UPDATE ON NEVADA MINERAL PRODUCTION AND EXPLORATION

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¹Nevada Bureau of Mines and Geology (www.nbmg.unr.edu)

²Nevada Division of Minerals (minerals.state.nv.us)

Photo credits to Mike Visher, Jeff Scovil, JGP, and others
Nevada is a really great place to explore for and mine gold - and many other mineral commodities.
NEVADA MINING INFO

• Major Mines of Nevada
• Nevada Exploration Survey
  – NDOM (http://minerals.state.nv.us)
• The Nevada Mineral Industry
  – NBMG (www.nbmg.unr.edu)
• Economic Overview of the Nevada Mining Industry
  – NvMA (www.nevadamining.org)
The current boom (1981-2009) = 224 M oz Au
(mostly Carlin and other Nevada deposits = 157 M oz Au)

Goldfield (NV), Black Hills (SD), Cripple Creek (CO), porphyry Cu (AZ & UT) = 95 M oz Au

'49ers = 29 M oz Au
The price of gold is near its all-time high, even with adjustments for inflation.
Prices of commodities more or less follow one another.
Gold’s purchasing power has been fairly steady in terms of other commodities.
5.0 million ounces* in 2009

*Nevada Division of Minerals statistics
Nevada produced ~75% of U.S. and 7% of world gold in 2008.
China has been the #1 gold producing country since 2007.
Demand is high for nearly every mineral resource.
Global gold production in 2009 (2,350 metric tons) approximately equaled the cumulative production from the Carlin trend (2,306 tons), one of world’s top regions.
Nevada is certainly one of the best places, if not the best, to explore for and mine gold.
23 major gold operations (8 not on the Carlin trend with production >100,000 ounces in 2009)

Major Mines, Oil Fields, and Geothermal Plants

- Precious Metals
- Industrial Minerals
- Copper and Molybdenum
- Oil Field
- Geothermal Plant
Trends of Mineral Deposits

X Metals (mostly Au, Cu, Ag)

X Industrial minerals
Carlin trend — accounted for 50% of Nevada gold production in 2009, down from 54% in 2008

Metals (mostly Au, Cu, Ag)
Battle Mountain-Eureka trend

(aka Cortez trend and with Turquoise Ridge and Twin Creeks included) –

Seven deposits last year produced >100,000 oz of gold, including Cortez (Pipeline + Cortez Hills) at 517,512 oz Au.

Metals (mostly Au, Cu, Ag)
Trends of Mineral Deposits

**Walker Lane**

Also off any trend

Round Mountain Mine = 414,941 oz Au last year

X Metals (mostly Au, Cu, Ag)
The Nevada Bureau of Mines and Geology updated its “Gold and Silver Resources in Nevada” map in 2006 (Map 149, by Dave Davis, Joe Tingley, and John Muntean) with 943 deposits, in a database as well.
The Nevada Bureau of Mines and Geology, in collaboration with the Nevada Division of Minerals, created an interactive map website with information on mineral and energy resources, land status, and other geographic information that helps with exploration and land-use decisions.

http://gis2.nbmg.unr.edu/
By the end of 2009, the Carlin trend had produced a total of 74.1 million ounces of gold (2,306 tonnes). If production levels hold, the trend will produce a cumulative amount of 100 million ounces by 2019.

The Betze-Post mine is the most productive pit: 901,992 oz of gold in 2009; total production now exceeds 28 Moz; ~13 Moz of additional resources and reserves.

The Meikle mine is one of the most productive underground mines: 388,548 ounces of gold in 2009; total production (1996-2009) = 7.9 Moz of gold; ~5 Moz additional resources and reserves. The Leeville mine may have exceeded Meikle’s production in 2009.
The Cortez Hills and Pediment deposits, near the earlier Cortez operations at the foot of Mount Tenabo, discovered in 2004, with intercepts as good as 410 feet @ 1.035 opt.

Production from the Cortez Hills underground mine increased from 6,804 oz of Au in 2008 to 125,057 oz of Au in 2009.

Cortez + Pipeline reserves (2010) = 14.1 million ounces of gold

www.barrick.com
HYCROFT - Humboldt Co.

Allied Nevada Gold Corp – www.alliednevada.com

53,189 oz Au in 2009!

Reserves: **53.1 Mt @ 0.019 opt Au**
Resources: **283.4 Mt @ 0.019 opt Au**
Total: **6.39 million oz Au**
The Coeur Rochester mine in Pershing County produced 2.18 million ounces of silver in 2009 at an 173:1 silver:gold ratio.
Quadra Mining at Robinson (Ely):
122 million pounds of Cu; 89 thousand pounds of Mo;
99 thousand ounces of Au; 201 thousand ounces of Ag

Newmont at Phoenix (Battle Mountain):
~24 million pounds of Cu;
~219 thousand ounces of Au; ~1.2 million ounces of Ag
Demand is high for nearly every mineral resource.
Demand is high for nearly every mineral resource.
There is a great recession in the U.S., but it has not been felt significantly in China, Australia, Brazil, or India (by this measure – iron ore).
The economy hit the construction industry in 2008 and 2009, particularly hard in Nevada.
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"Forget gold. Strategic metals are where it's at."
Rare earth elements (REEs)
Platinum group elements (PGEs)
Elements needed in photovoltaic solar cells
Other energy-critical elements
Exploration commonly focuses on the relatively high-price commodities, including gold.
China is #1 or among the top three producers of these elements in light print.
Lithium-brine evaporation pond; back in operation after a shut-down of pumping in 2008.
Nevada is the leading barite producer in the USA.
Nevada petroleum

Production

Price

Petroleum production, thousands of barrels

Petroleum price, $/barrel

Years: 1978 to 2008
18 plants at 11 sites sold ~$110 million of electricity in 2009.
Geothermal exploration and development are moving forward rapidly.
Nevada is a great place to explore and mine, even though overall value dropped to $5.8 billion in 2009.
Mining fraud is escalating due to recent price increases, especially gold and silver.

Recurring scams involve playa (lakebed) deposits and special assay methods.

NDOM, NBMG, NDEP, and SOS Securities Division are investigating.
This report documents the results of chemical and mineralogical analyses of samples collected from the surfaces of four playas in Nevada. Samples were analyzed for gold, silver, and several other elements at different laboratories. No economically significant amounts of these elements were found in the samples.

“Much capital has been wasted in these ventures that should have gone into legitimate mining investments. Much of this was due to ignorance and cupidity, but fraudulent practice was often the underlying cause.”
“Sir! Sir! Kindly remove the bolo tie and set it on the ground—nice and slow!”
## Nevada Mining Financial Assurance
### (in millions)

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>11/2010</th>
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<tr>
<td>Bonds</td>
<td>$272</td>
<td>$248</td>
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<td>$214.0</td>
<td>$328.2</td>
<td>$393.0</td>
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<td>Letters of Credit</td>
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<td>$412.7</td>
<td>$618.1</td>
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<td>CD / Cash</td>
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<td>$4.7</td>
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<td>Corp Guarantee</td>
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<td>$12.3</td>
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<td>$13.3</td>
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<td>$1</td>
<td>$2.3</td>
<td>$2.7</td>
<td>$2.2</td>
<td>$2.2</td>
<td>$2.2</td>
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<tr>
<td>Total</td>
<td>$558</td>
<td>$721</td>
<td>$829.9</td>
<td>$1,038.6</td>
<td>$1,182.0</td>
<td>$1,228.2</td>
<td>$1,550.7</td>
</tr>
</tbody>
</table>

(as of January 1 of each year, data from NDEP records)
Exploration is occurring in most of Nevada’s 17 counties and many of its 526 mining districts.
NEVADA EXPLORATION SURVEY 2009

- NDOM sixteenth annual survey
  - Level of exploration activity
  - Factors influencing these levels
- Exploration and mining companies with projects or claims in Nevada
- 20 respondents from 100 questionnaires; however, the big companies are included
SURVEY TOPICS

• Exploration expenditures
• Geologists employed
• Number of claims held
• Breakdown of exploration expenditures
• Factors influencing activity
• Type of reserve replacement
• Overall attitude toward exploration
TOTAL EXPLORATION SPENDING 2008/2009

<table>
<thead>
<tr>
<th>Dollars (Millions)</th>
<th>Actual 2008</th>
<th>Projected 2009</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Rest of World</td>
<td>Rest of U.S.</td>
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<tr>
<td></td>
<td>496.7</td>
<td>158.1</td>
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<td>382.0</td>
<td>133.6</td>
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<td></td>
<td>694.3</td>
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</tbody>
</table>
TOTAL EXPLORATION SPENDING 2009/2010

Dollars (Millions)

Actual 2009

- Rest of World: 309.3
- Rest of U.S.: 7.5
- Nevada: 110.9

Projected 2010

- Rest of World: 367.9
- Rest of U.S.: 12.2
- Nevada: 153.6

533.7

427.7
ACTIVE CLAIMS & GOLD PRICES, 1982-2009

NOTE: Claim data from the BLM Public Land Statistics
ACTIVE CLAIMS
AS OF
DECEMBER 2009
(by section)

Data from J. Muntean, NBMG
NEW CLAIMS STAKED IN 2009 (by township)

2007 = 29,601
2008 = 32,249
2009 = 12,300

1) Western Lithium – 826
2) Infrastructure Minerals – 808
3) Fronteer – 950
4) Renaissance Gold – 678
5) Kinross – 799
6) Chris Gibson/Lomiko Metals – 618

Newmont, Barrick, and Goldcorp – 147

Data from BLM Public Land Statistics and John Muntean, NBMG
EXPLORATION ACTIVITY 2009

35 companies (juniors more than mid-tier or majors) drilled at least **64 projects** in 2009, down significantly from 68 companies and 123 projects in 2008. 2010 looks better than 2009.

Mostly gold, but also copper, lithium, molybdenum, silver, tungsten, uranium, . . . .
Additional Mining Claim Fee

- Enacted 2/2010 by 26th Special Session
- Projected to raise $25 million in additional revenue from 1,000 claimants
- In addition to NOI filing of $8.50/claim
- Requires an affidavit filed by 11/1/2010
- Based on # of claims held - $0 (<11), $70 (11-199), $85 (200-1,299), $195 (>1,300)
Additional Mining Claim Fee

Payment Options:

• Pay the entire fee at the time of filing
• Pay $\frac{1}{2}$ the fee at the time of filing and pay the second $\frac{1}{2}$ before June 1, 2011
• Pay nothing at the time of filing and pay the entire fee before June 1, 2011
• Fee sunsets (supposedly) on June 30, 2011
# NEVADA’S TOP 10 PROJECTS - 2010

(If you had invested equally in each company, 12/09 to 12/10)

<table>
<thead>
<tr>
<th>Project</th>
<th>Company</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kings Valley</td>
<td>Western Lithium</td>
<td>-21.8%</td>
</tr>
<tr>
<td>Long Canyon</td>
<td>Fronteer</td>
<td>100.0%</td>
</tr>
<tr>
<td>Lower Horse Canyon</td>
<td>Barrick Gold</td>
<td>9.9%</td>
</tr>
<tr>
<td>Mt. Hope</td>
<td>General Moly</td>
<td>121.4%</td>
</tr>
<tr>
<td>Pumpkin Hollow</td>
<td>Nevada Copper</td>
<td>29.1%</td>
</tr>
<tr>
<td>Sandman</td>
<td>Fronteer</td>
<td>100.0%</td>
</tr>
<tr>
<td>South Arturo</td>
<td>Barrick Gold</td>
<td>9.9%</td>
</tr>
<tr>
<td>Spring Valley</td>
<td>Midway Gold</td>
<td>-19.5%</td>
</tr>
<tr>
<td>Springer Mine</td>
<td>EMC Metals</td>
<td>300.0%</td>
</tr>
<tr>
<td>West Pequop</td>
<td>Agnico Eagle</td>
<td>25.4%</td>
</tr>
<tr>
<td><strong>TOTAL RETURN</strong></td>
<td></td>
<td><strong>65.4%</strong></td>
</tr>
</tbody>
</table>
A variety of vanadium minerals hosted in an organic-rich siliceous black shale with an oxidation zone of up to 100 feet
GIBELLINI HILL

*Rocky Mountain Resources
*changing to American Vanadium Corp.

- Potentially lowest cost primary vanadium producer in the world
- Could supply 5% of world’s current demand for vanadium for 15 years
- Historic exploration drilling > 160 holes by several operators including Noranda and Union Carbide
- NI 43-101 compliant resource of 18 M tons @ 0.339% $V_2O_5 = 122$ M pounds of $V_2O_5$ (indicated)
KINGS VALLEY – Humboldt Co.
Western Lithium Corporation
www.westernlithium.com

Lithium-enriched hectorite clay in altered volcaniclastic moat sediments of the Miocene McDermitt Caldera
KINGS VALLEY
Western Lithium Corporation

Stage 1 Resource
NI 43-101, compliant (as of Nov, 2010):
Indicated Resource:
10 million tonnes grading 0.43% lithium
Li$_2$CO$_3$ equivalent (LCE) = 230,500 tonnes
Inferred Resource:
10 million tonnes grading 0.42% lithium
LCE = 231,000 tonnes

Capital Costs: $427M  18 yr mine life
Prefeasibility – 2011, Production – 2014
LONG CANYON - Elko Co.  
Fronteer Gold (property acquired from AuEx in 2010)  
www.fronteergold.com

Near surface oxidized sediment-hosted Carlin-type gold deposit associated with solution breccias and stratabound horizons

Hole LC577C is the best intercept to date from Long Canyon, with high-grade mineralization of 12.30 grams per tonne gold over 50.4 metres.

This photo demonstrates an interval of solution collapse breccia-hosted mineralization marked by decalcification and alternating zones of predominantly hematite (red) and scorodite (green), hosted in silty limestone. This style of alteration typifies high-grade areas in the northeastern portion of the deposit.

12.3 gpt gold over 50.4 m
Resource Estimate:
558,000 oz M&I at 3.67 g/t
456,000 oz Inferred at 3.97 g/t

Long Canyon Project
Improved understanding of a growing gold deposit

The Long Canyon deposit contains an initial resource of more than 800,000 ounces of gold hosted in complexly deformed, Cambro-Ordovician limestone and dolomite. The deposit is oxidized, outcropping to shallowly buried, high-grade, and open in all directions. Aggressive drilling in 2009 has improved understanding of the controls on mineralization, extended existing zones, tested others and will lead to a new resource update in Q1 2010. NE-trending lamprophyre dyke swarms are now recognized as an important host of high grade mineralization throughout the deposit, particularly in the West Zone. Dolomite alteration at the base of the Notch Peak dolomite is also an important ore host. Study of metallurgy, pit slope conditions, waste rock characterization, hydrology and engineering are all in progress, as the deposit is fast-tracked into feasibility and permitting.
MT. HOPE - Eureka Co.

General Moly - www.generalmoly.com
Classic molybdenum porphyry with two dome shaped shells of quartz porphyry weakly to densely veined by quartz stockworks containing molybdenite.
MT. HOPE
General Moly

- 1.3 B lbs Mo (proven and probable)
- 40 M lbs Mo/yr @ 0.103% Mo (first 5 yrs)
- Net Present Value of $1.2 B at $15/lb Mo
- Capital cost estimate $1.2 B, 44 yr mine life
- Expects permits in 2011, production in 2013
- Partners include ArcelorMittal (India), POSCO (S. Korea), Hanlong (China)
PUMPKIN HOLLOW - Lyon Co.
*Nevada Copper - www.nevadacopper.com*

High grade copper/magnetite skarn associated with a copper porphyry system

Outline of Patented Claims
(Note: Property extends off the map in all directions)

Yerington

Pumpkin Hollow Property – 22 sq. Miles

Copper - Iron Open Pit Deposits

High Grade Underground Copper Deposits
PUMPKIN HOLLOW
Nevada Copper

NI 43-101 compliant resources:

Cu: 5.6 billion pounds (measured and indicated) 9.3 billion pounds total

Au: 983,000 ounces (measure and indicated) 1.45 million ounces total

Ag: 34 million ounces (measure and indicated) 55 million ounces total

Fe: 183 million tons (measured and indicated)

Mo: 48 million lbs total
SANDMAN – Humboldt Co.
*Fronteer Gold (JV with Newmont)*
www.fronteergold.com / www.newmont.com

Four deposits of low-sulfidation, quartz-adularia epithermal vein systems hosted in Tertiary volcanic rocks, primarily tuffs and breccias.
**SANDMAN**

*Fronteer Gold (JV with Newmont)*

- Newmont in final year of earn-in, has option to make production decision in 2011
- Column tests, waste rock characterization, geotechnical evaluations in progress
- Phase One of property-wide exploration drilling program underway (53 holes – 9,000 m)
SOUTH ARTURO – Elko Co.

Barrick Gold – www.barrick.com
Barrick increased the indicated resource at South Arturo (60% Barrick, 40% Goldcorp) to 1.645 million ounces Au.

A new discovery was made in 2008 at West Button Hill that is “significantly higher grade than South Arturo.”
SPRING VALLEY Pershing Co.

Midway Gold (JV with Barrick)

www,midwaygold.com

www.barrick.com

Porphyry/diatreme hosted gold system with significant amounts of coarse native gold
• NI 43-101 resource March 2009: 87.75 million tons @ 0.021 opt (0.72 g/t) gold, containing 1.8 million ounces of gold
• Barrick continues to earn in ($4M 2009, $5M 2010) and must spend $30M by 2013 to earn 60% interest
• Updated NI 43-101 resource due late 2010/early 2011
Prospective early-stage gold exploration property that has characteristics similar to Carlin-style sedimentary rock hosted gold deposits and gold-bearing skarn deposits in Nevada and elsewhere.
SPRUCE MOUNTAIN

*Renaissance Gold*

- Renaissance Gold formed from AuEx Ventures minus the Pequop properties that went to Fronteer Gold
- Historical work by Newmont, Occidental, Freeport, Amax, Santa Fe Mining, Battle Mountain Gold, Teck Resources, and Nevada Pacific Gold
- Three gold target areas identified: North Target, Sprucemont, and South Target
Epithermal, low-sulfidation (quartz adularia) type gold deposit at the contact between Tertiary volcanics and Mesozoic sediments.
WILCO

Rye Patch Gold

New oxide beneath the historic Willard Pit (Section Line discovery)

M&I of 38 M tons with 686,000 oz Au and 4,750,000 oz Ag
Ten Top Reasons to Explore in Nevada

1. Great geology and mineral potential

2. Many large producing mines, including high-grade, underground mines

3. Mines operated by leading international companies
4. Regulatory system with recent examples of rapid permitting

5. Good infrastructure (roads, drillers, hotels supplies, assayers, etc.)

6. Large areas of public land open to exploration

7. Dry climate and year round access
8. Network of knowledgeable exploration geologists, organizations, and agencies
(Geological Society of Nevada, Nevada Mining Association, Nevada Division of Minerals, Nevada Bureau of Mines & Geology, Ralph Roberts Center for Research in Economic Geology, and other units of the Mackay School of Earth Sciences and Engineering)

9. Recent discoveries and new mines
Ten Top Reasons to Explore in Nevada (continued)

10. No malaria, black flies, moose, polar bears, desert death adders, or crocodiles; just elephants.
Nevada is a really great place to explore for and mine gold - and many other mineral commodities.
THANK YOU!

Round Mountain
55 pounds (802 troy oz) @ $1,415/oz = $1.13 million

05/18/2006
Gold, Round Mountain

Opal, Virgin Valley
Alan R. Coyner
Nevada Division of Minerals
400 W. King St. #106
Carson City, NV 89703
775/684-7047
acoynerr@govmail.state.nv.us
minerals.state.nv.us

Gold, Round Mountain
Opal, Virgin Valley