It’s all about money$
Idaho by commodity

Idaho 2010f: $1,183 million

Idaho 2011p: $1,287 million
NEW

It’s also about Idaho rocks!

Idaho Geological Survey NEW state geologic map:

• 1:750,000 scale
• 2012
• First-class map for first-class rocks.

TO ORDER -

www.idahogeology.org
Coeur d’Alene District

- One of world’s largest silver producers!
- > 1,219 million troy ounces Ag since 1884 (37,929 metric tons Ag)
- + Pb + Zn + Cu + Sb
- Quartz-siderite-sulfide veins in Precambrian Belt metasediments.
- Over a mile deep.

2 Operating mines in 2012: Lucky Friday and Galena

Earl’s talk on Wed. went through historic debates and conflicting evidence on origin of these great deposits.

11/30/2012: Silver @ $ 33.26/tr. oz.
Hecla Mining Company

MSHA order to clean Silver Shaft after fatal accidents in 2011.

Workers being rehired by end 2012.

Production to resume in 1st Q 2013.

Silver Shaft currently cleaned to 5900 level; work on schedule.

Lucky Friday Shut Down all Year!

2011 production: ~ 3 million ounces Ag
2013 estimated production: ~ 2 million ounces Ag

Jan. 2012

• Remove loose material (cement) from Silver Shaft.

• Construct water ring, metal brattice in shaft.

• Bypass on 5900 haulage.
Hecla Mining Company - Development

Restart in 2013.

Lucky Friday - #4 Shaft

- Upon restart of #4 Shaft construction, work is expected to focus on shaft sinking & station development activities
- Total project is 45% complete and 80% of major procurements have been ordered or installed
- Capital expenditures for 2011 were $42 mm for a total of approximately $90 mm invested to date
- Total project capital is expected to be approximately $200 mm

New Bypass Haulage on 5900 level – under construction; New power cable installation for Silver Shaft.

Sept. 2012 corporate presentation
U.S. Silver & Gold

- Operates Galena mine complex (inc. Coeur mine, Caladay)
- In August, U.S. Silver Corporation merged with RX Gold & Silver, Inc.
- U.S. Silver & Gold –
  - Galena mine complex
  - Drumlummon mine, MT
- Aggressive Exploration –
  - Lead Zone
  - Redevelop Coeur (drilling, rehab, devel.)

Production: 2.3 million oz. Ag in 2011
2 Mills – Galena (Cu-Ag) Coeur (Pb-Zn)
U.S. Silver & Gold

- **LEAD ZONE**
  - Argentiferous galena, “blue rock”
  - Ag/Pb ~ 1/1
  - Recent Press Release – 8 DDH, 4900 level
  - Widths of 10-100’ of 3-10 opt Ag, 3-23% Pb.
  - Resource Target: 60 million tons, bulk mineable.

Targets: Lead Zone, Silver vein, 370 vein, etc.

Coeur Redevelopment

$ 5 million exploration budget in 2012
Silver Opportunity Partners (2010 bankruptcy purchase).

Small fire – Mid-Feb. 2012, put out but mine closed for 3 months.

Working on exploration and surface and underground refurbishing.

Rumors of drilling Sterling Tunnel, West Chance veins system.

Sunshine Silver Mines Corp. (Silver Opportunity Partners)

Sunshine mine: 360 million oz. Ag
New Jersey Mining

Mill at Kellogg

Finished mill expansion in June

Ran Test 9000 tons from Crescent

Installed new paste thickener. Captures and recycles process water.

First time used in Idaho.

New Paste Tailings Stack
Thompson Creek Metals

Large open pit moly mine –
HPM, roaster in PA

2011: > 21 million pounds Mo

2012: declining prices, slope failures, wind fence

Mined Phase 7 ore

Oct.: Stripping Ph. 8 suspended; 110 employees laid off.

Phase 8 expansion DEIS in 2013, also land exchange.

Thompson Creek Molybdenum mine, Custer County, Idaho
Thompson Creek mine

- August, 2012 – wind fence around coarse ore stockpile

Most scenic setting!
Phosphate District: SE Idaho

Idaho’s 2nd most valuable commodity; (3rd in nation for Phos) Ore >$ 200 million value.
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

2012 was a GOOD year.
Phosphate Rock

Fertilizer

or

Elemental P

Price of Phosphate Rock Concentrate 30–32% P₂O₅ FOB Morocco and FAO Food Price Index (2002–2004=100)

U.S. 21-Year Phosphoric Rock Concentrate History

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>46.3 mt</td>
<td>30.7% P₂O₅</td>
</tr>
<tr>
<td>2011</td>
<td>26.4 mt</td>
<td>26.7% P₂O₅</td>
</tr>
</tbody>
</table>

Agrium Phosphoric Acid Fertilizer Plant, Conda

Monsanto Elemental P plant

Fertilizer also made at Simplot’s Don Plant, Pocatello
Monsanto (P4)

Mining at South Rasmussen mine (thru 2013)

Ore hauled to Soda Springs Elemental Plant

Installed thermal oxidizer at plant to burn CO previously flared. Improves environment, adds flexibility in ore types.

New Mine Construction: Blackfoot Bridge mine
Monsanto: Blackfoot Bridge mine development

Production in 2013. Ore to Elemental P plant (Roundup herbicide) in Soda Springs.

Water Management Pond for Evaporation

WATER MANAGEMENT the key. Mine will use geosynthetic clay liner cover on piles. Groundwater modeling.
Monsanto: Blackfoot Bridge Construction

East Overburden Pile: Coarse Rock over compact clay surface; chipped trees in back.

Modified Mine Plan to reduce environmental footprint (result of thermal oxidizer installation), including eliminate 45 ac-ft overburden pile.

Topsoil Pile in front, East Overburden Pile in back.
J.R. Simplot Co. Smoky Canyon mine

Mining Panels B and F (Manning Creek Lease)

Backfilled Panel E complete.

Preparing to start construction of haul road to Panel G (unmined Deer Creek lease).

Smoky Canyon ore goes to Pocatello Don Plant via slurry pipeline. Phosphoric Acid Fertilizers.
Simplot Smoky Canyon: Started Deep Dinwoody engineered cover over Panel E backfill.
**Agrium (NuWest Industries)**

Reclamation at Dry Valley mine that finished mining in May 2011.

Production at North Rasmussen Ridge Mine, reclamation at South, Central RR.

Ore to Phosphoric Acid Fertilizer Plant at Conda.

---

Dry Valley Recontoured: Add topsoil and seed. Backfilling C and D pits done by October.
Installing GCLL (Geosynthetic Clay Laminated Liner) at South Rasmussen Ridge External Overburden Pile (23 acres).

New dam at low area of Central RR open pit, to avoid discharge into No Name Creek.
Phosphate – New Mine Plans and Exploration

- **Simplot**: Dairy Syncline (2133 acres of FS lands). Baseline data collection, proposed land exchange. DEIS 2014?
- **Agrium**: Rasmussen Valley (420 acres, mixed) DEIS in 2013.
- **Agrium**: Husky/N. Dry Ridge (1051 acres), scoping, drilling. DEIS 2015.
- **Monsanto**: N. Caldwell Canyon, exploration drilling.
- **Paris Hills Agricom Inc.**: Extensive exploration drilling since 2010, groundwater monitoring wells, feasibility studies for underground mine, near Bloomington, Bear Lake County. Feasibility (Dec. 2012)
Stonegate Agricom (Paris Hills Agricom)

Paris Hills: Phosphate Mineralization
Cross Section, Looking West

- Deposit is uniform and predictable – Strike length of >3.2km
- Mine plan: Room-and-pillar, cross-seam mining
- Mining equipment: Continuous miners typically used for coal seams

**Lower Phosphate Zone**

<table>
<thead>
<tr>
<th>Mineral Reserves</th>
<th>Tonnes (millions)</th>
<th>Grade (% P₂O₅)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven</td>
<td>5.2</td>
<td>30.0</td>
</tr>
<tr>
<td>Probable</td>
<td>4.8</td>
<td>28.8</td>
</tr>
<tr>
<td>Reserves</td>
<td>10.0</td>
<td>29.4</td>
</tr>
</tbody>
</table>

*Source: Mineral Reserves for the Lower Phosphate Zone were prepared as of March 26, 2013 by Agapito Associates Inc., an independent geological and mining engineering consulting firm based in Grand Junction, Colorado. Leo Gilbride, P.E., Vanessa Santos, P.G., and Gary L. Stagg, P.E., P.Eng., are the qualified persons 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 March 25, 2013. Additional details are shown in the following pages of this presentation.*
2012 – Markets Better

Housing starting to stabilize.

Local highway projects need aggregate.

Oil field services demand for some.

Still there!
Sand and Gravel

- Construction
- Sand & Gravel and crushed stone
- Statewide
- Boise Valley – slow start but busier in fall, esp. commercial
- North Idaho – highway projects
- IGS Aggregate study
Unimin: Industrial Sand (feldspar)

- Silica-feldspar sand
- Emmett, Idaho
- Some improvement
- Expanding product line
- Glass sands strong
- Recertified by Wildlife Council.
USAC: Bear River Zeolite

Near Preston, Idaho

Raymond roller mill
Dimension Stone

- Three Rivers Stone quarry, Custer Co. – production down
- Oakley Stone quarries – a bit better markets
- Idaho Travertine – working

Table Rock Sandstone trim on new Business Building at Boise State University
Hess Pumice Products (Malad, Idaho) (also Idaho Minerals, US Grout, Hess Pozz)

- Seeing some growth.
- Bought and plan to re-open cultured stone plant in 2013.
- Increased grinding capacity, finer sizes.
- Oil field services – grout business good.
- Export demand high.
- Perlite – some growth.

Natural Idaho pozzolan
Energy: IGS ARRA Geothermal Drilling

Contact: John Welhan, IGS, Pocatello

Why This Area?
- Long-lived volcanic system
- Young rhyolite volcanism
- Dike-induced rifting
- Seismic swarms
- Numerous thermal features
- 180-250 °C water at 3-5 km depth, 25-35 km northeast of China Hat
Alta Mesa: Western Idaho Gas Field Exploration

GeoKinetics Helicopter-supported 3D Seismic Survey, Payette Co., Idaho
EXPLORATION DEVELOPMENT 2012

Very Busy Year

Some additional recon not shown

Au - especially

Ag, Base and Alloy Metals also

Several big $ advanced projects (NW development session)

Investor climate?
I-minerals
Helmar-Bovill Project, Latah Co.

Kaolin-Feldspar-Silica-Halloysite

Feldspathic Sand Production from old clay tailings

Pre-feasibility Kaolin – out soon.

Industrials lead the way!

Production from old clay tailing pits, plus studies of halloysite, feldspar, kaolin
Far North

Black Mtn. Resources - Conjecture Mine

Belt Sediment Host

Lakeview Mining Dist.

5000’ Drilling – 16 holes

Work on Morris Decline, IP survey

High grade silver – 715 g/t Ag, Veins

Remote

Lakeview Mill (Shoshone Silver/Gold) nearby.
Golden Chest mine: New Jersey Mining/Marathon Gold Joint Venture

Murray, Idaho

Working on 43-101 report. Drilled 7000 meters in 2012 and 11,000 m in 2011. Prior resource was 380,000 ounces in open pit configuration.

Popcorn Vein: 22.8 gpt Au 0.5 m thick
Golden Chest mine
United Silver Corp.
Crescent Mine

Development:
1. Spiral ramp on South vein from Countess Portal; Open I-drifts.
2. Big Creek #4 Tunnel – widen, secondary escape, test new areas.
Crescent Mine: I-drifts, South Vein

3 levels of I-drifts, over ~ 150 feet vertical span

Nice labels!! South Vein face samples: to 188 opt Ag over 2’ on lowest West II drift. Shearing. HMM? Other drifts average 10-16 opt Ag.

Development on hold; re-evaluation in progress.
Star/Morning and Lucky Friday Mines

- 2000 Level
- Noonday Resource
- 2500 Level
- 7300 Level
- 8100 Level
- 3000'

Legend:
- Red: Resource outlines (colored blocks)
- Grey: Stopes

1 Mile

Silver Shaft

Lucky Friday

Lucky Friday Expansion
Organic Growth - Star Pre-development

Silver Valley (Star) – Moffitt & Noonday Vein Resource

2011 Moffitt NSR Block Model

Moffitt Stope

Star 2000 Level

500'

Star Tunnel

2011 Noonday NSR Block Model

Potential Resource Additions

Moffitt

Star

Morning

Noonday

500 Feet
Premium Exploration

Idaho Gold Project

Elk City Area

Orogrande Shear Zone (30 km.)

Multiple zones. Wide lower grade with some high grade feeders identified.

43-101 resource released in August.

Good metallurgy.

Near road and power.
Premium: Friday Petsite

In-Pit Resource Friday Zone:
- Indicated 629,000 oz. Au (21.5 Mt @ 0.91 g/t)
- Inferred 146,000 oz. Au (5.9 Mt @ 0.77 g/t)

Starting Phase 4 Drill Program
8,000 m infill/definition drilling in November.
Midas Gold Corp.

Golden Meadows Project

Unified Stibnite-Yellow Pine District.

46,000 meters drilling (core) in 2012.

3 core rigs onsite still.

43-101 PEA.

Sb resource with prelim metallurgy/ flow sheets.

Stream seds/geophysics.

New Discovery: Scout

Yellow Pine Pit, Stibnite: Au, W, Sb

Over 4 million ounces Au, indicated!
## Mineral Resource Estimate

All Three Deposits comprising the Golden Meadows Project, Idaho

Prepared by SRK Consulting (Canada) Inc., June 25, 2012

<table>
<thead>
<tr>
<th>Mineral Resource Category</th>
<th>Tonnes (000s)</th>
<th>Gold Grade (g/t)</th>
<th>Contained Gold (000s oz)</th>
<th>Silver Grade (g/t)</th>
<th>Contained Silver (000s oz)</th>
<th>Antimony Grade (%)</th>
<th>Contained Antimony (000s lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Open Pit Oxide</strong>(2) Mineral Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicated</td>
<td>10,573</td>
<td>0.90</td>
<td>305</td>
<td>0.00</td>
<td>-</td>
<td>0.00%</td>
<td>122</td>
</tr>
<tr>
<td>Inferred</td>
<td>2,201</td>
<td>0.97</td>
<td>68</td>
<td>0.00</td>
<td>-</td>
<td>0.00%</td>
<td>178</td>
</tr>
<tr>
<td><strong>Open Pit Sulphide</strong>(3) Mineral Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicated</td>
<td>67,653</td>
<td>1.80</td>
<td>3,925</td>
<td>0.60</td>
<td>1,312</td>
<td>0.07%</td>
<td>108,385</td>
</tr>
<tr>
<td>Inferred</td>
<td>53,917</td>
<td>1.63</td>
<td>2,822</td>
<td>0.93</td>
<td>1,603</td>
<td>0.08%</td>
<td>92,606</td>
</tr>
</tbody>
</table>

**Total Open Pit Oxide + Sulphide**(2)(3) Mineral Resources

| Indicated | 78,226 | 1.68 | 4,229 | 0.52 | 1,312 | 0.06% | 108,507 |
| Inferred | 56,117 | 1.60 | 2,890 | 0.89 | 1,603 | 0.07% | 92,784 |

### Antimony Subdomains

#### Mineral Resource, Yellow Pine & Hangar Flats Deposits

<table>
<thead>
<tr>
<th>Mineral Resource Category</th>
<th>Tonnes (000s)</th>
<th>Gold Grade (g/t)</th>
<th>Contained Gold (000s oz)</th>
<th>Silver Grade (g/t)</th>
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<th>Antimony Grade (%)</th>
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<td><strong>Open Pit Sulphide</strong>(3) Mineral Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicated</td>
<td>9,999</td>
<td>2.31</td>
<td>743</td>
<td>3.15</td>
<td>1,012</td>
<td>0.49%</td>
<td>108,507</td>
</tr>
<tr>
<td>Inferred</td>
<td>8,639</td>
<td>2.08</td>
<td>576</td>
<td>5.04</td>
<td>1,400</td>
<td>0.49%</td>
<td>92,784</td>
</tr>
</tbody>
</table>

---

1) Mineral resources are reported in relation to a conceptual pit shell. Mineral resources are not mineral reserves and do not have demonstrated economic viability – see “Compliance with NI43-101” below. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

2) Open pit oxide mineral resources are reported at a cut-off grade of 0.42 g/t Au. Cut-off grades are based on a price of US$1,400 per ounce of gold and a number of operating cost and recovery assumptions, plus a 15% contingency.

3) Open pit sulfide mineral resources are reported at a cut-off grade of 0.75 g/t Au. Cut-off grades are based on a price of US$1,400 per ounce of gold and a number of operating cost and recovery assumptions, plus a 15% contingency. The antimony subdomain is further limited to discrete zones of mineralization with grades that exceed 0.1% Sb.

4) Where antimony grades are shown as “0.00” there is antimony present but it rounds to 0.00.

5) Antimony and silver were not estimated for the entire West End deposit and most of the Hangar Flats and Yellow Pine deposits due to a lack of sufficient assays, and are averaged into the totals at an assumed zero grade.
Midas: Golden Meadows Project

Homestake Pit, mined & reclaimed by Hecla in early ‘90s.

MGI-12-307 geotech hole 15 m of 12 g/t
North end of Homestake.

Lotsa core! Lotsa gold!
Lotsa granite!
Salmon Area, Lemhi Co.

Formation Capital

Idaho Cobalt Project

Development and Stage II Construction

UG Co-Cu-Cu mine

Blackbird District

Portal Haul Road

Powerline to Millsite

Working on Financing

Portal Haul Road
Formation: Idaho Cobalt Project

Lining tailings waste rock facility

Admin Bldg.

Berms at storage pad
Lemhi Gold Trust JV

Lemhi Project

Joint Venture: Northern Vertex & Idaho State Gold Corp.

34,000’ in 40 core holes, 14 RC holes

Previous work (277 holes)

Baseline environmental

10 monitoring wells

Small trenching program

LGT12-015C, 16 m @ 2.6 g/t, inc. 3 m @ 12 g/t Au
More in Salmon Region

- **Western States Silver – Leadville Pb-Zn-Ag replacements, 6 core holes, soil geochem**
- **Meridian Gold: Beartrack mine – 21,000’ in 13 holes, to test below reclaimed pit.**
- **U.S. Rare Earths – permits received to drill at Diamond Creek, other areas in process.**
  Financing?
Otis Gold Corp.

Kilgore Project

Fall drill program: 6 RC holes (3200’) on North Target

43-101 Resource: 520,000 oz. indicated, 300,000 oz. inferred

 Grades 0.59 g/t (ind.)

Excellent metallurgy

Soil Survey on North Target

Target open to north and southeast.
Environmental Issues
As in mine water discharging from 900 level. Improving treatment. Fines from lawsuit by ICL.

Mineral Gulch Project:
Historic data evaluation
Possibly drilling old tailings

Black Pine: 520,000 oz. at 1 g/t Au (1992-1998)
Gold Hill Mines/ Idaho State Gold Co.
Gold Hill mine, Boise Basin

- Dump/Stockpile Removal
- Custom Placer Mill
  - Screens, jigs, screws - gold

Green Mining
Terraco Gold Corp.

Nutmeg Mtn. Project

Idaho Almaden mine

Hot Spring Gold

32 core holes for 8,078’

Metallurgical holes

43-101 Resource: close to million ounces, all categories 0.02 opt Au.
Mosquito Consolidated

Cumo Project

Porphyry Mo-(Cu), GIANT SIZE (+ 2 billion tons)

2012 Legal and Management Changes, as of October, new Board.

Field geologists kept it going.

9 core holes, for 4,713 meters. Hole 59-11 hit 201 m of 0.133% MoS2.

Forest Service admonished by judge to consider groundwater impacts from exploration drilling.
Thunder Mountain Gold

South Mountain Project

November – JV with ISR Capital (Owyhee Gold Trust LLC)

Polymetallic replacements/skarn

UG – Laxey Portal recollared and moved 30’. Waiting on MSHA approval to continue.

Plan UG drilling, evaluating mill design.

South Mtn., Owyhee Co.
Idaho Geological Survey NEW state geologic map:

• 1:750,000 scale
• 2012
• First-class map for first-class rocks.

TO ORDER -

www.idahogeology.org
Slide 1

IDaho: MINING & EXPLORATION, 2012
Virginia S. Gillerman, Idaho Geological Survey, Boise

December 6, 2012
NWMA
Spokane, WA

Slide 2

It's all about money$

![Graph showing Idaho Non-fuel Mineral Production (USGS) 2000-2011]

Slide 3

Idaho by commodity

![Pie charts showing mineral production and change in Idaho]
For only $20, you can have your own copy of Idaho’s new state geologic map. See website for ordering info. Reed Lewis and Loudon Stanford of IGS and Paul Link (ISU) were largely responsible.

Hecla and their contractor spent all year powerwashing the Silver Shaft – about 6000 feet deep. Followed rock burst in main access tunnel in December, and two fatalities in accidents earlier in year. MSHA ordered mine shut down in order to remove all loose material from shaft. Primarily cement leaked out of paste fill system. 110 miners laid off. A big blow to local residents in the Silver Valley. Several subprojects for safety.
Completion of Silver Shaft clean up and installation of new power cable in early 2013, recommence # 4 development work. Several other projects under scrutiny (ventilation improvements, mill improvements, Star mine exploration, using 3rd compartment on Silver Shaft for hoisting).

Combination = well-funded, growth oriented precious metals producer. Drummlummon mine is epithermal Ag-Au mine. Both underground and lots of exploration property and targets. Sprott Asset Management LP = large shareholder of both US Silver shareholders received 0.67 US Silver & Gold shares per US Silver share. RX Gold shareholders received 0.109 shares in new company per RX share. Thus US Silver shareholders control 70% of new company. Combined production base 2.7 million oz. Ag and 26,500 oz. Au annually.
Lead Zone – recognized years ago but never pursued. New management more bullish on it. 750 prior drill holes. Lower grade disseminated and stringers of galena with linear zones of high grade. BIG: extends from 2400 to 5200 levels, strike between 1200 and 3600 feet long and apparent widths between 200 and 400 feet.

In “Quiet Period” with hopeful IPO when market improves. About 40 people working there.

Expansion to 300-350 tpd.
Slide 12

Thompson Creek Metals

Large open pit moly mine – HPM, roaster in PA

2011: > 21 million pounds Mo

2012: declining prices, slope failures, wind fence

Mined Phase 7 ore

Oct.: Stripping Ph. 8 suspended; 110 employees laid off.

Phase 8 expansion DEIS in 2013, also land exchange.

Thompson Creek Molybdenum mine, Custer County, Idaho

Slide 13

Thompson Creek mine

August, 2012 – wind fence around coarse ore stockpile

Most scenic setting!

August, 2012: Largest circle perimeter wind fence in North America, and highest (60 or 90 feet, depending on topography). Cost $ 2.4 million.

Slide 14

Phosphate District: SE Idaho

Idaho’s 2nd most valuable commodity; (3rd in nation for Phos) Ore >$ 200 million value.

3 large processing plants (3 major companies): Phosphoric Acid fertilizer, Elemental Phosphorus

Blobs = mines. 3 in active production, 1 new one in construction, + exploration

Administered by BLM as non-energy leasable mineral. Federal, state and private land.
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.

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.

Will mine ore from their S. Rasmussen into next year. Constructing new Blackfoot Bridge mine. Development from Spring to December, 2012 and into 2013. Photo is of North Source area for construction materials.
Installation of the thermal oxidizer at processing plant reduced limits due to ore chemistry in plant and allowed greater flexibility in ore sequencing in mine plan. Agencies approved modification (in October) to mine plan which reduces size of overburden pile and evaporation ponds.
Slide 21

*Simplot Smoky Canyon: Started Deep Dinwoody engineered cover over Panel E backfill.*

Dinwoody Shale cover cap over backfill, as per 2008 mine plan. Also completed large-scale lysimeter test at Panel E.

Slide 22

*Agrium: Reclamation at Rasmussen Ridge mine, 2012*

Agrium had some major reclamation projects at Rasmussen Ridge mine complex where mining started in 1991. Agrium took over in 1998 as operator. 2003 approval of mine plan for North RR required additional reclamation on South and Central RR sites. Baseline and other environmental studies started in 2009.

- Agrium: Rasmussen Valley (420 acres, mixed) DEIS in 2013.

- Monsanto: N. Caldwell Canyon, exploration drilling.


- Slide 26

INDUSTRIALS
- 1. Markets Brown
- Housing starting in 2014
- End of highway project need upgrade
- Oil field services supplied by locals
- Fire Flyer
Slide 27

Sand and Gravel

- Construction
- Sand & Gravel and crushed stone
- Statewide
- Boise Valley – slow start but busier in fall, esp. commercial
- North Idaho – highway projects
- IGS Aggregate study

Slide 28

Unimin: Industrial Sand (feldspar)

- Silica-feldspar sand
- Emmett, Idaho
- Some improvement
- Expanding product line
- Glass sands strong
- Recertified by Wildlife Council

Slide 29

USAC: Bear River Zeolite

Decent year. Markets: water filtration, soil amendments, animal nutrition, waste-water treatment, and lots others. Plant is 300 to 500 tpd. Crushers, dryers, screens, Raymond roller mill, blending and bagging equipment. High quality clinoptilolite. Has shipped 12-15,000 tons annually. Price per ton up this year.
Slide 30

Dimension Stone

- Three Rivers Stone quarry, Center Co. - production down
- Oakley Stone quarries - a bit better markets
- Idaho Travertine – working

Table Rock Sandstone trim on new Business building at Boise State University

Slide 31

Hess Pumice Products (also Idaho Minerals, US Grout, Hess Pozz)

- Seeing some growth.
- Bought and plan to re-open cultured stone plant in 2013.
- Increased grinding capacity, finer sizes.
- Oil field service - grout business good.
- Export demand high.
- Perlite - some growth.

Seeing trend to finer grinding sizes. Next year – hope to reopen Owens-Corning cultured stone plant. Bought assets. Creative adjustments and aggressive marketing.

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Energy: IGS ARRA Geothermal Drilling

End of 3-year DOE and ARRA funded project. Compiling data and information related to geothermal potential in state. To be available on IGS and Geothermal website (Arizona GS). Added drilling component. Drilling 4 thermal gradient holes to evaluate heat flow and geothermal potential. Project site is in southeastern Idaho, area of very young volcanic activity with overthrust structures below, some thermal features shown on map. Drilling just finishing about now (Dec. 1). Look for results over next 6 months.

Very busy year, some of you already heard the highlights in yesterday afternoon’s session on Exploration and Development Projects in Pacific NW. Will repeat some of that and add others. Hope you noticed that the bulk of Wednesday session’s advanced projects were in Idaho. Obviously the high precious metal prices influenced the targets. Historically Idaho has several large placer gold districts – time to re-examine those. Roughly from N to S.
Under lease and plan of operations from State, i-minerals shipped feldspathic sand as-is from old tailings. June-October in dry season, up to few thousand tons. Sold to Pottery maker in Lewiston. Other folks interested for tiles, and lower value products. Low cost production. Testing on feldspars with ceramic industry. Main objective: Pre-Feasibility study and economic analysis of Kaolin. ALREADY COVERED PHOSPHATE exploration.

First work since 1980s. Acquired historical data. 38 patented/unpat claims. Confirmed grade and existence of historical mining blocks in Conjecture Shear Zone and unexplored areas. Black Mtn. is Australian-based, Silver focused junior company. RECON for zinc and silver also in far north

Drilled till June; Stopped by lack of funds
HIGHLIGHT: 7 m true thickness of 10.8 g/t Au in hole GC 12-134. 25 m centers.
Working
United Silver had announced plans earlier to reopen Crescent mine. Work last couple years on driving new Countess Portal from west side of mountain to explore the 2 veins: Alhambra and South vein.

Early in year, Crescent had agreement to send concentrates to New Jersey’s mill at Kellogg for testing. Ran 9000 tons of ore with straight concentrate to Essential metals. Did not work at refinery (not used to tetrahedrite). Agreement terminated. I-drift samples – some very high grade results. August – Announced stop to mine development activities in order to conduct geologic evaluation of South vein areas and optimize material handling methods.

Hecla, owner of 1 of the 2 operating mines in the Silver Valley, had another tremendous year of exploration outside of the Lucky Friday mine. Majority of work at Star mine area, located 1.5 miles NW of Lucky Friday mine. Details in Wednesday’s talk. 3 project areas – 70,000’ of core Most at Star mine area (inc. Noonday and Moffitt vein systems)
Heard more details at talk yesterday. Working off shallower (in CDA, 2000 feet is shallow) levels of Star. Considerable work. Star mine part of zoned Star-Morning mine. Deepest in CDA. Pb on one end, zinc-rich on the other.

Heard more details in talk yesterday. Area drilled for several years and multiple companies since 1989. Classic Idaho shear zone, structurally controlled mineralization (old Au placers and small lodes nearby). Major structures with lots of subsidiary ones. Exploration targeting from geology plus geochem, geophysics. Applied for additional permits to extend drilling areas.

Busy drilling as we speak.
Hope you heard the talk yesterday, I’ll barely have time to list highlights of Midas’ program at their Golden Meadows project.

From Sept. 9, 2012 corporate presentation. Major GOLD (+ Sb) district. Note 4 + million ounces indicated, but another nearly 3 million ounces inferred. Also potential 200 million pounds antimony byproduct. Drilling is continuing.

See website for press releases and more details. Nov. 21 announcement shared this one from Yellow Pine area step out drilling intersected new high grade zone. Big problem will be finding unmineralized ground for facilities. Structurally controlled mineralization in another major “Idaho shear zone” configuration. Hosted in Idaho Batholith and roof pendant metasediments and calc-silicates, at least partly of Paleozoic age.
Formation Capital continued construction work to develop a new underground cobalt mine in the historic Blackbird Mining District of Lemhi Co., SE of Salmon, Idaho. Portal Road – Built new road from mill to mine portal that avoids mingling public use traffic. Power – Installed powerline to mill site area. Final Financing – working on it.

New Portal road should be blue lines between mill plant and Ram Portal bench. Will mine Ram Deposit (discovered by Formation). Stratabound mineralization likely continuous between Ram and historic Blackbird workings. LOTS of exploration potential.

In addition to various construction work at mine and mill site in Lemhi County. Also drilled monitoring wells, and worked on new facilities at Cobalt Production Facility – i.e. the hydrometallurgical refining complex, outside of Kellogg, Shoshone Co. More details on website.


Otis Gold Corp. had modest program. Conserving cash. Completed 43-101 Resource Estimate:
- 520,000 ounces Au indicated at 0.59 g/t
- 300,000 ounces Au inferred at 0.46 g/t
- Drilling winter-like to follow-up some 100m+ intercepts from last year. Drill results pending. Planning more work next year.
Western Pacific thinking creatively at their Mineral Gulch property (Pegasus Black Pine mine). Finally tracked down old Pegasus data and evaluating it. Think a significant # of ounces of Au never mined. Recall that gold price in 90’s was under $400/oz.

Atlanta Gold had quiet year on ground. Lawsuit by ICL about water treatment for As in mine waters from adit opened previously. No drilling. Cooperating with Forest Service to improve settling ponds by adding filter media.

One of most innovative projects in state. Near Boise, in Boise Basin. Gold Hill mine was largest lode producer. Shut down in 1930’s. Conical cable-tram dumps removed and reprocessed. Free gold and sulfides. Custom placer mill with variety of high tech screens, sluices, centrifugal concentrators, etc. Seasonal operation. Evaluating exploration of hard rock opportunities.

Boise Basin historic production ~ 2.7 million ounces Au, mostly placer.
Terraco continued work on their Almaden project, renamed the Nutmeg Mountain Gold Project. Modest spring drilling program using HQ3 core. Mostly within mineralized area. Hit interesting high grade intercept (1.5 m of 10.8 g/t Au) in zone of veining and brecciation.

Odd year for Cumo project. Legal, Corporate struggles. Changes resolved in the fall and company consolidated under new management in October. Field personnel kept on drilling. Modest 9-hole program in late spring and early summer. In response to lawsuit over approval of EA, judge OK’d work but told Forest Service to address issues of groundwater on exploration projects. Usual thick intercepts of moly mineralization in drilling.

Thunder Mtn. Gold has large land position on mostly private ground at South Mountain in Owyhee Co. Historic underground workings on massive sulfide replacements and skarns. Seeking financing to explore and develop it. In November, finalized agreement with ISR Capital (inc. $1 million buyin and $2 million work commitment to earn 25% interest in South Mtn.) Wasted no time going underground – Recollared Laxey Portal, moved it over a bit, excavated through cave. Will spend winter drifting and setting up ug drill stations.
to chase high grade ore down. Old-timers left a bunch. Pb-Zn-Ag plus nice gold credit.

Reminder: Check www.idahogeology.org to order your copy of Idaho’s new state geologic map. Also find out about other mapping projects, look for oil and gas and mine records, past mining reports, and see who to contact about geology, geothermal, aggregate, mineral deposits and other topics in your area.

Thank You.