



MAY 1, 2009

**SUMMARY REPORT ON  
THE CUMO PROPERTY,  
BOISE COUNTY IDAHO.**

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**SUMMARY REPORT ON THE CUMO PROPERTY  
BOISE COUNTY, IDAHO**

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## 1.0 SUMMARY

The CUMO deposit is a molybdenum-copper deposit situated 37 miles (60 km) northeast of Boise, Idaho, USA. Situated in a historic lode gold camp with recorded production of 2.8 million ounces, molybdenite mineralization was not discovered in this area until 1963 by Amax Exploration. After conducting surface sampling in 1964, Amax dropped the property. It was subsequently explored by Curwood Mining Company, Midwest Oil Corporation (later Amoco Minerals Company), Amax and then Climax Molybdenum Company, a subsidiary of Amax Inc. Drilling was done between 1969 and 1982 for a total of 10,980.7 meters (36,025.8 feet) in 22 diamond drill holes. A geologically inferred historic resource of 1.36 million tonnes at 0.092% Mo (*Non Compliant with 43-101 – see History*) was calculated by block modeling in 1983 by Climax. The property was re-staked in 1998 by Cumo Molybdenum Mining Inc. and optioned to Mosquito Consolidated Gold Mines Ltd in 2004. Kobex Resources Ltd optioned the property from Mosquito in 2005 and commenced drilling in 2006. In late 2006, Mosquito resumed control and has since completed the 2006, 2007 and 2008 exploration drilling program. Mosquito has completed 14,729 meters (44,188 feet) of drilling in 19 diamond drill holes.

The CUMO deposit is located at the southwestern end of the Idaho-Montana Porphyry Belt. Igneous complexes in this belt are interpreted to be related to an Eocene, intra-arc rift, and are characterized by alkalic rocks in the northeast, mixed alkalic and calc-alkalic rocks in the middle, and calc-alkaline rocks in the southwest. The CUMO deposit is typical of large, dispersed, low-grade molybdenum ± copper porphyry deposits that are associated with hybrid magmas typified by fluorine-poor, differentiated monzogranite igneous complexes. Due to their large size, the total contained economic molybdenum in these types of deposits can be equivalent to or exceed that of high grade molybdenum deposits. In terms of potential total contained molybdenum, based on the historical data, CUMO ranks fourth among all porphyry Cu-Mo deposits when included in the 2005 USGS list of world porphyry copper deposits.

Mosquito's work has revealed the presence of three distinct metal zones within the deposit. These zones were previously interpreted by Amax as distinct ore shells that were produced by separate intrusions. Re-interpretation of down-hole histograms for Cu, Ag and Mo suggests the metal zones are part of a single, large, concentrically zoned system with an upper copper-silver zone, underlain by a transitional copper-molybdenum zone, in turn underlain by a lower molybdenum-rich zone. Three-dimensional modeling of the above zonation indicates the current area being drilled is located on the north side of a large system extending 4.5 km (15,000 feet) in diameter, of which only a small part (1 km or 3000 feet) has been drilled.

A resource estimate update was completed at the request of Mosquito based on a total of 42 diamond drill holes totaling 76,436 ft. Of these 11 diamond drill holes were completed in 2008. A geologic model separating the CUMO Deposit into three domains was produced by Mosquito geologists. In addition major fault blocks were identified both by assay data and by marker beds. Assays were tagged by one of three geologic domains: a near surface Cu-Ag zone, a deeper Cu-Mo zone and a still deeper Mo zone. Statistics on each variable in each Domain led to the capping of assays based on the grade distribution within each Domain. Uniform down hole 50 ft. composites were produced for each domain. For variography the major post mineral fault blocks

were rotated back to their original position using marker beds. Semivariograms were produced for each variable within each domain based on the samples original pre fault locations. A block model with block dimensions of 50 ft. was superimposed on the mineralized domains. Grade was interpolated into blocks by ordinary kriging. A tonnage factor was determined for each domain based on multiple specific gravity determinations. Individual blocks were classified as Indicated or Inferred based on their location relative to drill hole composites. To take into account the four main economic minerals estimated a Gross Recoverable Value (GRV) was calculated for each block based on reasonable metal prices and estimated recoveries in each of the oxide zone, Cu-Ag zone, Cu-Mo zone and Mo zone.

The resource is summarized below for GRV cutoffs. The GRV is based on:

MoS<sub>2</sub> – Molybdenum is sold as molybdenum trioxide (MoO<sub>3</sub>) which has higher Mo content. Forecasts are for MoO<sub>3</sub> to rise to \$16 in 2010 and to \$20 in 2011 (CPM group, Feb.2009). The Chinese have stated that they will not be selling their MoO<sub>3</sub> for less than \$15/lb due to their production costs. The price used in this study for MoO<sub>3</sub> is \$15/lb. MoO<sub>3</sub> is calculated from MoS<sub>2</sub> by the following: Pounds Mo = MoS<sub>2</sub> \* 20 / 1.6681 and then Pounds MoO<sub>3</sub> = Pounds Mo \* 1.5

Cu – A copper price of \$1.50 / lb was used

Ag – A silver price of \$12.00 / oz was used

W – A tungsten price of \$8.50 / lb was used

The metal recoveries used were a function of metal domains as follows:

	%Recoveries in Oxides	%Recoveries in Cu-Ag Domain	%Recoveries in Cu-Mo Domain	%Recoveries in Mo Domain
Cu	60.0	68.0	87.0	80.0
Ag	70.0	73.0	78.0	55.0
W	35.0	35.0	35.0	35.0
Mo	80.0	85.0	92.0	95.0

Cutoff GRV \$US	Tons > Cutoff (tons)	Grade > Cutoff					Contained Metal				
		MoS2 (%)	Cu (%)	Ag (g/t)	W (ppm)	GRV US\$	Million lbs Mo	Million lbs MoO3	Million lbs Cu	Million oz Ag	Million lbs W
<b>CUMO NON OXIDE DOMAINS - INDICATED RESOURCE</b>											
5.00	1,244,800,000	0.078	0.074	2.21	45.7	22.41	1,164.1	1,746.2	1,842.3	80.09	55.79
7.50	1,158,500,000	0.082	0.074	2.20	46.0	23.60	1,139.0	1,708.5	1,714.6	74.37	54.68
15.00	900,300,000	0.096	0.069	2.08	47.7	27.01	1,036.3	1,554.4	1,242.4	54.67	48.63
<b>CUMO NON OXIDE DOMAINS - INFERRED RESOURCE</b>											
5.00	2,029,400,000	0.060	0.071	2.13	35.8	17.52	1,459.9	2,189.9	2,881.7	126.26	71.11
7.50	1,614,300,000	0.071	0.070	2.11	35.3	20.38	1,374.2	2,061.3	2,260.0	99.16	65.80
15.00	1,175,600,000	0.086	0.060	1.96	36.5	24.05	1,212.2	1,818.3	1,410.7	67.14	56.55

Based on the resources defined to date, it is recommended that the CUMO project be advanced to feasibility stage. The recommended program is proposed to be carried out over a minimum time frame of two years at an estimated cost of **\$47,000,000 (US\$)**.

## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

The authors of this 43-101 compliant Technical Report were asked by Mosquito Consolidated Gold Mines Ltd. ('MCG') to update the previously filed 43-101 Report (Cavey et.al, 2005) and to produce a resource estimate on the CUMO Property in Boise County, Idaho.

The material found in this technical report is an amalgamation of previous reports, program updates, consultant reports, and corporate releases that were available for review. There were no limitations put on the authors in preparation of this report with respect to the property vendor or MCG's information. Reports and data were obtained from all parties. The authors have relied heavily on historical Climax Molybdenum Company (Amax) information presented by MCG, and in particular a report titled "The CUMO Molybdenite System, Boise, Idaho, A Comprehensive Summary" compiled by Donald Baker, Climax Molybdenum Company dated April 1983. This immediate area of Idaho is poorly documented in the professional literature and there are very few pertinent papers available for review. Co-author Jackie Holmgren visited the site between November 29 and December 2, 2008 while co-author Gary Giroux has not visited the site.

## **3.0 RELIANCE ON OTHER EXPERTS**

The preparation of this report has relied upon public and private information provided by Mosquito Consolidated Gold Mines regarding the property. The authors assume and believe that the information provided and relied upon for preparation of this report is accurate and that interpretations and opinions expressed in them are reasonable and based on current understanding of mineralization processes and the host geologic setting.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

The CUMO property is located approximately 37 air miles northeast of the city of Boise, Idaho, USA (Figure 1). It is situated in the northern portion of the Grimes Pass area on the USGS 1:62,500 Placerville Quadrangle (15' Series) within T7N and T8N, R5E and R6E, in Boise County, Idaho (Figure 2). The Latitude at the approximate center of CUMO property is 44 degrees, 2'N and the Longitude is 115 degrees 47' 30" W or UTM coordinates of 597500E, 4,876,000N (NAD 27 CONUS).

The property consists of 345 unpatented and un-surveyed contiguous mining lode claims covering an area of approximately 7,100 acres. Most of the claims consist of full-sized, 600ft by 1500ft claims (20.66 acres each). However, the total includes twenty-seven fractional claims where the new claims were staked over existing claims. The claims are shown in Figure 2 and the claim information is listed in Appendix A.

The mining lode claims are named the CUMO #1-8 claims, New CUMO #9-61 claims, CUMO #62-188 claims, and SF 1-167 claims. The original claim block, CUMO 1 to 8 were recorded December 11, 1998, and later abandoned and re-staked as New CUMO 1-8. However, a title search revealed that a significant portion of the New CUMO 1-8 claims may not be valid since they were staked over existing claims that have since been dropped. As a result, to ensure clear title, the New CUMO 1-8 claims were abandoned and re-staked as CUMO 1-8 with a recording date of March 28, 2005. The New CUMO 9-55 and 57-61 claims were staked by Western Geoscience Inc. and recorded December 1, 2004. The New CUMO 62-188 claims were staked by CUMO Molybdenum Inc. and recorded between May 16 and 24, 2005. The SF 1-167 were staked by CUMO Molybdenum Inc. and recorded between May 24 and June 24, 2005.

In Idaho, staked claims expire annually on September 1. Therefore, the annual fee of \$125/claim must be paid to the BLM prior to Aug 31, 2009 or all claims will expire on Sept 1, 2009. At \$125/claim, the company must make annual payments to the BLM of US\$43,000 to keep all claims in good standing.

### 4.1 Ownership Agreements

On October 13, 2004, Mosquito Consolidated Gold Mines Ltd completed an "Option to Purchase Agreement" with Cumo Molybdenum Mining Inc. to purchase 8 unpatented mineral claims located in Boise County, Idaho, USA known as "CUMO Molybdenum Property". As part of the original CUMO and Mosquito agreement, all claims acquired within 5 miles of the CUMO 1-8 claims become part of the option deal. Therefore, all the new claims referred to in this report as part of the CUMO Molybdenum Property are automatically subject to the terms outlined in that agreement.

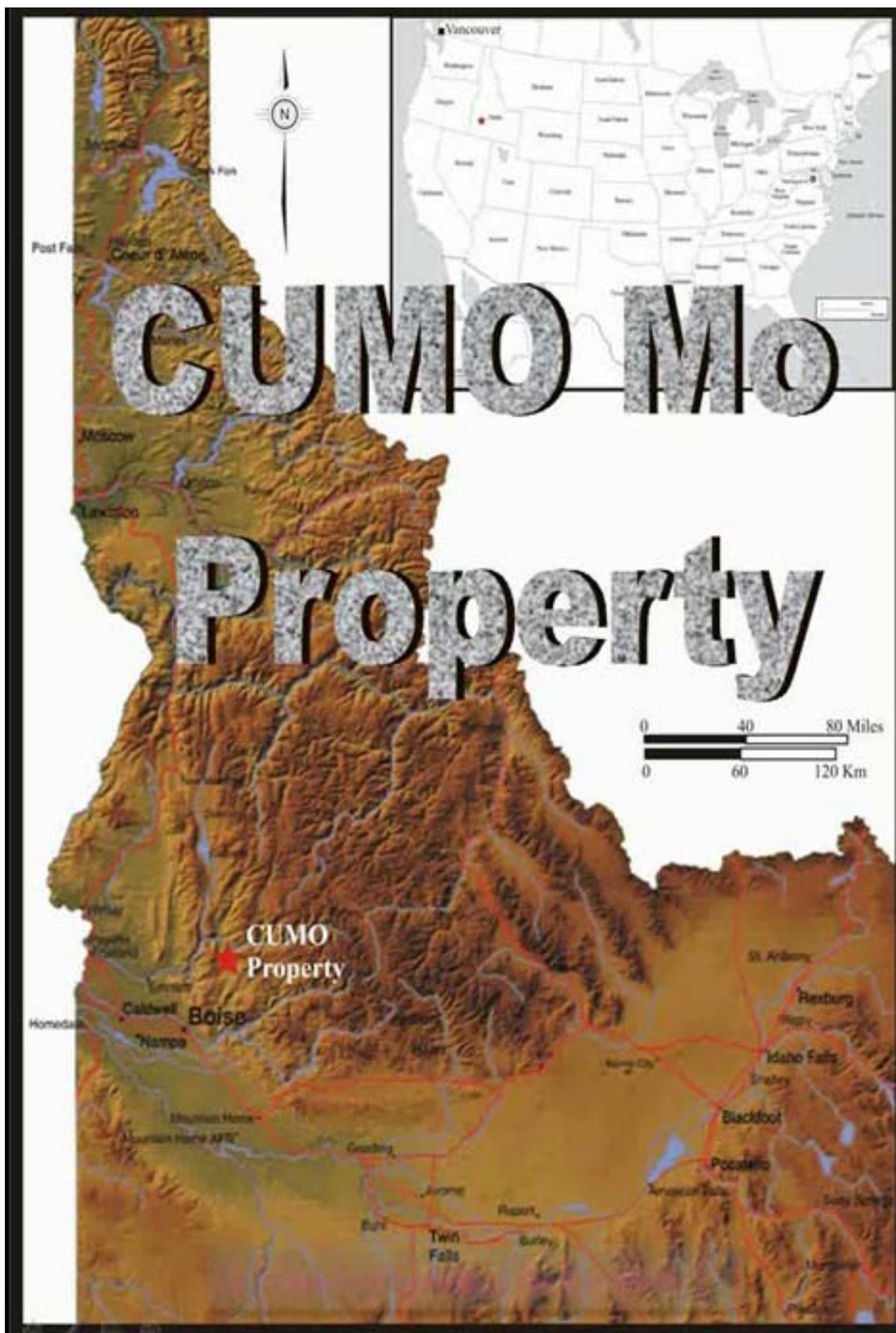
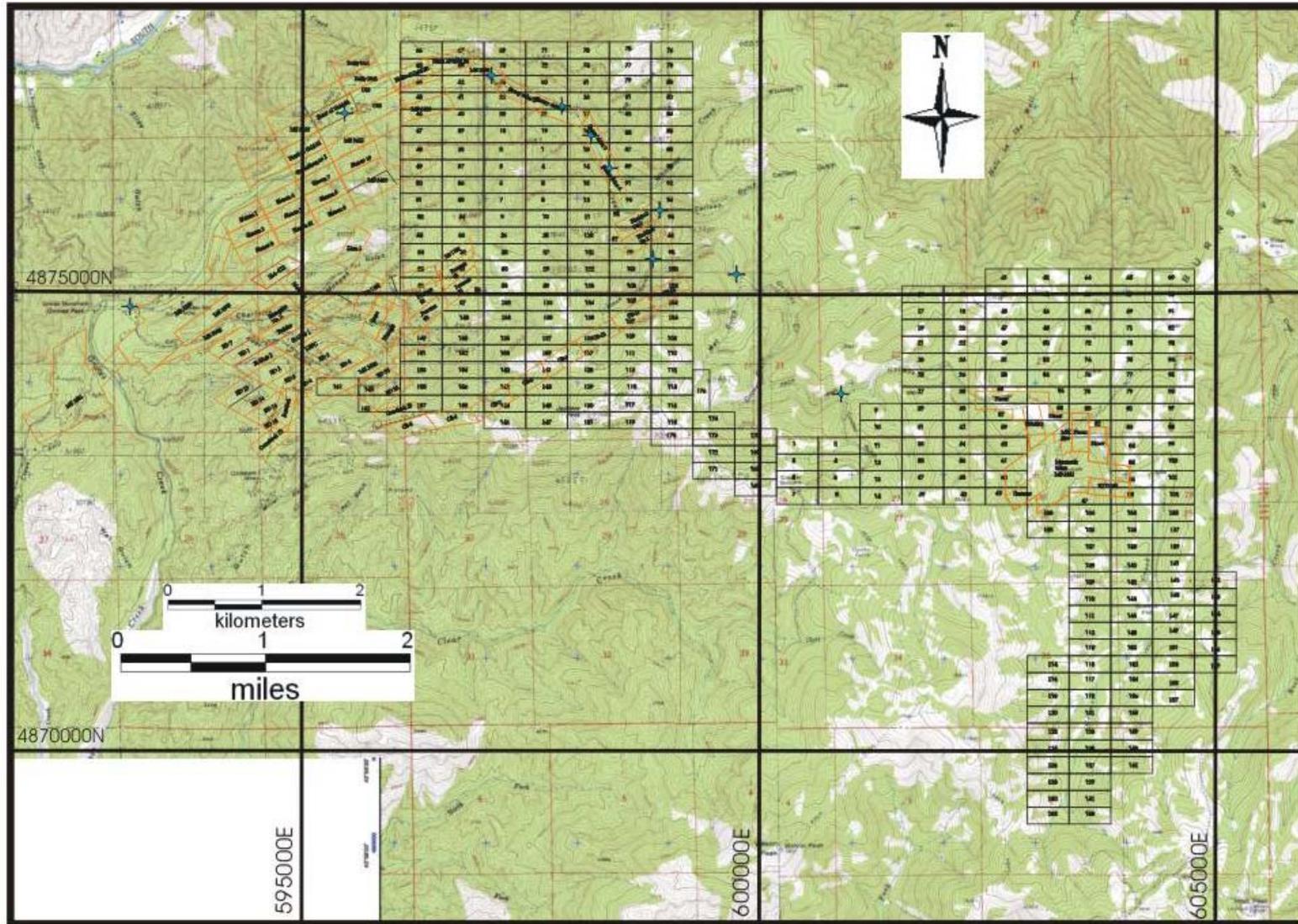


Figure 1: CUMO Property Location Map.



**Figure 2: Claim location map for the CUMO property.**

**Note: Claims indicated by colored outline are not currently part of the property.**

On January 21, 2005, Mosquito Consolidated Gold Mines Ltd entered into an option agreement with Kobex Resources Ltd. (“Kobex”), whereby Kobex could acquire a 100% interest in the CUMO Molybdenum Property and another property in Australia. Under the terms of the Agreement, Kobex would earn a 100% undivided interest in these properties in consideration of cash payment of \$5,000,000, 12,500,000 treasury shares and \$10,000,000 of work expenditure commitment.

On October 6, 2006, Kobex surrendered all rights and interests in the CUMO Property to Mosquito Consolidated Gold Mines Ltd.

## **4.2 Permits**

Exploration on Federal lands requires a permit to conduct exploration except for sampling of rocks and soils by hand and other activities that create no land disturbance. There are three levels of permits reflecting increasing disturbance:

- The lowest level of permit is Categorical Exclusion (CE). This is the least intense disturbance and requires some public notification. Track mounted auger drilling and no new road clearing would fit in this category according to USFS personnel.
- Environmental assessment (EA) requires an in depth study with 30 days for public comment, plus additional time for appeal. Drilling with an RC rig using water, new road construction, etc., would require this level of permit. USFS personnel suggest that one year may be required to receive a permit. Spot Studies on archaeology and sensitive plant species would be required prior to disturbance.
- Environmental Impact Statement (EIS) is the highest permit level and would be required for mine development. Several aspects should be factored into timing of exploration plans.

Approval for a diamond drilling program has been obtained from the US Forest Service, to be carried out from the existing network of drill access roads and is currently permitted under an existing Categorical Exclusion (CE) permit. An application for a Water Use Permit for 2008 has also been filed with the Idaho Department of Water Resources.

A plan of operations was submitted for an expanded program involving construction of new roads for drill access, and the US Forest service has given notice that an Environmental Assessment (EA) will be required for that program.

## **5.0 ACCESSABILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURES AND PHYSIOGRAPHY**

International air travel is available from Boise, Idaho. The property is accessed by road from Boise by taking US State Highway 55 northerly for approximately 65 kilometers (40 miles) to the town of Banks, Idaho, and then east on the Banks Lowman Road towards the town of Garden Valley for approximately 16 kilometers (10 miles). One mile east of Garden Valley is a secondary road heading south across the Payette River. The western most edge of the CUMO claim block is approximately 16 kilometers (10 miles) from Garden Valley.

Alternatively, access can be gained by traveling northeast from Boise along Highway 21 to the towns of Idaho City and Centerville along Grimes Creek and then over the Grimes Pass.

The project is situated in the southern section of the Salmon River Mountains which lie immediately west of the Rocky Mountains, and are characterized by north-northwest trending mountain ranges separated by alluvial filled valleys. Topographic elevations on the CUMO claims range from 5,100 feet (1700 meters) to 7,200 feet (2,400 meters).

The climate is defined by summer temperatures to a maximum of 100° F and cold, windy winters with lows to -10° F. Precipitation is moderately light with an average rainfall of 30 inches (<1 meter) and an average snowfall of approximately 140 inches (3.6 meters). Vegetation in the project area consists of cedar, lodgepole pine, mountain mahogany, and juniper.

The area is serviced by the Idaho Power Company which supplies electricity to residents of Garden Valley, Lowman and Pioneerville. The nearest rail line is the Idaho Northern & Pacific line formerly operated by Union Pacific that runs through the town of Banks, approximately 20 road miles (32 kilometers) to the west of the property.

Equipment, supplies and services for exploration and mining development projects are available at Boise. There is also a trained mining-industrial workforce available in Boise.

Exploration and mining can be conducted year-round, due to the established road and its proximity to infrastructure. The property is large enough to support all future exploration or mining operations including facilities and potential waste disposal areas.

## 6.0 HISTORY

The Boise Basin was first explored following the discovery of placer gold deposits in 1862. Several lode gold deposits were discovered and developed immediately following the initial alluvial gold rush, with significant production occurring in the late 1800's and early 1900's. There are a number of lode prospects within approximately two miles of the CUMO property, some of which have recorded minor past production of base and precious metals.

The first interest in the CUMO property was shown during aerial reconnaissance by AMAX Exploration in 1963. Follow-up geochemical rock and soil sampling indicated anomalous molybdenum and copper values. Forty claims were then staked and three previously existing claims were optioned. A 2.5 mile (4 kilometer) rough access road was constructed in 1964 to facilitate collection of rock samples and geologic mapping. The property was subsequently dropped due to economic conditions and initial sample grades.

In 1968, Curwood Mining Company staked 12 claims and undertook detailed mapping and geochemical rock sampling. This work indicated roughly coincident anomalies in copper, molybdenum and silver. Several trenches were excavated and one line of dipole-dipole array IP geophysical survey was conducted.

In 1969, Midwest Oil Corp. optioned the property and conducted exploration drilling through 1972 (4 rotary holes initially, followed by 6 cored holes).

Midwest also performed an IP survey in 1971 and an airborne magnetic survey in 1973. The IP survey indicated a pyrite halo on the north side of the deposit, although an alternative interpretation concluded "the combined IP data may indicate a halo effect but more probably shows an east-west trend to the rock types and mineralization" (Baker, 1983). The CUMO deposit did not have a strong magnetic signature, being somewhat of a plateau with surrounding highs.

In 1973 Midwest formed a joint venture with AMAX and then subsequently Midwest was merged with AMOCO resulting in an AMAX-AMOCO joint venture with AMOCO as operator.

During the period 1973 to 1981, the AMAX-AMOCO JV completed 30,822 feet of drilling (Table 1), surface geological mapping, re-logging of the core, road construction, an aerial topographic survey, and age dating. In 1980, AMAX Exploration Inc. transferred its interest to Climax Molybdenum Company, also a subsidiary of AMAX Inc.

In 1982, Climax collected more than 300 soil geochemical samples from 3 different grids.

**Table 1: Summary of Historic Drilling**

Year	Company	Holes	Footage	Meters	Comments
1969	Midwest	4	378	115.2	rotary holes shallow due to water
1970	Midwest	0	653	199.0	2 rotary holes deepened with core to 400' depth
1971	Midwest	1	2251	686.1	one core hole deepened further to 1884 ft
1972	Midwest	3	1892	576.7	one core hole deepened from 810-1416 ft
1974	Amax	1	805	245.4	hole 9-9A
1975	Amax	1	2382	726.0	hole 10
1976	Amax	2	4343	1323.7	one vertical, other 1340ft @-45
1977	Amax	3	5861	1786.4	3 vertical DDH 1804-2124 feet deep
1978	Amax	3	6774	2064.7	3 vertical DDH 2132-2361 feet deep
1979	Amax	2	4823	1470.0	vertical DDH to 2543 foot depth
1980	Amax	2	2630	801.6	RC holes
1981	Amax	3	3204	976.6	vertical DDH 1,000 to 1,193 foot depths
<b>Total</b>		<b>26</b>	<b>35,996</b>	<b>10,971</b>	

Based on the 26 drill holes a resource block model was constructed in 1983, extending between local grid coordinates 17,000 to 25,000 east and 16000 to 23000 north. The individual blocks were 100 feet in both the north-south and east-west directions and were 50 feet in height. Blocks were located from 7000 feet down to 3050 feet above sea level. Grades were estimated using 50 foot drill hole assay composites and grade zone boundaries. Kriging was performed within a 1500 foot horizontal search limited to 300 feet vertically (Table 2).

**Table 2: CUMO Historical Resource, 1982 AMAX Block Model**

Cutoff Grade (% MoS <sub>2</sub> )	Million Tons	Average Grade (%MoS <sub>2</sub> )
0.02	2,100	0.072
0.03	1,900	0.078
0.04	1,600	0.084
0.05	1,500	0.092
0.06	1,100	0.097
0.08	730	0.116
0.1	470	0.131
0.12	280	0.145
0.14	140	0.170

\* Note that MoS<sub>2</sub> contains 60% Molybdenum by weight

The resource estimate by Climax was done prior to the inception of NI 43-101 and does not follow the categories outlined in NI 43-101. There is no distinction between measured, indicated and inferred resources, although Climax classified the tonnage as “*well-tested*” (24%), “*possible*” (50%) and “*not quantitatively measured*” (26%) based on individual block errors (kriging standard deviation). Nevertheless, Climax is considered to be a reliable source and therefore the estimate is considered relevant as to the tonnage and grade potential.

In 1983, Climax Molybdenum transferred its interest in the property to AMAX Exploration Inc. and no further work appears to have been done on the property.

## 7.0 GEOLOGICAL SETTING

A description of the “Geological Setting” was discussed in the Kobex 2004 Technical Report and is not included herein. *See* Summary Report on the CUMO Molybdenum Property, Boise County, Idaho, dated April 25, 2005. The following is additional information that may duplicate, in part, previous Technical Reports.

### 7.1 Regional Geology

The regional tectonic setting consists of a basement of amalgamated Archean and Paleoproterozoic crystalline terranes that were joined during the Paleoproterozoic Trans-Montana orogeny, and are overlain discontinuously by sedimentary rocks of Mesoproterozoic, Neoproterozoic, and Paleozoic ages, and volcanic and sedimentary rocks of Eocene and Miocene ages. Voluminous tonalite to granite bodies of the Idaho batholith and later granitic plutons of Eocene age intrude the older rocks. Major deformational episodes superposed on the Precambrian basement include the Cretaceous Sevier orogeny, which mainly involved east-vergent “thin-skinned” thrusting; Eocene extensional deformation, which resulted in development of metamorphic core complexes; and basin and range-type faulting (Sims and others, 2005), as opposed to the Laramide orogeny’s “basement cored” uplifts which partially overlapped the Sevier orogeny in time and space.

The regional geology has been compiled at 1:1,000,000 to form the digital map of Idaho (Johnson and Raines, 1996). The CUMO deposit is situated within the Idaho batholith and is part of a regional scale belt of porphyry and related deposits identified as the Idaho-Montana Porphyry Belt (Rostad, 1978). This belt is part of a magmatic arc that formed on the northeast margin of the North American Craton (Figure 3) during Laramide time (Late Cretaceous-Early Tertiary). The Idaho-Montana Porphyry Belt lies within a much longer, 1,500 km, Great Falls tectonic zone (Figure 4), which was distinguished by brittle structures and intrusions of Phanerozoic age that are interpreted to be controlled by reactivation of basement structures. (O’Neill and Lopez, 1985).

Two sets of basement structures, in particular, provided zones of weakness that were repeatedly rejuvenated (Sims and others, 2005):

- (1) northeast-trending ductile shear zones developed on the northwest margin of the Archean Wyoming province during the Paleoproterozoic Trans-Montana orogeny; and
- (2) northwest-trending intra-continental faults of the Mesoproterozoic Trans-Rocky Mountain strike slip fault system.

The Trans-Montana orogeny comprises a deformed, north-facing, passive continental margin and subsequent foredeep assemblages overlying an Archean basement that is juxtaposed with accreted conjoined terranes. The juncture is the linear deformed belt between the Great Falls and Dillon shear zones. The fold-and-thrust belt of the Trans-Montana orogeny coincides in part with the Great Falls tectonic zone.

The Trans-Rocky Mountain fault system is a major, deep-seated, northwest trending, intra-continental strike-slip fault system of Mesoproterozoic age. It consists principally of west-northwest-striking strike-slip faults (principal displacement zones), branching and en-echelon northwest-trending faults, and widely spaced, more local north-trending faults.

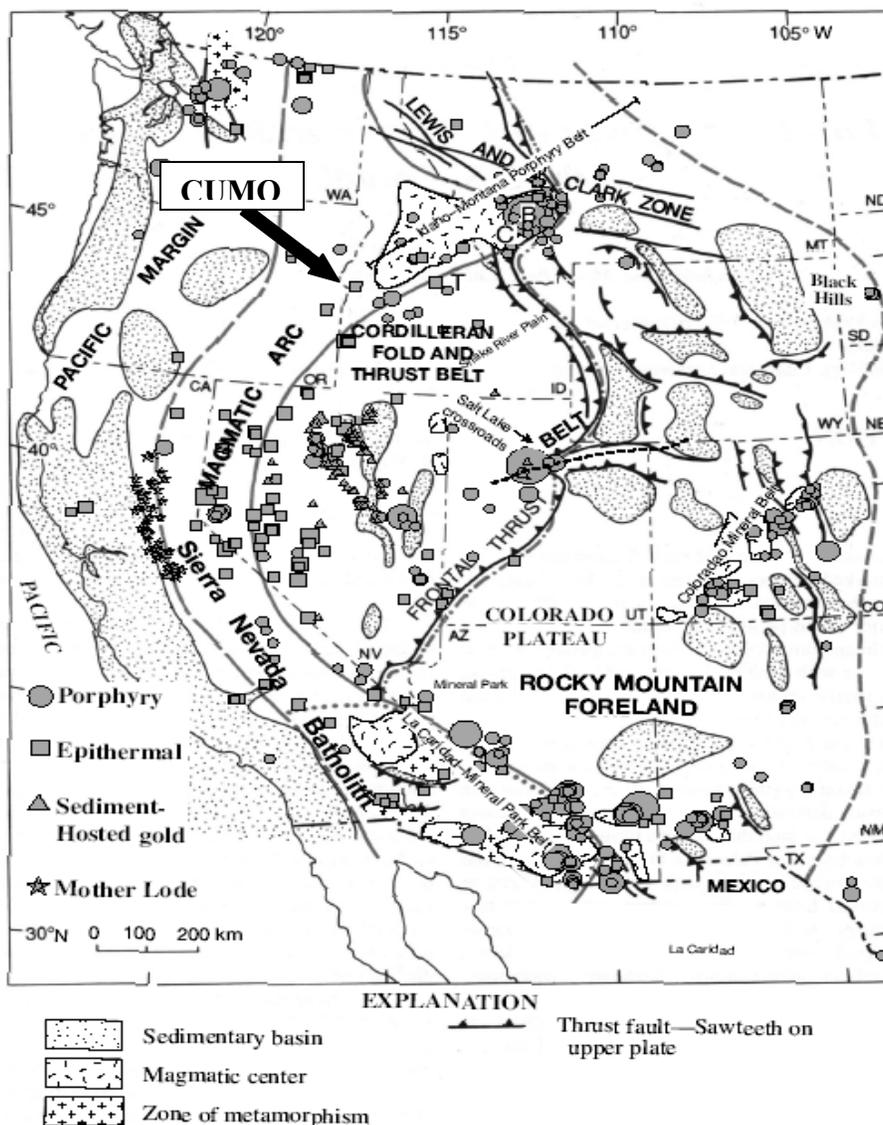
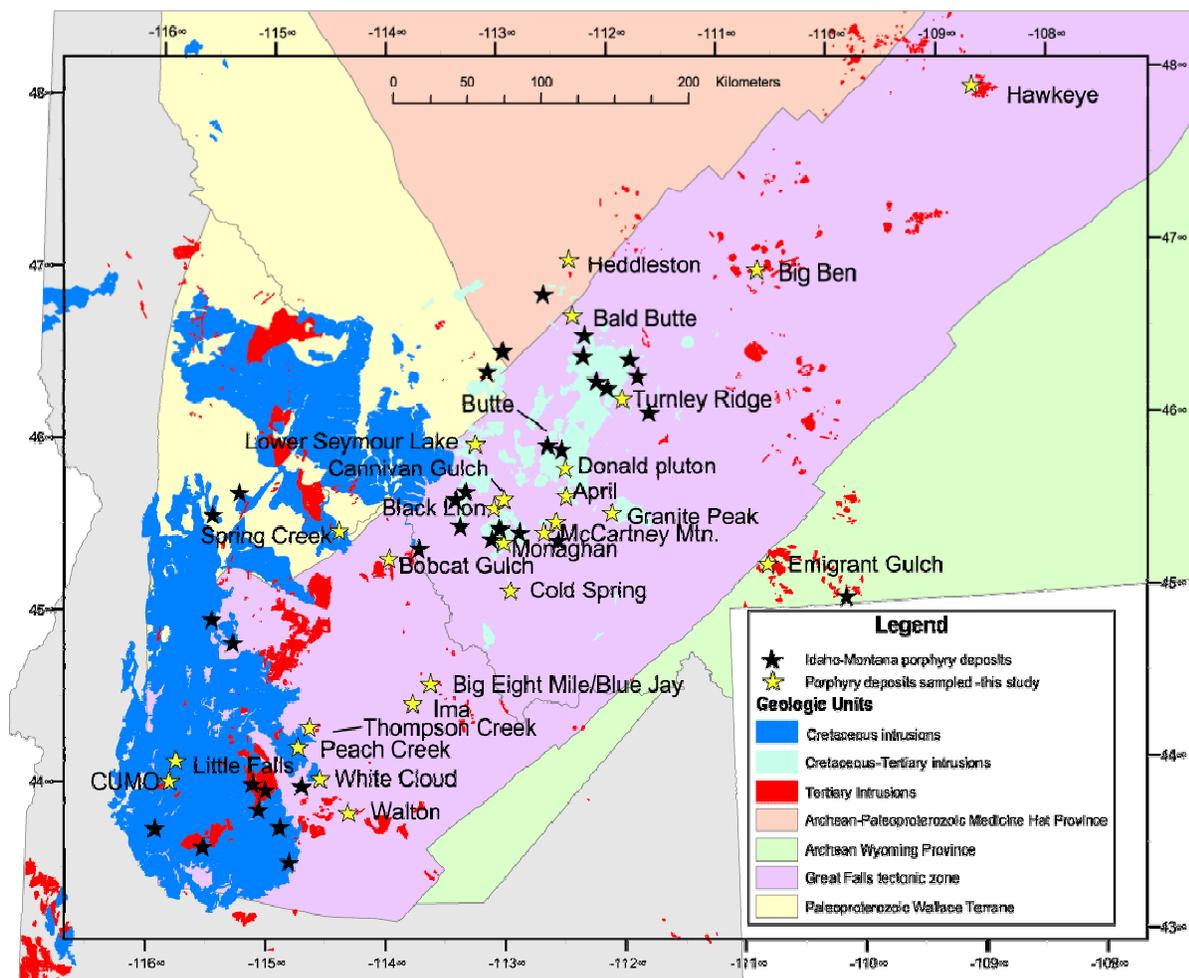


FIG. 1. Map of the western United States cordillera showing ore deposits superimposed on major tectonic elements and Laramide igneous zones, sedimentary basins, and metamorphic belts. The western United States is divided into four generalized geologic provinces (boundaries shown as heavy solid and dashed lines): Pacific margin, Magmatic arc, Cordilleran fold and thrust belt and the Rocky Mountain foreland. The smallest and largest ore deposit symbols represent gross values of about \$20 million and \$60 billion, respectively. Intermediate sizes of symbols are based linearly on deposit gross values lying between these extreme values. The short dashed line in northern Utah and southern Wyoming shows a segment of the boundary between the Archean basement on the north and Proterozoic basement on the south. It should be noted that although Jurassic accretion and magmatism resulted in complex geologic terranes along the Pacific coastal states, during the Laramide these regions experienced downwarping and basin development. Specific deposits discussed in the text include: B = Butte and C = Carnivan Gulch deposits in Montana; T = Thompson Creek deposit in Idaho (Modified from Miller et al., 1992).

**Figure 3: Tectonic map of the western United States (Hildenbrand and others, 2000)**



**Figure 4: Distribution of Idaho-Montana Porphyry deposits in relation to the Great Falls Tectonic Zone. (From Lund and others, 2005).**

Mineral deposits in the Idaho-Montana Porphyry Belt (also called the Transverse Porphyry Belt of Idaho-Montana by Carten and others, 1993) are related to Eocene granitic intrusions. The distribution of deposits along this belt from northeast to southwest follows a progression from alkalic rocks (intra-arc rift-related), to mixed alkalic and calc-alkalic, and finally calc-alkalic intrusive rocks, a pattern that is similar to the distribution of igneous rocks from south to north along the proto Rio Grande rift (Carten and others, 1993). The CUMO deposit is located at the southwestern end of this belt and is associated with a calc-alkalic monzogranite, reported as 45-52 Ma age (Carten and others, 1993) that intrudes Cretaceous equigranular intrusive rocks of the Atlanta Lobe of the Idaho Batholith.

The Idaho batholith is a composite mass of granitic plutons covering approximately 15,400 square miles. The northern part is called the "Bitterroot" lobe and the southern part the "Atlanta" lobe. Most of the southern lobe was emplaced 75 to 100 million years ago (Late Cretaceous); whereas the northern lobe was emplaced 70 to 80 million years ago. Older plutons of Jurassic

age occur on the northwest side of the Bitterroot lobe and many Eocene plutons have intruded the eastern side of the Atlanta lobe of the batholith. Although radiometric dates and field relationships restrict the age of the Idaho Batholith to between 180 and 45 million years, the dominant interval of emplacement was Early to Middle Cretaceous. There is a general west-to-east decrease in age for plutons of the batholith.

On the west side of the batholith the rocks are tonalites or quartz diorites, whereas on the east side they range from granodiorites to granites. The boundary between the two composition types also coincides with the 0.704 Sr87/Sr 86 boundary and also the boundary between the Mesozoic and Paleozoic eugeoclinal accreted rocks on the west with the continental Precambrian rocks on the east side (Digital Atlas of Idaho: <http://imnh.isu.edu/digitalatlas/geo/batholith/bathdex.htm>).

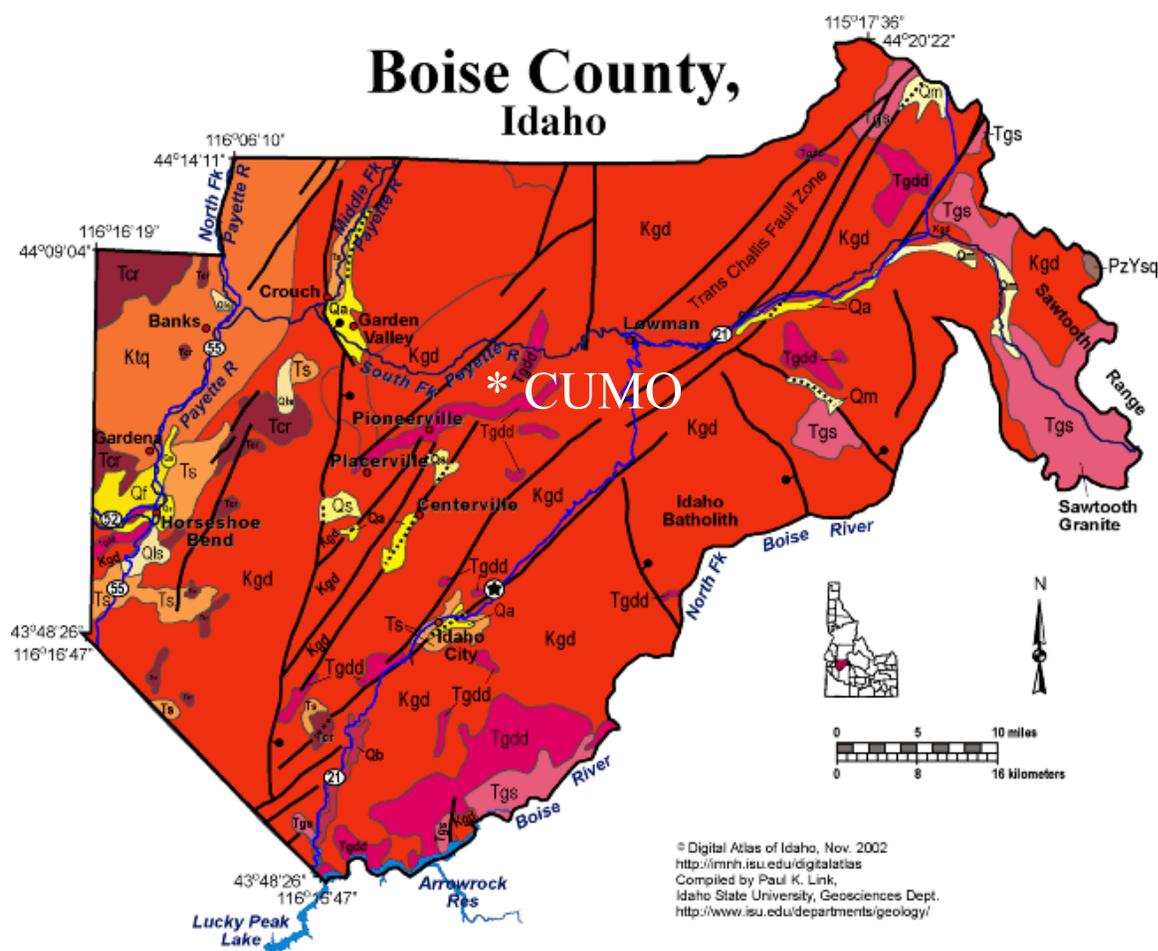
The CUMO deposit is situated within the Atlanta Lobe of the Idaho batholith. The western margin of the Atlanta lobe is strongly folded and metamorphosed into gneissic rocks, which are well exposed near McCall. The western side is composed of tonalite, 95 to 85 million years old. The batholith core is biotite granodiorite; and the eastern side of the lobe is muscovite-biotite granite approximately 76 to 72 million years old. (Digital Atlas of Idaho <http://imnh.isu.edu/digitalatlas/geo/batholith/bathdex.htm>)

## **7.2 Local Geology**

The geology of the area around the CUMO deposit was mapped and originally compiled at 1:24,000 scale by Anderson (1947). This mapping has been incorporated into the 1:100,000 scale Deadwood River 30 x 60 quadrangle map (Killsgaard and others, 2006), and adjoining Idaho City 30 x 60 quadrangle map (Killsgaard and others, 2001), and compiled into the Boise County map of the digital Atlas of Idaho (Figure 5).

The CUMO area is underlain by biotite granodiorite, the most common rock type of the Atlanta lobe of the Idaho batholith (unit Kgd of Killsgaard and others, 1985). This unit was mapped by Anderson (1947) as quartz monzonite: (unit Kqm) - in part porphyritic, and including granodiorite. The rock is light grey, medium to coarse-grained and equigranular to porphyritic. Biotite averages about 5%. Sericite alteration of feldspar is common. Killsgaard and others (1985) report the age of this unit as 82-69 Ma based on potassium-argon dating.

Tertiary plutonic rocks intruded into the batholith in the area of CUMO include Eocene diorite and hornblende biotite granite forming the Boise Basin and Long Gulch Stocks and associated dikes (unit Tgdd of Killsgaard and others, 2005). These units were identified as diorite and quartz monzonite porphyry, respectively, by Anderson (1947). The Eocene granites are generally characterized by pink color due to potassium feldspar as a major component, miarolitic cavities that may be lined with smoky quartz, high radioactivity relative to the Idaho batholith, the presence of perthitic feldspar, myrmekite and granophyric texture indicating high temperature crystallization complicated by quenching, and a high content of large cation elements - including molybdenum, high fluorine content, and high-iron biotite (Killsgaard and others, 1985).



### Description of Units for Boise County, Idaho

- Qa** Quaternary alluvial deposits
- Qs** Quaternary surficial cover, including colluvium, fluvial, alluvial fan, lake, and windblown deposits. Included fluveolian cover on Snake River Plain, (Snake River Group).
- Qf** Pleistocene silicic volcanic rocks; rhyolite lava and ash-flow tuff (includes Yellowstone Group).
- Qls** Quaternary landslide deposits (only Weiser Area).
- Ts** Tertiary sedimentary rocks, undifferentiated. Includes Oligocene and Eocene sedimentary rocks in east-central Idaho (Paleogene basins of Janecke). In northern and western Idaho this unit contains Miocene lake and stream deposits formed adjacent to and above the Columbia River and Weiser basalts, which formed dams in stream canyons.
- Tcr** Miocene basalt (Columbia River Basalt Group); flood basalt, extensively exposed in western Idaho; fed by fissures, many of which are near the Idaho-Oregon border. Flowed eastward up valleys cut into the Idaho mountains.
- Tgs** Eocene granite, pink granite, syenite, rhyolite dikes, and rhyolitic shallow intrusive; last phase of the Challis magmatic event (46 to 44 Ma). Forms craggy scenic mountain landscape in central and northern Idaho.
- Tgdd** Eocene granodiorite and dacite porphyry intrusive, also includes diorite and, in northern Idaho, minor granitic rock; intermediate phase of Challis magmatic event (50 to 46 Ma). Summit Creek stock.
- Kgd** Cretaceous granitic rocks of the 2 mica suite. Idaho batholith and related plutons; granite and granodiorite that contains both muscovite and biotite. Sodium (Na) rich. Intruded between 80 and 65 Ma.
- Ktg** Cretaceous tonalite and quartz diorite; hornblende and biotite bearing early phases of the Idaho batholith. Intruded about 90 to 95 Ma.
- PzYsq** Paleozoic/Mesoproterozoic schist and quartzite; age uncertain.

**Figure 5: Geology of Boise County, Idaho, showing geologic setting of CUMO deposit.**

(Modified from: <http://imnh.isu.edu/digitalatlas/counties/boise/geomap.htm>)

Hypabyssal equivalents of the granites include numerous rhyolite dikes that are concentrated along the trans-Challis fault system (Killsgaard and others, 1985). Rhyolite dikes are generally less than 25 feet thick and may exhibit flow banding, whereas rhyolite porphyry dikes can reach 200 feet in thickness and have prominent quartz phenocrysts (Anderson, 1947).

Extensive placer gold workings and lode deposits in the area are situated along the northeast trending trans-Challis fault system (Killsgaard and others, 1989; Bennett, 1986). As shown in Figure 5, a north-trending Basin and Range fault, down on the east, bounds the system of northeast-striking trans-Challis faults to the west of CUMO (Link, 2002).

### 7.3 Property Geology

Amex completed detailed bedrock mapping on the CUMO property between 1964 and 1981. Earlier periods of mapping outlined five general rock types, including quartz monzonite of the Idaho Batholith, rhyolite porphyry, lamprophyre, dacite and diabase dykes. Subsequent mapping through to 1982 resulted in subdivision of those five units into 17 separate units as follows:

**Table 3: Summary of Rock units at CUMO**

UNIT	AGE	ROCK TYPE	TEXTURE	Grain Size (groundmass)
Tl	Tertiary	lamprophyre	porphyritic	fine
Td	Tertiary	diabase	massive, amygdaloidal	aphanitic
Tr	Tertiary	rhyolite	massive to flow-banded	aphanitic to fine
TpE	Tertiary	biotite quartz monzonite porphyry	porphyritic	fine
Tbx	Tertiary	intrusion to intrusive breccia	breccia	aphanitic to fine
Trp	Tertiary	biotite quartz monzonite porphyry	porphyritic	aphanitic to fine
TpF	Tertiary	biotite quartz latite to rhyolite porphyry	porphyritic	aphanitic
TpB	Tertiary	biotite quartz latite to rhyolite porphyry	porphyritic	aphanitic
TpA	Tertiary	biotite quartz latite to quartz monzonite porphyry	porphyritic	aphanitic to fine
TpD	Tertiary	biotite quartz monzonite to quartz latite porphyry	porphyritic	aphanitic to fine
TpC	Tertiary	biotite quartz latite to quartz monzonite porphyry	porphyritic	aphanitic to fine
Tbhqmp	Tertiary	biotite hornblende quartz monzonite porphyry	porphyritic	fine
Tbdp	Tertiary	biotite dacite porphyry	porphyritic	aphanitic
Tgd	Tertiary	granodiorite	equigranular	fine-medium
Ta	Tertiary	andesite	porphyritic	aphanitic
Kg	Cretaceous	gabbro	Equigranular - diabasic	fine
Kqm	Cretaceous	biotite-quartz monzonite	Equigranular to porphyritic	coarse-medium

Baker (1983) noted that the “*ranges of textures in the various dike types (TpA-TpF) overlap, but show a general trend from early, phenocryst-rich porphyries with large phenocrysts, to young, phenocryst-poor porphyries with small phenocrysts*”.

In 2006, three main intrusive types were observed in the holes drilled, including equigranular quartz monzonite, quartz monzonite porphyry, and intrusive breccia. Mafic dikes were also intersected locally. The equigranular quartz monzonite is considered to be the Idaho batholith (unit Kqm) and locally contains K-feldspar megacrysts. The intrusive breccia is comprised of fragments of porphyry and equigranular quartz monzonite. All of the felsic intrusive phases contain molybdenite mineralization. Examples of the main rock types are shown in Figure 6.

The quartz monzonite porphyry (unit Tbqmp) varies considerably in proportion and size of phenocrysts, with at least four varieties recognized (Figure 6). The first and possibly earliest phase (Tbqmp Type I) is dark to medium grey, with 10-15%, <7mm feldspar phenocrysts, 1-2% fine-grained biotite, and <5% quartz set in a fine-grained groundmass. The second phase (Tbqmp Type II) is medium to light grey, with 30% feldspar phenocrysts and minor biotite set in a medium-grained groundmass. The third phase (Tbqmp Type III) is similar to Type II but contains K-feldspar megacrysts. The fourth phase and possibly most recent is a crowded porphyry variant of Type III containing >30% feldspar phenocrysts set in a medium-grained groundmass. Type I through IV phases may correlate with Amax units TpD, TpB, TpA and TpC, respectively, and appear to follow a general pattern of early, phenocryst poor phases intruded by later phenocryst-rich phases, which is opposite to the general progression observed by previous workers.

Structure may be an important factor on the distribution of mineralization at the CUMO property. A strong northeast to east-northeast structural trend, characteristic of the trans-Challis fault system, is evident in the area of the property. The Tertiary dyke system trends in this same orientation with steep to moderate dips to the south. Faults and mineralized structures identified to date dominantly trend to the northeast as well. These include numerous small base and precious metal occurrences that occur in the area and surrounding the CUMO deposit with most of the major lodes striking east-northeast (N70E) whereas subordinate lodes are oriented northeasterly (N35E, N10-20E and N30-60E). Several fault zones, marked by sections of broken core, were logged in 2006, which appear to offset the interpreted mineral zones. The full significance of these fault structures to the deposit geometry remains to be determined.



a) Porphyry unit Tbqmp1 (Amax TpF) C40-08: 158ft



b) Porphyry unit Tbqmp2 (Amax TpC) C41-08: 376ft



c) Porphyry unit Tbqmp3 (Amax TpA) C35-08: 2505.5ft



d) Porphyry unit Tbdp C42-08: 342ft



e) Porphyry unit Tbhqmp (surface sample of Boise Basin Stock)



d) Porphyry unit Tbhqmp (DDH C36-08, 2409.5ft)

**Figure 6: Core photographs of felsic porphyry types recognized in the 2008 program.**

## 8.0 DEPOSIT TYPES

The CUMO deposit is a porphyry type deposit and has been classified as a porphyry copper-molybdenum deposit (Klein, 2004; Spanski, 2004), or as a porphyry molybdenum-copper (low-fluorine type) deposit (Mutchler and others, 1999). A description of porphyry molybdenum-copper deposits and their associated alteration halos was discussed in the Kobex 2004 Technical Report and is not included herein. *See* Summary Report on the CUMO Molybdenum Property, Boise County, Idaho, dated April 25, 2005.

The main difference between these porphyry types is that molybdenite is the principal ore mineral in the porphyry molybdenum (low F) type, whereas chalcopyrite, molybdenite, and lesser bornite are the ore minerals on porphyry Cu-Mo deposits. More significantly, the typical size of porphyry Mo (low F) deposit is relatively small (most deposits are around 94 MT at 0.085% MoS<sub>2</sub> and very few deposits exceed 500 MT) compared to the average porphyry Cu-Mo (500 Mt with 0.41 % Cu, 0.016 % Mo, 0.012 g/t Au and 1.2 g/t Ag) in which tonnages can range up to over 2 billion tonnes.

The CUMO deposit is primarily of economic interest for its Mo content but contains significant values of Cu and Ag. According to Carten and others (1993), low-grade zones of copper enrichment typically form above and partially overlap with molybdenum ore shells in porphyry molybdenum deposits. The CUMO deposit is classified as a porphyry Mo-Cu deposit (Mo greater than 0.04% and Cu being economically significant).

The CUMO deposit is typical of large, dispersed, low-grade molybdenum ± copper deposits. These systems are associated with hybrid magmas typified by fluorine-poor, differentiated monzogranite igneous complexes, characteristic of continental arc terranes. Due to their larger size, the total contained economic molybdenum in these types of deposits can be equivalent to or exceed that of high-grade molybdenum deposits such as Henderson or Climax (Carten and others, 1993). For the Granite-related Mo-Cu (>0.05%Mo) class of deposits the CUMO deposit ranks highest in terms of total potential contained molybdenum (tonnes x grade), based on the historical resource. Compared to all porphyry copper-molybdenum deposits (model type 21a) listed in the USGS world database (Singer and others (2005)), the CUMO deposit ranks fourth in terms of total potential contained molybdenum, based on the historical Amax resource (Table 4.

Table 4: Ranking of Open Pit Resources Under Exploration or Development (2008).

Deposit	Meas.+Ind. tons (millions)	Inferred tons (millions)	Total tons (millions)	Cu %	Mo %	Au g/t	Ag g/t	Re g/t	Cu Eq. %	Gross Value \$/ton	lbs MoS2 (millions)	lbs Mo (millions)	Total Value \$ (millions)
Cumo Total	1,374.4	2,246.0	3,620.4	0.07	0.038		2.22		0.66	\$19.87	4,561.7	2,734.7	\$71,946
Cumo \$7.50 Cut-off	1,234.8	1,667.9	2,902.7	0.07	0.044		2.19		0.76	\$22.83	4,296.0	2,575.4	\$66,267
Cumo \$10 Cut-off	1,150.0	1,401.8	2,551.8	0.07	0.049		2.12		0.82	\$24.69	4,133.9	2,478.2	\$63,012
Jinduicheng	910		910	0.03	0.102	0.00	0.00		1.56	\$46.80	3,096.7	1,856.4	\$42,588
Mt Toleman	1,565	340	1905.0	0.09	0.047	0.00	0.00		0.80	\$23.85	2,987.1	1,790.7	\$45,434
Cumo Amax Historic		1,500	1,500	0.07	0.056		0.06		0.91	\$27.44	2,802.4	1,680.0	\$41,162
Mt Hope	966	191	1,157		0.068				1.02	\$30.60	2,624.8	1,573.5	\$35,404
Pebble West	3,026	1,130	4,156	0.26	0.015	0.31	0.00	0.000	0.67	\$20.13	2,079.8	1,246.8	\$83,666
Sierrita	1,830		1,830	0.26	0.030	0.03	1.20	0.057	0.74	\$22.26	1,831.6	1,098.0	\$40,737
Toquepala	1,161		1,161.0	0.67	0.040				1.27	\$38.04	1,549.3	928.8	\$44,165
Chuquicamata (remaining)	700		700	1.53	0.065	0.01	5.00		2.57	\$77.13	1,518.0	910.0	\$53,994
Spinifex ridge	1048.8	0	1048.8	0.08	0.043	2.16			2.02	\$60.64	1,504.6	902.0	\$63,599
Shaft creek	1,542		1,542	0.28	0.021	0.18	1.54		0.71	\$21.41	1,072.8	643.1	\$33,015
Climax (remaining)	150	25	175		0.167				2.51	\$75.15	975.0	584.5	\$13,151
Cajone	1,261		1261.3	0.61	0.020				0.91	\$27.30	841.6	504.5	\$34,435
Thompson Creek	372		372		0.063				0.95	\$28.35	781.0	468.2	\$10,535
Mineral Park	520		520	0.13	0.039		2.74		0.75	\$22.41	677.0	405.9	\$11,660
Bingham (remaining)	557		557	0.54	0.033	0.27	2.52		1.23	\$36.79	613.2	367.6	\$20,494
Endako	368		368		0.050				0.75	\$22.50	613.0	367.5	\$8,269
Bagdad	1,600		1,600	0.40	0.010	0.00	0.97	0.000	0.56	\$16.86	533.8	320.0	\$26,975
Sonora	94	93	187	0.05	0.081				1.27	\$37.95	504.3	302.3	\$7,083
Atlin	213		213		0.063				0.95	\$28.35	447.7	268.4	\$6,039
Quellaveco	947		947.0	0.94	0.014				1.15	\$34.50	442.3	265.2	\$32,672
Magistral	196	55	251	0.52	0.041				1.14	\$34.05	343.2	205.7	\$8,543
Gibraltar	965		965	0.32	0.010	0.07	0.90	0.000	0.52	\$15.68	321.9	193.0	\$15,127
Island copper	377		377	0.41	0.017	0.19	1.40	0.032	0.80	\$23.86	213.8	128.2	\$8,996
Max	43		43		0.120				1.80	\$54.00	171.7	103.0	\$2,317
Lucky Ship	45	17	62		0.068				1.02	\$30.60	139.5	83.6	\$1,882
Poplar	116		116	0.32	0.009	0.10			0.52	\$15.45	34.8	20.9	\$1,792

The following mineral deposit profile for porphyry Cu-Mo listed below is from the British Columbia Geological Survey website:

(<http://www.empr.gov.bc.ca/Mining/Geolsurv/MetallicMinerals/MineralDepositProfiles/PROFIL/ES/L04.htm>). Of particular note is the Plutonic form of deposit, which occurs in batholithic settings. This may be a close geometric model for the CUMO deposit, as mineralization occurs within rocks of the Idaho batholith as well as later dikes and breccias, and the alteration is diffuse, with relatively low overall sulphide content.

### **PORPHYRY Cu+/-Mo+/-Au**

L04

by Andre Panteleyev

British Columbia Geological Survey

Panteleyev, A. (1995): Porphyry Cu+/-Mo+/-Au, in Selected British Columbia Mineral Deposit Profiles, Volume 1 - Metallics and Coal, Lefebure, D.V. and Ray, G.E., Editors, British Columbia Ministry of Energy of Employment and Investment, Open File 1995-20, pages 87-92.

### **IDENTIFICATION**

**SYNONYM:** Calcalkaline porphyry Cu, Cu-Mo, Cu-Au.

**COMMODITIES (BYPRODUCTS):** Cu, Mo and Au are generally present but quantities range from insufficient for economic recovery to major ore constituents. Minor Ag in most deposits; rare recovery of Re from Island Copper mine.

**EXAMPLES** (British Columbia - Canada/International):

Volcanic type deposits (Cu + Au \* Mo) - Fish Lake (092O041), Kemess (094E021,094), Hushamu (EXPO, 092L240), Red Dog (092L200), Poison Mountain (092O046), Bell (093M001), Morrison (093M007), Island Copper (092L158); Dos Pobres (USA); Far Southeast (Lepanto/Mankayan), Dizon, Guianaong, Taysan and Santo Thomas II (Philippines), Frieda River and Panguna (Papua New Guinea).

Classic deposits (Cu + Mo \* Au) - Brenda (092HNE047), Berg (093E046), Huckleberry (093E037), Schaft Creek (104G015); Casino (Yukon, Canada), Inspiration, Morenci, Ray, Sierrita-Experanza, Twin Buttes, Kalamazoo and Santa Rita (Arizona, USA), Bingham (Utah, USA), El Salvador, (Chile), Bajo de la Alumbrera (Argentina).

Plutonic deposits (Cu \* Mo) - Highland Valley Copper (092ISE001,011,012,045), Gibraltar (093B012,007), Catface (092F120); Chuquicamata, La Escondida and Quebrada Blanca (Chile).

## 8.1 GEOLOGICAL CHARACTERISTICS

**CAPSULE DESCRIPTION:** Stockworks of quartz veinlets, quartz veins, closely spaced fractures and breccias containing pyrite and chalcopyrite with lesser molybdenite, bornite and magnetite occur in large zones of economically bulk-mineable mineralization in or adjoining porphyritic intrusions and related breccia bodies. Disseminated sulphide minerals are present, generally in subordinate amounts. The mineralization is spatially, temporally and genetically associated with hydrothermal alteration of the hostrock intrusions and wallrocks.

**TECTONIC SETTING:** In orogenic belts at convergent plate boundaries, commonly linked to subduction-related magmatism. Also in association with emplacement of high-level stocks during extensional tectonism related to strike-slip faulting and back-arc spreading following continent margin accretion.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** High-level (epizonal) stock emplacement levels in volcano-plutonic arcs, commonly oceanic volcanic island and continent-margin arcs. Virtually any type of country rock can be mineralized, but commonly the high-level stocks and related dikes intrude their coeval and cogenetic volcanic piles.

**AGE OF MINERALIZATION:** Two main periods in the Canadian Cordillera: the Triassic/Jurassic (210-180 Ma) and Cretaceous/Tertiary (85-45 Ma). Elsewhere deposits are mainly Tertiary, but range from Archean to Quaternary.

**HOST/ASSOCIATED ROCK TYPES:** Intrusions range from coarse-grained phaneritic to porphyritic stocks, batholiths and dike swarms; rarely pegmatitic. Compositions range from calcalkaline quartz diorite to granodiorite and quartz monzonite. Commonly there is multiple emplacement of successive intrusive phases and a wide variety of breccias. Alkalic porphyry Cu-Au deposits are associated with syenitic and other alkalic rocks and are considered to be a distinct deposit type (see model L03).

**DEPOSIT FORM:** Large zones of hydrothermally altered rock contain quartz veins and stockworks, sulphide-bearing veinlets; fractures and lesser disseminations in areas up to 10 km<sup>2</sup> in size, commonly coincident wholly or in part with hydrothermal or intrusion breccias and dike swarms. Deposit boundaries are determined by economic factors that outline ore zones within larger areas of low-grade, concentrically zoned mineralization. Cordilleran deposits are commonly subdivided according to their morphology into three classes - classic, volcanic and plutonic (see Sutherland Brown, 1976; McMillan and Panteleyev, 1988):

Volcanic type deposits (e.g. Island Copper) are associated with multiple intrusions in subvolcanic settings of small stocks, sills, dikes and diverse types of intrusive breccias. Reconstruction of volcanic landforms, structures, vent-proximal extrusive deposits and subvolcanic intrusive centres is possible in many cases, or can be inferred. Mineralization at depths of 1 km, or less, is mainly associated with breccia development or as lithologically controlled preferential replacement in hostrocks with high primary permeability. Propylitic alteration is widespread and generally flanks early, centrally located potassic alteration; the latter is commonly well mineralized. Younger mineralized phyllic alteration commonly overprints the early mineralization. Barren advanced argillic alteration is rarely present as a late, high-level hydrothermal carapace.

Classic deposits (e.g., Berg) are stock related with multiple emplacements at shallow depth (1 to 2 km) of generally equant, cylindrical porphyritic intrusions. Numerous dikes and breccias of pre, intra, and post-mineralization age modify the stock geometry. Orebodies occur along margins and adjacent to intrusions as annular ore shells. Lateral outward zoning of alteration and sulphide minerals from a weakly mineralized potassic/propylitic core is usual. Surrounding ore zones with potassic (commonly biotite-rich) or phyllic alteration contain molybdenite \* chalcopyrite, then chalcopyrite and a generally widespread propylitic, barren pyritic aureole or 'halo'.

Plutonic deposits (e.g., the Highland Valley deposits) are found in large plutonic to batholithic intrusions immobilized at relatively deep levels, say 2 to 4 km. Related dikes and intrusive breccia bodies can be emplaced at shallower levels. Hostrocks are phaneritic coarse grained to porphyritic. The intrusions can display internal compositional differences as a result of differentiation with gradational to sharp boundaries between the different phases of magma emplacement. Local swarms of dikes, many with associated breccias, and fault zones are sites of mineralization. Orebodies around silicified alteration zones tend to occur as diffuse vein stockworks carrying chalcopyrite, bornite and minor pyrite in intensely fractured rocks but, overall, sulphide minerals are sparse. Much of the early potassic and phyllic alteration in central parts of orebodies is restricted to the margins of mineralized fractures as selvages. Later phyllic-argillic alteration forms envelopes on the veins and fractures and is more pervasive and widespread. Propylitic alteration is widespread but unobtrusive and is indicated by the presence of rare pyrite with chloritized mafic minerals, saussuritized plagioclase and small amounts of epidote.

**TEXTURE/STRUCTURE:** Quartz, quartz-sulphide and sulphide veinlets and stockworks; sulphide grains in fractures and fracture selvages. Minor disseminated sulphides commonly replacing primary mafic minerals. Quartz phenocrysts can be partially resorbed and overgrown by silica.

**ORE MINERALOGY** (Principal and subordinate): Pyrite is the predominant sulphide mineral; in some deposits the Fe oxide minerals magnetite, and rarely hematite, are abundant. Ore minerals are chalcopyrite; molybdenite, lesser

bornite and rare (primary) chalcocite. Subordinate minerals are tetrahedrite/tennantite, enargite and minor gold, electrum and arsenopyrite. In many deposits late veins commonly contain galena and sphalerite in a gangue of quartz, calcite and barite.

**GANGUE MINERALOGY** (Principal and subordinate): Gangue minerals in mineralized veins are mainly quartz with lesser biotite, sericite, K-feldspar, magnetite, chlorite, calcite, epidote, anhydrite and tourmaline. Many of these minerals are also pervasive alteration products of primary igneous mineral grains.

**ALTERATION MINERALOGY:** Quartz, sericite, biotite, K-feldspar, albite, anhydrite/gypsum, magnetite, actinolite, chlorite, epidote, calcite, clay minerals, tourmaline. Early formed alteration can be overprinted by younger assemblages. Central and early formed potassic zones (K-feldspar and biotite) commonly coincide with ore. This alteration can be flanked in volcanic hostrocks by biotite-rich rocks that grade outward into propylitic rocks. The biotite is a fine-grained, 'shreddy' looking secondary mineral that is commonly referred to as an early developed biotite (EDB) or a 'biotite hornfels'. These older alteration assemblages in cupriferous zones can be partially to completely overprinted by later biotite and K-feldspar and then phyllic (quartz-sericite-pyrite) alteration, less commonly argillic, and rarely, in the uppermost parts of some ore deposits, advanced argillic alteration (kaolinite-pyrophyllite).

**WEATHERING:** Secondary (supergene) zones carry chalcocite, covellite and other  $Cu_2S$  minerals (digenite, djurleite, etc.), chrysocolla, native copper and copper oxide, carbonate and sulphate minerals. Oxidized and leached zones at surface are marked by ferruginous 'cappings' with supergene clay minerals, limonite (goethite, hematite and jarosite) and residual quartz.

**ORE CONTROLS:** Igneous contacts, both internal between intrusive phases and external with wallrocks; cupolas and the uppermost, bifurcating parts of stocks, dike swarms. Breccias, mainly early formed intrusive and hydrothermal types. Zones of most intensely developed fracturing give rise to ore-grade vein stockworks, notably where there are coincident or intersecting multiple mineralized fracture sets.

**ASSOCIATED DEPOSIT TYPES:** Skarn Cu (K01), porphyry Au (K02), epithermal Au-Ag in low sulphidation type (H05) or epithermal Cu-Au-Ag as high-sulphidation type enargite-bearing veins (L01), replacements and stockworks; auriferous and polymetallic base metal quartz and quartz-carbonate veins (I01, I05), Au-Ag and base metal sulphide mantos and replacements in carbonate and non-carbonate rocks (M01, M04), placer Au (C01, C02).

**COMMENTS:** Subdivision of porphyry copper deposits can be made on the basis of metal content, mainly ratios between Cu, Mo and Au. This is a purely arbitrary, economically based criterion, an artifact of mainly metal prices and

metallurgy. There are few differences in the style of mineralization between deposits although the morphology of calcalkaline deposits does provide a basis for subdivision into three distinct subtypes - the 'volcanic, classic, and plutonic' types. A fundamental contrast can be made on the compositional differences between calcalkaline quartz-bearing porphyry copper deposits and the alkalic (silica undersaturated) class. The alkalic porphyry copper deposits are described in a separate model - L03.

## **EXPLORATION GUIDES**

**GEOCHEMICAL SIGNATURE:** Calcalkalic systems can be zoned with a cupriferous (\* Mo) ore zone having a 'barren', low-grade pyritic core and surrounded by a pyritic halo with peripheral base and precious metal-bearing veins. Central zones with Cu commonly have coincident Mo, Au and Ag with possibly Bi, W, B and Sr. Peripheral enrichment in Pb, Zn, Mn, V, Sb, As, Se, Te, Co, Ba, Rb and possibly Hg is documented. Overall the deposits are large-scale repositories of sulphur, mainly in the form of metal sulphides, chiefly pyrite.

**GEOPHYSICAL SIGNATURE:** Ore zones, particularly those with higher Au content, can be associated with magnetite-rich rocks and are indicated by magnetic surveys. Alternatively the more intensely hydrothermally altered rocks, particularly those with quartz-pyrite-sericite (phyllic) alteration produce magnetic and resistivity lows. Pyritic haloes surrounding cupriferous rocks respond well to induced polarization (I.P.) surveys but in sulphide-poor systems the ore itself provides the only significant IP response.

**OTHER EXPLORATION GUIDES:** Porphyry deposits are marked by large-scale, zoned metal and alteration assemblages. Ore zones can form within certain intrusive phases and breccias or are present as vertical 'shells' or mineralized cupolas around particular intrusive bodies. Weathering can produce a pronounced vertical zonation with an oxidized, limonitic leached zone at surface (leached capping), an underlying zone with copper enrichment (supergene zone with secondary copper minerals) and at depth a zone of primary mineralization (the hypogene zone).

## **ECONOMIC FACTORS**

### **TYPICAL GRADE AND TONNAGE:**

Worldwide according Cox and Singer (1988) based on their subdivision of 55 deposits into subtypes according to metal ratios, typical porphyry Cu deposits contain (median values): Porphyry Cu-Mo: 500 Mt with 0.41 % Cu, 0.016 % Mo, 0.012 g/t Au and 1.22 g/t Ag.

## 9.0 MINERALIZATION

A description of the “Geological Setting” was discussed in the Kobex 2004 Technical Report and is not included herein. *See* Summary Report on the CUMO Molybdenum Property, Boise County, Idaho, dated April 25, 2005. The following is additional information that may duplicate, in part, previous Technical Reports.

### 9.1 *District Mineralization*

The CUMO deposit is located in a famous historic gold mining camp. Gold was discovered in the Boise Basin in 1862 and lode mining began within a year. As of 1940, total gold production amounted 2.8 million ounces of which 74% was from placer operations (Anderson, 1947). According to Killsgaard and others (1989) more gold has been produced from the Boise Basin than any other mining locality in Idaho. Although they are primarily gold deposits, considerable silver and minor copper, lead and zinc were produced as by-products from the lodes.

Anderson (1947) recognized two groups that he referred to as early Tertiary and early Miocene. The first group consists of gold-quartz veins containing minor sulphides that occur within the Idaho batholith and are associated with weak wall rock alteration. Associated sulphides include pyrite, arsenopyrite, sphalerite, tetrahedrite, chalcopyrite, galena and stibnite. The second group of deposits occurs within porphyry dikes and stocks as well as in the batholith, and is characterized by relatively abundant sulphides, subordinate quartz and widespread wall rock alteration. Base metal mineralization consists of pyrite, sphalerite, galena, tetrahedrite, chalcopyrite, minor quartz and siderite with local occurrences of pyrrhotite and enargite. The gold-quartz veins generally occur relatively distal to CUMO (within 6 to 10 miles/4 to 6 kilometers), whereas the base-metal-gold lodes occur in a belt that follows the “porphyry belt” from Quartzburg through Grimes Creek, proximal to and coincident with the CUMO deposit. The Blackjack deposit on Grimes Creek is described by Anderson (1947) as distinct, being characterized by a 15 foot (5 meter) wide sulphide matrix breccia developed in quartz monzonite porphyry, with no conspicuous fault control.

Molybdenum mineralization was discovered at CUMO in 1963. The only other molybdenum showing in Boise County is the Little Falls molybdenum prospect, which is situated just to the northeast of CUMO. Little Falls was extensively drilled between 1978 and 1981, where mineralization occurs within a rhyolite dike that is part of a swarm of dikes that extends northeast from CUMO. An age of  $29 \pm 3$  Ma was obtained by fission-track dating of a zircon from one of the mineralized dikes (Killsgaard and other, 1989).

To the northeast of CUMO, along the Idaho trans-Challis fault system, are several molybdenum and molybdenum-copper occurrences that are thought to be related to Tertiary intrusive rocks (Killsgaard and others, 1989). These include Molybdenum Lode, the Bobcat Gulch porphyry system, molybdenite-bearing quartz veins at Spring Creek, and anomalous Mo in soils northwest of Leesburg (Killsgaard and others, 1989).

## **9.2 Property Mineralization**

Mineralization on the CUMO property occurs in veins and veinlets developed within various intrusive bodies. Molybdenite ( $\text{MoS}_2$ ) occurs within quartz veins, veinlets and vein stockworks. Individual veinlets vary in size from tiny fractures to veinlets five centimeters in width, with an overall thickness averaging 0.3-0.4 cm. Pyrite and/or chalcopyrite are commonly associated with molybdenite although molybdenite can occur alone without other metallic mineralization. Chalcopyrite occurs in quartz-pyrite + molybdenite veinlets, in magnetite + pyrite as well as in pyrite-biotite + quartz + magnetite veins with secondary biotite halos. Scheelite is common on the property and closely parallels the distribution of molybdenite (Baker, 1983). Figure's 7 and 8 show examples of mineralization at CUMO from the recent drill holes.

## Mineralized Core Examples Hole 28-06



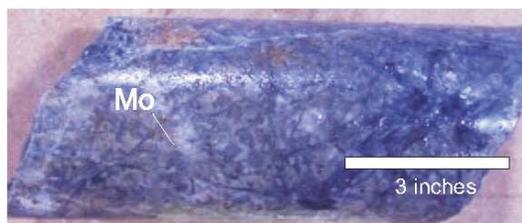
Quartz stockwork with Molybdenum (Mo) at 298 feet



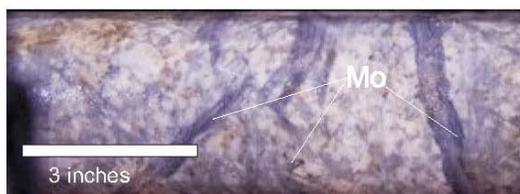
Excellent Molybdenum (Mo) bearing veins at 722 feet



Excellent molybdenum (Mo) bearing veins at 901 feet in altered Idaho batholith.



Stockwork Molybdenum quartz veins at 975 feet



Multi-age Molybdenum (Mo) bearing veins at 1155 feet.



Molybdenum (Mo) bearing veins at 1462 feet .



Intense silicified zone with disseminated Molybdenum at 1647 feet.

**Figure 7:** Photographs of mineralized core from the CUMO 2006 program, hole C06-28.



a) Quartz - MoS2 veinlets in porphyry unit Tbqmp3 C35-08 (2291 ft)



b) Stockwork Quartz - MoS2 veinlets in Quartz Monzonite unit Kqm C35-08 (2496 ft)



c) Quartz MoS2 veinlet in intrusive breccia unit Tbx C08-37 1896.5 ft



d) Coarse MoS2 in white quartz veinlet. C36-08 (1566.5 ft)

**Figure 8.** Photographs of molybdenite mineralization in 2008 drill core.

Compilation of Amax data on the frequency of veins mapped on surface as well as their mineral constituents was presented by Giroux and others (2005) and is shown in Figure 9. A concentric pattern is clearly evident, which is also shown by the distribution of anomalous Mo and Cu rock geochemical results (Figure's 10a and 10b). The area drilled to date occupies only a portion of the central area; Amax had identified prospective target areas to the southeast and east of the area drilled.

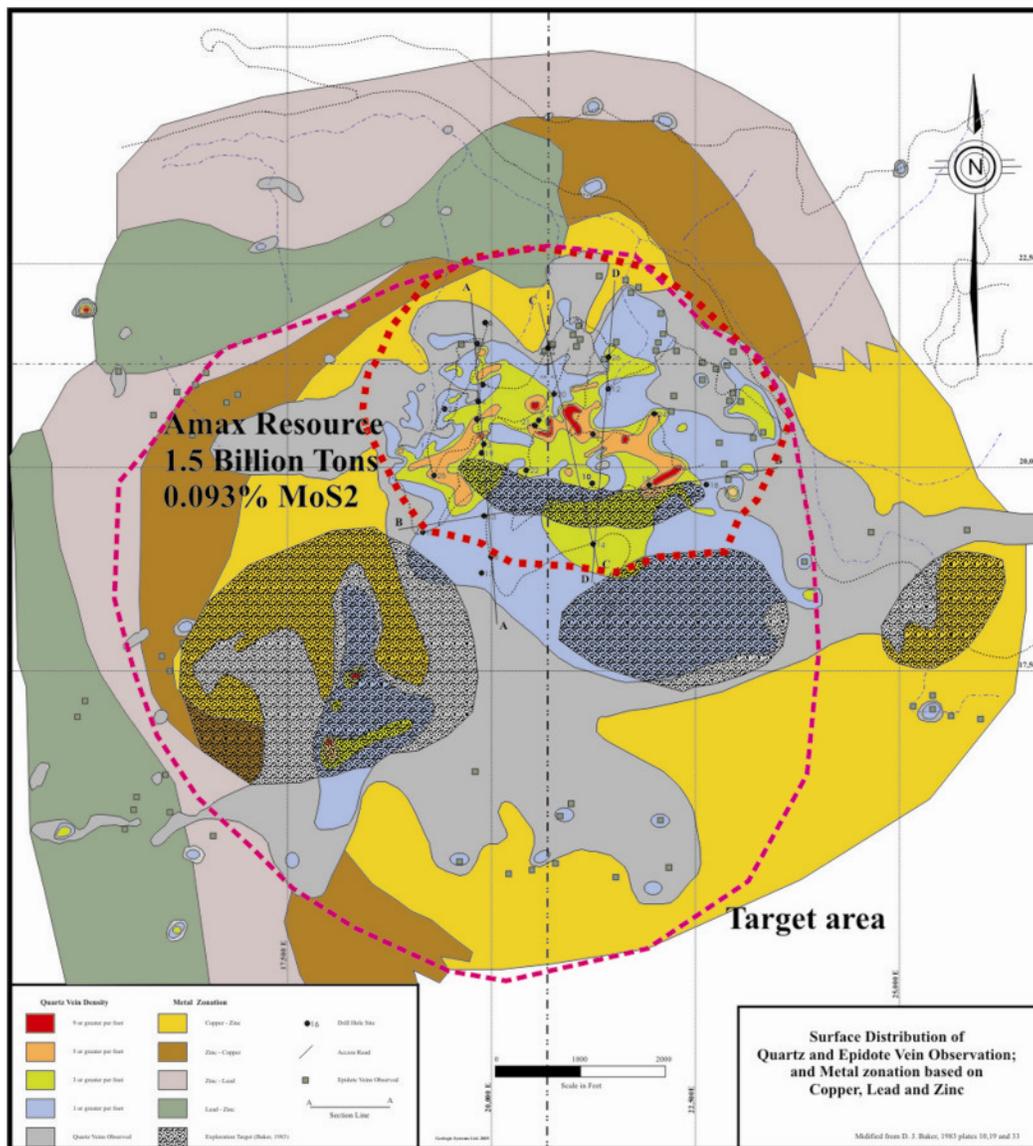
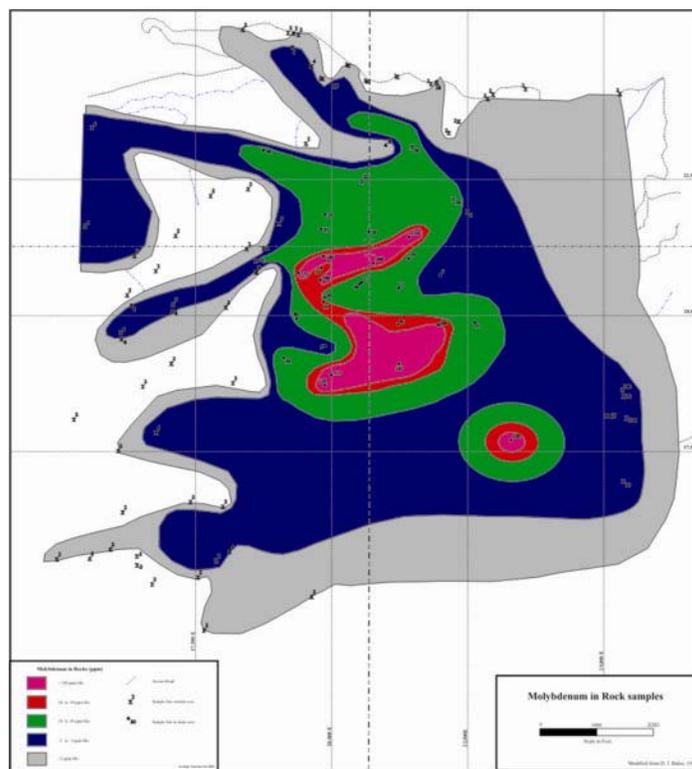
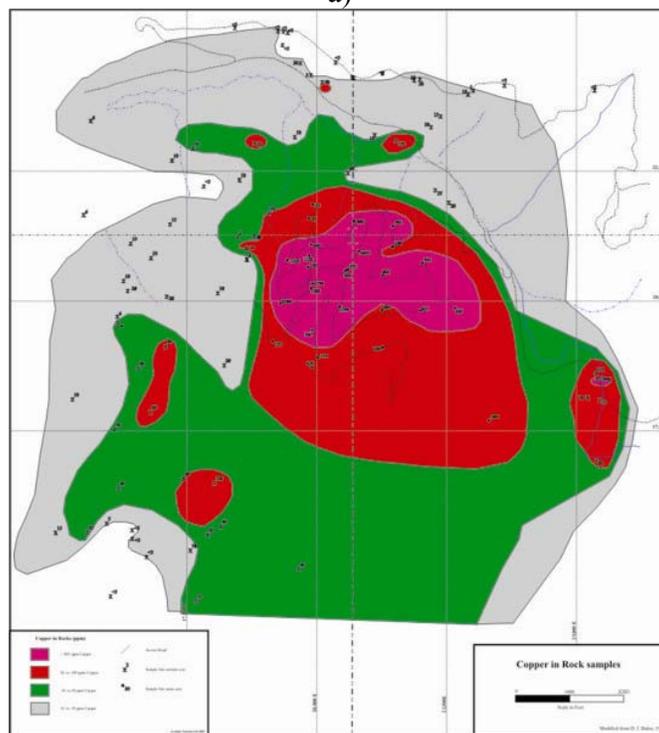


Figure 9: Surface distribution of quartz and epidote veinlets and metal zonation.



a)



b)

**Figure 10: Geochemical distribution of Mo (a) and Cu (b) in surface rock chip samples**

In terms of rock types, Amax suggested a textural/chemical evolution of Tertiary igneous rocks from older, phenocryst-rich quartz monzonite/quartz latite to younger, phenocryst-poor siliceous post-mineral rhyolite. Amax proposed a conceptual model of a central quartz-rich core (with magnetite) that grades into a quartz molybdenite + pyrite veins which progresses into a quartz-chalcopyrite + pyrite and quartz vein shell which are covered by a shell of epidote + quartz + pyrite veins. They found the alteration assemblages weakly developed and difficult to map (Baker, 1985).

In detail, Amax interpreted two shells of molybdenite mineralization, with the upper shell being richer in copper and silver, but of lower molybdenite grade, and the lower shell being molybdenite-rich and depleted in copper and silver (Baker 1983). They interpreted this pattern of metal zoning to have formed above and peripheral to two or more source intrusions (of which only one was recognized physically).

Mosquito Consolidated Gold Mining Ltd. acquired the CUMO property with the intention of exploring for a large scale, low cost, open pit accessible molybdenum deposit. The 2006 results confirmed the thickness and grade of mineralization on the property as indicated by previous drilling (AMAX), and demonstrated continuity of mineralization between the original wide-spaced holes (Kobex/Mosquito).

The 2006 drilling revealed the presence of three distinct metal zones within the deposit: an upper copper-silver zone, underlain by a transitional copper-molybdenum zone, in turn underlain by a lower molybdenum-rich zone.

Three-dimensional modeling of results was conducted by Mr. Shaun Dykes (P.Geol.) and indicates the current area being drilled is located on the north side of a potentially large mineralized system, of which only a small part has been drilled to date.

In 2007 and 2008 Mosquito has reconfirmed the conceptual model in terms of the distribution of the quartz core and vein zones, but the current interpretation is that these features are part of a single large porphyry system underlain by a single source intrusion. The vein paragenesis/metal zones are interpreted as concentric zones formed above and/or within a one-source intrusion. The various porphyry dikes are interpreted as inter-mineral intrusions that emanated from the source intrusive body.

## **10.0 EXPLORATION**

Aside from diamond drilling no other exploration has been completed since the last 43-101 Report (Holmgren et al., 2008).

## **11.0 DRILLING**

### ***11.1 Analysis of Historic Drill Data***

Variography was completed on historic Amax data prior to drilling by Giroux and others (2005). The study was based on 23 diamond drill holes and 3 reverse circulation drill holes with 139 down hole surveys and 2,356 assays for MoS<sub>2</sub> and Cu.

It was found that the vertical direction produced good semivariograms for both MoS<sub>2</sub> and Cu. Nested spherical models were fit to the downhole (Az 0 Dip -90) direction and showed good structures for both MoS<sub>2</sub> and Cu with longest range of 400 and 350 ft. respectively. There was insufficient data to determine representative semivariograms in the horizontal plane (Giroux and others, 2005). The results suggest that closer drill hole spacing is required to achieve representative semivariograms in the horizontal plane, in order to determine the drill hole spacing required for resource estimation.

The current average drill spacing is approximately 700 feet (213m). Although the horizontal range may be anticipated to be greater than that in the vertical direction, the longest vertical range can be used as an initial target for maximum hole spacing. The range of 350 feet reported for Cu is therefore suggested as a target for maximum hole spacing at the initial stage.

### ***11.2 Year 2006, 2007 and 2008 Drilling Programs***

In 2006, diamond drilling was done by Kettle Drilling Inc. of Cour d'Alene on behalf of Kobex Resources Ltd. and Mosquito Resources Corp. Kobex commenced drilling in August, 2006 and completed one hole. On October 6, 2006, the Company delivered a notice of termination in respect of the CUMO Property. The option on the project was terminated when the second hole was at a depth of 600 feet, and the action was taken before any assays were received. Mosquito Mining Corp. (wholly owned US subsidiary of Mosquito Consolidated Gold Mines Ltd.) assumed control of the project on October 10, 2006 and completed this hole to a depth of 1710 feet before the program was halted due to the onset of winter conditions.

In 2007 and 2008, diamond drilling was done by Kirkness Drilling of Carson City, Nevada. Kirkness drilled eleven (11), +2000 foot, diamond drill holes.

All three Mosquito drilling programs were supervised by Senior Geologist, Matt Ball, Ph.D., P.Geo., CUMO Property, Garden Valley, Idaho.

**Table 5: Summary of 2006, 2007 and 2008 Diamond Drilling at CUMO.**

Hole Number	Northing feet	Easting feet	Elevation feet	dip degrees	azimuth degrees	Length feet
27-06	120,016.7	220,160.3	7105	-90	000	1849
28-06	119,531.6	120,796.4	7170	-90	000	1711
29-07	120,016.7	220,160.3	6305	-70	140	2281.7
30-07	119,531.6	220,796.4	6206	-90	000	2416.5
31-07	120,016.7	220,160.3	6305	-70	045	2104
32-07	119,480.0	220,720.3	6316	-70	190	2044
33-07	118585.3	221,268.9	6798	-90	000	2095 stopped
34-07	118530.5	220,343.8	6512	-70	095	1769 stopped
35-08	118658.3	220487.4	6534.	-90	000	2817 completed
36-08	119266.8	219322.9	6457	-90	000	2488 completed
37-08	119755.7	221220.4	6341	-70	335	2195 completed
38-08	118658.3	220487.4	6534	-70	180	2441 completed
39-08	118872.7	220777.6	6466	-90	000	2688 completed
40-08	119539.8	220816.8	6321	-70	225	2252 completed
41-08	119545.7	219005.8	6247	-90	000	3018 completed
42-08	118711.9	219886.6	6544	-70	270	2707 stopped (winter)
43-08	120515.6	220178.6	6198	-80	040	1308 stopped by fault
44-08	118068.1	221448.9	6733	-65	075	3047 completed
45-08	119802.3	218821.4	6183	-80	330	1796 stopped (winter)

All holes were surveyed down the hole at regular intervals using a Reflex survey instrument

Figure 11 shows the locations of all holes drilled to date in the deposit

Mr. Shaun M. Dykes, M.Sc. (Eng), P.Geo., Exploration Manager and Director of Mosquito Consolidated Gold Mines Ltd., is the designated qualified person for the CUMO Project, and prepared the technical information on the 2006, 2007 and 2008 results.

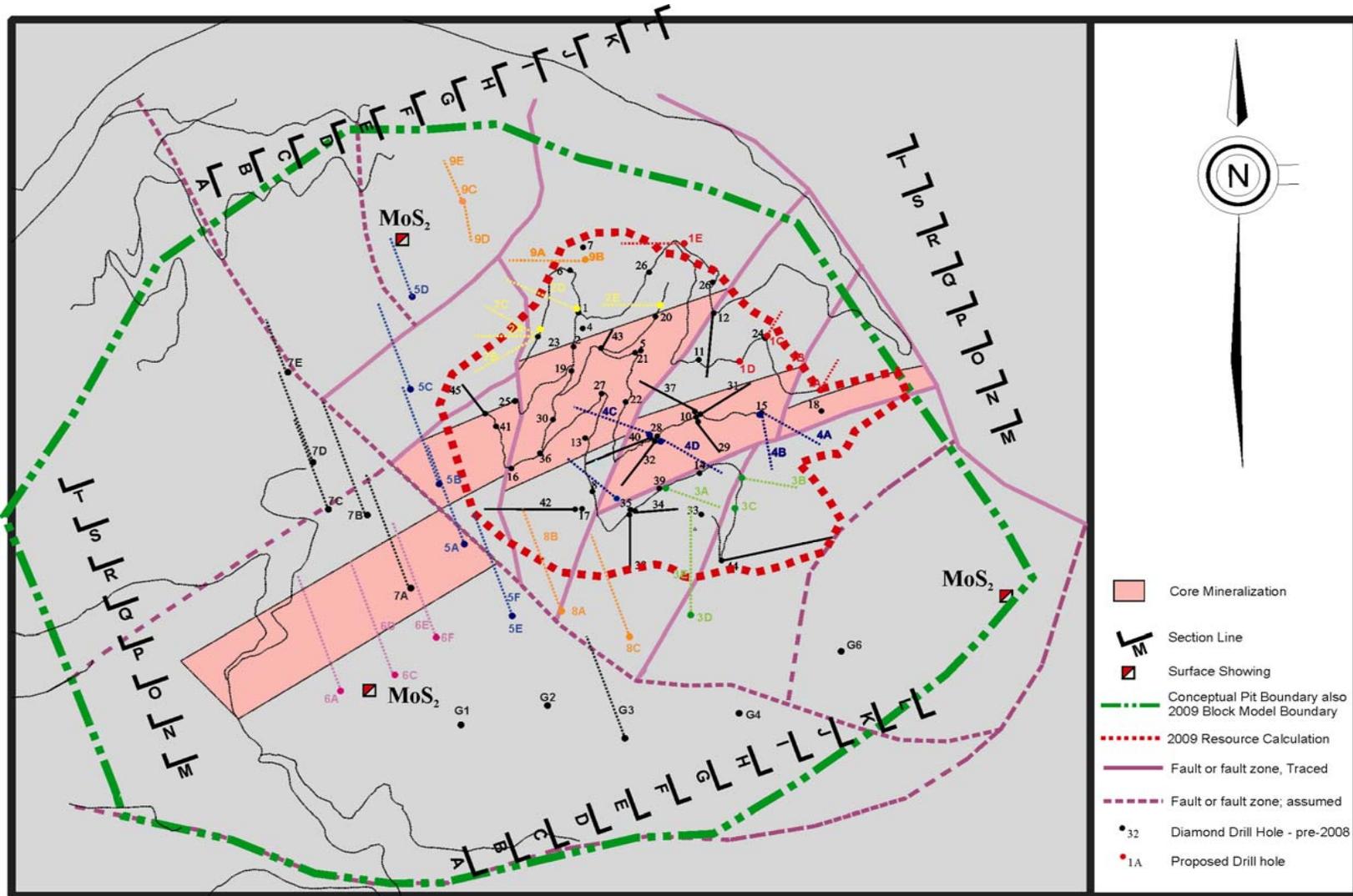


Figure 11: Map showing the location of completed and proposed drill holes.

A summary of significant intersections for all the CUMO drilling are given in Table 6. Potential economic metals include copper, molybdenum, silver, tungsten, rhenium and gallium. The presence of the by-product elements silver, tungsten, rhenium and gallium is very significant in terms of the economic development of the property.

As a result of the multi-element nature of the mineralization, it was decided to calculate both a copper and molybdenum equivalent for the intercepts. Both equivalents are required as the deposit is zoned as described above. The following outlines the calculations were involved:

Copper equivalent (Cu. Equiv.) and Molybdenite Equiv. (MoS<sub>2</sub> Equiv.) are based on the following metal prices (all in US\$): Copper \$1.50/lb, Molybdenum Oxide (\$15/lb), Silver \$0.35/gram and Tungsten \$0.22/gram.(\$7.00 per lb)

Other factors include 1% = 20 pounds; 1 ppm = 1 gm/T; 1000 ppb = 1 ppm = 1 gm/T.

Molybdenum is sold as either ferro-molybdenite or molybdenum oxide.

The price used is \$15 per pound Molybdenum oxide.

To obtain the amount of Molybdenum oxide that can be produced from MoS<sub>2</sub>, the following is required: convert MoS<sub>2</sub> to Mo by dividing MoS<sub>2</sub> by 1.6681 then convert to MoO<sub>3</sub> (Molybdenum Oxide) by multiplying by 1.5. Therefore the amount of molybdenum oxide is pounds MoS<sub>2</sub> times 1.5 / 1.6681.

Metallurgical recoveries used in calculation are as follows for each metal zone. Recoveries are slightly lower than those currently reported by SGS in their recent metallurgical study.

Zone	Cu%	MoS <sub>2</sub> %	Ag %	W %
Oxide	60%	80%	70%	35%
CuAg	68%	85%	73%	35%
CuMo	87%	92%	78%	35%
Mo	80%	95%	55%	35%

#### Formulas :

Recoveries for a metal is taken from the above table for each assay/block in a particular zone and is value percentage/100

$$GRV = ((Cu * 20 * \$ * recv) + ((MoS_2 * 20 * (1.5/1.6681) * \$ (MoO_3) * recv) + (Ag * \$ * recv) + (W * \$ * recv))$$

$$\text{Recovered Cu. Equiv.} = GRMV / (\$(Copper) * 20)$$

$$\text{Recovered MoS}_2 \text{ Equiv.} = GRMV / ((1.6681/1.5) * \$ (MoO_3) * 20)$$

Table 6: Significant Intersections from CUMO Drilling

Hole	From	To	Length	From	To	Length	Zone	recv	recv	MoO3	MoS2	Cu	Ag	Re	W	Recovered
Name	feet	feet	feet	meters	meters	meters		Cu	MoS2	lbs	MoS2	Cu	Gms/T	ppm	ppm	Metal value
								Equiv.	equiv.							US\$
C71-01	231.0	1,884.0	1,653.0	70.4	574.2	503.8	main	0.61	0.067	1.21	0.059	0.12	2.59	0.00	45.62	\$18.20
C71-01	390.0	470.0	80.0	118.9	143.3	24.4	sub	0.90	0.100	1.80	0.099	0.14	2.56	0.00	43.75	\$27.11
C71-01	1,700.0	1,884.0	184.0	518.2	574.2	56.1	sub	0.92	0.101	1.82	0.100	0.08	1.21	0.00	53.57	\$27.45
C72-05	450.0	1,416.0	966.0	137.2	431.6	294.4	main	0.65	0.072	1.30	0.060	0.13	4.46	0.00	74.87	\$19.54
C74-09	460.0	804.6	344.6	140.2	245.2	105.0	main	0.81	0.089	1.61	0.077	0.12	7.16	0.00	71.40	\$24.22
C75-10	220.0	2,160.0	1,940.0	67.1	658.4	591.3	main	0.88	0.097	1.75	0.099	0.05	1.43	0.00	48.25	\$26.41
C76-11	140.0	2,428.3	2,288.3	42.7	740.1	697.5	main	0.67	0.074	1.33	0.074	0.05	1.55	0.00	36.25	\$20.02
C76-11	1,300.0	1,960.0	660.0	396.2	597.4	201.2	sub	1.10	0.122	2.19	0.127	0.03	0.77	0.00	57.58	\$32.95
C76-12	98.3	1,430.0	1,331.7	29.9	435.9	405.9	main	0.41	0.045	0.82	0.041	0.06	1.66	0.00	44.77	\$12.32
C77-13	680.0	1,804.0	1,124.0	207.3	549.9	342.6	main	0.98	0.109	1.96	0.111	0.05	1.98	0.00	49.33	\$29.53
C77-14	780.0	2,123.8	1,343.8	237.7	647.3	409.6	main	1.02	0.112	2.02	0.114	0.06	1.84	0.00	65.38	\$30.45
C77-14	1,200.0	1,960.0	760.0	365.8	597.4	231.6	sub	1.33	0.148	2.66	0.151	0.06	1.91	0.00	73.83	\$40.03
C77-15	600.0	1,933.2	1,333.2	182.9	589.2	406.4	main	1.01	0.112	2.01	0.113	0.06	1.73	0.00	56.89	\$30.25
C77-15	1,260.0	1,880.0	620.0	384.0	573.0	189.0	sub	1.30	0.144	2.60	0.153	0.02	0.75	0.00	69.10	\$39.12
C78-16	1,000.0	2,131.7	1,131.7	304.8	649.7	344.9	main	0.82	0.091	1.64	0.093	0.04	1.86	0.00	32.20	\$24.75
C78-17	1,160.0	2,281.5	1,121.5	353.6	695.4	341.8	main	0.63	0.069	1.25	0.064	0.08	2.55	0.00	39.92	\$18.79
C78-18	1,400.0	2,361.0	961.0	426.7	719.6	292.9	main	1.16	0.129	2.31	0.129	0.08	2.71	0.00	40.86	\$34.85
C79-19	120.0	2,280.0	2,160.0	36.6	694.9	658.4	main	0.92	0.102	1.83	0.101	0.08	2.27	0.00	48.94	\$27.55
C79-20	165.0	1,800.0	1,635.0	50.3	548.6	498.3	main	0.70	0.077	1.39	0.069	0.11	3.83	0.00	52.04	\$20.98
C81-25	190.0	1,011.0	821.0	57.9	308.2	250.2	main	0.71	0.079	1.42	0.070	0.13	2.42	0.00	58.22	\$21.36
C81-25	740.0	1,011.0	271.0	225.6	308.2	82.6	sub	0.89	0.099	1.78	0.090	0.14	2.98	0.00	84.32	\$26.76
C81-26	30.0	750.0	720.0	9.1	228.6	219.5	main	0.48	0.053	0.96	0.034	0.18	7.58	0.00	28.14	\$14.41
C06-27	120.0	1,849.0	1,729.0	36.6	563.6	527.0	main	0.77	0.085	1.53	0.084	0.06	1.60	0.02	49.48	\$23.07
C06-27	1,080.0	1,849.0	769.0	329.2	563.6	234.4	sub	1.16	0.128	2.31	0.133	0.04	0.99	0.04	58.84	\$34.75
C06-28	50.0	1,690.0	1,640.0	15.2	515.1	499.9	main	0.89	0.098	1.77	0.097	0.07	1.92	0.05	54.29	\$26.64
C06-28	840.0	1,240.0	400.0	256.0	378.0	121.9	sub	1.40	0.155	2.78	0.162	0.03	0.98	0.09	67.82	\$41.86
C07-29	190.0	2,230.0	2,040.0	57.9	679.7	621.8	main	0.95	0.105	1.89	0.103	0.08	2.13	0.05	53.46	\$28.54
C07-29	1,180.0	1,790.0	610.0	359.7	545.6	185.9	sub	1.46	0.162	2.91	0.169	0.04	1.20	0.08	36.91	\$43.77

**Table 6: Significant Intersection from CUMO Drilling (Continued)**

Hole	From	To	Length	From	To	Length	Zone	recv	recv	MoO3 Equiv	MoS2	Cu	Ag	Re	W	Recovered Metal value US\$
Name	feet	feet	feet	meters	meters	meters		Cu Equiv.	MoS2 equiv.	lbs	MoS2	Cu	Gms/T	ppm	ppm	
C07-30	40.0	2,386.0	2,346.0	12.2	727.3	715.1	main	0.98	0.108	1.94	0.108	0.06	2.05	0.04	41.28	\$29.27
C07-30	1,180.0	1,988.0	808.0	359.7	605.9	246.3	sub	1.59	0.177	3.18	0.185	0.04	1.46	0.07	37.03	\$47.84
C07-31	22.0	2,104.0	2,082.0	6.7	641.3	634.6	main	0.61	0.067	1.21	0.064	0.07	1.76	0.02	43.25	\$18.27
C07-31	780.0	1,540.0	760.0	237.7	469.4	231.6	sub	0.74	0.082	1.48	0.081	0.05	1.45	0.03	45.31	\$22.30
C07-32	22.0	2,104.0	2,082.0	6.7	641.3	634.6	main	1.00	0.111	2.00	0.109	0.09	2.26	0.04	61.14	\$30.11
C07-32	780.0	1,540.0	760.0	237.7	469.4	231.6	sub	1.19	0.132	2.38	0.129	0.10	2.62	0.05	77.08	\$35.78
C07-33	721.8	2,094.0	1,372.2	220.0	638.3	418.2	main	0.30	0.033	0.60	0.026	0.07	2.01	0.01	47.68	\$9.06
C07-33	1,980.0	2,094.0	114.0	603.5	638.3	34.7	sub	0.82	0.091	1.63	0.084	0.10	2.68	0.03	67.05	\$24.59
C07-34	140.0	1,769.0	1,629.0	42.7	539.2	496.5	main	0.37	0.042	0.75	0.034	0.08	2.30	0.01	53.46	\$11.24
C07-34	1,550.0	1,769.0	219.0	472.4	539.2	66.8	sub	0.71	0.078	1.41	0.074	0.09	2.36	0.02	67.14	\$21.25
C08-35	120.0	2,640.0	2,520.0	36.6	804.7	768.1	main	0.54	0.060	1.08	0.057	0.06	1.73	0.02	36.79	\$16.28
C08-35	420.0	2,640.0	2,220.0	128.0	804.7	676.7	sub	0.58	0.065	1.16	0.062	0.07	1.69	0.02	38.98	\$17.48
C08-35	1,730.0	2,640.0	910.0	527.3	804.7	277.4	sub	0.81	0.089	1.61	0.089	0.05	1.37	0.03	35.40	\$24.20
C08-36	560.0	2,488.0	1,928.0	170.7	758.3	587.7	main	0.79	0.087	1.57	0.088	0.05	1.42	0.03	34.09	\$23.63
C08-36	920.0	2,488.0	1,568.0	280.4	758.3	477.9	sub	0.91	0.101	1.81	0.103	0.04	1.04	0.03	33.42	\$27.23
C08-37	60.0	2,195.0	2,135.0	18.3	669.0	650.7	main	0.76	0.085	1.52	0.084	0.05	1.67	0.03	42.18	\$22.91
C08-37	780.0	2,130.0	1,350.0	237.7	649.2	411.5	sub	0.90	0.100	1.80	0.104	0.02	1.17	0.04	41.01	\$27.12
C08-38	170.0	2,441.0	2,271.0	51.8	744.0	692.2	main	0.32	0.035	0.64	0.029	0.06	4.40	0.00	31.51	\$9.58
C08-39	310.0	2,688.0	2,378.0	94.5	819.3	724.8	main	0.89	0.098	1.76	0.099	0.06	1.38	0.03	51.71	\$26.58
C08-39	900.0	2,390.0	1,490.0	274.3	728.5	454.2	sub	1.07	0.119	2.14	0.122	0.04	1.09	0.04	57.03	\$32.19
C08-40	60.0	2,252.0	2,192.0	18.3	686.4	668.1	main	1.04	0.115	2.06	0.115	0.06	3.79	0.04	46.45	\$31.08
C08-40	390.0	2,080.0	1,690.0	118.9	634.0	515.1	sub	1.17	0.129	2.32	0.129	0.06	4.27	0.05	45.45	\$34.97
C08-40	1,110.0	1,820.0	710.0	338.3	554.7	216.4	sub	1.29	0.143	2.57	0.142	0.04	7.78	0.06	44.76	\$38.70
C08-41	850.0	2,830.0	1,980.0	259.1	862.6	603.5	main	0.65	0.072	1.30	0.067	0.08	2.23	0.02	42.87	\$19.61
C08-41	1,490.0	2,030.0	540.0	454.2	618.7	164.6	sub	0.99	0.110	1.98	0.107	0.08	2.99	0.03	38.02	\$29.82
C08-41	2,490.0	2,830.0	340.0	759.0	862.6	103.6	sub	0.70	0.078	1.40	0.077	0.06	1.53	0.03	33.55	\$21.15
C08-42	550.0	2,707.0	2,157.0	167.6	825.1	657.5	main	0.47	0.052	0.93	0.044	0.06	5.81	0.01	25.02	\$14.05
C08-42	950.0	2,707.0	1,757.0	289.6	825.1	535.5	sub	0.50	0.056	1.00	0.047	0.07	6.78	0.01	26.75	\$15.13
C08-42	1,970.0	2,707.0	737.0	600.5	825.1	224.6	sub	0.58	0.065	1.16	0.063	0.05	1.61	0.01	21.22	\$17.49
C08-43	165.0	1,303.0	1,138.0	50.3	397.2	346.9	main	0.48	0.053	0.95	0.044	0.09	4.23	0.02	52.17	\$14.34

**Table 6: Significant Intersection from CUMO Drilling (Continued)**

Hole	From	To	Length	From	To	Length	Zone	recv	recv	MoO3	MoS2	Cu	Ag	Re	W	Recovered
Name	feet	feet	feet	meters	meters	meters		Cu	MoS2	lbs	MoS2	Cu	Gms/T	ppm	ppm	Metal value
								Equiv.	equiv.							US\$
C08-43	660.0	820.0	160.0	201.2	249.9	48.8	sub	0.71	0.078	1.41	0.071	0.11	3.14	0.03	44.74	\$21.24
C08-44	1,125.0	2,840.0	1,715.0	342.9	865.6	522.7	main	0.27	0.029	0.53	0.028	0.02	0.89	0.01	28.71	\$7.98
C08-44	2,560.0	2,690.0	130.0	780.3	819.9	39.6	sub	0.49	0.054	0.98	0.055	0.02	1.47	0.01	20.09	\$14.76
C08-45	170.0	1,796.0	1,626.0	51.8	547.4	495.6	main	0.33	0.037	0.66	0.021	0.15	3.08	0.00	41.75	\$9.97
C08-45	1,010.0	1,796.0	786.0	307.8	547.4	239.6	sub	0.44	0.048	0.87	0.032	0.18	3.05	0.00	39.74	\$13.13

Note: Holes 33 was just entering the higher grade MO zone when stopped.

Hole 34 had not yet reached the Mo zone and will be continued in 2008.

Rhenium was not assayed for prior to 2006

Recv are recovered values with the following? recoveries built in based on the zone Not clear?

The 2006 - 2008 results confirmed the thickness and grade of mineralization on the property as indicated by previous drilling, and demonstrated continuity of mineralization between the original wide-spaced holes.

The 2006 - 2008 drilling data supports the presence of three distinct metal zones within the deposit. Amax previously interpreted these zones as distinct ore shells that were produced by separate intrusions. Re-interpretation of down-hole histograms for Cu, Ag and Mo suggests the metal zones may be a part of a single, large, concentrically zoned system with an upper copper-silver zone, underlain by a transitional copper-molybdenum zone, in turn underlain by a lower molybdenum-rich zone (Figure 12).

Three-dimensional modeling of the above zonation was conducted by Mr. Shaun Dykes (P.Geo.), which indicates the current area being drilled is located on the north side of a large system extending 4.5 km (15,000 feet) in diameter, of which only a small part (1 km or 3000 feet) has been drilled. (Figure 13).

### Cumo 2008 Model - Bench Plan - 5000 foot Elevation

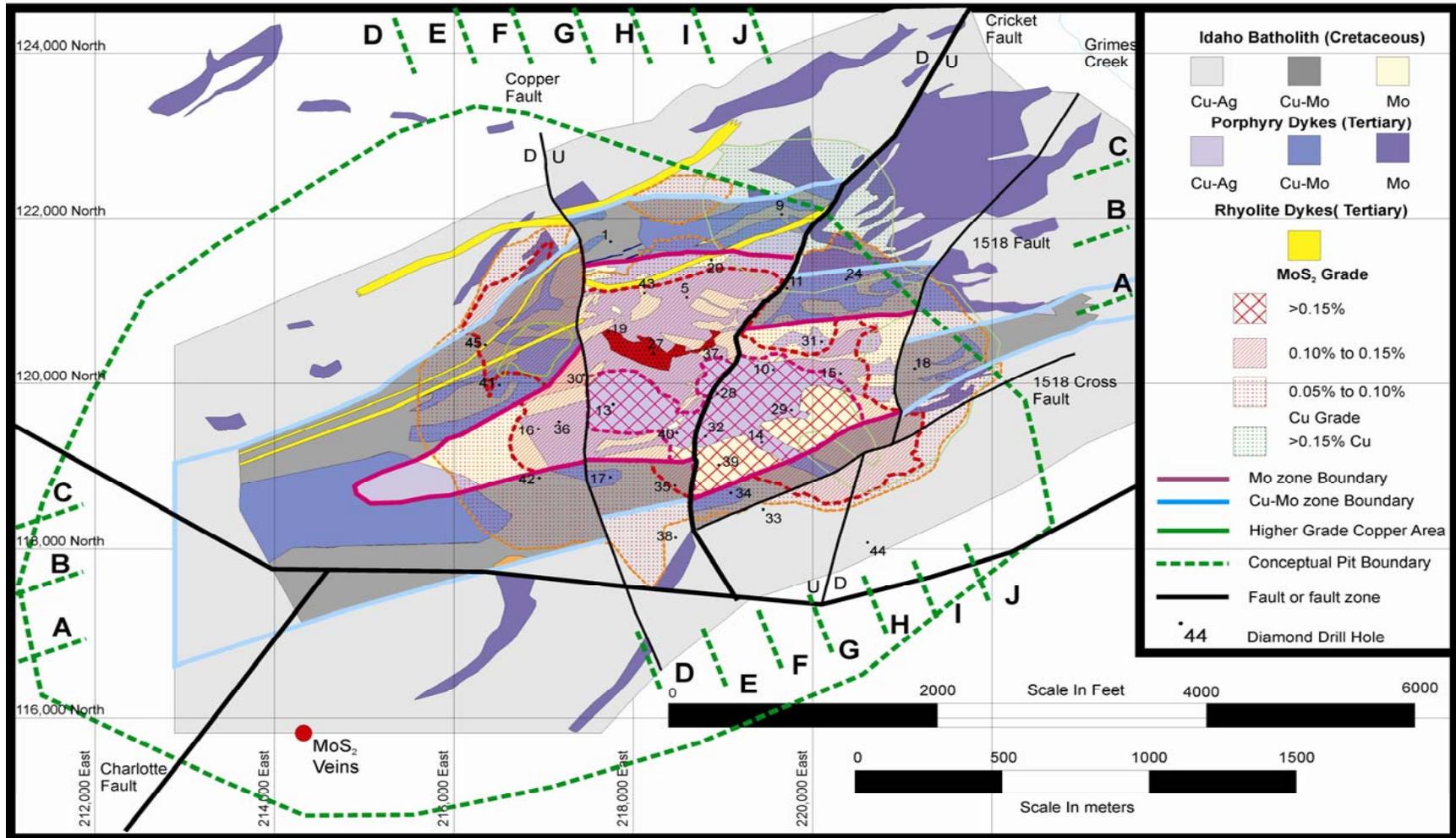


Figure 12: Geology bench plan at 5000 ft elevation.

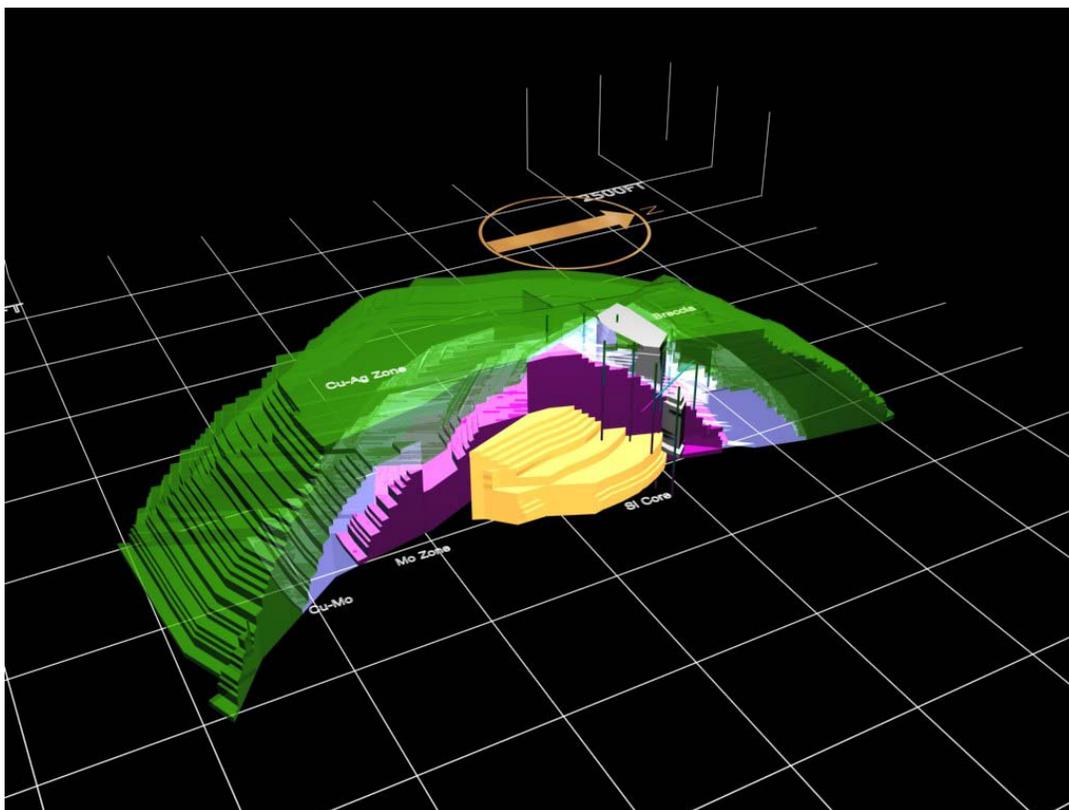


Figure 13: Snapshot of 3D model of CUMO deposit showing concentric pattern of metal zones. (Yellow is barren silica core, purple is Mo zone, blue Cu-Mo zone, green is Cu-Ag zone.)

## 12.0 SAMPLING METHOD AND APPROACH

Sampling was restricted during 2006, 2007 and 2008 to Diamond Drill Hole (DDH) core and metallurgical sampling of previously drilled DDH core. Standard core sampling methods were employed for both drill core and metallurgical samples. The company's approach was based upon the tried and true methods of drilling, sampling and assaying to physically define an ore body.

DDH drill core was placed in wooden core boxes during the 2006, 2007 and 2008 drilling seasons. In 2008, Mosquito's staff, overseen by a geologist, transferred the remaining core stored in cardboard boxes to wooden core boxes for better preservation.

At the time of drilling, each core box is clearly labeled by the driller's helper with the DDH hole number, core box number, and "to" and "from" drill core footages. Full core boxes are sealed with a lid. The driller(s) and/or geologist(s) then deliver the core boxes to the secure core

storage warehouse<sup>1</sup> located in Garden Valley, Idaho. The core boxes are laid out in sequence upon long tables specifically made for core logging purposes. A geologist then logs the core for lithology, structure, alteration and mineralization. Geotechnical measurements for Rock Quality Designation (RQD) are recorded. Each core box is additionally labeled using a metal Dymo labeling tool for long-term preservation of identification. The core is photographed, two boxes at a time, using a mounted Nikon digital camera. It is then delivered to the core-cutting technician. The photographs are downloaded onto computer files specific to each drill hole.

A core technician using a standard rock saw samples the core using typical procedures. The technician uses safety equipment such as goggles and earplugs. Half-core is collected at regular 10-foot intervals for analysis. Sample lengths are adjusted to lithological contacts in cases where barren dikes are intersected.

Half core sample intervals are placed in ether cloth or heavy plastic sample bags with the sample number placed on the outside of the bag in black magic marker. Individual sample interval tags are included in each sample bag. The bag is then secured with a wire tie and placed within a plastic transport crate for shipping.

MoS2 loss from soft fracture fillings being washed away when the core is sawed in half have been noted at CUMO. Although there is no physical way to eliminate this problem at present, other than schooling the technicians on the extra care needed when sawing a soft fracture zone, geologists at CUMO have addressed possible inadvertent contamination of other core from MoS2 enriched water from the rock saw's water recirculation tank. The cut core is given a second clear water bath prior to being bagged or stored and the recirculation tank is voided and refilled based upon clarity.

The half core is sent for analysis and the other half retained and stored at the core storage warehouse in Garden Valley, Idaho. The remaining core is stacked upon a standard pallet and sealed with a plywood cover. Each plywood cover is clearly labelled with the cores information. The pallet is then strapped with a metal banding tool and stored within the archive section of the core storage warehouse in Garden Valley, Idaho.

Blanks and standards are inserted into the sample stream at a frequency of one every 20 samples. The core-cutting technician selects the exact intervals and notes them on his sample log. The core technician inserts the blanks whereas the standards were selected and inserted by the geologist-in-charge.

Standards were selected from three bulk standards (low, medium and high grade) that were prepared from historic CUMO drill core samples. Standards were selected on the basis of appropriate grade to match the estimated grade of the core adjacent to each standard sample interval.

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<sup>1</sup> The core storage warehouse in Garden Valley, Idaho, is secure in the sense that it is a steel building, well insulated, with secure doors that contain security locks. The project manager, and Senior Geologist Matt Ball, lives in an apartment attached to the building. The area is well lighted and is seldom without occupancy by Mosquito staff. The doors are locked when the building is unoccupied.

The standards were prepared and packaged by CDN Labs of Surrey, British Columbia. Each bulk sample was pulverized in a large rod mill, screened through 200 mesh using an electric sieve, and homogenized in a large rotating mixer. Each standard was sealed in plastic to prevent gravity separation and oxidation. The standards were certified by Smee & Associates Consulting Ltd. of North Vancouver, British Columbia, based on round-robin analysis at five laboratories using a four-acid digestion and ICP-ES finish (Table 7).

**Table 7: Certified standards prepared for CUMO project**

Standard	Element	Certified Mean	2 Standard Deviation (between lab)
CUMO1	Tot. Cu	1155 ppm	65 ppm
CUMO1	Tot. Mo	354 ppm	17 ppm
CUMO2	Tot. Cu	151 ppm	12 ppm
CUMO2	Tot. Mo	970 ppm	66 ppm
CUMO3	Tot. Cu	856 ppm	30 ppm
CUMO3	Tot. Mo	51.7 ppm	7.8 ppm

The bagged core samples are string or wire tied and then stored temporarily in holding pallets at the core storage warehouse in Garden Valley. When enough samples are accumulated, the samples are delivered to ALS-Chemex in Elko, Nevada for preparation and analysis. Kobex shipped their samples whereas Mosquito personnel deliver the samples.

## 13.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

### 13.1 Analysis

Samples submitted by Kobex were routinely analyzed by the ALS-Chemex ME-ICP61 procedure code for 39 elements using a four (4) acid digestion with analysis by Plasma Emission Spectroscopy (ICP-AES).

[http://www.alschemex.com/learnmore/learnmore-techinfo-principles-analyticalmethodologies.htm#Inductively%20Coupled%20Plasma%20Emission%20Spectroscopy%20\(ICP-AES\)](http://www.alschemex.com/learnmore/learnmore-techinfo-principles-analyticalmethodologies.htm#Inductively%20Coupled%20Plasma%20Emission%20Spectroscopy%20(ICP-AES))

Samples submitted by Mosquito were routinely analyzed by the ALS-Chemex ME-MS ICP61 procedure code for 47 elements using a four (4) acid digestion with analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS).

[http://www.alschemex.com/learnmore/learnmore-techinfo-principles-analyticalmethodologies.htm#Inductively%20Coupled%20Plasma%20Mass%20Spectroscopy%20\(ICP-MS\)](http://www.alschemex.com/learnmore/learnmore-techinfo-principles-analyticalmethodologies.htm#Inductively%20Coupled%20Plasma%20Mass%20Spectroscopy%20(ICP-MS))

Samples submitted by Mosquito for inter-laboratory check analysis were analyzed by SGS Minerals Services by the SGS ICM40B for 50 elements using a four (4) acid digestion/ICP-AES and ICP-MS. <http://www.sgs.com/geochem>.

## **13.2 Security**

A contemporary, well-kept, large steel building is used to warehouse Mosquito's core, samples, sampling equipment and field office at the CUMO project headquarters in Garden Valley, Idaho. The building is well lighted and insulated with heavy metal doors that have security locks. The building is located on the property of a nearby landowner and is on a state highway, which local law enforcement regularly patrols. Additionally, a geologist lives on the property for most of the year in an apartment that adjoins the metal building. Core is stored on pallets that are stacked two high and bound by metal strapping. Bagged samples waiting to be shipped are kept in high-walled pallets in a central location within the building. The area where the samples are kept is well lighted, well ventilated and easy to observe by staff. The floor is cement and the walls are steel. There are few windows. Mosquito personnel are present on a nearly 24-hour basis in season. Off-season, a local watchman lives adjacent to the property and provides security for the building and its contents.

## **14.0 DATA VERIFICATION**

### **14.1 Historical Checks**

As reported in the June 2005 report (Cavey et. al. 2005) there were six data sets available to verify the original Skyline MoS<sub>2</sub> assay data base. The original Skyline assays were re-assayed by Skyline at three stages of the sampling procedure; from core duplicate samples, from splits of rejects and from splits from pulps. Three inter lab sets of duplicates are also available to compare with the Skyline original assays; a pulp sent to Amax Lab in Climax from diamond drill hole assays, a second split at the drill of reverse circulation drill cuttings and a selected set of samples sent to Hazen Laboratory. The results from all comparisons are presented in the 2005 report. In general, the results showed good correlation and high sampling variability for MoS<sub>2</sub>.

During the Mosquito 2007 drill campaign blanks, standards were routinely inserted into the sample stream to monitor QA/QC at the primary laboratory ALS Chemex. In addition the Lab reported internal blanks, standards and duplicates which showed excellent agreement. Results from the 2007 QA/QC program reported in (Holmgren and Giroux, 2008) showed good agreement.

## 14.2 2008 Drill Program

QA/QC procedures on the 2008 drill program included blanks, standards, internal lab standards, lab internal pulp checks, and re-splits sent to second labs.

### 14.21 Blanks

During the 2008 diamond drill program blank samples were inserted in the samples stream at about a 1 in 20 frequency. A total of 235 were analyzed for MoS<sub>2</sub>, Cu, Ag, Re, Ga, W, Fe and S. The results were very good with no anomalies produced. The graphs for MoS<sub>2</sub> and Cu are shown below.

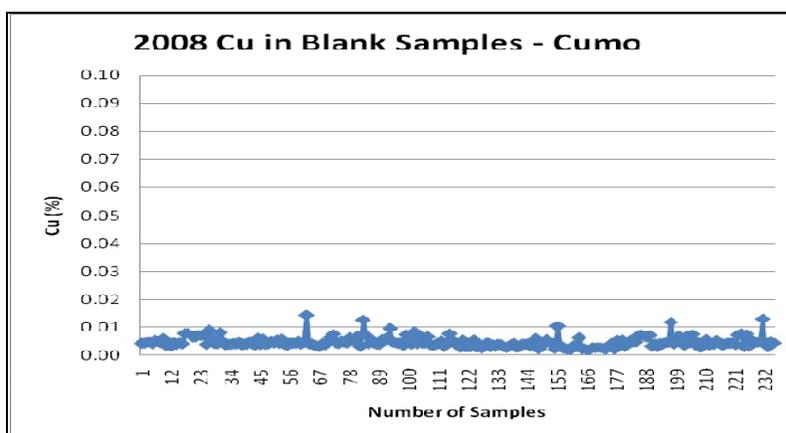


Figure 14: MoS<sub>2</sub> in Blank Samples from 2008 Drill Program Cumulative

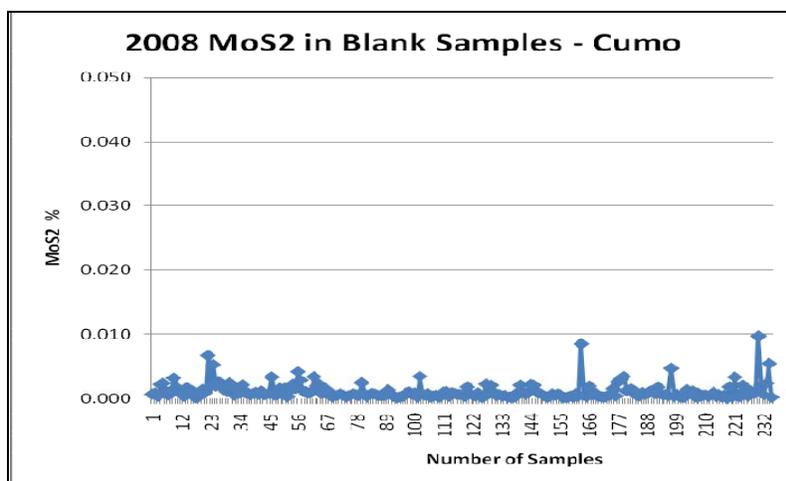


Figure 15: Cu in Blank Samples from 2008 Drill Program Cumulative

### 14.22 Internal Lab Standards

The primary laboratory, ALS Chemex inserted a blank and standard with every batch run during 2008. The results were excellent or the batch was redone. A total of 180 blanks and 346 standard results were provided with the analysis.

### 14.23 Internal Pulp Checks

ALS Chemex also routinely runs duplicate checks on sample pulps. Over the 2007-2008 drill program a total of 143 check samples were run for  $\text{MoS}_2$ . Figure 16 below shows the results are excellent with all but a few samples falling on an equal value line. The best fit regression line mirrors the equal value line.

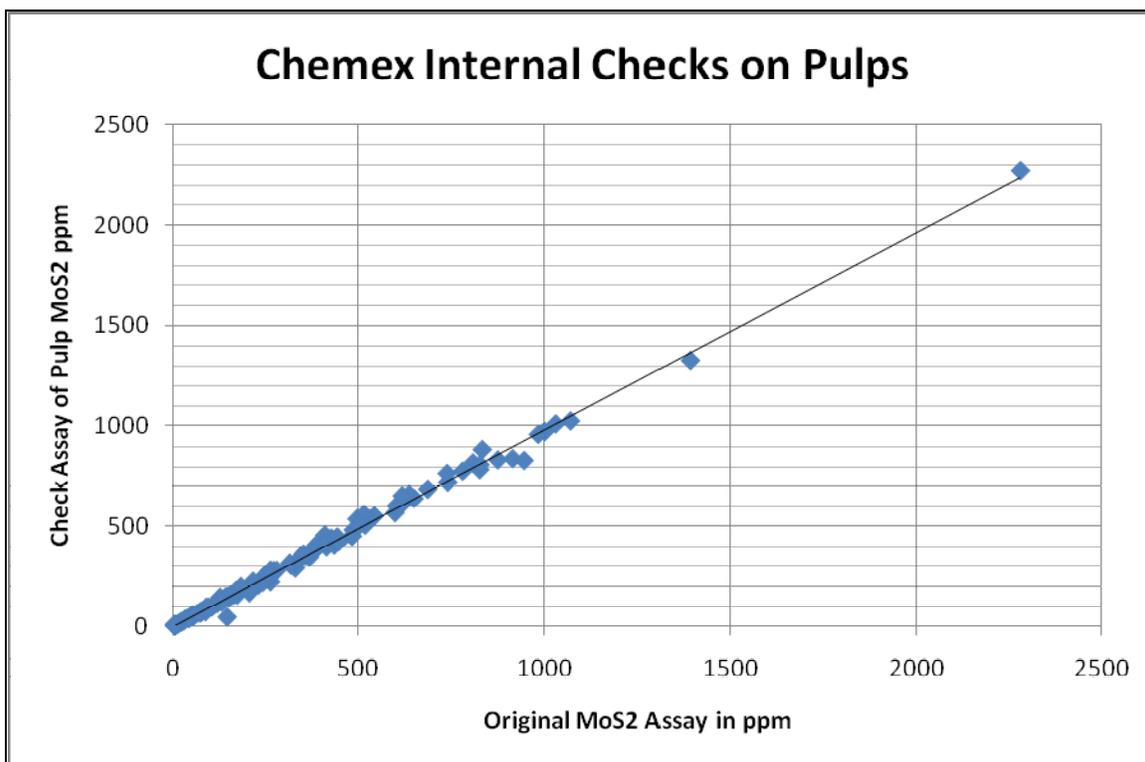


Figure 16: Scatter plot of Chemex Internal Duplicates for  $\text{MoS}_2$

### 14.24 Mosquito Standards

As explained in Section 12 CDN Labs prepared a set of Standards using drill core from the Cumo property.

Results for Standard CUMO1, the medium grade standard for Mo and highest grade for Cu, show one questionable result (see Figure 17). Sample 396353 (2006 sample) reports 0.049 % Mo with a corresponding low 0.01 % Cu indicating something was wrong with both analysis pointing to perhaps a numbering error on the Standard Sample. The remaining results are reasonable with most falling between the mean  $\pm$  2 standard deviations.

Results for Standard CUMO2 a higher grade Mo and low grade Cu standard show reasonable results for Cu and a couple of higher than normal Mo assays (see Figure 18).

The results for Standard CUMO3 are also reasonable with more noise in the Cu analysis but no large variations. The Mo results are reasonable for low grade Mo values (see Figure 19).

### **14.25 2008 Reject Duplicates**

During the 2008 drill program second and third splits were taken from 154 rejects and re-assayed by the primary Lab first by ICP\_MS61 and then by XRF. Due to high volumes of samples submitted to the primary Lab ALS Chemex, 31 samples were run at a second laboratory SGS with a similar procedure. As all checks were completed by the same Laboratory in both cases the checks serve as a measure of sampling variability comparing 3 splits from the same crushed rejects.

The results are presented as a series of scatter plots with all variables reported in ppm and are shown in Appendix 1.

The results for the re-splits on Mo run by ALS Chemex, both by ICP, are excellent with a correlation coefficient of 0.9933 and no bias indicated (the reduced major axis (RMA) regression line mirrors the equal value line). The average ICP to ICP precision is  $\pm$  24.4 %.

Comparing re-splits for Mo run by ALS Chemex analyzed by ICP and a check analysis by XRF also shows excellent agreement. The correlation coefficient is 0.9944 and again the RMA regression line mirrors the equal value line indicating no bias present. The precision on ICP to XRF is  $\pm$  22.3%.

Copper run at Chemex by ICP and compared to a re-split run by ICP showed excellent agreement with a correlation coefficient of 0.9981. The RMA regression line is slightly above the equal value line but samples are scattered about the line equally and no bias is indicated. The precision on ICP original to ICP check is  $\pm$  15 %.

Copper ICP compared to copper from XRF, both run at Chemex, show a high correlation coefficient of 0.9978 and a slight indication of bias with XRF slightly higher in values above 200 ppm (the RMA regression line is pulled slightly above the equal value line). The precision on ICP original to XRF check is  $\pm$  15.9 %.

Silver original ICP compared with a second split also run by ICP showed excellent agreement with a correlation coefficient of 0.9978. The RMA regression line is slightly below the equal value line but no bias is indicated. The precision on Ag is  $\pm 15\%$ .

A similar set of comparisons was made for the 31 samples sent to SGS Laboratory.

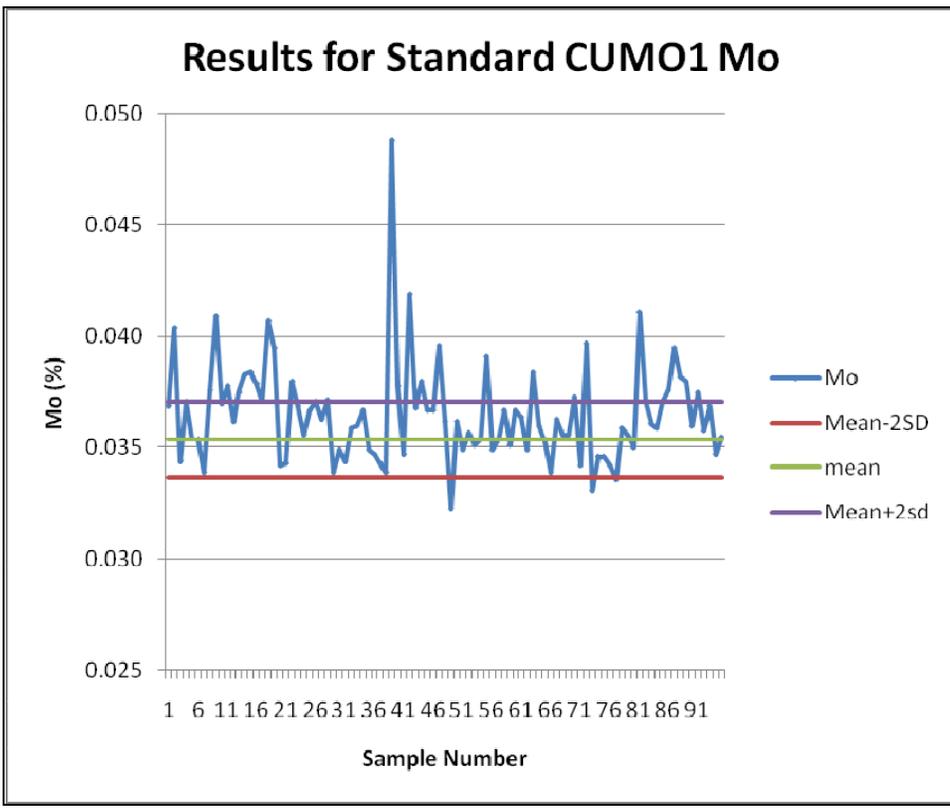
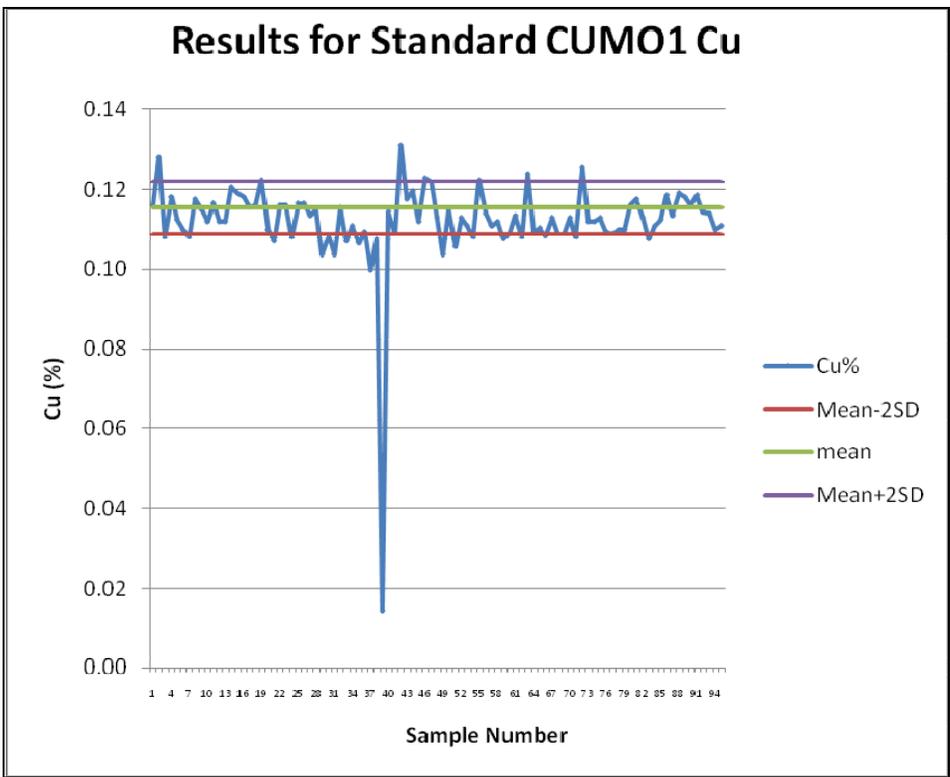
A comparison of Mo from the original ICP analysis with an ICP on a split from rejects shows the RMA regression line pulled above an equal value line by two high values. In general however there is no bias indicated. The correlation coefficient is 0.9960 and the precision is  $\pm 24.6\%$ .

A comparison of Mo from the original SGS ICP analysis with an SGS XRF analysis from a second split of rejects showed good agreement with a correlation coefficient of 0.9829. The RMA regression line is pulled above an equal value line by one high sample but no bias is indicated. The precision between the two analysis is  $\pm 52.8\%$  indicating more scatter about the RMA regression line and a number of low XRF readings.

The comparison between SGS original sample and ICP check sample for copper is excellent with a coefficient of correlation of 0.9944. There is no indication of bias with the RMA regression line nearly identical to the equal value line. The precision between the two estimates is  $\pm 12.6\%$ .

The comparison between SGS original samples and SGS XRF check samples is not as good. A bias is clearly indicated with XRF showing higher values than ICP above 300 ppm. The RMA regression line shows a proportional bias relative to the equal value line. The coefficient of correlation is reasonable at 0.9884 with the precision between the two estimates of  $\pm 18\%$ .

The SGS checks on Ag comparing the original sample with a second split from the rejects show a fair degree of scatter but no bias. The correlation coefficient is 0.9491 and the precision on the two samples is  $\pm 45.4\%$ .



**Figure 17: Results for Standard CUMO1**

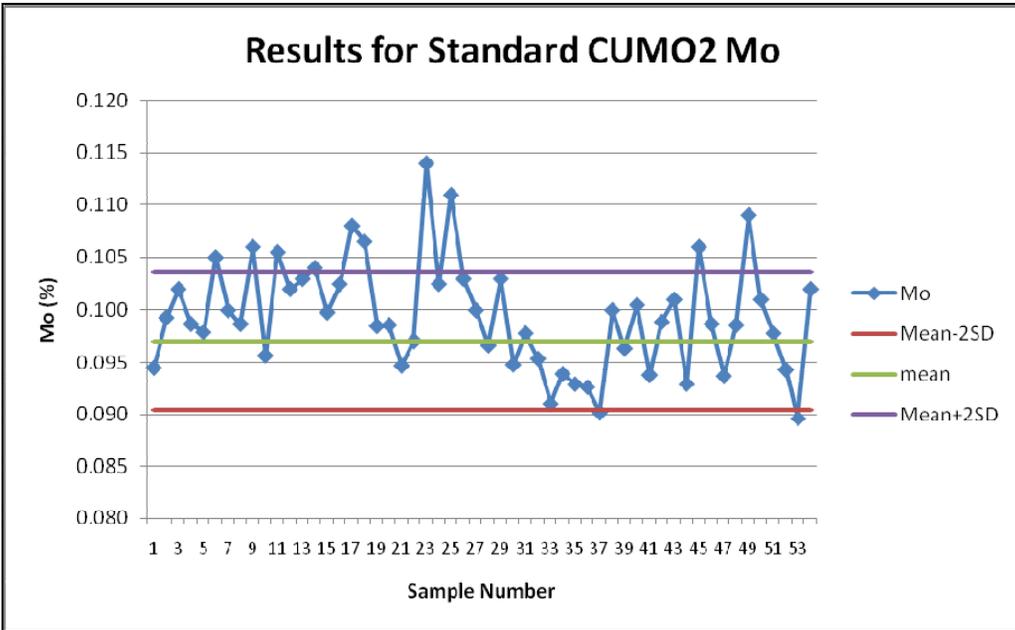
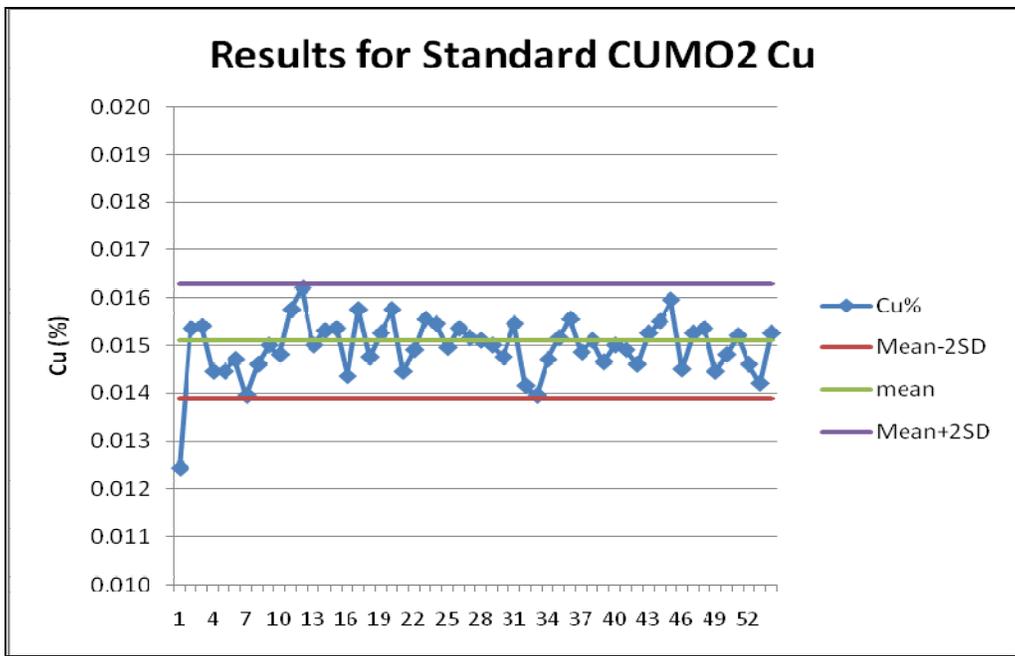
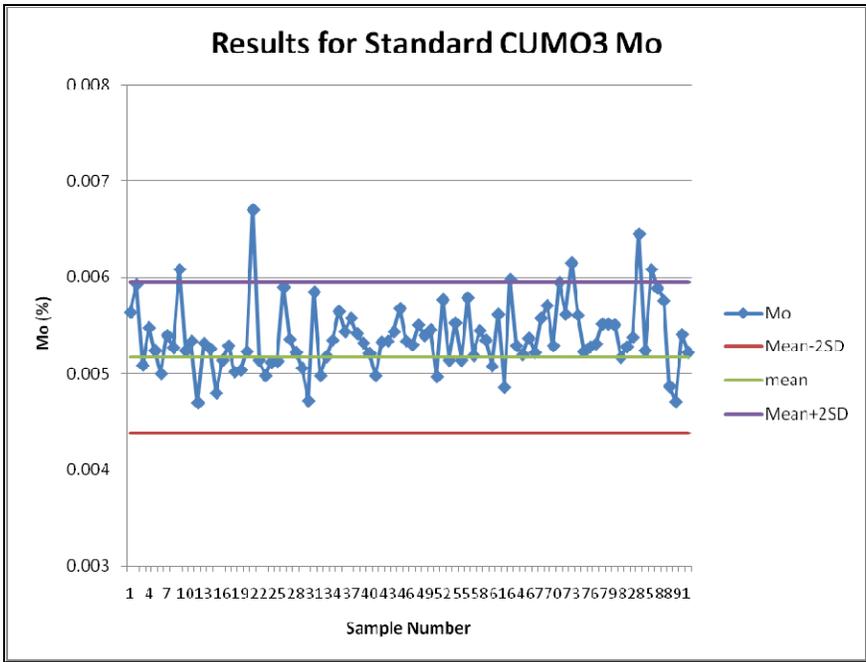
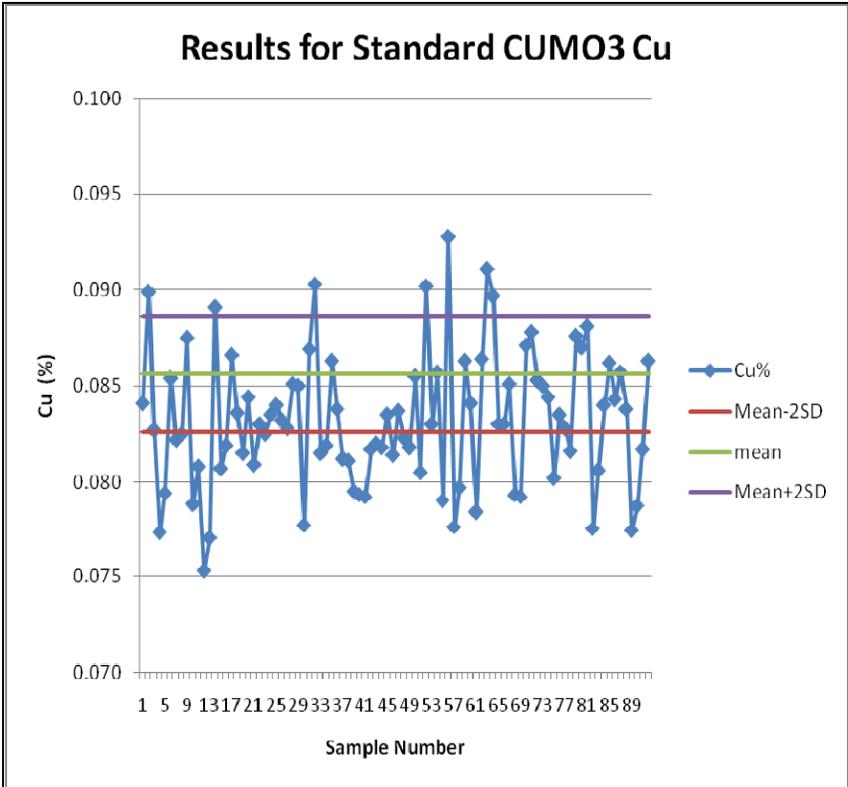


Figure 18: Results for Standard CUMO2



**Figure 19: Results for Standard CUMO3**

## 15.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Mosquito began collecting metallurgical samples for testing in December 2007. One fourth of the half core (quarter core) was used from continuous samples of the mineralized zones (an upper copper-silver zone, underlain by a transitional copper-molybdenum zone, in turn underlain by a lower molybdenum-rich zone) from drill holes CO6-27, CO6-28 and CO6-29 and collected as individual 10-foot samples of quarter core. Technicians supervised by geological staff collected the samples and prepared them for shipment. Bonded carrier took the samples from Garden Valley, Idaho to Vancouver, British Columbia. The samples were taken to SGS Canada, Kent Corporate Center, Kent Avenue N., Vancouver, British Columbia, for the metallurgical study (Figure 7).

Overall, the results of the studies completed show better-than-expected recoveries in all parts of the deposit and confirm that even at the low-grade end the recoveries are excellent. Two different grinds were used, with the finer grind giving better recoveries, especially in the case of copper. The material is straightforward, with relatively low concentrations of problematic minerals such as pyrite, clays and talc, lending itself to effective Cu/Mo separation to create two saleable concentrates. Reagent consumption appears to be slightly below average, due to the lack of problematic minerals, indicating that processing will be low-cost and relatively straightforward.

In addition, of major significance to the overall project, Acid Based Accounting (ABA) testing indicates that the tailings are potentially acid neutralizing (PAN) due to the presence of carbonate and low pyrite content. SGS concludes that *“the tailings tested were not acid generating”*. Further studies are required, but if confirmed, this will lead to significant costs savings in the tailings handling circuit and a major reduction in the environmental impact of the project.

The results reveal the following recoveries after the 3 cleaning lock cycle testing.

	cu%	mo%	Ag%	w %	w %
zone				concentrator	tables
Cu/ag-oxide	63.3	82.2	71.6	40	26
Cu/mo	88.6	93.7	80	40	26
mo	81.8	96.2	59.3	40	26

Notes: CuAg –oxide is a mixed composite of oxidized material and Cu Ag zone

W results are preliminary due to very simple testing and sample size. Other methods of recovering Tungsten from the Concentrator will be examined in the feasibility metallurgical study.

Based on results of the metallurgy the following recoveries are now being used in resource calculations and economic assessments.

zone	Cu%	MoS <sub>2</sub> %	Ag %	W %
oxide	60	80	70	35
Cu/ag	68	85	73	35
Cu/mo	87	92	78	35
mo	80	95	55	35

Average assay grades for the three zones of the samples are show in the table below:

Zone name	number intervals	weight kgs	MoS <sub>2</sub> %	Mo %	Cu %	Ag g/t
Cu-Ag	25	166.6	0.031	0.019	0.17	4.15
Cu-Mo	41	274.7	0.067	0.040	0.12	2.82
Mo	49	304.2	0.174	0.104	0.03	1.06

Samples were selected in continuous intervals to represent the volume and grade distribution within the overall deposit. It should be noted that SGS maintains an extensive database of mines from around the world for comparison purposes on certain of the tests.

### ***15.1 Detailed Results of the Metallurgical Testing***

The **Flotation Studies** consisted of two levels, rougher and cleaner flotation.

The rougher flotation study results are displayed below:

Zone	Grind		Recovery		
	microns	mesh	Cu	Mo	Ag
Cu-Ag	63	250	72.66%	85.77%	75.82%
Cu-Ag	125	120	58.72%	81.56%	70.30%
Cu-Mo	63	250	89.31%	92.92%	74.51%
Cu-Mo	125	120	89.72%	92.37%	73.99%
Mo	63	250	76.96%	94.42%	64.35%
Mo	125	120	83.12%	96.94%	71.82%

Note: The finer grind demonstrated better results on the copper, especially in the Cu-Ag zone. Since copper is only a by-product, work will be done later to determine the cost benefit of finer grinding to improve the recoveries.

**Locked Cycle testing** (continuous processing with 3 cleaning stages) produced the following concentrates

- Cu-Ag zone produced a Cu concentrate assaying:  
13.03% Cu, 2.0% Mo (3.33% MoS<sub>2</sub>), 357.2 gms Ag/t and 0.9 gms Re/t at  
63.3% Cu, 82.2% Mo and 71.7% Ag recoveries
- Cu-Mo zone produced a Cu-Mo Concentrate assaying:  
16.4% Cu, 5.66% Mo (9.44% MoS<sub>2</sub>), 324 gms Ag/T and 2.9 gms Re/t at  
88.6% Cu, 93.7% Mo and 80.0% Ag recoveries
- Mo zone produced a Mo concentrate assaying:  
5.59% Cu, 21.63% Mo (36.41% MoS<sub>2</sub>), 122.1 gms Ag/T and 15 gms Re/t at  
81.8% Cu, 96.2% Mo and 59.3% Ag recoveries.

The preliminary flotation studies indicate that the material has good cleaning characteristics and that further cleaning and separation will yield saleable Cu (>20% Cu) and Mo (>50% Mo) concentrates. An additional four cleaning cycles is recommended. Also to be noted is that the rhenium grade increases with the concentrate grade as all of the Rhenium is contained within the Molybdenite. As such at a 50% saleable molybdenum concentrate grade the Rhenium content should be between 30 and 40 gms/t, thus a grade of 35 gms/t Rhenium is recommended of use in the preliminary economic evaluation study. Also in addition to Rhenium it is possible to produce sulphuric acid from the roasting of the molybdenum concentrate, examination of existing roaster facilities and their sulphuric acid production indicates that 2,000 lbs (1 tons) of sulphuric acid can be produced from 1 ton of 50% Molybdenum (83.4% MoS<sub>2</sub>) concentrate.

Assaying of the tails revealed the presence of significant titanium with associated iron. Tailings assayed 0.96% Fe and 0.13 % Titanium. This is due to the presence of magnetite in the material, which may be recoverable using magnetic separation. The recovery of magnetite will be examined in the next stage of testing to determine if a saleable titanium rich magnetite concentrate is a possible by-product.

Discussions with SGS in regard to gallium recovery indicate although the Gallium contained is worth approx. \$8/ton (at current prices) the amount of strong acid required to leach the gallium is more costly than the value of the gallium at current acid prices. As such Gallium is no longer used in the equivalent calculations. Gallium will be re-examined at a later date should a low cost source of acid becomes available.

In summary the metallurgy shows that saleable molybdenum and copper concentrates can be produced with the intent to ship the molybdenum concentrate to a roasting facility to be included as part of the project and the copper concentrate shipped to a smelter with terms to be negotiated.

The **QEMSCAN Mineralogical Study** was performed to determine what minerals are present and the presence of any potential problematic minerals in the processing circuit. The results from all three CUMO zones were excellent, showing no problematic minerals and that the recovery process should be relatively straightforward with no need for expensive reagents in the mill circuit. Results are summarized as follows:

- All three CUMO zones were found to be largely free of any of fine grained clays or talc, indicating that no processing problems should be expected. The presence of clay minerals and talc can cause problems with recoveries and also poor water quality in the tailings. They often lead to expensive reagents having to be added to the mill process.
- Copper mineralization is chalcopyrite with very little oxide and is finer grained than the molybdenum. Optimum grind size for the molybdenum is 70 to 80 microns while for the copper it is 65 microns.
- Pyrite content of the CUMO zones is very low compared to other deposits of this type, resulting in significant costs savings as the amount of reagents required to handle the pyrite is reduced. For example, the Thompson Creek molybdenum mine located only 100 kms from CUMO, has specific circuits added to the mill site to handle the pyrite, adding to the cost to produce product.

A **Grindability Study** was conducted to give an indication as to how easy it is to crush the rock. The higher the numbers, the more it costs in terms of power and time to produce the grind required to recover the final products. In the case of CUMO, the results for all three samples were found to be well within the average of existing large scale open pit mines. It should also be noted that the molybdenum zone is softer and consumes 20% less power than the other two zones. The Bond Ball Mill Work Index Values, which is a measure of “grindability” in terms of kilowatt hours per ton (power consumption), were as follows:

<b>Zone</b>	<b>Metric</b>	<b>Imperial</b>
<b>name</b>	<b>kWh/tonne</b>	<b>KWh/ton</b>
Cu-Ag	15.8	14.3
Cu-Mo	15.7	14.3
Mo	12.6	11.4

## 16.0 MINERAL RESOURCE ESTIMATION

This 2009 Cumo Resource estimate represents an update of the 2008 estimate (Holmgren and Giroux, 2008) based on an additional 11 new diamond drill holes completed in 2008.

### 16.1 Data Analysis

A total of 42 diamond drill holes over a combined total of 76,436 ft. and 3 reverse circulation drill holes were provided with 632 down hole surveys and 6,619 assays for MoS<sub>2</sub> and Cu. For this resource estimation the 3 reverse circulation holes were not used (see Appendix 2 for a list of drill holes used in the Estimate). The basic assay statistics for diamond drill holes are presented below in Table 8.

**Table 8: Summary of Assay Statistics**

	MoS <sub>2</sub> (%)	Cu (%)
Number	6,619	6,619
Mean	0.061	0.078
Standard Deviation	0.061	0.069
Minimum	0.0005	0.001
Maximum	1.09	0.920
Coefficient of Variation	1.00	0.85

The molybdenum and copper mineralization at Cumo lies in three distinct mineral zones with an oxidized layer on top. More or less from top to bottom there occurs in most drill holes an Oxide Zone, Cu-Ag zone, a Cu-Mo zone and a Mo zone. While the oxide zone has been modeled for metallurgical reasons it has been combined with the Cu-Ag zone for estimation purposes. There are also several post mineral dykes that are large enough and continuous enough to be modeled. The Cu and MoS<sub>2</sub> grades can be sorted by Zone. Silver and tungsten assays are shown for the same mineral zones. Values for MoS<sub>2</sub> and Cu reported as 0.000 were assigned values of 0.0005% and 0.001 % respectively. Silver values reported as 0.000 were set to 0.01 g/t while tungsten values reported as 0.000 were set to 0.1 ppm.

**Table 9: Summary of Assay Statistics for Cu and MoS<sub>2</sub> Sorted by Zone**

	Cu-Ag Zone		Cu-Mo Zone		Mo Zone		Dyke	
	MoS <sub>2</sub> (%)	Cu (%)						
Number	1,492	1,492	2,504	2,504	2,223	2,223	53	53
Mean	0.018	0.084	0.049	0.100	0.108	0.047	0.007	0.018
Standard Deviation	0.022	0.071	0.047	0.071	0.067	0.042	0.019	0.032
Minimum	0.0005	0.001	0.0005	0.001	0.0005	0.001	0.0005	0.001
Maximum	0.315	0.71	1.09	0.92	0.99	0.59	0.13	0.15
Coefficient of Variation	1.21	0.85	0.95	0.71	0.63	0.89	2.52	1.78

**Table 10: Summary of Assay Statistics for Ag and W Sorted by Zone**

	Cu–Ag Zone		Cu-Mo Zone		Mo Zone		Dyke	
	Ag (g/t)	W (ppm)	Ag (g/t)	W (ppm)	Ag (g/t)	W (ppm)	Ag (g/t)	W (ppm)
Number	1,485	1,470	2,488	2,493	2,196	2,200	53	46
Mean	2.79	30.1	3.13	46.8	1.76	45.1	0.78	15.5
Standard Deviation	10.23	28.8	16.02	49.7	10.80	37.6	1.03	16.3
Minimum	0.01	0.1	0.01	0.1	0.01	0.1	0.01	2.1
Maximum	345.00	520.0	744.0	1980.0	494.0	890.0	4.40	65.0
Coefficient of Variation	3.66	0.96	5.12	1.06	6.15	0.83	1.32	1.06

To determine if capping was required and if so at what level the distribution of grades for each variable within each domain was examined using lognormal cumulative frequency plots.

In all cases multiple overlapping lognormal populations were present.

A similar strategy was applied to Cu, Ag and W. The capping levels for each variable are shown below.

**Table 11: Summary of Capping levels by Domain**

Domain	Variable	Cap Level	Number Capped
Cu-Ag Zone	MoS <sub>2</sub>	0.16 %	3
Cu-Mo Zone	MoS <sub>2</sub>	0.40 %	2
Mo Zones	MoS <sub>2</sub>	0.48 %	6
Cu-Ag Zone	Cu	0.83 %	0
Cu-Mo Zone	Cu	0.59 %	4
Mo Zones	Cu	0.27 %	6
Cu-Ag Zone	Ag	115 g/t	2
Cu-Mo Zone	Ag	102 g/t	5
Mo Zones	Ag	24 g/t	5
Cu-Ag Zone	W	452 ppm	1
Cu-Mo Zone	W	277 ppm	4
Mo Zones	W	275 ppm	4

## 16.2 50 Foot Composites

The bulk of the drill holes were assayed on 10 or 20 ft spacings. A 50 ft composite length was chosen to match a reasonable mining bench for this scale of deposit. This differs from the 2008 resource estimate where a 20 ft. composites was used. The statistics for 50 ft composites are shown in Table 12.

**Table 12: Summary of 50 ft. Composite Statistics**

	<b>MoS<sub>2</sub> (%)</b>	<b>Cu (%)</b>	<b>Ag (g/t)</b>	<b>W (ppm)</b>
<b>Cu-Ag Zone</b>				
Number	350	350	350	346
Mean	0.017	0.086	2.63	29.6
Standard Deviation	0.015	0.057	3.94	22.2
Minimum	0.001	0.001	0.01	0.1
Maximum	0.111	0.379	69.06	210.0
Coefficient of Variation	0.86	0.67	1.50	0.75
<b>Cu-Mo Zone</b>				
Number	563	563	558	559
Mean	0.046	0.100	2.86	45.1
Standard Deviation	0.025	0.055	3.21	22.0
Minimum	0.003	0.005	0.23	10.7
Maximum	0.277	0.361	42.39	161.3
Coefficient of Variation	0.54	0.55	1.12	0.49
<b>Mo Zone</b>				
Number	571	571	563	564
Mean	0.108	0.052	1.63	47.2
Standard Deviation	0.046	0.039	1.32	23.9
Minimum	0.025	0.003	0.09	5.0
Maximum	0.298	0.218	10.68	158.8
Coefficient of Variation	0.43	0.74	0.81	0.51
<b>BBZ Zone</b>				
Number	13	13	13	13
Mean	0.026	0.007	1.40	23.2
Standard Deviation	0.016	0.005	2.06	5.9
Minimum	0.004	0.003	0.32	15.0
Maximum	0.054	0.020	8.06	34.0
Coefficient of Variation	0.61	0.76	1.47	0.26
<b>Dykes</b>				
Number	4	4	4	4
Mean	0.002	0.003	0.28	6.1

### 16.3 Variography

For variogram analysis the composite data was adjusted to accommodate post mineral faulting. Fault blocks were moved back to pre fault locations based on marker beds displaced across fault boundaries. Semivariograms were produced using these pre fault locations. For estimation the original locations of composites were used.

Pairwise relative semivariograms were used to determine grade continuity for MoS<sub>2</sub>, Cu, Ag and W in 50 ft. composites. The semivariogram parameters are summarized in Table 13. The models for MoS<sub>2</sub> and Cu are shown in Appendix 3.

**Table 13: Parameters for semivariogram models at Cumo**

Variable	Domains	Direction	C0	C1	C2	Range a1 (ft)	Range a2 (ft)
MoS <sub>2</sub>	Cu-Mo and Mo Zone	Az 60 Dip 0	0.06	0.08	0.16	200	1800
		Az 150 Dip -55	0.06	0.08	0.16	150	1300
		Az 330 Dip -35	0.06	0.08	0.16	200	480
	Cu-Ag Zone	Az 160 Dip 0	0.15	0.10	0.45	100	1000
		Az 70 Dip 0	0.15	0.10	0.45	400	500
		Az 0 Dip -90	0.15	0.10	0.45	200	600
Cu	Cu-Ag and Cu_Mo Zone	Az 60 Dip 0	0.10	0.10	0.15	200	2000
		Az 150 Dip -55	0.10	0.10	0.15	300	1800
		Az 330 Dip -35	0.10	0.10	0.15	100	1000
	Mo Zone	Az 60 Dip 0	0.05	0.20	0.17	60	400
		Az 150 Dip 0	0.05	0.20	0.17	200	800
		Az 0 Dip -90	0.05	0.20	0.17	600	800
Ag	Cu-Ag and Cu_Mo Zone	Az 70 Dip 0	0.10	0.05	0.13	50	600
		Az 160 Dip 0	0.10	0.05	0.13	100	200
		Az 0 Dip -90	0.10	0.05	0.13	100	800
	Mo Zone	Az 60 Dip 0	0.10	0.10	0.25	300	1100
		Az 150 Dip 0	0.10	0.10	0.25	200	600
		Az 0 Dip -90	0.10	0.10	0.25	400	600
W	Cu-Mo and Mo Zone	Az 135 Dip 0	0.05	0.04	0.15	160	1200
		Az 45 Dip 0	0.05	0.04	0.15	100	400
		Az 0 Dip -90	0.05	0.04	0.15	300	1000
	Cu-Ag Zone	Az 160 Dip 0	0.05	0.10	0.30	100	1200
		Az 70 Dip 0	0.05	0.10	0.30	80	600
		Az 0 Dip -90	0.05	0.10	0.30	200	500

## 16.4 Block Model

A block model with blocks 50 x 50 x 50 ft. in dimension was superimposed over the mineralized zones with the proportion of each block below surface topography and within the various mineralized solids recorded. The block model origin was as follows:

Lower Left Corner		
216,975 E	Column Size – 50 ft.	139 Columns
116,725 N	Row Size – 50 ft.	108 Rows
Top of Model		
6550 Elevation	Level Size – 50 ft.	60 Levels

## 16.5 Grade Interpolation

The grade for the four variables namely: MoS<sub>2</sub>, Cu, Ag and W was interpolated into each block containing some proportion of mineralized solid by ordinary kriging. Kriging was completed for each variable separately within two mineralized domains. A combination of soft and hard boundaries was used to estimate MoS<sub>2</sub>, Cu, Ag and W to reflect the metal zonation present at Cumo.

- MoS<sub>2</sub> - Estimated for Cu-Ag Domain using only composites from Cu-Ag Domain
  - Estimated for Cu-Mo and Mo Domains using only composites from Cu-Mo and Mo Domains
- Cu - Estimated for Mo Domain using only composites from Mo Domain
  - Estimated for Cu-Ag and Cu-Mo Domains using only composites from Cu-Ag and Cu-Mo Domains
- Ag - Estimated for Mo Domain using only composites from Mo Domain
  - Estimated for Cu-Ag and Cu-Mo Domains using only composites from Cu-Ag and Cu-Mo Domains
- W - Estimated for Cu-Ag Domain using only composites from Cu-Ag Domain
  - Estimated for Cu-Mo and Mo Domains using only composites from Cu-Mo and Mo Domains

Each kriging run was composed of 4 passes. The dimensions for the search ellipse, within each pass, were a function of the semivariogram range. Pass 1 required a minimum of 4 composites within a search ellipse of dimensions equal to ¼ of the semivariogram range. For blocks not estimated, the search ellipse was expanded to ½ the semivariogram range in pass 2 and again a minimum of 4 composites were required to estimate the block. In cases with a vertical search, for both pass 1 and 2 the vertical search distance was set at 75 ft. to insure at least 2 holes were used. Pass 3 expanded the search ellipse to the entire range and a final 4<sup>th</sup> pass used double the

range. In all cases if more than 16 composites were found the closest 16 were used. The search parameters for each run are listed below in Table 18. For Ag and W a fifth pass was used with search ellipses equal to the maximum search in Cu and MoS<sub>2</sub>, to produce a value for all blocks estimated for MoS<sub>2</sub> and Cu. This was due to the under-sampling of Ag and W relative to MoS<sub>2</sub> and Cu.

A grade for each of the four variables was estimated in a total of 401,908 blocks.

**Table 14: Summary of Kriging Search Parameters for each Domain**

Domain	Variable	Pass	Number Of Blocks Estimated	Az/Dip	Dist. (ft)	Az/Dip	Dist. (ft)	Az/Dip	Dist. (ft)
Cu-Ag	MoS <sub>2</sub>	1	5,223	160/0	250	70/0	125	0/-90	75
		2	13,196	160/0	500	70/0	250	0/-90	75
		3	41,082	160/0	1,000	70/0	500	0/-90	150
		4	76,551	160/0	2,000	70/0	1,000	0/-90	150
Cu-Mo & Mo	MoS <sub>2</sub>	1	68,722	60/0	450	330/-35	120	150/-55	325
		2	99,930	60/0	900	330/-35	240	150/-55	650
		3	135,778	60/0	1,800	330/-35	480	150/-55	1,300
Cu-Ag & Cu-Mo	Cu	1	81,725	60/0	500	330/-35	250	150/-55	450
		2	91,389	60/0	1,000	330/-35	500	150/-55	900
		3	225,702	60/0	2,000	330/-35	1,000	150/-55	1,800
Mo	Cu	1	26,939	60/0	450	330/0	200	0/-90	75
		2	41,213	60/0	900	330/0	400	0/-90	75
		3	61,579	60/0	1,800	330/0	800	0/-90	150
		4	71,897	60/0	3,600	330/0	1,600	0/-90	150
Cu-Ag & Cu-Mo	Ag	1	6,072	70/0	250	340/0	50	0/-90	75
		2	17,150	70/0	500	340/0	100	0/-90	75
		3	60,675	70/0	1,000	340/0	200	0/-90	150
		4	71,511	70/0	2,000	340/0	400	0/-90	300
		5	84,502	70/0	2,000	340/0	1,000	0/-90	1,800
Mo	Ag	1	12,855	60/0	275	330/0	150	0/-90	75
		2	28,108	60/0	550	330/0	300	0/-90	75
		3	57,161	60/0	1,100	330/0	600	0/-90	150
		4	46,656	60/0	2,200	330/0	1,200	0/-90	150
		5	18,341	60/0	3,600	330/0	1,600	0/-90	150
Cu-Ag	W	1	18,754	135/0	300	45/0	100	0/-90	75
		2	44,677	135/0	600	45/0	200	0/-90	75
		3	102,762	135/0	1,200	45/0	400	0/-90	150
		4	64,581	135/0	2,400	45/0	800	0/-90	150
		5	51,867	135/0	2,400	45/0	1,000	0/-90	150
Cu-Mo & Mo	W	1	7,058	160/0	300	70/0	150	0/-90	75
		2	23,870	160/0	600	70/0	300	0/-90	75
		3	42,136	160/0	1,200	70/0	600	0/-90	150
		4	52,009	160/0	2,400	70/0	1,200	0/-90	150
		5	7,126	160/0	2,400	70/0	1,200	0/-90	1,300

## 16.6 Bulk Density

Specific gravity determinations were made for Cumo for each grade Domain. The measurements were made using the weight in air/weight in water procedure. The results are summarized below.

Domain	Number of SG Determinations	SG Minimum	SG Maximum	Average SG (gm/cc)	Average TF (cu.ft./ton)	Average MoS2 (%)
Cu-Ag	9	2.58	2.72	2.64	12.13	0.045
Cu-Mo	66	2.37	2.70	2.60	12.30	0.093
Mo	125	2.46	2.70	2.60	12.33	0.106

The tonnage factor for each block was a weighted average based on the domains tonnage factor and the amount of that domain within the block.

## 16.7 Classification

### Introduction

Based on the study herein reported, delineated mineralization of the Cumo Property is classified as a resource according to the following definition from National Instrument 43-101

*“In this Instrument, the terms “mineral resource”, “inferred mineral resource”, “indicated mineral resource” and “measured mineral resource” have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on August 20, 2000, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy, and Petroleum.”*

*“A **Mineral Resource** is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.”*

The term Inferred is defined in NI 43-101 as follows:

*“An ‘**Inferred Mineral Resource**’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information*

*and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.”*

## Results

At Cumo geologic continuity has been established through diamond drilling. The concentric zonation and faults have been used to constrain the mineralization in a series of metal zones. Grade continuity within the metal domains has been established by semivariograms. The semivariogram analysis was completed after moving major fault blocks back to pre fault positions. The kriging procedure was completed on fault blocks in their current positions. Blocks estimated in Pass 1 and 2 using search ellipses up to a maximum of ½ the semivariogram range were classified as Indicated. All other blocks were classified as inferred.

To properly evaluate the Cumo Deposit with 4 metals occurring in different zones, a form of metal equivalent or Gross Recoverable Value (GRV) was used. This calculation used metal prices in US dollars and metal recoveries as follows:

MoS<sub>2</sub> – Molybdenum is sold as molybdenum trioxide (MoO<sub>3</sub>) which has higher Mo content. Forecasts are for MoO<sub>3</sub> to rise to \$16 in 2010 and to \$20 in 2011 (CPM group, Feb.2009). The Chinese have stated that they will not be selling their MoO<sub>3</sub> for less than \$15/lb due to their production costs. The price used in this study for MoO<sub>3</sub> is \$15/lb. MoO<sub>3</sub> is calculated from MoS<sub>2</sub> by the following: Pounds Mo = MoS<sub>2</sub> \* 20 / 1.6681 and then Pounds MoO<sub>3</sub> = Pounds Mo \* 1.5

Cu – A copper price of \$1.50 / lb was used

Ag – A silver price of \$12.00 / oz was used

W – A tungsten price of \$8.50 / lb was used

The metal recoveries used were a function of metal domains as follows:

	%Recoveries in Oxides	%Recoveries in Cu-Ag Domain	%Recoveries in Cu-Mo Domain	%Recoveries in Mo Domain
Cu	60.0	68.0	87.0	80.0
Ag	70.0	73.0	78.0	55.0
W	35.0	35.0	35.0	35.0
Mo	80.0	85.0	92.0	95.0

The equations to calculate GRV for each Domain were as follows:

$$\text{GRV (oxides)} = (\text{Cu}\% * 18.0) + (\text{Ag(g/t)} * 0.25) + (\text{W}\% * 0.01) + (\text{MoS}_2 * 215.81)$$

$$\text{GRV (Cu-Ag)} = (\text{Cu}\% * 20.4) + (\text{Ag(g/t)} * 0.26) + (\text{W}\% * 0.01) + (\text{MoS}_2 * 229.30)$$

$$\text{GRV (Cu-Mo)} = (\text{Cu}\% * 26.1) + (\text{Ag(g/t)} * 0.27) + (\text{W}\% * 0.01) + (\text{MoS}_2 * 248.19)$$

$$\text{GRV (Mo)} = (\text{Cu}\% * 24.0) + (\text{Ag(g/t)} * 0.19) + (\text{W}\% * 0.01) + (\text{MoS}_2 * 256.28)$$

For Blocks overlapping the domain boundaries a weighted average GRV was produced. At this stage of the project no economics have been completed so an economic cutoff is unknown. A value in non oxide material of \$7.50 US has been highlighted as a possible open pit cutoff.

The Cumo Resources is reported first for the oxide portion of the deposit in Tables 15 and 16.

<b>Table 15: CUMO OXIDE DOMAIN - INDICATED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	129,400,000	0.034	0.103	2.83	37.6	10.30	52.7	79.1	266.6	10.67	9.73
6.00	104,400,000	0.039	0.108	2.90	39.9	11.47	48.8	73.2	225.5	8.84	8.33
7.00	87,800,000	0.043	0.111	2.92	42.3	12.41	45.3	67.9	194.9	7.48	7.43
7.50	81,900,000	0.045	0.111	2.92	43.0	12.79	44.2	66.3	181.8	6.98	7.04
8.00	77,400,000	0.046	0.111	2.92	43.4	13.08	42.7	64.0	171.8	6.59	6.72
9.00	65,600,000	0.050	0.111	2.93	45.0	13.90	39.3	59.0	145.6	5.60	5.90
10.00	57,400,000	0.053	0.112	2.93	46.2	14.54	36.5	54.7	128.6	4.90	5.30
12.00	38,900,000	0.060	0.119	2.98	49.4	16.23	28.0	42.0	92.6	3.38	3.84
12.50	34,300,000	0.062	0.122	3.03	50.0	16.77	25.5	38.2	83.7	3.03	3.43
13.00	30,700,000	0.064	0.124	3.05	50.8	17.24	23.6	35.3	76.1	2.73	3.12
14.00	25,600,000	0.067	0.125	3.03	52.0	17.99	20.6	30.8	64.0	2.26	2.66
15.00	20,700,000	0.071	0.124	2.96	53.8	18.82	17.6	26.4	51.3	1.79	2.23
17.00	14,100,000	0.077	0.123	2.93	55.7	20.15	13.0	19.5	34.7	1.20	1.57
19.00	7,785,000	0.085	0.125	3.10	59.1	21.93	7.9	11.9	19.5	0.70	0.92
20.00	5,534,000	0.089	0.125	3.11	59.5	22.92	5.9	8.9	13.8	0.50	0.66
25.00	1,029,000	0.110	0.130	3.15	60.0	27.42	1.4	2.0	2.7	0.09	0.12

<b>Table 16: CUMO OXIDE DOMAIN - INFERRED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	216,500,000	0.019	0.107	2.78	31.4	6.96	49.3	74.0	463.3	17.55	13.60
6.00	134,900,000	0.022	0.119	2.99	31.5	7.86	35.6	53.4	321.1	11.76	8.50
7.00	76,800,000	0.026	0.126	3.15	32.5	8.94	23.9	35.9	193.5	7.05	4.99
7.50	58,800,000	0.028	0.129	3.22	33.0	9.46	19.7	29.6	151.7	5.53	3.88
8.00	46,100,000	0.030	0.131	3.28	33.6	9.94	16.6	24.9	120.8	4.41	3.10
9.00	29,500,000	0.033	0.131	3.31	34.3	10.76	11.7	17.5	77.3	2.85	2.02
10.00	16,500,000	0.038	0.132	3.32	35.3	11.78	7.5	11.3	43.6	1.60	1.16
12.00	5,000,000	0.049	0.125	2.90	38.3	13.96	2.9	4.4	12.5	0.42	0.38
12.50	3,700,000	0.053	0.121	2.73	39.5	14.62	2.4	3.5	9.0	0.29	0.29
13.00	3,000,000	0.055	0.121	2.68	40.1	15.02	2.0	3.0	7.3	0.23	0.24
14.00	2,000,000	0.058	0.119	2.64	41.7	15.77	1.4	2.1	4.8	0.15	0.17
15.00	1,200,000	0.063	0.115	2.52	44.8	16.70	0.9	1.4	2.8	0.09	0.11
17.00	300,000	0.072	0.108	2.40	48.2	18.45	0.3	0.4	0.6	0.02	0.03
19.00	100,000	0.080	0.106	2.48	52.0	20.28	0.1	0.1	0.2	0.01	0.01
20.00	100,000	0.082	0.114	2.33	52.6	20.94	0.1	0.1	0.2	0.01	0.01

The non oxide portion of the deposit is reported in Tables 17 and 18.

<b>Table 17: CUMO NON OXIDE DOMAINS - INDICATED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	1,244,800,000	0.078	0.074	2.21	45.7	22.41	1,164.1	1,746.2	1,842.3	80.09	55.79
6.00	1,226,700,000	0.079	0.074	2.20	46.0	22.66	1,161.9	1,742.9	1,815.5	78.86	55.59
7.00	1,177,000,000	0.081	0.074	2.20	46.1	23.34	1,143.1	1,714.6	1,742.0	75.66	54.94
<b>7.50</b>	<b>1,158,500,000</b>	<b>0.082</b>	<b>0.074</b>	<b>2.20</b>	<b>46.0</b>	<b>23.60</b>	<b>1,139.0</b>	<b>1,708.5</b>	<b>1,714.6</b>	<b>74.37</b>	<b>54.68</b>
8.00	1,144,500,000	0.083	0.073	2.20	46.1	23.79	1,138.9	1,708.4	1,671.0	73.27	54.46
9.00	1,121,800,000	0.084	0.073	2.19	46.3	24.10	1,129.8	1,694.7	1,637.8	71.52	54.07
10.00	1,096,800,000	0.086	0.073	2.18	46.6	24.44	1,130.9	1,696.4	1,601.3	69.67	53.61
12.00	1,027,600,000	0.089	0.072	2.15	47.2	25.34	1,096.5	1,644.8	1,479.7	64.44	52.08
12.50	1,007,100,000	0.090	0.071	2.14	47.3	25.60	1,086.7	1,630.1	1,430.1	62.89	51.56
13.00	985,600,000	0.091	0.071	2.13	47.4	25.88	1,075.4	1,613.0	1,399.6	61.20	51.01
14.00	943,500,000	0.094	0.070	2.10	47.6	26.44	1,063.4	1,595.0	1,320.9	57.90	49.89
15.00	900,300,000	0.096	0.069	2.08	47.7	27.01	1,036.3	1,554.4	1,242.4	54.67	48.63
17.00	813,700,000	0.101	0.067	2.04	47.8	28.18	985.4	1,478.0	1,090.4	48.37	45.86
19.00	708,400,000	0.107	0.065	1.99	47.9	29.69	908.8	1,363.2	920.9	41.01	42.06
20.00	657,900,000	0.110	0.064	1.95	47.9	30.48	867.7	1,301.5	842.1	37.48	40.11
25.00	459,900,000	0.124	0.060	1.85	48.9	33.94	683.7	1,025.6	551.9	24.83	31.22

<b>Table 18: CUMO NON OXIDE DOMAINS - INFERRED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	2,029,400,000	0.060	0.071	2.13	35.8	17.52	1,459.9	2,189.9	2,881.7	126.26	71.11
6.00	1,909,900,000	0.063	0.072	2.14	35.8	18.27	1,442.6	2,164.0	2,750.3	118.93	69.79
7.00	1,704,000,000	0.068	0.071	2.12	35.4	19.69	1,389.3	2,083.9	2,419.7	105.37	67.10
<b>7.50</b>	<b>1,614,300,000</b>	<b>0.071</b>	<b>0.070</b>	<b>2.11</b>	<b>35.3</b>	<b>20.38</b>	<b>1,374.2</b>	<b>2,061.3</b>	<b>2,260.0</b>	<b>99.16</b>	<b>65.80</b>
8.00	1,547,900,000	0.073	0.069	2.09	35.6	20.92	1,354.8	2,032.2	2,136.1	94.18	64.76
9.00	1,461,600,000	0.076	0.065	2.05	36.0	21.66	1,331.8	1,997.8	1,900.1	87.35	63.32
10.00	1,389,300,000	0.079	0.063	2.03	36.4	22.29	1,315.9	1,973.9	1,750.5	82.14	61.93
12.00	1,311,800,000	0.081	0.061	2.00	36.5	22.96	1,274.0	1,911.0	1,600.4	76.52	60.24
12.50	1,291,500,000	0.082	0.061	2.00	36.5	23.13	1,269.7	1,904.6	1,575.6	75.23	59.74
13.00	1,272,300,000	0.083	0.061	1.99	36.5	23.29	1,266.1	1,899.2	1,552.2	73.92	59.26
14.00	1,227,700,000	0.084	0.061	1.98	36.5	23.64	1,236.5	1,854.7	1,497.8	70.86	58.05
15.00	1,175,600,000	0.086	0.060	1.96	36.5	24.05	1,212.2	1,818.3	1,410.7	67.14	56.55
17.00	1,056,300,000	0.089	0.059	1.94	36.2	24.95	1,127.2	1,690.7	1,246.4	59.80	52.71
19.00	887,500,000	0.095	0.060	1.98	36.2	26.27	1,010.9	1,516.3	1,065.0	51.20	46.63
20.00	822,300,000	0.097	0.060	1.99	36.1	26.80	956.3	1,434.5	986.8	47.80	44.08
25.00	490,800,000	0.108	0.062	2.06	36.1	29.74	635.5	953.3	608.6	29.52	29.19

The Non Oxide Resource can also be broken down into individual Domains.

<b>Table 19: CUMO CU-AG DOMAIN - NON OXIDE INDICATED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	66,300,000	0.023	0.110	3.04	28.9	8.62	18.3	27.4	145.9	5.87	1.14
6.00	55,600,000	0.025	0.114	3.11	29.8	9.22	16.7	25.0	126.8	5.04	1.03
7.00	43,100,000	0.027	0.116	3.25	30.0	10.00	14.0	20.9	100.0	4.09	0.86
<b>7.50</b>	<b>36,900,000</b>	<b>0.029</b>	<b>0.117</b>	<b>3.31</b>	<b>30.0</b>	<b>10.46</b>	<b>12.8</b>	<b>19.2</b>	<b>86.3</b>	<b>3.56</b>	<b>0.77</b>
8.00	30,300,000	0.031	0.118	3.34	29.8	11.06	11.3	16.9	71.5	2.95	0.67
9.00	20,300,000	0.036	0.119	3.48	29.7	12.33	8.8	13.1	48.3	2.06	0.50
10.00	14,000,000	0.041	0.122	3.72	30.8	13.62	6.9	10.3	34.2	1.52	0.38
12.00	6,700,000	0.052	0.129	4.06	34.7	16.75	4.2	6.3	17.3	0.79	0.22
12.50	5,800,000	0.055	0.130	4.13	35.4	17.49	3.8	5.7	15.1	0.70	0.20
13.00	5,000,000	0.058	0.129	4.08	35.8	18.16	3.5	5.2	12.9	0.59	0.18
14.00	4,000,000	0.063	0.128	3.94	36.5	19.39	3.0	4.5	10.2	0.46	0.16
15.00	3,200,000	0.068	0.128	3.88	36.9	20.63	2.6	3.9	8.2	0.36	0.13
17.00	2,100,000	0.078	0.123	3.75	36.8	22.98	2.0	2.9	5.2	0.23	0.10
19.00	1,400,000	0.089	0.116	3.58	36.3	25.45	1.5	2.2	3.2	0.15	0.07
20.00	1,200,000	0.095	0.113	3.56	36.0	26.63	1.4	2.1	2.7	0.12	0.06
25.00	700,000	0.110	0.100	3.28	33.4	29.81	0.9	1.4	1.4	0.07	0.04

<b>Table 20: CUMO CU-AG DOMAIN - NON OXIDE INFERRED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	569,700,000	0.021	0.097	2.56	30.5	7.70	143.4	215.2	1,105.2	42.57	8.77
6.00	459,600,000	0.022	0.104	2.67	29.5	8.22	121.2	181.8	956.0	35.75	7.56
7.00	306,000,000	0.025	0.115	2.83	27.6	9.08	91.7	137.6	703.8	25.21	5.56
<b>7.50</b>	<b>234,400,000</b>	<b>0.027</b>	<b>0.121</b>	<b>2.94</b>	<b>26.7</b>	<b>9.65</b>	<b>75.9</b>	<b>113.8</b>	<b>567.2</b>	<b>20.13</b>	<b>4.52</b>
8.00	174,700,000	0.029	0.126	3.05	26.2	10.30	60.7	91.1	440.2	15.52	3.60
9.00	100,600,000	0.035	0.124	3.18	26.3	11.67	42.2	63.3	249.5	9.32	2.35
10.00	50,000,000	0.043	0.129	3.54	27.4	13.83	25.8	38.7	129.0	5.16	1.38
12.00	19,700,000	0.063	0.120	3.66	28.9	18.70	14.9	22.3	47.3	2.10	0.74
12.50	17,100,000	0.068	0.117	3.61	29.3	19.70	13.9	20.9	40.0	1.80	0.67
13.00	15,000,000	0.072	0.114	3.55	29.5	20.66	12.9	19.4	34.2	1.55	0.62
14.00	11,300,000	0.083	0.103	3.22	30.3	23.03	11.2	16.9	23.3	1.06	0.52
15.00	10,200,000	0.087	0.102	3.24	30.2	23.94	10.6	16.0	20.8	0.96	0.49
17.00	8,500,000	0.094	0.103	3.33	29.9	25.62	9.6	14.4	17.5	0.82	0.44
19.00	7,100,000	0.100	0.106	3.41	29.6	27.15	8.5	12.8	15.1	0.71	0.39
20.00	6,300,000	0.104	0.108	3.46	29.6	28.04	7.9	11.8	13.6	0.64	0.35
25.00	4,300,000	0.115	0.114	3.59	29.1	30.78	5.9	8.9	9.8	0.45	0.26

<b>Table 21: CUMO CU-MO DOMAIN - NON OXIDE INDICATED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	526,800,000	0.056	0.106	2.97	46.9	17.77	353.7	530.6	1,116.8	45.67	18.72
6.00	520,900,000	0.056	0.106	2.98	47.0	17.91	349.7	524.6	1,104.3	45.32	18.66
7.00	486,900,000	0.059	0.109	3.04	46.9	18.70	344.4	516.6	1,061.4	43.21	18.21
<b>7.50</b>	<b>476,300,000</b>	<b>0.060</b>	<b>0.110</b>	<b>3.06</b>	<b>46.6</b>	<b>18.96</b>	<b>342.6</b>	<b>514.0</b>	<b>1,047.9</b>	<b>42.52</b>	<b>18.06</b>
8.00	470,700,000	0.060	0.110	3.07	46.6	19.09	338.6	507.9	1,035.5	42.11	17.97
9.00	461,100,000	0.061	0.111	3.08	46.7	19.31	337.2	505.9	1,023.6	41.38	17.81
10.00	446,200,000	0.062	0.111	3.09	47.1	19.64	331.7	497.5	990.6	40.23	17.53
12.00	398,300,000	0.066	0.113	3.13	48.3	20.67	315.2	472.8	900.2	36.32	16.47
12.50	384,500,000	0.067	0.114	3.13	48.6	20.97	308.9	463.3	876.7	35.14	16.13
13.00	369,100,000	0.069	0.114	3.14	48.9	21.32	305.4	458.0	841.5	33.79	15.74
14.00	339,100,000	0.071	0.115	3.15	49.3	22.01	288.7	433.0	779.9	31.12	14.93
15.00	310,500,000	0.074	0.116	3.15	49.7	22.70	275.5	413.2	720.4	28.51	14.10
17.00	257,000,000	0.079	0.117	3.16	50.4	24.09	243.4	365.1	601.4	23.68	12.38
19.00	197,900,000	0.087	0.117	3.18	50.9	25.92	206.4	309.6	463.1	18.38	10.26
20.00	170,500,000	0.091	0.118	3.20	51.1	26.95	186.0	279.0	402.4	15.89	9.19
25.00	95,700,000	0.106	0.118	3.22	51.8	30.67	121.6	182.4	225.9	8.99	5.87

<b>Table 22: CUMO CU-MO DOMAIN - NON OXIDE INFERRED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	585,400,000	0.065	0.103	2.87	40.0	19.94	456.2	684.3	1,205.9	49.04	23.35
6.00	578,200,000	0.066	0.103	2.88	39.8	20.11	457.5	686.3	1,191.1	48.62	23.26
7.00	531,300,000	0.070	0.106	2.95	38.3	21.31	445.9	668.9	1,126.4	45.78	22.64
<b>7.50</b>	<b>516,900,000</b>	<b>0.072</b>	<b>0.107</b>	<b>2.98</b>	<b>37.6</b>	<b>21.71</b>	<b>446.2</b>	<b>669.3</b>	<b>1,106.2</b>	<b>44.88</b>	<b>22.44</b>
8.00	513,500,000	0.072	0.107	2.98	37.4	21.80	443.3	664.9	1,098.9	44.66	22.39
9.00	507,800,000	0.073	0.107	2.99	37.3	21.95	444.5	666.7	1,086.7	44.31	22.29
10.00	499,800,000	0.073	0.107	3.00	37.2	22.15	437.4	656.2	1,069.6	43.78	22.14
12.00	480,300,000	0.075	0.107	3.04	37.1	22.60	431.9	647.8	1,027.8	42.53	21.71
12.50	473,300,000	0.076	0.107	3.04	37.1	22.75	431.3	646.9	1,012.9	41.98	21.54
13.00	465,500,000	0.077	0.107	3.04	37.1	22.92	429.8	644.6	996.2	41.29	21.34
14.00	445,300,000	0.078	0.107	3.04	37.2	23.34	416.4	624.7	952.9	39.48	20.79
15.00	415,300,000	0.081	0.108	3.03	37.5	23.99	403.3	605.0	897.0	36.64	19.93
17.00	360,100,000	0.085	0.108	3.04	37.1	25.19	367.0	550.5	777.8	31.90	18.14
19.00	303,700,000	0.091	0.110	3.08	36.7	26.52	331.4	497.0	668.1	27.30	16.11
20.00	284,900,000	0.092	0.110	3.10	36.5	26.98	314.3	471.4	626.8	25.74	15.37
25.00	180,600,000	0.103	0.110	3.14	36.3	29.54	223.0	334.5	397.3	16.55	10.67

<b>Table 23: CUMO MO DOMAIN - NON OXIDE INDICATED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	644,000,000	0.102	0.044	1.50	46.6	27.75	787.6	1,181.4	566.7	28.16	35.74
6.00	643,500,000	0.102	0.044	1.50	46.7	27.77	787.0	1,180.5	566.3	28.13	35.74
7.00	640,900,000	0.102	0.044	1.50	46.6	27.85	783.8	1,175.7	564.0	28.02	35.70
<b>7.50</b>	<b>639,500,000</b>	<b>0.102</b>	<b>0.044</b>	<b>1.50</b>	<b>46.6</b>	<b>27.89</b>	<b>782.1</b>	<b>1,173.1</b>	<b>562.8</b>	<b>27.96</b>	<b>35.67</b>
8.00	638,000,000	0.102	0.044	1.50	46.6	27.94	780.2	1,170.4	561.4	27.91	35.65
9.00	635,500,000	0.103	0.044	1.50	46.6	28.02	784.8	1,177.2	559.2	27.80	35.61
10.00	632,200,000	0.103	0.044	1.50	46.6	28.12	780.7	1,171.1	556.3	27.70	35.55
12.00	619,400,000	0.104	0.044	1.50	46.7	28.47	772.3	1,158.5	545.1	27.14	35.27
12.50	613,800,000	0.105	0.044	1.50	46.6	28.61	772.7	1,159.1	540.1	26.89	35.12
13.00	608,700,000	0.105	0.044	1.50	46.6	28.75	766.3	1,149.5	535.7	26.67	35.00
14.00	597,900,000	0.106	0.044	1.50	46.7	29.02	759.9	1,139.8	526.2	26.19	34.70
15.00	584,600,000	0.108	0.044	1.51	46.7	29.35	757.0	1,135.5	514.4	25.70	34.32
17.00	553,000,000	0.111	0.044	1.51	46.7	30.11	736.0	1,103.9	486.6	24.37	33.30
19.00	507,800,000	0.115	0.045	1.52	46.8	31.19	700.2	1,050.2	457.0	22.44	31.68
20.00	485,200,000	0.117	0.045	1.51	46.8	31.74	680.6	1,021.0	436.7	21.41	30.80
25.00	362,900,000	0.129	0.045	1.49	48.2	34.82	561.3	841.9	326.6	15.74	25.27

<b>Table 24: CUMO MO DOMAIN - NON OXIDE INFERRED RESOURCE</b>											
<b>Cutoff</b>	<b>Tons &gt; Cutoff</b>	<b>Grade &gt; Cutoff</b>					<b>Contained Metal</b>				
<b>GRV \$US</b>	<b>(tons)</b>	<b>MoS2</b>	<b>Cu</b>	<b>Ag</b>	<b>W</b>	<b>GRV</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>	<b>Million</b>
		<b>(%)</b>	<b>(%)</b>	<b>(g/t)</b>	<b>(ppm)</b>	<b>US\$</b>	<b>lbs. Mo</b>	<b>lbs MoO3</b>	<b>lbs Cu</b>	<b>oz Ag</b>	<b>lbs W</b>
5.00	867,100,000	0.082	0.034	1.36	36.5	22.38	852.5	1,278.7	589.6	34.34	38.81
6.00	865,700,000	0.082	0.034	1.36	36.5	22.41	851.1	1,276.7	588.7	34.31	38.80
7.00	861,100,000	0.082	0.034	1.36	36.5	22.49	846.6	1,269.9	585.5	34.11	38.73
<b>7.50</b>	<b>857,800,000</b>	<b>0.083</b>	<b>0.034</b>	<b>1.36</b>	<b>36.4</b>	<b>22.55</b>	<b>853.6</b>	<b>1,280.5</b>	<b>583.3</b>	<b>33.93</b>	<b>38.69</b>
8.00	854,800,000	0.083	0.034	1.36	36.4	22.60	850.6	1,276.0	581.3	33.81	38.64
9.00	848,700,000	0.083	0.034	1.36	36.4	22.70	844.6	1,266.9	577.1	33.54	38.53
10.00	835,500,000	0.084	0.034	1.36	36.4	22.91	841.5	1,262.2	568.1	33.02	38.28
12.00	808,600,000	0.086	0.033	1.35	36.3	23.31	833.8	1,250.6	533.7	31.77	37.70
12.50	798,200,000	0.086	0.033	1.35	36.3	23.45	823.0	1,234.6	526.8	31.34	37.44
13.00	789,100,000	0.087	0.033	1.35	36.3	23.57	823.1	1,234.7	520.8	30.96	37.20
14.00	768,700,000	0.088	0.033	1.35	36.2	23.84	811.0	1,216.6	507.3	30.22	36.65
15.00	748,100,000	0.089	0.033	1.35	36.1	24.10	798.3	1,197.4	493.7	29.43	36.06
17.00	686,300,000	0.092	0.033	1.35	35.9	24.82	757.0	1,135.5	453.0	27.02	34.07
19.00	575,600,000	0.097	0.033	1.38	36.1	26.13	669.4	1,004.1	379.9	23.17	30.08
20.00	530,200,000	0.099	0.033	1.38	35.9	26.70	629.3	944.0	349.9	21.39	28.31
25.00	305,500,000	0.111	0.033	1.40	36.1	29.85	406.6	609.9	201.6	12.50	18.24

## **17.0 OTHER RELEVANT DATA AND INFORMATION**

The authors know of no other relevant data or information at this time.

## **18.0 INTERPRETATION AND CONCLUSIONS**

This resource represents an update of the estimate completed after the 2007 drill program (Holmgren and Giroux 2008) utilizing the additional 11 diamond drill holes totaling 26,770 ft. For this estimate variography was conducted after the major post mineral fault blocks were rotated back into their pre fault positions based on marker horizons. This allowed for comparing data on either side of major faults and resulted in more realistic ranges and anisotropic directions. The additional data and the longer semivariogram ranges have allowed for a significant portion of this resource to be classified as Indicated.

## **19.0 RECOMMENDATIONS**

The following recommendations are based on the review of the work done to date.

### **19.1 Drilling**

Exploration work consisting mainly of drilling is required to reach feasibility. It is estimated that a total of 45 additional holes for 125,600 feet plus an additional 5 geotechnical holes for 12,000 feet making a total of 137,600 feet of drilling will be required. This drilling is broken into the following categories.

- In-fill drilling,
- delineation drilling,
- orientated geotechnical drilling- requires orientated core recovery system,
- drilling for metallurgical sample – large diameter hole (PQ size) recommended, and
- condemnation drilling waste dump, mill and tailings site.

The shortest time to complete this work will be two seasons using 7 drill rigs each season.

## **19.2 Engineering**

### **19.21 Preliminary Economic Assessment / Scoping Study**

Assessment of scenarios for different throughput and metal prices, option for building a Mo roaster, additional values realized from Re in MoS<sub>2</sub> concentrate and sulphuric acid produced from roaster.

Results will be series of tables and graphs showing Net Present Value, Internal Rate of Return, Capital Costs and sensitivity to price and grade.

Recommendations for the optimum mine/mill size to be developed in the future feasibility study.

### **19.22 Site Selection and Preliminary Mine Design**

Several sites need to be examined and selected in order to prepare an environmental study plan. These include mill, tailings and waste impoundment sites, potential low-impact Hydro sites, housing and social structure sites, and finally mine and road access sites. Each selection should be narrowed to 1 or 2 choices.

Once complete, a preliminary Plan of Operations can be created in order to start the environmental studies required for the feasibility study.

## **19.3 Metallurgical work**

Metallurgical aspects to be studied were highlighted in the recent preliminary metallurgical analysis, some of which require larger samples to finalize the detailed flow sheet and determine how many cleaning stages will be required. Other aspects require further testing to determine if a saleable concentrate can be produced.

Work will consist of collecting and analyzing a large 2+ tonne bulk sample to determine the optimum flow sheet for the deposit; and a variability study to analyze variations within the deposit. A total of 100 to 1500 twenty (20) kilogram samples will be used for the variability study.

## **19.4 Environmental work**

Once the mill and other sites have been identified, a Plan of Operations will need to be filed and base line environmental studies for the project started. This will lead to an Environmental Impact Statement being required to permit a mining operation.

In addition, an inter-agency governmental task force will need to be established to ensure all the various groups co-operate and communicate timely with each other.

## **19.5 Public Relations**

Initiate a community relations program to establish the company as a good corporate citizen and disseminate positive information about the potential of this project. This would include preliminary discussions with local communities to minimize future issues related to on-going exploration and development.

## **19.6 Cost Estimate**

Optimal timing for commencement of mine operations for the CUMO deposit is at the start of the next metal cycle for molybdenum. Given that the construction and permitting stages for placing CUMO into production are anticipated to take 3 to 4 years, and since a feasibility study needs to be completed prior to construction, it is therefore critical to do the work required for feasibility as soon as possible.

A budget has therefore been estimated to accomplish the goals laid out in the shortest reasonable time frame (table 22). The objective is to produce a feasibility study in two years. This would enable a mine to be developed in time to catch the next metal price cycle peak for molybdenum, anticipating a peak in 5 years.

The budget to achieve feasibility in 2 years is summarized as follows:

2009 budget	\$21,400,000
2010 budget	<u>\$25,600,000</u>
<b>Total (\$US)</b>	<b>\$47,000,000</b>

*Note: This budget does not include funds for any activity beyond feasibility other than permitting. Capital and construction costs to production would be outlined in the feasibility study.*

An alternative case has been developed for extending the recommended program over 3 years, which would enable the mine to be brought into production in about 7 years. The alternative budget is summarized as follows:

2009 budget	\$14,000,000
2010 budget	\$16,000,000
2011 budget	<u>\$18,750,000</u>
<b>Total (\$US)</b>	<b>\$48,750,000</b>

## 19.61 COST ESTIMATES

### YEAR #1 - 2009

<b>Diamond Drilling</b>			
Delineation, infill, metallurgy	38282 meters(80,000 feet)	\$100/ft	\$9,600,000
<b>Road construction</b>	8 km	\$25,000/km	\$200,000
<b>45 man camp + services etc.</b>	capital cost		\$900,000
<b>Sample Prep. / Analysis</b>	8,000	45	\$360,000
<b>Metallurgical</b>	First round of testing		\$75,000
	Batch round of testing		\$500,000
	Variability		\$400,000
<b>Environmental</b>	Environmental Assessment		\$175,000
	Ongoing baseline studies		\$100,000
	plan of operations		\$200,000
	Environmental Impact Statement		\$2,000,000
<b>Engineering</b>	Scoping sizing Study		\$50,000
	mill site, tailings site analysis		\$250,000
	Inter Agency Task Force creation		\$100,000
	pre-feasibility		\$750,000
<b>Land Aquisition</b>			\$2,000,000
	<b>Yearly Charges</b>		
<b>Mob-Demobilize</b>			\$200,000
<b>Road Maintenance\drill pad construction</b>			\$150,000
<b>Supervision and Project Management</b>	Exploration Manager	\$15,000/mth	\$75,000
	Project Geologist	\$10,000/mth	\$120,000
	Assistant Geologist(2)	\$8,000/mth	\$192,000
	Technicians (4)	\$15/hr	\$129,600
<b>Vehicles</b>	3 vehicles	\$1000/mth	\$36,000
<b>Accommodation (camp)</b>	30 men	\$40/man/day	\$360,000
<b>Travel</b>		\$2000/mth	\$24,000
<b>Project office and Warehouse</b>		\$2200/mth	\$26,400
<b>Claims Fees</b>	BLM: \$135/claim; County: \$8.50		\$49,364
<b>Consultants</b>	(Mining Metallurgical and Marketing)		\$150,000
<b>Resource Modeling</b>			\$50,000
Public Relations and Project Presentation	Liaison with county and state officials		\$100,000
Subtotal			<b>\$17,322,364</b>
Contingency			\$2,077,636
<b>Total (2009)</b>			<b>\$21,400,000</b>

**YEAR #2 - 2010**

<b>Diamond Drilling</b>			
Delineation, infill, metallurgy	13898 meters(45,600 feet)	\$100/ft	<b>\$5,472,000</b>
<b>Geotechnical</b>	3650 meters(12,000 feet)	\$120/ft	<b>\$1,440,000</b>
<b>Sample Preparation and Analysis</b>	5,700	45	<b>\$256,500</b>
<b>Metallurgical Testing</b>	Variability		<b>\$200,000</b>
<b>Environmental Studies</b>	Ongoing baseline studies		<b>\$200,000</b>
	Environmental Impact Statement		<b>\$10,500,000</b>
	Permitting		<b>\$2,000,000</b>
<b>Engineering</b>	feasibility		<b>\$1,500,000</b>
<b>Mob-Demobilize</b>			<b>\$200,000</b>
<b>Road Maintenance\pad construction</b>			<b>\$150,000</b>
<b>Supervision and Project Management</b>	Exploration Manager	\$15,000/mth	<b>\$75,000</b>
	Project Geologist	\$10,000/mth	<b>\$120,000</b>
	Assistant Geologist(2)	\$8,000/mth	<b>\$192,000</b>
	Technicians (4)	\$15/hr	<b>\$129,600</b>
<b>Vehicles</b>	3 vehicles	\$1000/mth	<b>\$36,000</b>
<b>Accommodation (camp)</b>	30 men	\$40/man/day	<b>\$360,000</b>
<b>Travel</b>		\$2000/mth	<b>\$24,000</b>
<b>Project office and Warehouse</b>		\$2200/mth	<b>\$26,400</b>
<b>Land Filing Fees</b>	BLM: \$135/claim; County: \$8.50		<b>\$49,364</b>
<b>Consultants</b>	(Mining Metallurgical and Marketing)		<b>\$150,000</b>
<b>Resource Modeling</b>			<b>\$50,000</b>
<b>Public Relations and Project Presentation</b>	Liaison with county and state officials		<b>\$100,000</b>
<b>Subtotal</b>			<b>\$23,230,864</b>
<b>Contingency</b>			<b>\$2,369,136</b>
<b>Total (2010)</b>			<b>\$25,600,000</b>

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May 1, 2009

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## 21.0 CERTIFICATES

### CERTIFICATE

I, G.H. Giroux, of 982 Broadview Drive, North Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer with an office at #1215 - 675 West Hastings Street, Vancouver, British Columbia.
- 2) I am a graduate of the University of British Columbia in 1970 with a B.A. Sc. and in 1984 with a M.A. Sc. both in Geological Engineering.
- 3) I have practiced my profession continuously since 1970. I have had over 30 years experience calculating mineral resources. I have previously completed resource estimations on a wide variety of molybdenum deposits including the Ajax, Redbird, Davidson, Sphinx and Chu Deposits.
- 4) I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Instrument 43-101.
- 6) This report titled “**Summery Report on the CUMO Project, Boise County, Idaho**” dated May 1, 2009, is based on a study of the data and literature available on the CUMO Property. I am responsible for Sections 14 and 16 on data verification and resource estimations completed in Vancouver during 2009. I have not visited the property.
- 7) I have previously completed a statistical review of this property in 2005 and a resource estimation in 2008.
- 8) As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- 9) I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
- 10) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated this day of May 1, 2009

GIROUX CONSULTANTS LTD.

Per:

G. H. Giroux, P.Eng., MASc.

## CERTIFICATE OF AUTHOR

I, Jackie A. Holmgren, Consultant, Roche Jaune Exploration, Box 01 Finger Rock Wash, Luning, Nevada, hereby certify:

1. I am a graduate of the University of Oregon (1979), Eugene, Oregon, USA, and hold a B.Sc. degree in Geology.
2. I am presently self-employed as an independent geological consultant.
3. Since becoming a geologist I have been employed in my profession by various mining companies including Anaconda Copper Co., Arco, Chevron and Stillwater Platinum/Palladium Project later known as the Stillwater Mining Company. I am presently and have been in the past a geological consultant with my own consulting company.
4. I am a member of the American Institute of Professional Geologists.
5. I certify that by reason of my education, past relevant work experience, and affiliation with professional associations, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for this report utilizing data as summarized in the References section of this report, and also information supplied by Mr. Shaun Dykes, P.Geo. and Matt Ball, Ph.D., are included in the sections titled Mineralization, Exploration, Drilling and Interpretation and Conclusions.
7. I personally visited and inspected the CUMO Property including the core shed, core/core storage, sampling room/technicians, buildings/office, and diamond drilling in progress on the site, as well as viewed and inspected maps and other information freely supplied to me on November 29, 2007 through December 01, 2007.
8. I am not aware of any material fact or material change with respect to the technical report that is not reflected in the technical report, or the omission to disclose which makes the technical report misleading.
9. I am a consultant for Mosquito Consolidated Gold Mines Ltd., and am independent of Mosquito Mining Corporation according to the test in Section 1.4 of NI 43-101.
10. I have read NI 43-101 and NI 43-101F1 and the Technical Report has been prepared in compliance with those instruments and form.
11. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication of Mosquito Consolidated Gold Mines Ltd. or its subsidiary Mosquito Mining Corp., including electronic publication in the public files on their websites accessible to the public.

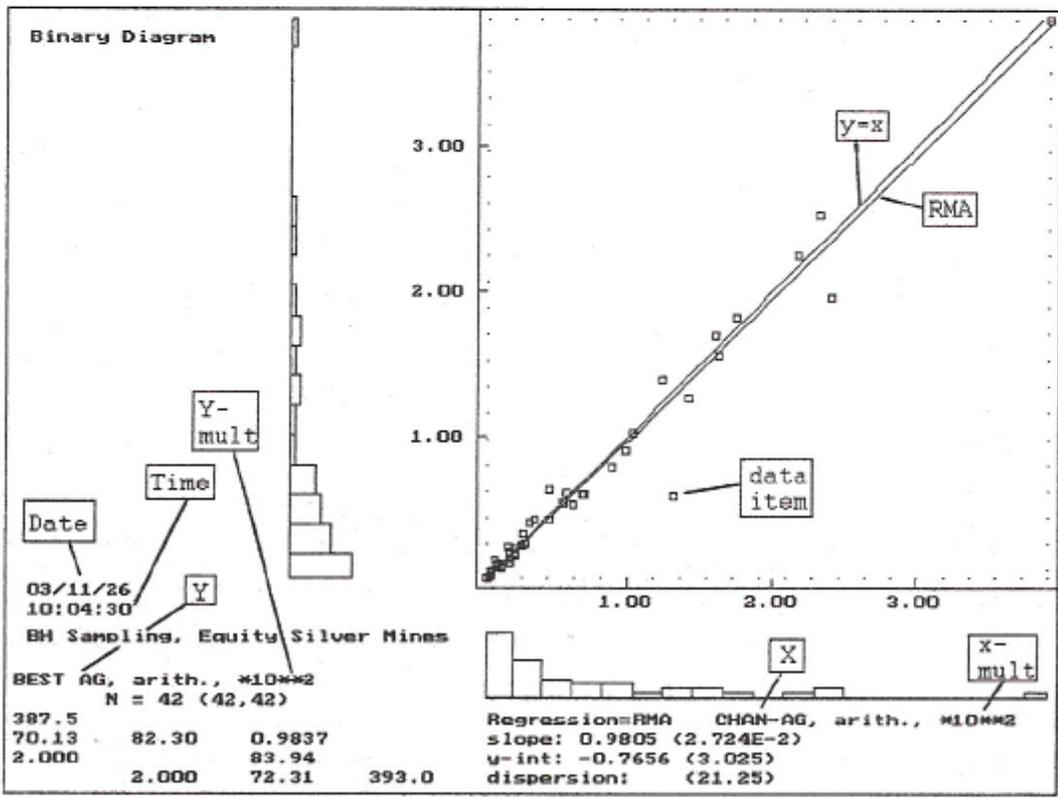
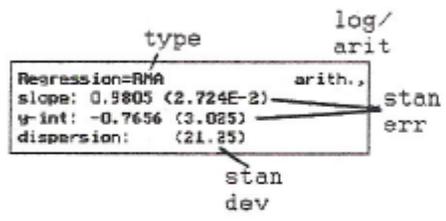
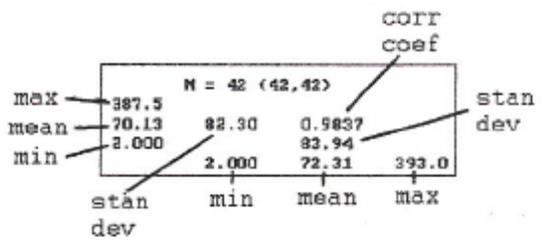


Jackie A. Holmgren, B.Sc., Geologist

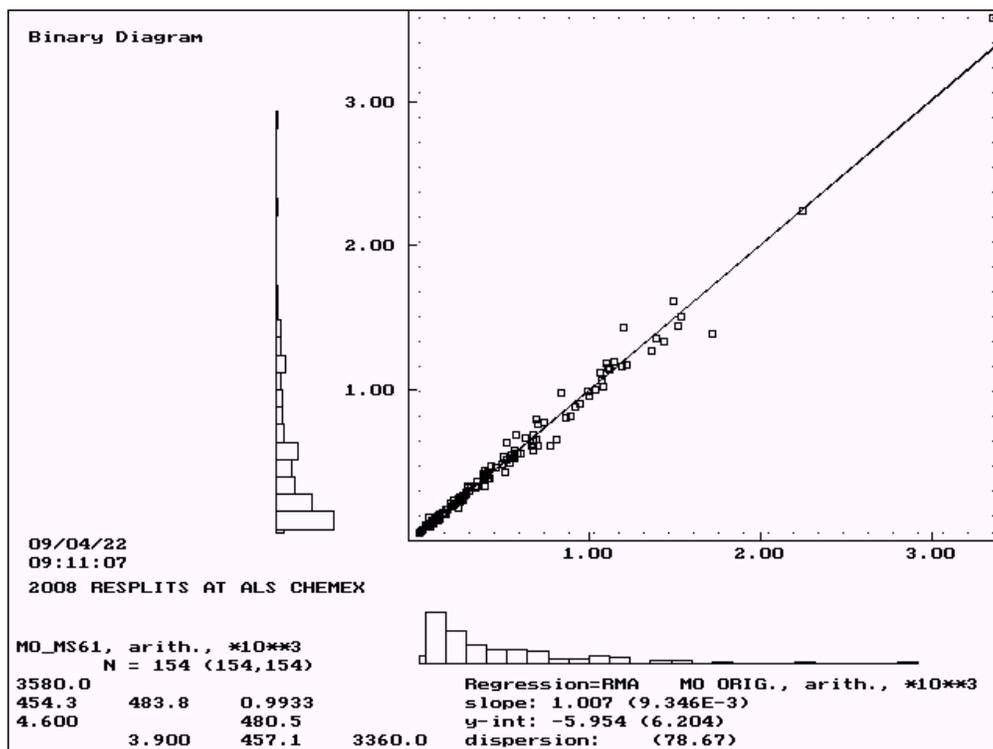
Dated: April 15, 2009

# APPENDIX 1 : RE-SPLITS OF REJECTS

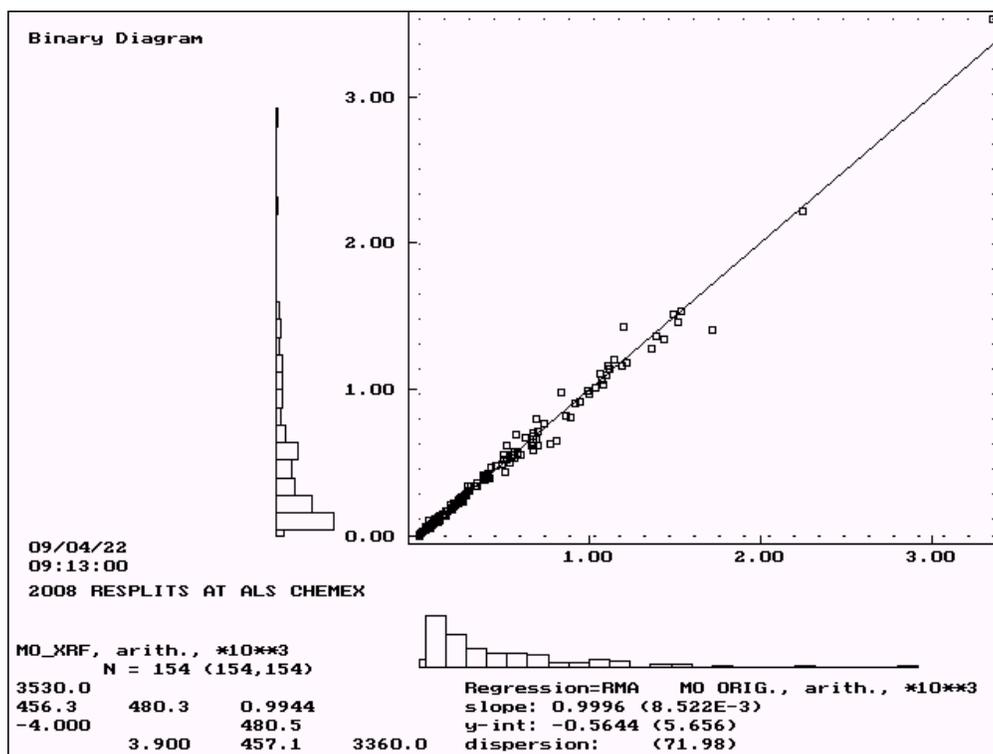
LABELLED DIAGRAMS INDICATING THE VARIOUS STATISTICS APPEARING ON DIAGRAMS THROUGHOUT TEXT.



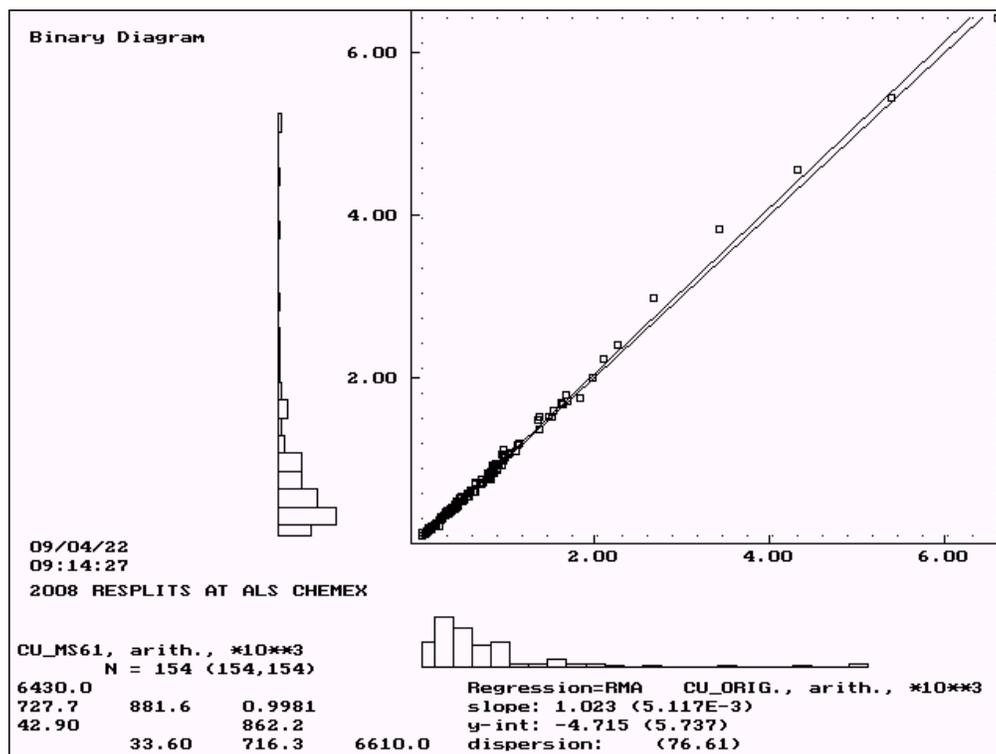
## Results for Mo - Chemex - Original vs. ICP Check



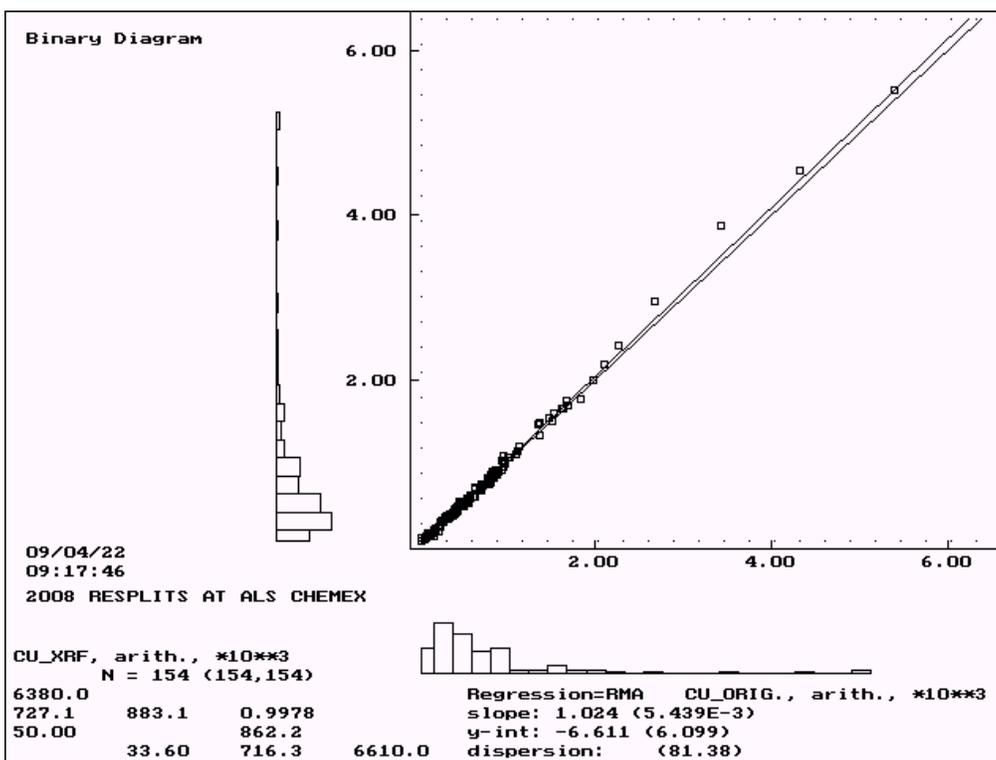
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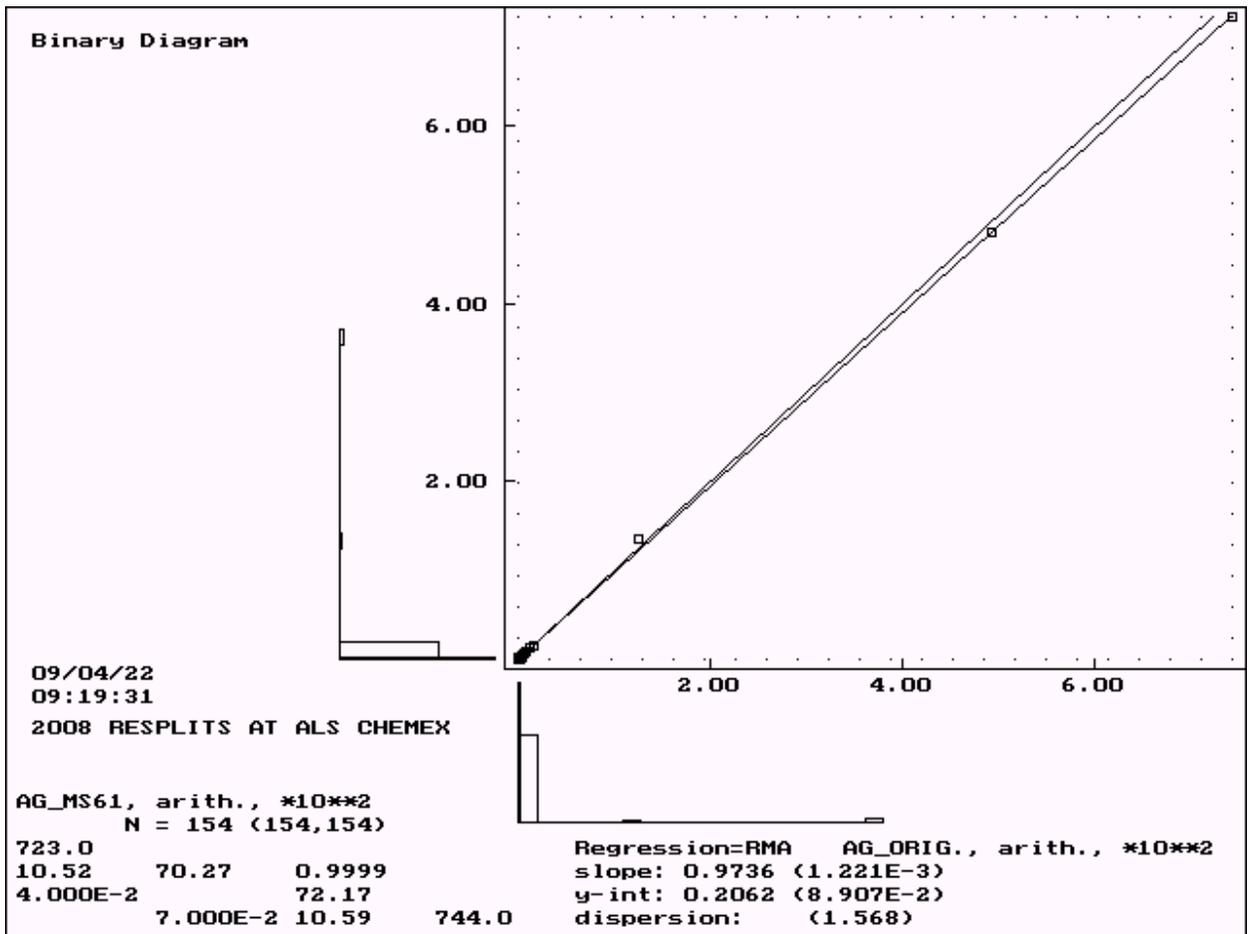
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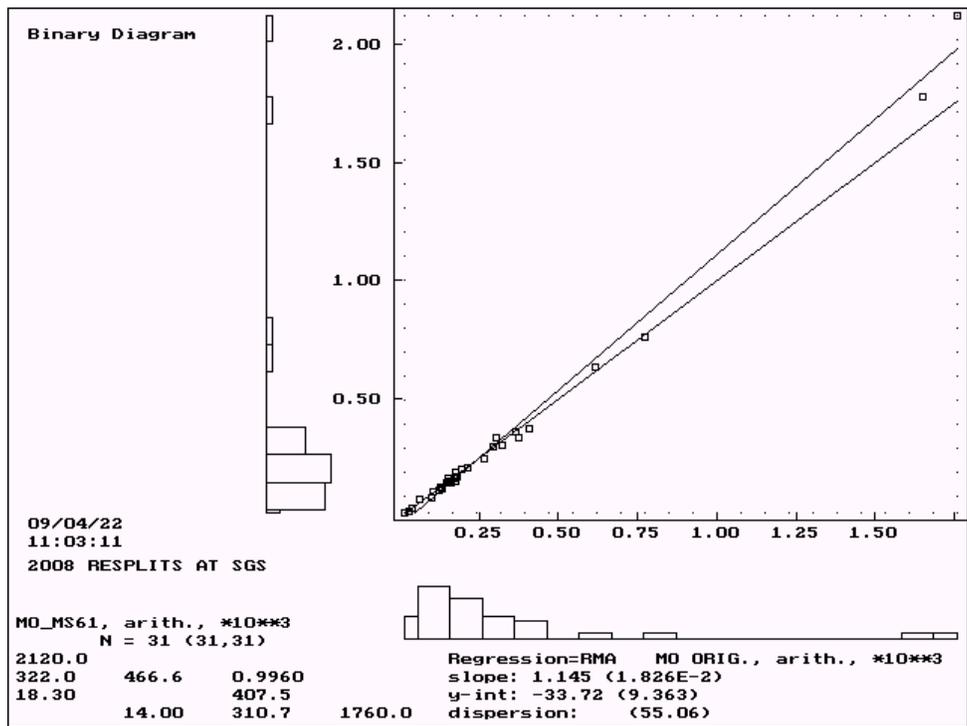
## Results for Cu – Chemex – Original vs. XRF Check



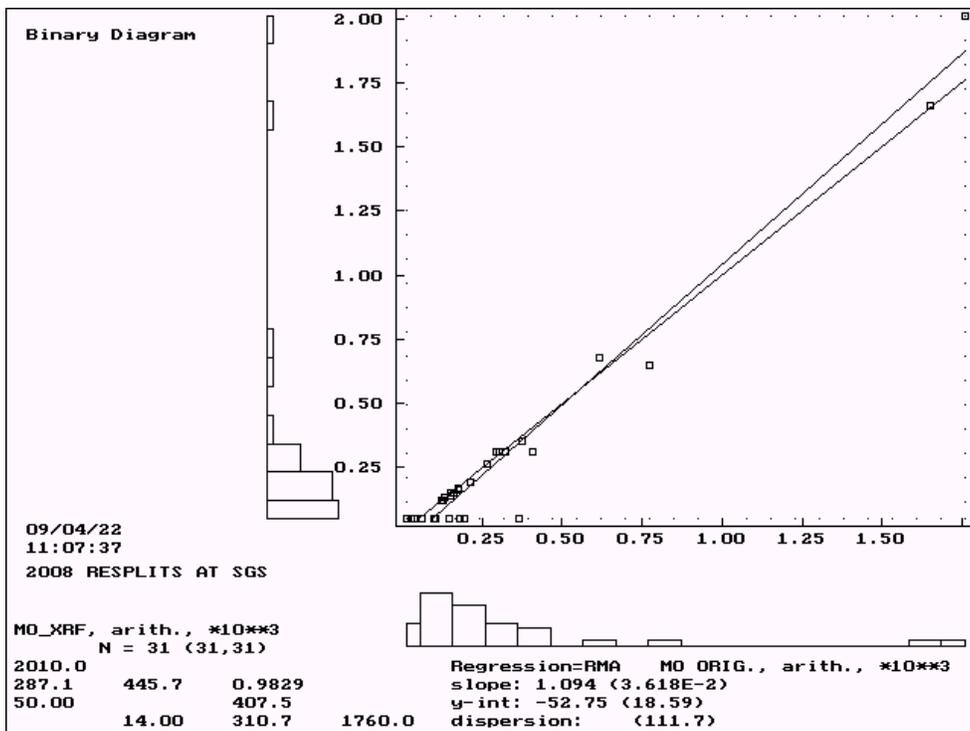
Results for Ag – Chemex Original vs. ICP Check



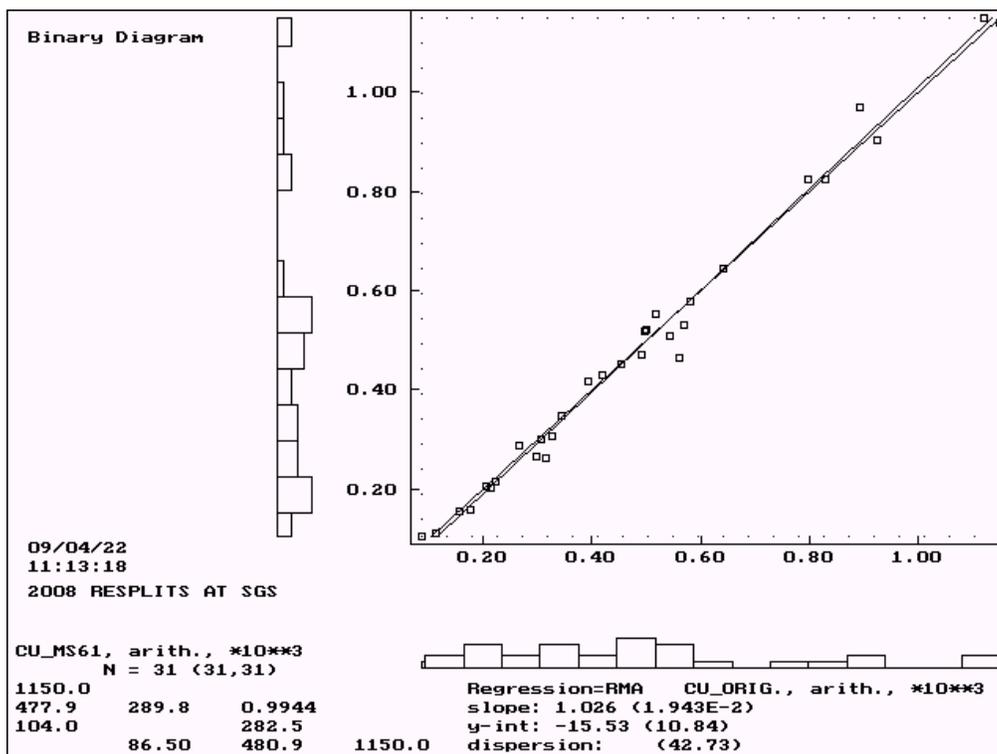
Results for Mo – SGS Original vs. SGS ICP check



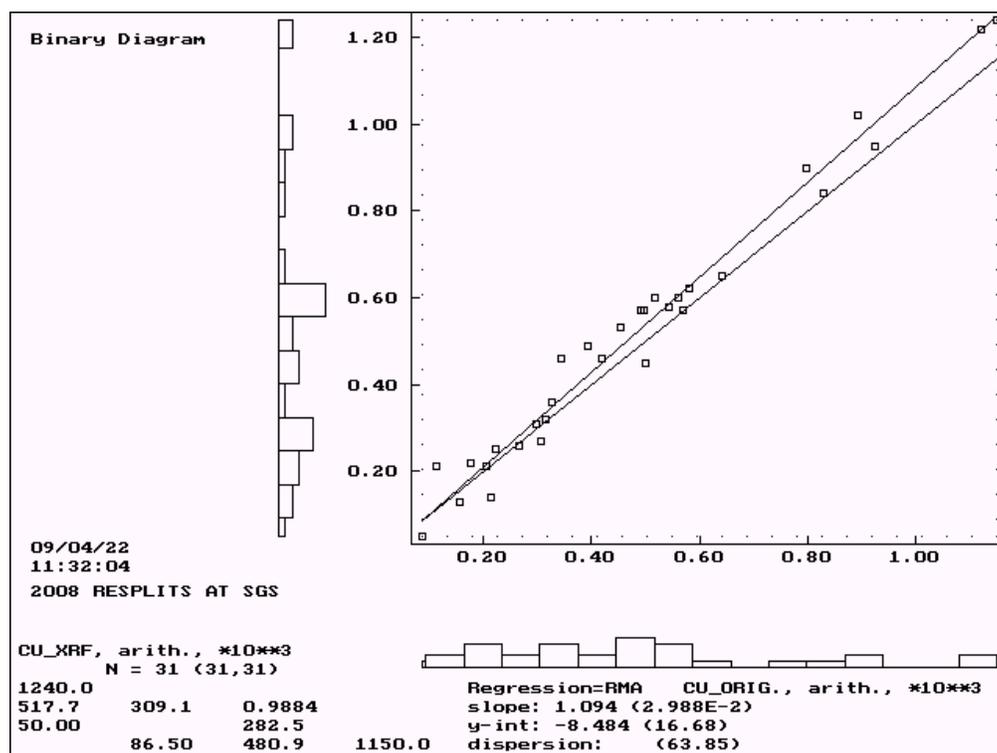
Results for Mo – SGS Original vs SGS XRF Check



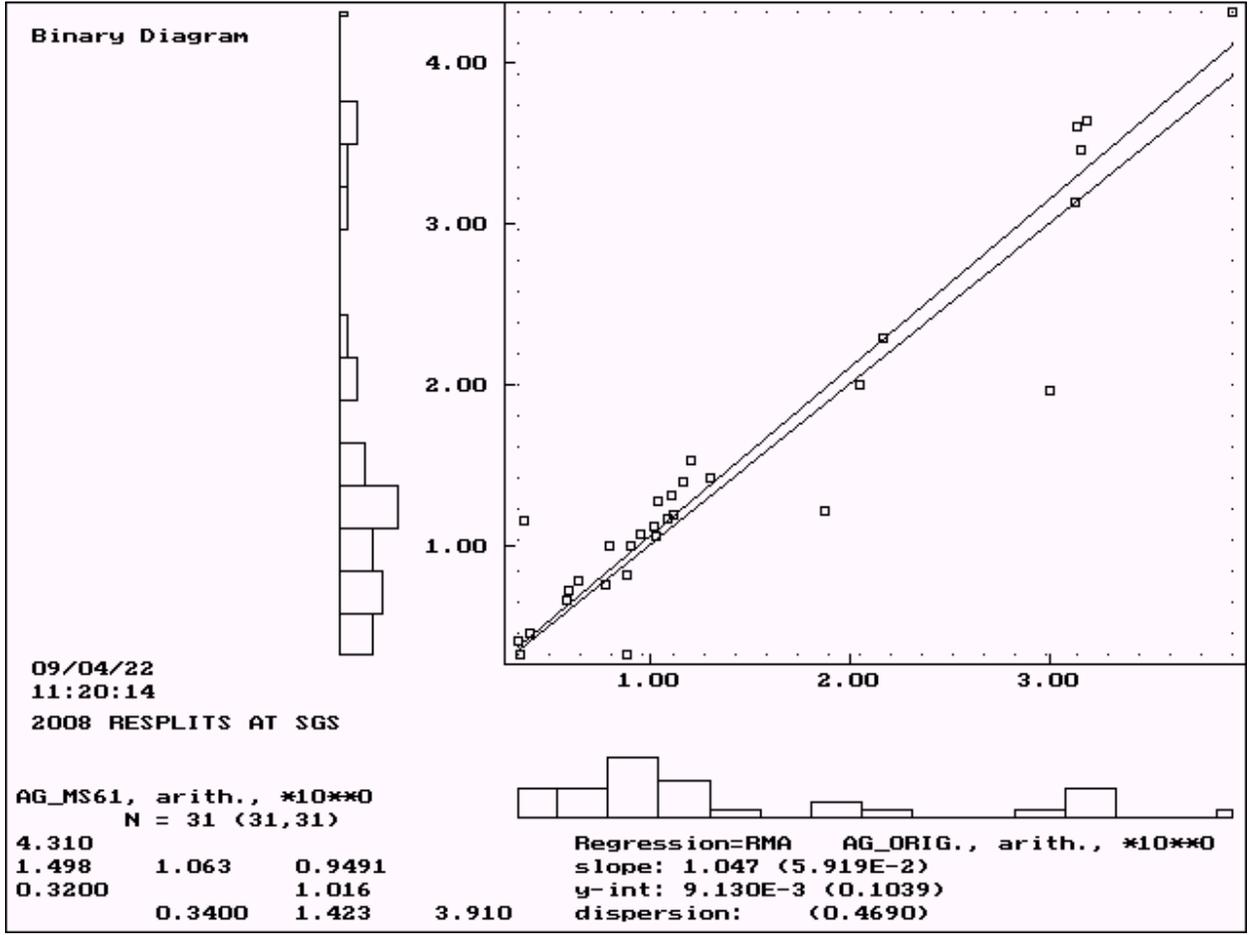
Results for Cu – SGS Original vs. SGS ICP Check



Results for Cu – SGS Original vs. SGS XRF



Results for Ag – SGS Original vs. SGS ICP Check



## APPENDIX 2 : DRILL HOLES USED IN RESOURCE ESTIMATE

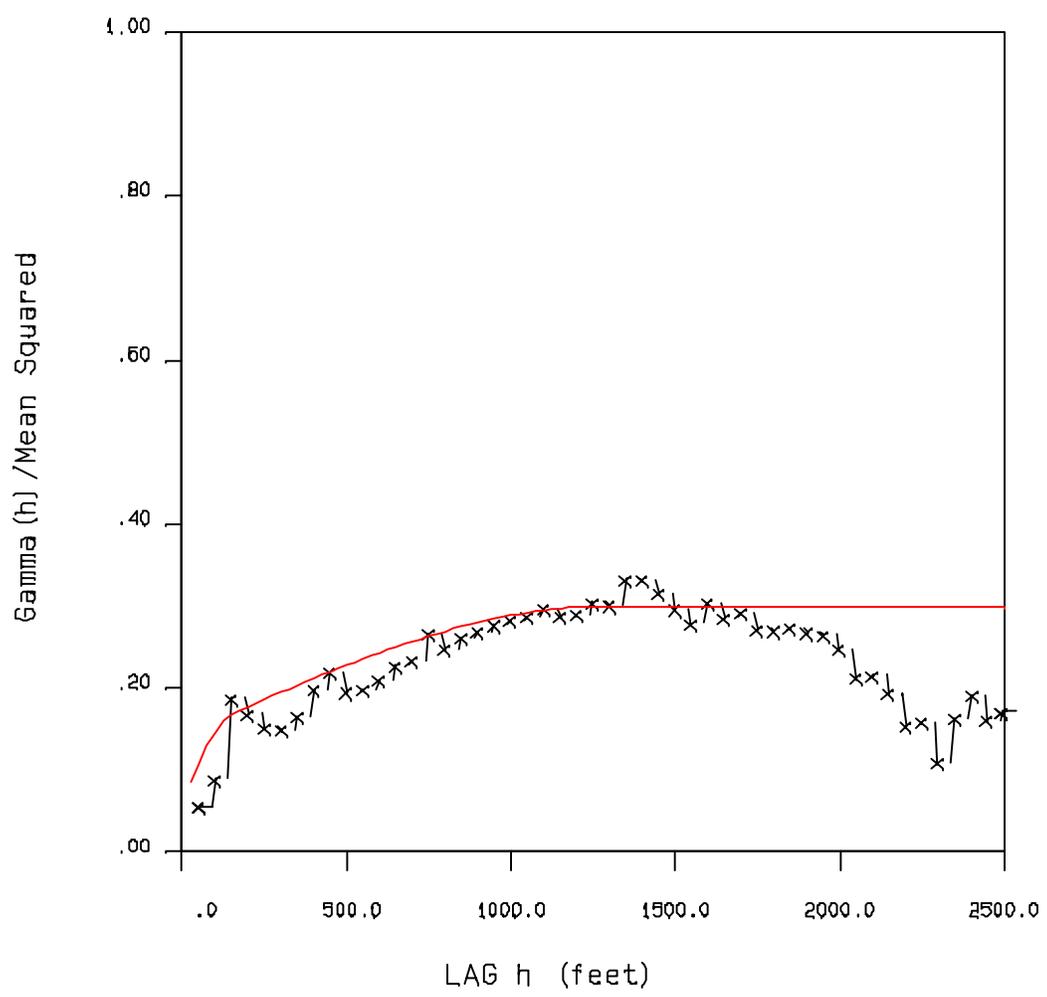
HOLE	EASTING	NORTHING	ELEVATION	HLENGTH
C-01	219904.46	120989.86	6026.47	1884.00
C-02	219820.00	120575.00	6060.00	405.00
C-03	219905.00	120250.00	6165.00	70.00
C-04	219940.00	120785.00	6045.00	113.00
C-05	220569.93	120524.76	6201.69	1416.00
C-06	219919.00	121749.00	5902.00	663.00
C-07	219823.00	121491.00	5962.00	275.00
C-08	220025.00	118890.00	6467.00	379.00
C-09	220687.00	121438.00	5890.00	804.60
C-10	221220.36	119755.68	6340.99	2381.00
C-11	221230.17	120415.79	5995.98	3003.00
C-12	221432.00	120955.00	5742.00	1340.00
C-13	219902.90	119471.88	6426.28	1804.00
C-14	221271.28	119085.42	6613.28	2123.80
C-15	221950.85	119772.14	6339.04	1933.20
C-16	219147.54	119209.68	6247.86	2131.70
C-17	219886.62	118711.94	6544.26	2281.50
C-18	222649.13	119823.48	6168.32	2361.00
C-19	219887.00	120178.00	6170.00	2280.00
C-20	220787.00	120878.00	6105.00	2543.00
C-24	222009.45	120671.11	6069.80	1000.00
C-25	219289.66	119889.95	6019.00	1011.00
C-26	221432.92	121338.14	5767.50	1193.00
C06-27	220207.88	120031.89	6351.39	1849.00
C06-28	220816.79	119539.82	6321.08	1711.00
C07-29	221246.65	119778.87	6343.67	2281.70
C07-30	219616.75	119732.18	6213.05	2416.50
C07-31	221243.31	119792.48	6342.25	2104.00
C07-32	220822.61	119558.40	6323.57	2044.00
C07-33	221227.04	118476.72	6796.80	2095.00
C07-34	220487.36	118658.32	6534.18	1769.00
C08-35	220480.40	118655.20	6533.21	2817.00
C08-36	219448.70	119335.30	6274.59	2488.00
C08-37	221246.80	119780.40	6341.47	2195.00
C08-38	220480.40	118655.20	6533.21	2445.00
C08-39	220813.20	118917.90	6575.13	2688.00
C08-40	220791.40	119530.10	6321.42	2252.00
C08-41	218951.00	119663.70	6219.92	3018.00
C08-42	219911.00	118748.90	6549.23	2707.00
C08-43C	220052.80	120612.80	6173.79	1313.00
C08-44	221515.90	118085.10	6739.37	3047.00
C08-45	218821.40	119802.30	6183.65	1800.00
RC-21	220541.00	120511.00	6202.00	1000.00
RC-22	220412.00	119913.00	6239.00	670.00
RC-23	219420.00	120695.00	5827.00	960.00



C0 = .060  
C1 = .080  
C2 = .160  
A1 = 150.0  
A2 = 1300.0

Number of Pairs

52 52 57 90 111 130 147 192 262 320 321 367 482 533 594 589 600 676 588 581 507 596 690 592 646 618 654 618 472 456 419 387 350 290 259 217 144 199 120 77 98 94 71 67 59 31 25 18



MOS2 IN CUMO & MO ZONES - AZ 150 DIP -55

