilmenite. During the quarter the Company recognized its second brokered ilmenite sale of the year, after being absent from this market since 2004. The Company’s mining and processing facilities at Emerald Creek Garnet (“ECG”) in Idaho, U.S.A. has
increased its productivity and lowered costs through more efficient processes despite the lowest sales levels of its range of products seen in the Company’s eighteen years of operations.

The Company hired a full time geologist in North America to work with the existing management team to identify mineral deposits and evaluate those deposits through drilling programs and other means deemed necessary to understand the geological characteristics and economics of those deposits. To date this work has been concentrated in areas around existing ECG mining. The Company has also retained a qualified person to prepare the necessary reports once economical deposits are confirmed. Today this project continues and the Company hopes to be able to report on its efforts in 2010.

Despite the poor economic conditions, WGI’s operations have returned positive results for the third quarter by improving production flows, managing expenses and responding to customer needs. TGI, our supply partner in India, has increased production of garnet by bringing on capacity in Andhra Pradesh.

Idaho operations about the same but some reduction in employees and production due to costs and ore grades. Market still good but who knows when it will change. Biggest change was away from trommels to flat screens for more
efficiency. Coeur d’Alene, Idaho, September 15, 2008 – WGI Heavy Minerals, Incorporated (WGI) (TSX: WG) today announced that it has completed the sale of its investment in Transworld Garnet India (Pvt) Limited (TGI). The sale consists of WGI’s 74% equity interest in TGI and the repayment of debt financing.

WGI has repatriated from India US $4.85 million in cash for its 74% equity interest in TGI. (Sept. 2008)
The sale marks the beginning of WGI’s three-year distribution agreement with V.V. Mineral covering garnet, ilmenite and other minerals that may be present in the beach sands mined by V.V. Mineral. The agreement provides WGI with an assured minimum supply of 60,000 metric tons of garnet annually, which is a significant increase over current production rates. Garnet grades and quality levels will be consistent with material currently supplied to WGI by TGI, and additional quantities of garnet will be supplied as V.V. Mineral’s capacity expands. In addition, WGI will act as a broker for the sale of V.V. Mineral’s ilmenite products.
Three Rivers Quarry and its colorful flagstone is one of Idaho’s premier decorative rocks. Reportedly produced under half of its maximum output (30,000 short tons or so).

Three Rivers production about 22,000 tons in 2008 but only 15,000 tons estimated for 2009 (BLM). May be partly market conditions but also delays and work needed for EIS completion. Nearby Ramshorn quarry of local company Rockworks also active. Challis area

Ted Orchard and family regained their travertine company when 2008 owners did not take their option. Hopefully markets will improve. Very attractive stone and good cutting facility. Trying to get things up and running again. Photo is Potter County Courthouse, Texas.
4. Table Rock Sandstone

- Table Rock Quarry, Boise
- Blasted in November
- New business building at BSU
- Gerhard Borbonus Landscaping and stone fabrication facility

5. Staying busy

2010: Business picking up (except for stone veneer/housing market).
Especially in electronics (personal computer boards – Cu boards cleaned and prepped by ultrafine pumice prior to applying laminate), also paint filler markets improving. Maintaining key workforce. US Grout – special ultrafine cement – increasing sales to South American gold mines to reduce water infiltration.
Idaho Minerals – perlite sales also steady to slightly up.

2009: Business slow but hanging on. Any construction related market is just gone. Pumice production down 43% from prior year. Perlite only dropped 10% due to shutdown of competitor. Still have 60 employees. Did have layoffs. Used downturn to remodel plant for needed finer grinds for new uses, esp. filler markets. Also doing R and D on alkali-resistant concrete with pumice ingredient.
2008 – down about 10% in production due to economy. Cultured stone market down significantly due to housing market. Other top markets: 1. cultured stone/Lt weight blocks, 2.

2007-Hess Pumice had good year with pumice market steady. About 10-15% of their production went to new Owens-Corning artificial stone plant constructed next door. Shut down recently due to softening in housing market. 30 people laid off. Not Hess employees. Owens will probably mothball facility.

Produced 180,000 tons of pumice in 2005. A lot is used into making lightweight aggregate for the new Owens Corning Plant built by Hess Pumice. The plant produces a trademarked cultured stone.

Idaho Minerals, also owned by Hess mines Perlite that is largely used for potting soil. The perlite is processed at a new expander plant built by Hess at Malad. Perlite also steady in 2007. Canadian peat bogs mix it with their stuff. Also U. S. Grout.

From Mike Hess, 11/30/2006

BK Pumice is a new company started by a Hess employee who makes cosmetic products from pumice. This replaces the Italian pumice producers who used to have a lock on the cosmetic abrasive business. Italy is out of luck now as the UN declared the site of the main pumice mines a World Heritage site and shut the mines down. This allowed Hess to move into European markets. Owens Corning plant will probably expand next year. The company
makes various products from cultured stone made from pumice and cement. TV tube polishing has moved to China and Hess has lost a lot of this business. There are no TV glass plants left in the U.S. Hess now has an office in London to capitalize on the loss of the Italian pumice producers. Hess built a new ultra fine grind plant for the European paint business and hopes to expand this into U.S. paint market. Hess now employs 115 people at their facilities.

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2010: Doing very well. 2010 production will be up ~ 30% over 2009. Aggressive marketing and new uses. 
Adding VSI (vertical shaft impacter) crusher
2008-Bear River Zeolite (subsidiary of US Antimony) believes that its sales will be fifty percent higher for 2008 than they were during 2007. The higher sales are a result of a broader and more diversified customer base. Key markets include animal nutrition, water filtration, oil and gas well carriers for reagents, waste water treatment, soil conditioning, air filtration, and numerous retail products. Potential new uses include plastic food containers to adsorb ethylene gas that causes ripening and rotting of vegetables and fruits, a pozzolan for cement, oil and gas well cementing, and alkaline soil remediation. The Company has added a 60 inch vertical roller mill to its
circuit that has increased capacity by 200 tons per day. Other improvements have included more product silos, a new semi-automatic packaging plant, increased quality control, truck scales, and more mine equipment. Bear River Zeolite is regarded as one of the finest zeolites in the world.

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ZEOLITE, (known as "La Rocka Magica" in Italy) is mined in southeast Idaho. Development of the mine and construction of the plant began in 2001 and sales commenced in 2002. Although the deposit has never been drilled, dozer cuts and outcrops indicate mineralization of more than 200,000,000 tons.

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Opened in 2001; USAC major owner
Sales/tons increasing
Adding new screens to up mill capacity
Aggressively pursuing new markets,
uses
Uses: water filtration & remediation,
animal nutrition, odor control, soil amendments, etc.

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No surprise with metal prices, mineral supply uncertainty due to some global issues, fueled by strong demand from developing nations overseas, and considerable fear and uncertainty over national and international economic and political issues. Precious metals, esp. GOLD, but also SILVER, being sought as hard assets. But energy and industrial commodities also of interest. For metals, wonderful to see some grass roots exploration again.

Start with the industrials and then go from north to south, roughly. HIT only the larger projects due to time.

Idaho’s newest excitement (front page headlines in local newspapers) is near New Plymouth, NW of Boise on margin of Tertiary basin fill in western Snake River Plain. Region drilled in 1980’s but not as closely as current project. Local ranchers and Payette County still getting used to tall rig. Still drilling – on their 12th hole recently. Announced initial finds of potentially commercial quantities of natural gas.
Completed five initial wells with at least two successes followed up by development testing, step out wells, and seismic surveys. Added to acreage and delineated two development areas, named Hamilton Project and Willow Project. Reported estimate of recoverable 68 BCFE (billion cubic feet of gas equivalent). Sounds good. Possible commercial delivery next year, as project is within a few miles of natural gas pipeline. Testing and drilling are continuing.

i-minerals continued to move forward with a multi-commodity project near Bovill in Latah County. Drilled 10 more holes on clay resource in weathered granodiorite in WBL area. SRK just completed favorable preliminary economic assessment of clay. In November, SRK completed pre-feasibility study of Kelly’s Basin feldspar-quartz resource in November. Showed positive economics. Largely state leases, working on permits and public relations and planning. Commercial mining and milling operation could provide 100 jobs to region for at least 25 years.
Quick look at exploration map again. (POINT OUT Gas wells and i-minerals). Coeur d'Alene inset with major exploration projects outside of active mines.

Hecla compiling historic data in 3D. Started surface drilling in April, 3 rigs all season. Collected soils and opened up a portal to access Noonday vein upper workings near the Star-Morning mine (Star-Phoenix mined in 1990). Trying to extend Gold Hunter vein system to east and west.

When completed, our 2010 surface exploration program will total 20 diamond drill holes totaling 34,000 feet. The program commenced April 1 and we had three drill rigs operating through much of the summer. We will be drilling on the surface at least through the end of October. Additionally, we collected more than 2,000 soil samples along a grid extending from Mullan to Burke.

Our primary targets were the extensions of the Gold Hunter trend to the west toward the Star mine and to the east toward the Silver Mountain property. Additionally, we reopened the Upper Grouse 700 Level portal that accesses an LHD ramp into the Noonday veins in the Star upper country. Our surface drilling in the
Noonday area, combined with underground sampling along the LHD ramp and sublevels, will support a resource calculation up dip from historic stopes. This area was last mined by Star Phoenix in 1990.

We are expanding our detailed 3D modeling to mines in the Burke area with the objective of defining additional drill targets in that area.

From Lisa Hardy, 2010. This summer, the Countess 2200’ decline was started that will intersect the drill-indicated resource blocks on the Alhambra and South Veins for the purpose of obtaining a bulk sample. UMG has a buy in agreement with SNS that is incremental upward from 50% (after $ 5 million spent). UMG has a deal with Fred Brackebush to increase the size of the NJ mill from 100 tpd to 350 tpd. Have signed a letter of intent with Bob Hopper to pick up some 550 acres between the Crescent and the BH.

By first December, Countess Decline had crossed the Alhambra vein and was heading towards the South vein. Plan to do development work on both structures. Also extending west Hooper Tunnel, the main haulage level.

About 30 employees on project. UMG and New Jersey have deal to expand NJ mill in Kellogg to 350 tpd capacity to process ore from Crescent.

For 2010, started the Countess Decline (named for the claim it is on) that is in
460 feet as of 10/14/2010 and headed for the Alhambra Structure and will give access to the South Vein structure. They are also starting the Hooper Tunnel Extension that will go 1200 feet and allow access to the south vein. There will be no X’cut from the Alhambra tunnel to the S. Vein and no x’cut from the Hooper level to the S. Vein unless they find ore at this depth. All ore will be hauled via the Hooper tunnel and dropped down the Countess Raise.

43-101 resource (indicated and inferred) of 10 million ounces at grades around 19 opt Ag.

Azteca setting up rig on 2-mile creek, 2010. In October, Hole DDH-009 was completed at depth of 6760 feet. Assays and logging are pending but some intervals of alteration and disseminated sulfides were noted, along with quartz monzonite intrusives. Aim was to test hinge zone of anticline and will be comparing this hole to Holes DDH-005 and -006 which hit deep sulfide mineralization. Azteca acquired 100% interest in the Two Mile property by issuing shares for the 50% ownership of Silver Royal Apex in August.

In May 2007 Quantech Consulting, Inc. conducted a geophysical survey utilizing a Titan-24 Distributed Array. The Titan system is a multi-channel, distributed-array geophysical data acquisition system, recording broadband Magnetotelluric (MT) resistivity data, Direct Current (DC) resistivity data and Induced
Polarization (IP) chargeability data (Quantech, 2007). The Titan system provides three independent data sets capable of accurately measuring subsurface resistivities to depths in excess of one kilometer, chargeability (mineralization) for deeper than conventional IP systems can provide (Quantech, 2007).

November 28, 2007. Azteca is drilling their third hole. According to Justin results are encouraging.

Spokane, Washington – Matthew Russell, President of Azteca Gold Corp. (the "Company") announces that the Company begins diamond drilling operations today at its Two Mile silver exploration project near Osburn, Idaho. The first of three drill pads slated for drilling during the fourth quarter of 2007 has been prepared and the Company’s Boart Longyear LF70 diamond core rig will commence drilling under a services contract with M2 Technical Services. The first core hole will be drilled to a maximum target depth of 2000 FT. “It is a credit to our Vice President of Exploration, John Mears, and his oversight of the M2 Technical Services team that USDA Forest Service drill permits were received in less than four months and the first drill pad was prepared in under a week,” said Russell. “Azteca now has three exploration drilling projects underway in the Sierra Madre of Mexico, Mineral County, Nevada, and the Silver Valley of Idaho,” Russell added.
Drilled three holes in 2008. Looking for additional resources to complete the project.

In July, diamond drilling began on Toboggan joint venture of New Jersey Mining and Newmont, who is operator. Several specific properties, including the Gold Butte prospect, are located in an area of 38 square miles north of town of Murray. Last year’s drilling intersected a 7 g per ton gold intercept in silicified fault zone. Several holes were drilled – both core and RC. For more of an update, catch Fred Brackebusch’s talk at NWMA.

Drill is at Gold Butte prospect at the head of Butte Gulch and core is from a mineralized breccia zone from that same hole. Zone is described as an explosion breccia with potassic alteration, pyrite and high Te. Lead and Mo are anomalous. Gold is in the pyrite. Bedrock is upper Prichard, Unit H.

Scenic view is Toboggan Creek.
Ongoing 10,000 meter Phase Three drill program in area of historic gold mineralization
30-km airborne magnetics and EM survey over whole Shear zone.
Connects up to Buffalo Gulch deposit.
Hitting gold at depth along structures below known surface resource
(549,000 oz. inferred gold resource in 15 million tons at grade of 1.1 g/t Au) above 150 m depth.
Soil anomaly, ground mag geophysics, helping to target holes and define structures.
Have drilled at least 25 holes this year; of 28 planned. Integrating historic drilling by Kinross and others.
Lots of info on their website.
Sad Note: Geologist Wilf Struck, who was a prime advocate for exploration of area, was killed by drunk driver this past summer while riding motorcycle in Canada after completing deals.
Sympathy to his family and friends.

Permits and plan of operation completed at end of 2009. But financing for mine construction the main goal of 2010.
September: State authorized issuance of $46 million in Recovery Zone facility bonds, through Lemhi County and Shoshone Co. Industrial Development Corporations. Still requires bank arrangement. End November, Formation announced agreement letter with BNP Paribas, a large French Bank, to arrange for letters of credit to use the bonds. For more details, catch Bill Scales talk this afternoon.
Vancouver, B.C., November 30, 2010, Formation Metals Inc. (FCO-TSX) ("Formation") is pleased to announce it has signed an Engagement Letter with BNP Paribas Securities Corp. ("BNP Paribas") to act as sole Mandated Lead Arranger and bookrunner for a senior secured debt facility (the "Facility") for the construction and operation of Formation's 100% owned Idaho Cobalt Project (the "ICP"). Based on an indicative term sheet negotiated between BNP Paribas and Formation through its financial advisor, Auramet Trading, LLC ("Auramet"), the Facility may take the form of an amortizing construction / term loan or Letter of Credit supporting the issuance of tax exempt industrial bonds. The establishment of the Facility remains subject to, amongst other things, customary due diligence by the lenders and credit approval. All parties are excited at working toward the execution of the Facility as an integral part of the mine financing.
Drilled 5727 feet in 6 core holes across 400’ of strike of zone in untested area on southern extension of RAM deposit. Will use to optimize mine design and also to test distribution of Rare Earth Element minerals, which are known to occur in the cobaltite zones.

Otis Capital had another large program drilling at the Kilgore volcanic-hosted epithermal property in eastern Idaho. Drilled 40 core holes totaling 24,206 feet in 2010. (Over 36,500 ft. since 2008.)

Two target areas – known gold resource at Kilgore or Mine Ridge deposit (most of the holes).

Dog Bone Ridge – CSAMT anomaly under sinter cap on Dog Bone Ridge with updip soil anomaly. Test more in 2011.

Otis acquired 100% of the project from Bayswater. Some of drill results on website but continuing to intersect gold mineralization.
Midas Gold Inc. continued with big program putting together Stibnite District.
44 core holes for over 33,000 feet
12 line-km of IP surveys
Surface trenching and sampling (note special canine prospector)
Multiple target areas: For West End zone have 43-101 compliant resource (by SRK) of over 1.3 million ounces Au (indicated and inferred)
Working on Hangar Flats resource estimate and have new discovery along Meadow Creek Trend. Example: MGI-10-12 intersected 36 meters of 4 gm/t Au at Hangar Flats.

For more details, catch Chris Dail’s talk. Lots more gold in the ground in central Idaho.

2010 saw delay in drilling as Mosquito awaited completion of Boise Forest Environmental Assessment for exploration drilling on public land. Project hit the local newspapers and environmental groups came out in opposition to potential large mine. In meantime, company purchased a patented claim at one of several old mines surrounding the deposit. Drilled 3 core holes, totaling 4083 feet. Results pending. EA (for 13 miles of temp roads and over 200 drillholes) expected out soon.

Project prompted panel discussion on molybdenum and Cumo this past summer, sponsored by Idaho Environmental Forum. Boise County could use the jobs.
With new management in last few years, Atlanta Gold has been responsive to public concerns in addressing mining in Middle Fork of Boise River drainage. Shifted strategy to focus on underground deposit with some small pits and conventional milling with a flotation plant to produce sulfide concentrates that would be shipped out of state. Has advantage of actually removing the As in the ore from the ground – minimize need to treat any discharge. Aggressive program with over 39,000 feet of core and deep drilling. Identified double shear zone splits at depth. Employed about 35 people on the project this year. Expect to do more footage next year.
Thunder Mtn. Gold busy at South Mtn. property in Owyhee County. Mostly private land, two target types: historically mined zinc-rich polymetallic skarn and replacements with significant gold credit. Newly discovered, enigmatic intrusive breccia that carries anomalous gold in soils over large surface area. Recently announced results showed widespread anomalous gold in the holes testing the breccia and good mineralization down dip on the polymetallic zones. Company prepared new 43-101 resource on polymetallics (3.4 million tons). Details – see Pete Parsley’s talk on Thursday morning session.

Agnico-Eagle drilled a couple of properties. Western Pacific working at Blackpine, the Carlin-type gold deposit mined by Pegasus. U.S. Rare Earths exploring for rare earths in Lemhi County. Velocity staked claims on south end of Orogrande property. Shoshone Silver rehabing the Rescue mine at Warren.

Reports of true grass roots exploration. LET IGS HELP.
Over 2600 mineral property files (red dots). Enhanced map search capabilities for the over 8000 mines and prospects in the IGS database. Can click on and see info or download to table. Take a look at the IGS website.

Thank you.