Mosquito Consolidated Gold Mines Limited (MQCMF)
A 2010 Best Idea

by Dr. John L. Faessel

Molybdenum is Vital in Two New Booming Markets: Nuclear Reactors and in Desalination Plants

Here are two uses for molybdenum that aren't usually found in the hand-ready lexicons of industrial metals followers, but they each represent a booming market. They join the list of other known applications for the metal-it's crucial for making stainless steel and for hardening steel in general, it's a catalyst in energy generation, it has numerous medicine, biology, and materials science applications, and it's soon to be used in hydrogen production (think ammonia / fertilizer)-so one readily understands why molybdenum demand has increased so significantly and why global inventories of the metal are near historic lows.

Stay with me on this science. Clearly there is a growing number of uses for molybdenum as the list above shows, but two markets in particular are now burgeoning: namely, its use in desalination plants and in nuclear facilities. As you may know, the build-out and deployment worldwide of nuclear power plants has grown unabated and now, even the United States is gearing up for a significant expansion, our first in many decades. Likewise, desalination is experiencing a major build-out in a world where access to potable water is under increasing, some even say dangerous stress.

Desalination

The process and technology of desalting seawater is becoming an important and huge new industry. Just imagine the corrosive effect of saltwater on steel tubing and you understand why corrosion control is a top priority; shutting down a huge desalination plant for maintenance is not only incredibly costly but it has numerous other effects on industry, agriculture and domestic use.

Now note that the use of molybdenum at about 7% in (nearly ubiquitous) stainless steel alloy pipes and in adjacent structures of desalting plants has been found to make the pipes and metal constructions last much longer. The amount of molybdenum now used in desalination plants is astonishing; when water output capacity "per day" is measured, about 23 pounds of molybdenum is needed for every cubic meter of desalination capacity. For example, two desalination plants were built in the mid-east over the last few years and it was found that 770,000 pounds and 1.3 million pounds of molybdenum respectively were used in the fabrication process at the plants.

According to a new report from Bike Research, worldwide desalination plant investments will double by 2016. Also on the plus side, the cost of desalination has come down steadily as the science improves.

Nuclear

According to a July 2010 update, the World Nuclear Association, reports that there are 439 nuclear power plants operational in the world. Another 59 are in the process of being built with 149 more on order, and another 344 are proposed. If you have seen one you know that they are huge facilities although the footprints of the newly proposed plants are somewhat smaller. So you can see it's a bull

market for nuclear power. Nuclear experts have found that one of the ways to make nuclear reactors last longer is by adding molybdenum to increase the thermal conductivity that's lacking in nickel, iron or steel. In addition to preventing corrosion (think installations adjacent to saltwater), the higher-percentage molybdenum alloys are emerging as the condenser tubing material of choice in high-sodium and chlorine environments. In existing nuclear reactors to date more than 100 million feet of super-alloy stainless steel tubes have replaced the older, copper-alloy tubing. And they are just getting started. And in nearly every new large nuclear energy project the need for molybdenum will drive a continuing and increasing demand.

Molybdenum demand is expected to increase between 5-7% annually during the next decade with demand forecasted to outstrip supply for several years to come. Global demand calls for an additional 21 million lbs by 2011, rising to 85 million lbs by 2015. Also key is that global inventories of molybdenum are very near historic lows and there is a supply deficit. Add into the mix, that after three years of declines uranium is rebounding because China's is now buying more than twice as much uranium as it consumes, building stockpiles (along with India) for a huge nuclear energy expansion. In January, JP Morgan analysts said they saw a likely rise of 55% in molybdenum prices by Q4 2011 -- to a possible $24.

Mosquito's wholly owned Idaho-based CUMO deposit is thought to be the world's largest still undeveloped molybdenum deposit (according to a London Times article reported by Dow Jones on 1/19/2010).

Certainly, over time the growing uses of the metal in desalination and nuclear facilities will have important implications for increased use of molybdenum-and given that Mosquito's game is largely molybdenum, there is considerable added relevance to these developments.

Significantly, Mosquito completed the key public disclosure of information relating to mineral properties (called Ni 43-101) in Canada on Nov. 23, 2009. The disclosure states Mosquito holds confirmed resources of 4.13 billion lbs molybdenum oxide - 5.43 billion lbs of copper - 234.6 million ounces of silver - and 282.4 million lbs of tungsten. The molybdenum and other mineralizations are said to be worth perhaps as many as $80 billion. With a discounted present value is $16 billion (using a 40-year mine life at 150,000 tons per day) the CUMO mine appears to be able to produce for somewhat over 100-years. Also noteworthy, is that the "limits" of the mine have yet to be totally delineated - as only about 25% of the property has been core sampled and assayed. It's colossal to put it mildly.

The CUMO resource's concentrations of tungsten, copper, silver and rhenium, taken alone, would each be exceptional mining plays.

Although mid-stage on the road to commercial deployment, the Mosquito story is certainly interesting-and for anyone with a scientific bent, incredibly fascinating as the applications for molybdenum in the world compound and multiply. Indeed, it looms as a major new star in the array of space-age metals.

It's common knowledge that China is buying into foreign companies and resources on a scale that is near unimaginable. I am a believer that some major entity, likely a "another" Chinese company or possibly an international global mining powerhouse, will soon team up with Mosquito with some kind of a deal. The effect on (MSQ) shares could be colossal as the market cap of Mosquito is only US$58 million.

It should be noted that China-based INTERNATIONAL ENERGY AND MINERAL RESOURCES

INVESTMENT COMPANY LIMITED and Ivy Mining, another China controlled company, have already acquired about 21.01% ownership of (MSQ) in June 2009.

Molybdenum Primer

Molybdenum [Mo, atomic number: 42] is a refractory metallic element used principally as an alloying agent in steel, cast iron, and superalloys to enhance hardenability, strength, toughness, as well as wear and corrosion resistance. Ideal for tough environments where heat, pressure and corrosion are factors, it makes steel stronger and lighter and makes stainless steel more resistant to corrosion. Also noteworthy is that the metal is not recyclable. Due to its low-toxicity it's used as catalyst in energy production.

Molybdenum is a fascinating metal with some amazing lore attached to it. Scientists have found that molybdenum was used in the making of samurai swords going back well over 500 years - that's long before molybdenum was "discovered" in 1777. The metal was not widely used until WW1 when it was mixed with steel to make tank armor harder. Since then the use of molybdenum to enhance numerous qualities of steelmaking has grown unabated. Molybdenum currently trades on the London Metals Exchange.

Also Of Note: The fourth-largest primary molybdenum mine in the world, The Thompson Creek Mine, [75% owned by Thompson Creek Metals Company Inc. (TC) NYSE] is the largest mine in Idaho and is located about 60 miles from Mosquito's CUMO asset. The market cap of (TC) is $1.22 billion.