October 24, 2012

Industry View **Attractive** 

# **Metals & Mining**

# Metals & Mining Tracker

# **Upcoming Events**

Date	Day	Company	Event
25-Oct-12	Thursday	AngloAmerican	3Q'12 Production Statement
25-Oct-12	Thursday	Kumba Iron Ore	3Q'12 Production Statement
25-Oct-12	Thursday	Anglo Platinum	3Q'12 Production Statement
25-Oct-12	Thursday	Kazakhmys	Q3'12 Production & Int Results
25-Oct-12	Thursday	Boliden	Q3'12 Results
25-Oct-12	Thursday	Bunge Limited	Q3'12 Results
25-Oct-12	Thursday	Cairn	Q2'12 Results
25-Oct-12	Thursday	Eramet	Q3'12 Turnover

## **Recent Reports**

Title	Date
Metal Sparks: Dug In: Why Copper Remains a Top Pick	23 Oct 2012
Polymetal International: Reiterates targets; expects further decrease in WC	23 Oct 2012
The Week Ahead Europe - Earnings Preview	22 Oct 2012
The Commodity Manual: Returning Production Likely to Soften Brent	22 Oct 2012
Atlas Iron Ltd: Funding overkill? At least there's plenty of headroom	18 Oct 2012
Vale: Iron Ore Output in Line; Base Metals, Coal Disappoint	18 Oct 2012
Metal Sparks: China September Production: Strong Production & FAI but Weak Property Starts	18 Oct 2012
Polymetal International: Increased dividends fueled by strong production	17 Oct 2012
BHP Billiton Plc: Guidance Steady after 1Q, Improvements due in FY13	17 Oct 2012

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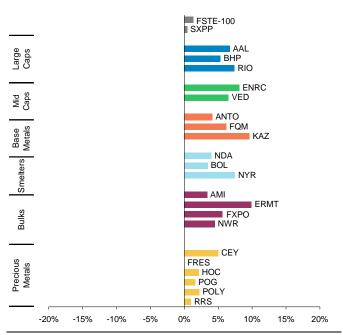
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# **Equity Snapshot**

Exhibit 1

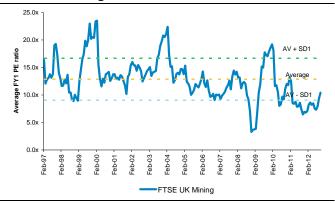
# 1 - Week Absolute Performance



Source: Thomson Reuters

Exhibit 2

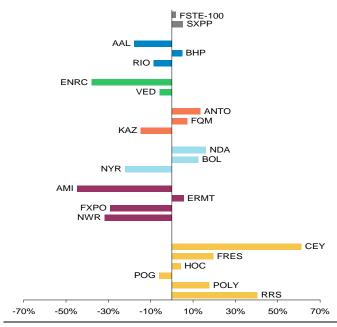
# FTSE UK Mining: FY1 P/E



Source: IBES, DataStream, Morgan Stanley Research

Exhibit 3

## 6 - Months Absolute Performance



Source: Thomson Reuters

Exhibit 4

# FTSE UK Mining: FY1 P/BV



Source: IBES, DataStream, Morgan Stanley Research

# **Stock Preference**

Exhibit 5

**Mining Sector Top Picks** 

Company	% to PT	Bull Points	Bear Points
Most preferred	% to PT	Bull Points	Bear Points
Rio Tinto Plc	8%	High-quality, low-cost iron ore assets     Solid FCF generation over the next 5 years     Large, expandable, long-life assets	Uncertainty over potential use of cash     High aluminium exposure     High exposure to a single commodity - iron ore
BHP Billiton Plc	3%	Strong balance sheet     Broad commodity exposure gives relative earnings stability     Large, expandable, long-life assets	Shale gas price exposure     Aluminium and nickel assets are higher cost     Potential for disappointment over use of cash pile
Vedanta	21%	Best in class growth profile if pipeline executed     First-mover advantage in India, a key market in the longer term     Low-cost operations in Zn, Cu smelting and Al expansions	<ol> <li>High-cost operations in Copper in Zambia</li> <li>Regulatory risk more significant.</li> <li>Heavy capex plan and M+A could strain balance sheet</li> </ol>
ENRC	27%	Low-cost production; profitable even under a stress scenario     Strong organic pipeline at low capex/tonne     A rising commodity and geographic diversification	Short-term pressure on volumes     Limited freefloat and Kazakhmys shareholding     Political risk associated with Kazakhstan
Kazakhmys	12%	Volume growth back to the fore with Bozshakol and Aktogay     Power business offers diversification and cash-flow stability     Competitive position on the global copper cost curve	Higher relative capex requirements     Political risk associated with Kazakhstan     ENRC stake locks value of copper business
Ferrexpo	20%	Strategic location advantage     Sizeable resource base, among the largest in Europe.     Cost position in the second quartile	Funding of growth programs contingent on iron ore prices     Sales to growth markets are at lower margins     Exposure to a single country political and regulatory risk
NWR	33%	Unique possibility to get pure coal exposure     Potential to attract higher premiums as cost differentials widen     Potential for M&A with steel companies integrating backwards	High-cost producer     Limited geographical exposure     Landlocked position in Central Europe
Nyrstar	54%	Significant bargaining power due to industry consolidation.     Backward integration strategy would lead to long term value     A significant volume growth through acquired assets	Low barriers to entry to the zinc industry     A relatively high cost position for the mining business     High exposure to a single-commodity risk.
Neutral	% to PT	Bull Points	Bear Points
Anglo American	11%	High exposure to late-cycle commodities     Further restructuring potential, notably in platinum     Track-record to operate in challenging environments	Not highly levered to sharp recovery     Highest exposure of the large diversified to South Africa     Execution risks from key project
First Quantum	5%	Excellent track record of project planning and execution     Owns an attractive asset suite developed over time     Growth projects and recent deals	High exposure to perceived high-risk geographies     Uncertainty around Zambian taxation regime
Least Preferred	% to PT	Bull Points	Bear Points
Antofagasta	-30%	Very strong balance sheet; one-third of market cap is cash     A world-class, low-cost copper asset in Los Pelambres     Solid track record of operational capabilities	New growth projects likely to reduce returns     High exposure to single commodity/geography     Lack of accretive growth options beyond Esperanza
Boliden	-18%	Backward integration improves bargaining position     Copper hedges give higher earnings visibility     One of the highest exposures to the zinc price	Limited upsdie from higher copper prices     Relatively high cost base and low diversification     Lack of significant growth options
Aurubis AG	-14%	Securing feed requirements through long-term contracts     Geographic location allows for higher premiums     Established track record of operational excellence	Lack of backward integration could limit feed availability     Limited growth in smelting business     Low barriers to entry leads to continuing erosion of profits
Eramet	3%	High quality manganese ore assets     Strong Balance sheet gives growth flexibility     Solid metallurgical capabilities	Lagging growth and lack of visibility on cash deployment     High-cost nickel operations increases operational leverage     High exposure to steel production cycle

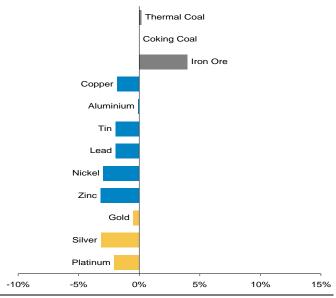
Source: Morgan Stanley Research estimates. For valuation methodology and risks associated with any price targets above, please email <a href="morganstanley.research@morganstanley.com">morganstanley.com</a> with a request for valuation methodology and risks on a particular stock.

We would like to thank Urvil Bhatt for his contribution to this report.

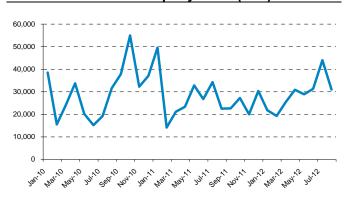
# **Commodity Snapshot**



# 1 - Week Absolute Performance



# Exhibit 7 China Tier - 1 Cities Property Sales ('000)



Source: DataStream, Morgan Stanley Research

Source: DataStream: Morgan Stanley Research Exhibit 8

# Metalspotting

	NEGATIVE	Codelco is reported to have lowered by \$5 a tonne the premium it will charge in 2013 to deliver metal to clients in Europe. The offer of \$85 a tonne above the LME cash price comes as mining companies respond to sagging demand, especially in Europe (Reuters 18/10/12)
<b>(2)</b>	NEUTRAL	China's daily crude steel output fell 0.74% to 1.843mt in the last 11 days of September, compared to average rate of 1.857 recorded between Sept 11-20, according to CISA. YTD production now imply an annualised production rate of 702mt. (Reuters 11/10/12)
©	POSITIVE	Global demand for refined copper is expected to exceed production by about 400kt in 2012, but the market is projected to move into a production surplus the following year, according to the International Copper Study Group (ICSG). (Reuters 10/10/12)
8	NEGATIVE	Global stainless steel production slipped 0.2% in 1H12 as the sector battles poor demand and falling prices. Preliminary figures from the International Stainless Steel Forum (ISSF) showed that total stainless steel crude steel production for the first six months of the year was 17.22mt, compared to 17.25mt in 1H11. (Reuters 1/10/12)
©	NEGATIVE	Aurubis said European copper product demand for physical delivery has remained slack so far in September following the end of the traditional summer holiday period. "There still has not been any significant upturn on the European copper product markets following the summer break," the company said in a market report. (Reuters 27/9/12)
8	NEGATIVE	Baoshan Iron & Steel said it has suspended production at a loss-making plant in Shanghai, in a sign of the intense pressure on the sector as steel prices trade near three-year lows. The steelmaker is one of the first major Chinese mills to publicly announce it is suspending production.  (Reuters 27/ 9/12)

Source: Morgan Stanley Research

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# **Key Points Last Week**

## General

- South Africa: Miners have ended a strike at South African bullion producer Gold Fields, with President Jacob Zuma pledging to speed up investment to ease grievances. But a month-long strike at Anglo American Platinum continues and workers are still off the job at Harmony Gold's Kusasalethu mine. (Reuters 19/10/2012)
- Copper: Freeport is not keen to build new smelters as excess supply and low margins render the smelting business unattractive, according to the company's CEO. The Indonesian government is renegotiating royalty contracts with major foreign investors including Freeport Indonesia, a subsidiary which runs the world's second biggest copper mine. (Reuters 18/10/2012).

## **Companies**

- Rautaruukki reported a bigger-than-expected third-quarter operating loss, hit by economic uncertainty and lower prices. The company reported comparable operating loss of €18mn vs. market forecast of €6mn. Deliveries came in at 389kt, down 13% qoq and up 7% yoy. The company further revised guidance with sales now expected to be flat yoy and 2H operating profit weaker than 1H reported profit (-€8m).( Press release/MS Research 23/10/2012).
- Kumba confirmed that production at the Company's Sishen Mine continues to ramp up following the end of the illegal occupation of the mine by a small group of striking employees on 16 October 2012. Sishen's normal shift roster has been restored. However, employee attendance rates in the mining production area are on average still lower than 50%, which is less than what is required for the full operation of the mine. (Press release 22/10/2012).
- Vale SA will suspend operations at its Frood nickel-copper mine in Sudbury, Ontario at the end of the year, according to a company spokesman. The move comes as a result of the miner's recent review of its base metals operations. The mine produces about 3,200 tonnes of nickel and 2,900 tonnes of copper

- annually— output the company intends to make up at its other operations. (Metal Bulletin 22/10/2012).
- POSCO plans to almost double its investment in Indonesia to \$11bn over the next five years, from \$6bn currently, Indonesian Chief Economics Minister Hatta Rajasa said. POSCO already has a multi-billion dollar joint venture with Indonesian state-owned PT Krakatau Steel, the country's biggest steel producer. (Reuters 19/10/2012).
- Evraz slightly reduced overall crude steel production in the third quarter compared to the previous three months on the back of lower output at its overseas assets, the company said. Steel producers have seen their output slashed because of sagging demand in China. (Reuters 18/10/2012)
- Ferrexpo reported Q3 2012 production and sales volumes which were in-line with our expectations. C1 cash costs of operation were lower than expected as local inflation moderated, oil prices stabilized and production focused on higher margin own ore. Growth projects remain on track with the Yeltsovo mine expected to commence commercial production in H1'13. Ukraine VAT repayments however continue to tie up cash. (Press release/MS research 18/10/2012)
- Vale SA said that its iron ore output fell 4.5% in the third quarter compared with a year earlier as demand and prices fell in China, its largest market. Vale said that compared with the second quarter iron output rose 4.2%. (Reuters 17/10/2012).
- Aurubis cut its copper products output this year in response to weaker demand, according to a company executive. The firm is still producing copper cathodes at its maximum capacity of 1.15mtpa, but has been processing less cathodes into copper products, as demand for the latter has softened. (16/10/2012)

Unless stated otherwise, the press reports noted above have not been confirmed

# **Mining Traffic Lights**

Exhibit 9

# **Traffic Lights**

	Factor	Status	Outlook	Comment
ators	ISM	G	r de la companya de l	ISM came in with a reading of 51.5 for September compared to a reading of 49.6 in August 2012. This is the first sign of expansion since May with the reading now above the critical benchmark of 50.
Macro indicators	OECD LI	Y	<b>P</b>	August 2012 reading came in at 100.1, marginally below the reading of 100.2 achieved in July 2012.
Macr	IFO	R		German IFO continue to fall for the fifth successive month to 101.4 in September 2012 from 102.3 in August 2012 and 103.2 in July 2012.
	Chinese Official PMI	Y		China's official PMI rose to 49.8 in September from a nine month low of 49.2 in August, showing signs of improvement in the economy, although the reading is still below 50.
	China HSBC Flash PMI	Y	b	The reading came in at 47.8 for September 2012, up slightly from the reading of 47.6 in August. This reflects continuing weakness in the economy with the reading still below the critical benchmark of 50.
China	Floor Space Started	G	<b>(</b>	Floor space started for August 2012 was 190 115 mn sqm, 65.2% higher than the level of 115 mn sqm achieved in July 2012 and 14% up YoY.
	Property Sales - Tier 1 Cities	Y	7	Property sales in tier 1 cities declined m/m by ~ 13k units to 31,000 units sold in August 2012 from sales of 44,000 units in July 2012 translating to an decrease of 29.5% m/m.
	Property Sales - Tier 2 Cities	Y		Property sales in tier 2 cities were about 85,000 units for August 2012 compared to 117,000 units recorded in July 2012 and 27,000 in June 2012. This translates to a decline of 27.3% m/m.
	Imports - China	G	<b>₽</b>	Total copper imports were 394.8kt in September 2012, an increase of 11% m/m compared with imports of 356kt in August 2012.
Copper	LME Warehouse Stocks	Y	7	LME Copper warehouse stocks marginally increased to 222kt on 22 October 2012 from stock levels of 211kt a week earlier, increasing by 5.6% w/w.
	SHFE Warehouse Stocks	Y	7	SHFE copper warehouse stocks were 197kt on 22 October 2012, 8.4% above inventory levels of 181.5kt in the previous week.
	Imports - China	G	\$	Chinese total iron ore imports for September 2012 were 65mt, 4% increase compared to import levels of 62mt in August 2012.
Ore	Seaport Stockpiles - China	Y	<b>P</b>	Imported iron ore stockpiles at the Chinese ports were 90mt on 19 October 2012, 0.8% below inventory levels of 90.8mt a week earlier.
Iron	Steel Output - China	Y	de la companya de la	Total chinese steel output for September 2012 was 57.95mt, 1.3% down compared to output of 58.7mt in August 2012.
	Freight Rate Tubarao-China	Y	de la companya de la	Freight rate as of 19th October 2012 was \$23/t, an increase of 4.1% compared to \$22/t achieved in previous week. The average freight rate was \$20.23/t in September and \$17.6/t in August.

Source: Company Data, Morgan Stanley Research

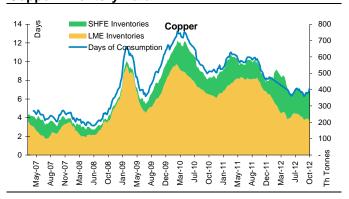
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# **Inventory Data**

Exhibit 10

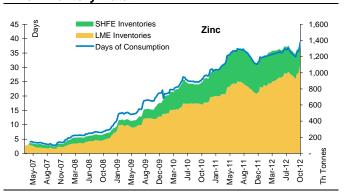
# **Copper Inventory Data**



Source. DataStream, Morgan Stanley Research

Exhibit 11

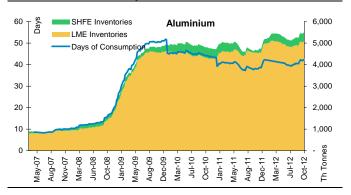
## **Zinc Inventory Data**



Source. DataStream, Morgan Stanley Research

Exhibit 12

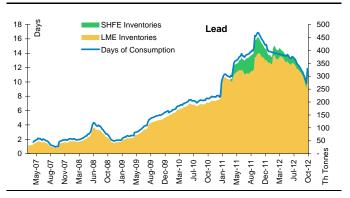
## **Aluminium Inventory Data**



Source DataStream, Morgan Stanley Research

Exhibit 13

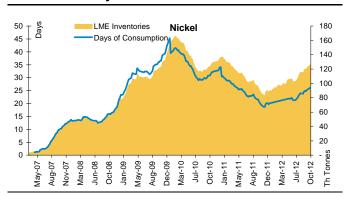
## **Lead Inventory Data**



Source. DataStream, Morgan Stanley Research

Exhibit 14

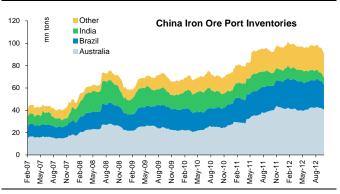
# **Nickel Inventory Data**



Source. DataStream, Morgan Stanley Research

Exhibit 15

# China Iron ore Inventory Data



Source. DataStream, Morgan Stanley Research

# **Key Price Data**

Exhibit 16

# **Aluminium**

	Current	Previous	Change %	Frequency	Latest Period
LME Cash (USc/lb)	88	88	0%	Daily	22-Oct
LME Cash (US\$/t)	1,934	1,935	0%	Daily	22-Oct
Total Exchange Stocks (kt)	5,063	5,066	0%	Daily	22-Oct
China Imports (kt)	102.3	117.5	-13%	Monthly	September
Contango (Backwardation) (US\$/t)					
Cash - 3 Months	26	28	-5%	Daily	22-Oct
Cash - 15 Months	122	117	4%	Daily	22-Oct
Cash - 27 Months	212	206	3%	Daily	22-Oct

Source: DataStream, Morgan Stanley Research

Exhibit 17

# Copper

	Current	Previous	Change %	Frequency	Latest Period
LME Cash (USc/lb)	360	367	-1.8%	Daily	22-Oct
LME Cash (US\$/t)	7,948	8,096	-2%	Daily	22-Oct
SHFE Cash (US\$/t)	9,265	9,335	-1%	Daily	22-Oct
LME-SHFE Premium (Discount) (US\$/t)	(1,318)	(1,240)			
Total Exchange Stocks (kt)	222	211	6%	Daily	22-Oct
Cancelled LME Warrants (kt)	37	47	-20%	Daily	22-Oct
China Imports (kt)	394.8	355.9	11%	Monthly	September
Contango/(Backwardation) (US\$/t)					
Cash - 3 Months	6	-1	-650%	Daily	22-Oct
Cash - 15 Months	21	9	147%	Daily	22-Oct
Cash - 27 Months	15	-3	-680%	Daily	22-Oct
CMX Non-Com. Open Interest (kt)	11.5	11.8	-3%	Daily	22-Oct

Source: DataStream, Morgan Stanley Research

Exhibit 18

# Zinc

	Current	Previous	Change %	Frequency	Latest Period
LME Cash (USc/lb)	82	85	-3%	Daily	22-Oct
LME Cash (US\$/t)	1,816	1,875	-3%	Daily	22-Oct
Total Exchange Stocks (kt)	1,114	1,061	5%	Daily	22-Oct
China Imports (kt)	137.7	111.2	24%	Monthly	August
Contango (Backwardation) (US\$/t)					
Cash - 3 Months	41	39	3%	Daily	22-Oct
Cash - 15 Months	129	121	7%	Daily	22-Oct
Cash - 27 Months	199	184	8%	Daily	22-Oct

Source: DataStream, Morgan Stanley Research

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Exhibit 19					
Nickel					
	Current	Previous	Change %	Frequency	Latest Period
LME Cash (USc/lb)	749	772	-3%	Daily	22-Oct
LME Cash (US\$/t)	16,521	17,026	-3%	Daily	22-Oct
Total Exchange Stocks (kt)	127	129	-1%	Daily	22-Oct
China Imports (kt)	341.3	427.4	-20%	Monthly	August
Contango (Backwardation) (US\$/t)					
Cash - 3 Months	69	69	0%	Daily	22-Oct
Cash - 15 Months	283	270	5%	Daily	22-Oct
Cash - 27 Months	436	389	12%	Daily	22-Oct

Source: DataStream, Morgan Stanley Research

Exhibit 20

# Iron ore

	Current	Previous	Change %	Frequency	Latest Period
Fe (62%) CFR China (US\$/t)China (US\$/t)	117.5	113	4.0%	Daily	22-Oct
Fe Inventories at China Ports (Mt)	90.0	90.8	-0.8%	Weekly	19-Oct
ChinaChina Imports (Mt)	65	62	4%	Monthly	September
Freight Tubarao-N.China (US\$/t)	23.0	22.0	5%	Weekly	19-Oct
Freight Australia-N.China (US\$/t)	9.7	9.0	8%	Weekly	19-Oct

Source: DataStream, Morgan Stanley Research

Exhibit 21

# Coal

	Current	Previous	Change %	Frequency	Latest Period
Coking Coal \$/MT	149.0	149.0	0%	Daily	22-Oct
Thermal coal					
Coal ICE API4 CIF SA \$/MT	83.8	83.6	0%	Daily	22-Oct
Coal ICE API2 CIF ARA \$/MT	86.8	85.35	2%	Daily	22-Oct
Coal Newcastle	78.1	80.6	-3%	Weekly	19-Oct
China Imports (Mt)	19.6	25.1	-22%	Monthly	August
Newcastle port stocks (Mt)	1224.4	1242.4	-1%	Weekly	21-Oct
Newcastle vessels queue (Actual)	8	7	14%	Weekly	21-Oct

Source: DataStream, Morgan Stanley Research

# MORGAN STANLEY RESEARCH

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Exhibit 22
Precious metals

	Current	Previous	Change %	Frequency	Latest Period
Gold (US\$/oz)	1,726	1,734	0%	Daily	22-Oct
Silver (USc/oz)	3,217	3,322	-3%	Daily	22-Oct
Platinum (US\$/oz)	1,607	1,641	-2%	Daily	22-Oct
Palladium (US\$/oz)	623	637	-2%	Daily	22-Oct

Source: DataStream, Morgan Stanley Research

Exhibit 23

# Other

	Current	Previous	Change %	Frequency	Latest Period
Lead (USc/lb)	93	95	-2%	Daily	22-Oct
Tin (USc/lb)	916	944	-3%	Daily	22-Oct
Cobalt (High grade, US\$/lb)	12.7	13.1	12.7	Daily	22-Oct
Molybdenum (Drummed oxide, US\$/lb)	11.1	11.1	11.1	Daily	22-Oct
Vanadium (basis 70-80%, \$/kg)	24.3	24.3	24.3	Daily	22-Oct
Manganese Ore (48/50%)	5.10	5.10	5.10	Daily	22-Oct
Ferro-chrome 6-8% C 60% (US\$/lb)	0.95	0.96	0.95	Daily	22-Oct

Source: DataStream, Morgan Stanley Research

# **Metals Price Forecast**

Exhibit 24

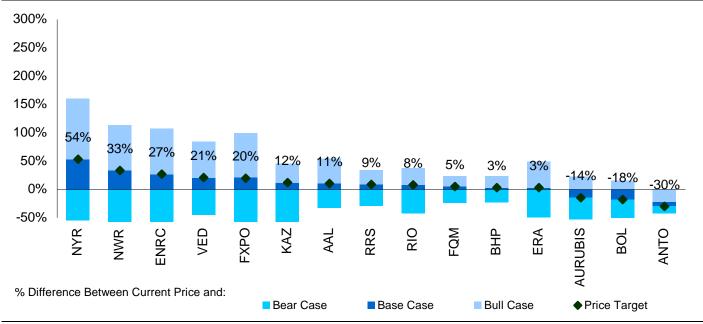
**Key forecasts** 

	Сорр	oer	Zino	<b>:</b>	Lead	d	Alumin	ium
	US\$/lb	y/y	US\$/lb	y/y	US\$/lb	y/y	US\$/lb	y/y
2011	4.01	17%	1.00	1%	1.09	11%	1.10	11%
2012e	3.63	-9%	0.91	-9%	0.94	-13%	0.95	-14%
2013e	3.90	7%	0.98	7%	1.03	9%	1.03	9%
2014e	3.70	-5%	1.05	8%	1.08	5%	1.06	3%
2015e	3.40	-8%	1.10	5%	1.10	2%	1.10	4%
2016e	3.20	-6%	1.08	-2%	1.12	2%	1.16	5%
2017e	2.80	-13%	1.06	-1%	1.13	1%	1.20	3%
.T	2.38	-30%	1.00	-9%	0.98	-11%	1.15	4%
	Nick	cel	Gold	d	Silve	er	Platin	um
	US\$/lb	y/y	US\$/oz	y/y	US\$/oz	y/y	US\$/oz	y/y
2011	10.40	5%	1546	26%	32.91	64%	1723	7%
012e	8.07	-22%	1683	9%	31.26	-5%	1538	-11%
2013e	8.30	3%	1853	10%	34.95	12%	1715	11%
2014e	9.00	8%	1800	-3%	34.62	-1%	1785	4%
2015e	9.50	6%	1750	-3%	33.65	-3%	1865	4%
2016e	10.50	11%	1550	-11%	29.81	-11%	1941	4%
2017e	11.80	12%	1350	-13%	25.96	-13%	1927	-1%
Т.	10.21	7%	1022	-42%	19.64	-42%	1900	2%
	Iron ore	(CFR)	Thermal	coal	Coking	coal	Ferroch	rome
	US\$/t	y/y	US\$/t	y/y	US\$/t	y/y	US\$/lb	y/y
2011	168	15%	122	34%	289	51%	1.25	-1%
2012e	126	-25%	119	-3%	210	-27%	1.20	-4%
2013e	120	-5%	100	-16%	185	-12%	1.18	-2%
014e	118	-2%	97	-3%	190	3%	1.20	2%
015e	115	-3%	103	6%	195	3%	1.20	0%
2016e	110	-4%	105	2%	190	-3%	1.20	0%
2017e	100	-9%	105	0%	185	-3%	1.20	0%
_T	85	-26%	94	-9%	148	-24%	1.05	-13%

<sup>\*</sup>All forecasts are from our Metals Economist, Peter Richardson; Source: Morgan Stanley Research

# **European Mining Stocks: Risk-Reward Snapshot**

Exhibit 25
Risk-Reward Snapshot for European Mining Stocks



Source: Morgan Stanley Research. For valuation methodology and risks associated with any price targets above, please email morganstanley.research@morganstanley.com with a request for valuation methodology and risks on a particular stock.

Morgan Stanley is acting as financial advisor to Lafarge SA ("Lafarge") in relation to the combination of its cement, aggregates, ready-mixed concrete, asphalt and contracting businesses in the United Kingdom with Anglo American plc ("Anglo American") as announced on 18 February 2011. Lafarge may pay a fee to Morgan Stanley for its financial services. Please refer to the notes at the end of the report.

# **Global Valuation Sheets**

Exhibit 26

# Gold

0.110	Market cap	EV	P	/E	EV/E	BITDA	FCF	Yield	Divide	nd Yield		P/B	ROE	Net	EV/	EV/
Gold Companies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Debt/EBITDA	Reserves (US\$)	R&R (US\$)
Anglogold Ashanti Limited	13,258	14,820	9.7	7.1	5.6	4.3	-2.3%	-3.3%	1.2%	2.6%	2.2	1.8	26.1%	0.6	196	48
Barrick Gold Corporation	38,842	52,885	9.2	7.8	6.7	5.1	-2.7%	4.4%	1.9%	2.1%	1.5	1.3	17.4%	1.5	378	203
Centamin Egypt*	1,755	1,627	8.3	6.0	6.7	4.3	0.6%	14.9%	0.1%	0.1%	1.9	1.9	21.2%	-0.7		
Centerra*	2,824	2,527	27.9	5.2	7.9	3.3	-2.1%	17.8%	1.1%	1.3%	1.9	1.9	9.7%	-1.1		
Compania De Minas Buenaventura S.A.A.	9,954	9,953	10.8	10.4	15.5	11.2	4.8%	8.0%	0.9%	2.4%	2.5	2.1	23.7%	NM		
Drdgold Limited	259	243	6.0	6.4	4.7	4.5	5.6%	12.0%	1.8%	2.9%	1.3	1.2	27.1%	NM		
Gold Fields Limited	8,963	10,547	9.5	6.5	5.1	4.0	0.1%	7.9%	3.7%	3.1%	1.5	1.3	15.6%	0.5	131	35
Goldcorp Inc.	35,206	34,913	22.5	15.1	11.6	7.9	-1.9%	1.5%	1.2%	1.2%	1.6	1.5	7.2%	0.1	540	301
G-Resources Group Limited*	806	820		6.1		4.7	-17.3%	22.9%	0.0%	0.0%	0.9	0.9	-2.4%	2.9	270	110
Harmony Gold Mining Company Limited	3,538	3,543	10.7	10.4	7.1	4.8	1.5%	4.5%	1.2%	2.0%	1.0	0.8	9.0%	NM	85	22
lamgold*	5,861	5,402	14.9	10.7	7.0	5.0	-0.7%	6.3%	1.4%	1.6%	1.6	1.6	10.2%	-0.3	406	225
Kinross Gold Corporation	11,630	11,927	14.1	9.6	6.2	4.5	-9.7%	-3.6%	1.6%	1.6%	0.9	8.0	9.7%	0.5	191	110
Newcrest Mining Limited	21,390	23,721	19.7	19.9	10.8	9.1	-4.1%	-0.4%	1.3%	1.3%	1.2	1.3	7.9%	1.0	297	161
Newmont Mining Corporation	26,822	33,891	13.8	10.9	7.1	5.6	-3.1%	2.3%	2.7%	3.7%	2.0	1.8	15.1%	0.6	343	241
Petropavlovsk	1,290	2,693	1.3	1.0	3.4	2.4	2.2%	33.1%	12.4%	16.1%	4.2	3.4	23.8%	NM	263	110
Polymetal International Plc	6,932	7,927	12.8	8.9	9.6	6.8	7.4%	9.6%	1.5%	2.1%	3.2	2.5	31.1%	0.8	553	282
Randgold	11,158	10,841	22.4	17.1	13.7	9.7	0.3%	3.8%	0.7%	0.9%	4.2	3.4	23.8%	NM	666	243
Yamana*	14,239	14,350	20.3	13.4	10.3	7.6	3.8%	9.7%	1.2%	1.2%	1.8	1.8	8.4%	-0.1	842	364
Agnico-Eagle Mines*	8,781	9,256	26.5	23.9	11.9	10.3	3.7%	6.1%	1.4%	1.4%	2.6	2.6	12.7%	0.8	494	326
Eldorado Gold Corp*	10,143	10,201	28.5	20.6	16.1	11.4	1.6%	1.6%	1.0%	1.3%	1.7	1.7	9.0%	-0.5	536	324
Semafo*	1,128	1,002	12.9	9.0	5.5	4.4	2.0%	11.8%	0.7%	0.8%	1.8	1.8	13.1%	-1.0	356	106
Zijin Mining Group	9,809	11,390	13.8	12.3	6.5	5.9	10.9%	15.5%	2.8%	3.3%	2.2	2.2	19.4%	0.2		
Polyus Gold Interational	10,524	10,524	13.1	10.6	7.7	6.3	4.9%	5.0%	1.8%	2.1%	N/A	N/A	23.3%	-0.2	116	92
Weighted Average	214,725	242,631	15.2	11.6	8.7	6.4	-1.6%	3.6%	1.7%	2.0%	1.8	1.6	14.6%	0.6	369	175
Silver Companies	Market cap	EV	P	/E	EV/E	BITDA	FCF	Yield	Divide	nd Yield		P/B	ROE	Net	EV/	EV/
Oliver Collipanies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Debt/EBITDA	Reserves (US\$)	R&R (US\$)

2012CY 2013CY

3.7%

5.8%

5.5%

2.4%

2012CY 2013CY

0.9%

2.0%

1.0%

2012

2.5

11.0

10.1

2013

2.5

11.0

2012e

9.8%

32.4%

30.0%

-0.9

-0.4

-0.5

Reserves (US\$) R&R (US\$)

12

45

54

2012CY 2013CY

12.1

6.6

14.8

Weighted Average 24,797 29.6

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap Weighted Average for EV/EBITDA, Net Debt/EBITDA, EV/Reserves, EV/R&R based on EV

(US\$mn)

2,692

22,105

(US\$mn) 2012CY 2013CY

32.1

29.3

21.2

23.0

2,508

21,880

24,388

\*-Not covered by Morgan Stanley

Hochschild Mining Plc\*

Fresnillo Plc\*

Source: Morgan Stanley Research, Thomson Reuters

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Exhibit 27

# Coal

Coal Companies	Market cap	EV	P/	E	EV/EB	ITDA	FCF \	Yield	Dividen	d Yield	Р	P/B	ROE	Net Debt/EBITDA
Coal Collipanies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Net Debl/EBITDA
THERMAL COAL														
Arch Coal, Inc.*	1,654	5,675			8.5	9.1	14.8%	13.2%	2.6%	1.8%	0.5	0.5	-2.0%	6.2
Bumi Plc*	712	712			2.5	2.3	13.3%	10.1%	0.0%	1.4%	N/A	N/A	-4.2%	3.2
China Shenhua Energy Company Limited	13,789	18,455	10.9	10.1	1.3	1.2	42.2%	55.4%	3.4%	3.5%	1.9	1.7	21.7%	-0.1
Coal India Limited	42,573	42,573	18.1	16.7	9.8	7.8	3.2%	2.2%	2.9%	4.3%	5.4	4.9	52.3%	-2.8
Consol Energy Inc.*	7,821	10,688	75.2	68.6	8.2	8.0	-1.4%	2.0%	1.4%	1.5%	2.1	2.1	9.1%	2.3
Yancoal Australia Ltd*	1,155	1,155	5.3	6.5	3.7	2.4	-4.7%	-14.3%	0.0%	0.0%	N/A	N/A	1.3%	11.4
New Hope Corporation Limited*	4,038	2,419	20.1	25.8	10.9	12.5	3.1%	-2.4%	3.4%	2.7%	1.8	1.8	8.2%	-6.8
Patriot Coal Corporation*	11,745	11,355			NA	NA	NA	NA	N/A	N/A	7.2	7.2	N/A	N/A
Peabody Energy Corporation*	N/A	N/A			NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A
Pt Adaro Energy Tbk	4,642	7,189	8.1	9.7										
Pt Bumi Resources Tbk*	1,540	6,171			6.1	6.3	43.5%	51.5%	4.1%	1.4%	3.3	3.3	1.7%	4.0
Whitehaven Coal Limited	3,308	3,313	36.5	40.4	21.7	19.5	2.4%	-12.7%	16.6%	1.0%	1.3	1.0	5.6%	NM
Yanzhou Coal Mining Company Limited	3,133	6,189	18.2	19.8	4.3	3.5	66.5%	-19.7%	5.7%	3.6%	1.1	1.0	10.4%	1.9
Weighted Average	96,110	115,895	18.9	18.1	6.4	5.6	10.7%	8.8%	2.9%	2.9%	3.9	3.7	27.9%	-0.2
COKING COAL														
Alpha Natural Resources, Inc.*	1,869	4,422			6.0	7.9	11.3%	6.2%	0.0%	0.0%	0.3	0.3	-5.4%	3.5
Banpu Public Company Limited*	3,477	6,045	10.8	8.6	6.4	6.3	17.0%	19.0%	4.2%	4.4%	1.4	1.4	13.3%	2.0
Beacon Hill Resources Plc*	73	77		6.8		5.5	-26.4%	-8.6%	0.0%	0.0%	0.8	0.8	-11.0%	-3.2
Coal Of Africa Limited	172	127					-59.7%	-187.4%	0.0%	0.0%	1.0	0.5	-26.2%	-0.1
Mechel Open Joint-Stock Company*	2.797	12.319			6.4	5.9	25.8%	34.5%	0.8%	0.7%	N/A	N/A	5.8%	4.6
New World Resources Plc	1,099	1,698	169.0	21.8	6.2	5.6	4.5%	2.8%	1.9%	0.9%	1.2	1.2	-2.0%	2.1
Open Joint Stock Company "Raspadskaya"*	1.772	1.772	60.4	20.1	8.9	5.5	4.7%	9.9%	1.1%	3.5%	N/A	N/A	5.3%	2.1
Perusahaan Perseroan (Persero) Pt Aneka Tambang Tbk*	1,295	1,057	11.5	10.6	5.6	4.8	-17.9%	-18.7%	4.4%	3.1%	1.2	1.2	9.5%	-0.4
Pt Borneo Lumbung Energi & Metal Tbk.	1,127	2,097												
Walter Energy, Inc.*	2.211	4,339			8.3	6.9	5.2%	11.9%	1.5%	1.4%	1.0	1.0	3.8%	4.0
Weighted Average	15,892	33,954	21.7	6.5	6.2	5.9	8.9%	10.3%	1.9%	2.0%	0.7	0.7	4.7%	3.2

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap Weighted Average for EV/EBITDA, Net Debt/EBITDA based on EV
\*-Not covered by Morgan Stanley
Source: Thomson Reuters, Morgan Stanley Research

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Exhibit 28

# **Aluminium**

Aluminium Companias	Market cap	EV	P/I	E	EV/EB	ITDA	FCF `	Yield	Dividend	Yield	P.	/B	ROE	Net
Aluminium Companies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Debt/EBITDA
Alcoa Inc.	9,391	20,822	34.9	13.1	8.9	5.5	-7.4%	6.2%	1.4%	1.4%	0.8	0.7	2.2%	5.4
Alumina Limited	2,260	2,863					-8.0%	1.2%	0.0%	3.8%	0.9	1.0	-1.9%	-7.9
Aluminum Corporation Of China Limited	1,725	16,893			35.8	9.0	81.4%	-22.6%	0.0%	0.1%	8.0	0.8	-10.2%	20.8
Century Aluminum Company	638	739		42.4	17.8	4.5	-5.1%	15.6%	0.0%	0.0%	0.7	0.7	-6.0%	7.5
China Zhongwang Holdings Limited*	2,148	2,177	7.4	6.6	5.2	4.8	14.2%	15.9%	N/A	N/A	0.8	0.8	11.2%	-3.3
Hindalco Industries Limited	4,348	10,979	7.1	7.8	7.7	6.6	-17.3%	-6.6%	1.0%	1.0%	0.8	0.7	8.8%	2.5
National Aluminium Co Ltd	2,403	2,403	16.1	14.2	11.5	10.5	-6.6%	-5.8%	2.2%	1.8%	1.2	1.0	8.0%	NM
Noranda Aluminum Holding Corporation	456	1,003	38.7	9.5	7.1	4.4	-2.4%	3.7%	21.0%	2.4%	2.3	1.9	2.6%	4.7
Norsk Hydro ASA	9,526	10,658	71.4	17.1	9.0	6.1	4.7%	10.0%	2.6%	2.8%	0.8	0.8	0.7%	1.3
United Company Rusal Plc	8,448	19,232	15.0	7.9	20.7	15.2	-11.6%	-12.8%	0.0%	0.0%	0.8	0.8	3.6%	12.1
Vimetco N.V.	88	2,177			1.9	2.3					0.1	0.0	39.8%	0.5
Weighted Average	41,430	89,946	29.9	11.3	15.9	8.3	-1.6%	0.3%	1.4%	1.4%	0.8	0.8	2.9%	8.0

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap Weighted Average for EV/EBITDA, Net Debt/EBITDA based on EV \*-Not covered by Morgan Stanley Source: Thomson Reuters, Morgan Stanley Research

Exhibit 29

### Iron ore

	Market cap	EV	P/E	E	EV/EB	ITDA	FCF \	Yield	Dividen	d Yield	P.	/B	ROE	Net
Iron Ore Companies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Debt/EBITDA
African Minerals Limited*	1,616	1,131		8.1		2.2	-35.4%	-7.2%	0.0%	0.0%	1.9	1.9	-10.5%	1.3
Atlas Iron Limited	1,347	953	11.2	13.5	26.7	3.9	0.9%	-9.2%	2.1%	4.0%	1.0	0.6	-6.8%	NM
Bellzone Mining Plc*	159	58		7.5		0.8			0.0%	0.0%	0.7	0.7	-13.6%	-1883.6
Cliffs Natural Resources Inc.*	5,862	11,231	8.3	6.9	6.8	5.4	12.1%	20.6%	5.3%	6.1%	0.9	0.9	11.5%	2.1
Ferrexpo Plc	1,786	2,057	6.2	5.6	5.1	4.2	17.0%	15.6%	2.2%	2.2%	1.1	0.9	20.3%	0.4
Fortescue Metals Group Ltd	12,269	18,345	7.9	9.4	6.0	5.9	-28.6%	-22.8%	2.0%	2.5%	4.2	2.6	64.0%	2.0
Gindalbie Metals Ltd	364	322							0.0%	0.0%	0.9	0.5	1.6%	NM
Kumba Iron Ore Limited	18,351	19,028	11.4	10.2	5.8	6.0	6.9%	7.3%	7.4%	7.4%	9.1	8.0	91.7%	0.0
London Mining Plc*	336	499		3.7	91.3	2.9	-47.0%	-15.3%	0.0%	0.0%	0.9	0.9	-8.4%	20.7
Mmx Mineracao E Metalicos S.A.	1,417	2,296		26.3	42.3	8.8	-44.0%	-36.3%	0.0%	0.0%	1.1	1.1	-12.5%	22.2
Mount Gibson Iron Limited*	733	476	3.8	3.6	1.2	1.0	48.6%	60.2%	7.1%	8.2%	0.6	0.6	15.4%	-0.9
Northland Resources Sa*	354	354				5.7	-136.7%	-48.0%	0.0%	0.0%	N/A	N/A	-17.7%	-6.1
Sesa Goa Limited^	2,825	2,825	5.0	4.3	4.1	14.0	11.0%	3.3%	2.4%	2.6%	1.0	1.0	21.4%	NM
Zanaga Iron Ore Company Limited*	193	150					-14.3%	-14.3%	0.0%	0.0%	N/A	N/A	-1.8%	5.3
Weighted Average	47,613	59,726	8.4	9.2	8.2	6.0	-5.1%	-0.9%	4.4%	4.7%	4.9	4.1	54.4%	0.2

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap Weighted Average for EV/EBITDA, Net Debt/EBITDA based on EV
\*-Not covered by Morgan Stanley. NA=Not available.
Source: Thomson Reuters, Morgan Stanley Research

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Exhibit 30

# Copper

Conner Companies	Market cap	EV	P/E	Ē	EV/EB	ITDA	FCF Y	'ield	Dividen	d Yield	P	/B	ROE	Net
Copper Companies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Debt/EBITDA
Antofagasta Plc	19,936	20,358	14.9	13.3	5.6	4.9	8.2%	6.6%	0.0%	0.0%	2.8	2.4	21.8%	NM
Boliden AB	4,609	5,402	9.3	8.5	5.2	4.8	4.9%	6.0%	4.9%	3.7%	1.3	1.2	15.8%	0.8
Copper Mountain Mining Corporation*	389	758	8.6	4.0	9.2	5.1	17.7%	37.6%	0.0%	0.0%	2.2	2.2	23.8%	2.9
Dowa Holdings Co.,Ltd.	2,128	3,635	12.2	10.0	6.5	6.0	-2.4%	0.7%	2.2%	2.6%	1.3	1.2	12.1%	2.7
Freeport-Mcmoran Copper & Gold Inc.	38,245	40,565	12.0	8.3	5.5	3.4	-2.2%	5.1%	3.1%	3.1%	2.2	1.8	20.9%	0.2
First Quantum Minerals Ltd.	10,449	10,142	19.5	13.0	7.2	5.9	-1.3%	-4.3%	0.6%	0.8%	1.9	1.7	17.5%	NM
Grupo Mexico	25,311	27,762	10.7	10.4	5.5	4.6	1.1%	6.1%	2.6%	4.8%	3.0	2.5	32.7%	0.3
Inmet Mining Corporation*	3,289	2,100	10.0	9.1	3.8	3.3	-10.2%	-31.5%	0.4%	0.4%	0.9	0.9	9.2%	-1.7
Jiangxi Copper Company Limited	7,215	7,018	12.9	12.7	4.6	3.6	-4.3%	-0.1%	2.6%	2.6%	1.2	1.1	16.6%	0.3
Katanga Mining Limited*	877	967	12.4	3.8	3.4	1.5	-28.1%	30.9%	0.0%	0.0%	0.5	0.5	13.4%	0.4
Kazakhmys Plc	5,813	6,237	7.9	7.4	5.0	4.8	0.7%	-1.2%	2.1%	2.1%	0.6	0.6	7.6%	0.4
KGHM Polska Miedz Spolka Akcyjna*	10,099	8,514	6.8	8.3	3.5	4.1	13.9%	9.3%	9.7%	6.2%	1.6	1.6	21.0%	-0.3
Lundin Mining Corporation*	3,032	2,720	15.4	10.1	8.0	5.7	1.4%	9.3%	0.0%	0.0%	0.9	0.9	5.7%	-0.8
Mitsubishi Materials Corporation	3,843	12,765	9.9	8.0	8.8	8.2	1.5%	1.3%	1.7%	1.7%	8.0	0.7	10.1%	3.3
Mitsui Mining And Smelting Company	1,214	3,092	11.7	7.8	5.6	5.2	14.9%	7.0%	1.8%	1.8%	0.7	0.6	7.6%	2.0
Oz Minerals Limited	2,395	1,727	14.4	15.1	4.7	4.3	12.6%	10.0%	2.3%	4.1%	0.9	0.8	5.9%	-1.7
Panaust Limited	1,970	2,123	11.0	8.6	6.7	5.1	-3.1%	4.0%	2.8%	5.7%	2.0	1.5	25.6%	0.0
Southern Copper Corporation	30,075	31,385	13.9	14.1	8.3	7.0	7.4%	4.0%	6.3%	5.3%	5.6	4.6	52.1%	0.3
Sumitomo Metal Mining	7,846	9,917	11.4	9.7	7.4	6.5	2.8%	1.1%	2.6%	3.0%	1.0	0.9	7.7%	0.9
Weighted Average	178,736	197,189	12.4	10.7	6.3	5.1	2.6%	3.9%	3.3%	3.3%	2.6	2.2	25.3%	0.5

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap Weighted Average for EV/EBITDA, Net Debt/EBITDA based on EV \*-Not covered by Morgan Stanley Source: Thomson Reuters, Morgan Stanley Research

Exhibit 31

# **Diversified Companies**

Diversified Communica	Market cap	EV	P/E		EV/EB	ITDA	FCF \	/ield	Dividen	d Yield	Р	/B	ROE	Net
Diversified Companies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	2012e	Debt/EBITDA
BHP Billiton Limited	108,701	133,796	10.6	12.3	4.0	4.4	8.5%	4.5%	3.3%	3.5%	2.6	2.4	30.2%	0.7
BHP Billiton Plc	65,458	90,034	9.3	11.3	2.7	3.0	14.1%	7.5%	3.6%	3.8%	2.3	2.2	30.2%	0.7
Vale S.A.	59,826	97,940	7.5	6.5	5.0	5.2	0.7%	1.3%	6.4%	3.1%	1.3	1.2	13.7%	1.6
Rio Tinto Limited	24,582	47,615	10.4	9.2	2.6	2.2	-11.3%	-0.2%	2.8%	2.8%	1.8	1.6	20.2%	1.3
Rio Tinto Plc	67,502	90,480	8.5	7.3	5.0	4.3	-4.1%	-0.1%	3.3%	3.3%	1.5	1.3	20.2%	1.3
Anglo American Plc	40,014	46,471	12.0	9.3	5.2	4.4	-4.0%	0.2%	2.8%	3.0%	0.9	0.9	6.8%	1.1
Eurasian Natural Resources Corporation Plc	6,625	10,363	7.9	6.7	4.9	4.1	-7.1%	-8.5%	2.2%	2.8%	0.6	0.5	7.4%	0.7
Sterlite Industries (India) Limited^	6,470	6,470	6.0	6.0	3.3	3.2	-1.6%	7.1%	1.0%	1.8%	0.8	0.7	12.8%	NM
Vedanta Resources Plc^	4,584	28,257	11.0	9.2	7.0	4.7	-13.7%	103.8%	3.2%	3.3%	1.2	0.9	11.0%	2.5
Minmetals Resources Limited*	1,999	3,265	7.3	5.0	3.8	3.0	3.1%	29.2%	0.0%	0.0%	1.3	1.3	17.5%	1.1
Exxaro Resources Limited	6,925	7,091	8.3	7.2	20.3	17.8	0.0%	0.0%	3.1%	3.5%	1.9	1.6	26.0%	1.6
Teck Resources Limited	17,801	21,303	10.7	9.4	5.5	5.3	2.5%	4.4%	2.6%	2.6%	1.0	0.9	8.5%	1.0
Weighted Average	385,762	554,691	10.2	10.1	4.7	4.5	2.9%	4.3%	3.8%	3.5%	1.9	1.8	22.7%	1.2

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap Weighted Average for EV/EBITDA, Net Debt/EBITDA based on EV.
\*-Not covered by Morgan Stanley. NA=Not available. Source: Thomson Reuters, Morgan Stanley Research

#### MORGAN STANLEY RESEARCH

October 24, 2012 Metals & Mining

Exhibit 32

# **Other Metals and Minerals**

0.1 0	Market cap	EV	P/E		EV/EBI	TDA	FCF Y	ield	Dividend	Yield		P/B	DOE 2245	Net
Other Companies	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	— ROE 2012e	Debt/EBITD
PLATINUM	, , ,													
	40.440	40.054	440.5	55.0	40.0	0.0	4.00/	0.0%	0.5%	0.40/	4.0	4.7	4.70/	0.5
Anglo American Platinum Limited Aquarius Platinum Limited	12,443	13,654 419	116.5	55.6	12.9	9.0	1.0%			2.1%	1.8 0.5	1.7 0.4	4.7%	
Impala Platinum Holdings Limited*	289 10,707	11,284	84.8 20.2	66.0 21.1	 13.3	4.5 11.9	-39.1% 0.5%	5.0% 3.0%	0.0% 1.8%	0.9% 1.8%	1.8	1.8	-18.6% 8.9%	-1.5 0.2
Lonmin Public Limited Company	1,590	2,345	326.2	150.5	11.8	6.2	-18.4%	1.5%	0.8%	2.2%	1.0	1.0	1.3%	0.2
Northam Platinum Limited	1,348	1,340	293.6	190.5	44.6	10.5	-10.4%	4.2%	0.8%	1.1%	0.9	1.0	0.9%	1.6
Royal Bafokeng Platinum Ltd	928	1,340	293.6	190.1	11.4	7.6	-5.0%	-12.1%	0.2%	0.0%	0.9	0.7	1.9%	NM
Weighted Average	27,305	30,305	95.4	52.4	14.1	9.8	-1.9%	1.1%	1.0%	1.9%	1.7	1.6	5.6%	0.4
	21,505	30,303	33.4	32.4	144.1	3.0	-1.976	1.1 /0	1.070	1.376	1.7	1.0	3.070	0.4
DIAMONDS														
Gem Diamonds Limited*	387	327	9.5	8.0	2.6	2.6	-10.2%	-11.8%	0.0%	0.0%	0.9	0.9	6.9%	-0.8
Lucara Diamond Corp.*	223	262	34.9	7.7	9.6	4.4	-6.8%	26.5%	0.0%	0.0%	N/A	N/A	N/A	4.1
Petra Diamonds Limited*	819	868	22.4	12.6	9.6	5.7	-6.5%	-3.1%	0.0%	0.0%	1.3	1.3	4.4%	0.4
Weighted Average	1,429	1,458	20.9	10.6	8.0	4.8	-7.5%	-0.9%	0.0%	0.0%	1.0	1.0	4.4%	8.0
ZINC AND NICKEL														
Korea Zinc Inc*	7.828	7.232	12.2	10.0	7.6	6.5	9.1%	11.5%	1.0%	1.0%	2.2	2.2	19.0%	-0.9
Nyrstar S.A.	983	1,725		7.0	4.9	3.0	7.0%	16.2%	0.4%	3.1%	0.6	0.5	1.1%	2.9
Norilsk Nickel	29,890	29,890		7.0	4.0	0.0	1.070	10.270	0.470	0.170	0.0	0.0	1.170	2.0
Panoramic Resources Limited	149	103	20.3	63.3	2.9	1.6	-25.9%	-7.0%	3.5%	2.4%	0.5	0.4	-3.6%	NM
Pt Aneka Tambang Tbk	1,295	1,057	22.7	32.6	6.2	5.4	18.4%	6.4%	7.0%	4.2%	1.2	1.1	9.8%	NM
Pt Vale Indonesia Tbk	2,775	2,894	20.0	25.4	11.6	6.6	3.7%	10.6%	5.4%	1.7%	1.6	1.4	6.0%	NM
Western Areas N.L.	817	1,013	44.4	79.2	5.5	6.6	2.6%	3.6%	2.5%	1.0%	2.5	2.6	15.2%	1.1
Weighted Average	43,738	43,914	5.0	6.2	2.5	1.9	2.5%	3.3%	0.8%	0.5%	0.6	0.6	4.4%	0.0
DADE FARTUR														
RARE EARTHS Hunan Nonferrous Metals Corp.*	470	2.470	12.9	10.1	7.0	5.6	40.4%	68.3%	N/A	N/A	1.6	1.6	10.9%	2.5
Iluka Resources Limited		, .												3.5
Kenmare Resources Public Limited Company*	3,912 1,527	4,033	20.4 20.1	10.8	7.6 13.8	4.0 6.5	-5.0% 4.6%	20.5% 18.2%	2.7% 0.0%	7.5% 0.0%	2.5 2.6	2.0 2.6	22.3% 37.3%	0.5 2.0
Lynas Corporation Limited*	1,527	1,814 1,371	20.1	6.7	13.8	6.5 25.6	-23.4%	6.1%	0.0%	0.0%	2.6	2.0	-15.5%	-3.4
Mineral Deposits Limited*												1.0		-3.4
	410 NA	249 NA	21.2	11.3	18.1 NA	18.6 NA	-17.5% NA	-30.1% NA	0.0% NA	0.0% NA	1.0 NA	NA	3.1% NA	-3.2 NA
Molycorp, Inc. Weighted Average	7,487	9.935	16.7	8.2	7.8	8.2	-3.8%	18.0%	1.4%	3.9%	2.3	2.0	17.7%	0.9
Weighted Average	1,401	3,333	10.7	0.2	7.0	0.2	-3.078	10.070	1.470	3.378	2.0	2.0	17.770	0.3
OTHER														
China Molybdenum Co., Ltd.*	570	516	12.0	10.8	2.0	1.6	32.3%	42.7%	N/A	N/A	1.2	1.2	10.1%	-0.8
Eramet S.A.	3,211	3,093	24.2	14.1	4.9	3.7	-5.2%	19.7%	1.3%	2.2%	8.0	0.8	3.4%	NM
Merafe Resources Limited*	225	254			6.2	3.8	-15.8%	-2.0%	0.0%	0.0%	0.7	0.7	5.7%	1.4
Om Holdings Limited*	193	274		27.4	52.3	5.9	-72.0%	-105.5%	0.0%	0.0%	0.6	0.6	-2.2%	49.6
Weighted Average	3,629	3,621	21.4	14.0	8.6	3.9	-9.4%	11.7%	1.1%	1.9%	0.8	0.7	3.2%	3.8
PROCESSING														
Aurubis AG	2,672	2,895	38.2	35.6	3.5	4.7	12.9%	-6.9%	2.7%	1.3%	1.0	1.0	16.2%	0.4
Boliden AB	4,609	5,402	27.3	26.8	5.2	4.8	4.9%	6.0%	4.9%	3.7%	1.3	1.2	15.8%	0.8
Dowa Holdings Co.,Ltd.	2,128	3,635	52.4	49.1	6.5	6.0	-2.4%	0.7%	2.2%	2.6%	1.3	1.2	12.1%	2.7
Jiangxi Copper Company Limited	7,215	7,018	55.6	56.0	4.6	3.6	-4.3%	-0.1%	2.6%	2.6%	1.2	1.1	16.6%	0.3
KGHM Polska Miedz Spolka Akcyjna*	10,099	8,514	6.8	8.3	3.5	4.1	13.9%	9.3%	9.7%	6.2%	1.6	1.6	21.0%	-0.3
Mitsubishi Materials Corporation	3,843	12,765	57.4	49.1	8.8	8.2	1.5%	1.3%	1.7%	1.7%	0.8	0.7	10.1%	3.3
Mitsui Mining And Smelting Company	1,214	3,092	55.5	38.4	5.6	5.2	14.9%	7.0%	1.8%	1.8%	0.7	0.6	7.6%	2.0
Nyrstar S.A.	983	1,725	34.1	23.3	4.9	3.0	7.0%	16.2%	0.4%	3.1%	0.6	0.5	1.1%	2.9
Weighted Average	32,762	45,046	34.5	32.6	5.8	5.5	5.9%	4.1%	4.9%	3.6%	1.2	1.2	16.0%	1.5

Weighted Average for P/E, FCF Yield, Dividend Yield, P/B, ROE based on Market Cap
Weighted Average for EV/EBITDA, Net Debt/EBITDA based on EV
\*-Not covered by Morgan Stanley. NA=Not available. Source: Thomson Reuters, Morgan Stanley Research

#### MORGAN STANLEY RESEARCH

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Exhibit 33

# Valuation based on Spot commodity prices

	Market cap	EV	P/	P/E		BITDA	FCF	Yield	Dividen	d Yield	P/E	3	BOE 2012a	Net Debt/EBITDA
	(US\$mn)	(US\$mn)	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012CY	2013CY	2012	2013	KUE 20136	Net Debl/EBITDA
Large Diviersifieds														
BHP Billiton Ltd	108,701	133,796	11.9x	12.7x	7.2x	7.7x	1.8%	2.0%	3.4%	3.6%	2.6x	2.3x	19.5%	0.8x
BHP Billiton Plc	65,458	90,034	10.9x	11.7x	7.4x	7.9x	1.9%	2.2%	3.7%	3.9%	2.4x	2.1x	19.5%	0.8x
Rio Tinto Ltd	24,582	47,615	11.1x	11.3x	10.6x	10.1x	-3.1%	-2.8%	2.8%	2.8%	1.8x	1.6x	14.3%	0.9x
Rio Tinto Plc	67,502	90,480	9.2x	9.4x	6.1x	5.8x	-3.7%	-3.3%	3.3%	3.4%	1.5x	1.3x	14.3%	0.9x
Anglo American	40,014	46,471	16.3x	21.1x	5.4x	5.4x	-4.3%	-2.4%	2.5%	2.7%	1.0x	1.0x	4.6%	1.0x
Precious Metals														
Randgold Resources	11,158	10,841	21.8x	18.3x	13.8x	10.6x	0.2%	3.1%	0.7%	0.8%	3.9x	3.2x	17.7%	-0.6x

Source: Company Data, Morgan Stanley Research

MORGAN STANLEY RESEARCH

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# **Events Calendar**

Exhibit 34

**China: Event Calendar** 

Oct/Nov 2012	Day	Event	Morgan Stanley forecast	Consensus Forecast
24	Wednesday	HSBC Flash Manufacturing PMI		
01	Thursday	Manufacturing PMI		
01	Thursday	HSBC Manufacturing PMI		
03	Saturday	Non-manufacturing PMI		
05	Monday	HSBC Services PMI		

Source: The NBS, China Customs, PBoC, Morgan Stanley Research

# **Morgan Stanley – Global Commodities Team**

lobal Metals & Mining (Australia)		Latin America Steel, Metals & Mining	g, Pulp & Paper (New York/São Paulo/Mexico
Peter Richardson 6+	61 3 9256 8934	Carlos de Alba 1	1 212 761 4927
Joel Crane 6+	61 3 9256 8961	Alfonso Salazar 2+	52 55 5282 6745
		Lulica Rocha 2+	55 11 3048 6081
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Menno Sanderse 3+	44 (0)20 7425 6148	Asia Oil & Gas Coal (Hong Kong)	
Eric Zaunscherb 3+	44 (0)20 7425 8934	Wee-Kiat Tan 5+	852 2848 7488
Alain Gabriel 3+	44 (0)20 7425 8959	Sara Chan 5+	852 2848 5292
Alexander Haissl 3+	44 (0)20 7425 8089		
Adedapo Oguntade 3+	44 (0)20 7425 2127	Japan Metals & Mining, Steel (Tokyo	)
		Harunobu Goroh 7+	81 3 5424 5343
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Christopher Nicholson 10+	27 11 282 1154		
		Global Commodities (New York)	
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Brendan Fitzpatrick 6+	61 2 9770 1148	Adam Longson 1	1 212 761 4061
Stefan Hansen 6+	61 2 9770 1390	Christopher Corda 1	1 212 761 6005
Rachel Bentvelzen 6+	61 2 9770 9225	Tai Liu 1	1 212 761 3585
Philip Baré 6+	61 3 9256 8932	Bennett Meier 1	1 212 761 4967
Shaun Lim 6+	61 3 9256 8942	Tian Yu 1	1 212 761 8582
		Alan Lee 1	1 212 761 3266
dia Metals & Mining, Steel (Mumbai)			
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Ritish Rangwalla 4+	91 22 6118 2258	Evan L. Kurtz 1	1 212 761 7583
		Paretosh Misra 1	1 212 761 3590
hina Metals & Mining (Hong Kong)		Wes Sconce 1	1 212 761 6004
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		11 Morgan Stanley Asia (Singapore) Pte.	

<sup>6</sup> Morgan Stanley Australia Ltd 10 RMB Morgan Stanley (Proprietary) Ltd

<sup>3</sup> Morgan Stanley & Co. International plc 7 Morgan Stanley MUFG Securities

<sup>4</sup> Morgan Stanley India Company Private Limited 8 Morgan Stanley & Co. International plc, Seoul Branch

### MORGAN STANLEY RESEARCH

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Vedanta Resources has agreed to pay fees to Morgan Stanley for its financial services. Please refer to the notes at the end of the report.

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# **Analyst Certification**

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Menno Sanderse

Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

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An employee, director or consultant of Morgan Stanley is a director of Ferrexpo plc. This person is not a research analyst or a member of a research

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(as of September 30, 2012)

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	Coverage Universe		Investment Banking Clients (IBC)		
<del>-</del>	% of			% of % of Rating	
Stock Rating Category	Count	Total	Count	Total IBC	Category
Overweight/Buy	1108	37%	450	41%	41%
Equal-weight/Hold	1273	43%	500	45%	39%
Not-Rated/Hold	106	4%	30	3%	28%
Underweight/Sell	470	16%	122	11%	26%
Total	2,957		1102		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months.

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Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage

universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

#### **Analyst Industry Views**

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant

broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant

broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.

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#### MORGAN STANLEY RESEARCH

October 24, 2012 Metals & Mining

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# **Industry Coverage: Metals & Mining**

Company (Ticker)	Rating (as of) Price* (10/23/2012)		
Alain Gabriel, CFA			
Antofagasta (ANTO.L)	U (10/10/2011)	1,265p	
Aurubis AG (NAFG.DE)	U (01/11/2010)	€46.92	
Boliden (BOL.ST)	U (09/07/2009)	SKr113.3	
Eramet SA (ERMT.PA)	U (09/01/2010)	€99	
Eurasian Natural Resources Corp. (ENRC.L)	O (06/09/2008)	333p	
Ferrexpo plc (FXPO.L)	O (04/19/2010)	192p	
First Quantum Minerals Ltd (FM.TO)	E- (04/13/2011)	C\$21.92	
First Quantum Minerals Ltd (FQM.L)	E (04/13/2011)	1,368p	
Glencore (GLEN.L)	++	343p	
Kazakhmys (KAZ.L)	O (09/03/2009)	722p	
Lundin Mining (LUMIsdb.ST)	NA (07/20/2011)	SKr35.34	
Lundin Mining Corp. (LUN.TO)	NA- (07/20/2011)	C\$5.4	
New World Resources Plc (NWRR.L)	O (05/05/2011)	269p	
Norsk Hydro ASA (NHY.OL)	NA (07/20/2011)	NKr25.48	
Nyrstar NV (NYR.BR)	O (09/14/2010)	€4.69	
Vedanta (VED.L)	O (07/02/2012)	1,123p	
Xstrata PLC (XTA.L)	++	976p	
Menno Sanderse			
Anglo American Plc (AAL.L)	E (07/02/2012)	1,859p	
BHP Billiton Plc (BLT.L)	O (10/26/2010)	1,982p	
Rio Tinto Plc (RIO.L)	O (10/26/2010)	3,132p	

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