Exploration update

# A step change in scale possible?

Amur Minerals has received its third extension to its right to explore its 950km<sup>2</sup> Kun-Manie Ni-Cu sulphide deposit. This extension is valid until 31 December 2014. Amur will now resupply its site in readiness to commence 2013's exploration and resource definition programme which, previously, has continued to reveal the potential for Kun-Manie (current total resource 68.5Mt @ 0.5% Ni) to host a district-scale nickel sulphide deposit. In the last two exploration announcements drilling has doubled the length of the Maly Kurumkon deposit to c 2km by joining up with the east-bound Flangovy block. Results across Flangovy indicate nickel and copper grades 46% and 36% higher respectively than those used in SRK's outdated 2007 PFS (undertaken on only three deposits). Amur has targeted Q113 to initiate an update of its resources and reserves (release will follow completion of this work) leading to a revised PFS.

Year end	Revenue (US\$m)	PBT* (US\$m)	EPS* (c)	DPS (c)	P/E (X)	Yield (%)
12/10	0.0	(1.9)	(1.0)	0.0	N/A	N/A
12/11	0.0	(2.9)	(1.2)	0.0	N/A	N/A
12/12e	0.0	(2.8)	(0.8)	0.0	N/A	N/A
12/13e	0.0	(2.9)	(0.8)	0.0	N/A	N/A

\*PBT and EPS are normalised, excluding intangible amortisation, exceptional items and share-based payments.

## Mining licence - Further changes in country

The delay in Amur's mining licence is the result of the Ministry of Economic Development (MED) not providing a value of the nickel and copper concentrates to be produced at Kun-Manie. This was required to calculate a one-time payment on conversion of a portion of the exploration licence area to the mining licence. As a result of these delays (affecting mining companies in general) this task has been reassigned to Rosnedra and new procedures are now being finalised.

## Leading up to a revised PFS (work begins Q113)

The drilling and exploration work undertaken while Amur has pursued approval of its mining licence, which has also coincided with a low nickel price reflecting a struggling steel industry amidst a sluggish global recovery, could be viewed as a silver lining. This is because the increased scale and improved grades and metallurgical data achieved over the last two years have prompted Amur to revise the SRK 2007 PFS. Management is yet to provide a timeframe to complete this study.

## Valuation: Outdated and awaiting new PFS

Until Amur collates all its recent exploration and metallurgical test work results into a revised financial model for Kun-Manie, we reiterate our previous estimate of this project's value of US\$394m or £0.71 per share (at US\$20,000/t Ni and 10% discount). This was primarily based on the old 2007 SRK Consulting pre-feasibility study, which will now be revised in light of the new exploration results. This valuation should be considered conservative in light of the recent developments at Kun-Manie and with regards to its metallurgy. We will update our valuation when the PFS is released.

#### Amur Minerals is a research client of Edison Investment Research Limited

## Mining

	3 January 2013
Price	8.7p
Market cap	£31m
	US\$1.6/£1
Shares in issue Free float	353.2m 69%
Code	AMC
Net cash (US\$m) 30 Jun 12	3.1
Primary exchange Other exchanges	AIM N/A

#### Share price performance



#### **Business description**

Amur Minerals is an exploration and development company focused on base metal projects located in Russia's far east. The company's principal asset is the Kun-Manie nickel sulphide deposit, in the Amur Oblast, containing over a third of a million tonnes of contained nickel in three deposits.

#### Next events

Exploration Results Q412

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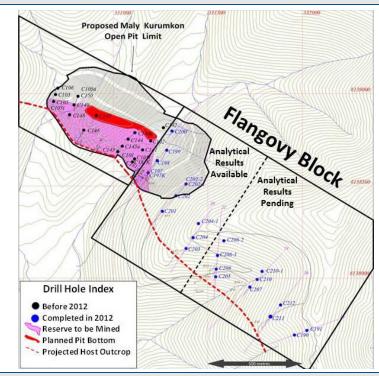
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#### Investment summary

The 2012 field season results point to an overall increase in nickel and copper grades (by 46% and 36% respectively), compared to those used in defining the proposed pit outline by SRK Consultants in Amur's 2007 Kun-Manie PFS. This presents Amur with the opportunity to revise the PFS for updated resources and reserves and to provide better definition of higher grade zones. This greater definition of grade distribution will likely have a positive impact on a revised mine schedule by allowing extraction of higher grades to be mined in the first years of operation.





Source: Amur Minerals RNS

#### Data points to Maly Kurumkon at the lower grade end of Kun-Manie

As drilling has progressed over the Kun-Manie licence area and assay grades and drill core data is gathered and modelled, the overall geological model, and therefore understanding, of the deposit has improved. Geochemical, mapping and drilling data acquired across the lease as part of the 2011 exploration campaign provided a clearer understanding of the structures present. The subsequent modelling of this geochemical data presented a number of key areas where anomalously high nickel and copper values were shown to occur. Now as drilling tracks eastwards from the edge of the proposed pit design at Maly Kurumkon and indicates increasing grades of nickel and copper, the potential increases; in our view, for these anomalous geochemical signatures, present across the c 12km Kun-Manie trend, to yield further resources.

The 7,200m of drilling undertaken at Kun-Manie during the 2012 field season, of 4,149m was focused on understanding the structure and distribution of mineralisation at Flangovy – located immediately to the east of the Maly Kurumkon proposed pit outline (see Exhibit 1). This drilling provided the higher nickel and copper grades reported by Amur in its exploration results and also indicated the general



thickening of mineralised intercepts eastwards from the margins of the existing proposed open pit outline. The average combined mineralised thickness was 23.5m per drill hole. Amur's intention now will be to drill test further east to see if its promising geochemical signatures identified during the 2011 exploration season result in sub-surface economic nickel and copper mineralisation being identified. The next identified deposit to the east of Flangovy is Gorney, 2.2km away. If mineralisation associated with the western deposits of Maly Kurumkon and Flangovy extends eastwards and joins with Gorney it would result in nickel-copper trend of over 3km. The proposed pit outline at Maly Kurumkon was 850m by comparison.

## A step change in deposit classification at 500kt contained nickel

At present the current resource estimate at Kun-Manie may not be considered of a scale suitable for development by any of the nickel majors (eg Falconbridge, Vale or BHP Billiton). However, if Amur proves successful at converting the positive geological indications of economic mineralisation into formal code compliant resources to the order of 500kt or more of contained nickel (that is c 68Mt of ore at a nickel grade of 0.73%) then it would start to appear on many of the major's screens.

Total Resource	Tonnage	Ni (%)	Ni (t)	Cu (%)	Ni (t)
Measured	3.7	0.61	22,700	0.16	5,800
Indicated	47.7	0.48	226,800	0.13	64,400
Inferred	17.1	0.54	91,500	0.15	25,300
Total	68.5	0.50	341,000	0.14	95,500

#### Exhibit 2: Total Kun-Manie resources

Source: SRK pre-feasibility study December 2007

Below are the current reserves estimated by SRK across three deposits; Ikenskoe, Maly Kurumkon and Vodorazdelny. Note that 21.2% of the total 31.5Mt probable ore reserves is inferred material situated within the Maly Kurumkon pit design, carrying average nickel and copper grades of 0.50% and 0.15% respectively. Further drilling was required in 2007 (when the PFS was written) to upgrade this material into reserves. Therefore, with a doubling of strike length for Maly Kurumkon alone and the improved nickel and copper grades produced from the 2012 drill programme across the Flangovy block adjacent, it could be possible for the company to delineate sufficient resources to breach the 500kt contained nickel threshold. This would make Kun-Manie a globally significant nickel-copper sulphide deposit.

Exhibit 3: Kun-Manie ore reserves							
Reserve by deposit				Nickel		Copper	
	Ore (Mt)	Waste (Mt)	Strip Ratio	Ni % Grade	Cont.Tonnes	Cu % Grade	Cont. Tonnes
Ikenskoe	15.4	42.9	2.7:1	0.51	77,900	0.14	22,200
Maly Kurumkon	10.8	69.9	5.5:1	0.5	54,200	0.14	14,900
Vodorazdelny	5.3	2.6	0.5:1	0.73	38,500	0.20	10,800
Probable Ore Reserve	31.5	108.8	2.85:1	0.54	170,500	0.15	47,900

Source: SRK pre-feasibility study December 2007

Amur has exploration potential extending over a far greater area than the limits of its 2012 drill programmes. Amur has known geochemical anomalies and outcropping sulphide deposits exhibiting very similar characteristics to its known ore resources, across approximately 12km of strike extending from the south east of the proposed Maly Kurumkon pit outline. These deposits will be drill tested in subsequent exploration programmes. With the success of joining up the Flangovy block and the outline of the proposed Maly Kurumkon pit in 2012, it will be Amur's intention to repeat this feat with other deposits located close to the proposed pit designs at lkenskoe and Vodorazdelny.



## Drill rig to keep costs down

Amur conducts exploration drilling using its own LF-70 Boart Longyear diamond core drilling rig. The rig purchase has substantially reduced drilling costs on a per metre basis at Kun-Manie. On a contract basis, historical costs incurred by the company were approximately \$290 per metre, not including the additional cost of mobilisation and demurrage. The projected cost per metre for the Amur owned and operated rig is estimated to be \$165, resulting in a potential saving of \$125 per metre (40% cost reduction). When the company first announced the rig purchase it estimated it would fully recover the purchase cost of the rig and its associated supplies and drill tools (\$944,000 all in cost) by drilling a total of about 7,500 metres. The 2012 drill programme just completed comprises 7,200m.

## Exploration licence extended for a further two years

Amur Minerals has received its third extension to the right to continue exploration on its Kun-Manie licence area in the Amur Oblast of Far Eastern Russia. The extension expires on 31 December 2014.

## Moves to open up Far-East Russia

Russia has invested around US\$21bn in its far eastern seaboard with the intention of luring investors to its most remote frontier. Whilst the benefits may not anywhere near outweigh the cost of certain infrastructure projects (eg US\$1bn spent on the world's largest cable stayed bridge to Russky Island which has a population c 6,000), such investments point to Moscow's (Read: Putin's) ambitions to use its far east as a gateway into tapping China's wealth and supplying raw materials into its industries.

Indeed it may be more relevant to view Russia's natural resources and not its infrastructure projects as the most enticing motivation behind developing its lands closest to China's borders. The lure of nearby mineral resources (and oil) is a clear reason to build roads and rail into the regions remote areas, more so than into near uninhabited islands.

The location of Kun-Manie is ideally suited to serving China's demand for nickel in its steel making industry, though it will require an adequate all-weather highway to transport its future nickel bearing products (whether these be concentrates or ingots). Current capital estimates by the company indicate that around US\$140m would be required to link Kun-Manie to nearby transportation hubs.

## Routes to production

Taking into account Amur's continual announcement of positive exploration results and the increasing potential for Kun-Manie to host a district scale nickel project, two avenues present themselves for its development. Obviously a turnaround in the company's fortunes with an approval of its mining licence would provide it with an unobstructed path towards revamping its technical studies, reappraising the magnitude of future production, and consequently a clear step towards project financing and eventual first production.

The second avenue results from a disconnect formed in a bearish mining sector between projects increasing in resource size and a reducing or stable market value of the holding company. With nickel sulphide projects rare, potential bulk tonnage nickel sulphide operations rarer still, and the well-known problems associated with nickel laterite deposits worldwide, Amur's Kun-Manie project could be considered of strategic interest.

## **Financials**

We forecast Amur's 2013 exploration expenditure to be similar to 2012 full year forecast of US\$1.0m. This, along with G&A costs also forecast at a similar level, results in our forecast 2013 net debt



position of c US\$1.4m. With its March 2011 Lanstead agreement due to expire in March 2013, and the high strike price on this agreement at 13.25p dictating the low level of monthly payments due to Amur (the company does not release exact numbers for these monthly payments), we expect an announcement soon on how it will meet its ongoing expenditure requirements.

#### Exhibit 4: Financial summary

US\$'000s	2010	2011	2012e	2013e
Year end 31 December	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS				
Revenue	0	0	0	0
Cost of Sales	0	0	0	0
Gross Profit	0	0	0	0
EBITDA	(1,928)	(2,892)	(2,892)	(2,892)
Operating Profit (before GW and except.)	(1,928)	(2,892)	(2,902)	(2,902)
Intangible Amortisation	0	0	0	0
Exceptionals	(328)	0	0	0
Other	0	(1,505)	(4,521)	0
Operating Profit	(2,256)	(4,397)	(7,423)	(2,902)
Net Interest	0	0	67	37
Equity swap inflows	0	0	312	200
Profit Before Tax (norm)	(1,928)	(2,892)	(2,835)	(2,865)
Profit Before Tax (FRS 3)	(2,256)	(4,397)	(7,044)	(2,665)
Tax	0	0	0	0
Profit After Tax (norm)	(1,928)	(2,892)	(2,835)	(2,865)
Profit After Tax (FRS 3)	(2,256)	(4,397)	(7,044)	(2,665)
	193.9	250.4	345.2	353.2
Average Number of Shares Outstanding (m)	193.9	250.4	345.2	303.2
(m) EPS - normalised (c)	(1.0)	(1.2)	(0.8)	(0.8)
EPS - FRS 3 (c)		· · · · · ·	(0.8)	
	(1.2)	(1.8)		(0.8)
Dividend per share (c)	0.0	0.0	0.0	0.0
Gross Margin (%)	N/A	N/A	N/A	N/A
EBITDA Margin (%)	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A
BALANCE SHEET				
Fixed Assets	14,151	13,903	14,941	15,931
Intangible Assets	13,685	13,503	14,551	15,551
Tangible Assets	466	400	390	380
Other receivables	0	0	0	0
Current Assets	7,215	7,386	2,442	(1,414)
Stocks	167	165	0	0
Trade Debtors	0	0	0	0
Cash	3,066	4,436	2,442	0
Other receivables/other	3,982	2,785	0	0
Current Liabilities	(109)	(102)	0	0
Creditors	(109)	(102)	0	0
Short term borrowings	0	0	0	0
Long Term Liabilities	0	0	Ő	0
Long term borrowings	0	0	0	(1,414)
Other long term liabilities	0	0	0	0
Net Assets	21,257	21,187	17,383	14,517
	21,201	21,101	11,000	
CASH FLOW	(1.00.1)	(0.70.0)	(0.0.10)	(0.000)
Operating Cash Flow	(1,201)	(2,761)	(3,343)	(2,892)
Net Interest	0	0	67	37
Tax	0	0	0	0
Capex	(492)	(20)	(1,048)	(1,000)
Acquisitions/disposals	363	0	0	0
Financing	3,527	4,344	2,330	0
Dividends	0	0	0	0
Net Cash Flow	2,197	1,563	(1,994)	(3,855)
Opening net debt/(cash)	(997)	(3,066)	(4,436)	(2,442)
HP finance leases initiated	0	0	0	0
Other	(128)	(193)	0	0
Closing net debt/(cash)	(3,066)	(4,436)	(2,442)	1,414

Source: Amur Minerals, Edison Investment Research



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