IDAHO MINING AND EXPLORATION, 2011

Virginia S. Gillerman, Idaho Geological Survey, Boise

NWMA, Reno, NV
December 1, 2011
Idaho Non-fuel Mineral Production

Idaho Non-fuel Mineral Production (USGS)

Million $


Other Moly Silver Con. S&G

Chart showing the production of various minerals in Idaho from 2000 to 2010, with a significant increase in production over the years.
Idaho 2010p: $1,203 million
2011 Highlights

- New Idaho Mines in Construction
- Lots of Exploration Drilling
- Good Metal Prices
- Industrial Commodities More Stable than 2010

Warning Signs?

Beware the double-dip global economy?

Safety?
PRODUCTION and EXPLORATION!
• Court Approval and payment of $168 million as settlement for CDA Basin environmental settlement.
• Silver-based Dividend – the higher the realized silver price, the higher the dividend.
• Mine temporarily shut down due to Nov. 17 accident during construction of rock bin for #4 shaft project.

<table>
<thead>
<tr>
<th>Lucky Friday #4 Shaft</th>
<th>Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spent to Date (6/30/2011)</td>
<td>$70 mm</td>
</tr>
<tr>
<td>2011 (2nd Half)</td>
<td>$25 mm</td>
</tr>
<tr>
<td>2012</td>
<td>$40 mm</td>
</tr>
<tr>
<td>2013</td>
<td>$40 mm</td>
</tr>
<tr>
<td>2014</td>
<td>$25 mm</td>
</tr>
<tr>
<td>Anticipated Total Capital Requirements</td>
<td>$200 mm</td>
</tr>
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</table>
2010 Production –
- 2.276 million oz. Ag
- 5.6 million lbs. Pb
- 1 million lbs. Cu
- 7-year 43-101 based mine life.
- Exploration replaces production.
- 14,000 acre land position, favorable exploration targets.

237 employees
U.S. Silver

Coeur Mine and Mill
500 tpd (Pb-Ag)

Galena Mill, 900 tpd (Cu-Ag)
Galena mine

- Alimack raise machine

Exploration

- 40,000 feet by October
- 3 ug drills going at Galena
- 3700, 3400 levels Coeur
- Intercepts (Galena DDH 52-317 with 10.3 ′ of 26 opt Ag and 0.93% Cu); many intercepts & new veins.
EXPLORATION
- vein geochemistry
- tetrahedrite mineralogy
- vein showings/structure
SUNSHINE MINE – August 2011

Geologist Hugh Smith
Mill Expansion to 300-350 tpd

New Jersey Mill near Big Creek
Golden Chest mine

New Jersey/Marathon Gold Corp. joint venture

194 grains of visible gold
1 meter at ~ 120 ppm Au
25th Anniversary:
• U.S. American Eagle 1 oz. silver coin.
• 2011 sales at record high.
Thompson Creek Metals

2011 – Another great year!

2010 production: 25 million lbs. Mo

2011 production: ~ 23 million lbs. Mo
Thompson Creek Metals

Expansion to Phase 8
DEIS:
Summer 2012 with final in 2013
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)
2011

PHOSPHATE DISTRICT

POCATELLO

Simplot

Blackfoot Bridge

Monsanto

Agrium

SODA SPRINGS

Rasmussen Ridge

South Rasmussen

Dry Valley

Smoky Canyon

SC-F
Phosphate Rock

Fertilizer or Elemental P

Agrium Phosphoric Acid Fertilizer Plant, Conda

Benchmark Prices: Phosphate

<table>
<thead>
<tr>
<th>Central Florida MAP (per tonne)</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Avg. October 2011</td>
<td>$667</td>
</tr>
<tr>
<td>Avg. October 2010</td>
<td>$587</td>
</tr>
<tr>
<td>Avg. October 2003-2007</td>
<td>$265</td>
</tr>
</tbody>
</table>

Source: Blue Johnson & Associates, Green Markets

Monsanto Elemental P plant

Fertilizer also made at Simplot’s Don Plant, Pocatello
Monsanto

South Rasmussen Mine

Ore goes by truck to Elemental Phosphorus Plant at Soda Springs.

Exploration drilling at N. Caldwell Canyon
Blackfoot Bridge mine – construction, 2011

Access road construction and clearing for overburden area.
Stockpiles of topsoil and silica sand for culvert beds.

Geosynthetic liner system – will cap overburden piles.
Agrium completed mining ore at Dry Valley in mid-2011.

Moving operations to North Rasmussen Ridge mine.
DEIS in progress for Rasmussen Valley mine plan.

Exploration Drilling /mine plan Husky 1 lease.
Great Start: Dec. 2010 ruling by 9th Circuit Ct. OK to proceed mining in south lease area (Panels F & G).
Smoky Canyon mine

2011 Milestones:

- Fourth most \( P_2O_5 \) delivered to Don Plant.
- Most concentrate shipped.
- Very good safety year.
- Two energy savings projects completed.
- Dairy Syncline.
Phosphate - feed for the future?

Paris Hills: Mineral Resource and Drill Hole Status

Lower Zone Resource Estimate

<table>
<thead>
<tr>
<th>Lower Zone</th>
<th>Tonnes (millions)</th>
<th>Grade (% P₂O₅)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured + Indicated</td>
<td>19.0</td>
<td>30.6</td>
</tr>
<tr>
<td>Inferred</td>
<td>12.0</td>
<td>30.1</td>
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</table>

DRILL HOLE STATUS
- Completed for Resource Estimate
- Planned or in Progress for Future Resource Updates

RESOURCE STATUS
- Measured Resource
- Indicated Resource
- Inferred Resource
- BLM Mineral Rights Area

Source: Mineral Resource and Drill Hole Status as of November 17, 2011. Drill holes are shown at surface location. Center of resource circles shown are based on the drill-hole Lower Phosphate Zone intercept. Any difference between collar location and Lower Phosphate Zone intercept is due to down-hole drill-hole deviation.

1 Details on next page of this presentation.
Paris Hills: Phosphate Mineralization

Cross Section, Looking West

- Strike length of over 3.2 km
- Deposit is uniform and predictable
- Approximately 50 drill holes planned in 2010/2011

Assay Results*

<table>
<thead>
<tr>
<th>Hole</th>
<th>Lower Zone % P₂O₅</th>
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<tbody>
<tr>
<td>PA001A</td>
<td>32.8</td>
</tr>
<tr>
<td>PA003B</td>
<td>29.1</td>
</tr>
<tr>
<td>PA004</td>
<td>31.5</td>
</tr>
<tr>
<td>PA005</td>
<td>30.7</td>
</tr>
<tr>
<td>PA005C</td>
<td>31.6</td>
</tr>
<tr>
<td>PA007</td>
<td>32.1</td>
</tr>
<tr>
<td>PA008</td>
<td>31.8</td>
</tr>
<tr>
<td>PA010A</td>
<td>31.3</td>
</tr>
<tr>
<td>PA012</td>
<td>31.1</td>
</tr>
<tr>
<td>PA013</td>
<td>28.4</td>
</tr>
<tr>
<td>PA014</td>
<td>30.6</td>
</tr>
</tbody>
</table>

* Assay results for the Lower Phosphate Zone are from drill-hole composites used for Mineral Resource estimation and prepared as of November 17, 2011 by Agapito Associates Inc., an independent geological and mining engineering consulting firm based in Grand Junction, Colorado. Leo Gilbride, P.E., is the qualified person as defined in National Instrument 43-101. Additional information is available in a Technical Report on the Paris Hills Phosphate Project filed on SEDAR by Stonegate on November 17, 2011. Additional details are shown in a table in the appendix of this presentation.
2011 TRENDS

More stable than 2010.

Flat is good.

Still here is great.

Worry index still high.

3 Rivers flagstone
Emerald Creek Garnet

- Production flat from 2010.
- Markets stable.
- Concurrent reclamation.
- Exploration up.
Production way down at L & W Stone Corp. quarry in Custer County.

Oakley Stone quarries down also.
Ted Orchard running company again; increased marketing.

Medicine Lodge quarry active – “Continental Ivory” stone.

Quarried ~ 50 truckloads for 2 jobs in California.

Custom cutting facility in Idaho Falls.
Table Rock Sandstone

- Blasted in November; quarry in Boise.
- New business building at BSU.
- Gerhard Borbonus Landscaping and stone fabrication facility.

“Castle” on Warm Springs Ave., Boise
Hess Pumice

For Gold Mines!

Wrights Creek mine

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

18 employees at Preston mine.

2011 similar to 2010 – good year. Worked well for cleanup of Sr\(^{90}\) at demo site in NY.
Energy Resources: Oil/Gas

IGS archives files from historic oil and gas wells in Idaho.

2010 Drilling by Bridge Resources, Payette County
11 wells total, near pipeline
**Natural Gas in Idaho? Yes Fracking? Hmm?**

- **Bridge 2010**
  - **Hamilton Field**
    - 5 gas wells
  - **Willow Field**
    - 2 gas condensate wells
  - **Mini-fracking**
    - 4 wells


- **County vs. State regulatory authority**

Bridge Resources - Financial problems due to North Sea ventures. **Idaho leases up for sale.**
You bet!
i-minerals: Bovill Kaolin

Product Applications

- **Feldspar** (KB) (PC):
  - glass, ceramics, paint, filler
- **Quartz** (KB) (PC):
  - decorative glass, paint, ceramics,
- **High Pure Quartz** (KB) (PC):
  - lighting, sodium silicate, glass tubing, solar glass, LCD glass
- **Kaolin** (PC):
  - ceramics, filler, meta-kaolin (cement)
- **Halloysite** (PC):
  - Plastics, polymers, life sciences

Drilled WBL and Middle Ridge areas, processing tests, kaolin/halloysite contents, permits. Marketing critical.
United Silver: Crescent mine

Diagram of United Silver Crescent mine with labels for various features such as proposed surface drilling, proposed spiral ramp, south vein, alhambra vein, countess decline, wilkie incline, and proposed development. The image also includes a table showing SRK block model for Ag (ppm) with different concentration ranges and corresponding colors.
Hecla Mining: Silver Valley Exploration

- 314 M oz Ag
- 4.5 Mt Pb
- 2.2 Mt Zn

Locations:
- Hercules
- Tamarack
- Tiger-Poorman
- Noonday
- Gold Hunter
- Lucky Friday
- Silver Mtn
- YLK/30 Vn
- Lucky Friday Expansion
- Star-Morning

9 miles
Hecla Mining at Burke
Newmont returned all interest and data to New Jersey Mining.
Premium Exploration: Orogrande Shear Zone

Premium has ~ 44,000 acres under claim.

Historic Resource
Indicated: 111,000 oz in 4.8 Mt @ 0.8 g/t Au
0.4 g/t cut-off
*see disclaimer

Historic Resource
Indicated: 36,940 oz in 1.6 Mt @ 0.75 g/t Au
Inferred: 18,840 oz in 0.7 Mt @ 0.75 g/t Au
0.4 g/t cut-off
*see disclaimer

NI 43-101 Resource
Indicated: 343,000 oz in 11.8 Mt @ 0.90 g/t Au
Inferred: 879,000 oz in 26.4 Mt @ 1.94 g/t Au
0.5 g/t cut-off
*see disclaimer

*Lithium and Buffalo Gulch estimates of gold resources are historical in nature, produced and are noncompliant with NI 43-101. Premium is not treating the historical estimates as current mineral reserves or resources. Premium has not undertaken any independent investigation of the resource estimates, nor independently verified the results of the previous exploration work in order to verify the resources, therefore, the Historical estimates should not be relied upon.
2011: Phase 4 drilling
Friday Zone: 6,000 m in 18 holes.
Deadwood Zone: 4,300 m in 9 holes.
Buffalo Gulch: 330 m in 2 hole.
Premium Exploration

Elk City Bucket Dredge

DH PFR2011-14: Sericitic alteration of fsp, bi + 1-3% pyrite; 1 g/t Au
Formation Capital Corp.
Idaho Cobalt Project

- Permitting – complete; Construction – underway
- Financing - Recovery Zone Bonds
  - French BNP out; Bank of Montreal Letter of Credit for $43.6 million of bonds secured in November.
Smaller Projects

- Musgrove Minerals - Empire mine, 24 RC, 1 core hole
- Elissa Resources - Sage Creek, 4 DDH; REE claims
- Shoshone Silver/Gold, Rescue Mill
- Anglo-Bomarc, Hercules Ag mine
- Morning Star - Pearl District, DH
- U.S. Rare Earths - Lemhi Co.
- Placer mines
- Silver Falcon - War Eagle Mtn.
Otis Gold – Kilgore Project

2011: 40 core holes for 9,219 meters; will expand Mine Ridge resource.
Midas Gold – Golden Meadows

Stibnite District

Drilling DMEA zone

Hangar Flats

Yellow Pine
Atlanta Gold – Atlanta District

2011: 57,000 feet of core (April-Nov.) in 59 holes. Target- transition to ug depths
Western Pacific – Mineral Gulch

Aka Black Pine Mine
(Pegasus 1992-1998)

Drilling Pit A

35 RC holes

1,179 soil samples
Southwestern Idaho Gold

Thunder Mtn. Gold:
South Mountain

Terraco Gold: Almaden

16 HQ3 holes, 18,500 ft.
Mosquito Consolidated - Cumo

Vancouver, Canada, August 31, 2011. - Mosquito Consolidated Gold Mines (TSX.V: MSQ; US OTCQX: MQCMF - "Mosquito" or the "Company") today announced that the U.S. Forest Service, Intermountain Region, has officially signed the Plan of Operation, the final authorization for Mosquito to begin its exploratory drilling program on National Forest land about 14 miles northwest of Idaho City, Idaho.

2011: Environmental Assessment approved for additional drilling inc. roadwork. Completed access road connections. Started drilling Fall. Holes 58 and 59 to date. Winter hiatus required in POO.
IGS: www.idahogeology.org

- Statemap, 2011: yellow areas
  Diamond Creek (Th-REE)
- Searchable Oil/Gas
- New MSHA Trainer: Scott Furman
- Aggregate, Hydro Research
- 2010 Mining Review
- AASG Geothermal Databases & Drilling Project
- Hazards, Data Preservation, etc.
Belt Association Meeting: Wallace, Idaho

Sept. 2011

Thanks!
With special thanks to Earl Bennett and to IGS for funding participation at NWMA this year. Prospecting tools there for a reason – 2011 saw return to prospecting and exploration across the state.

Metal price rises of last few years have resulted in record values for Idaho mineral production. Dip in 2009 due to recession. 2010 should be new record, near $1.2 billion. 2011 should be similar. Employment: ~2500 just for mining.
Employment: Overall – dismal; Idaho Mining – ID DFM Oct. forecast has mining employment up 9% from 2010 to 2011. One of few positive categories. 2011 project ~ 2500 direct jobs in mining – not counting chemical processing for phosphate. Mining: Skilled labor in short supply; need more Gen X going into field. SAFETY CONCERNS

As Earl said – it was a fantastic year in Idaho’s famous Coeur d’Alene District: hosted in PC Belt rocks; high grade siderite-quartz-sulfide veins. One of largest Silver Districts in world, with over 1.22 billion ounces of silver produced since 1884. Plus lead, zinc, and copper, and antimony. Lucky Friday and Galena mines at full production all year.

Hecla’s Lucky Friday mine at Mullan had very good year in production, but suffered two accident-related fatalities at the mine. Production from the Gold Hunter deposit, mined off the 4900 and 5900 levels continued on target to match 2010’s 3.36 million ounces Ag. Cash costs were up due to increased costs of fuel and other materials, but due to byproduct credits, remained below $6 per ounce. Major news was Board of Director’s approval in August for development go ahead #4 shaft expansion project. Shaft-sinking was ongoing after Board approved project.
in mid-year. Approximately $81 million has been spent to date. Completion estimated for end of 2014. Accident in early November involved 2 workers for Cementation contractor on the shaft.

Slide 7

Exploration at Lucky Friday mine proper focused on: 1. definition drilling and western extension to Silver Fault between 6000 and 6600 levels. And 2. center of resource at similar depths. Drilling upgraded resource in 30 vein system and others. Lots of structural blocks within Silver Fault zone and some high-grade intercepts (10 ft. of 18 opt Ag, 15% Pb, 4% Zn horizontal intercept at 7700 level). Will talk about district work later.

Slide 8

By November, approximately $81 million had been spent. Ultimate depth will be about 8800 level. Note current mining off 5900 and orebody in red extending down deep below that. Exploration drilling was continuing from the mine. Hecla also doing optimization studies on the mill. Setback Nov. 17 accident. Condolences to Cementation Inc. employer Brandon Lloyd Gray who died in the November accident. Long-time Hecla miner Larry Marek died in rockfall incident in April at Lucky Friday.
From Dave Berwick, Hecla, 10/19/2011
The hoist was manufactured by Siemag Tecberg out of Milwaukee Wisconsin. This used to be Nordberg. The hoist is a 8 foot diameter, double drum with a 1000 hp AC drive. We will be able hoist 1,100 ore tons per day from the 8800 level shaft bottom.

237 employees in 2011.
Current 43-101 based mine life of approximately 7 years

2 ore types (silver-copper and silver-lead) have separate crushing, milling and flotation circuits

Consistent mill recovery rates of 96% for silver-copper and 92% for silver-lead ores

Silver-copper concentrates railed to Quebec and silver-lead cons trucked to Trail, BC
Mining at Galena mine focusing on higher grade zones to increase head grades. Cash costs running about $16/oz. High. Trying to reduce those. One tool is using alimack raise machine as opposed to conventional wooden raises. Multiple stopes: Ag-Pb veins and Ag-Cu veins. Mining on Silver vein, 175 vein, and 117 vein principally. Really beefed up exploration drilling to double 2010 levels.

Currently have 2 surface drills doing exploration, 12,000 ft. program: CDA Gap (above old CDA mine) on west side Argentine Vein, above and below tunnel. Nothing yet at Western Coeur as may get it from underground. Targets based on surface/mine showings; geochemical profiling, correlation between surface tetrahedrite and deeper silver vein systems.
U.S. Silver has also initiated a surface drilling program and is diamond drilling the Argentine and Geraldine Veins, in Argentine Gulch, between the Galena and Coeur Mines. The two veins are the surface expression of the 2400 level, 290 Vein. One deep drill hole has been completed and is being processed, and a second wedge-off hole has been initiated. Additionally, U.S Silver is collaring diamond drill holes at the Coeur D’Alene Mine to explore extensions of known silver-copper bearing veins. Currently two drills are operating on the surface 24 hours a day seven days a week. A total of 2,200 feet surface exploration drilling has been completed.

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2011 Drilling cont.
Drilling in 2011 continues U.S. Silver’s 2010 trend of identifying new silver veins as well as extensions of existing silver veins at the Galena and Coeur Mines. The best intersection encountered on the Coeur 3400 level (425 vein) was 8.2 feet (2.50 m) of true thickness averaging 25.1 opt (780.70 gpt) Ag and 0.58 % Cu. Since March 4, 2011, the best intersection encountered on the Galena 4000 level (West Argentine area, 260 & 284 veins)was 2.3 feet (0.70 m) of true thickness grading 44.33 opt (1378.82 gpt) Ag and 2.2% Cu. The best intersection on the Galena 5200 level (220, 196 and 230 veins) was 10.3 feet (3.14 m) of true thickness grading 26.0 opt (808.69 gpt) Ag and 0.93% Cu.

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

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3100 Jewel to 3000 Silver Summit
Shaft Escapeway = 10,600 feet

Slide 14

Giving a tour in August, 2011
Hoist room looks cleaner than my kitchen.
New Jersey Mining operates this mill at Kellogg and a small underground gold mine, the Golden Chest, at Murray, north of the Silver Valley.

The Company has a joint venture with Marathon Gold Corporation at the **Golden Chest** gold mine near Murray, Idaho, and an ore processing joint venture with United Mining Group at its New Jersey mill near Kellogg, Idaho. The Company’s portfolio of mineral properties also includes: the **Niagara** copper-silver deposit, the Toboggan gold exploration project, the **Silver Strand** mine, and several other exploration prospects.

More on United Mine Group later.

Mill expansion should be done by spring, 2012. Poured concrete and were installing ball mill on to its foundation in November.

Drilling on 25 m centers at Golden Chest with core. Open pit resource of thin veins above Idaho Fault with larger Idaho vein below. So far 80 holes drilled in 2011. Will have 10,000 meters by end of year.

Earl:
Here are a couple of photos from the Golden Chest drilling. You can check our press releases for additional info on [www.newjerseymining.com](http://www.newjerseymining.com)
The one picture is scheelite under a black light. The other is some vg in a thin vein that showed 194 grains of vg and the sample interval of about a meter ran over 120 ppm Au.
The mill construction is going ahead. We are pouring the ball mill foundation today and parts of the mill are arriving from Europe and China. We will close up the building after we hoist the ball mill in place, as we need to go thru the roof.

Fred

Slide 17


Slide 18

Huge Thompson Creek moly mine near Challis had great year. Finished mining stockpiled Ph. 6 ore in October and will transition to Ph. 7 ore near year’s end. Much of Ph. 6 ore higher grade, so greater Mo output. Much of year spent stripping off Ph. 7 overburden. About 375 employees. Ore Concentrate trucked to roaster in Pennsylvania.
Pit sequencing made 1st half better for ore than second half of year. Mine also did exploration drilling near the mine, while working on the EIS for expansion to Phase 8 by pushbacks of both high walls. Would extend mine life to 2025. Moly prices softening a bit late in year.

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.

Squares = plants
Ovals = mines (open pits)
Southeastern Idaho
3 companies
Though slightly lower than a year ago, phosphate fertilizer prices remain strong – and as long as world food production is a priority, phosphate, an essential ingredient of fertilizer looks good.

Mines: leases from feds and state, as well as private land.

3 companies, 3 plants: 2 fertilizer, 1 elemental (Monsanto, Roundup).

Plants employ 400 people each approximately.

Monsanto plant running at near-capacity, so demand pretty good.

Monsanto continued to mine on state and federal leases at the South Rasmussen mine. About 1 ½ years left. Doing concurrent reclamation.

Note nice stratigraphy of Phosphoria Fm. Ore = black stuff.

BLM issued positive ROD in June 2011, approving mine plan, including use of geosynthetic liner cover for waste rock piles. Decision to approve did NOT receive any legal challenges and construction began in late summer.

Photo: looking SW. Crushing/screening plant in foreground. 200,000 tons of -4” drain rock for base of large water management ponds. Dark area = Geogrid that drainrock goes on.
Lower photo of CP2 pond liner installation.

Note that culverts to convey potential impacted seepage from EOP (east overburden pile) toe to CP2 lined pond. Water then to larger water management ponds.

Major innovation was highly impermeable geosynthetic liner layer as cover to avoid infiltration of surface water into overburden piles. Project next to Blackfoot River. Designed around water management. Objective to avoid mobilizing any of selenium found naturally in the Phosphoria Fm., esp. waste shale.

Production expected in 2013.
Agrium completed mining ore at Dry Valley in mid-2011. Moving operations to North Rasmussen Ridge now.

Mining ended at Dry Valley mine in May. Stockpiles depleted in August, 2011, and company began backfilling and doing reclamation according to approved plan.

Rasmussen Ridge mine (South, Central, and North) has been mined since 1991 by Agrium/NuWest Industries. Started with South part and continued to north. 2003 – EIS approved to move to North Ras, but in 2004, Agrium acquired FMC’s Dry Valley mine and decided to move active mining down there. 2011 depletion at Dry Valley made N. Rasmussen Agrium’s sole ore source. Agrium needs ore for its phosphoric acid fertilizer plant at Conda. Future mine plans in to agencies for review – Rasmussen Valley area (extreme south end of Rasmussen Ridge), and at Husky/N. Dry Ridge areas. Collecting baseline data and scoping on both. Anticipate DEIS release in 2012 for Rasmussen Valley.
Smoky Canyon had great year – challenged by 200% snowpack start to year and waiting on Court cases. Started in December – just after last NWMA – with final decision by US Ninth Circuit Court of Appeals to uphold BLM/FS decision to allow mine expansion onto Manning and Deer Creek leases, according to approved plans. 2011 mining in Pit B and on Panel F (Manning Crk.) with backfill into Panel E. First of 4 pits on Panel F nearly complete.

Tried to mostly mine Panel F while roadless issues (that would not affect pit B) were undecided. Doing some mining and reclamation on Pit B, shown here. Also worked on quality control plan for Dinwoody cover system and major drilling program at Dairy Syncline. Drilling mostly for geotechnical holes and groundwater monitoring more than for exploration and development ore control. Dairy Syncline will be next proposed mine for Simplot. BLM anticipates release of DEIS in 2013.
Stonegate Agricom, via its subsidiary, PHA (Paris Hills Agricom, Inc.) has been drilling in the far SE corner of Idaho near town of Bloomington. Several old, underground phosphate mines in Bloomington Canyon date from early 1900s. Drilling on BLM split estate lands, private and state since acquiring property in late 2009. Slides from corporate presentation of Nov. 29, 2011. Impressive amount of work including market analysis and drilling. Bear Lake County. NI 43-101 report available on their website. 881 hectares property.

Two phosphate-rich zones, similar to major mines further north. Paris Hills also hosts distinct V-rich bed right below the Upper zone. Both in horizontal and upturned limb of Paris Syncline. Paris started drilling in Sept. 2010 and continued through November, 2011. Drilling RC pre-collar and coring through Meade Peak Member, the Phosphate horizon. Assays shown here. Considerable adjustment and improvements in assaying and sampling procedures since initial work in area. At least 60 holes drilled for 16,000 m, of which 5,400 meters were core. Also doing metallurgical testing.
Quick look at a few of smaller industrial mineral operations. Long-lived and surviving even in recession. Rural economies need a few jobs in local communities.

Near Fernwood in Benewah County. Sandblasting, water jets, filtration 2011 and 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.

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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
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.
Very low level of production at Three Rivers and also Ramshorn quarry inactive.
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.
Table Rock Sandstone

- Blasted in November; quarry in Boise
- New business building at BSU
- Gerhard Borbonus landscaping and stone fabrication facility

"Castle" on Warm Springs Ave., Boise

Staying busy

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Hess Pumice

- For Gold Mine

Wrights Creek mine

Idaho Minerals – Perlite

For Gold Mines!

2011 (Joe): Better than last 2 years. Paint market increased well. Record year for US Grout – Au mines. Seal leach fields and water percolation. Special grout is about 50% pumice and 50% cement. Superfine grind. Fixes concrete breaks, also in oil wells. 70 employees in Malad.

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.


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.

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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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**Bear River Zeolite (USAC)**

Markets: Removal of radioactive contaminants, animal nutrition, water treatment, fertilizer, etc.

2011 similar to 2010 – good year. Worked well for cleanup of Sr90 at demo site in NY. 18 employees at Preston mine.


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.
Last couple years, more interest in oil and gas potential in Idaho. IGS new search routine for information on historic (1903-1988) wells drilled. Files are archived in Moscow office. 2010 – Bridge Resources (JV with Paramax) announced commercial quantities of natural gas in several wells drilled near New Plymouth in Payette County, western Snake River Plain – about 40 miles NW of Boise. Hosted in Tertiary basin-fill sands with some organic-rich shaly horizon source beds.

Lots of adverse reaction by public and local officials to news that 4 of the 7 commercial wells would need fracking. First commercial oil/gas discovery in Idaho. Very new thing to everyone. Bridge reservoir = sand, needs “mini-fracing” with additive of physical proppant for near well-bore stimulation in vertical holes. Much different than large-scale fracking in horizontal wells for shale reservoirs in Eastern and Mid-western US. Lots of media attention.
By November, financial difficulties – unrelated to Idaho project – forcing Bridge to sell its assets – mainly the Idaho field leases (now largely permitted). Still working on pipeline permits and facilities for connecting to pipeline.

2011 was a great year for exploration. Many of same large programs in 2010 were back to drill more footage in 2011. Precious metals – both Au and Ag – were main target. Also Mo, Co, base metals, REE. Already covered phosphate. Other industrial minerals – gemstones, clay/feldspar/quartz, diatomite (Grefco), garnet. Many small operators not on this map.

i-minerals continued exploring Bovil Kaolin property:

i-minerals did additional drilling to upgrade resource from inferred to indicated category. Have recognized locally significant concentrations of halloysite – tubular clay mineral used in modern nanotube applications. High unit value commodity. Preliminary Economic Assessment in Jan. 2011 – good economics.
United Silver Corp. (TSX: USC) is currently earning, through development and operations, an 80% interest in the Crescent Silver Mine project. United Silver Corp., formerly, United Mining Group. Other 20% held by Gold Finder Explorations Ltd., formerly SNS Precious Metals Inc. United Mining has spent $ 9 million on exploration and development work for that 80%. That work includes drilling and development of Countess Portal and underground work to evaluate the two vein systems – Alhambra and South vein resources. In late 2010, project acquired additional claims – shown in yellow. Includes prospective ground off to west towards famous Bunker Hill mine and some to east close to Sunshine mine. South vein may be same as Yankee Girl in the Sunshine mine.

In mid-2011, company undertook strategic review of finances and project and announced it would temporarily halt pre-production operations and exploration while re-evaluating finances and economic analysis of resources. Graphic – one of many plans – but shows existing Hooper level, 2010’s Countess decline and two drilled out vein zones. Grades are high - + 20 opt Ag, mostly from tetrahedrite.

2010: 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.

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View of old Hecla shaft and Star mine complex, located in Burke Canyon. From inset: Star Zn mine connects to Morning mine – off to east trending towards Lucky Friday. Star-Morning mine (1891-1982) over 7900 feet deep and nearly a mile long produced over 71 million oz. Ag. Hecla rehabilitated Star 2000 level (10,000’ worth) to drill vein systems inc. Noonday, As You Like It, and others from ug. Doing surface drilling since June on Star mine veins. With favorable intercepts (18 ft. of 13 opt Ag, 22% Pb at Noonday). Will be doing underground drilling by December. District-wide soil sampling and geochemistry to explore other veins. Longer-term studies on deep Star mine – closed with million ton resource.
Newmont returned its interest and all data in the Toboggan joint venture at Murray back to owner New Jersey Mining. New Jersey also retains its interest in Niagara silver-copper property.

In July, 2010, 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. Scenic view is Toboggan Creek.

Near Elk City, Premium had another large drill project. Elk City/Orogrande area another of Idaho’s placer-dominated gold producing regions – over 800,000 ounces historic production. Recent exploration of area started in 1970’s and small open pit, oxide deposit permitted by Bema at Buffalo Gulch before gold price dropped in early 1990’s. Cyprus-Amax and Kinross did prior drilling on Orogrande Shear Zone, and Premium acquired property a few years ago. Aggressive exploration on regional-scale structure. Shear zone extends approximately 30 km. Friday/Petsite zone –focus of much drilling located around historic lode mines at Orogrande. Note lots of forests.
Friday-Petsite zone hosts NI 43-101 compliant resource, of 343,000 oz. Au indicated and 879,000 oz. Au inferred. Grades in 1 g/t range. Open to N and S. In middle of 25,000-meter drill program.

Orogrande Shear zone known locally as Friday fault. Other faults. Structurally controlled mineralization.

Photo of Shear Zone within Friday resource area. Near vertical shear foliations.

Orogrande Shear zone cuts Cretaceous granodiorite and older metamorphic rocks. Local intrusions of Eocene rhyolite to trachyte dikes.

Mineralization – hosted in sheared to brecciated, phyllically altered granodiorite/qz.monz. And schist. Pyrite + asp, lollingite, galena, magnetite, hematite. Core is HQ, oriented with triple core tube, maximum recovery.

Drill: CS14, Drill mounted on Marooka, a Japanese rubber-tracked dump truck. Easier drill site prep.
2011 – Drilling plus metallurgy sent off, small gradient geophysical array on X zone. Private land acquisition.

Persistence pays off and is needed. Formation Capital finally started construction on the two sites of its Idaho Cobalt Project. Permits for underground Cu-Co-Au mine in Blackbird Mining District, Lemhi County, received at end of 2009. 2011 - Working on financing and optimizing mine plan and block model and processing. Cash balance at end of 3rd Quarter, 2011, of $ 50 million.

Cobalt cons will be sent to Kellogg where the former Sunshine hydromet refinery (now Formation Metals precious metals refinery) is undergoing modification and expansion to convert to a cobalt hydrometallurgical operation.
Site preparation, shown here, at mine site started once the heavy snow finally came off. About 80% of dirt work is done. Pads in for concentrator, crusher, stockpiles, etc. Underdrains and excavations done for tailings/waste facilities. Plan is to wait till spring to do most of concrete work and continue optimizing engineering over winter. Mine site is fairly high elevation.

At the Empire Mine project at Mackay, Musgrove Minerals completed 24 infill RC holes (over 14,000 feet) and 1 PQ core hole. Cu-Zn skarn with about 1 + oz. Ag credits. Elissa Resources drilled 4 holes on stratabound gold target at Sage Creek property in Lemhi County. Also staked claims to explore rare earth prospects in Lemhi County.

2011: 40 core holes for about 9200 meters (30,246’), inc. 2 metallurgical holes at Kilgore. Epithermal gold-silver mineralization in lithic tuff associated with Tertiary rhyolites. Infill drilling of main Mine Ridge deposit – extended deposit to NW and SE along dike swarm (Northwest Fault). Much effort going back to old drilling and reinterpreting and standardizing logging (lithology and alteration) descriptions to redo geologic sections. Nearly done. New 3D geologic model. Otis – 64,000 feet of drilling in last 3 years.
Additional 681 soil samples. Mineralization not closed off. Plan to do more metallurgy and next year baseline environmental work.

2011 drilling with 4 core and an RC rig, helicopter supported. 80 holes (16,000 meters) done by November. Assays slow. Gold intercepts similar to what shown on this section, 1-3 g/t Au over tens of meters. One of best is on this X-section: MGI-11-59 with 242 m @ 2.2 g/t Au. Structurally controlled along Meadow Creek Fault Zone. Local Antimony, tungsten and silver. Host rock is granodiorite and calc-silicate from roof pendant. Early stages of environmental baseline work and metallurgy. Midas was planning winter drilling program – but project slowed down after young field crew in serious injury accident on road to Yellow Pine in November.

Atlanta Gold had its largest program ever. Drilled 59 core holes, some fairly deep. Expanded and may be able to connect Monarch and East end pits. Structure still strong at depth. Plan update of 43-101 resource in 2012. Was about ½ million ounces. Also, contrary to some media reports, Atlanta is still talking with agencies to devise plan to remediate As-bearing mine discharge from 900-level workings.
Western Pacific exploring old Pegasus producer, Black Pine Mine area. Historic Tallman pit (Hg, Au). Idaho’s Carlin-style gold mine. Off interstate 84 in Cassia Co., just above Utah line. Modern discovery by Noranda, mined by Pegasus before they went bankrupt. Drilled 35 RC holes for 10,430 ft. Did 1,179 soil samples and rock chip samples and ran magnetics and gravity. Plan on more work next year to follow up geochem anomalies away from known pits.

Thunder Mtn. Gold – Evaluating 2010 results of drilling on intrusive breccia with skiff of gold, and two intercepts of high grade polymetallic mineralization from Laxey ug zones: LO-7 (25 ft. of +8% Zn, 1 opt Ag) and LO-6 30 ft. of 4% Zn with Au and Ag. Both holes extend high grade skarn ore few 100 ft. below tunnel levels.

Terraco – Drilled Idaho-Almaden mine with 16 large diameter holes (HQ3) for 18,500 ft. Much better recovery. Finished in early Nov. Use split tubes inside core barrel. Less jumbling of core especially in highly fractured hot spring/epithermal system. As deep as 2000 feet. NI 43-101 resources total 948,000 ounces (measured, indicated, and inferred) or 48 million tons @ 0.020 opt Au. Confirmed other drilling and got results where no data from prior operators. Will be back in 2012. Hole TAL-751C with 90’ of 0.047 opt Au.
Thunder Mtn.: 2010: The last hole, LO 7, which was placed to test the down-dip extension of the Laxey ore shoot, intercepted 25 feet (600-625 feet) of 8.56% zinc and 1.15 ounce per ton (opt) silver. This intercept proves the extension of the Laxey ore zone approximately 120 feet below the maximum depth mined during World War II when over 51,000 tons of sulfide ore were mined and direct shipped to the Anaconda Smelter in Utah. The grade of this ore mined over the 800 feet of shaft and stope mining was 15% zinc, 10 opt silver, 0.06 opt gold, 2.3% lead and 0.7% copper.

Drillhole LO 6 was placed to test the down dip extension of the historic DMEA 2 ore shoot. As previously reported, this hole proved the down dip extension of the sulfide mineralization to at least 415 feet below the Sonneman Level of the underground workings. This hole cut 30 feet (760-790 feet) of 3.55% zinc, 1.87 opt silver and 0.271% copper, and 15 feet of 0.06 opt gold internal to the 10 foot intercept.
Mosquito Consolidated - Cumo

Mosquito Consolidated Gold Mines (TSX.V: MSQ; US OTCQX: MQCMF - "Mosquito" or the "Company") today announced that the U.S. Forest Service, Intermountain Region, has officially signed the Plan of Operation, the final authorization for Mosquito to begin its exploratory drilling program on National Forest land about 14 miles northwest of Idaho City, Idaho.

2011: Environmental Assessment approved for additional drilling inc. roadwork. Completed access road connections. Started drilling Fall. Holes 58 and 59 to date. Winter hiatus required in POO.

Also seeking financing. Large porphyry Mo deposit. Prelim resource (43-101) is 2.14 billion pounds Mo oxide (indicated) plus another 2.34 billion pounds MoO3 inferred. About 2 billion tons. HUGE. Lots of legal battles with environmental groups likely.

IGS: www.idahogeology.org

Small staff at the Idaho Geological Survey had very busy year. Geologic mapping (Statemap and state-funded hydro project). Diamond Creek only active exploration area. Scott Furman joined IGS as new MSHA trainer (Mike Weaver at Hecla's Greens Creek operation), AASG Geothermal Project, and others. Check out our website.

Final activity to mention for 2011: Belt Association (spear-headed by IGS geologist Reed Lewis) and colleagues sponsored weekend meeting and field trip in September. Excellent participation by many companies working in Silver Valley. Note silver-haired Earl Bennett, Dean of the Silver Valley. Home with the flu this year.