

May 6th, 2011

Minor Metals, Major Potential

Technology and Strategic Metals

American Manganese Buy (S)

AMY-V: \$0.59
Target price: \$2.90

Canada Fluorspar Inc. Buy (S)

CFI-V: \$0.53
Target price: \$1.00

Colt Resources Buy (S)

GTP-V: \$0.68
Target price: \$1.30

EMC Metals Corp. Buy (S)

EMC-T: \$0.30
Target price: \$0.60





Minor Metals, Major Potential

Electrolytic Manganese Metal (EMM)	1
Fluorspar (CaF₂)	6
Scandium	10
Tungsten	11
Industry Comparables.....	15
American Manganese	17
Investment Thesis – Low Cost Producer	18
Valuation	19
American Manganese - Company Overview.....	21
Location – Surrounded by Public Lands	21
Site History	22
Open Pit Mining	23
Artillery Peak Infrastructure	24
Metallurgical Process.....	25
Artillery Peak Project Timeline	26
American Manganese Management	27
Other Properties.....	28
Investment Risks.....	28
American Manganese’s Past Financings	29
Canada Fluorspar Inc.	30
Investment Thesis – Chinese Export Squeeze	31
Valuation	32
Canada Fluorspar - Project Overview	33
Site History	34
St. Lawrence Infrastructure.....	34
Project Development	34
Metallurgical Testing and Processing Strategy.....	36
Canada Fluorspar Management	37
Investment Risks.....	38
Canada Fluorspar’s Past Financings	38
Canada Fluorspar’s DCF Model	39



Colt Resources	40
Investment Thesis – Upside Potential.....	41
Valuation.....	41
Colt Resources - Project Overview.....	43
Montemor Gold Project.....	43
Site History.....	44
Montemor Infrastructure.....	45
Metallurgical Testing and Processing Strategy.....	46
Armamar-Meda Tungsten Project.....	46
Site History.....	47
Armamar-Meda Infrastructure.....	47
Metallurgical Process.....	47
Colt Resources Management.....	48
Other Properties.....	49
Investment Risks.....	49
Colt Resources' Past Financings.....	50
EMC Metals Corp.	51
Investment Thesis – The Only Sc Game in Town.....	52
Valuation.....	52
EMC Metals – Company Overview.....	54
Focus on Scandium, Close to Relevant Infrastructure.....	54
Site History.....	55
Open Pit Mine.....	55
Metallurgical Process and Timeline.....	56
EMC Metals Management.....	56
EMC Metals Past Financings.....	57
LBS EMC Metals DCF Model.....	58
Appendix I – Important Disclosures	59



Electrolytic Manganese Metal (EMM)

Mn Properties and Description

Manganese appears as a shiny, steel-gray metal and in its natural form is extremely brittle and cannot be machined in any way. In nature, manganese is the 12th most abundant element in the Earth's crust and never appears as a pure metal but rather as an oxide in ores such as pyrolusite, manganite, psilomelane, rhodochrosite, or mixed with iron ores. The melting point of manganese is 1,245°C and oxidation occurs slowly at room temperature or more rapidly at elevated temperatures.

Mn Uses

The most prevalent use of manganese is as an alloying agent with iron to produce steel. Steel cannot be produced without manganese as it is used to remove sulphur and oxygen from the iron as well as improving the properties of the final alloy including hardness and resistance to corrosion. Manganese is also widely used in the manufacture of 3,000 series aluminum alloys with up to 1.5% of the mass of the alloy comprising manganese. The manganese in the aluminum alloys increase strength by approximately 20% versus pure aluminum and are commonly used for manufacturing of foil, roof sheets, cooking utensils, rigid containers and beverage cans.

Manganese is sold in several different forms depending on its application. The most common forms are ferro-manganese, which is widely used in steel production as well as silicon-manganese. A list of the different types and current spot prices for the material are listed in Exhibit 1.

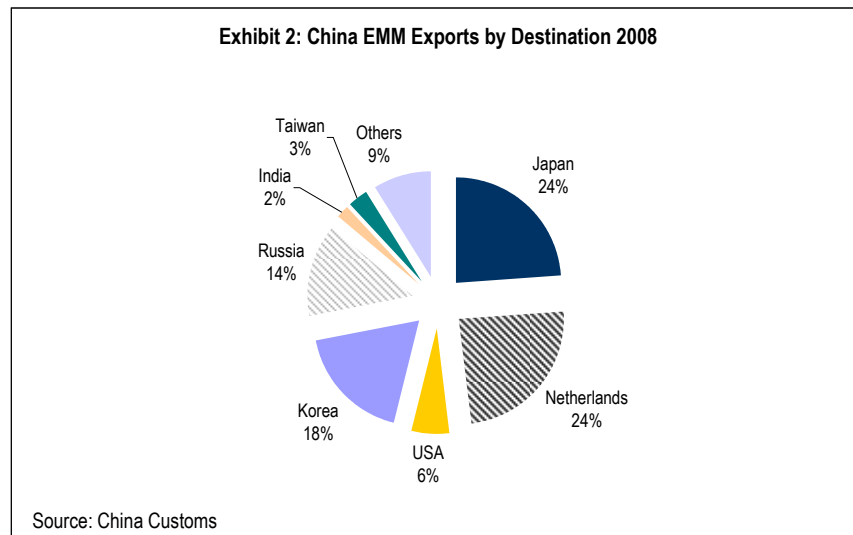
Exhibit 1: Manganese Spot Prices

Type	Spot Price * (US\$/lb)
Manganese Flake (99.7% Mn)	
EU Delivered	\$1.60
China F.O.B.	\$1.69
Ferro-manganese (78% to 82% Mn)	
US Delivered	\$0.60
EU Delivered	\$0.47
Silco-manganese (65% to 66% Mn)	
US Delivered	\$0.57
EU Delivered	\$0.68
Manganese Ore (49.5% Mn)	
India Delivered	\$0.18
China Delivered	\$0.34
* as of May 2, 2011	
Source: Metal-Pages	

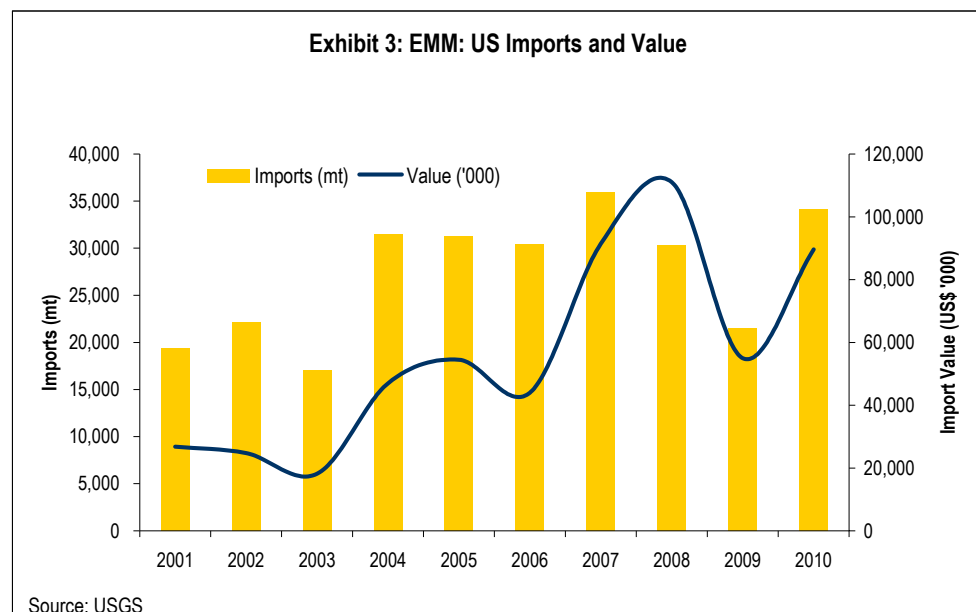
EMM Demand/Supply

Our focus is the pure form of manganese which is also known as electrolytic manganese or EMM. In total, EMM is a small portion of the overall manganese market as it represents about 3.6 billion pounds in annualized sales. The major uses of EMM are in the production of 200 series stainless steels and in the production of aluminum. The 200 series stainless steel is used largely as a lower cost alternative to high-nickel content stainless steels, or 300 series, as a larger component of lower cost EMM is substituted for nickel. The 200 series stainless would be largely used for stainless steel appliances, cooking utensils, electronic applications (it is non-magnetic), and automotive products.

Currently, China produces 98.4% of the global supply of EMM with one supplier in South Africa, the Manganese Metal Company, producing the remaining 1.6%. China also charges a 20% export duty on EMM as it consumes the majority of the product it produces and the United States charges a 14% import duty on EMM. The largest importers of EMM from China are Japan and the Netherlands, which consumes approximately 24% of production each followed by Korea at 18% and Russia at 14% as indicated in Exhibit 2.

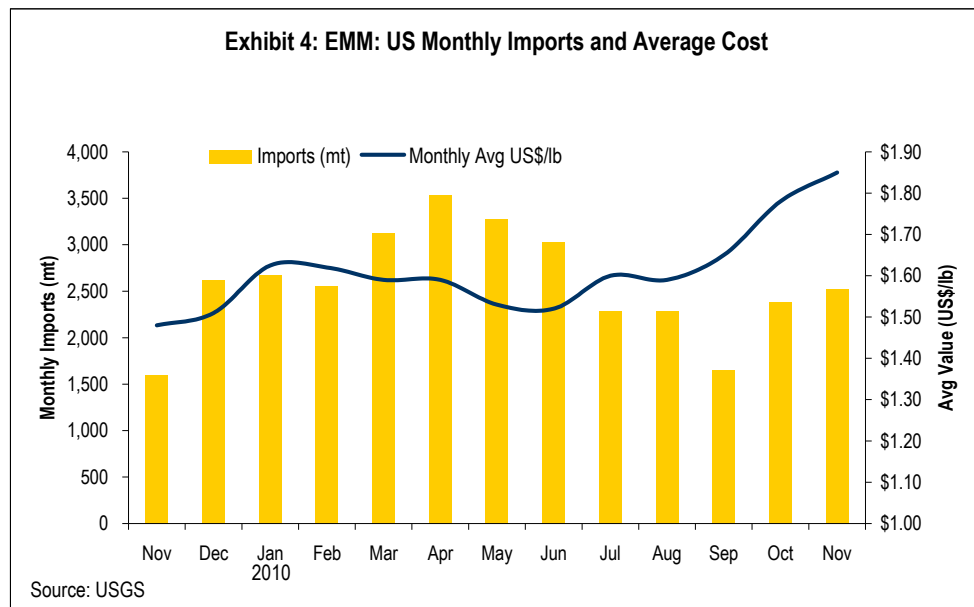


The United States represents a small portion of the overall consumption of EMM due in part to the high prices paid for importing the product into the country. The US import duty of 14% combined with the Chinese export duty of 20% makes it much less economical than Europe or Japan which does not have these import duties. According to the USGS, the United States imported a total of 35,000 tonnes of EMM in 2010 with a total import value of \$90 million, excluding the import duty of 14% as indicated in Exhibit 3.

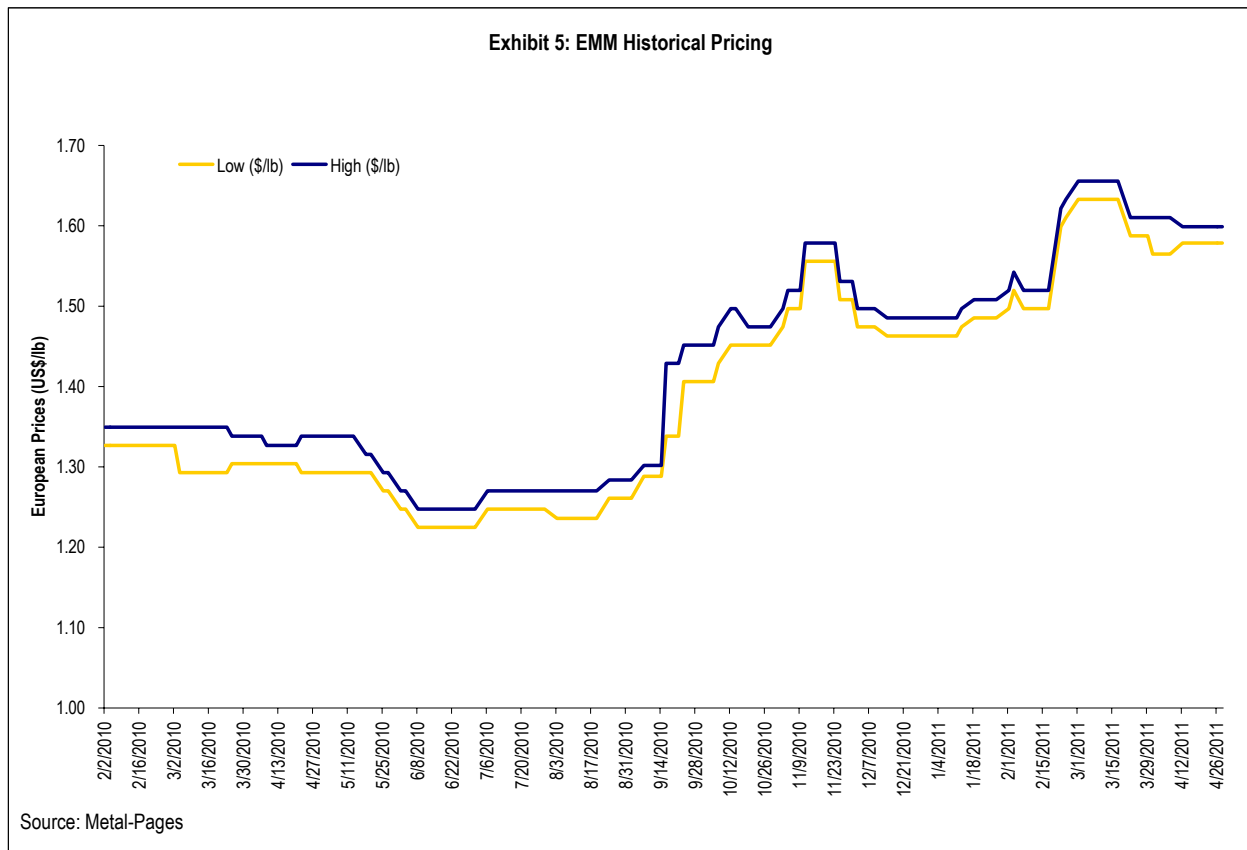


As illustrated in Exhibit 3, the import volume in 2010 recovered from the large decline experienced in the recession of 2009. We do note that overall Chinese EMM output grew in 2009 to 1.3 million tonnes, up 14% from 2008, despite the global recession and as a result of strong demand in the latter half of 2009 on the improving economic outlook.

Prices have also steadily risen throughout 2010 as Chinese suppliers were forced to increase selling prices as a result of higher production costs. In 2009, approximately 60% of the EMM producers within China were forced to shut down production as prices within China plummeted below the breakeven cost of US\$0.85 to US\$0.90. With the current increase in the cost of electricity the breakeven cost for production is closer to US\$1.00 to US\$1.10 and thus we do not anticipate significant price declines as Chinese EMM producers are unlikely to accept lower prices. As illustrated in Exhibit 4, costs have increased throughout 2010 and currently remain at or near this price level.



The pricing of EMM in Europe has also experienced a strong increase over the past year as the economy improved and pricing levels were maintained as a result of increased costs in China. We note that the pricing in Europe is lower than in the US due to the 14% import duty applied on EMM brought into the US. The pricing of EMM in Europe is illustrated in Exhibit 5 and is indicated by a high-low range as these metals are sold on a per contract basis in the spot market.



EMM History and Development

The electrolytic manganese industry was initially developed by the United States as a means to ensure continued supply of manganese for steel production during times of war. During the first World War, the Three Kids Mine in Nevada operated an open pit manganese mine shipping unprocessed ore to US steel mills in Pittsburgh with grades in the high 40% range. The mine initially operated from 1917 until 1919 and was then shut down until the latter part of World War II when it operated for about 11 months before being shut down once again. The mine restarted around 1956 and operated until about 1961, at which time the majority of the known high grade manganese had been depleted.

The electrolytic process was developed by the US Bureau of Mines in order to potentially tap the low grade manganese deposit at Artillery Peak as required in the event of a manganese shortage during the cold war period following the second World War. In the 1940's, the initial metallurgical tests were performed at the US Bureau of Mines testing laboratory in Salt Lake City. The ore was tested with floatation recovery and further with hydrometallurgical tests that involved leaching with sulphuric acid and precipitation of manganese metal by electrolysis. The initial process that was developed involved a preliminary reducing roast, followed by leaching with sulphuric acid, filtering, and purification of the manganese sulphate and electrolysis of the solution with manganese recovery rates in the 90% to 95% range. Pilot plant tests done at Boulder City from the ore at the Three Kids deposit in Nevada were conducted in the late 1940's though the development was later discontinued.

**EMM Industry
Comparables**

Outside of the United States, EMM production began in South Africa in 1954 and was based largely on the process developed by the US Bureau of Mines in the 1940's for the Artillery Peak deposit (the process was obtained at no charge). The initial feed source for the EMM process was from manganese hydroxide, which was a waste stream from uranium mining in the region. Between 1954 and 1975, 140,000 tonnes of electrolytic manganese was produced in South Africa. In 1974, Delta Manganese established a 28,000 tpa electrolytic manganese plant in the region and at the time South Africa supplied 50% of the world's requirement for EMM.

Today, South Africa retains the only production of EMM outside of China from a privately held company known as MMC (Manganese Metal Company). The process is similar to the process developed by the US Bureau of mines except that the ore feed is of higher grade and at the beginning of the process, the manganese oxide must be converted to the acid soluble Mn^{2+} (two valence form) and is reduced at high temperature in rotary calciners.

It is difficult to get an accurate estimate of MMC's cost of production though we would estimate that the cost per pound would be over US\$1.10. The estimate is based on the high cost of electricity in the region with business rates at approximately US21¢ per Kwh and rising as a result of electrical shortages in the country over the past few years. The electro-winning process to precipitate the manganese metal is generally the most cost intensive and is expected to account for over 50% of the cost of production. In 2010, the South African utility Eskom announced rate increases of 24.8% in 2010, 25.8% in 2011 and 25.9% in 2012.

Currently, the majority of production is from China with the first producers establishing themselves in Shanghai in 1957. The process used by the Chinese manufacturers is also very similar to the process developed by the US Bureau of Mines in the 1940's, however the Chinese manufacturers use selenium in the electro-winning process to improve the energy efficiency of the process. China has over 180 EMM producers spread across 10 provinces in China. The most significant producers are located in Hunan, Guangxi, Chongqing, and Hubei. Similar to South Africa, rising electricity prices in China have resulted in increased costs for producers which we estimate to be in the US\$1.00 to US\$1.10 per pound range.



Fluorspar (CaF₂)

Fluorspar Properties and Description

Fluorspar is soft and colourless in its pure form though can often contain impurities that give fluorspar a variety of different colours including green, purple, blue, yellow or pink. Fluorspar is also known by other names including the mineral fluorite or calcium fluoride. The main value of fluorspar is that it is a source of fluorine for various industrial applications.

Fluorspar Uses

Fluorspar is sold in one of two forms: acid grade fluorspar (also known as acidspar) and metallurgical or ceramic grade fluorspar. The acid grade fluorspar is 97% CaF₂ and is the more commonly used product while the metallurgical grade fluorspar is 60% to 95% CaF₂ and is the lesser consumed commodity. Our focus will primarily be on the acid grade fluorspar as it is the more valuable commodity and has a greater number of applications in the industrial chemicals industry.

The most common use for acid grade fluorspar is primarily as feedstock in the manufacture of HF or hydrofluoric acid as illustrated in Exhibit 6. Hydrofluoric acid is one of the strongest inorganic acids and is used primarily for glass etching, metal cleaning and electronics manufacturing. Another key use for HF is the production of a wide range of fluorocarbon chemicals that are used in refrigerants that include CFCs and HCFCs (non-ozone depleting refrigerants).

Other uses of HF are in the manufacture of uranium tetrafluoride, which is used in the process of concentrating uranium isotope 235 for use as a nuclear fuel. It is also used as feedstock in the manufacture of a group of inorganic fluorine chemicals that include chlorine trifluoride, lithium fluoride, sodium fluoride, tungsten hexafluoride, and water fluoridation. For the aluminum smelting industry, acid grade fluorspar is used in the production of AlF₃ which is part of the process used in the electrolytic recovery of aluminum.

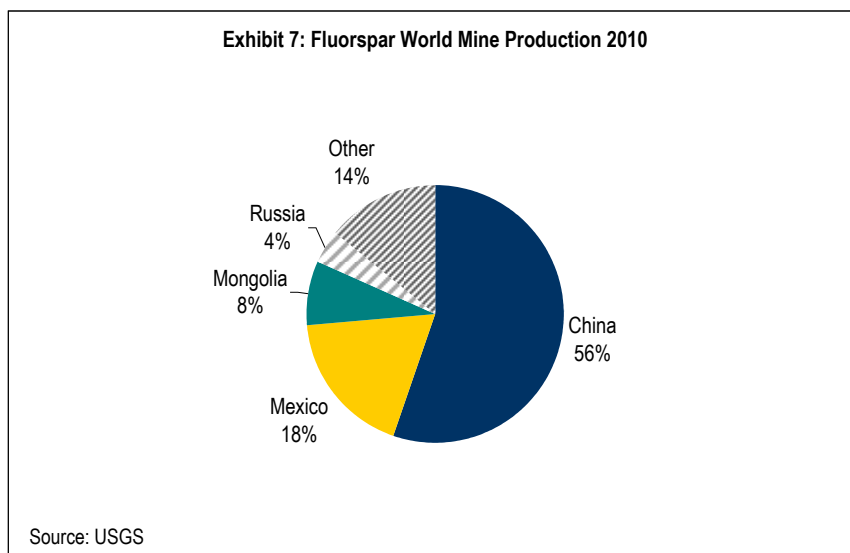
Exhibit 6: End Uses of HF in the US in 2008

% Total	End Use
71.2%	Fluorocarbon Chemicals
5.3%	Processing Aluminium
3.7%	Petroleum Alkylation
3.4%	Metal Treatment
2.4%	Uranium Processing
14.0%	Others
100.0%	

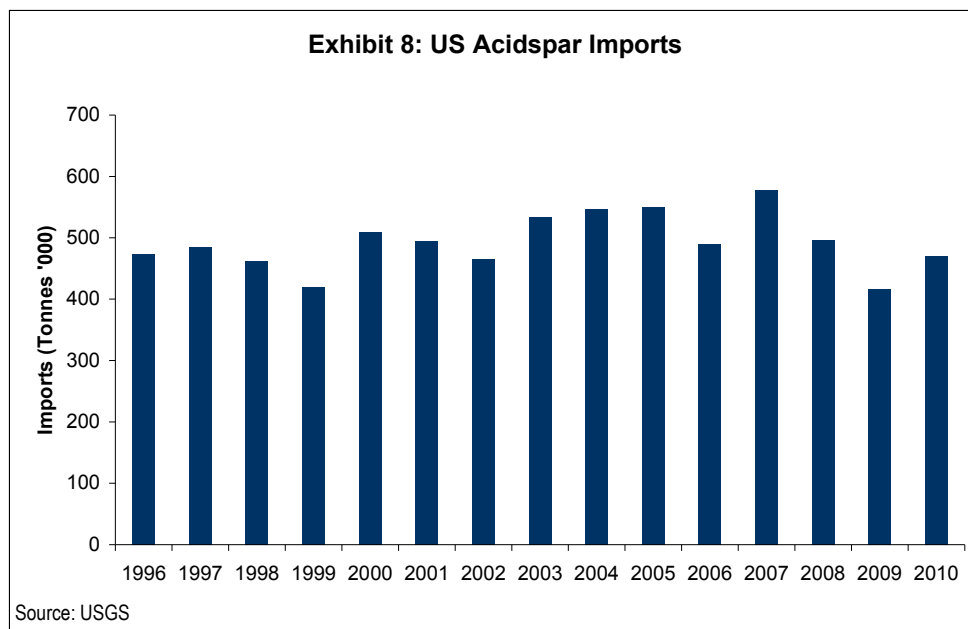
Source: USGS

Fluorspar Demand/Supply

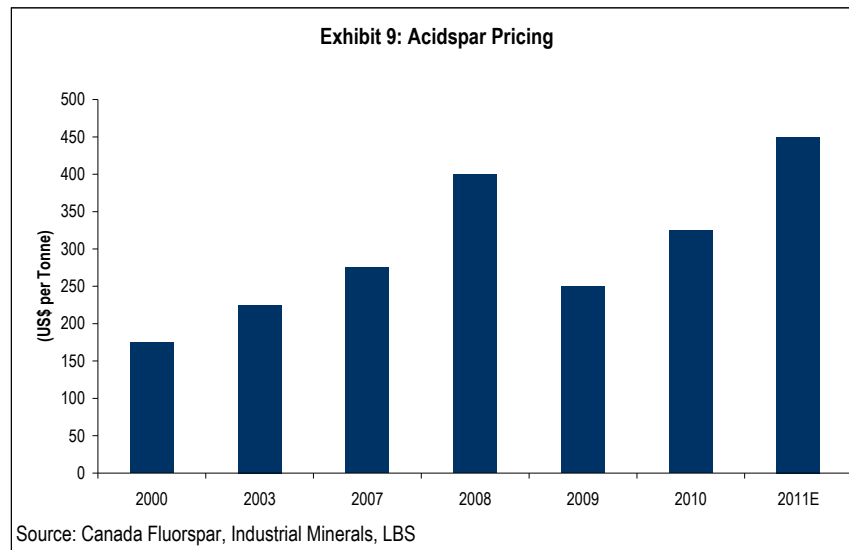
The top global producing country of fluorspar is China which accounts for over 50% of supply followed by Mexico and Mongolia as indicated in Exhibit 7. Both Canada and the US have no production of fluorspar despite being the second largest consumer of the mineral behind China. In the 2009 National Defence Stockpile report that was submitted to the US Congress, acid grade fluorspar is listed as the fourth most used material by the US Department of Defence. The EU also lists fluorspar as one of its top 14 critical raw materials due to the region's dependence on foreign sources.



US imports of acidspar have been relatively consistent in the 400,000 to 500,000 tonne range for a number of years as illustrated in Exhibit 8. US imports declined sharply in 2009 as a result of the recession but have since recovered near to import levels of 2008. The US government had previously stockpiled the material but the remaining fluorspar was sold off in 2007.



Acidspar pricing has been on the rise over the past two years as a result of a shutdown of mines in 2009 during the recession and collapse in pricing and demand. Pricing increased in 2010 with further increases thus far in 2011 as illustrated in Exhibit 9. Recent pricing from early April indicates that Chinese export prices for acidspar have surpassed \$500 per tonne on strong global demand and tight supplies.



**Fluorspar
Comparables**

During the 2009 recession when fluorspar prices declined substantially, several of the major producers shut down or reduced operations. Since fluorspar prices have increased over the past year and a half, production has been restarted at several mines. It is also important to note that several of the operating mines are owned by large chemical companies that use the fluorspar as feedstock for their operations. This includes Las Cuevas, the largest producer of fluorspar outside of China, which is owned by Mexichem, as well as Okorusu in Namibia, which is owned by Solvay and the Witkop mine in South Africa, which is owned by Minersa. A table of fluorspar deposits outside of China is shown in Exhibit 10.



Exhibit 10: Fluorspar Deposits / Producers Outside of China			
Project	Company	Grade CaF₂	Description
El Hammam (Morocco)	Managem SA	45%	Managem is based in Morocco and engaged in multiple mining projects including gold, silver, cobalt, zinc, copper, and fluorspar.
Karadzhal (Kazakhstan)	Ulba Fluorine Complex LLP	25%	Involved in mining fluorspar and producing fluorine based chemicals.
Kimwarer (Kenya)	Kenya Fluorspar	40%	Production has recently restarted.
Las Cuevas (Mexico)	Cia Minera	84%	Owned by Mexichem, a large chemical company with annual sales of US\$3 billion.
Moina (Australia)	Minemakers	18%	Not currently in production. Fluorspar property is one of several owned by the company MAK-ASX.
Nui Phao (Vietnam)	Masan Group	8%	Project is a tungsten / fluorspar mine in Northern Vietnam. Mason Group is based in Vietnam and acquired financial backing from Dragon Capital, also of Vietnam.
Okorusu (Namibia)	Solvay	50%	Solvay is an international chemical company headquartered in Brussels with sales of over EUR 7.1 billion
St. Lawrence (Canada)	Canada Fluorspar	42%	Company expects to start producing fluorspar in Q1-2013.
Vergenoeg (South Africa)	Minersa	23%	Owned by Derivados del Fluor S.A., producer of inorganic fluorinated products.
Witkop (South Africa)	Sallies	10%	Mine was acquired in 1999 and produced acidspar and metspar and just re-opened in March 2011 following shut down in June 2009.

Source: Company Reports, LBS



Scandium

Sc Properties and Description

Scandium (Sc) was not discovered until 1876 which was in part due to the development of the periodic table in the 1860's that indicated a missing element with an atomic number of 21. In nature, scandium is the 31st most abundant element in the earth's crust, about half as abundant as copper though twice as abundant as lead. Scandium is rarely concentrated in large enough quantities on its own but is most often found with other minerals such as tungsten, tin, uranium or aluminum. All of the scandium mined to date has been the result of tailings recovery from other primary mining operations. Scandium is silvery-white in appearance with a melting point of 1,583°C.

Sc Uses

In recent years, scandium has mainly been used as an alloying agent with aluminum. Scandium increases the alloy's strength through the reduction in grain size as well as allowing the aluminum to be welded. Pure scandium metal (rather than the oxide form) is typically used in the alloying process though only in small quantities (less than 1%). The Soviet military used scandium-aluminum alloys extensively in applications such as ballistic missiles and MIG fighter jets. However, due to the current shortage in supply, the primary use of scandium is currently in high-end sports equipment including bicycle frames and baseball bats.

Other uses of scandium include lighting as approximately 180kg of scandium oxide is used annually to make high-intensity lights. These lights are used predominantly in the television broadcast industry as they mimic the colour of artificial sunlight.

A newer and more promising growth application for scandium is in the application of solid oxide fuel cells (SOFC's). Fuel cells generate electricity in a more efficient manner than combustion. One of the more promising fuel cell companies is California-based Bloom Energy that has multiple high-profile corporate customers including Ebay, Google, Walmart, Bank of America, Adobe, and Coca-Cola.

Sc Demand/Supply

Scandium has been for many years obtained from the tailings of uranium mining in Kazakhstan and there is currently no primary scandium production source. However these tailings stockpiles have largely been depleted at this point and very little scandium is available on the open market for sale. Pricing for scandium oxide is estimated to be in the US\$1,400/kg to US\$2,500/kg range though we have met with metals traders who indicated that due to scarcity of supply the price of the material is much higher. Total global consumption is estimated to be in the 5,000kg per year range which we believe is not so much a function of low demand but rather related to the lack of available supply on the market. We believe that if a more reliable supply source were available, we would see increased use in commercial and military aircraft applications, such as Boeing or Airbus aircraft, as it would provide a significant enough weight savings (and thus fuel cost/performance savings) to justify the slight premium for the aluminum scandium alloys.

Tungsten

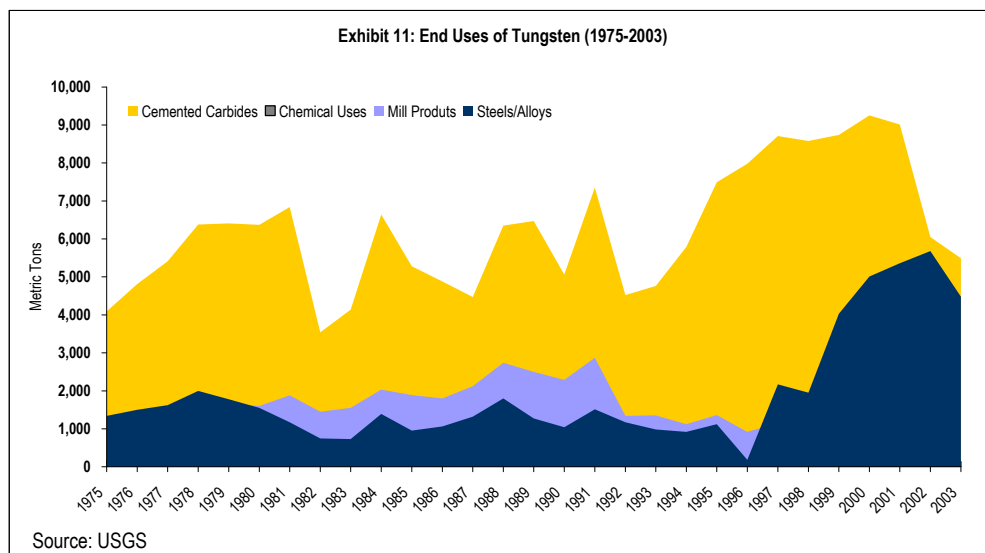
W Properties and Description

Tungsten (W), also known as wolfram, is a silver-white to steel-gray metal and is often brittle and is hard to work in its raw form. However, very pure tungsten is more ductile and can be easily cut by hand. It is found in several mineral ores, including wolframite, scheelite, ferberite, and hübnerite. Tungsten has the highest melting point of all non-alloyed metals and second highest of all elements (carbon is 1st) at approximately 3,422°C. A temperature of around 5,700°C is required to boil tungsten, which is approximately the temperature of the surface of the sun. At over 1650° C, tungsten has the highest tensile strength. With a density of 19.26 g/cm³, comparable to that of uranium and gold, tungsten is also one of the heaviest metals. Tungsten features the lowest vapour pressure of all metals, has excellent corrosion resistance, and high thermal and electrical conductivity. However, tungsten interferes with molybdenum and copper metabolism, and is somewhat toxic to animal life.

W Uses

Tungsten is primarily used as a tungsten carbide in cemented carbides, or hard metals. Cemented carbides are wear-resistant materials used in drills, circular saws, and knives for the mining, metalworking and construction industries. Tungsten carbide is one of the hardest carbides with a melting point of 2770°C, and accounts for approximately 60-70% of current tungsten production. Tungsten's hardness and density are also applied to enhance steel/alloy properties. In some cases, a final steel product can contain as much as 18% tungsten. A high melting point and density also make tungsten an appropriate material for rocket nozzles, grenades and missiles.

Tungsten's properties allow it to have a broad range of uses. Heat sinks, weights, ballast keels for yachts, and ballasts in race cars for NASCAR and Formula One are examples of applications taking advantage of tungsten's high density. Having a density similar to gold allows it to be an alternative in jewellery to gold or platinum. Because of its high melting point, tungsten is effective in many electrical applications, lighting filaments, and electronic contacts, though these applications represent a small percentage of end-product tungsten production. Exhibit 11 illustrates the production breakdown between 1975 and 2003 in regards to tungsten end uses. We note that from 1999 onwards, Mill Products are included with Steels/Alloys.

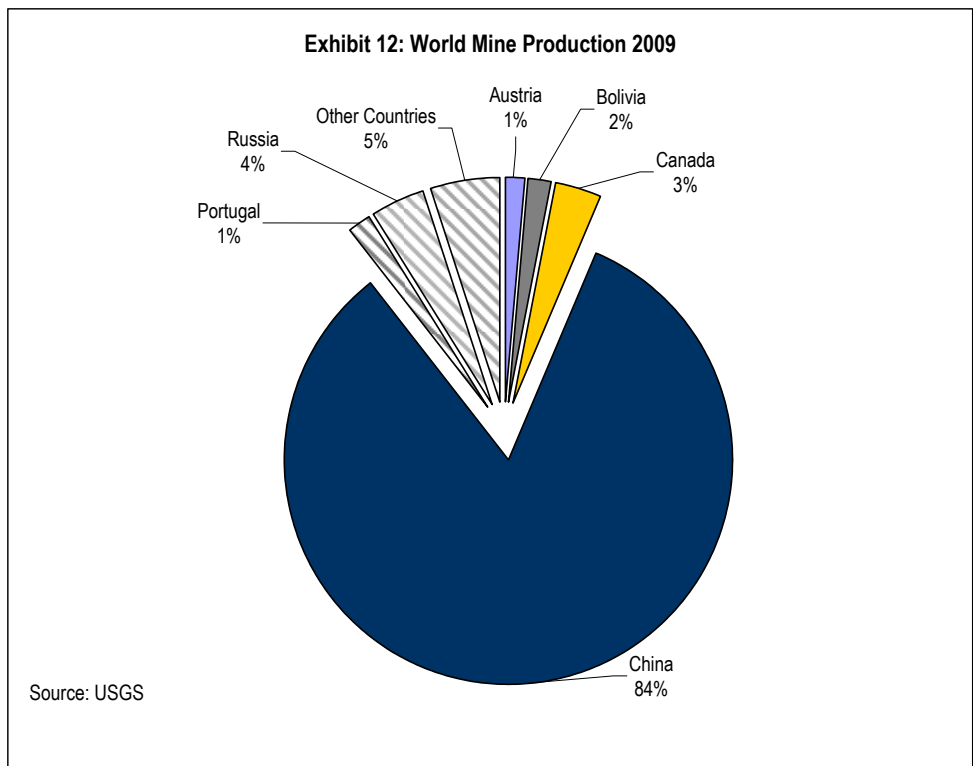


W Demand/Supply

The tungsten market has two sources of supply; the primary market, which consists of concentrates, and the secondary market, consisting of recycled scrap material. In 2010, China dominated the global production of the primary supply of tungsten. Canada, Kazakhstan, and Russia have historically contributed to the global supply; however, Canada has seen a pullback in production recently. Mines in Australia, Japan, the USA, and others have closed in recent decades due to a low tungsten price. The low selling price has made operating a mine unsustainable for many. While countries such as the US have halted production, a healthy reserve is still supplying part of the countries tungsten needs. The recycling of scrap material is also important to the overall supply picture as it accounts for 30-40% of tungsten entering the market. However, recycling of tungsten is close to reaching its limit, meaning new primary supply will be needed.

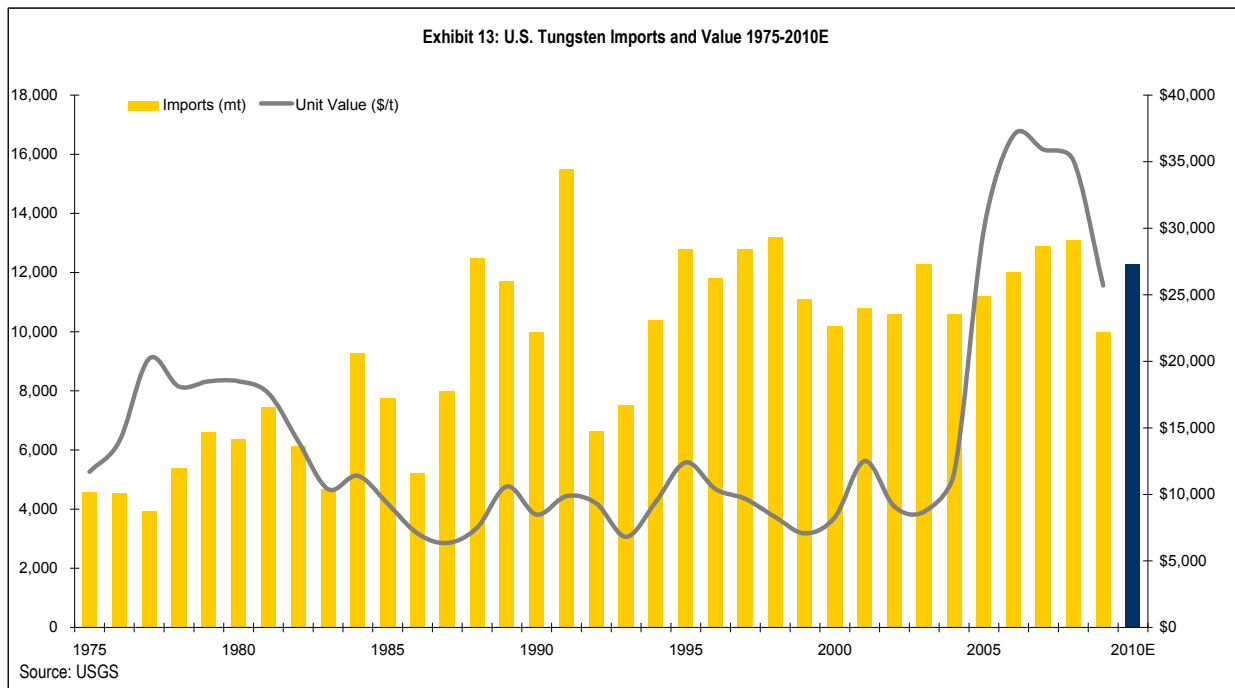
Currently, China produces in excess of 80% of the global supply of tungsten with a handful of minor suppliers in Canada and Russia sharing the remainder. China also introduced an export duty in 2007 of 15% that is still in effect. Exhibit 12 outlines China's dominance in tungsten production, with China supplying over 80% of global demand. As China continues to transition from a net exporter towards the role of net importer, while maintaining a growth rate of 8%, we believe a tungsten shortage may occur by 2015.

Current market forecasts from Roskill Consulting Group call for annualized growth of around 5% for the global tungsten market. By 2013, global consumption is expected to reach 95,000 tonnes to 125,000 tonnes. With only a few new of projects coming online before 2013, demand should continue to outpace supply over the next 5 years.



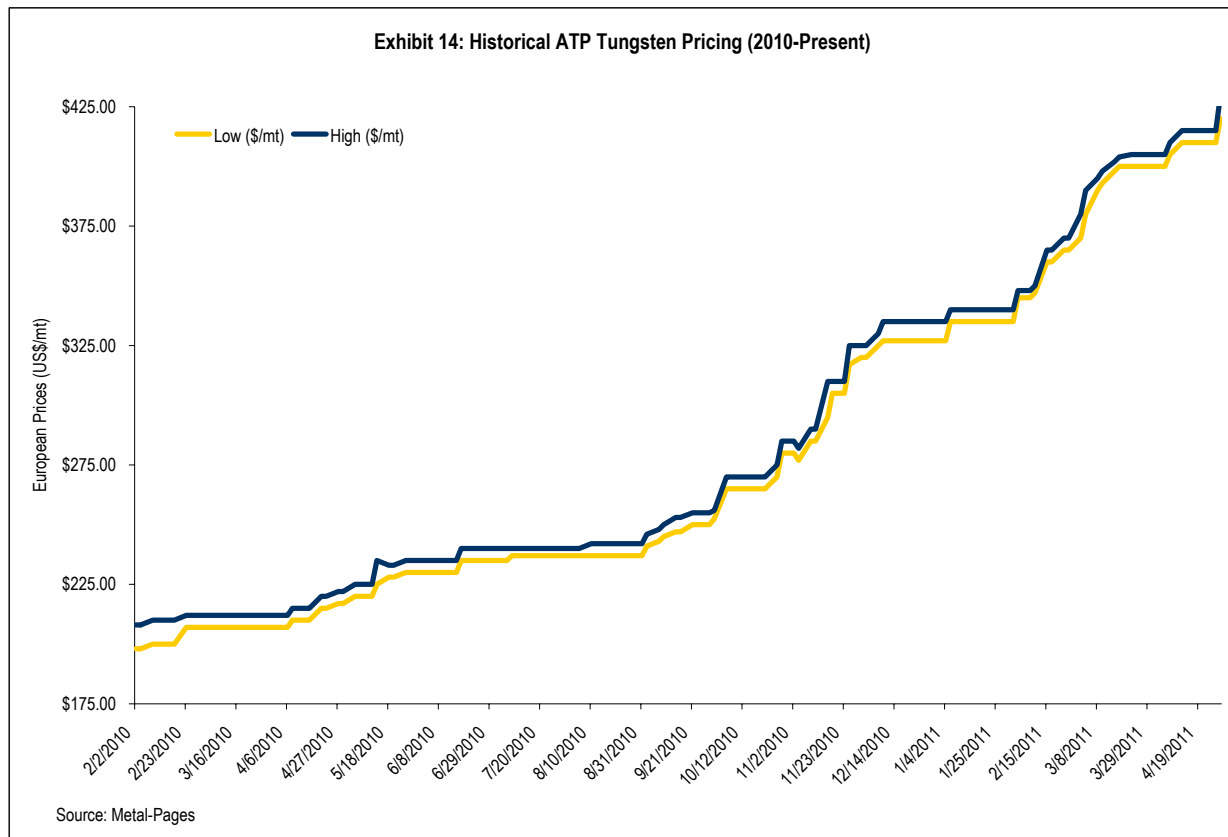


Historically, the United States has imported approximately 20% of total world production of tungsten. Over 40% of the imports come from China with Canada and Germany providing around 10%. The US import duty ranges from 5-7% depending on the end product. There is no duty for importing unrefined tungsten ore. According to the USGS, the United States imported 10,000 tonnes at a total import value of \$257 million in 2009. Exhibit 13 depicts the US tungsten quantity imported as well as the value per metric ton.



The USGS has indicated 2010 import estimates of 12,300 tonnes for the US, as illustrated in Exhibit 13. This would indicate import volume in 2010 recovered from the recession of 2009 that saw quantity of imports as well as unit value both experienced significant drops.

The pricing of tungsten in Europe has also experienced a strong increase over the past year, as 2010 saw global economic conditions improve and tungsten consumption increase compared to the lows of 2009. By the end of the year, prices had increased as a result of recovering demand, tight Chinese controls on production and exports, and a temporary suspension of tungsten by the U.S. Defense Logistics Agency. The pricing of tungsten in Europe is illustrated in Exhibit 14 and is indicated by a high-low range as these metals are sold on a per contract basis in the spot market.



Tungsten History and Development

The discovery of tungsten dates back to the 17th century, when miners in the Erz Mountains of Saxony gave the name “wolfram” to an ore that complicated mining for cassiterite. The ore had all the physical characteristics of tungsten. In 1847, tungsten chemistry emerged with the first manufacturing patents for sodium tungstate and tungstic acid. That discovery was followed by the first attempts to produce high-quality tungsten steel which were performed in 1855 (though demand never grew due to the high tungsten price at the time). Initial industrial applications of tungsten were enhancements in alloying and hardening of steels in the late 19th century. Growth intensified following the 1900 Paris World Exhibition where the invention of high speed steels were first introduced by Bethlehem Steel.

Another breakthrough for tungsten occurred in the early 1900s with the creation of a metal powder that eventually could be transferred into very thin wiring. This invention would be the beginning of tungsten powder metallurgy, which was a focal catalyst in the development of the lighting industry. The new light bulbs using tungsten were proven to be seven times more energy efficient than the previously used carbon filament bulbs. By 1911 tungsten had completely replaced carbon for use as light bulb filaments.

The latest milestone for tungsten occurred in 1923 with the creation of cemented carbides. This caused a surge in the commercial market for tungsten thanks to production of significantly higher quality tools for metal working. During World War II, tungsten carbide was needed by both the Germans and the Allies for weaponry production. Portugal became a valuable country due to its supplies of tungsten ore, finding itself in the middle of political battles. Today, cemented carbides are the main application for tungsten production.



Industry Comparables

Exhibit 15 outlines all comparable tungsten projects and their resource estimates and grades. We have highlighted the key comparable near-term projects below:

North American Tungsten

With the recovery of tungsten prices in the last few years, a few mines are being restarted following a period of inactivity. One such deposit is North American Tungsten's Cantung mine. The mine closed down during 2009 when prices dropped below \$200 per metric tonne unit, or MTU. The mine has returned to full production and currently supplies 4% to 5% of global demand.

North American Tungsten has a second tungsten project being developed as well. The Mactung project has completed a bankable feasibility, and is planning to have mine construction completed over the next two years. The project has a capital cost of \$400 million and a 30-year mine life. The company estimates it to be two times larger than its Cantung project, making it the largest deposit in the world.

Largo Resources

Largo Resources is the nearest term tungsten producer with production scheduled to commence in July 2011 at its Currais Novos project in Brazil. The project is anticipating average annual production of 1.5 million lbs of WO₃ per year with capital costs of \$7 million.

Largo has another tungsten deposit, Northern Dancer, located in Yukon, Canada. The capital costs are \$645 million for a 49-year mine life. Average annual production is expected to be over 800,000 MTU tungsten.

Woulfe Mining

Woulfe's Sangdong Tungsten-Molybdenum Project located south east of Seoul was historically one of the largest producing mines globally. The targeted production date is the end of 2012 with the mine expected to produce 1.2 million tonnes over 10 years.

Geodex Minerals

Geodex's Sisson project located in New Brunswick is currently in the feasibility stage, which is targeted for completion in Q1 2012. The open pit plan has a 20-year mine life and capital costs of \$341 million. Operating costs are \$7.92 per tonne.



Exhibit 15: Tungsten Industry Comparables

Company	Ticker	Location	Project	Ownership	Classification	Tonnes (M)	Grade (WO3%)	Contained Metal MTU (M)
Largo Resources	LGO-V	Canada	Northern Dancer	100%	M&I	223.4	0.11	23.90
					Inferred	201.2	0.09	18.11
					Total	424.6	0.10	42.01
North American Tungsten	NTC-V	Canada	Mactung	100%	M&I	33.0	0.88	29.04
					Inferred	11.9	0.78	9.28
					Total	44.9	0.85	38.32
Woulfe Mining Corp.	WOF-V	South Korea	Sangdong	100%	M&I	-	-	-
					Inferred	103.2	0.35	36.12
					Total	103.2	0.35	36.12
Geodex Minerals	GXM-V	Canada	Sisson	30%	M&I	177.4	0.09	16.74
					Inferred	69.0	0.09	5.93
					Total	246.4	0.09	22.67
Ormonde Mining	ORM-AIM	Spain	Barruecopardo	90%	M&I	-	-	-
					Inferred	5.2	0.48	2.50
					Total	5.2	0.48	2.50
Malaga Inc.	MLG-T	Peru	Pasto Bueno	100%	M&I	0.4	0.75	0.30
					Inferred	1.8	0.70	1.27
					Total	2.2	0.71	1.57
Icon Resources	III-ASX	Australia	Mt Carbine	100%	M&I	-	-	-
					Inferred	113.6	0.06	6.82
					Total	113.6	0.06	6.82
Playfair Mining Ltd.	PLY-V	Canada	Risby	100%	M&I	-	-	-
					Inferred	8.5	0.48	4.06
					Total	8.5	0.48	4.06
Colt Resources	GTP-V	Portugal	Tabuaco	100%	M&I	-	-	-
					Historic	1.0	0.87	0.87
					Total	1.0	0.87	0.87
Venture Minerals	VMS-ASX	Tasmania	Mt. Lindsay	100%	M&I	-	-	-
					Inferred	36.0	0.09	3.40
					Total	36.0	0.09	3.40
Hazelwood Resources	HAZ-ASX	Australia	Big Hill	100%	M&I	34.9	0.11	3.72
					Inferred	12.5	0.08	1.00
					Total	47.4	0.10	4.72

Source: Company Reports, LBS

American Manganese (AMY-V – \$0.59)

American Manganese is a Canadian based electrolytic manganese developer and explorer. The company's flagship development is the 100% owned Artillery Peak deposit located in Arizona. The Artillery Peak deposit has been known for years to be one of the only potential sources of manganese metal in the United States. American Manganese is currently developing the property and could potentially become the lowest cost producer of manganese metal in the world.



Source: BigCharts.com

Market Data				
Ticker	AMY-V	Shares O/S F.D(M)	130.3	
Rating	BUY(S)	Market Cap (M)	\$76.9	
Risk	High	Float O/S (M)	119.9	
Price	\$0.59	Enterprise Value (M)	\$73.7	
1-Yr Target	\$2.90	Net Cash (M)	\$3.1	
Dividend Yield	n/a	Total Debt (M)	\$0.0	
1-Yr ROR	391.5%	Avg Daily Vol (K)	224.3	
52 Wk High-low	\$0.80 - \$0.17	Ownership		
Valuation	DCF	Mgmt + Dir	8%	
Year End	30-Jul	Institutional	8%	
Next Reporting	Jun-11	Debt/Cap	n/a	
Capital Expenditures (M) - July 30 Year End				
	2011	2012	2013	2014
Capex	\$0.0	\$45.0	\$50.0	\$13.8
	2015			\$0.2
Resource Estimate				
	Tonnes	Grade	Mn	
	(M)	(Mn)	(lbs billion)	
Indicated	92.8	3.27%	6.686	
Inferred	107.2	3.76%	8.881	
Total	200.0	3.53%	15.546	

Source: Company Reports, LBS

Buy (S) – Target Price: \$2.90

We rate American Manganese a Speculative Buy with a one-year share price target of \$2.90, implying a total return of 392%. This target is based on our DCF analysis of the company's flagship Artillery Peak manganese project. We have a share risk rating of High. We highlight the following:

- ◆ **Increasing Demand for EMM:** Electrolytic manganese is a small portion of the overall manganese metal market. Its use in aluminum processing and the strong growth in 200 series stainless steels has increased demand for EMM, even during the recession of 2009.
- ◆ **China is the Dominant Supplier of EMM:** China dominates production of EMM and currently produces approximately 97% of all the EMM used globally. China consumes the largest amount of EMM though countries which import significant quantities include Japan, Netherlands, Korea and Russia.
- ◆ **American Manganese to Potentially be the Lowest Cost Producer in the Industry:** Due to the access to lower cost power than producers in other regions and the company's proprietary process, we estimate American Manganese could have production costs at half that of its competitors. This cost advantage combined with being the only US based producer provides a significant advantage in the US market where there is a 14% import duty on all electrolytic manganese metal.
- ◆ **Reasonable Capital Costs:** The Artillery Peak deposit has been known for some time as being a potentially significant supply of manganese. Infrastructure local to the site is good with power lines, water on site and easy access. We estimate capital costs to be in the range of US\$95 million.
- ◆ **Pending Catalysts for American Manganese's Share Price Include:** 1) results from a new drill program which recently commenced should increase indicated resources and expand the total size of the deposit; 2) a pre-feasibility study due this fall; 3) the announcement for potential off-take agreement partners from the US, Europe or Japan.



Investment Thesis – Low Cost Producer

EMM was Developed in the 1940's by the US Bureau of Mines

Electrolytic manganese (EMM) is widely used in the production of stainless steel as well as aluminum though represents a small portion of the overall manganese market. Both the US and Canada currently import 100% of the manganese required for steel production as all of the known deposits in North America are relatively low grade deposits and were not considered to be economically viable for ferro-manganese production used in steel making. Electrolytic manganese was developed in the 1940's by the US Bureau of Mines as a means to safeguard US steel production interests, particularly during the Cold War period following the end of World War II. It was this early development that led to the creation of a new industry manufacturing pure manganese metal through acid leaching and electro-winning that is still commonly used today.

China is the dominant producer of EMM and represents approximately 98.6% of global production. The remaining 1.4% is produced in South Africa from a privately held company known as MMC (Manganese Metal Company). Similar to rare earths, China is the dominant producer and consumer of EMM as it is widely used in the manufacture of 200 series stainless steels, which are a lower cost alternative to more expensive 300 series stainless steels that use higher quantities of Nickel.

American Manganese to Potentially be the Lowest Cost Producer

American Manganese has the potential to become the first near term supplier of EMM in North America as well as the lowest cost producer in the industry at the US\$0.45 to US\$0.50 per pound range. The current spot pricing for pure manganese metal is approximately US\$1.60 per pound in Europe, US\$1.70 per pound in China and US\$1.85 per pound in the US (including the 14% import duty). The low cost advantage of the American Manganese deposit is attributed to two main factors, the low cost of power in Arizona (relative to South Africa and China) and the manganese ore being in the four-valence manganese oxide form (easily reduced to the two valence form that is easily soluble in sulphurous acid). The Artillery Peak deposit also has sufficient infrastructure in the area such that capital costs are reasonable at US\$90 million with power lines 12 km away and accessible water on site in underground aquifers.

Over the near term, American Manganese has a number of catalysts for the stock including the following:

- ◆ New 6,100 m drill program to increase the company's indicated resource and increase the overall deposit size beyond the current patented claims land.
- ◆ Completion of a NI-43101 compliant pre-feasibility study in the fall of 2011.
- ◆ Begin the bankable feasibility study for completion in mid-2012
- ◆ Get the permitting process started in late 2011.
- ◆ Potential for further price increases from Chinese suppliers as costs increase due to higher electricity costs.

We are initiating coverage of American Manganese with a SPECULATIVE BUY rating and a \$2.90 target price. Our target price is based on a DCF analysis of the company through the life of the mine (currently estimated at 18-years).



Valuation

EMM History and Development

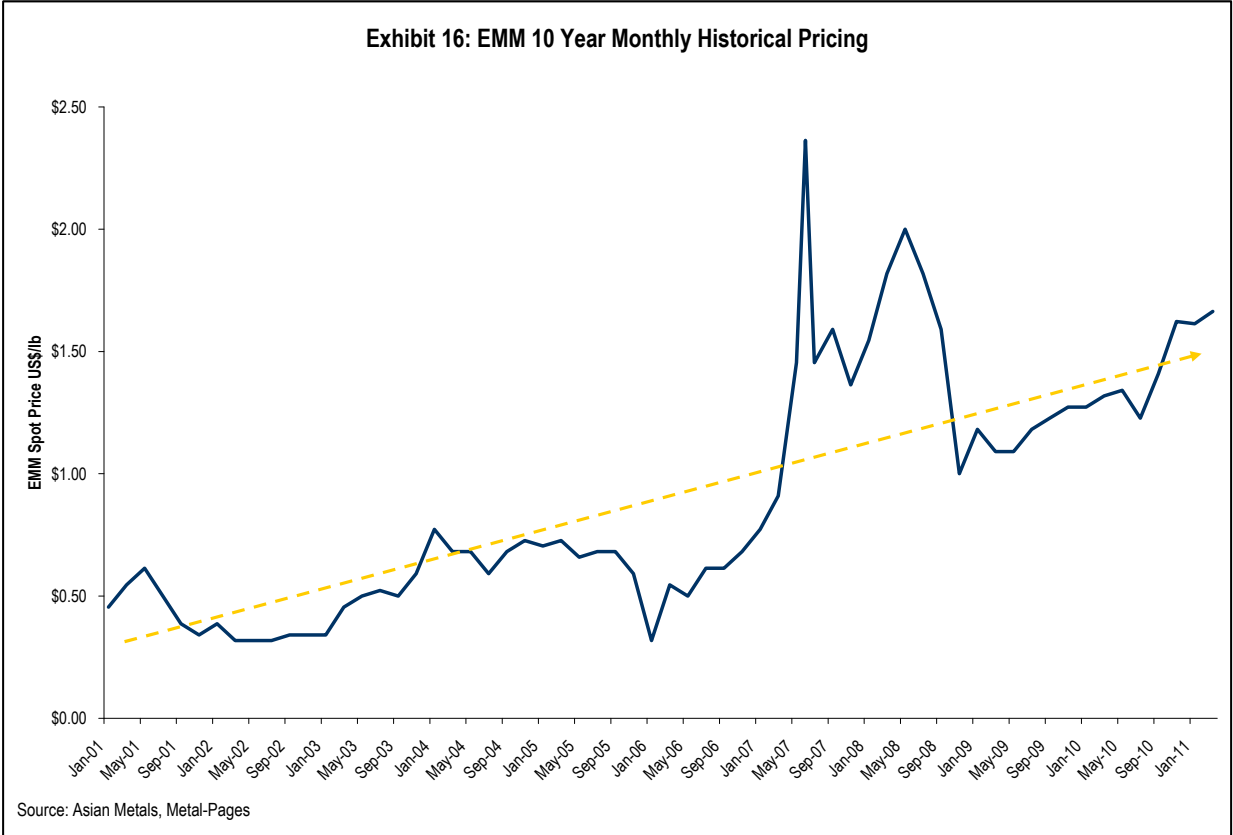
There are no publicly traded comparables that focus solely on the electrolytic manganese market and thus it is difficult to develop a comparables group. The closest comparable is the Manganese Metal Company of South Africa, which is a privately traded company. In China there are a number of companies that produce EMM though the majority are private companies with no reliable source of data to determine an appropriate valuation. Also, another significant differentiator between American Manganese and its counterparts in South Africa and China is that American Manganese owns its deposit whereas the majority of the other companies buy the ore and then process it at their facilities.

The only other publicly traded company with a potential US source of manganese is Wildcat Silver (WS-V), which also has a deposit in Arizona. However, the deposit is predominantly Silver with manganese as one of the by-products and thus does not make a good comparable to American Manganese. Also, Wildcat Silver's manganese production is expected to be a raw ore at about 44% manganese that will be shipped to be upgraded to ferro-manganese for use in the high strength, low alloy steel market. For the most part, there are no publicly traded direct manganese comparables as manganese assets are typically a small part of larger conglomerates such as BHP Billiton, which has manganese assets in Australia and South Africa.

American Manganese Combines Mining and Metals Processing

For the most part, American Manganese is similar to a combination of two companies, primary mining operations and processing operations. American Manganese will be mining and producing a primary input product directly as opposed to its competitors that purchase the raw ore from external supply sources and upgrade the ore to the pure metal form. This combination of one step mining and materials processing gives American Manganese a unique advantage in terms of cost that allows the company to compete in any global market.

One of the more significant factors to consider is EMM pricing as this will have a significant impact on our DCF model. If we look at EMM pricing over the past 10 years as illustrated in Exhibit 16, what is immediately evident is the positive trend in pricing. The price of EMM peaked in June 2007 at US\$2.36 per pound but settled down in the recession of 2009. However, the trend over the long term is positive as prices have been steadily increasing as the use of EMM has been increasing in China, Japan and Europe as a viable, low cost substitute for nickel in stainless steels.



For the purpose of our DCF modelling, we have used an average forward forecast price of US\$1.55 for EMM, with prices fluctuating between a low of US\$1.48 and a high of US\$1.62. We believe this forecast to be somewhat conservative given current pricing in the US is closer to US\$1.85 and in China pricing is closer to US\$1.79. The pricing used in American Manganese’s PEA was US\$1.10 in 2009, which we believe was too conservative for the purposes of modelling going forward.

American Manganese has a 43-101 compliant resource with indicated manganese pounds of 6.7 billion and 8.9 billion pounds in the inferred category. Management believes this estimate is only representative of approximately 15% of the total property and has recently commenced a drilling program to both increase the size of the total deposit and increase the value within the current indicated category. A table of American Manganese’s current 43-101 compliant resource estimate is shown in Exhibit 17.

Exhibit 17: American Manganese 43-101 Resource Estimate

	Tonnes (Million)	Grade (Mn)	Mn (lbs billion)
Indicated	92.8	3.27%	6.686
Inferred	107.2	3.76%	8.881
Total	200.0	3.53%	15.546

Source: Company reports



For capital expenditures, we have modeled in a total of US\$95 million for mine start-up, an increase of US\$5 million from the initial PEA estimates. The rationale for the increase is that we believe equipment costs have increased over the past two years since the PEA was completed as a result of exiting the recession and higher demand for mining related equipment. We have also increased operating costs marginally from the PEA estimate as well. In the PEA, the average cost for the life of the mine was closer to US\$0.45 per pound, which we have increased to US\$0.50.

Therefore, using our pricing and capital expenditure forecast as well as a production forecast of 120 million pounds of manganese per year at 90% recoveries, we arrive at a target price of \$2.90 per share. We have chosen to use a 10% discount rate given we expect production to commence in 2014 and continue for an 18-year mine life. We note that the company has recently undergone a new drill program to increase the total resource size and move more of the inferred resource into the indicated category. We present our sensitivity analysis in Exhibit 18 and a simplified version of our DCF model in Exhibit 24.

Exhibit 18: American Manganese Sensitivity Analysis

NPV (\$ millions)						
	PEA (1.10lb)	\$1.24	\$1.40	\$1.55	\$1.71	\$1.86
8%	\$199	\$281	\$370	\$457	\$549	\$638
9%	\$177	\$252	\$335	\$414	\$499	\$581
10%	\$157	\$227	\$303	\$376	\$455	\$531
11%	\$140	\$205	\$275	\$343	\$416	\$486
12%	\$124	\$185	\$250	\$313	\$381	\$446
13%	\$111	\$167	\$227	\$286	\$349	\$410
14%	\$98	\$151	\$207	\$262	\$321	\$377
NPV per share						
	PEA (1.10lb)	\$1.24	\$1.40	\$1.55	\$1.71	\$1.86
8%	\$1.53	\$2.16	\$2.84	\$3.51	\$4.21	\$4.90
9%	\$1.36	\$1.94	\$2.57	\$3.18	\$3.83	\$4.46
10%	\$1.21	\$1.74	\$2.33	\$2.89	\$3.49	\$4.07
11%	\$1.07	\$1.57	\$2.11	\$2.63	\$3.19	\$3.73
12%	\$0.96	\$1.42	\$1.92	\$2.40	\$2.92	\$3.42
13%	\$0.85	\$1.28	\$1.75	\$2.19	\$2.68	\$3.15
14%	\$0.76	\$1.16	\$1.59	\$2.01	\$2.46	\$2.90

Source: LBS Estimates

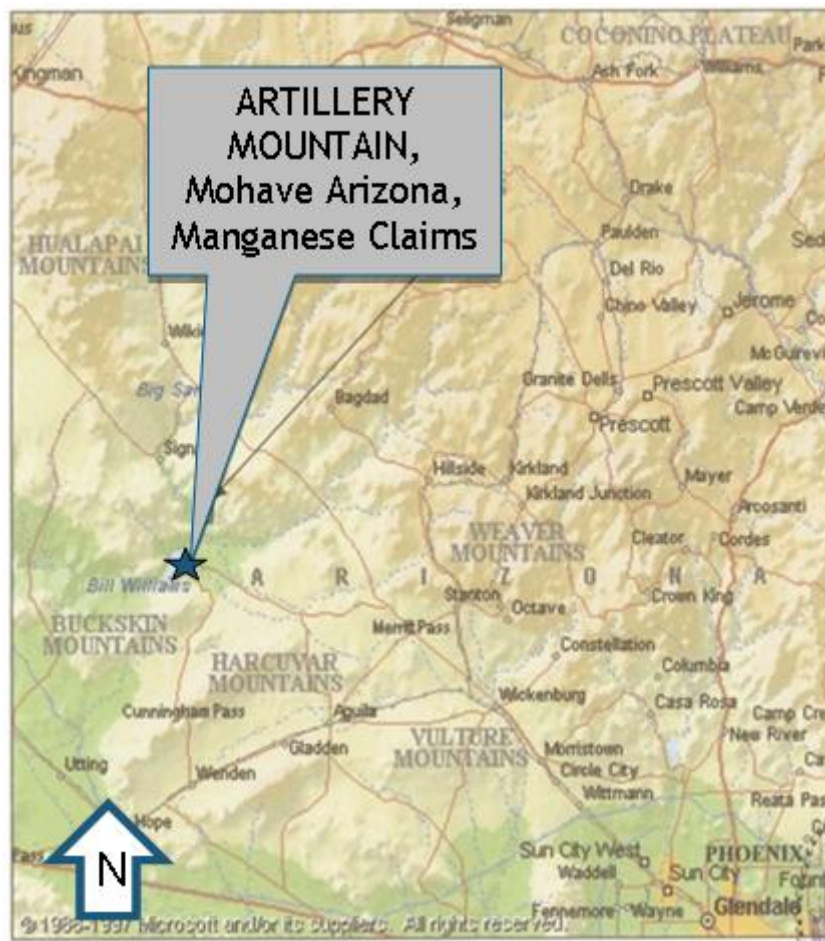
American Manganese - Company Overview

Location – Surrounded by Public Lands

American Manganese's flagship deposit known as Artillery Peak is located in Mohave county, Arizona and is approximately 250 km Northwest of Phoenix. The property consists of 254 unpatented claims and 112 patented claims and covers a total of 7,904 acres. The property can be reached by two wheel drive vehicle and is approximately 40 kilometres to the nearest town which is Wikieup, Arizona. The climate of the region is very dry desert with less than 6 inches in annual precipitation per year with temperature fluctuations between zero degrees Celsius in the winter to 49°C in the summer. A map of the Artillery Peak project is illustrated in Exhibit 19.



Exhibit 19: Artillery Peak Project Location



Source: American Manganese

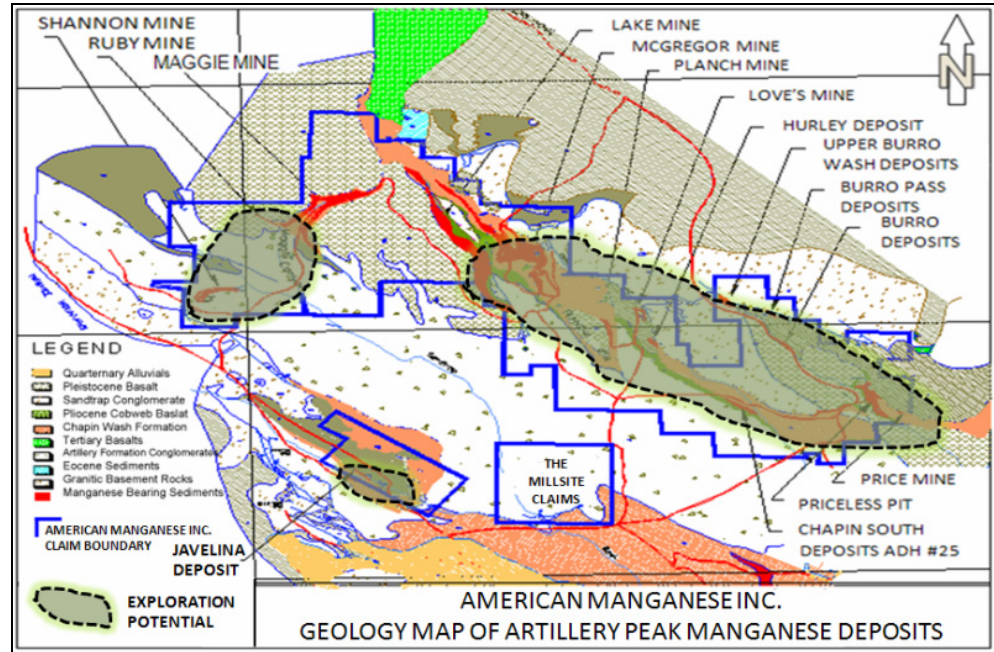
Site History

Manganese was first discovered in this region around 1880 or about 20 years after the old Alamo to Signal road was built and predominant outcrops of manganese ore were identified. However, the ore is relatively low grade and transportation from the region would have been costly at the time and thus no development was undertaken for several years. The first mining claims in the area date back to 1909 with some development undertaken during the time of the First World War given the importance of manganese for steel used in the war effort. More extensive exploration was done in the area around 1937 by the M. A. Hanna company, which completed a total of 28 diamond drill holes between 1937 and 1940.

During the Second World War interest in the area increased and some of the higher grade portions of the deposit were mined and shipped to the US strategic stockpile in Wenden, Arizona. These areas include the McGregor mine and the Maggie mine area which are illustrated in Exhibit 20.



Exhibit 20: Geology Map of the Artillery Peak Manganese Deposit



Source: American Manganese

Open Pit Mining

Accessible Site Close to Power and Onsite Water

Mining of the deposit is likely to begin around the area of the previous mining operations known as the McGregor mine. This area was mined in the 1940's and 1950's as it was the higher grade portion of the deposit. From this location, the mining is actually above ground and proceeds to become an open pit operation as mining continues down strike (towards the Southwest). As illustrated in Exhibit 21, the ore is very friable and the previous pit wall from the McGregor mine of the 1940's shows significant erosion and the material is easily broken up without the need for heavy machinery to perform crushing operations.



Exhibit 21: Pit Wall at McGregor Mine



Source: LBS

Artillery Peak Infrastructure

Accessible Site Close to Power and Onsite Water

The deposit is easily accessible by two wheel drive vehicle along several dirt/gravel roads and is located on public lands. The nearest neighbour to the deposit is about 5 km to the Southeast and beyond this one individual family there are no inhabitants within 30 km. Power lines are accessible about 14 km to the North of the property and could easily be extended to the site. Water is available on site as the company has been drawing upon an old flooded mine adit for its drilling water which appears to not drain out even during the height of the summer. It is likely that this old adit intercepts the aquifers running under the property and should provide sufficient water to run the operations. The water is located on the patented claims and thus American Manganese owns both the surface and water rights on these claims. A picture of the water source was obtained during our site visit in February 2011 and is shown in Exhibit 22.



Exhibit 22: On-site Water Source



Source: LBS

Metallurgical Process

Extensive work was done on the Artillery Peak deposit in the late 1940's to determine if the US Government could cost effectively mine this deposit in order to maintain continuity of supply to the US steel industry. The US Bureau of Mines performed bench scale and pilot plant test work though did not follow through with optimization and the project was later abandoned. Producers in South Africa later utilized the process as a method to recover manganese from a waste stream used in processing Uranium and thus began the first commercial scale operations. The Chinese also began producing EMM using a similar process with the addition of Selenium in order to make the electro-winning process more efficient.

The manganese resource at the Artillery Peak deposit is primarily made up of pyrolsite and wad (MnO_2), which are in the 4 valence form and easily reduced to the 2 valence form in sulphurous acid. The raw resource material is friable and large particles break down easily during stirred tank leaching and thus do not require extensive crushing or milling on the front end of the process. After separation and recovery of the pregnant leach solution, it is then purified by increasing the alkalinity of the solution to precipitate the impurities including trace amounts of Al, As, SiO_2 and base metals. Trace amounts of iron are also removed through aeration. The solid precipitates are then separated from the concentrated leach solution that is then mixed with NaHS to precipitated Zn as ZnS. The remaining solution is predominantly $MnSO_4$ and MnS_2O_6 in solution. The manganese is precipitated as $MnCO_3$ and the sulphate and dithionate are washed away as sodium salts.

The final chemical step before the electro-winning circuit is to mix manganese carbonate (MnCO₃) with sulphuric acid to create high purity MnSO₄ for electrolysis. The sodium sulphide is separated from the manganese carbonate through the use of a thickener and the manganese concentrate is then ready for the electro-winning circuit. The final step is the plating of the metal in the electro-winning cell which involves the addition of an electrolyte and significant power requirements to plate the pure manganese metal to the cathode. A key element in this proprietary process is the manganese carbonate (MnCO₃). This, after purification, is the feed for electrolysis to produce EMM or EMD. It may also be converted to create Lithium manganate (LiMn₂O₄), the compound needed for the cathode in high power rechargeable batteries. The tailings from the process are to be returned to the open pit as back fill and are considered to be benign with no ability to generate acids.

Artillery Peak Project Timeline

The next major milestone in the Artillery Peak project is the pre-feasibility study due in the fall of 2011 that should include an updated 43-101 resource report from the drilling that has recently started. The pre-feasibility report is expected to be followed by the bankable feasibility study by mid-2012, which we expect to lead to construction on the project beginning in mid-2013. A detailed timeline of expected events is illustrated in Exhibit 23.

Exhibit 23: Artillery Peak Timeline

	2007	2008	2009	2010	2011	2012	2013	2014
Acquisition & NI43-101	■							
Patents & Land Acquisition		■						
Drilling		■		■				
43-101 Resource Report		■	■		■			
Metallurgical Tests, Pilot Plant		■	■	■	■	■		
Scoping, Prefeasibility & Feasibility		■	■		■	■	■	
Environmental Regulations					■	■	■	
Detailed Engineering						■	■	
Equipment Procurement							■	■
Construction							■	■
Production								■

Source: Company Reports



American Manganese Management

The management team of American Manganese has extensive experience in the mining industry in a number of metals including precious metals, molybdenum, and various base metals projects.

Larry W. Reaugh, *President & Chief Executive Officer*

Mr. Reaugh has been President and Chief Executive Officer of American Manganese Inc. since February, 1998. Concurrently, he has been the President and Chief Executive officer of Goldrea Resources Corp. since March, 1981, as well as the Chairman & Chair Executive Officer of Molycor Gold Corp. Mr. Reaugh has over 45 years of experience in the mining industry, with over 30 years holding the title of CEO & President at various exploration, development and producing mining companies. The past 20 years of Mr. Reaugh's career have been directly involved with junior resources companies, where he has helped raise in excess of \$250 million towards mineral exploration.

Michael MacLeod P.Eng, M.Eng, MBA, *Chief Operating Officer*

Mr. MacLeod holds the position of Chief Operating Officer for American Manganese Inc. He is responsible for all project development, operational activities, assembling and leading an experienced team of professionals for furthering the Artillery Peak Project. Mr. MacLeod has more than 30 years experience executing major capital projects and mine developments in the mining industry, including the Byron Creek coal mine expansion for Esso Resources Canada Ltd. Prior to American Manganese, he was involved in a number of roles at Adanac Molybdenum Corporation, from VP of Project Development to Chief Executive Officer. Mr. MacLeod holds a B.Sc. Engineering in Mining and an M. Eng. in Mining, as well as an MBA.

Ken Wright, CGA., *Chief Financial Officer*

Mr. Wright has been Chief Financial Officer of Rocher Debole Minerals Corp., since October 2007, and of Molycor Gold Corp. since September 2007. He brings over 37 years of accounting experience, with the last 18 years as an associate with BDO Dunwoody LLP. His experience has seen him serve as Coordinating Board Member for C.G.A. courses with the University of Caledonia and past auditor of the Okanagan Chapter of the C.G.A. Association of British Columbia.

Teresa Piorun, *Corporate Secretary*

Mrs. Piorun currently holds the title of Corporate Secretary for American Manganese Inc. Responsibilities include facilitating communication with the board of directors, senior management and the company's shareholders. She has been involved with The Reaugh Group of companies for over 20 years and is currently also Company Secretary of Adanac Molybdenum Corporation, Goldrea Resources Corp., and Molycor Gold Corp.



Other Properties

American Manganese has additional projects located in British Columbia that are currently in the exploration phase. The following is a brief description of each of the properties.

Rocher Deboule

Location: 9km south of New Hazelton, British Columbia

Minerals: Iron Oxide, Copper Gold

Ownership: 100%

Defined Resource: None

Current Status: The company's goal is to locate the source of the high grade veins previously discovered and focus on growing the resource potential on the 10,935 hectare property.

Lonnie & Virgil

Location: North-central British Columbia, 6km northeast of Mason Creek community.

Minerals: Niobium/Lanthanum (Rare Earths)

Ownership: 100%

Defined Resource: None

Current Status: The company completed a diamond drill program on the 1,605 hectare property at the end of October 2009.

Investment Risks

Chinese Dominance of EMM Market

China currently controls the global Electrolytic Manganese Metal market and thus has much influence in the pricing. Chinese producers have dominated the EMM market by supplying over 97% of the market as well as being the most significant consumer of EMM. The Chinese government also imposes a 20% export duty on EMM thus further influencing the pricing of EMM.

Financing Risk

To advance Artillery Peak into development, American Manganese will be required to raise a significant amount of capital. Total capital requirements for the project is estimated to be US\$90 million to US\$100 million. Financing will need to be completed by the end of 2012, prior to planned construction commencing in 2013. The financing will be subject to future market conditions and there can be no guarantee that financing for the project will go as anticipated.

Project Development Risk

Any unanticipated project delay and/or capital cost overrun could significantly impact the company. Artillery Peak is currently the sole asset being used in our valuation of the company. Should any unanticipated increase in capital costs or delay in the project occur, the outcome may have a significant negative impact on the stock price.

Metallurgical Risk

Bench scale testing has had favourable results and the company is now doing pilot plant testing. The successful process of producing manganese through electrolysis was developed by the U.S. Bureau of Mines in the mid 1940's. The general process is widely used in China (with some modification) and in South Africa for producing EMM. The metallurgical test from Kemetco successfully demonstrated that the process works in the laboratory and now the company is proceeding with the pilot plant development.



American Manganese's Past Financings

A list of American Manganese's financing since 2008:

- ◆ February 29, 2008 – raised \$1.6 million consisting of 3,562,200 units (1 share plus 1 warrant) priced at \$0.45 with the warrant exercise price at \$0.90.
- ◆ October 8, 2008 – raised \$651,000 consisting of 3,255,000 units (1 share plus 1 warrant) priced at \$0.20 with the warrant exercise price of \$0.30.
- ◆ April 24, 2009 – raised \$162,500 consisting of 1,625,000 units (1 share plus 1 warrant) priced at \$0.10 with the warrant exercise price of \$0.15.
- ◆ June 12, 2009 – raised \$1.0 million consisting of 10,345,800 units (1 share plus 1 warrant) priced at \$0.10 with the warrant exercise price of \$0.15.
- ◆ February 17, 2010 – raised \$1.2 million consisting of 5,969,595 units (1 share plus half warrant) priced at \$0.20 with the warrant exercise price of \$0.30.
- ◆ June 16, 2010 – raised \$1.0 million consisting of 4,613,184 units (1 share plus 1 warrant) priced at \$0.22 with the warrant exercise price of \$0.30.
- ◆ August 11, 2010 – raised \$412,231 consisting of 2,290,174 units (1 share plus 1 warrant) priced at \$0.18 with the warrant exercise price of \$0.25.
- ◆ February 11, 2011 – raised \$4.2 million consisting of 13,976,961 units (1 share plus 1 warrant) priced at \$0.30 with the warrant exercise price of \$0.40.
- ◆ March 8, 2011- raised \$5.04 million consisting of 7.2 million units (1 share plus half warrant) priced at \$0.70 with the warrant exercise price of \$0.90.

Exhibit 24: LBS American Manganese DCF Model

American Manganese (AMY-V)	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
(YE Jul 31, C\$'000)										
Ore tonnes mined	0	0	0	1,225,000	1,225,000	1,225,000	1,225,000	1,225,000	1,225,000	1,225,000
Strip ratio	n/a	n/a	n/a	0.50	0.50	0.75	1.00	1.50	2.00	2.50
Net revenue	0	0	0	153,698	155,817	156,877	148,398	148,398	146,278	150,518
Total operating costs	1,500	1,500	1,500	52,158	52,189	52,219	52,938	52,999	53,718	53,779
Operating cost per lb Mn	n/a	n/a	n/a	\$0.48	\$0.48	\$0.48	\$0.49	\$0.49	\$0.50	\$0.50
Operating cash flows	0	0	0	53,840	53,810	53,779	53,060	52,999	52,281	52,219
Taxes	0	0	0	0	32,940	33,189	29,952	29,849	28,745	30,097
Net income	(1,500)	(1,500)	(11,000)	92,040	61,174	61,637	55,626	55,433	53,384	55,894
Total capital costs	0	45,000	50,000	13,800	150	3,170	500	2,350	3,140	3,170
Net cash flows (after tax)	(1,500)	(46,500)	(51,500)	87,740	70,539	68,299	65,008	63,200	60,675	63,472
NPV @10% (based on 18-year mine life)		\$376,373								
Target price		\$2.89								

Source: Company reports, LBS

Canada Fluorspar Inc. (CFI-V – \$0.53)

Canada Fluorspar is a Canadian based exploration and development company with a focus on fluorspar. The company is focused on developing its-100% owned fluorspar project in St. Lawrence, Newfoundland, with production forecast to commence in H1 2013. The project is anticipated to initially produce between 120,000 and 180,000 tonnes of high-grade fluorspar concentrate per year, over a 20-year mine life. Canada Fluorspar Inc. is headquartered in Toronto, Canada.



Source: BigCharts.com

Market Data		Shares O/S F.D(M)	91.0
Ticker	CFI-V	Market Cap (M)	\$48.2
Rating	BUY(S)	Float O/S (M)	66.3
Risk	High	Enterprise Value (M)	\$41.6
Price	\$0.53	Net Cash (M)	\$6.7
1-Yr Target	\$1.00	Total Debt (M)	\$0.0
Dividend Yield	n/a	Avg Daily Vol (K)	57.6
1-Yr ROR	88.7%	Ownership	
52 Wk High-low	\$0.75-\$0.24	Mgmt + Dir	27%
Valuation	DCF	Institutional	31%
Year End	31-Dec	Debt/Cap	n/a
Next Reporting	May-11		

Capital Expenditures (M) - December 31 Year End					
	2011	2012	2013	2014	2015
Capex	\$25.0	\$50.0	\$25.0	\$0.0	\$1.0

Resource Estimate			
Vein		Tonnes (M)	Grade (Mn)
Blue Beach North	Indicated	4,390,000	39.0%
Tarefare	Indicated	4,700,000	44.8%
	Total Indicated	9,090,000	42.0%
Blue Beach North	Inferred	355,000	30.0%
Blow out	Inferred	595,000	31.8%
	Total Inferred	950,000	31.1%

Source: Company Reports, LBS

Buy (S) – Target Price: \$1.00

We rate Canada Fluorspar a Speculative Buy with a one-year share price target of \$1.00, implying a total return of 89%. This target is based on our DCF analysis of the company's St. Lawrence fluorspar project. We have a share risk rating of High. We highlight the following:

- ◆ **Strong Pricing Environment for Fluorspar:** Fluorspar pricing declined in the late 1980's as exports from China flooded the market thus forcing production off-line. The recession of 2009 also resulted in a sharp decline in pricing though the recent improvement in the economy as well as export restrictions out of China have resulted in a strengthening in pricing.
- ◆ **Close Access to Shipping Port:** Canada Fluorspar will be building its own port facility 1 kilometer from its mill site. The Newfoundland government has committed \$10 million towards the construction of the port which is only 100 miles from the existing shipping lanes into the St. Lawrence River.
- ◆ **Available Infrastructure on Site:** The St. Lawrence mine has been in and out of production since the 1930's and thus has significant infrastructure already on site including power, roads, and available water. The site also has a building with equipment and an underground shaft built by Alcan in the 1970's that will give the company access to mine underground the Tarefare vein.
- ◆ **Access to Customers in North America and Western Europe:** Due to the location of the property at the southern tip of Newfoundland, the company has easy shipping access to potential customers in North America and Western Europe. North America is currently the second largest consumer of fluorspar after China.
- ◆ **We Believe Pending Catalysts for Canada Fluorspar's Share Price Include:** 1) The expected announcement of a strategic partner to provide both an off-take agreement and equity investment 2) Release of a pre-feasibility study; 3) Expected further spot price increases in fluorspar.

Investment Thesis – Chinese Export Squeeze

China is the Dominant Producer of Fluorspar

Much like other strategic minerals including rare earths, graphite, tungsten and electrolytic manganese, China is the dominant producer and exporter of fluorspar. Historically, Chinese producers have flooded the market with fluorspar which has led to a collapse in pricing and the shutdown of mining operations in other parts of the world. We believe this period of oversupply by the Chinese is ending due to declining resources and the need for internal consumption and therefore market prices for fluorspar are likely to remain robust for the foreseeable future.

Canada Fluorspar has several unique advantages that make it a lower risk and relatively low cost producer. The mine at St. Lawrence Newfoundland has been in and out of production since the 1930's. The deposit at St. Lawrence is high grade with significant local infrastructure including power lines within 1 km, a local workforce, existing shaft, existing facilities, and close access to port facilities. The local government support for the project is very strong as the provincial government of Newfoundland has committed \$10 million to the construction of a new shipping port to be located 1 km from the mill. Having the mill and port in such close proximity is a significant advantage to Canada Fluorspar as it reduces shipping costs and it is also advantageous that the new port at St. Lawrence is only 100 km away from the main shipping lanes into the St. Lawrence river to the Port of Montreal.

41 Known Veins, 40 of Which Outcrop at Surface

The St. Lawrence area hosts numerous fluorite-bearing veins that are known to be up to 2 km in length and up to 30 m in thickness in certain areas. There are 41 known veins within Canada Fluorspar's claims area of which 40 outcrop at surface. The two veins the company has chosen to focus on are the Tarefare and Blue Beach veins. The Tarefare vein has a 1,500 ft shaft built by Alcan in the 1970's that the company plans to utilize to start its underground mining operations while the Blue Beach North vein was previously mined by Minworth in the 1980's and accessed the underground vein through the use of a low cost ramp.

Canada Fluorspar currently has a NI 43-101 compliant resource of just over 9 million tonnes of CaF₂ grading 42%. This resource estimate includes part of the Tarefare and Blue Beach North veins though we believe the resource can be increased significantly through further drilling. The company's NI 43-101 resource is illustrated in Exhibit 25.

Exhibit 25: Canada Fluorspar Resources and Mineral Reserves

Vein	Category	Tonnes	% CaF ₂
Blue Beach North	Indicated	4,390,000	39.0%
Tarefare	Indicated	4,700,000	44.8%
	Total Indicated	9,090,000	42.0%
Blue Beach North	Inferred	355,000	30.0%
Blowout	Inferred	595,000	31.8%
		950,000	31.1%

Source: Company Reports



We expect Canada Fluorspar to be in production by 2013 based on the advanced stage of the project. In the near term, we expect the company's stock price to react positively to a number of catalysts including:

- ◆ The announcement of a strategic partnership agreement that will include both an off-take agreement and funding for the project
- ◆ The completion of a positive pre-feasibility study
- ◆ Further price increases in fluorspar pricing

We are initiating coverage of Canada Fluorspar with a SPECULATIVE BUY rating and a \$1.00 target price. Our target price is based on a DCF analysis of the company over the first 20 years of production.

Valuation

There is only one notable publicly traded comparable to Canada Fluorspar and that is South African based Sallies (SAL-SJ) though the company is majority owned by Maghreb Minerals (MMS-LN). Maghreb Minerals' stock is currently suspended on the AIM though should start trading again later in the fall and will have one of the larger fluorspar holdings amongst public companies as its properties include the Witkop mine in South Africa, and the Kimwarer mine in Kenya, as well as other non-fluorspar related assets. The company recently created a new company to market and trade fluorspar named FluorOne. However, for our valuation we have built our model based on a combination of information from management as well as material from the NI-43101 resource estimate prepared by Scott Wilson.

We Expect Production to Commence in 2013

We forecast production commencing in 2013 with a 20-year mine life producing 120,000 tonnes of fluorspar annually. Our pricing assumptions for our base case scenario are for an average price for the life of the mine of approximately \$450 per tonne. Current spot prices have recently reached over \$500 per tonne F.O.B. China, with the potential for further price increases due to supply disruptions. Total capital costs are estimated to be approximately \$97 million and we anticipate the financing to come from a combination of strategic partner investment, debt and equity. The construction of the port facility at the site already has Newfoundland government commitment of \$10 million, which was recently renewed and has the potential to be increased.

Our model is most sensitive to sale prices of fluorspar and we believe the company will enter into a long-term sales agreement with a strategic partner for a portion of its production, while selling the remainder through additional sales agreements or on the stock market. We believe spot prices will continue to increase on tight supply as China (over 50% of global supply) utilizes more fluorspar for internal consumption.

For our model, we use a discount rate of 8% given the company is less than two years away from production and the mine is a brown field site with known extraction processes and existing equipment on site. We model production of 50,000 tonnes in the first year with a ramp up to 120,000 tonnes by 2016. Our sensitivity analysis is presented in Exhibit 26.



Exhibit 26: Sensitivity Analysis

After Tax NPV	-20%	-10%	Baseline	+10%	+20%
5%	\$62,181,257	\$103,728,455	\$145,275,654	\$186,822,852	\$228,370,051
6%	\$48,293,521	\$85,815,466	\$123,337,410	\$160,859,355	\$198,381,299
7%	\$36,421,137	\$70,431,849	\$104,442,561	\$138,453,273	\$172,463,984
8%	\$26,244,299	\$57,180,321	\$88,116,343	\$119,052,366	\$149,988,388
9%	\$17,498,842	\$45,732,269	\$73,965,696	\$102,199,123	\$130,432,550
10%	\$9,965,830	\$35,814,963	\$61,664,095	\$87,513,227	\$113,362,359

Per Share Value	-20%	-10%	Baseline	+10%	+20%
5%	\$0.68	\$1.14	\$1.60	\$2.05	\$2.51
6%	\$0.53	\$0.94	\$1.36	\$1.77	\$2.18
7%	\$0.40	\$0.77	\$1.15	\$1.52	\$1.90
8%	\$0.29	\$0.63	\$0.97	\$1.31	\$1.65
9%	\$0.19	\$0.50	\$0.81	\$1.12	\$1.43
10%	\$0.11	\$0.39	\$0.68	\$0.96	\$1.25

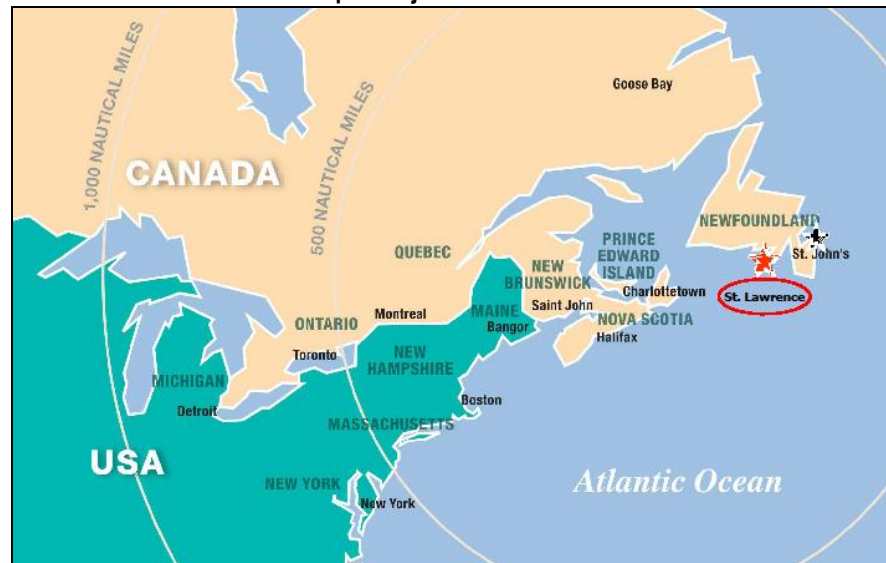
Average Pricing (per tonne)	-20%	-10%	Baseline	+10%	+20%
	\$360	\$405	\$450	\$495	\$540

Source: Company Reports, LBS

Canada Fluorspar - Project Overview

The St. Lawrence Fluorspar project is Canada Fluorspar's flagship operation, with the company owning 100% interest in the property. The project contains 118 mineral claims, covering an area of approximately 2,950 ha. The property is located at the southern tip of Burin Peninsula, Newfoundland, by the town of St. Lawrence, and is approximately 350km southwest of St. John's, Newfoundland. The property is easily accessible by four-wheel drive vehicles, and is located near the Newfoundland Power grid. A map of the property is illustrated in Exhibit 27.

Exhibit 27: St. Lawrence Fluorspar Project Location



Source: Canada Fluorspar



Site History

Fluorspar Mining in the Area First Began in 1933

St. Lawrence and the Burin Peninsula of Newfoundland have hosted fluorspar exploration operations for decades, with unrecorded mining dating back to the 17th and 18th century. Historically there have only been a handful of companies involved in the region dating back to the 1930s. St. Lawrence Corporation was the first company documented to perform mining operations in the area between 1933 and 1941. In 1942, Alcan acquired the mines and recovered ore, which it shipped to Quebec to produce acid grade fluorspar. Alcan shut down operations in 1978 due to cheaper fluorspar from Mexico, and an employee strike at the St. Lawrence mine. From 1986 to 1990, St. Lawrence Fluorspar Limited, a subsidiary of Minworth Ltd. from the UK, acquired and operated an underground mining project. Operations were terminated in 1990 due to lack of funding, low fluorspar market prices, and a lack of demand. Overall, approximately 4.6 million tonnes of fluorspar ore were mined from the property by the previous operators mentioned above, with grades ranging from 40% CaF₂ to 58% CaF₂.

The early 1990's saw a period of inactivity as the land claims were returned to the Government of Newfoundland and Labrador. Burin Minerals Ltd. (predecessor to Canada Fluorspar) began its involvement in 1996 at Shoal Cove Pond. In 1999, Burin conducted over 14,000m of diamond drilling in 43 holes at the Blue Beach North and Tarefare veins. In 2007, Lindsay Gorrill became President and CEO of Burin, and in 2008 the company conducted a 62-hole program of infill drilling on the Tarefare and Blue Beach north veins. In April of 2009, Canada Fluorspar went public following a merger between Rivera Capital Corp. and Burin Fluorspar Ltd.

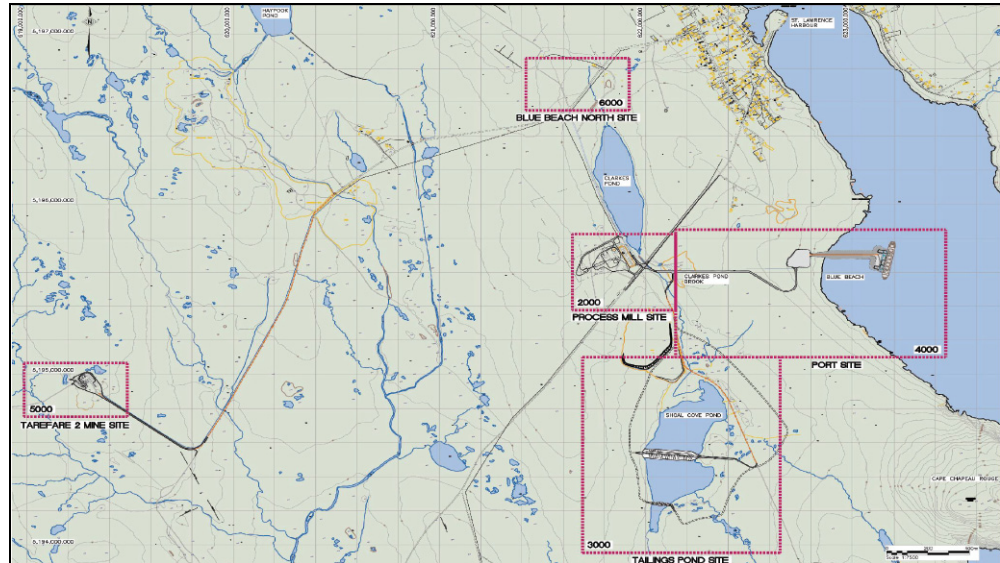
St. Lawrence Infrastructure

The St. Lawrence Fluorspar Property is located at the southern point of Burin Peninsula, Newfoundland. It is adjacent to the town of St. Lawrence, with St. John's 350km away by road. The deposit area is easily accessible by paved roads via highway with up to 1km to 4 km by gravel roads to the various veins. The mill is situated near Blue Bach Vein, only one kilometre from St. Lawrence. Power to the site is currently routed through the town of St. Lawrence though management expects to run a new power line (about 2 km long) directly from the main power grid. Water will be sourced from nearby ponds for all uses. Local infrastructure will be supplied from Marystown, located approximately 45km northeast of St. Lawrence and has a population of less than 10,000, as the town of St. Lawrence only holds 1,300 residents and is not an adequate population size.

Project Development

Canada Fluorspar is planning to reactivate existing underground fluorspar mines, with the anticipation of producing between 120,000 and 180,000 tonnes of fluorspar acidspar concentrate per annum, using a 25 year projected mine life. Included in the plans, Canada Fluorspar intends on expanding an existing mill, constructing a new Tailings Management Facility, and building a new deep-water marine terminal near Blue Beach Cove for export of fluorspar concentrate product. Exhibit 28 outlines the locations of the mines, tailing pond, and port.

Exhibit 28: Layout of Mines and Mill Site



Source: Canada Fluorspar

Reactivation

The initial stage for the project development is to reactivate the existing Tarefare and Blue Beach North mines. Both mines have seen successful mining operations occur in the past. Both sites have existing shafts from past operators in place. Pre-production activity will include installing a ramp, a ventilation raise, a transfer drift, an ore pass, a waste pass, main water sump, and level development at the Tarefare site. Blue Beach North requires a ramp. Surface infrastructure will require additions during the pre-production stage, including a headframe, hoist room, ore and waste pass systems, ventilation systems, dewatering systems, and maintenance facilities at each mine.

Mine and Mill Upgrades

As the mine sites have been inactive for almost two decades, much of the equipment has been either decommissioned, removed, or requires upgrades. This includes electrical equipment, power lines, and mechanical equipment, specifically at the mineshaft locations. Canada Fluorspar intends on upgrading or replacing all existing infrastructure as part of the re-activation plan. New buildings will also be constructed to accommodate a laboratory, maintenance/service, ore crushing, ore storage, and final concentrate product storage.

Deepwater Marine Terminal

The wharf will be capable of handling shipping vessels from 10,000 Dead Weight Tonnes (DWT) to 65,000 DWT. Canada Fluorspar estimates that the concentrate export will vary from 5,000 to 20,000 tonnes per shipload, requiring one ship per month. Management intends on capitalizing on ships that are partially filled passing the south coast of Newfoundland taking on fluorspar concentrate to reach capacity. The Newfoundland Government has committed \$10 million in funding for the construction of the port facility at the site.

Tailings Management Facility

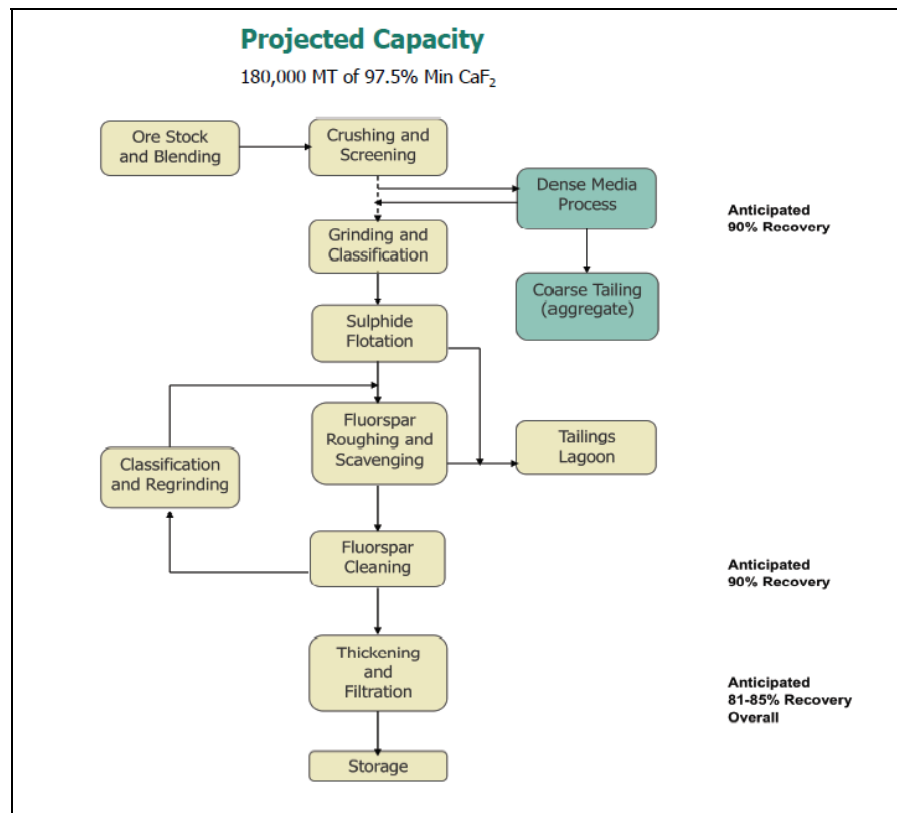
Canada Fluorspar intends to produce approximately 2 million tonnes of flotation tailings during the 20-year mine life. A Tailings Management Facility (TMF) will be needed to store the flotation tailings. The company is planning to construct the TMF in Shoal Cove Pond, which has seen previous mining operations use it for tailings. Water quality monitoring and treatment stations will also be included in the TMF.

Metallurgical Testing and Processing Strategy

The St. Lawrence property is a brown field site and thus the region had past production from Minworth in the 1980's and Alcan in the 1970's. Canada Fluorspar plans on re-using the mill and a portion of the equipment left by Minworth with some modifications to the process and structure to improve performance. Canada Fluorspar has completed extensive bench scale test work achieving CaF₂ recoveries of over 85% with the goal of 90% recovery in production.

The process is relatively straight forward with initial crushing and screening operations followed by a series of floatation cells. The majority of the floatation cells from the original Minworth facility are expected to be re-used along with the primary jaw crusher. The end product which is a damp filtercake (97.5% calcium fluoride purity) will be stockpiled at the mill and trucked to the wharf when cargo ships arrive.

Exhibit 29: Process Flow



Source: Canada Fluorspar



Canada Fluorspar Management

Canada Fluorspar has established a strong senior management team with significant experience with resource based companies as well as a strong operations team with prior experience in mining fluorspar.

Lindsay Gorrill, *President & Chief Executive Officer*

Mr. Gorrill has been Chief Executive Officer and President of Canada Fluorspar Inc. since April 2009. He is currently the director or officer of a number of resource based companies. He has twenty years of senior management experience and has a diverse industry background with publicly listed companies. His senior management experience includes financial management, strategic planning, financings, acquisitions and corporate restructurings. Mr. Gorrill graduated from Simon Fraser University with a BBA in Finance and Marketing in 1988. He was admitted to the Institute of Chartered Accountants of British Columbia in August 1989.

John Higginbotham, *Chief Financial Officer*

Mr. Higginbotham has been Chief Financial Officer of Canada Fluorspar Inc., since December 2010. He has extensive experience in finance, accounting, and the capital markets. Prior experiences include Managing Director and Treasurer of RBC Dominion Securities Inc., and Chief Financial Officer and Secretary of Oil Sands Split Trust. Mr. Higginbotham holds an Honors B.A. degree from the Richard Ivey School of Business at the University of Western Ontario and is a Chartered Accountant.

Richard Carl, *Executive Chairman*

Mr. Carl is the President and Chief Operating Officer of AGS Capital Corp., co-founded AGS Energy, a private equity fund in the Canadian oil and gas industry. He has been the Executive Chairman of Canada Fluorspar since April 2009. Prior to AGS and Canada Fluorspar, Mr. Carl was President and Country Manager of Credit Suisse Canada and Senior Vice President, Nesbitt Burns. Mr. Carl holds a Bachelor of Commerce and Finance from the University of Toronto and holds a Chartered Financial Analyst degree.

Phonce Cooper, *General Manager*

Mr. Cooper has been the General Manager of Canada Fluorspar Inc. since 1996. Responsibilities include all the engineering and technical work related to the project. He is a Civil/Mining Engineer with over 30 years experience in the mining industry. His experiences include both open pit and underground mining for a wide range of minerals including fluorspar, iron ore, silica, slate and salt. Mr. Cooper has a Bachelor of Applied Science, Civil/Mining Engineering degree from Memorial University (1975) and holds the qualification of Professional Engineer (NL).

Norman Wilson, *Mill Manager*

Mr. Wilson has served as Mill Manager with Canada Fluorspar Inc. since April 1997. He is a metallurgical engineer with over 35 years of experience in the minerals processing industry having worked on metallic and non-metallic mineral projects throughout the world. Prior to Canada Fluorspar, Mr. Wilson was Resident Manager and Metallurgist with Kenya Fluorspar Ltd. Mr. Wilson holds an Advanced Diploma in Metallurgy from Manchester Metropolitan University (1980). He is a Professional Engineer (NL), a Chartered Engineer (UK) and holds the qualifications of Eur.Ing., FIMMM and MSAIMM.



Investment Risks

- Chinese Price Influence** China currently produces over 50% of global fluorspar production, with a possibility to increase exports. Presently, the Chinese consume a large amount of what is produced inside China. However, should they decide to increase the export quota to outside countries, the price of fluorspar could experience some volatility. A price drop in the fluorspar market could have significant downward pressure on CFI's share price.
- Financing Risk** Additional funding is necessary to bring the St. Lawrence project through the development phase and into production. CFI needs close to \$100 million to fund the capital cost requirements to re-start the St. Lawrence mine. The company is currently pursuing a number of strategic partnership agreements with the hope of securing an equity investment and leveraging the partners lending relationships. A portion of the companies funding will also have to come from public market equity raises. The financing will be subject to future market conditions and there can be no guarantee that financing for the project will go as anticipated.
- Project Development Risk** Any unanticipated project delay and/or capital cost overrun could significantly impact the company. A large aspect of the St. Lawrence project is the reactivation of mines that have been inactive for more than 20 years. Management has indicated a plan to reuse or upgrade the mines, and reactivation may require additional time or funding that was not anticipated.
- Metallurgical Risk** Failure to achieve the required recoveries or product grade could negatively impact costs. Prior operators did not achieve the level of recovery that Canada Fluorspar expects though management has indicated that the prior operator instituted several process short-cuts thus impacting quality output.

Canada Fluorspar's Past Financings

A list of Canada Fluorspar's financing since going public in 2009:

- ◆ June 18, 2009 – raised \$2.0 million consisting of 3,100,142 units priced at \$0.35 and 2,178,452 “flow-through” units priced at \$0.42.
- ◆ March 8, 2010 – raised \$1.2 million consisting of 557,503 units priced at \$0.40 and 2,035,414 “flow-through” units priced at \$0.48.
- ◆ November 8, 2010 – raised \$1.4 million consisting of 1,944,444 “flow-through” units (1 share plus half warrant) priced at \$0.72 with the warrant exercise price of \$0.80.
- ◆ December 16, 2010 – raised \$5.5 million consisting of 11.0 million units (1 share plus half warrant) priced at \$0.50 with the warrant exercise price of \$0.60.



Exhibit 30: Canada Fluorspar's DCF Model

Canada Fluorspar (CFI-V) (YE Dec 31, C\$)	2011	2012	2013	2014	2015	2016	2017	2018	2019
Net Revenue	0	0	21,289,500	44,471,400	41,632,800	49,675,500	48,571,600	47,467,700	55,195,000
Total operation costs	0	0	9,960,000	19,920,000	19,920,000	23,240,000	23,240,000	23,240,000	23,240,000
Corporate costs	600,000	600,000	498,000	996,000	996,000	1,162,000	1,162,000	1,162,000	1,162,000
Income before taxes	(600,000)	(600,000)	7,602,000	21,546,000	18,558,000	23,538,000	22,376,000	21,214,000	29,348,000
Taxes	0	0	0	0	0	7,061,400	6,712,800	6,364,200	8,804,400
Net income	(600,000)	(600,000)	7,602,000	21,546,000	18,558,000	16,476,600	15,663,200	14,849,800	20,543,600
Total capital costs	(25,000,000)	(50,000,000)	(25,000,000)	0	(1,000,000)	0	0	(1,000,000)	0
After tax net cash flow	(25,600,000)	(50,600,000)	(13,048,000)	25,896,000	21,908,000	20,826,600	20,013,200	18,199,800	24,893,600
NPV @8% (based on 20 year mine life)		\$88,116,343							
NPV / share F.D.		\$0.97							
Source: Company Reports, LBS									

Colt Resources (GTP-V – \$0.68)

Colt Resources is a Canadian based exploration company with a focus on exploring and developing gold and tungsten properties. The company is focused on its advanced staged projects in Portugal, and is currently the 51% owner and operator of Montemor gold project in southern Portugal. The company presently holds interests in numerous properties in Portugal as well as properties in British Columbia and Quebec. Colt Resources Inc. is headquartered in Montreal, Canada.



Source: BigCharts.com

Market Data			
Ticker	GTP-V	Shares O/S F.D(M)	113.3
Rating	BUY(S)	Market Cap (M)	\$77.0
Risk	High	Float O/S (M)	105.4
Price	\$0.68	Enterprise Value (M)	\$61.7
1-Yr Target	\$1.30	Net Cash (M)	\$15.3
Dividend Yield	n/a	Total Debt (M)	\$0.0
1-Yr ROR	91.2%	Avg Daily Vol (K)	227.2
52 Wk High-low	\$0.96 - \$0.62	Ownership	
Valuation	Comparables	Mgmt + Dir	7%
Year End	Mar 31	Institutional	7%
Next Reporting	Jul-11	Debt/Cap	n/a

Project Location - Portugal

Project Name	Description	Estimated / Historical Resource
Montemor	Gold	980,000 ounces Au
Tabuaço	Tungsten	870,000 MTU WO3
Penedono	Gold	N/A
Moimenta-Almendra	Tungsten-Gold	N/A
Santa Margarida do Sado	Cu, Zn, Pb, Ag, Au	N/A

Source: Company Reports, LBS

Buy (S) – Target Price: \$1.30

We rate Colt Resources a Speculative Buy with a one-year share price target of \$1.30, implying a total return of 91%. This target is based on our sum-of-the-parts valuation of the company's Montemor gold project and Tabuaço tungsten project. We have a share risk rating of High. We highlight the following:

- ◆ **Increasing Demand for Tungsten:** The price of tungsten has almost doubled over the past year as a result of healthy demand and tight supply. Tungsten is widely used for cemented carbides (cutting instruments) or hard metals.
- ◆ **China is the Dominant Supplier of Tungsten:** China provides 80% of the global output of tungsten though has recently been reducing exports in favour of internal consumption. It is estimated that China could become a net importer of tungsten by as early as 2015.
- ◆ **Upside Potential as Resources Better Defined:** Colt currently has a small historical resource estimate for its Tabuaço tungsten project and a significant amount of historical work completed on the Montemor gold project. We believe that the gold project has a multi-million ounce potential based on data from the work completed to date while the tungsten project has significant potential for expansion from its current high-grade, low tonnage estimate.
- ◆ **Low Capital Costs:** Both projects are close to infrastructure and are easily accessible year round. We estimate capital costs for each project to be in the \$80 million to \$120 million range, which may be further reduced through government grants and loans from potential tungsten off-take partners.
- ◆ **Pending Catalysts for Colt Resource's Share Price Include:** 1) Additional assays from the company's drill program at the Tabuaço tungsten project; 2) An updated NI 43-101 compliant resource estimate for the Montemor gold project; 3) The grant of an experimental mining license by year end for the Montemor gold project.



Investment Thesis – Upside Potential

Reasonable Capital Requirements and Solid Infrastructure

Colt has established itself with a solid base of properties in the mining friendly country of Portugal. The location of the gold and tungsten mine are easily accessible year round and the company is expected to have reasonable capital requirements in the \$80 million to \$120 million for each project with mining operations able to be carried out year round. The Montemor gold project has been extensively drilled and trenched by a previous operator with potentially more upside as a result of further drilling (both at depth and along strike). The Tabuaço tungsten project hosts a small, high grade historical resource though recent drilling has indicated that the resource has significant upside as recently released results showed a grade of 0.89% over a 15 m interval at a location 100 m west of the existing historical resource.

We believe that as the company assays prior operators' drill results at the Montemor gold project and develops an NI 43-101 compliant resource estimate, the additional value is likely then to be recognized in the company's stock price. The Montemor gold project also has mineralization close to the surface such that the project is expected to be amenable to open pit mining methods as well as potential for underground mining on specific high-grade zones as they are identified through additional drilling. We expect the average grade of the open pit to be approximately 2.5 g/t to 3.0 g/t and SRK Consulting has estimated that Montemor hosts a resource of approximately 700,000 to 1.26 million ounces of gold. However we note that further drilling and metallurgical work is required to get the resource up to status of being 43-101 compliant.

Tungsten Prices have Almost Doubled over the Past Year

We believe that Colt is developing the tungsten project at an ideal time considering the price of tungsten has nearly doubled over the past year. China has controlled the majority of tungsten production for a number of years having priced other producers out of the market. China is expected to become a net importer of tungsten in the near future with the expectation that higher prices are going to be in place over the long-term.

Colt's stock price has a number of catalysts over the next year, including the following:

- ◆ Additional assays from the company's drill program at the Tabuaço tungsten project.
- ◆ An updated NI 43-101 compliant resource estimate for the Montemor gold project.
- ◆ The grant of an experimental mining licence by year end for the Montemor gold project.
- ◆ Continued strength in tungsten pricing.

We are initiating coverage of Colt Resources with a SPECULATIVE BUY rating and a \$1.30 target price. Our target price is based on a sum-of-the-parts valuation for the Montemor gold project and the Tabuaço tungsten project using comparable analysis.

Valuation

We are using a sum-of-the-parts method to value Colt Resources using comparative valuations for the Montemor gold project and the Tabuaço tungsten and then adding the combined result together. Exhibit 31 is a list of the gold comparables we used for the gold valuation component of Colt Resources. From our list of comparables, we derive an average EV/Attributable gold equivalent ounces of \$114.



Exhibit 31: Gold Comparables

Company	Symbol- Exch.	Price \$C 4-May-2011	O/S Shares M	Mkt Cap.-			Minority Interest \$C M	EV. \$C M	Attri Au M ozs	Attri Au eq M ozs	EV	
				Basic \$C M	Cash \$C M	Debt \$C M					cdn/Attrib Au ozs	cdn/Attrib AuEQ ozs
NOVAGOLD RESOURCES INC	NG-TSX	\$11.38	233.4	\$ 2,656.3	\$ 151.7	\$ 181.6	\$ 297.3	\$ 2,983.5	10.50	38.39	284.1	77.7
OSISKO MINING CORPORATION	OSK-TSX	\$13.22	382.2	\$ 5,052.1	\$ 358.5	\$ 298.9	\$ -	\$ 4,992.5	17.53	17.53	284.8	284.8
GRESYSTAR RESOURCES LTD.	GSL-TSX	\$3.31	84.2	\$ 278.8	\$ 98.3	\$ -	\$ -	\$ 180.4	9.85	10.95	18.3	16.5
DETOUR GOLD CORPORATION	DGC-TSX	\$30.41	83.7	\$ 2,545.3	\$ 713.2	\$ 386.4	\$ -	\$ 2,218.5	21.10	21.10	105.1	105.1
CARPATHIAN GOLD INC.	CPN-TSX	\$0.41	389.0	\$ 157.6	\$ 45.7	\$ -	\$ -	\$ 111.8	8.47	12.02	13.2	9.3
ROMARCO MINERALS INC.	R-TSX	\$1.80	503.1	\$ 905.5	\$ 109.8	\$ -	\$ -	\$ 795.8	4.20	4.20	189.7	189.7
SULLIDEN GOLD	SUE-TSX	\$1.94	206.5	\$ 400.6	\$ 17.8	\$ 3.4	\$ -	\$ 386.2	1.43	2.00	270.1	192.7
VOLTA RESOURCES	VTR-TSXV	\$1.46	133.9	\$ 195.5	\$ 0.8	\$ -	\$ -	\$ 194.7	2.94	5.85	66.3	33.3
AVERAGE									11.94	17.36	149.22	113.86

Source: Company Reports, Bloomberg, LBS

Our comparable list of tungsten companies is presented in Exhibit 32. Tungsten, despite the strong increase in pricing over the last year, has a relatively low valuation with an average of \$6.80 per tonne of resource. We do however note that in terms of grade, Colt is expected to have one of the highest grade tungsten projects with a grade in the high 0.8% range.

Exhibit 32: Tungsten Comparables

Company	Symbol- Exch.	Price \$C 4-May-2011	O/S Shares M	Mkt Cap.-			EV. \$C M	Attri WO3 MTU (M)	Attri WO3 eq MTU (M)	EV	
				Basic \$C M	Cash \$C M	Debt \$C M				cdn/Attrib WO3 T (M)	cdn/Attrib WO3EQ T (M)
LARGO RESOURCES	LGO CN	\$0.46	403.6	\$ 183.6	\$ 0.9	\$ -	\$ 182.7	42.01	42.49	4.35	4.30
NORTH AMERICAN TUNGSTEN	NTC CN	\$0.37	213.8	\$ 78.0	\$ 2.3	\$ 11.0	\$ 86.8	38.32	38.32	2.27	2.27
WOULFE MINING	WOF CN	\$0.25	266.3	\$ 65.2	\$ 4.7	\$ -	\$ 60.5	36.12	36.30	1.68	1.67
GEODEX MINING	GXM CN	\$0.21	107.0	\$ 22.5	\$ 0.7	\$ 0.0	\$ 21.7	6.80	7.16	3.20	3.03
MALAGA	MLG CN	\$0.23	183.6	\$ 42.2	\$ 2.8	\$ 4.1	\$ 43.5	1.57	1.57	27.66	27.66
PLAYFAIR	PLY CN	\$0.12	77.6	\$ 8.9	\$ 0.0	\$ -	\$ 8.9	4.79	4.79	1.86	1.86
AVERAGE								21.60	21.77	6.84	6.80

Source: Company Reports, Bloomberg, LBS

For our estimated gold resource, we used the middle of the range as indicated in the most recent exploration 43-101 report that was completed by SRK Consulting. The high-end of the estimate was 1.26 million ounces with the low end being 705,480 ounces. For the tungsten estimate, we used only the historical resource though we believe significant upside exists beyond this value given the amount of outcropping visible as well as the recent drill results that indicated mineralization about 100 m from the existing historical resource.



Exhibit 33: Sum of the Parts Valuation

Montemor Gold Project	
Estimated Gold Resource	980,000 Au Ozs
Avg EV/Ounce	\$114 per Oz
Estimated EV	\$111,720,000
Tabuaco Tungsten	
Estimated Tungsten Resource	870,000 WO3 MTU
Avg EV/MTU	\$6.80
Estimated EV	\$5,916,000
Estimated GTP EV Valuation	\$117,636,000
Shares Outstanding F.D. (millions)	113.3
Current Cash Balance	\$15,500,000
Current Debt	0
Estimated GTP Market Value	\$133,136,000
Share Valuation	\$1.18
Current Cash/Share	\$0.13
	\$1.31

Source: LBS

Colt Resources - Project Overview

Montemor Gold Project

**Operational Year
Round with Excellent
Infrastructure**

The Montemor Gold Project is Colt Resources' advanced stage exploration gold project, and includes five defined gold prospects. The project is located in the Alentejo Region of Portugal, approximately 100km east of the country's capital, Lisbon, and is near the town of Santiago do Escoura in southern Portugal. Colt has filed an exploration license for the Montemor Regional concession, which surrounds the Montemor gold project. The Montemor Regional concession covers 775 km² and includes most known gold prospects that have been identified in the area. The project covers over 45 km², and is currently under application for an Experimental Mining License with the Portuguese government. The property can be easily accessed by two-wheel drive vehicle and is located close to a Portuguese national power grid. A map of the company's properties in southern Portugal is illustrated in Exhibit 34.



Exhibit 34: Location of Montemor Gold Project



Source: Colt Resources

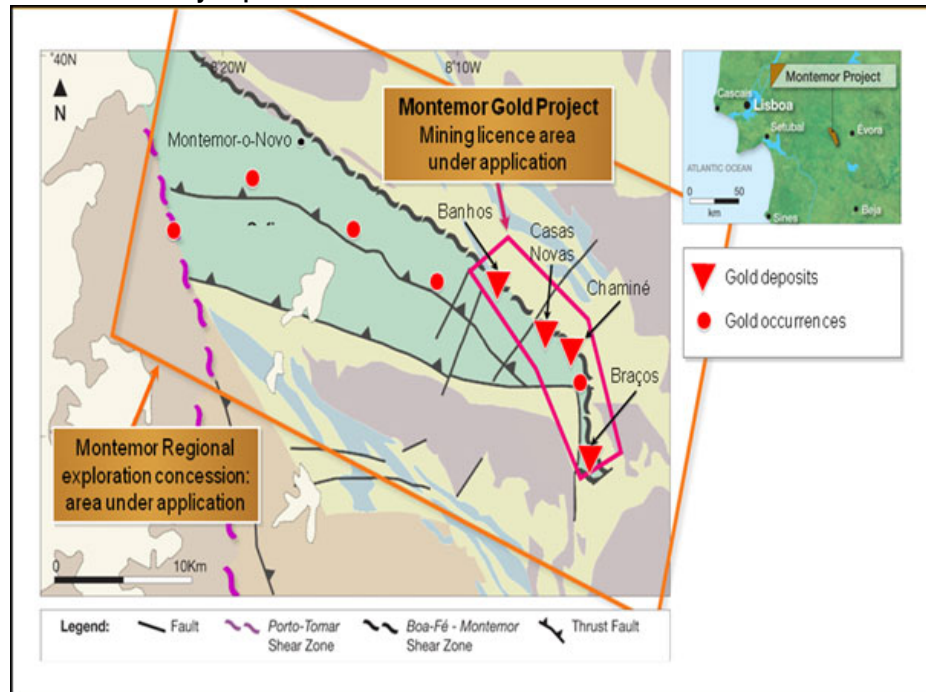
Site History

In and around the Montemor area, gold exploration has been carried out with claims being staked by various operators since the early 1980s, including BP Minerals, Rio Tinto group, and Portuguese companies. Past operators of the property have undertaken extensive work over the last 30 years including over 500 trenches and 1,100 drill holes. Metallurgical testing has been carried out by Riofinex in 1991 and again by Iberian Resources Limited in 2006. Riofinex also performed environmental base line studies of the property in 1991. Resource estimates were undertaken by Riofinex in 1991, Iberian Resources Ltd. In 2004 and 2005, and Tamaya Resources Ltd. In 2007 and 2008.

During 2007, in preparation for an application for an Experimental Mining Licence, Tamaya Resources Limited commissioned Stage 1 of the Montemor feasibility study including metallurgical testing, baseline work of an environment impact assessment, resource modelling, mine planning and appointment of a contractor to manage the tailings dam site selection and design. However, on October 28, 2008, due to the collapse of copper prices during the financial crisis, Tamaya Resources Limited was put under creditor protection. On January 2, 2009, Tamaya Portuguese subsidiary (Iberian Resources Portugal) was sold to Australian Iron Ore PLC (AIOC).

Colt Resources became operator of the Montemor project in July 2010 when an agreement was finalized with Colt and AIOC, the previous owners, to acquire 100% ownership in two stages. The terms of the agreement had Colt paying €60,000 for 51% ownership and would operate the project. Following approval of the Experimental Mining License, Colt would pay €125,000, and 3,000,000 common shares to gain 100% ownership of the project.

Exhibit 35: Primary Deposits/Occurrences of Interest



Source: Colt Resources

Montemor Infrastructure

The Montemor concession is approximately 5 kilometres from the town of Santiago do Escoural and is easily accessible by two wheel drive vehicle along several paved or dirt roads. There is an existing power line passing through the concession property, with additional power sources available a short distance away at the towns Montemor and Évora. Water will be sourced regionally, though further work is required to determine if sufficient supply exists. A tailing pond will be built once the mine is in operation. Part of the workforce for the project will come from near-by locations, while higher skilled labour will need to be sourced elsewhere.

Metallurgical Testing and Processing Strategy

An extensive metallurgical test program was performed in 2008 by AMMTEC Ltd on samples from deposits at the Montemor project. Overall gold recovery varied for each deposit with Casa Novas and Chaminé composites at approximately 67%, while Braços composite at approximately 80%.

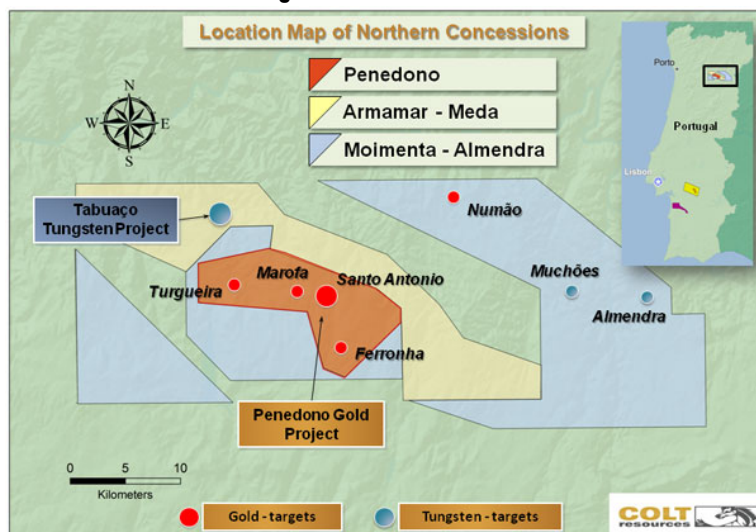
Subsequent bulk testing at the two composites of Montemor broke out the recovery methods. Chaminé demonstrated that 9.8% gold could be recovered into a gravity concentrate and 82.5% could be recovered into a sulphide flotation, for a total of 92.3% gold recovery. Casa Novas were similar, with 16.5% gold recovered into a gravity concentrate and 77% recovered into a sulphide flotation, totalling 93.4% gold recovery.

The initial testing has verified that gold is recoverable from the concession using a combination of gravity, flotation and cyanidation technologies. As a result, two processing strategies have emerged. The first strategy would be onsite gold recovery into concentrates with offsite regrinding and cyanidation to recover the end product. The second strategy involves performing cyanidation on-site, which would require additional permitting for large quantities of cyanide use.

Armamar-Meda Tungsten Project

Colt Resources' tungsten deposit known as Armamar-Meda is situated in north central Portugal, approximately 300 km northeast of Lisbon and spans an area of 218 km². The property is easily accessible by vehicle, with the city of Viseu approximately 50 km southwest of Tabuaço. Rainfall averages 20 cm annually, with minor snowfalls in the winter, and mining operations may occur all year round.

Exhibit 36: Northern Portugal Concessions/Occurrences of Interest





Site History

Mining in the region is estimated to date back to Roman times, as prospectors looked for gold in the region. It wasn't until the 1940s, when new interest in the region for tungsten occurred due to demand from the military during the second World War. In the 1970s, geologists discovered tungsten skarns via geological mapping and UV prospecting south of Tabuaço. More extensive mining occurred in the area in the 1980s by a joint venture with the Portuguese company SPE and a French company SEREM, which led to the discovery of three mineralized areas. Six diamond drill holes were drilled at one of the areas, intersecting 19.35 m of 1.18% WO₃. The joint venture determined a non-complaint historical resource of 1 million tonnes grading 0.87%.

Colt began exploration work in 2008, with initial surface mapping and prospecting of the area. Results delivered confirmation of scheelite-rich skarn averaging greater than 0.5% WO₃ in the Tabuaço region.

Armamar-Meda Infrastructure

The Armamar-Meda concession has excellent accessibility on a well developed road system. The centre of Viseu is approximately 50 km southwest of the project, with Porto approximately 100 km west. High voltage power is locally accessible and can be extended to the project site. The water source for the project is readily available from the many small rivers that cross the concession, which would be a sufficient quantity for the project. The land is also a suitable area for milling operations.

Metallurgical Process

Historically, there has been no processing or metallurgical testing on mineralization from the Armamar-Meda concession. Because of this, there are no estimates of mineral resources or reserves on the project site. Colt is currently in the planning stage of metallurgical testing in an effort to determine the potential recovery of tungsten from the Tabuaço project. Colt management have contracted Bolu Consulting Engineering Inc., to aid this process. The goal of the test program is to determine gravity and flotation characteristics of the tungsten mineralization. The final results of the test program should provide some guidance on required capital costs and operating cost in the form of a preliminary economic evaluation.

A mini-bulk sample was shipped to the metallurgical lab facilities of Inspectorate America Corporation in Richmond B.C. with results completed in February 2011. Test work included sample preparation, head characterization, hardness determination and mineralogy examination. Gravity test work included heavy liquid separation, tabling, centrifugal gravity separation and spiral test work. Centrifugal gravity separation achieved approximately 90% scheelite recovery into a gravity concentrate containing 29% of the mass.

Colt commenced a definition drilling campaign in November 2010, which is expected to be completed by Q3-2011 and will provide an initial resource estimate.



Colt Resources Management

Colt's management team is a combination of international experience with extensive experience within Portugal.

Nikolas Perrault, President & *Chief Executive Officer*

Mr. Perrault has been President and Chief Executive Officer of Colt Resources since December 2008. For 15 years, he worked as an Investment Executive with some of Canada's largest financial institutions focusing on small cap companies in the energy and resources sectors. In May 2007 he founded a management consulting company providing financial advice to emerging energy and resource companies. Mr. Perrault is also a director of RTN Stealth (RTNSF, OTCBB) and is President of Twilight Capital Inc. which is registered as an Exempt Market Dealer in Ontario. He holds a Bachelor of Commerce and obtained his Chartered Financial Analyst designation in 1997.

Aurelio Useche, *Chief Financial Officer*

Mr. Useche has been Chief Financial Officer of Colt Resources since May 2009. He has over 15 years of experience holding several senior management positions in both private and publicly traded corporations including Chief Executive Officer and Chief Operating Officer. Mr. Useche has been involved in several entrepreneurial ventures and serves on the board of several private companies and non-for-profit organizations. Mr. Useche received his Masters of Business Administration from Queens University in 2001 and his Bachelors of Applied Arts and Sciences in Economics from Concordia University in 1992. He holds a professional designation as CMA.

Declan Costelloe, *Executive Vice President and Chief Operating Officer*

Mr. Costelloe has served as Chief Operating Officer of Colt Resources since February 2011. He currently serves as President of Celtic Mining, Ltd., an independent mining consulting firm and is a chartered engineer and mining geologist with over 20 years experience. Prior to Colt, he has served as Manager of Mining Geology for Golden Star Resources Ltd., Investment Manager for Veneroso Associates Gold Advisors, and Investment Manager, Portfolio Manager for the Goldfish Fund. Mr. Costelloe holds a B.Sc. in geology from University College, Galway, and a B.Sc. in mining geology from the University of Wales College Cardiff.

Joao Carlos Gaspar de Sousa, *Vice President, Operations (Portugal)*

Mr. Gaspa de Sousa is a Senior Exploration Geologist with over 25 years of experience, and has been actively involved in mining operations within Portugal. He joins Colt after working as the senior project geologist of Genius Mineira, LDA. Prior experiences include 5 years as Country Manager for Iberian Resources Portugal, 13 years with Rio Tinto, and 5 years with Lundin Mining Corporation, which owns the Neves-Corvo copper mine in Portugal. Mr. Gaspar de Sousa holds a Geological degree from Faculdade de Ciências de Lisboa.

David A. Johnson, *Corporate Secretary and General Counsel*

Mr. Johnson has been Corporate Secretary of Colt Resources since December 2009. He has been an attorney and trade-mark agent with his own firm, Bloomfield & Associates based in Montreal, Quebec since 2006. Mr. Johnson specializes in corporate law, commercial transactions, trade-marks and copyright law. His legal experience span across several industries, including mining, energy, and clean technology. Mr. Johnson has several years experience at the senior management level in a variety of companies and not for profit organizations. Mr. Johnson holds a Bachelor of Arts (Hons.) from Queen's University, a Master of Urban Planning, Bachelor of Common Law (L.L.B.) and a Bachelor of Civil Law (B.C.L.) from McGill University.



Jorge Manuel da Gama Pinto Valente, *President of Eurocolt*

Mr. Valente serves as President of Eurocolt, a wholly-owned subsidiary of Colt Resources. He served as Chief Operating Officer of Colt Resources from October 2007 to February 2010. Prior to that Mr. Valente served as Mining Engineer & President of Valente Consultants, Brazil. Mr. Valente is a mining engineer specializing in Geomathematics, with over 40 years of extensive experience in the mining industry.

Other Properties

Colt Resources has additional projects located in Portugal that are currently in the exploration phase. The following is a brief description of each of the properties.

Penedono

Location: Northern central Portugal, approx. 100km east of Porto.

Minerals: Gold

Ownership: 100%

Defined Resource: None

Current Status: Performed diamond drilling in 2009 and 2010 and completed technical report in 2010.

Moimenta-Almendra

Location: Northern Portugal, 100km east of Porto

Minerals: Tungsten and Gold

Ownership: 100%

Defined Resource: None

Current Status: Entered into a prospecting and exploration licenses with the Portuguese government in 2008 for exclusive rights.

Santa Margarida do Sado

Location: Southern Portugal, 110 km southeast of Lisbon.

Minerals: Copper, Zinc, Lead, Silver, Gold

Ownership: 100%

Defined Resource: None

Current Status: Completed a NI 43-101 compliant technical report in February 2011.

Investment Risks

Chinese Dominance of Tungsten Market

The tungsten market is dominated in production and consumption by China, giving them great control over pricing in the market. Chinese producers exercise a significant amount of control over the industry by supplying in excess of 80% of the global market. The Chinese are also the largest consumer of tungsten globally. The Chinese Government also imposes a 15% export duty on tungsten and intend on becoming net importers within the next 5 years. Combined, this gives China significant control of the tungsten market.

Financing Risk

Colt will be required to raise additional funding to advance Montemor and Armamar-Meda into production, and to further exploration efforts on the other properties. While the total capital costs for Colt's projects are yet to be determined, current cash on hand may not cover total expenditures and more financing will be required for construction to commence. The financing will be subject to future market conditions and there can be no guarantee that financing for the project will go as anticipated.



**Project Development
Risk**

Any unanticipated project delay and/or capital cost overrun could significantly impact the company. Monetmor and Armamar-Meda are the two assets being used in our valuation of Colt. Should any unanticipated increase in capital costs or delay in either project occur, Colt's stock price could be adversely impacted.

Colt Resources' Past Financings

A list of Colt's financing since 2010:

- ◆ January 18, 2010 – raised \$168,000 consisting of 800,000 units priced at \$0.21
- ◆ March 31, 2010 – raised \$1 million consisting of 4.0 million units (1 share plus half warrant) priced at \$0.25 with the warrant exercise price of \$0.45.
- ◆ May 25, 2010 – raised \$1.1 million consisting of 4.4 million units (1 share plus half warrant) priced at \$0.25 with the warrant exercise price of \$0.45.
- ◆ August 20, 2010 – raised \$1,225,000 consisting of 4.9 million units (1 share plus half warrant) priced at \$0.25 with the warrant exercise price of \$0.45.
- ◆ September 3, 2010 – raised \$180,000 consisting of 720,000 units (1 share plus half warrant) priced at \$0.25 with the warrant exercise price of \$0.45.
- ◆ October 27, 2010 – raised \$3.5 million consisting of 10.0 million units (1 share plus half warrant) priced at \$0.35 with the warrant exercise price of \$0.45.

EMC Metals Corp. (EMC-T – \$0.30)

EMC Metals Corp. is a Canadian based developer and explorer of specialized metals. The company's flagship development is a 50% interest in the Nyngan Scandium deposit in Australia. The Nyngan deposit is the only known potential standalone scandium deposit in the world at a time when supply of scandium is extremely limited. EMC also owns 100% of the Springer Tungsten mine in Nevada (currently for sale), as well as the Carlin Vanadium deposit in Nevada and the Fostung Tungsten property in Ontario.



Source: BigCharts.com

Market Data				
Ticker	EMC-T	Shares O/S F.D(M)	169.3	
Rating	BUY(S)	Market Cap (M)	\$50.8	
Risk	High	Float O/S (M)	142.0	
Price	\$0.30	Enterprise Value (M)	\$50.9	
1-Yr Target	\$0.60	Net Cash (M)	(\$0.1)	
Dividend Yield	n/a	Total Debt (M)	\$4.3	
1-Yr ROR	100.0%	Avg Daily Vol (K)	416.6	
52 Wk High-low	\$0.44 - \$0.06	Ownership		
Valuation	DCF	Mgmt + Dir	16%	
Year End	31-Dec	Institutional	19%	
Next Reporting	May-11	Debt/Cap	n/a	
Capital Expenditures (M) - December 31 Year End				
	2011	2012	2013	2014
Capex	\$0.0	\$30.0	\$40.0	\$1.0
	\$0.0			\$0.0
Resource Estimate				
	Tonnes	Grade	Sc	
	(M)	ppm Sc	(Kg 000's)	
Indicated	2.7	274	744.7	
Inferred	9.3	258	2,397.9	
Total	12.0	261	3,135.1	

Source: Company Reports, LBS

Buy (S) – Target Price: \$0.60

We rate EMC Metals Corp. a Speculative Buy with a one-year share price target of \$0.60, implying a total return of 100%. This target is based on our DCF analysis of the company's ownership interest in its flagship Nyngan Scandium deposit in Australia. We have a share risk rating of High. We highlight the following:

- ◆ **First to Market Advantage:** The global supply of scandium has virtually dried up with some production resulting from by-products of other mining operations but for the most part reliable supply sources do not exist. EMC Metals, through its Nyngan joint venture opportunity, could become the first and only primary producer of scandium for the aluminum and fuel cell markets.
- ◆ **New Applications for Scandium:** Scandium was primarily used as an alloying agent for aluminum, as it changes the grain structure permitting aluminum to be welded without weakening the metal. Scandium alloys are widely used in sporting goods manufacturing though new applications in aerospace and scandium based fuel cells could drive increased demand as reliable sources of the material become available.
- ◆ **Old Stockpiles Struggling to Supply Growing Markets:** For many years following the end of the cold war, scandium was obtained from the tailings from uranium mines in Kazakhstan. Now that these stockpiles have been depleted, reliable supply sources need to be re-established.
- ◆ **Reasonable Capital Costs:** The Nyngan scandium deposit is close to existing infrastructure, including power lines and roads, as well as access to labour from two nearby towns. Total capital costs are estimated at US\$70 million as all the required plant equipment is standard, off the shelf production equipment that utilizes the company's proprietary process.
- ◆ **Pending Catalysts for EMC Metal's Share Price Include:** 1) The sale of the Springer Tungsten mine in Nevada for an estimated \$20 million to \$30 million; 2) Environmental/metallurgical work at the Nyngan scandium mine in Australia; 3) Further progress towards the company's release of a feasibility study in Q1-2012.



Investment Thesis – The Only Sc Game in Town

Over 500 Patents For Scandium Use

EMC Metals has the opportunity to be a 50% owner (and operator) in what is likely to be the world's only known primary scandium mine. World supply of scandium has largely been limited to the material that was stockpiled by the Soviets as a by-product of uranium mining. However, due to the limited supply, the alloy manufacturing industry has largely focused on substituting other materials such as more expensive titanium alloys. However, we anticipate this to change once a reliable producer such as EMC comes to production in 2014 (management is targeting 2013) which should encourage further industrial applications for the rare oxide. If we perform a quick search of patents on the USPTO patent database, we note that 55 patents are found with scandium in the title, most of which represent scandium aluminum alloys used for a variety of applications including firearms, golf clubs, and aerospace applications. A second patent search through the patent abstracts returns over 500 results for a variety of scandium applications from semiconductors through to fuel cells.

We believe the most significant risk for EMC is the relatively unknown market fundamentals of scandium as it has never been widely available. Pricing is another factor that is hard to get an accurate estimation for as in the early 1990's, when there was a more abundant supply of scandium, prices were in the range of \$3,000 to \$3,300 per kg versus the mid 2000's when prices declined to \$1,400 per kg (data based on USGS estimates). However, our discussions with metals traders based in North America suggest prices are much higher than \$1,400 per kg and supply is extremely scarce.

Upcoming catalysts for EMC Metals in the near term include the following:

- ◆ The sale of the Springer Tungsten mine in Nevada for approximately \$20 million to \$30 million (we are being conservative and estimating \$25 million at this time).
- ◆ Environmental progress work at Nyngan.
- ◆ Progress towards a feasibility study by Q1 2012.

We are initiating coverage of EMC Metals with a SPECULATIVE BUY rating and a \$0.60 target price. Our target price is based on a DCF analysis of the company's 50% earn in at the Nyngan scandium mine in Australia as well as accounting for the sale of the Springer Tungsten mine for \$25 million.

Valuation

No Primary Scandium Suppliers

There are no publicly traded companies that focus on scandium as a primary resource and thus no comparables exist. EMC does have other assets which are comparable such as its Springer Tungsten mine and the Carlin Vanadium deposit, both located in Nevada. The Springer Tungsten mine is an interesting asset given that it was a past producer of tungsten when it was operated by General Electric and with tungsten prices (APT) over \$400 per mtu the mine has some value. The company is currently in the process of trying to sell the mine, which we believe could be worth \$20 million to \$30 million. However, in our conservative valuation we will value the mine at \$25 million as part of our valuation with the bulk of the company's value focused on its 50% ownership of the Nyngan Scandium deposit in Australia.

The company currently does not have a pre-feasibility study released but based on discussions with management and the company's process expert; we estimate the cost of production to be approximately \$300 per kg.



The project itself is expected to be open pit and with infrastructure located near to the project, the US\$70 million capital expenditure estimate should be achievable. We believe that the major risk is the metallurgy given the uniqueness of this deposit and the company has kept much of the process confidential to protect its intellectual property.

Our estimate for the price of scandium is a significant factor in the valuation of our DCF model and we assume that the long-term average price will be approximately US\$2,150 per kg. Historically prices have been closer to US\$1,400 per kg to US\$1,600 per kg but since supply has dried up it is difficult to get an accurate price for scandium though our recent discussions with metal traders have yielded estimates well above our forecast. Historically, prices for scandium were higher in the early 2000's when the material was more readily available.

EMC has a 43-101 compliant resource estimate for the Nyngan deposit with 744, 732 kilograms of scandium in the measured category and 2.4 million kilograms of scandium in the indicated category for a total of 3.2 million kilograms (equivalent to 4.8 million kg of scandium oxide product in-situ). The total in-situ value of the scandium at an estimated \$1,400 per kg historical estimate is US\$6.7 billion. EMC's 43-101 compliant resource at the Nyngan deposit is shown in Exhibit 37.

Exhibit 37: 43-101 Resource Estimate at the Nyngan Deposit

Category	Tonnes	Grade (ppm Sc)	Kg Sc
Measured	2,718,000	274	744,732
Indicated	9,294,000	258	2,397,852
Total	12,012,000	261	3,135,132

Source: Company Reports

Therefore, using our pricing forecast and capital expenditure estimate of US\$70 million as well as an initial production forecast of 22,000 kg of scandium per year at 80% recoveries, we arrive at a share value for the Nyngan deposit of \$0.43. We have chosen to use a discount rate of 10% given some of the additional metallurgical risk as well as market risk given the scarcity of supply. We forecast production to begin in 2014 and have forecast a production ramp up in 2017 as we expect the market size to increase due to an easing in the security of supply. We currently model the mine for 25 years. We also include in our valuation a conservative estimate of \$25 million or \$0.15 per share for the value of the Springer Tungsten mine which the company is currently working towards divesting. We present our sensitivity analysis in Exhibit 38 and a simplified version of our DCF model in Exhibit 40.



Exhibit 38: EMC Nyngan Sensitivity Analysis

<----- Scandium Pricing ----->					
	Down 20%	Down 10%	Base	Up 10%	Up 20%
6%	\$190,918,584	\$228,251,049	\$265,583,513	\$302,915,978	\$340,248,443
7%	\$162,037,647	\$194,919,995	\$227,802,343	\$260,684,691	\$293,567,039
8%	\$137,732,307	\$166,839,889	\$195,947,471	\$225,055,053	\$254,162,635
9%	\$117,184,051	\$143,072,617	\$168,961,183	\$194,849,749	\$220,738,315
10%	\$99,735,703	\$122,864,910	\$145,994,118	\$169,123,325	\$192,252,533
11%	\$84,857,191	\$105,609,130	\$126,361,068	\$147,113,007	\$167,864,945
12%	\$72,119,014	\$90,812,867	\$109,506,720	\$128,200,573	\$146,894,426
13%	\$61,171,583	\$78,075,282	\$94,978,981	\$111,882,680	\$128,786,379
14%	\$51,729,081	\$67,068,609	\$82,408,137	\$97,747,665	\$113,087,194

Share Value to EMC at 50% Ownership					
	Down 20%	Down 10%	Base	Up 10%	Up 20%
6%	\$0.56	\$0.67	\$0.78	\$0.89	\$1.00
7%	\$0.48	\$0.58	\$0.67	\$0.77	\$0.87
8%	\$0.41	\$0.49	\$0.58	\$0.66	\$0.75
9%	\$0.35	\$0.42	\$0.50	\$0.58	\$0.65
10%	\$0.29	\$0.36	\$0.43	\$0.50	\$0.57
11%	\$0.25	\$0.31	\$0.37	\$0.43	\$0.50
12%	\$0.21	\$0.27	\$0.32	\$0.38	\$0.43
13%	\$0.18	\$0.23	\$0.28	\$0.33	\$0.38
14%	\$0.15	\$0.20	\$0.24	\$0.29	\$0.33

Source: Company reports, LBS

EMC Metals – Company Overview

Focus on Scandium, Close to Relevant Infrastructure

EMC Metals is a multi-asset company though we believe investor focus should be on the 50% owned Nyngan scandium property. The property is a joint venture with Australian based Jervois Mining (JRV-AU), which is a junior exploration and producing company focused on multiple assets which include a nickel cobalt project and gold properties. The company has been listed on the ASX for 48 years and has over 3.2 billion shares outstanding and a market cap of A\$13 million.

The Nyngan Scandium deposit is located approximately 20 kilometres west of the town of Nyngan and approximately 450 kilometres northwest of Sydney, New South Wales, Australia. The property is situated on flat countryside that is currently classified as agricultural land and used primarily for wheat farming and pasture. The property is 100% under licence by Jervois Mining and the land upon which the resource is located has been purchased by Jervois. Access to the property is across privately held land that is currently under negotiation with the various land owners.

The property is approximately 3 kilometres from high voltage power lines and the Great Barrier Highway that runs from Nyngan to the town of Cobar. Water can be extracted from regional aquifers as long as a licence can be obtained or purchased from elsewhere in the area. In terms of workforce, the nearby towns have abundant population to support the required workforce as Nyngan has a population of approximately 2,500.



Exhibit 39 : Nyngan Project Map



Source : Company Reports

Site History

The Nyngan project has been worked on by various companies since the 1970's when it was first explored for base metal and gold mineralization. Between 1999 and 2001, a previous explorer drilled the property for nickel and the sample pulps from these holes were obtained by Jervois for analysis which indicated that there was significant enrichment of scandium. In 2005, Jervois drilled five holes on the property to confirm the presence of scandium.

EMC entered into the joint venture agreement to develop the Nyngan deposit on February 8th, 2010, where EMC is to be the manager and operator of the project. Under the agreement, EMC paid \$300,000 to Jervois as well as incurring exploration and metallurgical work of U\$500,000 in the six months following the agreement. EMC is also required to deliver a feasibility study by early 2012 and pay Jervois an additional A\$1.3 million to be granted the 50% interest in the joint venture.

Open Pit Mine

Based on the drill results released to date the mine is amenable to an open pit design as mineralization appears to be near surface. The drill results indicate that the mineralization starts approximately 12 to 15 meters below the surface and is within a band of about 10 to 30 meters deep. A low strip ratio, surface mine plan likely to include part-year campaign mining will be developed as part of the upcoming feasibility study. We note the JV already owns the land on which the deposit sits and has developed friendly relations with the surrounding land owners for access.



Metallurgical Process and Timeline

Metallurgical Process is Confidential

Much about the metallurgical process for the scandium deposit remains confidential due to competitive reasons. The global market for scandium remains relatively small and as a result there is an advantage to being first to market with a high purity product. According to the company's 43-101 report, early metallurgical test work was completed in 2006 by JRV, as a 750 kg bulk sample was prepared and sent to Metcon Laboratories in Sydney, Australia. More recent test work has confirmed early test results, indicating recoveries approaching 80% scandium. Oxide product purity levels have yet to be improved from the 97% levels achieved earlier, although work on that segment of the process continues currently.

EMC management has indicated that the overall metallurgical process is currently being further refined and expects to have the feasibility study completed by Q1-2012. Facility construction is planned to start by mid-2012, with production planned for 2013. Based on this timeline, we would expect the company to establish off-take agreements with potential customers by mid-2012.

EMC Metals Management

The EMC Metals Corp. management team possesses over 120 years of collective industry experience and has been extremely successful in all phases of mine development, including financing, property identification, exploration, resource definition and permitting, metallurgical processing, mining, operations and reclamation.

George Putnam, President & Chief Executive Officer

Mr. Putnam has been President and Chief Executive Officer of EMC Metals Corp. since May 2010. He has extensive mining industry experience, having worked for over 20 years for BHP and GE/Utah International. He held Division Chief Financial Officer roles with BHP Hawaii and BHP Manganese. He held an Assistant Treasurer position for BHP in the USA, managing banking relationships, currency & commodity hedging programs, debt portfolios, project financings, offshore trusts, and insurance functions. Mr. Putnam is also the former CFO for QGX Ltd., a TSX-listed exploration company sold in September 2008. While at QGX, he played key roles in the development and valuation of QGX's mineral properties, and in supporting the corporate sale. Mr. Putnam has an Economics degree from Gettysburg College and a Masters in Business Administration from Duke University.

Willem Duyvesteyn, Chief Technology Officer

Mr. Duyvesteyn joined EMC Metals Corp. as Chief Technology Officer and Director in 2009 following EMC Metals' acquisition of The Technology Store, Inc. (TTS). Mr. Duyvesteyn acted as President and founder of TTS, a private company involved in the development of various mineral projects. He brings over 40 years of experience in the mining and energy industries, with expertise covering such metals and materials as aluminum, zinc, coal, and diamonds. Prior roles include Vice President and General Manager Minerals Technology at BHP for over 10 years, Director of Nickel Laterite projects with AMAX for 6 years, and Senior Engineer and Assistant Plant Superintendent for Anglo American in Zambia for 8 years. Mr. Duyvesteyn holds a degree in Mining Engineering from the Delft University of Technology, and a Graduate degree in Extractive Metallurgy from the Delft University of Technology in the Netherlands.



Michael O'Brien, Chief Financial Officer

Mr. O'Brien has been Chief Financial Officer of EMC Metals Corp since January 2010. He comes to EMC from Africo Resources, a TSX company operating in the Congo, where he held the title of Chief Financial Officer. Mr. O'Brien has extensive international experience in mining and oil and gas industries as well as significant management experience having worked as Chief Financial Officer of Copper Ridge Explorations Inc., Platoro West Holdings Inc. and Irvin & Johnson Ltd., and Manager of Finance of Soekor Exploration and Production. He is a member of South African Institute of Chartered Accountants and Canadian Institute of Chartered Accountants.

John Thompson, Vice-President, Project Development

Mr. Thompson joined EMC Metals Corp in March 2011, as Vice President of Project Development in Australia. He will be responsible for development and construction of the Nyngan Scandium project in Australia, as it progresses towards the final feasibility stage. Mr. Thompson brings over 40 years of management experience to EMC. Prior to EMC, he held senior roles with Utah Development Company, BHP, Newcrest Mining, and QGX, where he performed reserve definitions, feasibility studies, and environment impact statements (EIS) on many projects. Mr. Thompson holds a Bachelors degree in Mining and Petroleum Engineering from the University of Queensland, and is a Fellow of the Australian Institute of Mining and Metallurgy.

EMC Metals Past Financings

A list of EMC's financing since its going public offering in 2008:

- ◆ June 24, 2008 – raised \$5 million consisting of 2,500,000 units priced at \$2.00.
- ◆ August 28, 2009 – raised \$150,000 consisting of 1.5 million units (1 share plus half warrant) priced at \$0.10 with the warrant exercise price of \$0.15.
- ◆ November 20, 2009 – raised \$1,040,000 consisting of 13.0 million units (1 share plus half warrant) priced at \$0.08 with the warrant exercise price of \$0.15.
- ◆ July 2, 2010 – raised \$294,770 consisting of 2,947,702 units (1 share plus half warrant) priced at \$0.10 with the warrant exercise price of \$0.18.
- ◆ November 25, 2010 – raised \$1.5 million consisting of 7,894,737 million priced at \$0.19.
- ◆ December 3, 2010 – raised \$2,096,650 consisting of 11,035,000 units priced at \$0.19.



Exhibit 40: LBS EMC Metals DCF Model

EMC Metals	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
(YE Dec 31, C\$000)										
Ore tonnes mined	0	0	0	43,125	86,250	86,250	120,750	120,750	120,750	120,750
Sc Ore recovered (kg)	0	0	0	9,315	18,630	18,630	26,082	26,082	26,082	26,082
Net revenue (US\$)	0	0	0	16,767	35,397	36,329	52,164	52,164	54,772	52,164
Total operating costs	0	0	0	3,260	6,521	6,521	9,129	9,129	9,129	9,129
Operating cash flows	0	0	0	13,339	28,523	29,445	42,514	42,514	45,096	42,514
Taxes	0	0	0	0	0	6,703	10,624	10,624	11,399	10,624
Net Income	0	0	0	6,239	21,423	15,641	24,790	24,790	26,597	24,790
Total capital costs	0	30,000	40,000	1,000	0	0	2,000	0	0	0
Net cash flows (after tax) - Nygan		(30,000)	(40,000)	12,339	28,523	22,741	29,890	31,890	33,697	31,890
NPV @ 10% (based on 25 year mine life) (assuming 50% ownership)		\$72,997,059								
Target price		\$0.43								
Source: Company reports, LBS										

Appendix I – Important Disclosures

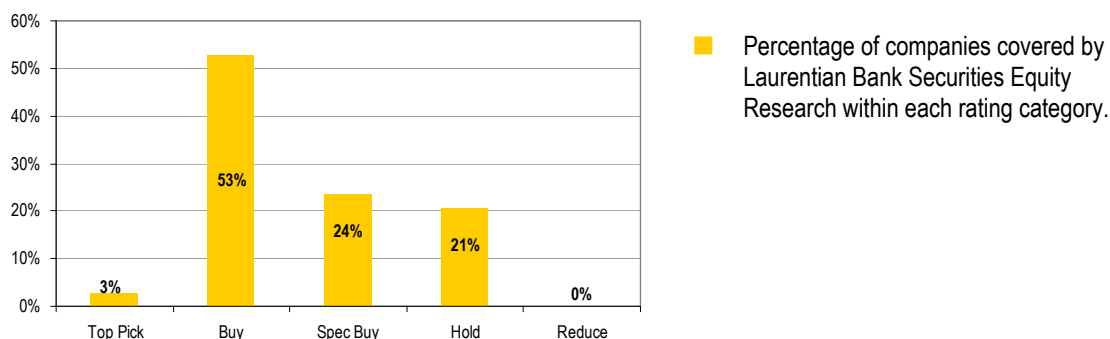
Company	Ticker	Disclosures*
American Manganese.	AMY-V	U, V
Canada Fluorspar	CFI-V	V
Colt Resources	GTP-V	U, V
EMC Metals	EMC-T	None

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