

# Molycorp, Inc. (MCP)

## Important Transition Period; Initiating at Neutral

**BAIRD**

**We are initiating coverage with a Neutral rating and \$10 price target.** MCP is completing Phase I capacity expansion at Mountain Pass, one of the only producing rare earth mines outside of China. It has made several acquisitions across the value chain helping to increase pricing power and capture margin. While we favor MCP's progress at the mine and transforming its business into a specialty chemical and material company, we remain on the sidelines until sentiment and liquidity position improves.

- **Expansion at Mountain Pass will make MCP one of the largest rare earth producers in the world.** MCP is in the process of completing a \$1.25B modernization project at the Mountain Pass rare earth mine in California, which will make it one of the largest producers of rare earths in the world. Once ramped, Mountain Pass will be the only active rare earth mine in the United States and the largest in the Western Hemisphere.
- **Technology innovations position MCP as one of the lowest cost rare earth producers.** At full-scale production at Mountain Pass, MCP estimates it can produce finished oxide at \$3-\$6/kg, with its concentrate costs being even lower. This compares favorably to the \$20-\$25/kg price that MCP's processing facilities currently pay today to buy feedstock from third-parties. MCP's cost advantage will allow thus it to capture meaningfully higher margin at its downstream operations.
- **Vertical integration allows MCP to control the value chain and sell higher-margin end products.** MCP has acquired downstream facilities that allow to produce high-purity oxides, metals, alloys, and magnetic components. By moving down the value chain, MCP can further differentiate its products thereby increasing its pricing power and margin potential.
- **Recent CEO change could help improve credibility.** Cost overruns and the poor handling of an SEC investigation disclosure had damaged MCP's credibility recently. The management change gives MCP a cleaner slate, but it may take time and solid execution to reverse sentiment.
- **Limited margin for error in 2013 in terms of liquidity - could be concerns of a funding gap until MCP secures additional liquidity sources.** We estimate MCP's liquidity buffer for 1H:13 as it funds the remaining CapEx at Mountain Pass to be slightly over \$20M. Securing a credit revolver or equipment leasing could alleviate concerns.
- **\$10 price target.** Based on an EV/EBITDA multiple of 8x our 2013 estimate. Premium to specialty chemical comps (6.5x) due to scarcity value as a rare earth pure-play offset by scale-up risk and falling prices.

**MCP is a vertically integrated producer of rare earth products. Its Mountain Pass mine is the largest rare earth mine in the Western Hemisphere.**

### INITIATING COVERAGE

#### 1-Year Price Chart



#### Stock Data

Rating:	Neutral
Suitability:	Higher Risk
Price Target:	\$10
Price (12/12/12):	\$10.99
Market Cap (mil):	\$1,616
Shares Out (mil):	147.0
Average Daily Vol (mil):	7.55
Dividend Yield:	0.0%

#### Estimates

FY Dec	2011A	2012E	2013E
Q1	(0.04) A	(0.07) A	(0.07) E
Q2	0.53 A	(0.71) A	(0.05) E
Q3	0.49 A	(0.19) A	0.08 E
Q4	0.27 A	(0.27) E	0.23 E
<b>Fiscal EPS</b>	<b>1.27 A</b>	<b>(1.23) E</b>	<b>0.19 E</b>
Fiscal P/E	8.7x	NM	57.8x

Chart/Table Sources: Bloomberg and Baird Data

**Please refer to Appendix  
- Important Disclosures  
and Analyst Certification**

## Investment Thesis

**Despite operating a mine, MCP is effectively a specialty chemicals company with extensive overlap with our existing Energy Technology & Resource Management coverage.** At first glance, MCP appears to be a mining company given it is in the process of ramping up one of the world's largest rare earth mines. However, MCP has integrated extensively down the value chain to give itself the capability of producing a variety of high-purity refined oxides, alloys, and magnetic materials necessary to a wide variety of industrial processes. Given the significant value-add from downstream processing as well as the potential for meaningful product differentiation, we view MCP as a specialty chemical company with mining operations as opposed to a pure-play mining company. Additionally, many of its rare earth products are used in Energy Technology applications, including wind turbines, electric motors for EVs, batteries for hybrid cars, as well as catalysts used to improve yields and reduce emissions in petroleum refining.

**Technology innovations and scale can potentially position MCP as one of the lowest cost rare earth producers in the world.** Molycorp has developed a number of proprietary processes to reduce the costs of rare earth processing. One of the most important is its solvent extraction technology, which allows the company to use less inputs than traditional processes. MCP estimates that chemical reagents comprise 60-70% of the cost of production. Once its chlor-alkali facility is online, MCP will have the capacity to capture salt water used in its process and recycle it to produce new chemical reagents, significantly lowering its cost of production. Today, Molycorp Canada (formerly Neo Materials) procures feedstock from Chinese sources at a price of ~\$20-\$25/kg. With the cost reductions derived from its chlor-alkali facility and its co-generation unit as well as the economies of scale from operating at Phase II production at Mountain Pass, MCP estimates it will be able to produce finished oxides at a cost of \$3-\$6/kg, with its concentrate cost being even lower. This will allow it to capture meaningfully higher margin at its downstream operations.

**Vertical integration allows MCP to control the value chain and ultimately sell higher-margin end-products.** While the Mountain Pass facility forms the bedrock of its business as its source of raw materials, MCP has aggressively moved to expand its capabilities down the value chain via acquisitions. In 2011 it acquired downstream capabilities in high-purity oxides and metals & alloys through its purchases of two rare earth processing facilities. Most recently, in June of this year, the company completed its \$1.3B acquisition of Canadian rare-earth processor, Neo Materials, which significantly expanded its downstream capacity and added a large portfolio of magnetic component products. Today, MCP has the ability to produce the entire value chain of rare earth products from concentrate all the way to permanent magnets. Progressing further down the value chain gives MCP the ability to add increasing levels of differentiation to its products, while also getting closer to the ultimate end-products into which its offerings are incorporated. As such its pricing power and margin potential subsequently increase. Additionally, the strategy helps to reduce MCP's exposure to input price volatility and allows it to leverage cost reduction efforts at Mountain Pass to drive margin expansion in its downstream products.

**Recent CEO change could help improve credibility but it will take time and improved execution.** In our view, the recent appointment of Vice Chairman, Constantine Karayannopoulos, as MCP's interim President & CEO should help improve investor sentiment around the name. We believe the company's credibility had taken a hit over cost overruns related to Project Phoenix and the poor handling of the disclosure of an SEC investigation into the company's most recent equity raise. While MCP will now have a chance to operate with a somewhat cleaner slate, it will likely take time and solid execution to reverse sentiment. Additionally, there will be some overhang until a permanent CEO is identified, particularly given the importance of this period as MCP ramps its Phase I and Phase II expansions at Mountain Pass.

**While we think MCP can fund its remaining capital needs through 1H:13 with its cash on hand and operating cash flow, there will be limited margin for error – we think the market could have concerns of a funding gap until the company secures additional liquidity sources.** MCP expects to recognize ~\$180M in cash CapEx during the fourth quarter, of which \$170M is related to Mountain Pass. Additionally, it will pay \$305M in cash CapEx in 1H:13, of which the majority is payables under CapEx accrued in 2012. Based on an expected full-year maintenance run-rate, we also assume 1H:13 capital requirements for maintenance activities of ~\$20M. Based on MCP's cash balance as of September 30, 2012 of \$436.0M and our Q4:12 and 1H:13 EBITDA estimates, we believe MCP has adequate liquidity to fund its capital requirements. That said, we project its liquidity buffer to be small at slightly in excess of \$20M, so its margin for error is somewhat thin at these levels, as any hiccups across MCP's various operations or overruns on its capital needs could jeopardize this balance. We think concerns could pop up in the market place in regards to a funding gap, which MCP could help alleviate by securing access to additional sources of liquidity such as a credit revolver or equipment leasing.

**We believe 2013 demand for rare earths will be adequate to support all of MCP's Phase I production though the incremental supply could put more pressure on prices – a meaningful reduction in China's rare earth production quota would alleviate the expected pricing pressure from MCP's Phase I capacity expansion and potentially support a meaningful portion of Phase II.** Based on our estimates for global rare earth demand, the Chinese production quota, and rare earth capacity additions outside of China, we believe there will be adequate demand in the marketplace to support all of MCP's Phase I production in 2013. That said, this incremental capacity would significantly reduce the amount of excess demand in the marketplace which will likely translate into further pricing pressure on rare earth products. However, if a meaningful reduction were to occur in China's production quota for 2013, which we believe is possible given the emphasis the government has placed on consolidating domestic producers, we believe this situation would allow MCP to bring on all of its Phase I production as well as up to 31% of its Phase II production in 2013 with minimal resulting pricing pressure to the wider rare earth market.

**Expansions at MCP and Lynas could cause supply to outstrip demand by 2014. Barring a significant and sustained reduction in Chinese production quotas in 2013+, the Phase II expansions of both MCP and Lynas are likely to cause supply of rare earths to exceed demand in 2014.** Based on this, we think there is additional room for rare earth prices to fall. For example in 2007 and 2008 when supply similarly outstripped demand, prices for cerium were \$8-\$9/kg compared to as high as \$30/kg today. Given the pace of new demand growth is higher today than in 2008, thanks to increased momentum in rare earth applications such as hybrid and electric vehicles, we don't believe prices will make their way all the way back to these levels. That said, while we believe the market can support MCP's and Lynas' Phase I expansions in 2013 with minimal price erosion if Chinese quotas are reduced, we do not think the same is true for 2014. Phase II capacity expansions at both companies are likely to result in downward pressure on rare earth prices in 2014+ regardless of whether a reduction to the Chinese production quota occurs in 2012 or not.

**MCP looking to create new sources of demand for more abundant oxides to promote sell-through – we still need to see additional sales traction for SorbX before we can fully judge its potential.** Historically, demand for individual rare earth elements has not been evenly distributed, with some garnering higher demand in certain periods than others. We have some concerns about MCP's ability to sell-through all of its cerium and lanthanum at Phase II production levels given these are globally the two most abundant rare earths and make up the majority of MCP's rare earth content at 48.8% and 34.0% respectively. MCP has sought to remedy this situation by creating new products to promote new sources of demand for its REOs. Its first such product is SorbX, a water purification product designed specifically as a source of uptake for cerium. While MCP estimates that SorbX has the potential to absorb all of its cerium supply at Phase II production levels, we would still like to see additional evidence of sales traction before we can be truly confident in its potential.

**Period of high prices served as impetus for some manufacturers to reduce rare earth requirements – with prices normalizing, many are turning back to rare earths due to performance advantages they provide.** During the period from exceptionally high rare earth prices from 2010-2011, FCC catalyst manufacturers such as Albemarle Corporation (ALB - Outperform) and W.R. Grace (GRA - Outperform) introduced reduced lanthanum or lanthanum-free options for their customers. Some companies which had previously relied on cerium for glass polishing have installed new machinery that reduces cerium requirements. Electric and hybrid vehicle manufacturers have also looked for ways to reduce exposure to rare earth price volatility by using alternative battery and motor technologies. If this trend were to continue it could pose risk to the long-term rate of rare earth demand growth. That said, rare earths still remain critical to many applications and in many cases there are no alternatives currently available. Additionally, products with rare earth content often have significantly better performance than rare earth free alternatives. With prices normalizing many customers are once again switching back to products with rare-earth content. For example, our discussions with one producer of FCC catalyst indicated that performance is much higher for catalysts with rare earth content, and many of its customers have already switched back to full rare earth versions.

**Capital structure is highly complex and could discourage investor interest.** In its efforts to execute on its vertical integration strategy, MCP has gone to market on numerous occasions to secure additional sources of funding. This has created a number of complexities to its balance sheet including multiple convertible notes and a share lending agreement. Additionally, it creates the risk of significant dilutive potential to equity shareholders. We think that the level of balance sheet complexity could turn off some investors from holding the stock.

## MCP: Baird Estimates vs. Consensus 2012-2014E

Millions Except EPS	2012E		2013E		2014E	
	Baird	Street	Baird	Street	Baird	Street
Revenue	\$611.0	\$609.6	\$982.3	\$936.2	\$1,203.9	\$1,272.4
Growth	54.0%	53.6%	60.8%	53.6%	22.6%	35.9%
Gross Margin	11.2%	9.9%	36.1%	26.5%	46.8%	35.7%
EBITDA	(\$56.3)	(\$62.2)	\$255.4	\$169.3	\$466.4	\$487.5
Net Income	(\$131.4)	(\$120.8)	\$30.9	(\$4.2)	\$177.6	\$219.3
GAAP EPS	(\$1.23)	(\$1.10)	\$0.19	\$0.02	\$1.20	\$1.77

Source: Baird Estimates, FactSet

**Valuation implies a \$10 price target.** Our valuation uses an EV/EBITDA multiple of 8.0x our 2013 EBITDA estimate, which is a premium to MCP's specialty chemical comps currently trading at a 2013 EV/EBITDA multiple of 6.5x. We believe MCP warrants a premium given its scarcity value as a pure-play rare earth producer and the fact that it has the only producing rare earth mine in North America, offset by potential product ramp-risk at Mountain Pass and ongoing weakness in rare earth pricing. As MCP executes on its production ramp or the pricing environment for rare earths materially improves, we could look to raise our multiple.

## Company Overview

**Molycorp is a fully integrated producer of rare earth products with the largest rare earth mine in the Western Hemisphere.** MCP is in the process of completing a \$1.25B modernization project at the Mountain Pass rare earth mine in California, which will make it one of the largest producers of rare earths in the world. Once ramped, Mountain Pass will be the only active rare earth mine in the United States and the largest such mine in the Western Hemisphere. MCP has completed a number of acquisitions over the past two years, which have added capabilities in the downstream processing of rare earth elements into high-purity oxides, metals, alloys, and magnetic materials. Its vertical integration allows the company to control the value chain and protect itself from input cost increases while simultaneously giving it the ability to capture incremental margin through the sale of higher-value, processed end-products. MCP completed its initial public offering in 2010 and is headquartered in Greenwood Village, Co.

### What are rare earths?

Rare earths are a group of metallic elements consisting of the 15 lanthanides, as well as yttrium, which tends to be found in the same deposits as the lanthanides. Contrary to their namesake, rare earths are actually quite abundant in the earth's crust. Typical rare earth concentrations range from 150 to 220 parts per million, which exceed that of copper (55 parts per million) and zinc (70 parts per million). That said, rare earth elements (REEs) are not frequently found concentrated into economically minable deposits.

### MCP's Rare Earth Products

The periodic table shows the following elements highlighted in blue:

- Yttrium (Y)
- Lanthanum (La)
- Lanthanide series: Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu

Source: Molycorp, Baird

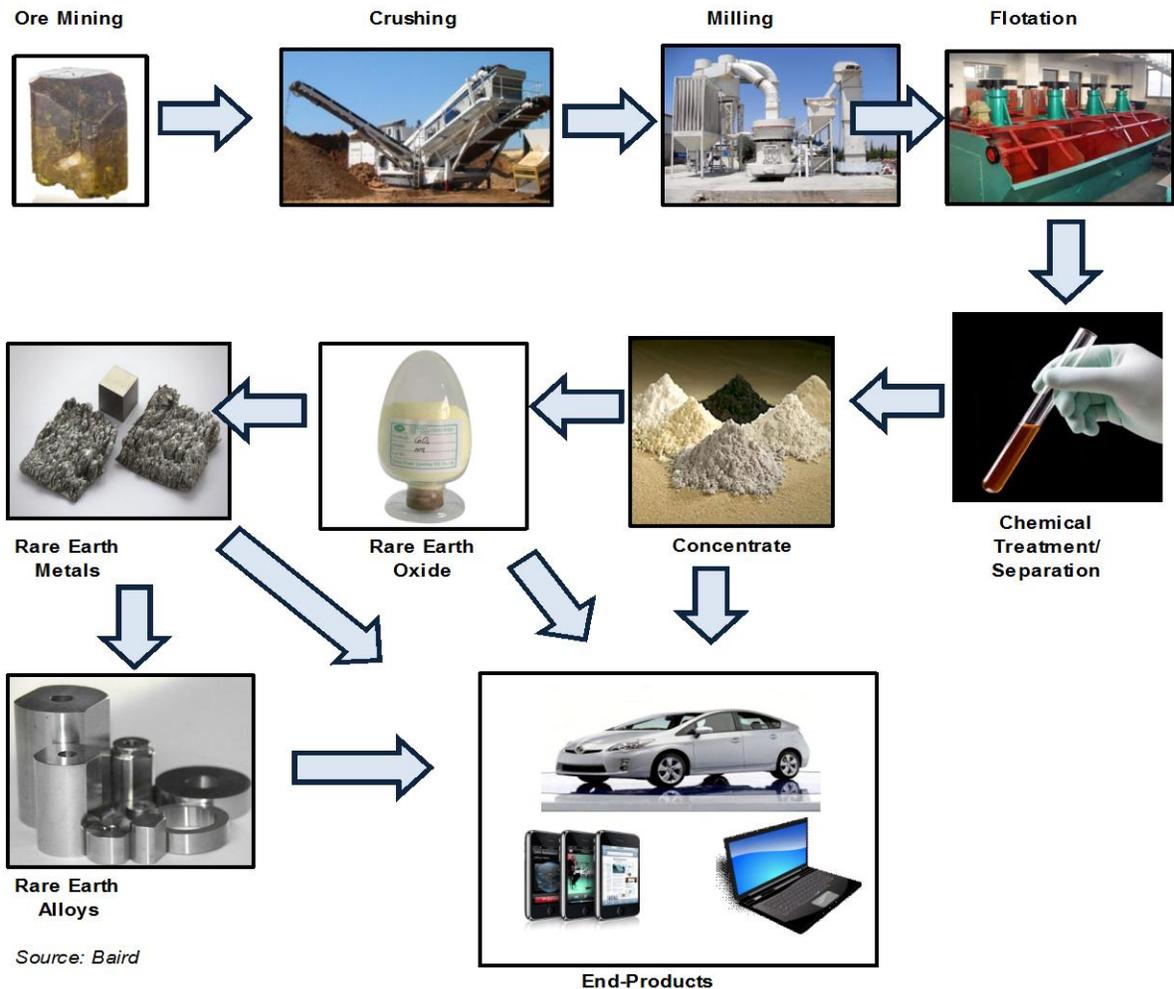
Rare earths are classified into “light” (LREEs) and “heavy” (HREEs) varieties, with heavy being less abundant and being used in some of the more high tech applications. HREEs also tend to be more challenging to process than LREEs. Light rare earths include lanthanum, cerium, praseodymium, neodymium, and samarium while heavy REOs consist of yttrium, europium, gadolinium, terbium, dysprosium, holmium, thulium, ytterbium, lutetium, promethium, and yttrium. Promethium is a radioactive element that rarely occurs naturally and thus is not typically considered a product of rare earth mines. The most common rare earth mineral ores are bastnasite and monazite. Bastnasite typically contains high proportions of light rare earths with small concentrations of heavy rare earths. Monazite tends to have higher concentrations of the light REOs but will have heavy concentrations 2-3x larger than found in bastnasite.

lanthanum 57 <b>La</b> 138.91	cerium 58 <b>Ce</b> 140.12	praseodymium 59 <b>Pr</b> 140.91	neodymium 60 <b>Nd</b> 144.24	samarium 62 <b>Sm</b> 150.36	europium 63 <b>Eu</b> 151.96	gadolinium 64 <b>Gd</b> 157.25	terbium 65 <b>Tb</b> 158.93	dysprosium 66 <b>Dy</b> 162.50	holmium 67 <b>Ho</b> 164.93	erbium 68 <b>Er</b> 167.26	thulium 69 <b>Tm</b> 168.93	ytterbium 70 <b>Yb</b> 173.04	yttrium 39 <b>Y</b> 88.906	lutetium 71 <b>Lu</b> 174.97
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Light Rare Earths
Heavy Rare Earths

Source: Baird

### Rare Earth Production Process



Source: Baird

**Rare earth supply chain overview:** While rare earth products have a variety of uses in advanced technology applications from renewable energy to smart phones, there is a process that must occur to get them from the mine to the end-product. Rare earths are not actually rare in terms of the frequency in which they are encountered. Instead, the moniker comes from the fact that is challenging and costly to isolate the elements and get them into useful concentrations.

**Step #1- Mining Operations:** The initial step in rare earth production is mining the ore. The ore contains mineral deposits such as bastnasite and monazite, which are what actually contain the rare earth elements. The ore is removed from the ground using traditional mining methods and is then crushed into gravel-sized pieces to separate the bastnasite/monazite out of the rest of the material.

**Step #2 – Milling:** The milling step involves grinding the bastnasite pieces into fine particles of less than 1mm in size and then applying separation techniques in order to obtain viable concentrations of the rare earth material. MCP uses a flotation separation process in its operations. A flotation technique typically involves an agent being combined with the ground bastnasite while air is pushed through the bottom of a tank which causes the useful ore to be suspended on the surface while waste material sinks below. The resulting material is five or more times more concentrated than the originally mined ore.

**Step #3 – Chemical Treatment and Concentrate Production.** The mineral material from the milling process is then chemically treated through a process called “cracking,” which in MCP’s case uses hydrochloric acid. This allows the rare earth elements in the mineral to dissolve for further separation. The output is known as “concentrate” and is often a mix of many rare earth elements. For MCP there will be higher concentrations of cerium and lanthanum given their higher concentrations in its ore. The concentrate can be sold on its own or it can be further processed to create higher purity products known as oxides.

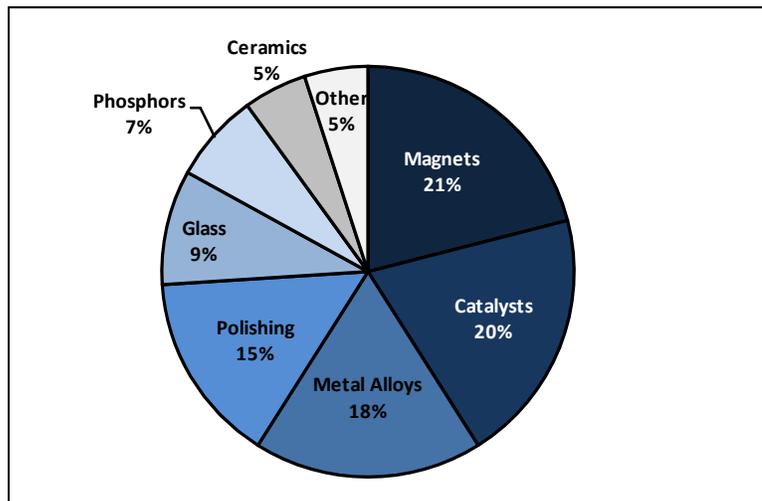
**Step #4 – Oxide Conversion:** Additional chemical treatment is conducted in order to separate the rare earth elements from the concentrate into their own individual oxides at purities of 99.9% or greater. This is typically done via ion-exchange or multi-stage solvent extraction by targeting the different atomic weights of each element in the concentrate. Oxide materials can be highly specialized to customer requirements and thus command much higher prices than concentrate.

**Step #5 –Metal/Alloy Production:** Certain applications require even higher purities than those found in oxides (think 99.99999%) which results in a need for rare earth metals (REMs). Once again this is typically achieved through a multi-stage solvent extraction process. Rare metals typically command even higher values than REOs. Rare earth alloys are combinations of multiple metallic elements into a single compound.

**Rare earths have a wide variety of applications from catalysts to magnets.** Though typically only required in small quantities, rare earths are critical to variety of applications spanning a number of industries. Their uses can span facilitating chemical reactions, to polishing glass, to producing permanent magnets for automobiles and electronics. Major markets include:

- **Permanent magnets** - Magnetic rare earth alloys such as neodymium and praseodymium can be used to generate strong, continuous magnetic fields. Magnetism is key to the operations of a variety of products spanning electric motors for electric and hybrid vehicles, generators for wind turbines smart phones, hard disk drives, loudspeakers, and cordless power tools.
- **Rechargeable batteries** – Lanthanum as well as trace quantities of other rare earths are used in the production of rechargeable batteries such as

**Global Rare Earth Demand by Application - 2010**



Source: IMCOA, Baird

nickel-metal-hydride (NiMH) products. These are not only used to power a wide range of consumer electronic products but have also been widely developed in hybrid vehicles such as the Toyota Prius.

- **Fluid catalytic cracking catalysts.** Lanthanum and cerium are used as catalysts to break down heavy, long-chain hydrocarbons, into lighter (shorter) petroleum derivatives such as gasoline and diesel fuels.
- **Automotive catalytic converters.** Lanthanum and cerium are also used in catalytic converters in automobiles to reduce emissions stemming from internal combustion engines.
- **Phosphors for displays and lighting.** Europium, yttrium, and terbium are used to produce various color phosphors, which are materials that emit light after being exposed to electrons. Phosphors are commonly used in LCD screens and energy-efficient LED lighting.
- **Glass polishing and glass additives.** Cerium oxides are able to react with the surface layer of glass products to aid in polishing to improve finish. Additionally, cerium and lanthanum oxides are also added to glass for UV shielding and to prevent undesirable coloration.

### Rare Earth Demand by Application

Application	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Y	Other
Magnets	--	--	23.4%	69.4%	--	--	2.0%	0.2%	5.0%	--	--
Battery Alloys	50.0%	33.4%	3.3%	10.0%	3.3%	--	--	--	--	--	--
Metal Alloys	26.0%	52.0%	5.5%	16.5%	--	--	--	--	--	--	--
Auto Catalysts	5.0%	90.0%	2.0%	3.0%	--	--	--	--	--	--	--
Petroleum Refining	90.0%	10.0%	--	--	--	--	--	--	--	--	--
Polishing Compounds	31.5%	65.0%	3.5%	--	--	--	--	--	--	--	--
Glass additives	24.0%	66.0%	1.0%	3.0%	--	--	--	--	--	2.0%	4.0%
Phosphors	8.5%	11.0%	--	--	--	4.9%	1.8%	4.6%	--	69.2%	--
Ceramics	17.0%	12.0%	6.0%	12.0%	--	--	--	--	--	53.0%	--
Other	19.0%	39.0%	4.0%	15.0%	2.0%	--	1.0%	--	--	19.0%	--

\* Percentages reflect the % each application's rare earth demand attributable to each element

Source: Lynas Corporation, 2010

### Mountain Pass Rare Earth Mine

### Mountain Pass Rare Earth Mine



Source: Molycorp

**Mountain Pass is currently the largest operating rare earth mine in the Western Hemisphere.** MCP's Mountain Pass rare earth mine is the only operating rare earth mine in the Western Hemisphere making it a key source of supply outside of China where the preponderance of rare earth products are made today. The mine was discovered in 1949 and initial production began by The Molybdenum Corporation of America in 1952. Output expanded rapidly and from 1965 to 1995, Mountain Pass was the largest rare earth facility in the world. The mine was closed in 2002 due to environmental restrictions as well as reduced economics resulting from depressed REE pricing. Chevron acquired the facility from Unocal Corporation in 2005 and eventually sold it to Molycorp in 2008. Molycorp has undertaken the challenge of reviving the mine through its Project Phoenix initiative and has once again begun operations at Mountain Pass. Mountain pass now marks the only source of domestic rare earth production and should maintain the status for a number of years as other potentially competing mines are still conducting development Phase activities.

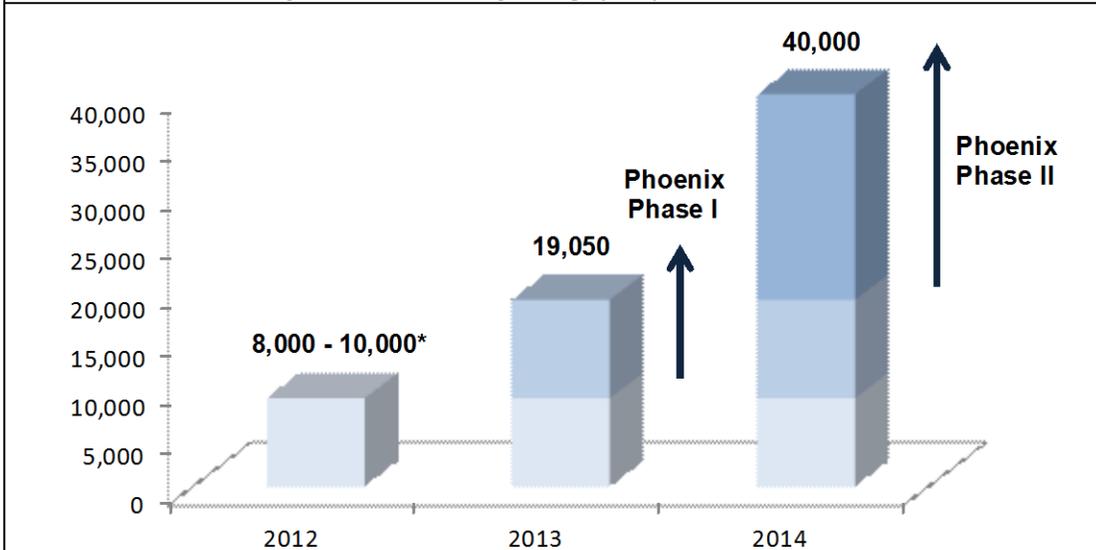
**Mountain Pass REE Concentrations**

Element	Est. % of Bastnasite
Cerium	48.8%
Lanthanum	34.0%
Neodymium	11.7%
Praseodymium	4.2%
Samarium	0.79%
Gadolinium	0.21%
Europium	0.13%
Yttrium	0.12%
Other REE	0.05%

Source: SRK Consulting, Molycorp, Baird

**Despite being in use for over 50 years, Mountain pass still has a significant proven reserve base.** The most recent estimates by independent mining consulting firm, SRK Consulting place Mountain Pass' proven and probable mineral reserves at 18.4M tons with an ore grade of 7.98%. It is estimated that Mountain Pass' ore contains approximately 2.94B pounds (1.3M metric tons) of rare earth oxide equivalent. While it contains deposits of monazite from which MCP will attempt to source heavy REEs, Mountain Pass' predominate mineral content is bastnasite. Within this ore, cerium and lanthanum are the two most abundant REEs with estimated concentrations of 48.8% and 34.0%. Neodymium is the third most abundant REE at 11.7% and Praseodymium has the fourth-highest concentration at 4.2%. While the ore at Mountain Pass contains a number of other rare earths, these all have individual concentrations of below 1.0%.

**Mountain Pass Expansion of Capacity (MT)**

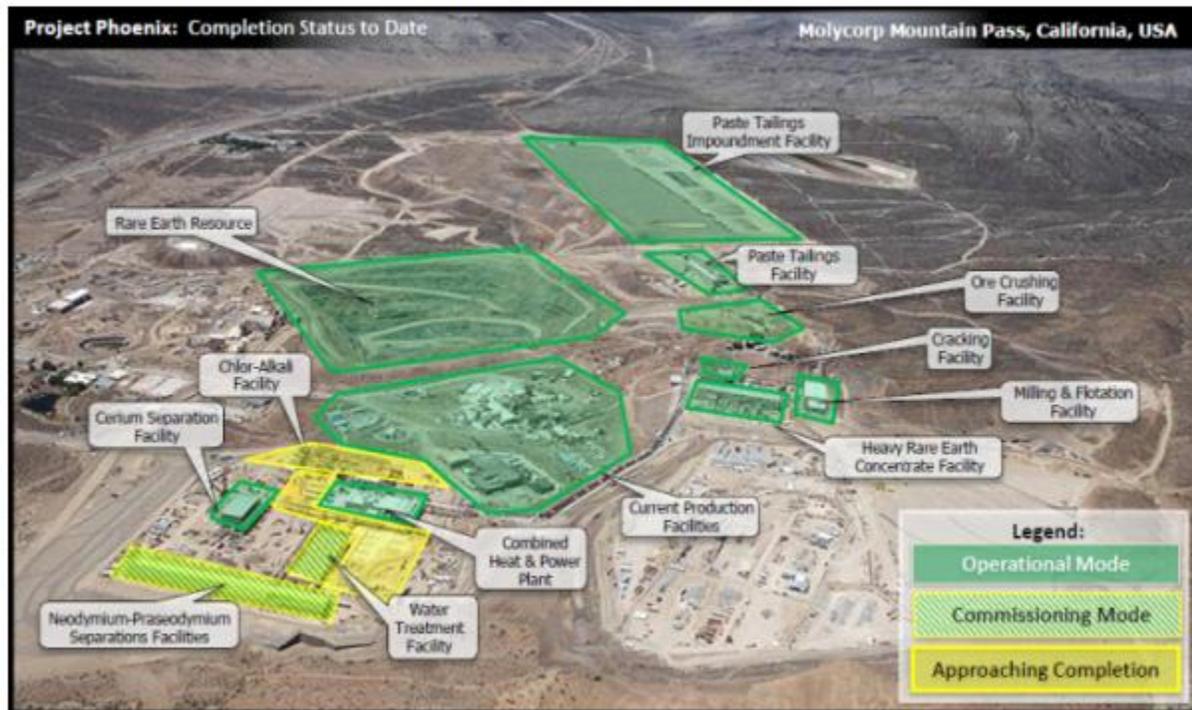


\*MCP guided 2012 production  
Source: Baird, Molycorp

**Undertaking extensive modernization effort of Mountain Pass under Project Phoenix which will make MCP one the largest individual rare earth producers in the world.** When MCP took over control of the Mountain Pass facility in 2008, it acquired an open-pit mine, a crusher and mill/flotation plant, a separation plant, laboratory facilities, plant tailing storage areas, overburden stockpiles, and various offices, warehouses and other support buildings.

However, much of the infrastructure was dated and in many cases more than 20 years old. The company is undertaking a significant modernization and expansion project referred to as “Project Phoenix,” which has involved installing new/upgrading old equipment to not only resume operations but also improve the efficiency and lower the cost of production. Phase I is substantially complete today and will allow MCP to produce at a rate of 19,050MT per year by year-end. Phase II will more than double Phase I capacity to 40,000MT and is set to be mechanically complete by year-end, though operations on Phase II will commence in 2013 depending on the extent of MCP’s rare earth demand.

## Mountain Pass Status of Project Phoenix Facilities



Source: Molycorp

**Phase I substantially complete as of Q3 call – MCP appears poised to reach its target production run-rate by year-end.** As of MCP’s Q3 earnings call on November 8, most of its facilities as part of its Phase I expansion/modernization effort were completed and operating at or greater than its target Phase I run-rate of 19,050MT per year where the company is targeting to exit 2012. Only two units were below Phase I levels including its cracking and NdPr (didymium) facilities which were 70% and 80% complete respectively. As such, it appears MCP is on track to exit 2012 with production at its Phase I target of 19,050MT of REO equivalent per year.

**Proprietary oxide separation process combined with Chlor-alkali facility will allow MCP to significantly reduce its largest input cost of rare earth production.** In Mountain Pass’ prior operating life, it would need 15-25 tanker trucks full of chemical reagents daily to sustain its traditional solvent extraction operations. MCP estimates that these chemical reagents comprise 60-70% of its cost of production. That said, MCP has developed a proprietary oxide separation process that will significantly reduce the number of reagents it uses in its process. Additionally, once MCP’s chlor-alkali facility is online, MCP will have the capacity to capture salt water used in its process and recycle it to produce new chemical reagents, significantly lowering the costs associated with its highest contribution production input.

**Typical rare earth production is an energy-intensive and “dirty” process – Molycorp taking steps to improve sustainability of Mountain Pass.** The concentration and separation of rare earths is an energy-intensive process that also uses significant quantities of water and chemicals. Some elements require as many as 1,000 separation runs to be extracted in usable concentrations. MCP is making a number of enhancements to Mountain Pass to improve its sustainability. For example, the company will utilize its chlor-alkali plant to convert waste salt water into hydrochloric acid and sodium hydroxide, both of which can be fed back into its production process. The company estimates this measure will recycle 913M pounds of water and 101M pounds of salt annually. Additionally, the

company will use a 24MW natural gas-powered cogeneration unit that will provide enough electricity and steam to power its production of 19,050MT of REOs annually. During Phase II of its Phoenix renovation project, MCP plans to subsequently add two additional turbines to bring its on-site generation capacity to 49MW, which will be sufficient to power its production of 40,000MT of REO. The co-gen unit will also allow MCP to materially reduce its energy costs.

**Defective EPC services will contribute to further cost overruns at Project Phoenix, though MCP was able to keep timelines on track.** On its Q3:12 call, management stated it will need to incur \$150M in additional expenses to remedy issues brought on by defective engineering by one of its EPC partners. The repairs will not result in any push-out of MCP's timelines and the company believes it can cover the costs with existing sources of liquidity as well as free cash flow generation from MCP Canada.

**MCP has previously had to discard monazite at Mountain Pass – new cracking facility allows MCP to process this along with bastnasite to increase its economic opportunity.** While Mountain Pass primarily contains bastnasite ore, its deposits also contain monazite, which yields heavy rare earth elements, albeit in relatively small concentrations. In its past operations, MCP had limitations in terms of processing both the bastnasite and monazite at the same time, and as a result had historically discarded the monazite material into its tailings area. MCP's new cracking facility allows it to simultaneously process bastnasite and monazite, which will allow MCP to take advantage of the full range of its mineral deposits. MCP will ship its heavy feedstocks to its Jiangyin, China facility for processing.

### Sample Mine Development Timelines in United States

Mine	Commodity	Permitting Began	Permitting Completed	Initial Production	Commercial Operations	Total Time	Litigation Reported
Alta Mesa, AZ	U	1999	2004	10/2005	1/2006	7 years	
Arizona 1, AZ	U	mid-2007	2009	NYA	NYA	NYA	Yes
Ashdown, NV	Mo, AU	2/2004	11/2006	12/2006	NYA	NYA	
Buckhornm, WA	AU	1992	9/2006	10/2008	11/2008	16 years	Yes
Carlota, AZ	Cu	2/1992	6/2007	12/2008	1/2009	17 years	Yes
Eagle, MI	Ni, Cu, Co, PGE	4/2004	1/2010	NYA	NYA	NYA	Yes
East Boulder, MT	PGE	1995	1998	6/2001	1/2002	7 years	
Kensington, AK	Au	3/1988	6/2005	9/2010	NYA	NYA	Yes
Leeville, NV	Au	7/1997	8/2002	10/2006	Q4/2006	9 years	
Lisbon Valley, UT	Cu	2/1996	7/2004	Q1/2006	NYA	NYA	Yes
Pend Oreille, WA	Zn	1992	9/2000	1/2004	8/2004	12 years	
Phoenix, HV	AU	1/1999	1/2004	10/2006	Q4/2006	18 years	
Pogo, AK	Au	12/1997	4/2004	2/2006	4/2007	9 years	
Rock Creek, AK	Au	2003	8/2006	9/2008	NYA	NYA	Yes
Rossie (Storm), NV	Au	1990	Q3/2006	3/2007	12/2007	17 years	
Safford, AZ	Cu	4/1998	7/2006	Q4/2007	2H/2008	10 years	Yes
Turquoise Ridge, NV	Au	9/1995	5/2003	2004	NYA	NYA	

\* NYA denotes "Note Yet Achieved"; "Total Time" is a rounded estimate

Source: USGS, Baird

**Resource and mine development a time consuming process - Mountain Pass offers significant advantage in terms of time to market.** The development of mining resources can be a long, drawn-out process spanning efforts of prospecting, exploration, feasibility studies, permitting, construction, and commissioning. Exploration is very uncertain, and most of the world's largest rare earth resources were discovered by accident. Mountain Pass itself was actually found while prospectors were searching for uranium. Once a suitable location is identified, extensive drilling must be conducted to prove the viability of the resource. Data uncovered will be subject to environmental studies and feasibility assessments to determine if it is economically viable to mine the resource. When the decision is made to go ahead, the mine must apply for permits which will be subject not only to environmental impact studies but also final approval by a relevant government agency. Historically permitting has been one of the biggest hurdles in the United States for new mines. Above is a table of recent mines developed in the United States. Notice that none of these are for rare earths as Mountain Pass has been the only rare earth mine ever developed in the U.S. Permits, in some cases such as the Rossie, NV mine, have taken as long as 16 years to receive. The time between permitting and commercial operation is also likely to be longer for a rare earth mine than those shown above as rare earths have more complex metallurgical properties making them more challenging to extract. The fact that Mountain Pass is a brownfield site with an extensive mining history, infrastructure in place, and all permitting complete, gives

MCP a significant time to market advantage over other competitors attempting to develop rare earth resources in the U.S.

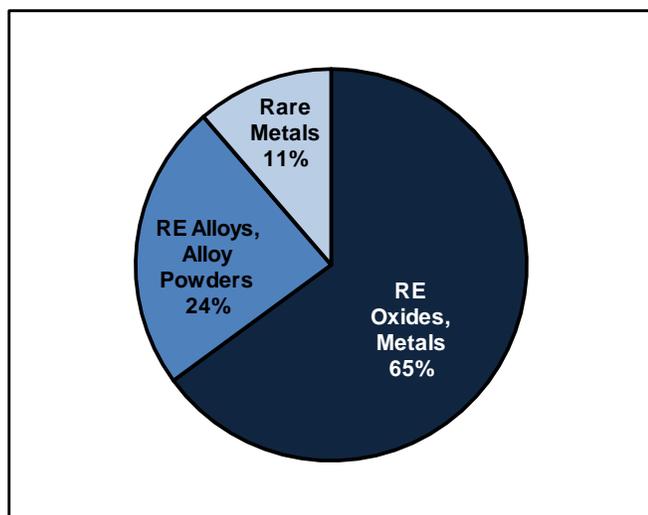
### Acquisitions

**AS Sillamäe facility gives MCP the ability to produce high-purity oxides and rare metals.** In April 2011, MCP announced it had acquired a 90.23% interest in AS Sillamäe, one of two rare earth processing facilities in Europe (located in Estonia), for ~\$89M (it acquired the remaining interest in October 2011). The Sillamäe facility has 3,000MT of oxide capacity and gives the MCP the ability to produce high purity outputs. Sillamäe also has the capacity to produce rare metals including niobium and tantalum.

**Acquisition of Santoku America (Tolleson) provided MCP with capability to produce rare earth alloys – however, full potential was limited by IP constraints until MCP’s recent acquisition of Magnequench.** In April 2011, MCP acquired rare earth alloy producer, Santoku America Inc. (referred to as Tolleson), for \$17.5M in an all-cash deal. The purchase gave MCP the ability to produce neodymium-iron-boron (NdFeB) and samarium-cobalt (SmCo) alloys, key inputs in the production of permanent magnets. Tolleson currently supplies 50% of the world’s samarium-cobalt alloys today. Tolleson also has the capability to produce alloys related to Magnequench’s battery portfolio.

**Neo Materials acquisition provides MCP with expanded downstream capabilities in rare earth processing – will allow MCP to process heavy feedstocks.** MCP’s \$1.3B acquisition of Canadian rare-earth processor, Neo Materials (today referred to as Molycorp Canada) falls in line with its “Mine-to-Magnets” strategy by providing it with additional upstream processing capabilities, particularly related to higher-purity rare earth oxide separation and processing into metals. Neo operates 11 production facilities globally including seven rare metal production centers across North America (three), Europe (two), and Asia (one), two rare earth and zirconium production facilities in China, and two facilities for neodymium-iron-boron (NdFeB) magnet powder production in China and Thailand. The combined companies would have derived 63% of FY:2011 revenue from rare earth oxides, 26% from alloys, and 11% from rare metals. Neo has excess capacity at its Zibo, China facility to which MCP can begin sending feedstock from Mountain Pass for processing. Importantly, Neo’s Jiangyin, China plant has the capability to process heavy rare earths, which MCP has been stockpiling both at Mountain Pass and Sillamäe. This will give MCP the ability to process its rare earth elements into higher-purity, higher-value oxides and other downstream materials. Ultimately MCP will look to expand its heavy earth processing capabilities outside of China by 2014.

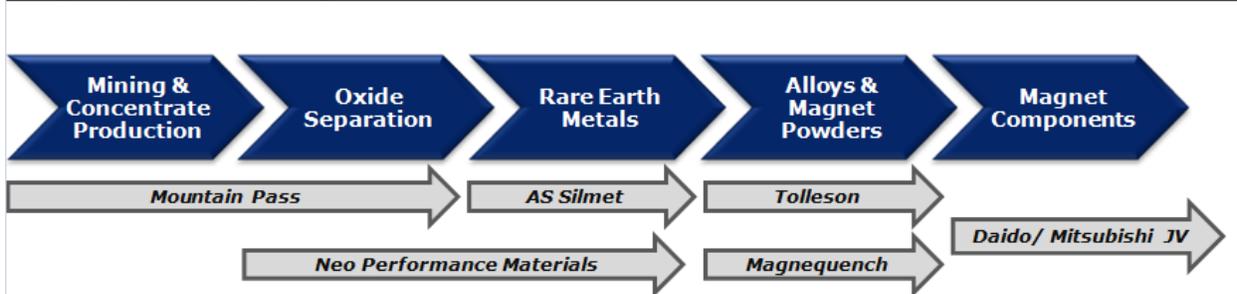
### MCP/Neo Combined Product Segmentation



Source: MCP Presentation

*Downstream Capabilities/Strategy*

**Molycorp Vertically Integrated Position**



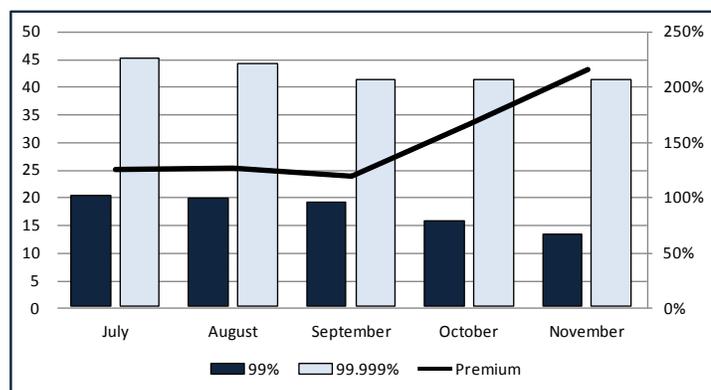
Source: Baird

**Molycorp has built out a vertically integrated position across the rare earth value chain allowing the company to capture additional margin on downstream products.** While the Mountain Pass facility forms the basis of MCP's rare earth competitive position, the company has also aggressively pursued acquisitions further down the value chain. MCP has processing capabilities for rare earth oxides, metals, alloys, magnet powders, and complete magnets. Additionally, it has developed its own product line with SorbX to absorb some of its own rare earth oxide production from Mountain Pass. MCP's vertically integrated structure allows it to leverage its low-cost feedstock production at Mountain Pass to extract additional margin with more advanced products down the value chain.

**Potential to replace more expensive third-party feedstock at downstream processing facilities with low-cost feedstock from Mountain Pass offers significant margin expansion opportunity.** Processing operations at Molycorp Canada's facilities in China have historically been done exclusively through the procurement of third-party Chinese feedstock, which we estimate has cost in the range of \$20-\$25/kg. Once MCP achieves scale on its Phase II production, it believes it can get its oxide costs down to \$3-\$6/kg, with its concentrate costs even lower than this. Even given transportation costs from Mountain Pass to the Chinese plants, MCP's internal concentrate stands to be a significant advantage relative to the third-party feedstock prices paid by these facilities had paid in the past. Any reduction in cost achieved by MCP is effectively all margin for the company. While we don't expect MCP Canada facilities to fully source 100% of their product from Mountain Pass, the mix shift toward lower-cost feedstock should translate into material margin expansion.

**Ability to upgrade to higher-purity oxides at Silamäe/MCP Canada allows MCP to capture significantly higher ASPs for its REOs.** With its acquisition of AS Sillamäe, MCP expanded its downstream capability to further process its rare earth oxides to yield higher-purity, higher-value products. The accompanying chart shows the price of two versions of lanthanum oxide: 99% and 99.999%. In November, the China FOB price of 99% lanthanum oxide was \$13/kg. Comparatively, the price of 99.999% lanthanum oxide was \$41/kg, a premium of 215%. This example exemplifies the value MCP can potential derive from downstream oxide processing. Given rare earth prices have fallen precipitously since mid-2011, we view MCP's "mine-to-magnets" strategy as more valuable than ever in that it should allow the company to realize incremental margin via its downstream operations.

**Premium for Higher Purity Lanthanum - China FOB (\$/kg)**

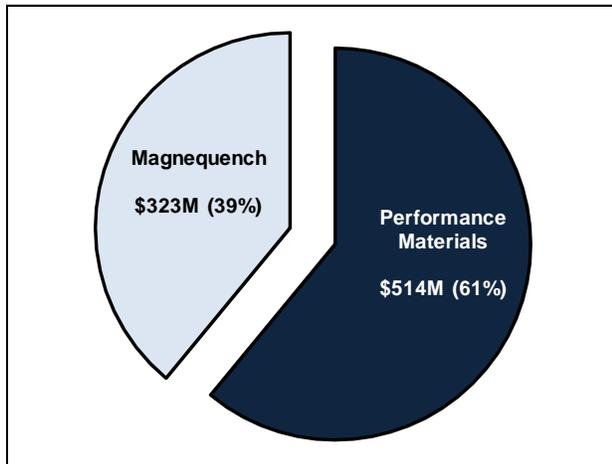


Source: Metal-Pages, Baird

**MCP's vertical integration strategy helps curb its exposure to volatility in the prices of rare earths .** Despite a lack of transparency in terms of pricing, rare earths in many respects tend to behave like commodity goods, with supply and demand dynamics in the market place being the principal driver of prices. For many rare earth producers, this forces them to be price takers. However, by virtue of its vertical integration, MCP has the ability to add greater

levels of differentiation to its products, and subsequently reduce price sensitivity as it progresses from oxides to metals to alloys to magnetic powders. While this vertical integration gives MCP greater pricing power than some of its rare earth peers, we still think MCP has lesser pricing power than some traditional specialty chemical companies whose products are less directly linked to commodity-type markets.

### Neo Materials 2011 Revenue by Segment



Source: MCP Presentation

While the majority of Neo Materials' business by revenue is not subject to Chinese rare earth restrictions, production/export quotas could limit the potential of Neo's Jiangyin and Zibo facilities to process feedstock from Mountain Pass. A large proportion of the products made by Molycorp Canada (formerly Neo Materials) are not technically classified as rare earth oxides, metals, or alloys and are thus not subject to production/export quotas imposed by the Chinese government. For example, Magnequench's operations go further downstream into the production of magnetic powders, and ~1/2 of Molycorp Canada's Performance Materials segment sales come as a result of zirconium products as well rare metals such as gallium, indium, and rhenium. Overall we estimate that 30-40% of Molycorp Canada's business is subject to quotas. That said, MCP Canada's 4,000MT Zibo facility will look to process a share of light rare earth concentrate from Mountain Pass into high-purity oxides. Similarly, its Jiangyin plant has the capability to process heavy rare earths sourced from Mountain Pass. While a reduction of

the Chinese production quota would be positive for MCP's rare earth operations outside of China, it could also prove to be restrictive in terms of the level of utilization of its facilities in the country. This would limit MCP's ability to realize higher-margin sales on feedstock mined at Mountain Pass and also potentially negatively impact margin through plant underutilization in China.

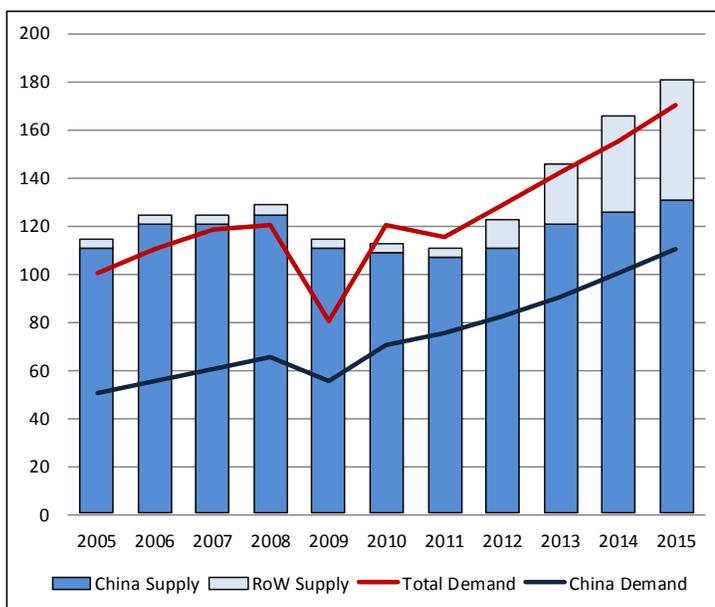
**Magnequench allows MCP to produce powders for bonded NdFeB magnets – removes IP barrier for Tolleson to expand alloy powder potential.** Molycorp Canada's Magnequench division produces magnetic powders for use in the production of neodymium-iron-boron magnets commonly used in electric motors and various sensors. The company operates two facilities in China and Thailand to which MCP will provide Nd+Pr material. This provides a complement to the company's existing joint venture for the production of sintered NdFeB magnets with Daido Steel and Mitsubishi. MCP's Tolleson facility has previously had the capability to produce certain alloys related to bonded NdFeB magnets but had been unable to operate in this market as it would have violated patents held by Magnequench. With the Neo Materials acquisition, MCP can now expand the portfolio of products it makes at Tolleson, which will increase output and likely add economies of scale at the facility.

**MCP has the capability to produce multiple varieties of NdFeB magnets, allowing it to address a wide variety of magnet applications.** Sintered NdFeB magnets are the most powerful type of permanent magnets available and are the most frequently used NdFeB variety. These magnets have the maximum energy capability per unit of size however they are fairly brittle and limited in terms of what geometries they can comprise. These deficiencies open up the door for bonded NdFeB magnets, which are used in some niche NdFeB applications. These varieties have less power than sintered, but are less fragile, can be injection molded into a wide variety of geometrical formations, and are relatively less costly to produce. MCP's ability to manufacture components for both sintered and bonded NdFeB magnets, as well as samarium-cobalt, gives it a broad portfolio in terms of addressing the permanent magnet market.

**Joint venture with Daido Steel & Mitsubishi Corporation gives MCP the ability to produce permanent magnet products.** In November 2011, MCP announced it had formed a joint venture with Daido Steel & Mitsubishi Corporation to manufacture and distribute sintered neodymium-iron-boron (NdFeB) permanent magnets. The JV is funded by a 30% contribution from MCP, a 35.5% contribution from Daido, and a 34.5% contribution from Mitsubishi as well as a government subsidy from Japan's Ministry of Economy. The JV recently completed construction of a 500MT per year magnet plant in Nakatsugawa, Japan and is the process of bringing the facility online. The magnets will be produced using technology licensed from Intermetals, which is a partnership established between Daido, Mitsubishi, and Dr. Masato Sagawa who is a co-inventor of NdFeB magnets. The JV will target the automotive and home appliance markets for its magnets and has already been provisionally awarded a contract from major automaker though the partner has not yet been disclosed to date.

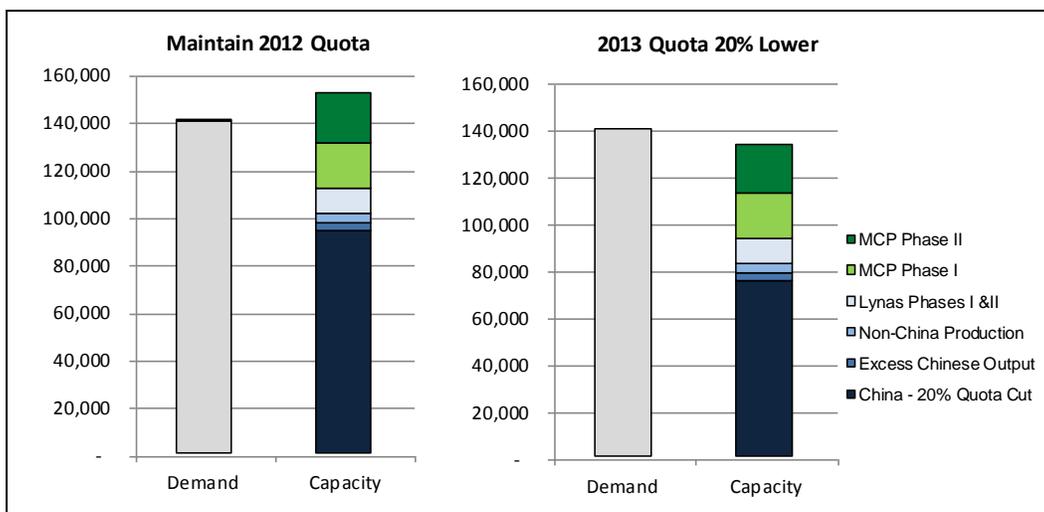
**Rare earth supply expected to catch up with demand in 2014 – despite demand growth, pricing is likely to fall further from current level as new sources of supply come online.** Though prices have fallen dramatically from the levels seen in mid-2011, demand in the rare earth market is actually still outpacing supply. In 2011, China officially produced 96,900MT of rare earths with an estimated ~4,000MT coming from outside sources in including India, and to a lesser extent, Brazil and Malaysia. This total production of ~101,000MT was below estimated demand of ~115,000MT. In 2012, this trend is expected to continue with demand increasing to ~130,000MT and supply out of China remaining flat. 2012 will be supplemented by an incremental 8,000-10,000MT from MCP Mountain Pass mine as Phase I production comes online in Q4, but the aggregate supply is still expected to be below demand by ~19,000-21,000MT. Barring a reduction in Chinese production, this is projected to come to an end in 2013 with new capacity at MCP and Lynas Corporation closing the supply/demand imbalance. Based on this, we think there is additional room for rare earth prices to fall. For example in 2007 and 2008 when supply similarly outstripped demand, prices for cerium were \$8-\$9/kg compared to as high as \$30/kg today. That said, given that the pace of new demand growth is higher today than in 2008, thanks to increased momentum in rare earth applications such as hybrid and electric vehicles, we don't believe prices will make their way all the way back to these levels.

### Rare Earth Industry Supply & Demand Estimates



Source: IMCOA, Roskill, CREIC, Baird

### Capacity Expansions Relative to Projected 2013 Demand



Source: Robert W. Baird & Co.

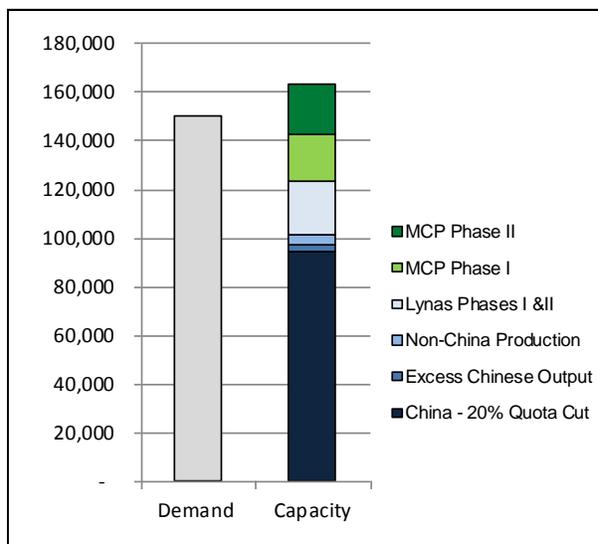
**We believe 2013 demand for rare earths will be adequate to support all of MCP's Phase I production, though the incremental supply could put more pressure on prices – a meaningful production in China's rare earth production quota would reduce the pricing pressure from MCP's expansion and potentially a support a meaningful portion of Phase II production.** Based on our estimates for global rare earth demand, the Chinese production quota, and rare earth capacity additions outside of China, we believe there will be adequate demand in the marketplace to support all of MCP's Phase I production in 2013. We assume demand of 140,000MT and similar production levels out of China as seen in 2011 and 2012. At these rates, the market could support MCP's full 19,050MT expansion as well as Lynas' first 11,000MT Phase of its project and still have ~9,000MT of excess

demand, or a 7% cushion. We note this 7% cushion would be smaller than the estimated 18% cushion estimated to play out in 2012, which would likely create additional pricing pressure. That said, a meaningful reduction in the production quota in China would potentially create an opportunity for MCP to bring on all of its Phase I capacity as well as a portion of its Phase II capacity with limited pricing pressure from the extra volume. If such an event occurred, we estimate the excess demand cushion over supply, assuming just MCP's Phase I expansion comes online would be ~25%, actually higher than the estimated levels for 2012. MCP could bring on another 6,500MT, or ~31% of its Phase II capacity before the global excess demand buffer hit the estimated 18% level from 2012.

**Even with a reduction in the Chinese production quota in 2013, we think it is likely that MCP's Phase II capacity expansion at Mountain Pass will result in pricing pressure on the rare earth market.**

Assuming rare earth demand of 150,000MT in 2014, we think it could be challenging for the market to support MCP's Phase II production in 2014 without increased price erosion if Chinese production remains at current levels. Based on our estimates, if there is no reduction in Chinese output and Lynas brings on its 11,000MT Phase II expansion in 2014, market supply will outpace demand by ~13,000MT. This could create a situation where there is intensifying pricing pressure if MCP brings on its entire 20,950MT Phase II expansion. A meaningful reduction in the Chinese production quota in 2013 that remains in place in 2014 would improve the situation creating a demand surplus of ~6,000MT, or ~4%. This is still much lower than 18% demand buffer that exists in 2012, which would still mean additional pricing pressure is likely. If Lynas is unable to bring on Phase II production in 2014 due to ongoing difficulties with its Malaysia processing facility this would create a demand buffer of ~13%, which is still lower than the 18% cushion in 2012. Thus, even with a reduction in Chinese production quotas in 2013, we think there is risk that the additional capacity coming online in 2013 and 2014 between both MCP and Lynas will add additional pressure already falling rare earth prices.

**Phase II Versus 2014 Demand**



Source: Robert W. Baird & Co.

**Projected % of Demand Satisfied by Individual REO Capacity**

	2012	2013	2014	2015	2016	2017
Lanthanum Oxide	95-105%	106-125%	126-150%	126-150%	151%+	151%+
Cerium Oxide	95-105%	106-125%	126-150%	151%+	151%+	151%+
Neodymium Oxide	75-94%	95-105%	95-105%	106-125%	126-150%	151%+
Europium Oxide	50-74%	50-74%	75-94%	95-105%	126-150%	126-150%
Terbium Oxide	75-94%	75-94%	75-94%	95-105%	126-150%	151%+
Dyprosium Oxide	50-74%	50-74%	50-74%	50-74%	95-105%	106-125%
Yttrium Oxide	50-74%	50-74%	50-74%	75-94%	126-150%	126-150%

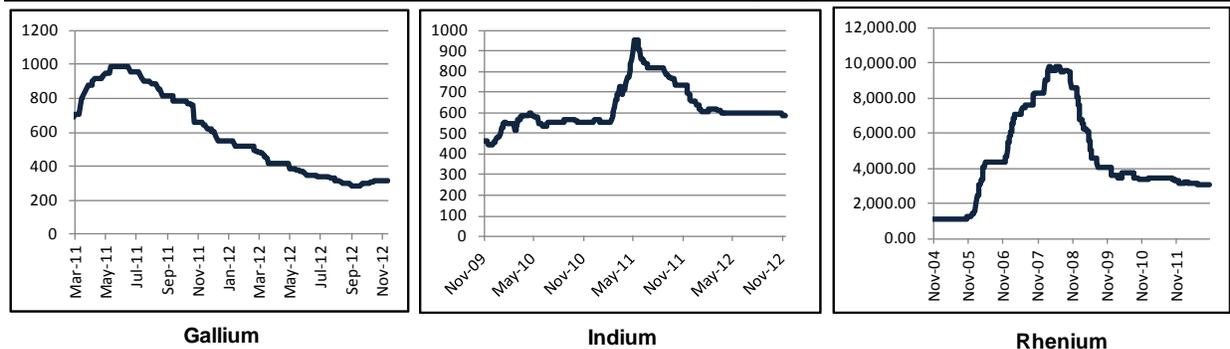
Source: Technology Metals Research, Baird

Supply and demand are not uniform for each oxide – we have some level of concern over the ability of the market to absorb all of the cerium and lanthanum under MCP's Phase II production in the near term. While we project market demand on a general tonnage basis will be adequate to support the tonnage from MCP's Phase I and II production, supply-demand relationships are not equal for each type of REO. In 2012, supplies of lanthanum and cerium oxides are already projected to be close to in balance with demand. As new capacity comes online at MCP as well as Lynas, both of which are heavily skewed toward cerium and lanthanum concentrations, we expect an excess supply situation could occur in these REOs. 48.8% MCP's deposits are cerium while 34.0% are lanthanum, which makes it critical for MCP to be able to largely sell-through these products in order to support higher levels of production. We are slightly less concerned about lanthanum given its use in high growth applications such as hybrid vehicle batteries and FCC catalysts, and believe MCP should have little issuing selling through its lanthanum from Phase I production. However, we are more cautious on the potential of cerium demand to grow at a

rate high enough to support MCP's move to Phase II production, barring very strong traction for SorbX. This could create risk to MCP's ability to economically operate Phase II at higher utilization rates. That said, if a meaningful reduction in capacity ultimately occurs in China in 2013, this risk would be significantly reduced.

**MCP looking to create new sources of demand for more abundant oxides to promote sell-through – we still need to see additional sales traction for SorbX before we can fully judge its potential.** One of the challenges of operating a rare earth mine is that it produces many different products which have a wide variety of real-world applications. Historically, demand for individual rare earth elements has not been even distributed, with some garnering higher demand in certain periods than others. As previously stated, we have some concerns about MCP's ability to sell-through all of its cerium and lanthanum at Phase II production levels. MCP has sought to remedy this situation by creating new products to promote new sources of demand for its REOs. Its first such product is SorbX, a water purification product line with entries targeting at the municipal water and pool & spa markets. SorbX was designed specifically as a source of uptake for cerium. The company is reportedly in the process of forming a distribution agreement with a major water treatment company, the announcement of which would be a positive catalyst for the stock. Furthermore, MCP has other new product lines in the works to drive demand for other elements it produces. While this strategy adds overhead in the form of a direct sales force, we like this approach as a means to ensure MCP has adequate demand to maintain high mine utilization rates. While MCP estimates SorbX will have the potential to absorb all of its cerium supply at Phase II production levels, we would still like to see additional evidence of sales traction before we can be truly confident in its potential.

**Historical Rare Metals Prices - Gallium, Indium, and Rhenium (\$/kg)**



Note: Gallium and Indium are China FOB prices for 99.99% grade; Rhenium is EU price for 69.4% grade  
Source: Metal-Pages, Baird

**Neo's Performance Materials segment expanded MCP's offerings to include zirconium oxide, gallium, rhenium, and indium – these metals offer high pricing and help further diversify MCP's end-markets.** Neo Materials' Performance Materials segment produces a number of products that MCP did not previously have in its portfolio prior to the acquisition. These include zirconium oxide as well as three rare metals: gallium, indium, and rhenium. Zirconium oxide is highly resistant against heat and corrosion and is used in furnaces, coatings, and varnishes. Gallium is commonly used on the manufacturing LEDs, PV cells, military applications, and liquid metals, among other end-uses. Rhenium is incorporated into jet engines and is applied in the production of lead free, high-octane gasoline. It is extremely rare and thus one of the more expensive metals. Finally indium is typically used in LCD screens and to coat the bearings of high-speed motors. As shown in the chart above, gallium, indium, and rhenium all carry relatively high ASPs. Rhenium also displayed a different pricing pattern than rare earths, peaking in 2008 and declining through 2011. The higher prices and different pricing drivers of these rare metals should help diversify MCP's portfolio while providing upside to sales.

## Financials

### MCP: Baird Estimates vs. Consensus 2012-2014E

Millions Except EPS	2012E		2013E		2014E	
	Baird	Street	Baird	Street	Baird	Street
Revenue	\$611.0	\$609.6	\$982.3	\$936.2	\$1,203.9	\$1,272.4
Growth	54.0%	53.6%	60.8%	53.6%	22.6%	35.9%
Gross Margin	11.2%	9.9%	36.1%	26.5%	46.8%	35.7%
EBITDA	(\$56.3)	(\$62.2)	\$255.4	\$169.3	\$466.4	\$487.5
Net Income	(\$131.4)	(\$120.8)	\$30.9	(\$4.2)	\$177.6	\$219.3
GAAP EPS	(\$1.23)	(\$1.10)	\$0.19	\$0.02	\$1.20	\$1.77

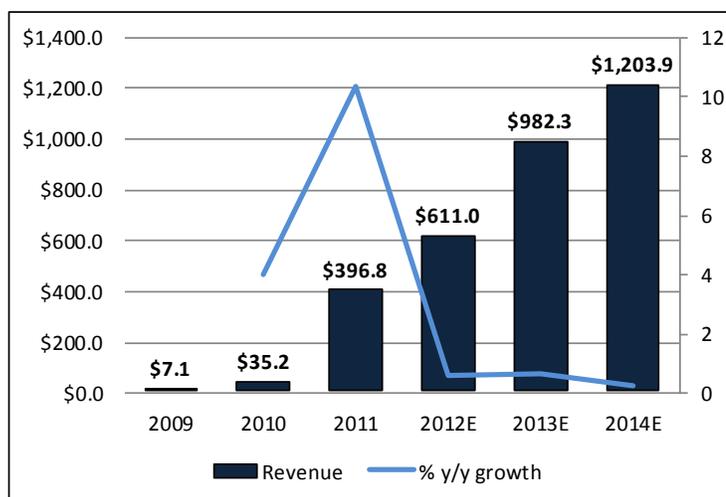
Source: Baird Estimates, FactSet

**Overview of reporting segments.** At the time of its Q3:12 call, MCP reorganized its reporting into four major segments. These include: (1) Resources, (2) Chemicals & Oxides, (3) Magnetic Materials and Alloys, and (4) Rare Metals. A brief description of the segments can be found below:

- 1) Resources** – Includes MCP's operations at Mountain Pass which produces a variety of products including rare earth concentrate, rare earth oxides, heavy rare earth elements, didymium rare earth metal, and its SorbX water treatment line.
- 2) Chemicals and Oxides** – Includes MCP's rare earth oxide operations at Sillamäe, heavy rare earth products made in Jiangyin, and oxides and zirconium-based materials manufactured in Zibo, China.
- 3) Magnetic Materials and Alloys** – Includes bonded magnet powders from Magnequench facilities in Tianjin, China and Korat, Thailand as well as neodymium and samarium magnet alloys and other specialty alloy metal products from the Tolleson, AZ plant.
- 4) Rare Metals** – Includes production of gallium, indium, tantalum, and rhenium from various facilities as well as tantalum and niobium from Sillamäe.

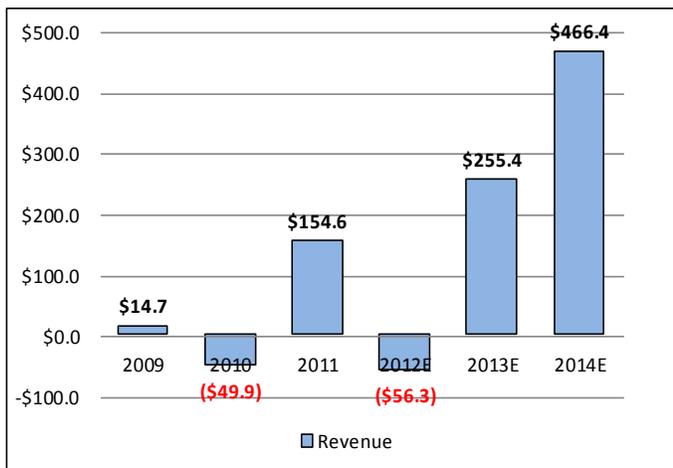
**Mountain Pass expansion and Neo Materials acquisition should drive significant growth in 2013 despite falling rare earth prices.** We project MCP's revenue to increase 60.8% y/y from \$611.0M in 2012 to \$982.3M in 2013. The y/y increase will be principally driven by two main sources: (1) MCP's 2011 acquisition of Neo Materials which should add ~\$750M-\$800M in sales potential; and (2) the ramp-up of Phase I of its Mountain Pass expansion. While we expect the Phase I ramp to add incremental revenues as MCP sells some of its concentrate, oxides, and SorbX materials, it will have a greater impact to MCP at the gross margin level as it will provide lower-cost inputs for its downstream processing units at Sillamäe, Tolleson, Magnequench, and MCP Canada. Growth in capacity is projected to be offset by ongoing pricing headwinds in the rare earth market. We project additional revenue growth in 2014 of 22.6% to \$1,203.9M as MCP brings on its Phase II expansion. We expect pricing pressure to continue and potentially accelerate in 2014 for MCP's more abundant elements including cerium and lanthanum in response to the significant new capacity coming on at MCP and potentially Lynas Corporation.

### Baird Revenue Projections through 2013



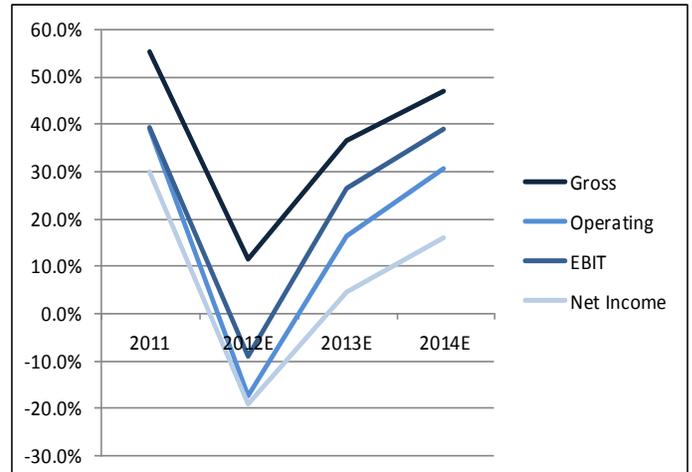
Source: Baird Estimates

### Baird EBITDA Projections through 2014



Source: Baird Estimates

### Baird Margin Projections 2011-2014

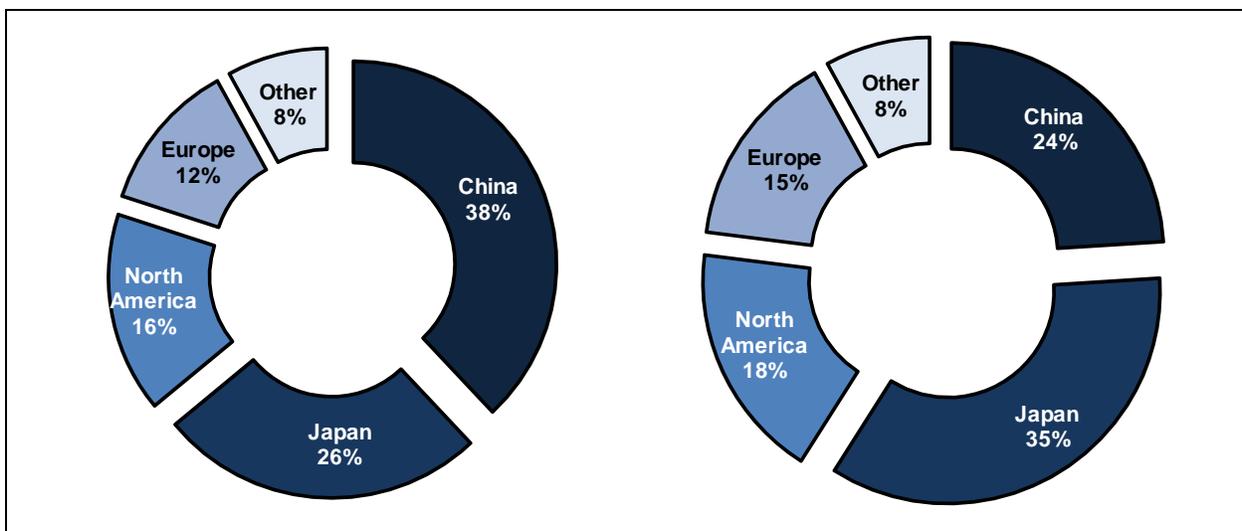


Source: Baird Estimates

**Ramp of Mountain Pass capacity and ability to provide lower cost feedstock to downstream facilities should drive significant EBITDA growth in 2014.** We project MCP's 2013 EBITDA to be \$255.4M, most of which will be driven by its acquisition of Neo Materials which is a \$150-\$200M EBITDA business. Additional EBITDA growth will be driven by MCP's ability to provide lower-cost feedstock to its downstream facilities, which had previously relied on more expensive third-party feedstock. We estimate this effect will be significantly more pronounced in 2014 as MCP brings on its Phase II expansion. We note that while MCP's expansion efforts at Mountain Pass drive modest contributions to revenue growth, they have a magnified impact on the EBITDA level. This will particularly be true in 2014 once MCP can benefit from the additional scale that comes with Phase II production as well as a full-year benefit of operating is chlor-alkali facility which will reduce its chemical costs by 60-70%. We project MCP's cash cost of feedstock production falling from in excess of \$20/kg in Q4:12 to below \$6/kg in 2014, which is at the higher-end of company's target cost range of \$3.00-\$6.00/kg.

### Neo Materials 2011 Revenue by Geography

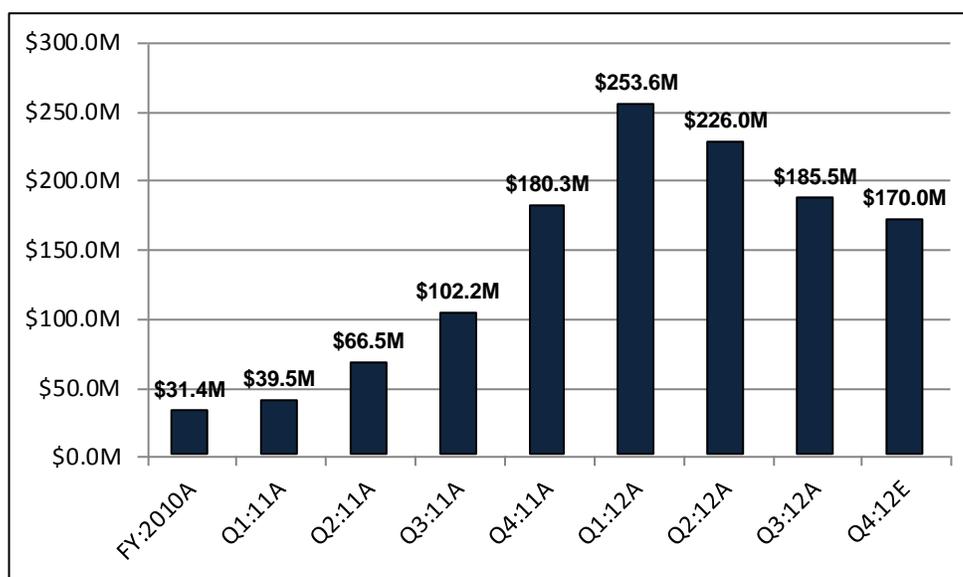
### MCP/Neo Combined Geographic Split



Source: MCP Presentation

**Neo acquisition increases MCP's exposure to APAC and the important Chinese market.** Neo Materials generated 38% of its \$837M in 2011 revenue from the Chinese market, significantly increasing MCP's exposure to the world's largest market for the consumption of rare earth metals. Neo operated a magnet powder facility in Tianjin and rare earth/zirconium facilities in Zibo and Jiangyin. Neo gives MCP additional exposure to the APAC region via the 26% of its 2011 revenue that comes from Japan. On a combined basis, the new company would have 24% revenue exposure to China along with 35% to the Japanese market. An increased footprint in China is important given the country consumes ~70% of the world's rare earth production.

### Accrued Capital Expenditures for Project Phoenix



Source: Baird

**Significant investment made in modernizing Mountain Pass – project will come in over budget in part due to defective engineering.** Including the \$150M in costs associated with remediating the engineering defects at the plant, MCP estimates the total cost of Mountain Pass will be \$1.25B. The project will ultimately come in nearly 40% over budget, as MCP had originally targeted a total cost of \$895M, which included \$531M for Phase I, \$250M for Phase II, and \$114 to accelerate project timelines. To date, MCP has recorded \$1.085B in accrued capital expenditures, of which it has not yet paid the entire cash amount.

### MCP Liquidity Requirements/Resources 1H:13

In Millions

	<u>Source</u>	<u>Use</u>
Cash Balance as of September 30, 2012	\$436.0	
Q4:12 Mountain Pass Cash CapEx		(\$180.0)
Q4:12 EBITDA Estimate	\$4.8	
1H:13 Mountain Pass Cash CapEx		(\$305.0)
1H:13 EBITDA Estimate	\$84.9	
1H:13 Maintenance CapEx Needs		(\$20.0)
<b>Total</b>	<b>\$525.8</b>	<b>(\$505.0)</b>
<b>Net Liquidity</b>	<b>\$20.8</b>	

Source: Baird

Note: EBITDA estimates include add-back for stock-based comp

While we think MCP can fund its remaining capital needs through 1H:13 with its cash on hand and operating cash flow, there is limited margin for error – we think the market could have concerns of a funding gap until the company secures additional liquidity sources. MCP expects to recognize ~\$180M in cash CapEx during the fourth quarter, of which \$170M is related to Mountain Pass. Additionally, it will pay \$305M in cash CapEx in 1H:13, of which the majority is payables under CapEx accrued in 2012. Based on an expected full year maintenance run-rate, we also assume 1H:13 capital requirements for maintenance activities of ~\$20M. Based on MCP's cash balance as of September 30, 2012 of \$436.0M and our Q4:12 and 1H:13 EBITA estimates, we believe MCP has adequate liquidity to fund its capital requirements. That said, we project its liquidity buffer to be small at slightly in excess of \$20M, so its margin for error is somewhat thin at these levels as any hiccups across MCP's various operations or overruns on its capital needs could jeopardize this balance. We think concerns could pop up in the market place in regards to a funding gap, which MCP could help alleviate by securing access to additional sources of liquidity such as a revolving credit facility.

### MCP Debt Obligations

<i>In Millions</i>	<b>September 30, 2012</b>	
	<b>Current</b>	<b>Non-Current</b>
10% Senior Secured Notes due 2020	\$0.0	\$635.8
5.00% Debentures	\$0.0	\$2.8
6.00% Convertible Notes due 2017	\$0.0	\$328.5
3.25% Convertible Notes due 2016	\$0.0	\$196.7
Bank Loans with weighted avg rate of		
4.00% - due Nov 2012- Sept 2017	\$32.7	\$4.4
<b>Total</b>	<b>\$32.7</b>	<b>\$1,168.2</b>

Source: Company Reports, Baird

MCP has levered up significantly over the past year plus to complete Project Phoenix. MCP's debt-to-equity ratio has risen from 23.5% at year-end 2011 to 75.9% as of September 30, 2012. The company has completed a number of debt issuance in the past year to fund its modernization efforts at Mountain Pass. These include \$230M of 3.25% convertible notes in July 2011, \$650M of 10% senior secured notes in May 2012, and \$414M of 6.00% convertible notes in August 2012. The 3.25% convertible notes are the first to mature in 2016 followed by the 6.00% convertible notes in 2017.

### MCP Valuation

<i>In Thousands</i>	
<b>Est. 2013 EBITDA</b>	<b>\$255.4</b>
Multiple	8.0x
<b>Implied EV</b>	<b>\$2,043.3</b>
(-) Debt	\$1,216.5
(+) Cash	\$436.0
(-) Minority Interest	\$19.3
<b>Implied Market Cap</b>	<b>\$1,243.5</b>
Share Count	124.0
<b>Implied Share Price</b>	<b>\$10</b>

Source: Baird Estimates

**Valuation implies a \$10 price target.** Our valuation uses an EV/EBITDA multiple of 8.0x our 2013 EBITDA estimate, which is a premium to MCP's specialty chemical comps currently trading at a 2013 EV/EBITDA multiple of 6.5x. We believe MCP warrants a premium given its scarcity value as a pure-play rare earth producer and the fact that it has the only producing rare earth mine in North America, offset by potential product ramp-risk at Mountain Pass and ongoing weakness in rare earth pricing. As MCP executes on its production ramp or the pricing environment for rare earths materially improves, we could look to raise our multiple.

## Business Drivers

### Rare Earth Oxide Today vs. Highs

Element	Current Price	Pricing High	Discount to High
Cerium	\$30	\$170	-82.4%
Lanthanum	\$13	\$173	-92.5%
Neodymium	\$85	\$340	-75.0%
Praseodymium	\$85	\$250	-66.0%
Samarium	\$32	\$130	-75.4%
Gadolinium	\$67	\$205	-67.3%
Europium	\$1,820	\$5,880	-69.0%
Yttrium	\$55	\$185	-70.3%

Current prices as of 11/16/2012

\*All 99% purity except Eu (99.9%) and Y (99.999%)

Source: Metal-Pages, Baird

### Rare earth prices down significantly from 2011 highs as rare earth customers reduced demand.

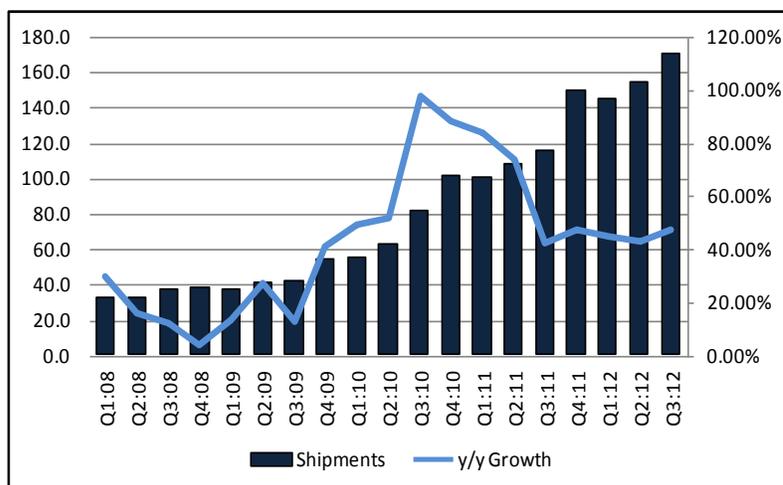
After the Chinese government slashed its export quotas by ~40% in 2010, the prices of rare earth metals began a meteoric rise through mid-2011, largely due to speculative buying inside of China itself with the goal of re-selling product to Western customers at a profit. For example, lanthanum oxide prices rose from ~\$6/kg in January 2010 to as high as \$173/kg by August 2011, an increase of 2,783%. However, rare earth customers responded to the massive price jump by reducing orders for new product. This combined with the anticipation of new supplies coming online at Lynas and MCP in ensuing years sent rare earth prices falling at the same fervor with which they rose. For example the same lanthanum oxide that was selling at \$173/kg in August 2011, saw prices close to

\$13/kg, in November, down 92.5% from its highs. Despite spending on stockpiling rare earth resources, the Chinese government has kept its export quotas fairly stable the last three years, alleviating concerns that it would further tightly control global access to its rare earth resources. That said, given additional capacity expected to come online from MCP and Lynas, we expect the trend of downward pricing pressure for rare earths to continue.

**Refinery trend of cracking heavier crudes requires greater quantities of FCC catalysts and should drive growth for lanthanum.** Many crude oil refiners are shifting toward heavier, sourer grades as lighter resources are depleted. Additionally, heavier grades offer an economic incentive as they trade at a discount to lighter varieties. Cracking heavier crudes inherently requires higher quantities of FCC catalysts versus cracking lighter feedstock. As such, we expect this trend to drive increased demand for lanthanum, which is the principal rare earth used in FCC catalyst production.

**Global smart phone sales continue to show strong growth and should remain an ongoing catalyst for rare earths.** Quarterly shipments of smart phones have posted y/y growth in excess of 40% since the second quarter of 2009. Smart phone shipments achieved y/y growth as high as 97.6% in Q3:10 though y/y growth has remained in the 42-47% range for the last several quarters. Shipments grew 46.9% in Q3:12, buoyed by the release of the iPhone 5. Overall, we view increasing smart phone penetration as a sustainable driver for rare earth demand as a fundamental shift appears to have taken place in the computing space whereby processing power and applications are moving to smaller handheld phones and tablets and away from traditional notebooks and netbooks.

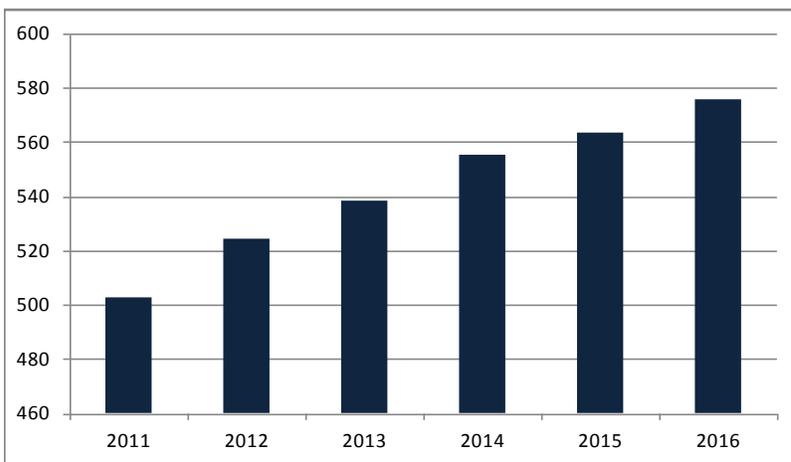
### Historical Global Smart Phone Shipments



Source: Gartner, Baird

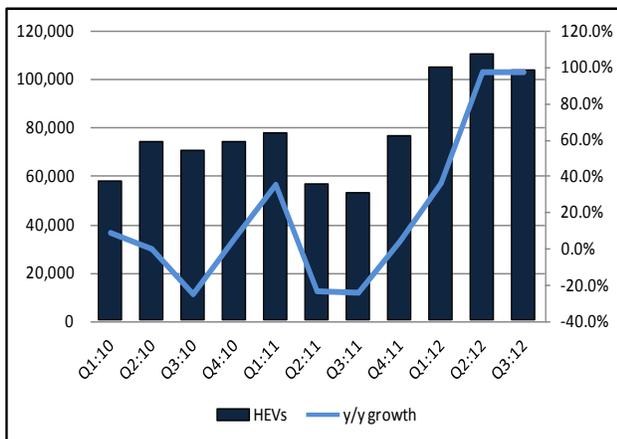
That said, the PC is certainly not a technology of the past and Hard Disk Drives (HDDs) will remain a steady growing and important end-market for rare earths. The market for Hard Disk Drives (HDDs) is expected to have a strong rebound in 2012 after being negatively impacted in late 2011 by intense flooding in Thailand where an estimated quarter of HDD production capacity resides. IHS projects demand in 2012 will grow by 4.3% to 524M units, up from 502.5M in 2011. Long-term, growth is expected to be steady, albeit at a relatively tempered CAGR of 2.7% through 2016. The market is mature at this stage of the PC lifecycle and we expect strong demand for smart phones and tablets to continue to cannibalize new demand for notebooks, netbooks, and to some extent desktops.

### IHS iSuppli Global Hard Disk Drive (HDD) Shipment Forecast



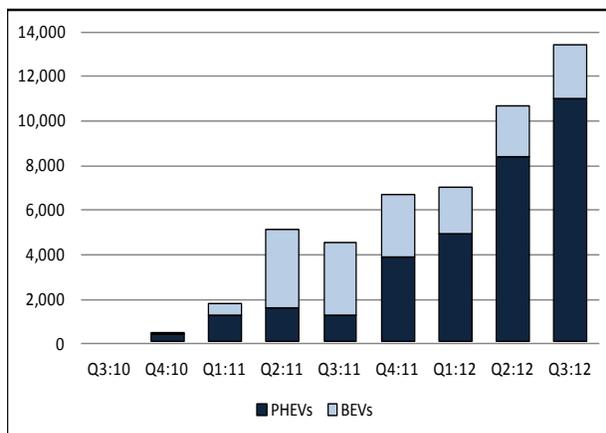
IHS iSuppli Research, Baird

### Historical U.S. Hybrid Vehicle Sales



Source: Ward's, Baird

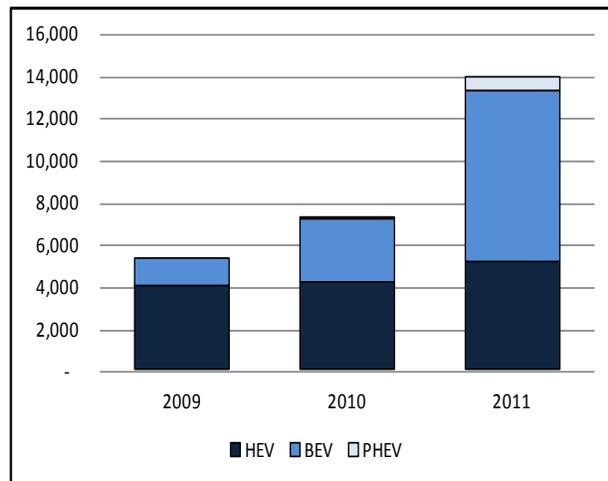
### Historical US EV (PHEV + BEV) Sales



Source: Ward's, Baird

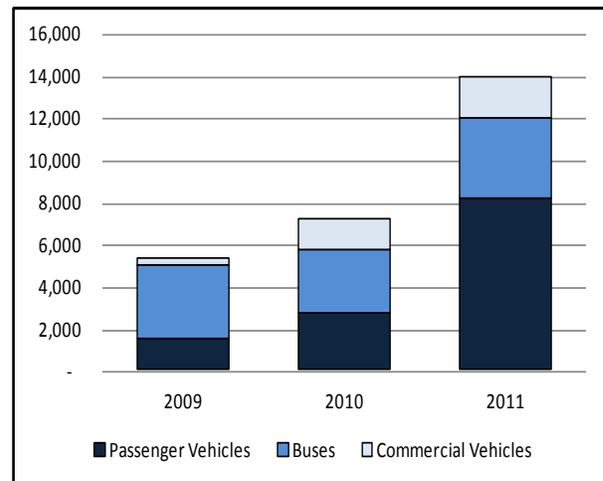
**Hybrid vehicle demand in U.S. remains strong, while EV and PHEV vehicle sales remain at limited volumes to date.** Neodymium and praseodymium are the elements most abundantly used in permanent magnet motors commonly deployed in electric (EV) and hybrid vehicles (HEVs) as well as the nickel-metal hydride batteries used in HEVs. After volumes fell in 2011, sales of hybrid vehicles have resumed their strong growth in 2012, exceeding 100,000 units in the first three quarters of the year. Sales and PHEVs and EVs have accelerated in recent quarters though overall volumes remain limited at this stage. Overall, we think a combination of factors has contributed to the relatively sluggish adoption rate for EVs in the U.S. These include a lack of compelling offerings, limited charging infrastructure, and price points that are still materially higher than their comparable internal combustion engine (ICE) equivalents. In our view, HEVs will remain the largest driver of rare earth demand from automobiles in the U.S. in the near term, with PHEVs and EVs acting as a source of potential upside.

**Historical Chinese EV and Hybrid Sales by Powertrain**



Source: BNEF, Chinese Association of Automobile Manufacturers, China Automotive Technology & Research Center, Baird

**Historical Chinese EV and Hybrid Sales by Type**



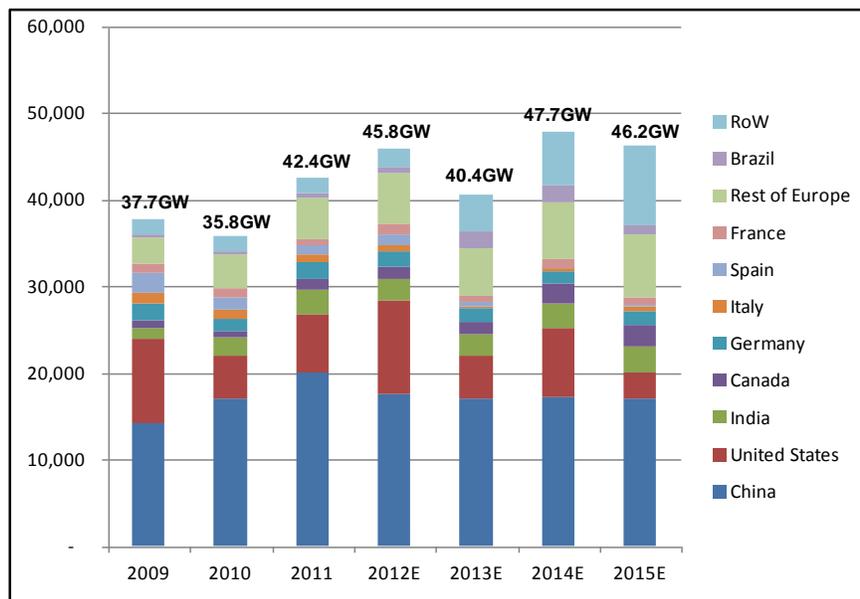
Source: BNEF, Chinese Association of Automobile Manufacturers, China Automotive Technology & Research Center, Baird

**China has ambitious targets for EV adoption though to date, much of the demand has come from the public sector.** China has stated its intent to achieve cumulative sales of 500,000 EVs by 2015 and 5 million by 2020. China had originally placed a major emphasis on stimulating domestic demand for hybrid electric vehicles (HEVs) but began to change policy around 2009 as it viewed EVs as a more nascent space with few IP barriers and with potential for technology leadership from Chinese firms. Subsidies have helped to spur demand for PHEVs and BEVs in recent years as sales increased 556% from 2009 to 2011. That said, volumes remain relatively low at less than 9,000 combined BEV and PHEV units sold in 2011. Additionally, though passenger vehicles have begun to increase in share, up ~59% of total sales in 2011, demand is still largely coming from public organizations including local governments for their own fleets and taxi companies. Price and quality remain hurdles today for wider consumer adoption. Until more options are offered with adequate ranges and reasonable price points, we think China is likely to be challenged to meet its aggressive 2015 target.

**Potential risk to rare earth market is move by many major auto OEMs to reduce or eliminate rare earth usage.**

A number of automobile OEMs have sought to reduce their exposure to rare earths by utilizing alternative motor and battery technologies. For example, in electric vehicles, some car makers are turning to induction motors, which use aluminum or copper to create electric fields instead of magnets, and which are coincidentally rare earth free. Tesla (TSLA – Outperform) is one company pursuing this strategy today but it was employed as far back as 1996 in General Motors EV1 electric vehicle entry. Hybrids are also finding ways to reduce rare earth content by moving away from NiMH batteries to lithium-ion, which has some advantages in terms of power over NiMH, but is also more expensive. While companies are finding ways to reduce their exposure to volatile rare earth prices, commercialization of new technologies is still expensive in many cases, multiple years away. Toyota is working to form a joint venture with Canada-based Matamec Exploration under which Toyota will help fund feasibility studies on a rare earth mine in exchange for partial off-take rights which shows it is still committed to using rare earths in the future.

### Global Onshore Wind-Market Outlook 2009-2015

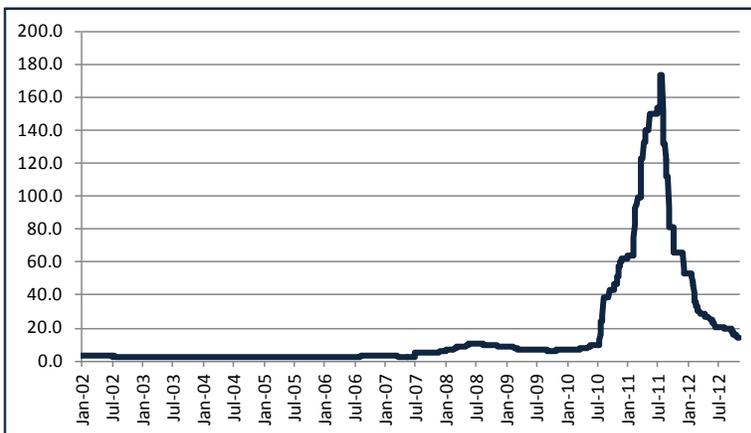


Source: Bloomberg New Energy Finance Q3 Wind Market Outlook, Baird

**Wind market expected to contract in 2013 on slowdown in Europe, China, and drop-off in U.S. orders as a result of PTC expiration at year-end 2012.** It is estimated that the average wind turbine’s permanent magnet generator contains 150-200kg of neodymium and praseodymium as well as 20-35kg of dysprosium per MW of generating capacity. At current prices, this represents as much as \$55,000 of rare earth content per MW turbine. Given the high volumes of rare earths contained per turbine, the wind market has become a material driver of rare earth demand. China remains the world’s largest wind market, installing nearly 20GW, almost 3x the level in the United States, the second-largest geography in terms of installation volume. After a number of years of exceptional growth, the Chinese wind market is expected post a down year in 2012 as the country struggles to connect installed capacity to the grid and tighter permitting rules have reduced the pace of new project development. 2012 likely marks the beginning of a plateau in Chinese wind market as the pace of new installations is again expected to fall in 2013 before flattening in subsequent years. Europe is also expected to experience a meaningful decline 2013 as economic questions and policy uncertainty looms. The United States, which experienced particular strength in 2012 as project developers rushed to qualify for the Production Tax Credit (PTC) that expires at year-end, is likely to see its volumes drop substantially as well in 2013, potentially by more than 50%. While it is possible that the PTC could see an extension, the lack of certainty around a decision should create a lull in the market in early 2013, which will make it difficult for the U.S. to duplicate similar installation levels next year even if the PTC sees second life.

**Period of high pricing provided impetus to many customers to innovate rare earths out of their products – that said, many have switched back now that prices have fallen due to superior performance characteristics provided by rare earths.** During the period of high rare earth prices from 2010-2011, FCC catalyst manufacturers such as Albemarle Corporation (ALB – Outperform) and W.R. Grace (GRA – Outperform) introduced reduced lanthanum or lanthanum free options for their customers. Some companies who had previously relied on cerium for glass polishing have installed new machinery that reduces cerium

### Historical 99% Lanthanum Oxide China FOB Price (\$/kg)



Source: Metal-Pages, Baird

requirements. Electric and hybrid vehicle manufacturers have also looked for ways to reduce exposure to rare earth price volatility by using alternative battery and motor technologies. If this trend were to continue, it could pose risk to the long-term rate of rare earth demand growth. That said, rare earths still remain critical to many applications, and in many cases there are no alternatives currently available. Additionally, products with rare earth content often have significantly better performance than rare earth free alternatives. With prices normalizing many customers are once again switching back to products with rare-earth content. For example, our discussions with one producer of FCC catalyst indicated that performance is much higher for catalysts with rare earth content and many of its customers have already switched back to full rare-earth versions.

**Rare earth market has limited visibility into pricing – most contracts have exposure to price volatility.** The rare earth market does not have the benefit of long-term commodity prices to provide visibility into forward pricing trends. Additionally, it suffers from a relative limited spot market as most deals are arranged privately via bilateral agreements between producers and end-users. This makes tracking real-time prices very difficult. Very few contracts in the industry have fixed prices given the volatility of rare earth prices to changes in export quotas, etc. Most contracts are based on floating prices that move with prevailing spot rates. As a result, producers like MCP have the potential to benefit from sharp upward pricing movements, but also face weakness to revenues if prices decline markedly. We note that MCP's vertical integration strategy helps reduce some of its exposure to price volatility as more processed products tend to exhibit a lesser degree of price sensitivity.

## China

**China is the dominant global producer of rare earth elements with over 95% of production.** The U.S., mainly by way of the Mountain Pass mine, was the leading producer of rare earths from about 1965 to the mid-1980s. However, China soon emerged as a force in the rare earths trade and now accounts for more than 95% of global REE production. China's autonomous Nei Mongol region has accounted for about 50-60% of its output over the past decade with the Sichuan province being its second leading region, historically accounting for 24-30% of production. In recent years, in the absence of production at Mountain Pass, India has been the second-largest producer of rare earths ~3,000 tons per year which comprises less than 2.5% of global output. China also coincidentally has the most robust set of proven resource reserves, which the U.S. Geological Survey estimates to be ~55 million tons, or 50% of the global estimated total of 110 million tons.

The second-largest geographic region is the Commonwealth of Independent states, comprised of former members of the Soviet Union including Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, and Uzbekistan. The Commonwealth is estimated to have 19 million tons of rare earth reserves, or ~17% of the world total. The United States is estimated to have 13 million tons of rare earth reserves of its own, or ~12% of the global quantity. According to a 2010 Government Accountability Office (GAO) report, China not only produced 95% of the rare earth elements, but also 97% of rare earth oxides, effectively all rare earth metals, 90% of metal alloys, 75% of NeFeB magnets, and 60% of SmCo magnets. The skewing of downstream processing to China is not surprising, given it is the predominate source of rare earth feedstocks and localized processing reduces transportation costs. While other regions certainly have rare earth potential, China's relative dominance in both production capacity and reserves give it unrivaled influence over global market dynamics in terms of supply and pricing. Thus policy actions in China play a huge role in shaping the health of the rare earth industry.

### Global Rare Earth Production

Country	2010	2011
United States	0	0
Australia	0	0
Brazil	550	550
China	130,000	130,000
Commonwealth of Independent States	NA	NA
India	2,800	3,000
Malaysia	30	30
Other countries	NA	NA
<b>World total (rounded)</b>	<b>133,000</b>	<b>134,000</b>

**China % of Production** 97.7% 97.0%

Source: USGS

### Global Rare Earth Reserves (tons)

Country	Reserves
United States	13,000,000
Australia	1,600,000
Brazil	48,000
China	55,000,000
Commonwealth of Independent States	19,000,000
India	3,100,000
Malaysia	30,000
Other countries	22,000,000
<b>World total (rounded)</b>	<b>110,000,000</b>

Source: USGS

**China’s labeling of rare earths as a protected mineral prevents foreign investment in rare earth operations – MCP has been able to enter China through its Neo Materials acquisition.** The Chinese government labeled rare earths as protected and strategic minerals in 1990, which has effectively barred foreign companies/investors from taking an interest in Chinese rare earth mining operations. It is still possible for outside entities to be involved in rare earth smelting and separation projects, but this must be done through an approved joint venture with Chinese firms. MCP acquired significant operations in China through its purchase of Neo Materials. Its two rare earth facilities at Jiangyin and Zibo are both operated under joint ventures with Chinese partners, though MCP has been able to retain 95% ownership in both cases.

**China Rare Earth Production Quotas and Estimated Production**

Values in tons	2007	2008	2009	2010	2011
Production Quota	87,020	87,620	82,320	89,200	93,800
Official Production	120,800	124,500	129,400	118,900	96,900
<b>Excess Production</b>	<b>33,780</b>	<b>36,880</b>	<b>47,080</b>	<b>29,700</b>	<b>3,100</b>

Source: Technology Metals Research, China Ministry of Commerce

**The Chinese government has imposed a production quota system to limit production of rare earths, though production has consistently outstripped these limits – that said, crackdowns on illegal operations appear to be working as excess production has declined, which should benefit the entire rare earth market in terms of pricing.** China’s Ministry of Land and Resources (MLR) began setting national and provincial rare earth production quotas for the country in the early 1990s. Enforcing these quotas has proven to be problematic as estimated production has consistently outstripped quota levels as local governments ignored the national mandate in order to foster economic development and boost employment levels on the back of the rare earth industry. Much of the excess production has been attributed to improperly permitted miners using sub-par and dated equipment which has consequently caused environmental damage around the country. China has cracked down in recent years on illegal mining activity and its efforts appear to be paying off as production only outstripped the quotas by 3,100MT in 2011 compared to nearly 30,000MT in the prior year. Continued success in reigning in illegal operations stands to benefit the entire rare earth industry by controlling supply, which should translate into improved pricing dynamics.

**Chinese government is attempting to force industry consolidation to reduce marginal production and improve industry health – significant reductions in production in China would create a window for MCP to fill demand with its capacity expansions.** With production outstripping government quotas and many firms struggling to maintain profitability, the Chinese government is taking a proactive approach toward forcing rationalization in the rare earth mining industry. In recent years, it has cracked down on illegal mining operations in shutting down a number of mines in the Guangdong, Jiangxi, and Sichuan provinces. It has also imposed size thresholds for rare earth companies in an effort to weed out excess capacity from marginal producers. For example, mines producing mixed rare earths must have annual capacity of 20,000 tonnes per year, bastnaesite-exclusive supplies must have capacity of 5,000 tonnes per year, while ion-adsorption clay operations must have annual capacity of 500 tonnes per year. Thresholds have also been imposed on smelting/separation companies, which must have minimum capacity of 8,000 tons per year of mixed rare earths, 5,000 tons per year of bastnaesite, and 3,000 tons per year of ion-adsorption rare earths. The government estimates that ~1/3 of China’s 23 mines and ~1/2 of its 99 smelting facilities will fail to meet these size thresholds and thus will be shuttered or merged into other rare earth enterprises. It is estimated this will reduce China’s rare earth capacity by ~20%.

**China Minimum Thresholds on Rare Earth Operations**

Operation Type	Mining threshold (tonnes/yr)	Smelting/ separation threshold (tonnes/yr)
Mixed rare earth enterprises	20,000	8,000
Bastnaesite enterprises	5,000	5,000
Ion-adsorption clays enterprises	500	3,000
Smelting enterprises	n/a	2,000

Source: China Ministry of Industry and Information Technology

**Government has cut China’s mining rights in half and imposed stricter requirements to slow pace of new resource development.** In July, the Chinese government cut the number of approved and awarded mining rights in half to 65 total in the country. This included a major reduction in the Jiangxi province to 44 from 88 and cuts in Sichuan in Western China from 18 to 7. China is seeking to establish larger industry players instead of a fragmented market that is more challenging to monitor for illegal smuggling activities. At the same time, it imposed new

requirements for companies to obtain domestic mining rights. These include annual revenues of CNY 1 billion and identified reserves of 60,000 tonnes for light rare earth mines and 10,000 tonnes for heavy rare earth mines. For companies already in operation, they have three years to meet these requirements otherwise they will be forcibly closed. These new regulations should curb the rate of new capacity growth and also help expedite the rate of industry consolidation.

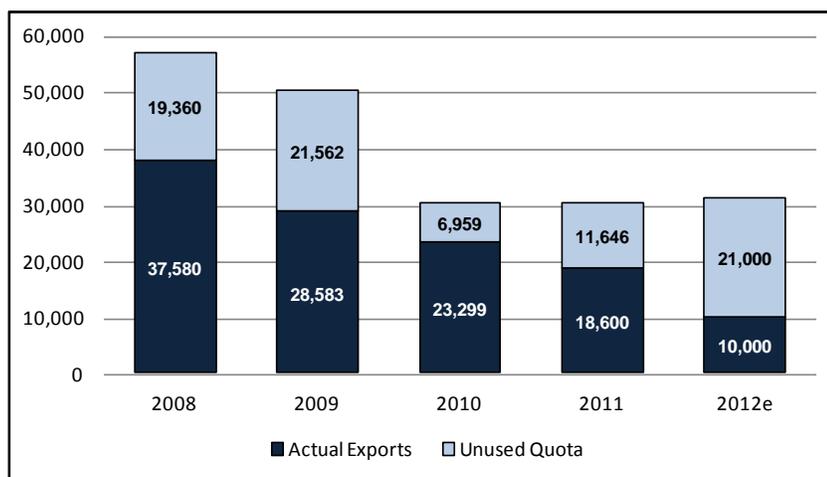
**Given that new requirements for rare earth operations will limit the pace of new start-ups and force closures of existing facilities, we think it is likely China could potentially revise down its production quotas for 2013.**

The minimum size requirements for rare earth mines and processing facilities are expected to reduce China's rare earth capacity by as much as 20%. We think it is likely that China could look to reduce its production quotas by a similar amount in 2013 to place increasing pressure on marginal operators. If such a capacity reduction does indeed occur, we estimate it would reduce the global rare earth supply by ~19,400MT based on China's 2011/2012 production levels. This would be more than enough capacity to support all MCP's Phase I production.

### China Rare Earth Export Quotas and Utilization

**China's export quota plays a major role in shaping global prices.**

Recognizing its competitive advantage in rare earth resources and the importance of these materials toward advanced technology development, China has sought to allocate the majority of annual rare earth production to domestic uses. It has thus imposed export quotas that have limited the amount of rare earths that can be sent abroad. That said, historically, actual exports have failed to fully fill the quotas, though illegal smuggling operations likely skew those numbers higher in reality. Either way, the



Source: China Ministry of Industry and Information Technology, BNEF  
 Note: 2012 estimates based on MIIT statements

quotas play a meaningful role in shaping global prices given production is limited outside of China today and these quotas have determined the amount of supply allowed to freely trade globally. For example when the Chinese government cuts its rare earth export quotas in 2010 from ~50,000MT in 2009 to ~30,000MT, rare earth prices began massive upward climb. Cerium prices rose from \$8/kg in January 2010 to a historical high of \$170/kg by mid 2011. That said, significant capacity coming online with Molycorp in the United States and Lynas in Australia should help alleviate some of the global pricing pressure created by changes to the Chinese export quota rate.

**China has earmarked a special fund for its rare earth producers – while this should provide some near-term support, we do not expect it to reverse the effects of forced consolidation.**

In late November, the Chinese Ministry of Commerce announced it will earmark a special fund to support its domestic rare earth industry. The fund will be used to for local governments to crack down on illegal mining operations, to allow rare earth producers to improve their environmental standards, and to help fund the development of high-tech applications. The fund will include a subsidy of ¥1,000 per ton of oxide capacity for mines and ¥1,500 per ton of capacity for smelters. The fund doesn't change our expectations that government will continue to push for industry consolidation. The subsidies are not directed toward the creation of new mines or downstream processors but are geared toward improving the operating efficiency of the industry in terms of reducing illegal production and negative environmental impacts.

**Chinese government buying for the national stockpile of rare earth resources could help drive up prices.**

The Chinese government announced in July that it had allocated ¥6B for stockpiling of rare earth resources in order to build up its domestic reserves. A first round of buying began earlier in the year with an initial focus on heavy rare earth metals, which are less abundant than light rare earths. The government was expected to begin a second round of buying in late November and many producers of praseodymium and neodymium have reportedly held off on selling product as they awaiting price increases as a result of Chinese government demand. Because of the relative abundance of cerium and lanthanum, these materials are not likely to garner attention for stock-piling. That said, if a focus on praseodymium/neodymium does happen, it could benefit MCP in terms of higher prices for these products.

## New Capacity Outside of China

### Mount Weld rare earth mine set to be the largest rare earth operation outside of China and MCP.

Lynas Corporation is currently developing the Mount Weld rare earth resource in Western Australia, which one of the largest known rare earth deposits in the world. As of January 2012, it was estimated the mine held 23.9M tons of mineral ore at an average grade of 7.9% which translates into 1.9M tons of REO. Mount Weld is comprised of two separate deposits, the Central Lanthanide Deposit (CLD) and the Duncan Deposit. The CLD is estimated to have 14.9M tons at an average grade of 9.8% REO (1.5M tons of REO) and Duncan is projected to have 9.0M tons at an average grade of 4.8% (436,000 tons of REO). Lynas started up its concentration plant at the mine in 2011

and has been stockpiling concentrate for export. However shipments have been delayed by difficulties in getting its \$800M downstream advanced materials processing facility approved in Malaysia. Lynas was originally granted a license to begin operations at the facility, but the Malaysian court opted to place it on hold as it weighs whether to consider judicial reviews seeking to permanently prevent production. The opposition in Malaysia has stemmed from concerns over measures for the proper disposal of thorium, a radioactive element found in conjunction with rare earths deposits. Backlash stems from health effects stemming from a rare earths plant run by Mitsubishi Chemical that was shuttered in 1992. If the project can ultimately move forward, Lynas expects to bring on production in two 11,000MT/year Phases bringing its total output to as much as 22,000MT annually.

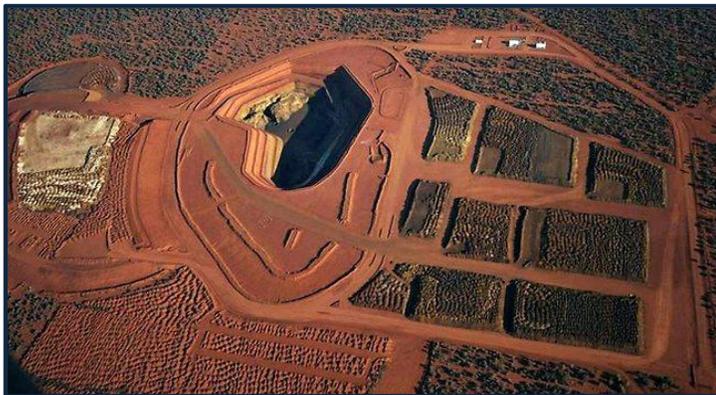
### Great Western Minerals Corporation attempting to bring on mining operations in South Africa.

Greater

Western Minerals Corporation is a processor of specialty metal alloys, including rare earths. It has two advanced processing facilities in the United States and the United Kingdom but to date does not have an active mining operation as a source of raw feedstock material. It is working on bringing online the Steenkampstraal Mine which is located approximately 350 kilometers north of Cape Town, South Africa. The mine had previously been operated from 1952 to 1963 as a source of monazite, the ore in heavy rare earth element production. Great Western had previously targeted to have sufficiently upgraded the site allow for initial production by mid-2013, though at this point it looks unlikely the mine would enter operations until the latter half of 2014 at the very earliest. Once online, the company hopes to produce 12,000MT per year of chloride solutions per year, which will be sent to a separation facility to be located nearby, which will yield 5,000MT of rare-earth oxides annually.

**Rare Element Resources developing the Bear Lodge property in Wyoming though still in early stages of development.** Rare Element Resources has 100% interest in the Bear Lodge property in Wyoming, which is estimated to contain one of the largest deposits of rare earth elements in the North America. The resource has is still significantly smaller than Mountain Pass with indicated mineral content of 4.9M tons of ore at 3.77% REO concentration and 17.81M tons of inferred minerals at 3.22% REO concentration.

### Lynas Corporation's Mount Weld Mine in Australia



Source: [theaustralian.com.au](http://theaustralian.com.au)

### Mount Weld REO Concentrations and Tonnage

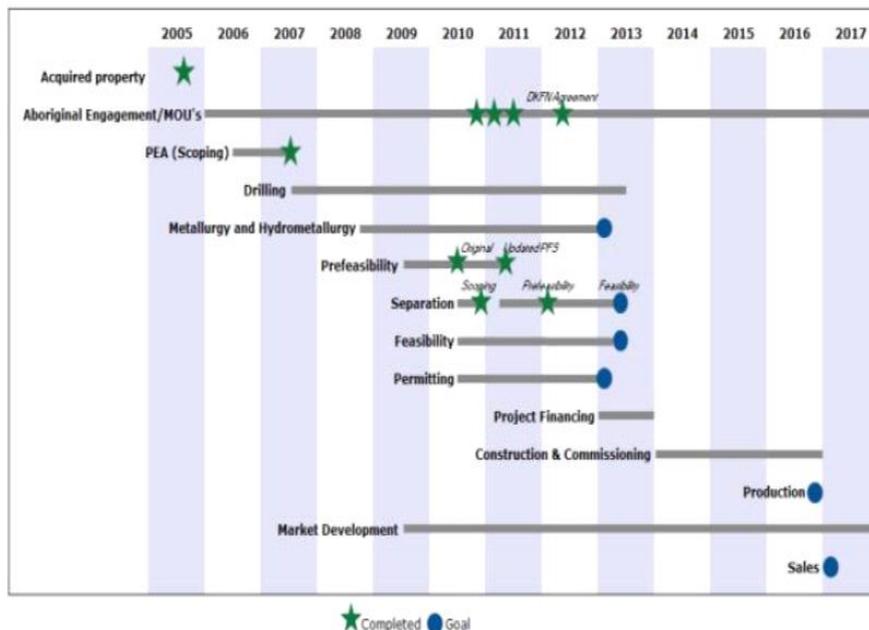
Element	CLD		Duncan	
	% REO	Tons	% REO	Tons
Lanthanum Oxide	23.88%	349,842	24.87%	107,343
Cerium Oxide	57.55%	843,109	39.38%	169,970
Praseodymium Oxide	5.16%	75,594	4.75%	20,502
Neodymium Oxide	18.13%	265,605	17.89%	77,216
Samarium Oxide	2.44%	35,746	2.83%	12,215
Europium Oxide	0.53%	7,765	0.77%	3,323
Gadolinium Oxide	1.09%	15,969	1.99%	8,589
Terbium Oxide	0.09%	1,319	0.26%	1,122
Dyropsium Oxide	0.25%	3,663	1.27%	5,482
Holmium Oxide	0.03%	440	0.19%	820
Erbium Oxide	0.06%	879	0.41%	1,770
Thulium Oxide	0.01%	147	0.04%	173
Ytterbium Oxide	0.03%	440	0.18%	777
Lutetium Oxide	0.00%	0	0.02%	86
Yttrium Oxide	0.76%	11,134	5.17%	22,315

Source: [lynascorp](http://lynascorp)

\*Figures based on total measured, indicated, and inferred resources

**Hoidas Lake is a relatively small rare earth deposit but has a significant concentration of neodymium.** Hoidas Lake is an exploration stage mine located in Saskatchewan and owned by Great Western Minerals Group. A 2009 study at the site estimated measured reserves of 963,808 tons at an average grade of 2.57%, indicated reserves of 1,597,027 tons with an average grade of 2.35%, and inferred reserves of 286,596 tons at an average grade of 2.14%. While the quantities of total reserves are much smaller than Mountain Pass and other North American developments, the location is unique in the fact that it has exceptionally high concentrations of neodymium, an important input in permanent magnets at 22%.

### Avalon Rare Metals Thor Lake Production Timeline



Source: Avalon Rare Metals

**Thor Lake rare earth mine has potential to be one of the largest in North America though initial production is not expected until late 2016 at the earliest.** Avalon Rare Metals is developing a rare earth mine at Thor Lake located in Canada's Northwest Territories. Since 2005, the company has invested C\$57M in the location on environmental and metallurgical studies and drilling activities that have included 85,200 meters at 450 holes as of April. The prospectively mean is currently completing its bankable feasibility assessment which is slated to be finished by Q2 2013. Avalon most recent estimates from July place

the total measured mineral resources in the project's high-grade Basal Zone at 8.9M tones with an average grade of 1.64% REO with an additional inferred deposit of 63.76M tons at a grade of 1.52% REO. Total probable for both the Basal Zone and surrounding areas are assumed to be 14.5M tons. Once completed, the mine is slated to process 2,000 tons of ore per day translating into an annual output of 10,000 tones of REO per year.

## Recent News

**Vice Chairman, Constantine Karayannopoulos, appointed interim CEO.** On December 11, MCP announced that its Board of Directors has appointed Vice Chairman, Constantine Karayannopoulos as its interim CEO following the departure of previous CEO, Mark Smith. Mr. Karayannopoulos previously served as President and CEO of Neo Materials until its acquisition by MCP earlier in the year. He will retain his position of Director and Vice Chairman of the Board and the Board will immediately begin a search for a permanent CEO.

**Closed on \$414M offering of convertible notes and common stock.** On August 29, MCP announced it had closed on its public offering of \$414M of 6.00% convertible senior notes and 12M shares of common stock (includes \$54M over-allotment option). The proceeds from the offering were used to fund operating expenses, working capital, and capital expenditures related to its Mountain Pass facility.

**Heavy rare earth concentrate operations start up at Mountain Pass.** On August 27, MCP announced the start-up of heavy rare earth concentrate operations at its Mountain Pass, CA facility. Simultaneously, the company indicated that its combined heat and power plant would begin providing inexpensive, natural gas-driven power to the facility that same week.

**Announces close of Neo Materials acquisition.** On June 11, MCP announced it had closed on its \$1.3B acquisition of Canada-based rare earth processing company, Neo Material Technologies, Inc. The closing followed approval in a 99.9% vote by Neo Materials' shareholders on May 30. The combined companies represent 26 facilities in 11 countries globally.

**Prices \$650M in senior secured notes.** On May 18, MCP announced it had priced \$650M in 10.00% senior secured notes due 2020. The notes were used as part of the company's financing for its acquisition of Neo Materials, Inc.

## Management

### **Constantine Karayannopoulos – Interim President & Chief Executive Officer**

Mr. Karayannopoulos was appointed Interim President and CEO of MCP on December 11, 2012 following the departure of previous CEO Mark Smith. He is a Director of MCP and Vice Chairman of the Board. Prior to MCP, Mr. Karayannopoulos served as President & CEO of Neo Materials, which was acquired by MCP in June.

### **Michael Doolan – Executive Vice President & Chief Financial Officer**

Mr. Doolan joined MCP as Executive Vice President & Chief Financial Officer on June 11, 2012 following MCP's successful acquisition of Neo Material Technologies. He has served as Neo Material Technologies' Chief Financial and Executive Vice President since September 2005.

### **James Allen – Treasurer**

Mr. Allen currently serves as company treasurer and previously held the role of Chief Financial Officer up until MCP's completed acquisition of Neo Material Technologies in June 2012. Prior to MCP he was an audit partner at public accounting firm, KPMG LLPO from October 2005 to April 2009. He served as an audit senior manager at KPMG from June 2002 to September 2005 and is a certified public accountant. He received his B.S. in business administration with a concentration in accounting from Colorado State University.

### **John Burba, PhD – Executive Vice President and Chief Technology Officer**

Mr. Burba also joined MCP via Chevron Mining where he served as vice president of technology from August 2005 to October 2008. Prior to that, he served as vice president of technology at the Molycorp subsidiary of Unocal Corporation, which previously owned the Mountain Pass mine. He received his B.S. degree in chemistry, his M.S. in physical chemistry, and his PhD in physical chemistry from Baylor University.

### **John Ashburn Jr. – General Counsel and Executive Vice President**

Mr. Ashburn also comes from Chevron Mining where he served as senior counsel from August 2005 to November 2008. Prior to that he was senior counsel for Unocal Corporation, a position he held from April 1990 to August 2005. He received his B.S. degree in psychology and J.S. from Northern Illinois University.

### **Ksenia Adams – Corporate Controller**

Prior to joining MCP, Ms. Adams was an audit manager with KPMG LLP, where she was also on the senior audit staff from October 2002 until May 2007. She is a certified public accountant and received her B.S. in accounting from Colorado State University.

### **Douglas Jackson – Vice President, Business Development**

Before coming to MCP, Mr. Jackson was a private investor, founding the Optimal Solutions SV LLC management consulting company in 2010. From 1998 to 2002 he held a variety of positions at Dyno Nobel, a commercial explosive supplier, including the role of President and Chief Executive Officer. His career began at Unocal Corporation where he worked as an Engineer – Chemical Sales/Service and a District Sales Manager – Industrial Chemical Marketing. He received his B.S. degree in engineering from Washington State University and his MBA from California State University.

### **John Bassett – Vice President, Operations**

Mr. Bassett has held his current position with MCP since January 2011. From 2005 to 2011 he was President of petroleum needle coke manufacturer, Seadrift Coke L.P. His career began in petroleum refining and he was served as general manager for two such refineries. He received his degree in chemical engineering the University of Illinois.

## Appendix: Types and Uses for Rare Earths

### MCP Rare Earth Types & Uses

Element	Symbol	RE Type	Uses
Cerium	Ce	Light	Pollution control, water purification, UV shielding, glass polishing, and engineered ceramics
Lanthanum	La	Light	Fluid cracking catalysts for fuels, EV batteries, glass modification, fuel cells
Neodymium	Nd	Light	Permanent magnets for EVs, smart phones, hard drives, MRIs, & automotive brakes, glass enhancement, solid-state lasers, ceramic pigmentation
Praseodymium	Pr	Light	Coloring pigment, light filtration, permanent magnets when paired w/ Nd, pollution control catalysts
Samarium	Sm	Light	Permanent magnets, infrared absorption in glass, carbon-arc lighting for motion pictures, neutron absorption in nuclear reactors
Dysprosium	Dy	Heavy	Added to permanent magnets to retain performance in high temperatures, capacitors for consumer electronics
Erbium	Er	Heavy	Amplifier for fiber optic transmission, medical/dental lasers, glass coloration, nuclear and metallurgical uses
Europium	Eu	Heavy	Fluorescent lighting, phosphors for color TVs and computer screens, biochemical tracing for medical research, laser material
Gadolinium	Gd	Heavy	Phosphors for TV sets, heat resistant metals/alloys, magnetic components, detection of power plant radiation leakage
Holmium	Ho	Heavy	One of least abundant rare earths with few commercial applications
Lutetium	Lu	Heavy	Catalyst for cracking, hydrogenation and polymerization, detectors for positron emission tomography (PET)
Scandium	Sc	Heavy	High-intensity lighting, tracing agent for crackers, efficient lighting for televisions
Terbium	Tb	Heavy	Energy-efficient fluorescent lighting, magnetic films for magneto-optic data recoding, solid-state devices, stabilizer for fuel cells
Thulium	Tm	Heavy	Radiation source in x-rays, microwave equipment – relatively high price so few practical uses today
Ytterbium	Yb	Heavy	Improves grain refinement strength, increases electrical resistance, enhances steel properties, radiation source for portable X-ray devices
Yttrium	Y	Heavy	Improves fuel efficiency in automobiles, stabilizer for jet engine turbines, microwave communications for defense/satellites, magnetic field measurement, frequency meters, laser crystals, increase strength of aluminum alloys, color television phosphors

Source: Baird, Molycorp

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## Investment Thesis

**Despite operating a mine, MCP is effectively a specialty chemicals company with extensive overlap with our existing Energy Technology & Resource Management coverage.** At first glance, MCP appears to be a mining company given it is in the process of ramping up one of the world's largest rare earth mines. However, MCP has integrated extensively down the value chain to give itself the capability of producing a variety of high-purity refined oxides, alloys, and magnetic materials necessary to a wide variety of industrial processes. Given the significant value-add from downstream processing as well as the potential for meaningful product differentiation, we view MCP as a specialty chemical company with mining operations as opposed to a pure-play mining company. Additionally, many of its rare earth products are used in Energy Technology applications, including wind turbines, electric motors for EVs, batteries for hybrid cars, as well as catalysts used to improve yields and reduce emissions in petroleum refining.

**Technology innovations and scale can potentially position MCP as one of the lowest cost rare earth producers in the world.** Molycorp has developed a number of proprietary processes to reduce the costs of rare earth processing. One of the most important is its solvent extraction technology, which allows the company to use less inputs than traditional processes. MCP estimates that chemical reagents comprise 60-70% of the cost of production. Once its chlor-alkali facility is online, MCP will have the capacity to capture salt water used in its process and recycle it to produce new chemical reagents, significantly lowering its cost of production. Today, Molycorp Canada (formerly Neo Materials) procures feedstock from Chinese sources at a price of ~\$20-\$25/kg. With the cost reductions derived from its chlor-alkali facility and its co-generation unit as well as the economies of scale from operating at Phase II production at Mountain Pass, MCP estimates it will be able to produce concentrate at a cost of \$3-\$6/kg, which will allow it to capture meaningfully higher margin at its downstream operations.

**Vertical integration allows MCP to control the value chain and ultimately sell higher-margin end-products.** While the Mountain Pass facility forms the bedrock of its business as its source of raw materials, MCP has aggressively moved to expand its capabilities down the value chain via acquisitions. In 2011 it acquired downstream capabilities in high-purity oxides and metals & alloys through its purchases of two rare earth processing facilities. Most recently, in June of this year, the company completed its \$1.3B acquisition of Canadian rare-earth processor, Neo Materials, which significantly expanded its downstream capacity and added a large portfolio of magnetic component products. Today, MCP has the ability to produce the entire value chain of rare earth products from concentrate all the way to permanent magnets. Progressing further down the value chain gives MCP the ability to add increasing levels of differentiation to its products, while also getting closer to the ultimate end-products into which its offerings are incorporated. As such its pricing power and margin potential subsequently increase. Additionally, the strategy helps to reduce MCP's exposure to input price volatility and allows it to leverage cost reduction efforts at Mountain Pass to drive margin expansion in its downstream products.

**Recent CEO change could help improve credibility but it will take time and improved execution.** In our view, the recent appointment of Vice Chairman, Constantine Karayannopoulos, as MCP's interim President & CEO should help improve investor sentiment around the name. We believe the company's credibility had taken a hit over cost overruns related to Project Phoenix and the poor handling of the disclosure of an SEC investigation into the company's most recent equity raise. While MCP will now have a chance to operate with a somewhat cleaner slate, it will likely take time and solid execution to reverse sentiment. Additionally, there will be some overhang until a permanent CEO is identified, particularly given the importance of this period as MCP ramps its Phase I and Phase II expansions at Mountain Pass.

**While we think MCP can fund its remaining capital needs through 1H:13 with its cash on hand and operating cash flow, there will be limited margin for error – we think the market could have concerns of a funding gap until the company secures additional liquidity sources.** MCP expects to recognize ~\$180M in cash CapEx during the fourth quarter, of which \$170M is related to Mountain Pass. Additionally, it will pay \$305M in cash CapEx in 1H:13, of which the majority is payables under CapEx accrued in 2012. Based on an expected full-year maintenance run-rate, we also assume 1H:13 capital requirements for maintenance activities of ~\$20M. Based on MCP's cash balance as of September 30, 2012 of \$436.0M and our Q4:12 and 1H:13 EBITDA estimates, we believe MCP has adequate liquidity to fund its capital requirements. That said, we project its liquidity buffer to be small at slightly in excess of \$20M, so its margin for error is somewhat thin at these levels, as any hiccups across MCP's various operations or overruns on its capital needs could jeopardize this balance. We think concerns could pop up in the market place in regards to a funding gap, which MCP could help alleviate by securing access to additional sources of liquidity such as a credit revolver or equipment leasing.

**We believe 2013 demand for rare earths will be adequate to support all of MCP's Phase I production though the incremental supply could put more pressure on prices – a meaningful reduction in China's rare earth production quota would alleviate the expected pricing pressure from MCP's Phase I capacity expansion and potentially support a meaningful portion of Phase II.** Based on our estimates for global rare earth demand, the Chinese production quota, and rare earth capacity additions outside of China, we believe there will be adequate demand in the marketplace to support all of MCP's Phase I production in 2013. That said, this incremental capacity would significantly reduce the amount of excess demand in the marketplace which will likely translate into further pricing pressure on rare earth products. However, if a meaningful reduction were to occur in China's production quota for 2013, which we believe is possible given the emphasis the government has placed on consolidating domestic producers, we believe this situation would allow MCP to bring on all of its Phase I production as well as up to 31% of its Phase II production in 2013 with minimal resulting pricing pressure to the wider rare earth market.

**Expansions at MCP and Lynas could cause supply to outstrip demand by 2014.** Barring a significant and sustained reduction in Chinese production quotas in 2013+, the Phase II expansions of both MCP and Lynas are likely to cause supply of rare earths to exceed demand in 2014. Based on this, we think there is additional room for rare earth prices to fall. For example in 2007 and 2008 when supply similarly outstripped demand, prices for cerium were \$8-\$9/kg compared to as high as \$30/kg today. Given the pace of new demand growth is higher today than in 2008, thanks to increased momentum in rare earth applications such as hybrid and electric vehicles, we don't believe prices will make their way all the way back to these levels. That said, while we believe the market can support MCP's and Lynas' Phase I expansions in 2013 with minimal price erosion if Chinese quotas are reduced, we do not think the same is true for 2014. Phase II capacity expansions at both companies are likely to result in downward pressure on rare earth prices in 2014+ regardless of whether a reduction to the Chinese production quota occurs in 2012 or not.

**MCP looking to create new sources of demand for more abundant oxides to promote sell-through – we still need to see additional sales traction for SorbX before we can fully judge its potential.** Historically, demand for individual rare earth elements has not been evenly distributed, with some garnering higher demand in certain periods than others. We have some concerns about MCP's ability to sell-through all of its cerium and lanthanum at Phase II production levels given these are globally the two most abundant rare earths and make up the majority of MCP's rare earth content at 48.8% and 34.0% respectively. MCP has sought to remedy this situation by creating new products to promote new sources of demand for its REOs. Its first such product is SorbX, a water purification product designed specifically as a source of uptake for cerium. While MCP estimates that SorbX has the potential to absorb all of its cerium supply at Phase II production levels, we would still like to see additional evidence of sales traction before we can be truly confident in its potential.

**Period of high prices served as impetus for some manufacturers to reduce rare earth requirements – with prices normalizing, many are turning back to rare earths due to performance advantages they provide.** During the period from exceptionally high rare earth prices from 2010-2011, FCC catalyst manufacturers such as Albemarle Corporation (ALB - Outperform) and W.R. Grace (GRA - Outperform) introduced reduced lanthanum or lanthanum-free options for their customers. Some companies which had previously relied on cerium for glass polishing have installed new machinery that reduces cerium requirements. Electric and hybrid vehicle manufacturers have also looked for ways to reduce exposure to rare earth price volatility by using alternative battery and motor technologies. If this trend were to continue it could pose risk to the long-term rate of rare earth demand growth. That said, rare earths still remain critical to many applications and in many cases there are no alternatives currently available. Additionally, products with rare earth content often have significantly better performance than rare earth free alternatives. With prices normalizing many customers are once again switching back to products with rare-earth content. For example, our discussions with one producer of FCC catalyst indicated that performance is much higher for catalysts with rare earth content, and many of its customers have already switched back to full rare earth versions.

**Capital structure is highly complex and could discourage investor interest.** In its efforts to execute on its vertical integration strategy, MCP has gone to market on numerous occasions to secure additional sources of funding. This has created a number of complexities to its balance sheet including multiple convertible notes and a share lending agreement. Additionally, it creates the risk of significant dilutive potential to equity shareholders. We think that the level of balance sheet complexity could turn off some investors from holding the stock.

**Valuation implies a \$10 price target.** Our valuation uses an EV/EBITDA multiple of 8.0x our 2013 EBITDA estimate, which is a premium to MCP's specialty chemical comps currently trading at a 2013 EV/EBITDA multiple of 6.5x. We believe MCP warrants a premium given its scarcity value as a pure-play rare earth producer and the fact that it has the only producing rare earth mine in North America, offset by potential product ramp-risk at Mountain Pass and ongoing weakness in rare earth pricing. As MCP executes on its production ramp or the pricing environment for rare earths materially improves, we could look to raise our multiple.

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## Risks & Caveats

**Challenges ramping up Mountain Pass production.** If MCP is unable to successfully ramp production under its Phase I and Phase II expansions it would materially impact its growth roadmap and financials. Feedstock sourced from Mountain Pass will contribute inputs to all of MCP's downstream processing facilities. If MCP is not able to ramp production at Mountain Pass it will be forced to rely on more expensive third-party feedstock, which could negatively impact its profitability.

**Difficulties scaling up processing technologies and capabilities.** MCP has been processing bastnasite concentrate from stockpiles at Mountain Pass since 2010 in an effort to optimize its processing technology and capabilities. It has had success with the technology at pilot scale, reporting recovery rates of 95%. However, if the company is unable to duplicate these results at its commercial scale, it would not be able to realize its projected resource efficiency.

**Part of strategy includes developing new markets for rare earth products – issues with adoption could impact growth.** While rare earths have established uses in clean technology, lighting, disk drives, and defense applications, part of MCP's growth strategy includes developing new products to drive new rare earth demand, particularly for elements that have fewer incumbent applications. One example is its SORBX product, which primarily utilizes cerium to remove arsenic and other heavy metals from industrial processing streams. It can also be used to treat drinking water. While initial reception of SORBX has been favorable, success for subsequent new products may not

be similar.

**New sources of supply coming on-line or increases in the Chinese production quota could drive down rare earth prices.** In 2013 and 2014 significant new capacity stands to come on-line between MCP's Phase I and Phase II expansions as well as from the Lynas Corporation mine in Australia. If the rate of new supply outpaces demand growth this could have an adverse impact on rare earth pricing and negatively affect MCP's revenue opportunity.

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## Company Description

Molycorp is a fully integrated producer of rare earth products with the largest rare earth mine in the Western Hemisphere. The company is in the process of completing a \$1.25B modernization project at the Mountain Pass rare earth mine in California, which will make it one of the largest producers of rare earths in the world. Once ramped, Mountain Pass will be the only active rare earth mine in the United States and the largest such mine in the Western Hemisphere. MCP has completed a number of acquisitions over the past two years, which have added capabilities in the downstream processing of rare earth elements into high-purity oxides, metals, alloys, and magnetic materials. Its vertical integration allows the company to control the value chain and protect itself from input cost increases while simultaneously giving it the ability to capture incremental margin through the sale of higher-value, processed end-products. MCP completed its initial public offering in 2010 and is headquartered in Greenwood Village, Co.

**Energy Technology & Resource Management: Comparative Valuation Table - Molycorp, Inc. (MCP)**

Dollars in millions, except for per share data  
12/12/2012

Ticker	Company Name	Rating	Price 12/12/12	Market Cap (\$M)	Enterprise Value (\$M)	Sales (\$M)			EBITDA (\$M)			EPS (\$)			EV/Sales			EV/EBITDA			Price/EPS		
						2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
<b>Specialty Chemicals</b>																							
ALB	Albemarle Corp.	O	\$59.71	5,367	5,683	2,869	2,703	2,854	682	671	728	\$ 4.77	\$ 4.54	\$ 5.00	2.0x	2.1x	2.0x	8.3x	8.5x	7.8x	12.5x	13.2x	11.9x
ASH	Ashland, Inc.	NR	\$77.85	6,228	9,295	6,502	8,206	8,437	813	1,363	1,442	\$ 3.58	\$ 6.63	\$ 7.59	1.4x	1.1x	1.1x	11.4x	6.8x	6.4x	21.7x	11.7x	10.3x
CBT	Cabot Corp.	NR	\$39.12	2,512	3,815	3,101	3,300	4,631	440	567	697	\$ 3.09	\$ 3.34	\$ 3.94	1.2x	1.2x	0.8x	8.7x	6.7x	5.5x	12.7x	11.7x	9.9x
CE	Celanese Corp.	NR	\$42.90	6,868	8,864	6,763	6,438	6,710	1,348	1,205	1,322	\$ 4.47	\$ 3.76	\$ 4.35	1.3x	1.4x	1.3x	6.6x	7.4x	6.7x	9.6x	11.4x	9.9x
CHMT	Chemtura Corp.	NR	\$21.38	2,100	2,665	3,025	2,972	2,936	385	422	478	\$ 1.12	\$ 1.44	\$ 1.84	0.9x	0.9x	0.9x	6.9x	6.3x	5.6x	19.1x	14.9x	11.6x
GRA	W.R. Grace	O	\$67.77	5,178	4,825	3,212	3,144	3,321	645	635	695	\$ 3.94	\$ 4.12	\$ 4.62	1.5x	1.5x	1.5x	7.5x	7.6x	6.9x	17.2x	16.4x	14.7x
HUN	Huntsman Corp.	NR	\$16.45	3,961	7,204	11,221	11,057	11,342	1,220	1,406	1,350	\$ 1.69	\$ 2.28	\$ 2.04	0.6x	0.7x	0.6x	5.9x	5.1x	5.3x	9.7x	7.2x	8.1x
<b>Basic/Commodity Chemicals</b>																							
BASFY	BASF SE	NR	\$92.96	85,382	99,597	95,410	100,352	103,364	15,301	15,704	16,840	\$ 8.19	\$ 6.92	\$ 7.71	1.0x	1.0x	1.0x	6.5x	6.3x	5.9x	11.4x	13.4x	12.1x
DOW	Dow Chemical Co.	NR	\$31.20	36,800	57,326	59,985	56,421	58,802	8,277	7,438	8,285	\$ 2.54	\$ 1.89	\$ 2.40	1.0x	1.0x	1.0x	6.9x	7.7x	6.9x	12.3x	16.5x	13.0x
DD	DuPont	NR	\$44.59	41,938	53,721	37,961	35,751	36,394	6,684	6,364	6,647	\$ 3.93	\$ 3.40	\$ 3.73	1.4x	1.5x	1.5x	8.0x	8.4x	8.1x	11.3x	13.1x	11.9x
EMN	Eastman Chemical C	NR	\$62.03	9,701	14,449	7,178	8,310	9,715	1,304	1,680	2,049	\$ 4.56	\$ 5.39	\$ 6.26	2.0x	1.7x	1.5x	11.1x	8.6x	7.1x	13.6x	11.5x	9.9x
FMC	FMC Corp.	NR	\$56.70	7,847	8,636	3,378	3,760	4,080	759	864	962	\$ 2.99	\$ 3.49	\$ 4.01	2.6x	2.3x	2.1x	11.4x	10.0x	9.0x	19.0x	16.3x	14.1x
LYB	LyondellBasell	NR	\$54.15	31,242	32,041	51,035	45,107	45,945	5,358	5,636	5,953	\$ 4.68	\$ 5.15	\$ 5.70	0.6x	0.7x	0.7x	6.0x	5.7x	5.4x	11.6x	10.5x	9.5x

Source: FactSet, Robert W. Baird & Co.

Note: 2011 Multiples are based on actual data while 2012 and 2013 multiples are based on consensus estimates

Rating: O= Outperform; N= Neutral; NR= Not Rated

**Weighting**

70%
70%
30%
30%
100%
100%

<b>Specialty Mean</b>	1.3x	1.3x	1.2x	7.9x	6.9x	6.3x	14.6x	12.4x	10.9x
<b>Specialty Median</b>	1.3x	1.2x	1.1x	7.5x	6.8x	6.4x	12.7x	11.7x	10.3x
<b>Basic Mean</b>	1.4x	1.4x	1.3x	8.3x	7.8x	7.1x	13.2x	13.6x	11.8x
<b>Basic Median</b>	1.2x	1.3x	1.2x	7.5x	8.1x	7.0x	11.9x	13.3x	12.0x
<b>Composite Mean</b>	1.3x	1.3x	1.2x	8.0x	7.2x	6.5x	14.2x	12.7x	11.2x
<b>Composite Median</b>	1.3x	1.2x	1.1x	7.5x	7.2x	6.6x	12.4x	12.2x	10.8x

Model Date: 12/12/2012  
Year-End: December

### Molycorp (MCP)

Income Statement (in millions)	2009A	2010A	Q1:11	Q2:11A	Q3:11A	Q4:11A	2011A	Q1:12A	Q2:12A	Q3:12A	Q4:12E	2012E	Q1:13E	Q2:13E	Q3:13E	Q4:13E	2013E	2014E
<b>Revenue</b>	7.1	35.2	26.3	99.6	138.1	132.9	396.8	84.5	104.6	205.6	216.3	611.0	217.2	231.3	255.7	278.1	982.3	1203.9
Cost of Goods Sold	21.8	37.6	16.7	42.9	55.7	62.6	177.9	53.4	108.7	194.7	185.5	542.4	152.3	162.7	160.4	152.0	627.4	640.8
<b>Gross Profit</b>	(14.7)	(2.4)	9.6	56.7	82.4	70.3	218.9	31.0	(4.1)	10.9	30.8	68.6	64.9	68.6	95.3	126.1	354.8	563.2
Selling, general & administrative expense	12.4	18.8	8.3	13.8	14.3	23.4	59.9	27.6	38.0	32.5	31.4	129.5	32.4	32.1	32.7	32.8	130.1	131.5
Research & development expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	6.0	8.9	6.5	25.1	6.3	6.2	6.1	6.7	25.4	25.3
Stock-based compensation expense	0.2	28.7	2.9	0.4	0.6	0.6	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation, amortization, & accretion expense	1.2	1.2	0.3	0.5	0.5	0.3	1.7	0.4	2.3	9.7	9.7	22.1	10.0	10.2	10.0	10.0	40.2	42.1
<b>Operating Income</b>	(28.6)	(51.2)	(2.0)	41.9	66.9	46.0	152.9	(0.5)	(50.4)	(40.3)	(16.8)	(108.1)	16.2	20.0	46.5	76.6	159.3	364.2
Other Income (expense)	0.2	0.2	(0.2)	0.1	(0.1)	(0.0)	(0.2)	(6.6)	(31.0)	(0.1)	0.0	(37.6)	0.0	0.0	0.0	0.0	0.0	0.0
FX translation gains (losses)	0.0	0.0	0.0	0.0	(2.0)	(3.4)	(5.4)	1.6	(2.8)	1.9	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Interest (expense) income	(0.2)	0.2	0.1	0.1	(0.7)	0.1	(0.4)	0.1	(9.8)	(5.3)	(22.5)	(37.5)	(22.5)	(22.5)	(22.5)	(22.5)	(90.0)	(90.0)
<b>Pre-Tax Income</b>	(28.6)	(50.8)	(2.0)	42.1	64.2	42.6	146.9	(5.4)	(94.0)	(43.7)	(39.3)	(182.4)	(6.3)	(2.5)	24.0	54.1	69.3	274.2
Income Tax benefit (expense)	0.0	0.0	(0.2)	6.6	(19.1)	(15.9)	(28.6)	2.2	27.3	29.0	11.0	69.4	1.8	0.7	(6.7)	(15.1)	(19.4)	(76.8)
Equity in affiliate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.2)	(0.3)	(0.7)	(0.6)	(1.8)	(0.7)	(0.7)	(0.6)	(0.7)	(2.7)	(2.4)
Minority Interest	0.0	0.0	0.0	(1.0)	0.3	(0.1)	(0.8)	0.0	(0.7)	(3.4)	(1.1)	(5.2)	(1.1)	(1.2)	(1.3)	(1.4)	(4.9)	(6.0)
<b>Net Income (loss) from operations</b>	(28.6)	(50.8)	(2.2)	47.8	45.4	26.6	117.5	(3.5)	(67.6)	(18.9)	(30.0)	(120.0)	(6.2)	(3.7)	15.3	36.8	42.3	189.0
Dividend paid for Convertible Preferred Stock	0.0	0.0	1.4	2.8	2.8	2.8	10.0	2.8	2.8	2.8	2.8	11.4	2.8	2.8	2.8	2.8	11.4	11.4
Effect of dilutive notes	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net Income (loss) to common stockholders</b>	(28.6)	(50.8)	(3.6)	44.9	42.5	23.7	107.6	(6.3)	(70.5)	(21.7)	(32.9)	(131.4)	(9.1)	(6.5)	12.5	34.0	30.9	177.6
Basic Shares:	39.5	62.3	82.3	83.8	83.8	83.8	83.5	87.0	99.2	117.1	124.0	106.8	124.2	124.4	124.6	124.8	124.5	125.3
Diluted Shares:	39.5	62.3	82.5	84.4	87.1	87.1	85.2	87.0	99.2	117.1	124.0	106.8	124.2	124.4	147.6	147.8	136.0	148.3
<b>EPS</b>	(0.72)	(0.81)	(0.04)	0.53	0.49	0.27	1.27	(0.07)	(0.71)	(0.19)	(0.27)	(1.23)	(0.07)	(0.05)	0.08	0.23	0.19	1.20
<b>EBITDA</b>	14.7	(49.9)	0.3	45.0	72.5	46.3	164.1	3.2	(43.0)	(20.0)	3.5	(56.3)	37.2	45.2	71.4	101.6	255.4	466.4
<b>Margin Analysis</b>																		
Gross Margin	-207.1%	-6.9%	36.5%	56.9%	59.7%	52.9%	55.2%	36.7%	-3.9%	5.3%	14.2%	11.2%	29.9%	29.6%	37.3%	45.3%	36.1%	46.8%
SG&A to Sales	175.4%	53.4%	31.8%	13.9%	10.4%	17.6%	15.1%	32.6%	36.3%	15.8%	14.5%	21.2%	14.9%	13.9%	12.8%	11.8%	13.2%	10.9%
R&D to Sales	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	5.8%	4.3%	3.0%	4.1%	2.9%	2.7%	2.4%	2.4%	2.6%	2.1%
Operating Margin	-402.8%	-145.6%	-7.5%	42.1%	48.5%	34.6%	38.5%	-0.6%	-48.2%	-19.6%	-7.8%	-17.7%	7.5%	8.6%	18.2%	27.5%	16.2%	30.3%
Pre-Tax margin	-403.0%	-144.4%	-7.6%	42.3%	46.5%	32.1%	37.0%	-6.4%	-89.9%	-21.3%	-18.2%	-29.9%	-2.9%	-1.1%	9.4%	19.4%	7.1%	22.8%
Effective Tax Rate	0.0%	0.0%	10.0%	15.7%	-29.7%	-37.4%	-19.5%	-40.2%	-29.1%	-66.2%	-28.0%	-38.1%	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%
Net Margin (Pre-Dividend)	-403.0%	-144.4%	-8.4%	48.0%	32.9%	20.0%	29.6%	-4.1%	-64.6%	-9.2%	-13.9%	-19.6%	-2.9%	-1.6%	6.0%	13.2%	4.3%	15.7%
Net Margin (Post-Dividend)	-403.0%	-144.4%	-13.8%	45.1%	30.8%	17.9%	27.1%	-7.5%	-67.4%	-10.6%	-15.2%	-21.5%	-4.2%	-2.8%	4.9%	12.2%	3.1%	14.8%
EBITDA	207.1%	-142.1%	1.2%	45.2%	52.6%	34.8%	41.4%	3.8%	-41.2%	-9.7%	1.6%	-9.2%	17.1%	19.5%	27.9%	36.5%	26.0%	38.7%
<b>Y/Y Change</b>																		
Revenue	n/a	395.7%	770.1%	5131.9%	1517.8%	512.4%	1028.7%	221.7%	5.0%	48.9%	62.8%	54.0%	157.1%	121.1%	24.4%	28.6%	60.8%	22.6%
Gross Profit	n/a	-83.4%	-426.9%	-1643.9%	10316.3%	1979.7%	-9095.1%	223.7%	-107.2%	-86.8%	-56.2%	-68.7%	109.1%	-1783.0%	777.2%	309.5%	417.2%	58.7%
SG&A	n/a	50.9%	86.1%	224.8%	247.1%	295.6%	218.9%	230.5%	175.0%	127.7%	33.9%	116.2%	17.4%	-15.4%	0.6%	4.6%	0.5%	1.1%
R&D	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Operating Income	n/a	79.1%	-74.6%	-279.7%	-759.4%	-563.2%	-398.7%	-72.7%	-220.2%	-160.2%	-136.6%	-170.7%	-3118.2%	-139.7%	-215.2%	-555.8%	-247.4%	128.7%
Pre-Tax Income	n/a	77.6%	-74.2%	-280.9%	-732.4%	-544.3%	-389.3%	171.5%	-323.0%	-168.2%	-192.2%	-224.2%	15.4%	-97.3%	-154.8%	-237.6%	-138.0%	295.9%
Net Income (Pre-Dividend)	n/a	77.6%	-71.6%	-305.2%	-547.1%	-377.2%	-331.5%	57.9%	-241.5%	-141.6%	-213.0%	-202.1%	80.0%	-94.6%	-181.2%	-222.7%	-135.2%	347.1%
Net Income (Post-Dividend)	n/a	77.6%	-53.3%	-293.0%	-519.0%	-347.5%	-311.8%	74.5%	-256.8%	-151.1%	-238.5%	-222.1%	43.9%	-90.8%	-157.5%	-203.4%	-123.5%	474.9%
EBITDA	n/a	-440.0%	-104.1%	-295.3%	-836.3%	-580.7%	-428.6%	955.1%	-195.6%	-127.6%	-92.4%	-134.3%	1064.5%	-204.9%	-457.1%	2773.7%	-553.6%	82.6%

Source: Company Reports, Robert W. Baird Estimates

Please refer to Appendix - Important Disclosures and Analyst Certification.

Model Date: 12/12/2012  
Year-End: December

## Molycorp Inc. (MCP)

Balance Sheet (in millions)	2009A	2010A	Q1:11A	Q2:11A	Q3:11A	Q4:11A	2011A	Q1:12A	Q2:12A	Q3:12A
<b>Balance Sheet (in millions)</b>										
Cash and cash equivalents	6.93	316.43	492.50	680.28	561.96	418.86	418.86	609.79	374.21	436.03
Trade accounts receivable	1.22	16.42	17.58	43.23	67.93	70.68	70.68	50.72	118.40	88.47
Inventory	8.55	20.51	24.36	72.28	95.66	111.94	111.94	110.49	319.87	281.13
Deferred charges	0.00	0.00	0.00	7.57	12.39	7.32	7.32	6.86	16.63	12.52
Deferred tax assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.05	9.18	17.40
Prepaid income taxes	0.00	0.00	0.00	0.00	0.00	10.51	10.51	9.47	28.65	38.93
Prepaid expenses and other assets	1.83	1.76	2.63	6.75	7.54	19.74	19.74	7.30	46.04	48.71
<b>Total Current Assets</b>	<b>18.52</b>	<b>355.12</b>	<b>537.07</b>	<b>810.11</b>	<b>745.48</b>	<b>639.04</b>	<b>639.04</b>	<b>796.68</b>	<b>912.98</b>	<b>923.19</b>
Deposits	0.00	26.20	27.70	15.50	23.29	23.29	23.29	23.28	23.28	23.29
Property, plant, & equipment	66.35	93.97	133.75	286.39	376.50	561.63	561.63	827.72	1,153.30	1,363.44
Deferred tax assets	0.00	0.00	0.00	27.52	17.98	0.00	0.00	0.00	1.70	10.30
Inventory	12.09	5.21	3.19	1.05	4.68	4.36	4.36	10.20	10.45	9.60
Intangible assets	0.70	0.64	0.62	0.96	2.32	3.07	3.07	3.08	491.93	479.17
Investments	0.00	0.00	0.00	0.00	20.00	20.00	20.00	23.61	55.34	68.01
Goodwill	0.00	0.00	0.00	0.00	0.00	3.43	3.43	3.43	505.00	505.00
Other assets	0.00	0.11	0.11	0.14	0.31	0.30	0.30	0.76	5.24	5.32
<b>Total Non-Current Assets</b>	<b>79.15</b>	<b>126.13</b>	<b>165.38</b>	<b>331.56</b>	<b>445.08</b>	<b>616.08</b>	<b>616.08</b>	<b>892.08</b>	<b>2,246.25</b>	<b>2,464.13</b>
<b>Total Assets</b>	<b>97.67</b>	<b>481.25</b>	<b>702.45</b>	<b>1,141.67</b>	<b>1,190.55</b>	<b>1,255.13</b>	<b>1,255.13</b>	<b>1,688.75</b>	<b>3,159.23</b>	<b>3,387.33</b>
Trade accounts payable	2.89	13.01	29.99	80.34	98.25	161.59	161.59	203.99	287.93	230.26
Accrued expenses	5.96	4.23	6.41	7.66	11.14	12.90	12.90	15.50	56.61	66.29
Income taxes payable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.01	25.60
Deferred tax liabilities	0.00	0.00	0.00	14.13	2.87	1.36	1.36	0.00	0.69	0.13
Debt	0.00	0.00	0.00	2.61	0.54	1.52	1.52	1.38	263.57	32.94
Short-term borrowing - related party	0.00	3.09	2.87	2.38	1.75	0.87	0.87	0.00	0.00	0.00
Other current liabilities	0.00	0.00							3.81	2.10
Current portion of asset retirement obligation	0.69	0.39	0.39	0.39	0.40	0.40	0.40	1.55	0.00	0.00
<b>Total Current Liabilities</b>	<b>9.54</b>	<b>20.71</b>	<b>39.66</b>	<b>107.51</b>	<b>114.94</b>	<b>178.62</b>	<b>178.62</b>	<b>222.42</b>	<b>637.61</b>	<b>357.30</b>
Asset retirement obligation	13.51	12.08	12.77	12.84	12.88	15.15	15.15	16.04	20.16	20.73
Deferred tax liabilities	0.00	0.00	0.00	0.00	0.00	18.90	18.90	18.58	172.72	189.89
Debt	0.00	0.00	0.00	195.07	196.48	196.55	196.55	197.92	850.32	1,183.53
Derivative liability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.15	8.85
Pension liability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84	2.86
Other non-current liabilities	0.00	0.26	0.15	0.15	0.34	0.68	0.68	0.86	3.40	3.02
<b>Total Non-Current Liabilities</b>	<b>13.51</b>	<b>12.34</b>	<b>12.92</b>	<b>208.06</b>	<b>209.71</b>	<b>231.27</b>	<b>231.27</b>	<b>233.39</b>	<b>1,058.58</b>	<b>1,408.87</b>
<b>Total Liabilities</b>	<b>23.05</b>	<b>33.05</b>	<b>52.58</b>	<b>315.57</b>	<b>324.65</b>	<b>409.90</b>	<b>409.90</b>	<b>455.82</b>	<b>1,696.20</b>	<b>1,766.17</b>
<b>Total Stockholder's Equity</b>	<b>74.62</b>	<b>448.20</b>	<b>649.87</b>	<b>815.92</b>	<b>856.79</b>	<b>845.23</b>	<b>845.23</b>	<b>1,232.94</b>	<b>1,446.59</b>	<b>1,601.82</b>
Non-Controlling Interest	0.00	0.00	0.00	10.17	9.11	0.00	0.00	0.00	16.44	19.33
<b>Total Liabilities &amp; Stockholder's Equity</b>	<b>97.67</b>	<b>481.25</b>	<b>702.45</b>	<b>1,141.67</b>	<b>1,190.55</b>	<b>1,255.13</b>	<b>1,255.13</b>	<b>1,688.75</b>	<b>3,159.23</b>	<b>3,387.33</b>
<b>Balance Sheet Metrics</b>										
<b>Liquidity Ratios</b>										
Current Ratio	1.94	17.15	13.54	7.54	6.49	3.58	3.58	3.58	1.43	2.58
Quick Ratio	1.05	16.16	12.93	6.86	5.65	2.95	2.95	3.09	0.93	1.80
Payables Turnover	n/a	6.24	n/a	3.20	2.49	1.66	3.09	1.03	1.90	1.72
Days Payable	n/a	58.54	n/a	114.07	146.47	219.24	118.31	355.77	192.56	212.10
Cash Conversion Cycle	n/a	174.11	n/a	73.03	45.29	n/a	57.63	n/a	76.11	23.81
<b>Asset Turnover Ratios</b>										
Receivables Turnover	n/a	3.99	5.84	7.58	7.87	7.96	9.11	7.83	5.98	6.43
DSO's	n/a	91.58	62.45	48.18	46.37	45.86	40.06	46.63	61.04	56.78
Inventory Turnover	n/a	2.59	2.84	2.63	2.51	2.34	2.69	2.20	1.76	2.04
Days Inventory	n/a	141.06	128.48	138.93	145.38	156.07	135.89	165.95	207.62	179.13
<b>Leverage Ratios</b>										
Debt Ratio	0.0%	0.6%	0.4%	17.5%	16.7%	15.8%	15.8%	11.8%	35.3%	35.9%
Debt-to-Equity Ratio	0.0%	0.7%	0.4%	24.5%	23.2%	23.5%	23.5%	16.2%	77.0%	75.9%
<b>Profitability</b>										
ROE	n/a	-19.4%	-11.6%	3.7%	10.7%	13.6%	16.7%	11.2%	-1.0%	-5.8%
ROA	n/a	-17.5%	-10.6%	3.1%	8.4%	10.0%	12.4%	8.0%	-0.6%	-3.2%

Source: Company Reports, Robert W. Baird Estimates

Please refer to Appendix - Important Disclosures and Analyst Certification.

# Appendix - Important Disclosures and Analyst Certification

## Covered Companies Mentioned

All stock prices below are the December 11, 2012 closing price.

Albemarle Corporation (ALB - \$59.39 - Outperform)

W.R. Grace & Co. (GRA - \$67.67 - Outperform)

(See recent research reports for more information)





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