Idaho Mining and Exploration, 2014

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Idaho Geological Survey, Boise

American Mining and Exploration Association
Reno, NV

December 3, 2014
WELCOME

New State Geologist and Director, Idaho Geological Survey

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Where have we been?

Idaho Non-fuel Mineral Production (USGS)

2013 Preliminary Idaho Mineral Value: $ 991 million
Idaho By Commodities

Idaho 2011: $1,324 million

Idaho 2013p: $991 million

2011 revised record

2013p: $991 million (USGS)
Metal Prices Down: Halloween Au at 4-year low. Industrial markets stable to improving.

October 2014 (Comex Dec. Futures):

Gold: ↓ 3.4% to $1,171/troy ounce
Silver: ↓ 5.7% to $16.08/troy ounce
Molybdenum Oxide: ↓ $9.06/lb.
### Employment & Wages

**July, 2014**

<table>
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<tr>
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<tbody>
<tr>
<td>Mining</td>
<td>2,568</td>
<td>$ 68,021</td>
</tr>
<tr>
<td>Chemical</td>
<td>2,597</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>5,165</strong></td>
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Data Sources: Idaho DFM, Idaho Dept. of Labor

Multiplier Effect (+ 6300 workers indirectly tied to mining)

Standard US mining wages: $ 15 to 40/hr for unskilled to skilled labor.
Over 1.23 billion oz. Ag
MSHA order to clean Silver Shaft after fatal accidents in 2011. Mine fully rehabilitated and shaft cleaned in 2012.

2013
Reopened Feb. 2013
Full production Sept. 2013
Gold Hunter/LF Extension between 4900 and 5900 levels.
Using shadow stopes and geo-tech modelling to reduce strain around 30 vein.

~ 250 employees

2013: 1.5 million tr. ounces silver
A day underground: Gold Hunter

5150 Level, Stope 10, 60
vein (Siderite-Sphalerite-Galena-Qz)
Zn-Pb-Ag

5550 level Transport

August 2014

2014 guidance: 3 million troy ounces silver (Ag)
# 4 Shaft to extend from 4900 to 8800 level. Access deep discoveries of 30 vein system. Ramp up production: 5 million ounces in 2017. $ 215 million.

Nov. 2014

Project 73% complete

Excavation Work Done on 7500 Station (2600’ below 4 Shaft Collar)

At $ 20/oz. Ag, $ 0.90/lb. Pb, $ 0.80/lb. Zn)
LUCKY FRIDAY # 4 Shaft

BIG NEWS

$ 215 million project
LUCKY FRIDAY
# 4 SHAFT

Dec. 2014 Update

- $215 million project, 73% complete
- $157 million spent, as of 3rd qtr. 2014
- Excavated 2600 feet, down to 7500 level.
- Expect Completion 3rd Qtr. 2016

7500 Station with Mucker

View up #4 Shaft Barrel
US Silver & Gold

- **Galena mine complex:**
  - Galena mine, plus Coeur and Caladay properties
  - Drumlummon mine, MT (closed)

- **Nov. 2014: Merger Agreement (by end of year)**

**New Name:** Scorpio Mining Corporation

- Silver mine in Sinaloa, Mexico
- Galena Mine

Produced 2.12 million oz. Ag in 2013
Small Mine Plan Focus
- Reduced 2013 exploration/development
- 2014 Aggressive Cost-cutting by 15%
- Shift to Ag-Pb ore,
  - Process in 1000 tpd Galena Mill
- Evaluating Caladay Zone
  - Known mineralization 4900 to 5200 levels
  - Ag-Cu ore at Coeur mill

2014: ~1.7 million ounces Ag

Cash costs ~ $15/oz.
Galena Mine

Galena Shaft Hoist

281 Stope, 3700 Level
Thompson Creek mine

Molybdenum

- Producing from Phase 7 through late 2014
- Suspended stripping for Phase 8
- No exploration planned
- New mine plan; cost reductions
- DEIS Phase 8 out in 2014

Economic Driver of Custer County

- 2013: nearly 21 million pounds Mo produced.
- 2014: Stockpiled Ore; Future?
Thompson Creek - 2014

Quit Stripping of Ph. 8
In Oct. 2012. Need > 1 year of stripping to continue mining.

Pit Quiet, Sept. 2014

- Mining Stockpiled Ore
  - Completed December 2014
- Care and Maintenance Option
- Limited Stripping/Milling to Continue
- Retain crew of 52 employees
GEOLOGY OF THE IDAHO PHOSPHATE DISTRICT

- Phosphoria Fm.
- Meade Peak Member (5 m.y. of deposition about 265 Ma?)
- Permian (290-248 Ma) west coast of North America
- >300,000 km²
- Phosphatic black shale – restricted marine basin with upwelling organic-rich currents

(Piper, 2001)
10/2014 (Stonegate Agricom)
Phos Rock $ 125/tonne
DAP: $ 460/tonne

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

U.S. 21-Year Phosphoric Concentrate History

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>1990</td>
<td>46.3 mt</td>
<td>39%</td>
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<tr>
<td>2011</td>
<td>28.4 mt</td>
<td>28.7% P₂O₅</td>
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FAO Food Price Index

Phosphate Rock Concentrate Price

Monsanto’s Elemental P

Fertilizer also made at Simplot’s Don Plant, Pocatello
Monsanto: Blackfoot Bridge mine (New in 2013)

May, 2014

Mine - ~ 100 workers
Plant – 400 employees, 1/3 professional status
Blackfoot Bridge – Water Management
Integral Part of Design

GCLL Cover System Optimization:
Will Cap Overburden Piles to prevent water percolation. Stream Bank restoration and wetland pond creation.
Simplot: Smoky Canyon Mine

2013 Aerial View 17-yr. mine life

Smoky Canyon Panel F (Manning Creek Lease). Constructing new haul road (on right) to connect Panel F to approved, unmined Panel G (Deer Creek Lease)
Smoky Canyon Mine

Mine + Don Plant: 700 employees $60+ million annual payroll
Don Plant (Pocatello)

Dinwoody Cover System Tests

Panel F, May, 2014

Exploration Drilling at East Smoky Panel
Agrium North Rasmussen Ridge Mine

2014: Mining Panel B

Rasmussen Valley Drilling (EIS)
Agrium – Exploration/Development

NEW COMPANY: FERTOZ

Agrium EIS and Drilling: Husky #1, North Dry Ridge
**Phosphate – New Mine Plans and Exploration (Nov. 2014)**


- **Agrium**: Husky/N. Dry Ridge (1051 acres), Analyzing baseline data, drilling for geochemical characterization and groundwater characterization. DEIS 2017.

- **Agrium**: Freeman Ridge/Diamond Creek EA for major new exploration drilling plan with scoping 2015.

- **Monsanto (P4)**: N. Caldwell Canyon, exploration drilling after EA approved May, 2013. 37 holes. DEIS 2016?

- **Paris Hills Agricom Inc.**: Extensive exploration drilling since 2010, feasibility studies for underground mine, near Bloomington, Bear Lake County. Private/State, Feasibility (Dec. 2012)

- **Fertoz**: Exploration Plan, drilling proposed Dry Ridge.
2014: Permitting Studies and Financing/Marketing

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
Mineral Reserves*

<table>
<thead>
<tr>
<th></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>
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</table>

*Source: Mineral Reserves for the Lower Phosphate Zone were prepared as of March 26, 2012 by Agapito Associates Inc., an independent geological and mining engineering consulting firm based in Grand Junction, Colorado. Leo Gilbride, P.E., Vanessa Santac, P.G., and Gary L. Skaggs, 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 26, 2012. Additional details are shown in the following pages of this presentation.
Industrial Minerals

- Markets Stable
- Slight Improvement in 2014 Markets
- Correlation to Economic Activity, Construction
- Important for Local Economy
i-minerals: Helmer-Bovill property, Latah County (Exploration/Development)

- Historic Clay Pits
- Multi-commodity -
  - Clay (halloysite)
  - Feldspar
  - Quartz
- Oct. 2014 – Sold 680 tons of WBL Tailings feldspar-quartz sand to Quarry Tile in Spokane
- Prefeasibility on Bovill kaolin deposit (June 2104) with attractive economics.

State Leases and Private
Emerald Creek Garnet

- Owned by: Opta Minerals Inc.

- Mining leases in St. Maries River floodplain. Leases on Emerald and Carpenter Creek.

- Use jig system in field to concentrate garnets and send to main jig plant to wash.

- Full Production in 2014.

- Reclamation, 15 acres.

Reclaimed after 1996 debris flow.
Oakley stone quarries: Northern Stone Supply, Scrivanich Oakley Mtn. Stone, Sawtooth Stone, Oakley Valley Stone

Oakley Mountain Corp. (Scrivanich)

Sawtooth Stone

2014 – A Good Year!
Hess Pumice Products
Hess Pozz, US Grout, Idaho Minerals

- Continued growth in 2014 (120 employees)
- Ultrafine cementitious grouts
- JV with Creative Mines – crafted stone product; Ready-mix mortar/plaster finishes
- Research with U. Utah – ASR and pumice pozzolan study to produce Hess Pozz, ASR-mitigating concrete-enhancing pozzolan.

Wrights Creek mine and plant at Malad
Sand and gravel/aggregate

IGS Study for ITD:
*Lithological characterization of active ITD aggregate sources and implications for aggregate quality (T-14-1)*
- New IGS Database
- Public Works, Commercial
- Hwy. 95 big user, but project complete.
- I-84 construction ongoing, Treasure Valley.

Sources
- ASR reactivity
  - < 0.1%
  - 0.1 - 0.19%
  - 0.2 - 0.29%
  - 0.3 - 0.39%
  - 0.4 - 0.49%
  - 0.5 - 0.59%
  - 0.6 - 0.69%
  - > 0.7%
Energy: Oil & Gas (SW Idaho)

3D Seismic Survey 2014

State Revenue:
- 12.5% royalty
- 1.5% tax to OGCC
- 1% production tax to local gov’t, schools

2014 $ - Lease Sales by IDL
2014 Oil & Gas Activity in Idaho

- 4 wells drilled in Payette Co.
- 1 well drilled in Canyon Co. (plugged, abandoned)
- 2 other permits to drill
- New Lease sales – Alta Mesa, Trendwell bid winners
- 1 well producing gas into Intermountain Gas pipeline (local use by New Plymouth)
- 15 wells with gas/condensate in PPQ (producing paying quantities)
- AM Idaho finishing gas pipeline and dehydration and compression plant to market hydrocarbons in 2015.
Geothermal in Idaho

U.S. Geothermal Inc. Power Plant
Raft River Area

IGS Geothermal Database out soon.

Raft River
Pacific Northwest and Idaho's First Geothermal Power Plant

Online January 2008
13 net MW (annual average)
- Water Cooled
- 10 MW current production

Project loan
- None

Power Sales Contract:
- Idaho Power Company
- 25 year term

Equity Partner
- Goldman Sachs (50%)
- Tax equity ownership structure

High Reliability
- Availability Q1/Q2 = 99.1% (excluding scheduled annual overhaul)

Walker Ranch LLC (Agua Caliente) – Raft River Area, 2013
Exploration 2014

- Yes, Virginia – “There is exploration.”
- “Everybody’s broke.”
- Private Land is the Target.
- Financing Trumps All.
- Recent commodity price declines are not helping.
- Develop in the price lows, produce in the high $s.
- Idaho = Great Geology.
Silver Valley Exploration

**In-mine:**
- Hecla-Lucky Friday
- U.S. Silver - Galena
- New Jersey Mining/Juniper Resources (Murray)

**Regional:**
- Daycon – Snowstorm Mine
- Red Leopard Holdings – Reopen Idora Mine Portal

**In-active:**
- Crescent Mine
- Sunshine Mine
  - (Fatal Accident)
- Bunker Hill
Hecla: Exploration Drilling

Lucky Friday Mine, 6500 level

GH73-09
NJMC – Golden Chest mine
JV with Juniper Resources
Murray, Idaho

**Contractor:** Small Mine Development
MMG – Hall Mountain Drilling

TARGET: Zinc
Prichard Fm.
4 Holes Drilled

Drilling Site

Reclaimed Site
Premium Exploration
Friday Deposit (Elk City area)

Late 2013- March 2014:
14 DDH
Target: High grade portions of Friday deposit
Premium Exploration: Results

PFR2014-6:  
5.23 g/t Au over 112.8 meters,  
inc. 34.2 g/t Au over 6.6 meters.

PFR2014-10:  
2.43 g/t Au over 96.2 meters.

Excited about results; seeking financing for more work.
New Jersey Mining
McKinley mine (Riggins area)

- Lucille, Idaho
- Up steep, side canyon
- Small, underground mine with minimal information
- Patented 1909
- 3000’ workings
- Fiddle Creek Schist (Riggins Group, Accreted Terrane)
- Gold in pyrite
- Orogenic Gold?
NJMC: McKinley mine

Custom Drill - 21 holes with BX size core for 1270'
Salmon Area

Formation Capital

- **Cobalt Project**: Care and Maintenance
- Lemhi Gold
  - Water sampling
- U.S. Rare Earths
  - Lemhi Pass District
  - Permitting
  - OK to Bulk Sample
  - Last Chance Mine (MT)

OSU student at Lucky Horseshoe prospect in Idaho’s Lemhi Pass District
Midas Gold Corp.
Stibnite Gold Project

- Historic name
- Baseline data and environmental site characterization
- Engineering optimization
- Public relations and local involvement
  - Locals appointed to Board of Midas Gold Idaho, Inc.

FS-Valley Co. Road Users Advisory Group at site
Updated Mineral Resource: 5.4 million oz. indicated (9/2014)
Prefeasibility Study: Dec. 2014
Geologic Studies:
- District Mapping & Sampling
- Field Tour: IGS-USGS, CGS
- IGS Mapping and Research
2014 Sampling at Stibnite District

Jasperoid sanded Lms.: 18g/t Au across outcrop

Fern mine area

Cinnabar mine

Sam at Hogback Ridge

A lot more targets.
CuMoCo: Cumo Deposit
Boise County

No work on ground
Awaiting USFS permit
2014 Summer Forest Fire

CGS visitors, August
Otis Gold Corp.

- Kilgore Project
- Eastern Idaho Epithermal System
  - 520,000 oz. ind. Au
- Completing EA for additional drilling of North Target (Public Notice OK by FS in Oct.)
- Groundwater baseline study
Otis/Radius Gold: Oakley area

- Radius Option from Otis at Blue Hill Creek
- S of Oakley
- Completed 5 DDH
- Total Footage: 4300’
- Assays Pending

View to west to Goose Creek Basin
State and Federal AML Closures

Copper Mtn. Closure (May 2014)

Townsend Bat (April 2014)
SW Idaho Gold Properties

- **Terraco:** Nutmeg Mtn.
inactive (Idaho Almaden mine)

- **Shoshone Gold:**
  Rescue mine inactive

- **Gold Hill Mining:** Old
  stockpile processing on hold

- **Trans-Challis:** North
  Pearl Property has active
  mapping, geophysics

Permitted and on private ground, Owyhee County

Sonneman Level Portal, June 2014

Laxey Level Portal
South Mtn.: High Grade Polymetallic Skarn/Breccia

Zinc-rich ore shoots with Au-Ag credits and exploration potential at depth.

2014: Care and maintenance. Management is reviewing data and evaluating third party consultants for conducting Feasibility Study. Thunder Mtn. Gold is confident development will be active in 2015.
Atlanta Gold Inc.

- Two Projects
  - Atlanta District –
    - Innovative Water Treatment Plant
  - Neal District –
    - Knife River Corp. to contract mine surface ore at Neal, Daisy Mining & Land
  - 15 miles E of Boise
  - Easier Access

PWTF installation at Atlanta
Hydroclean Resources LLC
Atlanta Gold subsidiary

PWTF > 99.9 % removal of Fe, As

Treating discharge from historic 900 Level Adit.
As reduced from ~ 5000 ppb to ND; Fe from over 16,000 ppb to < 50 ppb. Meets NPDES specs and is ~ drinking water clean.

Patent Pending; passive treatment facility.
Agencies impressed.
Idaho Geological Survey

Geologic Mapping

- 3 new 100K maps out soon (Fairfield, Grangeville, Bonners Ferry)
- 2014 Mapping Areas:
  - Weiser and Boise
  - Rexburg
  - Salmon
  - Stibnite

Databases

- Oil and Gas, Aggregate, Geothermal
NEW

Idaho Geological Survey

Geologic Map of Idaho

1:750,000 scale

2012

www.idahogeology.org

Thank you.