

## West African Gold Stocks

Notes from Field Trip

### Growth Story is Escalating with Strong Funding and Aggressive Drilling

**Investment Perspective:** The West African gold growth story has stepped up another gear with large capital raisings over the past few months enabling an escalation of drilling activity. Expectations are high that the two leading explorers, Ampella and Gryphon, will burst through the 2 Moz resource level early in the new year and be pushing 3 Moz by mid 2011. The tangibility of this boom is confirmed by two new mines coming on stream, owned by Adamus and Perseus. Azumah and Noble are not far behind, and Ampella and Gryphon will begin feasibility studies in 2011.

The continuing gold bull market will underwrite this exciting sector for the foreseeable future. So, if you are not playing this field yet, it is time to secure an exposure. You can go for the raw exploration for maximum leverage (Golden Rim and Mt Isa), you can join the enthusiasm of the successful explorers as they expand their resource bases (Ampella, Azumah and Gryphon), or you can buy the fundamental value of the mine developers (Adamus and Perseus) and get set for the inevitable corporate activity that follows. Just don't miss out.

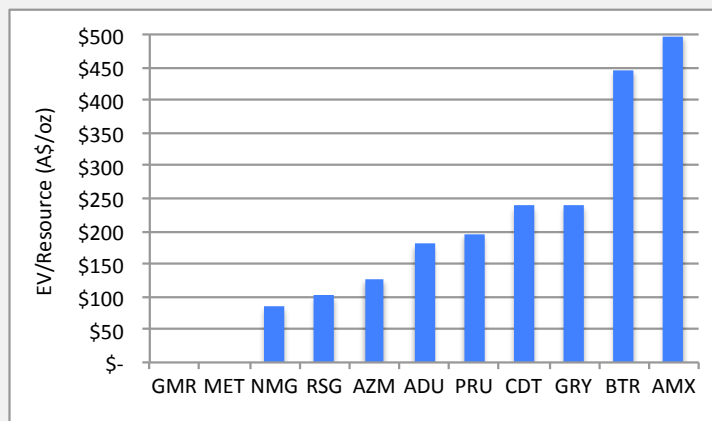
#### Key Observations

- There has been no shortage of fund raisings that show this sector is keenly sought after; Adamus \$31m, Ampella \$45m, Azumah \$30m, Gryphon, \$45m, Noble \$30m. This funding will lead to an escalation of news flow in 2011, with heightening drilling activity adding to the speculative appeal.
- Recent aeromagnetic surveys have given the explorers a much better understanding of the structural controls of the geology and will enable better focused drilling programmes, and ultimately the discovery of more deposits.
- Pure exploration stocks are hogging the limelight as aggressive investors seek leverage to increasing resource bases in preference to mine developers.



Company	Share Price 1/12/10	Market Cap'n \$m	Share Price 11/5/10	% Move Since 11/5/10	Issued Shares Mill.	Issued Opt. Mill.
Adamus Resources	\$0.77	\$344m	\$0.45	71%	447	4
Ampella Mining	\$3.22	\$675m	\$1.73	86%	200	12
Azumah Resources	\$0.77	\$206m	\$0.34	126%	259	12
Blackthorn	\$0.67	\$73m	\$0.75	-11%	107	5
Castle Minerals	\$0.45	\$45m	\$0.42	7%	97	10
Golden Rim	\$0.21	\$77m	\$0.093	126%	355	44
Gryphon Minerals	\$1.47	\$441m	\$0.59	149%	289	14
Mt Isa Metals	\$0.31	\$44m	\$0.12	158%	137	18
Noble Mineral Res.	\$0.43	\$180m	\$0.44	-2%	380	161
Perseus	\$3.15	\$1,348m	\$1.90	66%	422	10
Resolute Mining	\$1.22	\$616m	\$1.13	8%	452	53

- Promotion plays a big factor in stock price performance - those that are better at it usually get better share price performance. Eventually there has to be delivery though.
- Our tables assume that \$100/oz of JORC resources is a fair price. We have taken the EV of the companies and divided them by \$100 to see what size resource the market is factoring in, with a comment on achievability. This is instructive and points to where the most hot air can be found.
- The EV/oz chart below looks at the same issue from a different angle, with the lowest EV/oz being the cheapest on resources already reported to the ASX. Expectations are greatest for those with the largest EV/oz.



## Adamus Resources ADU

Share Price	77c
12 Month Range	35c-77c
Market Cap.	\$345m (diluted for options)
Issued Shares	447 mill. ordinary
Unlisted Options	4 mill. 75c various prices & strike
Cash Balance	\$34m* (at Nov 2010)
Undrawn Credit Lines	\$50m (at 14 Nov 2010)
Debt	US\$70m facility + \$6m for environ. bonds
Top Shareholders	Macquarie Bank 16% National Nominees 10.6%
Latest Issue	1 for 15 at 55c (Oct '10) + placement; \$31.3m
* cash includes \$10m on deposit with Macquarie; (one month's opex)	



### Key Observations from Field Visit

- Good progress is being made on the construction front notwithstanding heavy rains outside of the wet season, with the first gold pour still expected in January 2011 (Q1).
- Capex estimates on the Nzema Gold Project have risen to US\$120m to the time of the first gold pour (up 10-20% on DFS estimate), and opex is up by a similar amount to US\$550-570/oz average, and \$465/oz Yr1.
- Increased emphasis is being placed on exploration with the aim of adding another 500,000 oz to oxide mineable resources from regional exploration. This seems a reasonable target. The six month exploration budget to June 2011 is \$5m, but this is likely to be duplicated in the event of encouraging results.
- There is potential for 2-4 Moz of gold in sulphide (refractory) ore, which could be processed through a sulphide circuit and then trucked 70 km to the Bogoso BIOX plant, with capex of \$40-45m and opex of \$700-750/oz.
- The cash position is sound with about \$20m more than needed, considering cash balances and undrawn facilities. However, the 290,000 oz hedge position, at US\$1,075/oz, has a market-to-market loss of approximately \$80m.
- The new Managing Director is very much hands-on, having been the key man in getting the project to this position. We seen his promotion to the position of MD as positive for the Company, going forward.
- The shares offer sound value at these levels with future movements being dependent upon the success of the commissioning period and on-going exploration news. Hopefully there is a cessation of the procession of share issues we have seen over the past couple of years and the share price can achieve some traction.
- The possibility of the sulphide ore treatment circuit adds a growth dimension to ADU that is not yet factored into the share price, with potential for additional cash flow of \$36m p.a. (8c per share) at current gold prices. If the two million ounce potential is realised, and 80% recovery achieved, total cash generation from a sulphide process route could be \$960m at current gold prices, over a 20 year life.

Resources				
JORC Resource	Mt	gpt	Moz	CutOff
Measured/Indicated	30.2	1.78	1.75	0.8
Inferred	6.98	1.62	0.36	0.8
Total Resources	37.2	1.77	2.11	
Proved/Prob. Reserve	16.54	2.01	1.07	0.8
EV Calculations (ignoring hedging)				
Mkt Cap'n	\$345m		\$164/oz resources	
Cash	\$34m	Debt	\$70m	fully drawn
Hedging	-\$80m		290,000 oz at US\$1,075	
EV Resources	\$381m		\$181/oz resources	
EV Reserves			\$356/oz reserves	
Upside Resource Potential				
Oxide	0.5 Moz		depends on drilling	
Sulphide	2 Moz		requires testing and drilling	

Nzema Project Economics		
Capacity	2.1 Mtpa	(1.6 Mtpa on hard ore)
Capital Cost	\$120m	\$57 pt
Head Grade	1.78	87% mill recovery
Gold Prod'n p.a.	104,556 oz	Yrs 1-3, 100koz, Yrs 4-10 90koz
Cash Costs	\$550/oz	Yr 1 \$465/oz, average \$550-570
Co. Equity	90%	after payback
Tax Rate	25%	
Royalty	5.0%	Government
Method	CIL	
Gravity Recovery	15-20%	
Waste to Ore	3:1	
Starting Mine Life	10 Yrs	
Sulphide Route Possibility		
Capex	\$45m	1 Mtpa, flotation, BIOX
Opex	\$750/oz	80% recovery
Gold Prod'n p.a.	60,000 oz	

## Ampella Mining AMX

Share Price	\$2.94
12 Month Range	50¢-295¢
Market Cap.	\$587m (not diluted for options)
Issued Shares	200 mill. ordinary
Unlisted Options*	12 mill. 10¢-\$2.00 various
Cash Balance	\$50m (at 30 Sept. 2010)
Dec. Qtr Budget	\$5.9m (from App. 5B)
Debt	Nil
Top Shareholders	Blackrock 8.6% Goodmans. 6.6% Colonial First State 5.1%
Latest Issue	Placed 21.5 mill. at \$1.95 (\$42m), Sept '10



### Key Observations from Field Visit

- The commitment and enthusiasm of the Managing Director, Dr Paul Kitto, is one of the most outstanding features of AMX. The speed at which he has been able to advance the Batie West project since it was first acquired, in June 2008, has a lot to do with the fact that he spends 90% of his time on-site. His intense understanding of the geology, and his ability to articulate it to analysts, are rare skills amongst MDs.
- Proposed drill programmes include in excess of 80,000m of conventional drilling (RC and DD) and 35,000m of power auger geochemistry drilling. Almost 90,000m of drilling has been completed in 2010.
- A resource upgrade is scheduled for Q1 2011, incorporating drill results over the entire 5 km strike length of known mineralisation at Konkera, The Gap and Kouglaga. We expect a figure in the order of 2.5 Moz.
- Since we visited the site, AMX released some very good intercepts from depths below 100m vertical at Konkera, including 30m at 6.5 gpt from 137m, 28m at 4.3 gpt from 130m and 31m at 2.8 gpt from 146m.
- AMX expects to be in a position to commence scoping/feasibility studies by mid 2011, at which time it hopes to have 3 Moz in resources. The table below provides rough estimates for a possible operation to produce 150,000 oz p.a. It may be that the company lowers the cut-off grade and escalates the throughput with a target of closer to 200,000 oz p.a., but that will be the subject of studies in 2011.
- The shares may appear expensive at the current resource position, but the equation will change with a resource upgrade. How much anticipation is built into the share price? Well, if you are comfortable with an EV of \$100/oz for resources, the market has visions of a 5.4 Moz project. While optimistic, it is not impossible, but it will take at least a couple of years to demonstrate it with drilling.
- There have been some interesting corporate entrants to the share register in recent months, which has fueled speculation as to corporate activity. This is good for promotion, but what does it really mean? It doesn't make sense for corporates to show their hands early.

Resource Statement and Estimates				
JORC Resource	Mt	gpt	Moz	Cut-Off
Inferred	0.0	0.00	0.00	0.0
Inferred	18.6	2.00	1.19	1.0
Total	18.6	2.00	1.19	
Mkt Cap'n	\$587m		\$492/oz	
Net Cash	\$50m			
EV	\$537m		\$450/oz	
<b>Implied Resource</b>	5.4 Moz		\$100/oz	assumed
Probability	Optimistic, but not impossible			
Cost to Increase	\$42m	on a \$10/oz	discovery cost	
<b>Reserve Potential</b>	<i>(based on expectations of 3 Moz by July 2011)</i>			
Reserve - P/P *	1.8 Moz		60% conversion	
Diluted Grade	1.8 gpt		10% dilution factor	

Konkera Project Potential Economics		
Commissioning	Q1 2014	
Capacity	3 Mtpa	
Capital Cost	\$200m	\$67 pt
Head Grade	1.8 gpt	90% mill recovery
Gold Prod'n p.a.	156,253 oz	average LOM
Cash Costs	\$600/oz	average LOM
Co. Equity	90%	after payback
Tax Rate	25%	
Royalty	3.0%	Government
Method	CIL	
Gravity Recovery	n/a	
Waste:Ore	5:1	
Starting Mine Life	9 Yrs	
Private Royalty	1.5%	50% can be purchased for \$1m

## Azumah Resources AZM

Share Price	70¢
12 Month Range	18¢-82¢
Market Cap.	\$182m (not diluted for options)
Issued Shares	259 mill. ordinary
Unlisted Options	12 mill. 14-92¢ various prices & strike
Cash Balance	\$40m (at Nov 2010, post placement)
Debt	Nil
Top Shareholders	Macquarie Bank 11.9%
	Crew Gold 5%
	Phoenix Gold Fund 5%
Latest Issue	Placed 50 mill. at 60¢ (\$30m), October 2010



### Key Observations from Field Visit

- Azumah has always come across as cheaper than the leading exploration stocks in the region, so it has been an easy stock to recommend for fundamental value. While AZM shares have been excellent performers in the market, they have not closed the valuation gap, or apparent discount, compared to Ampella and Gryphon. Perhaps this is because it talks about a smaller operation of 70,000 oz p.a. in order to get cash flows established. Perhaps it is because of smaller exploration budgets. Maybe the style of geology is less amenable to order of magnitude increase in resources, being more discrete zones.
- The exploration budget is being boosted with the recent placement raising \$30m. The aeromag survey is showing structural opportunities not previously recognised e.g. two dilation zones W and NW of Kunche. In the words of Stephen Stone, the survey "... could be a game changer". The power auger rigs will give more useful soil sampling results as they will penetrate the alluvial cover and hit the underlying regolith. An expanded geological team should accelerate results.
- The eastern licences (Julie, Collette) have been much more productive than AZM had hoped, throwing up more than 400,000 oz already, at good grade. Whereas these were intended to provide some high grade ore to be trucked 70 km to Kunche, they are now starting to shape up as a stand-alone project with potential for a million ounces or more.
- AZM continues to offer better value on paper with an EV/oz of only \$127/oz, but this is probably because the market is not factoring any significant exploration success. In our view this could be short-sighted. It would be reasonable to assume that AZM can lift its resource base to 2 Moz over the next twelve months, or sooner.

Resources				
JORC Resource	Mt	gpt	Moz	CutOff
Indicated	9.4	2.10	0.65	0.8
Inferred	8.55	1.90	0.52	
Total Resources	17.9	2.02	1.17	
Pit Optimised	8.20	2.16	0.57	
EV Calculations				
Mkt Cap'n	\$182m		\$156/oz	
Cash	\$34m	Debt	\$0m	
Hedging	\$0m			
EV Resources	\$148m		\$127/oz	resources
EV Reserves			\$260/oz	reserves
Implied Resource				
Probability	1.48 Moz		\$100/oz	assumed
	Highly probable, with greater expected			

Project Economics		
Commissioning	Mid 2012	
Capacity	1 Mtpa	
Capital Cost	\$85m	\$85 pt
Head Grade	2.16	+90% mill recovery
Gold Prod'n p.a.	70,000 oz	Average
Cash Costs	\$550/oz	LOM
Co. Equity	90%	after payback
Tax Rate	25%	
Royalty	5.0%	Government
Method	CIL	
Gravity Recovery	20-30%	
Waste:Ore	4.8:1	
Starting Mine Life	7 Yrs	

## Blackthorn Resources BTR

Share Price	\$0.67
12 Month Range	38¢-102¢
Market Cap.	\$72m (not diluted for options)
Issued Shares	107 mill. ordinary
Unlisted Options	5 mill. 45¢ April 2012
Cash Balance	\$9.4m (at 30 Sept. 2010)
Dec. Qtr Budget	\$3.1m (from App. 5B)
Debt	Nil
Top Shareholders	North Sound 10.1%
	Frank Brewer 7.96%
	JP Morgan Chase & Co 7.1%
	Simon Jones 5%
Latest Issue	None recently



### Key Observations from Field Visit

- The primary project for BTR in Burkina Faso is the 39.9% equity in the high grade Perkoa Zinc Project, in joint venture with Glencore. After stalling due to the GFC, Glencore has come in with funding to earn 50.1%. Production is due to commence in Q1 2012, with a 720,000 tpa mine producing 170,000 tpa of zinc concentrates at 53% Zn. Company and analyst studies suggest that the NPV of BTR's interest is in the range of \$75-100m, with the zinc price at \$2,100-\$2,500 pt.
- The second string project is the Mumbwa IOCG exploration project in Zambia, which has a reported JORC inferred resource of 345 Mt at 0.47% Cu plus gold, silver and uranium credits. BTR has 60%, but will reduce to 20% depending upon BHP's elections at future milestone points. If BHP does not proceed, its equity reverts to BTR. The next six months will see the publication of results from a further nine holes already drilled by BHP. BHP will then elect whether to proceed to 60% by reimbursing BTR \$13m. If BHP withdraws, BTR would probably focus on a higher grade cut-off, which gives a resource of 87 Mt at 0.94% Cu.
- Thus the gold exploration in Burkina Faso is third cab off the rank. Drill results have been modest with the Company only able to report a resource of 4.1 Mt at 1.06 gpt for 139,000 oz, at the Guido prospect in November 2010. This is one of three prospects being assessed.
- Gold exploration is continuing with seven tenements covering 1,100 km<sup>2</sup> held in the portfolio, but BTR will need to report better intercepts if it is going inspire the market on the gold front. Nevertheless, the two lead projects offer sufficient value to justify the current share price.
- We shall maintain a watching brief on the gold exploration and see how the Company goes with the southern tenements that have so far had very little working conducted on them. These are on strike from the 600,000 oz Poura gold mine, previously operated by the Government.
- Other broker research has suggest a fair value for BTR is in the range of \$1.00 to \$1.20.

Resource Statement and Estimates				
Gold JORC Resource	Mt	gpt	Moz	Cut-Off
Inferred	0.0	0.00	0.00	0.0
Inferred	<u>4.1</u>	<u>1.06</u>	<u>0.14</u>	0.4
Total	4.1	2.00	0.14	
Mkt Cap'n	\$72m		\$518/oz	
Net Cash	\$9m			
EV Resources	\$63m		\$453/oz	resources
Perkoa Zinc	Mt	% Zn		
Measured	0.43	17.2%		
Indicated	<u>6.29</u>	<u>16.3%</u>		
Total Resources	6.72	16.4%		
Probable Reserve	6.30	13.9%		

Perkoa Zinc Project Economics (39.9%)		
Commissioning	Q2 2012	
Capacity	0.72 Mtpa	underground ore
Capital Cost	\$72m	start-up capital
Head Grade	13.9%	90% mill recovery
Zinc Conc. Prod'n	170,000 tpa	average LOM
Cash Costs	\$1,500	per tonne payable metal
Co. Equity	39.9%	
Tax Rate	25%	
Royalty on Zinc	3.0%	Government
Method	Flotation	
Starting Mine Life	9.5 Yrs	

## Castle Minerals CDT

Share Price	\$0.45
12 Month Range	18¢-64¢
Market Cap.	\$44m (not diluted for options)
Issued Shares	97 mill. ordinary
Unlisted Options	10 mill. 25¢-35¢ March, Dec 2011
Cash Balance	\$6.5m (at 30 Sept. 2010)
Dec. Qtr Budget	\$1m (from App. 5B)
Debt	Nil
Top Shareholders	Lujeta Pty Ltd 6.8% Seamans Capital 6.8% Yandal Investments 6.3% Mi Ivey Pty Ltd 5.4%
Latest Issue	Placed 13.1 mill. at 38¢ (\$5m), May 2010



### Key Observations from Field Visit

- Castle boasts the largest ground position in Ghana with over 12,000 km<sup>2</sup>, but it has not made a lot of progress yet in demonstrating how much gold this contains. It is a company that has been husbanding its cash more than others that have raised substantial funds and upped the ante on the exploration front. The market capitalisation is cheap at only \$44m, but there hasn't been much news flow on which to justify a higher rating.
- To date CDT has identified two small resources of 56,000 oz at Julie West near Azumah's ground, and 102,000 oz in the south of Ghana near Adamus. The valuation of these provided by the Company utilised the potential cash flow generation from selling the ore to a third party, either outright or by toll milling.
- CDT will benefit from recent aeromag work that has identified previously unrecognised structures. Like Azumah, it is also learning that much of the early soil geochem work was deficient because it was sampling alluvial wash material and not the underlying geology.
- There is no doubting that CDT's ground holds much promise. One of the most exciting projects covers a 30 km interpreted extension of Ampella's Bati West structure. This could be very exciting if the field work confirms the extension and similar intercepts can be achieved to those reported by Ampella.
- The Kandia prospect covers a 25 km corridor that hosts numerous artisanal workings and nine well defined anomalies with high priority drill targets. Initial holes showed some grade but there really needs to be a larger program given the potential here.
- The enthusiasm of Mike Ivey was pronounced and it all sounds exciting, but the Company really needs to get more aggressive in the field if it is going to divert the attention of investors away from some of the more high flying stocks. The opportunity is there for a multiple of the current share price if the drilling can deliver good results.

Julie West Resource Statement and Estimates				
JORC Resource	Mt	gpt	Moz	Cut-Off
Indicated	0.383	4.20	0.052	1.0
Inferred	0.032	4.00	0.004	1.0
Total - Julie West	0.415	4.20	0.056	
Akoko - Southern Ghana	2.044	1.60	0.102	1.0
Mkt Cap'n	\$44m		\$278/oz	
Net Cash	\$6.5m			
EV Resources	\$38m		\$237/oz	
<b>Implied Resource</b>	0.4 Moz		\$100/oz	assumed
Probability	Realistically achievable			
Cost to Increase	\$6m	on a	\$20/oz	discovery cost

Julie West Potential Economics		
Commissioning	n/a	Toll treating scenario
US\$600/oz Pit	250,000 oz at 4.9 gpt	
Capital Cost	n/a	
Recovery	4.4 gpt	90% mill recovery
Gold Prod'n	35,000 oz	
Cash Costs	\$300/oz	
Cash Surplus	\$35m	at US\$1,350/oz
Co. Equity	90%	
Tax Rate	25%	
Royalty	5.0%	Government
Mining Cost	\$20 pt	
Treatment/Admin.	\$20 pt	
Mining Dilution	20%	

## Golden Rim Resources GMR

Share Price	\$0.21
12 Month Range	8¢-24.5¢
Market Cap.	\$75m (not diluted for options)
Issued Shares	355 mill. ordinary
Unlisted Options	44 mill. 15¢-29¢ various
Cash Balance	\$21m (including issues)
Dec. Qtr Budget	\$1.3m (from App. 5B)
Debt	Nil
Top Shareholders	PAL Technology (Royal Group) 13.1% HSBC Custody 7.45% Rick Crabb 5.78%
Latest Issue	Rights issue & placement at 14¢ (\$16.7m)



### Key Observations from Field Visit

- GMR is one of the more recent entrants into Burkina Faso, but it is carrying a market capitalisation almost twice that of a similar company, Mt Isa Metals. The difference may be attributed to projects in Mali and Sweden and a larger cash balance, or just mispricing in the market.
- The Company has large land holdings in Burkina Faso with much of it in the NE of the country near the Niger border where the terrain is dryer and the infrastructure is minimal. The Sebba Project covers 1,300 km<sup>2</sup> over a deep seated regional shear, with numerous artisanal workings. There are very few people and no real villages. Geochemical sampling has commenced and over 7,100 auger, RAB and RC holes are planned for 33,000m. A 2,200m, 28 hole RC program was finished in mid November. Assays could take 4-8 weeks to return.
- The Balogo Project is in the south of Burkina Faso. It covers a splay off the Markoye Fault containing an extensive stock work quartz vein system with visible gold. Significant widths with grades up to 6 gpt have been sampled. This could be a bulk target. No modern exploration has been conducted here, though locals first discovered gold 12 months ago.
- Yako is another recently discovered vein system that has had a few good hits e.g. 11m at 8.7 gpt and 16m at 1.4m, but these were not followed up. GMR hopes to drill this before Xmas.
- The projects in Mali look interesting but there is not much happening on the ground at present. A 7,000m drill program at Sepola increased the resource by only 13% to 181,000 oz, so the company is now looking at a new model here. A 3,000m drill program is planned for the Linguekoto prospect, where locals have sunk shafts to depths of 50m.
- Overall the Company has a large portfolio that could quickly consume funds. It will need to come up with some good results over the next six months in order to maintain the current market capitalisation.

Resource Statement and Estimates				
JORC Resource	Mt	gpt	Moz	Cut-Off
Inferred	0.0	0.00	0.00	0.0
Inferred	<u>0.0</u>	<u>0.00</u>	<u>0.00</u>	1.0
Total	0.0	0.00	0.00	
Mkt Cap'n	\$75m			
Net Cash	\$21m			
EV	\$54m			
<b>Implied Resource</b>	0.5 Moz		\$100/oz	assumed
Probability	Possible			
Cost to Increase	\$5m	on a \$10/oz	discovery cost	
<b>Reserve Potential</b>	dependent upon proving resources			
Reserve - P/P *	0 Moz		60% conversion	
Diluted Grade	0 gpt		10% dilution factor	

Project Potential Economics - N/A	
Commissioning	0 Mtpa
Capacity	0 Mtpa
Capital Cost	\$200m
Head Grade	0 gpt 90% mill recovery
Gold Prod'n p.a.	0 oz average LOM
Cash Costs	\$0/oz average LOM
Co. Equity	90% after payback
Tax Rate	25%
Royalty	3.0% Government
Method	n/a
Gravity Recovery	n/a
Waste:Ore	n/a
Starting Mine Life	n/a

## Gryphon Minerals GRY

Share Price	\$1.47
12 Month Range	36¢-173¢
Market Cap.	\$425m (not diluted for options)
Issued Shares	289 mill. ordinary
Unlisted Options	14 mill. 30¢-180¢ various
Cash Balance	\$65m (incl. placement)
Dec. Qtr Budget	\$8m (from App. 5B)
Debt	Nil
Top Shareholders	Baker Steel 7.8% Genesis Fund 5.1% RBC Investments 5% IFC (World Bank Group) 4.8%
Latest Issue	Placed 36.1 mill. at \$1.25 (\$45m), Sept '10



### Key Observations from Field Visit

- GRY was one of the early movers into Burkina Faso and has the largest resource, at good grade, of any of the ASX-listed companies. Progression to a mining operation in due course seems assured with feasibility work to commence in mid-2011 for production in 2013/14.
- A recent aeromagnetic survey has provided much better understanding of the structural features. It is "like turning the light on" according to the guys in the field. Given the complexity of the structural environment at Banfora this is a major step forward in unlocking more orebodies.
- The Samavogo prospect is a recent discovery that looks like to could rapidly prove up 0.5 Moz then 1.0 Moz, in 2011.
- The exploration momentum is being duplicated with the takeover of Shield Mining, with the key project being Tijirit, in Mauritania. Add to this the 7,000 km<sup>2</sup> granted and under application in The Ivory Coast, and GRY presents itself as a major exploration player in three countries in West Africa.
- Using the same methodology as Ampella, where we arbitrarily assumed the market is paying \$100/oz for resource ounces, we can show that the current market capitalisation of GRY factors in a project containing 3.6 Moz. This compares with 5.5 Moz for Ampella. In our view both projects show similar potential, so GRY is a cheaper entry into advanced gold exploration in Burkina Faso.
- GRY looks even better value when you consider the possibilities with Tijirit exploration play in Mauritania, adjacent to the huge Tasiast project just acquired by Kinross. This adds a whole new dimension to GRY which has not yet been factored into the share price.
- GRY will be looking at a similar size gold mine to that of Ampella's; 2.5-3 Mtpa, but better grades and recoveries suggest gold production of 180,000 oz p.a. The other main differences between the two relate to infrastructure availability. GRY has grid power nearby and generally better infrastructure. This results in lower capital and operating costs.

Resource Statement and Estimates				
JORC Resource	Mt	gpt	Moz	Cut-Off
Nogbele - Inferred	16.0	2.20	1.20	0.9
Fourkoura - Inferred	4.4	2.10	0.30	0.9
Total - Banfora Project	20.4	2.20	1.50	
Mkt Cap'n	\$425m		\$283/oz	
Net Cash	\$65m			
EV Resources	\$360m		\$240/oz resources	
<b>Implied Resource</b>	3.6 Moz		\$100/oz assumed	
Probability	Optimistic, but achievable			
Cost to Increase	\$21m	on a	\$10/oz	discovery cost

Banfora Project Potential Economics		
Commissioning	Q1 2014	
Capacity	3 Mtpa	
Capital Cost	\$175m	\$58 pt
Head Grade	1.98 gpt	95% mill recovery
Gold Prod'n p.a.	181,427 oz	average LOM
Cash Costs	\$550/oz	average LOM
Co. Equity	90%	after payback
Tax Rate	25%	
Royalty	3.0%	Government
Method	CIL	
Gravity Recovery	n/a	
Waste:Ore	4:1	
Starting Mine Life	9 Yrs	

## Mt Isa Metals MET

Share Price	\$0.31
12 Month Range	29¢-101¢
Market Cap.	\$43m (not diluted for options)
Issued Shares	137 mill. ordinary
Unlisted Options	18 mill. 20¢-54¢ various
Cash Balance	\$4.4m (at Nov. 2010)
Dec. Qtr Budget	\$1.7m (from App. 5B)
Debt	Nil
Top Shareholders	D'Aguilar Gold 38%
	Nathan Tinkler 18%
Latest Issue	Placed 12.6 mill. at 15¢ (\$1.9m), Sept '10
	1 for 4 issue at 15¢ (\$2m), Sept. '10



### Key Observations from Field Visit

- MET is a relatively new entrant to Burkina Faso, having commenced reconnaissance in late 2009, and acquiring its first position in 2010. It has built a portfolio of about 20 licences under option from local proprietors, with a series of escalating payments over a three year period, with a maximum commitment of \$2-3m, in total. The vendors keep profit share royalties in the range of 0.5-1.5%. MET spent only \$0.5m in upfront acquisition costs and administration to get to this opening position.
- The challenge now is to quickly assess those licences and decide which to keep and those to drop, bearing in mind that the Government policy restricts ownership to 10 licences per company.
- It is an interesting portfolio with plenty of promise - if the artisanal workers provide any sort of a guide. MET is planning to drill 5,000m every second month in the current field season. The first results will come through from prospects at Kongolokoro (prior to Xmas), and Yactibo (including Nabbing and Yacti prospects).
- The budget for this current field season is \$3.6m, so the cash kitty of \$4.4m will need to be boosted in the short term, by at least \$5-10m. Our guess is that this may happen in January, upon the receipt of exploration results.
- On our method of \$100 per resource ounce, MET needs to come up with 400,000 oz to justify its current market capitalisation. This should not be a major hurdle given the prospectively of the ground, but it will require more funds, time and the usual good fortune. It is a company with good merit just now.
- The Company IPO'd in August 2008, raising \$7m to explore IOCG targets around Mt Isa, as a spin-out from D'Aguilar Gold with Nathan Tinkler coming in at that time. MET has obviously decided there are better pickings in West Africa. We can but ponder what these shareholders plan for the future.

Resource Statement and Estimates				
JORC Resource	Mt	gpt	Moz	Cut-Off
Inferred	0.0	0.00	0.00	0.0
Inferred	<u>0.0</u>	<u>0.00</u>	<u>0.00</u>	1.0
Total	0.0	0.00	0.00	
Mkt Cap'n	\$43m			
Net Cash	\$4m			
EV	\$39m			
<b>Implied Resource</b>	0.4 Moz		\$100/oz	assumed
Probability	Likely			
Cost to Increase	\$4m	on a	\$10/oz	discovery cost

Project Potential Economics		
Commissioning	0 Mtpa	
Capacity	0 Mtpa	
Capital Cost	\$0m	
Head Grade	0 gpt	90% mill recovery
Gold Prod'n p.a.	0 oz	
Cash Costs	\$0/oz	
Co. Equity	90%	after payback
Tax Rate	25%	
Royalty	3.0%	Government
Method	n/a	
Gravity Recovery	n/a	
Waste:Ore	n/a	
Starting Mine Life	n/a	

## Noble Mineral Resources NMG

Share Price	\$0.43
12 Month Range	22¢-67¢
Market Cap.	\$179m (diluted for options)
Issued Shares	380 mill. ordinary
Listed Options	149 mill. 30¢, 35¢ July '11, July '13
Unlisted Options*	12 mill. 20¢-40¢ various 2014
Cash Balance	\$38m (including placement proceeds)
Dec. Qtr Budget	\$9.7m (from App. 5B)
Debt	\$44m \$34m Investec, \$10m creditors
Top Shareholders	Global Gold Holdings 15.9%
	Wayne Norris 12.4%
	Bank of America Corp. 5.9%
Latest Issue	Placed 77 mill. at 39¢ (\$30m), Nov '10



### Key Observations from Field Visit

- The Bibiani Project is unusual for West Africa. It is a brownfields development rather than a greenfields exploration play. As such there is more to digest than just geology; mineability of a pre-existing resource base, status of the treatment plant and legacy and cultural issues to name a few.
- The success of brownfields projects depends on the ability of the management team to convert a pre-loved asset into an operating mine. The MD and substantial shareholder, Wayne Norris, has extensive experience in developing and optimising treatment plants so he should be better qualified than most.
- NGM is only considering open pit mining at this stage, looking a pit cut-back, 4 Mt of low grade stockpiles not in the resource base, and exploration along a 2 km line of shallow pits that offer considerable exploration upside. The pit cut-back could take up to 20 months so it is important to quickly identify other mill feed in the interim.
- The target production rate is 150,000 oz p.a., in the 2.7 Mtpa treatment plant that is being refurbished at a cost of \$12m. Ore processing is scheduled to commence in Q2 2011, ramping up to budget over several months. Ultimately the plan is to lift the throughput rate to achieve 200,000 oz p.a
- When considered alongside the leading exploration plays in West Africa, NGM stacks up very favourably. It already has a plant that would cost \$200m to replicate. It has a geological situation that has demonstrated 6 Moz in past production and current resources, so it is a major gold centre. Renewed exploration could comfortably identify another 1-2 Moz without too much effort; all this for an EV of \$185m! There doesn't seem to be much downside from here. We expect a stronger share price as the market becomes better informed, as exploration and waste dump evaluations deliver tangible numbers, and the treatment plant is recommissioned.
- The EV/oz is only \$93/oz, which is close to our conservative benchmark of \$100/oz which we have used for pure exploration companies in assessing the market expectation for discoveries. At this juncture there is no expectation built into the NGM share price for additional discoveries.

Resources				
JORC Resource	Mt	gpt	Moz	CutOff
Measured/Indicated	19.9	1.85	1.19	0.5
Inferred	<u>13.06</u>	1.89	<u>0.79</u>	0.5
Total Resources	33.0	1.87	1.98	
Proved/Prob. Reserve	8.40	2.24	0.61	0.7
EV Calculations				
Mkt Cap'n	\$179m		\$90/oz	
Cash	\$38m	Debt	\$44m	Investec plus
Hedging	\$0m			
EV Resources	\$185m		\$93/oz	resources
EV Reserves			\$306/oz	reserves
<b>Implied Resource</b>	1.79 Moz		\$100/oz	assumed
Probability	Already there			

Bibiani Project Economics		
Capacity	2.7 Mtpa	but probably not fully utilised
Capital Cost	\$12m	plant refurbishment only
Head Grade	2.00	86% mill recovery
Gold Prod'n p.a.	149,308 oz	from Q2 2011, on 2.5 Mtpa
Cash Costs	\$550/oz	
Co. Equity	100%	no Government equity
Tax Rate	25%	
Royalty	5.0%	Gov't
Milling Cost	\$21 pt	
Waste:Ore	6:1	mine life average

## Perseus Mining PRU

Share Price	320¢
12 Month Range	142¢-355¢
Market Cap.	\$1,349m (not diluted for options)
Issued Shares	422 mill. ordinary
Unlisted Options	10 mill. 65¢-345¢ various
Cash Balance	\$93m (expected, at 30/6/11)
Undrawn Credit Lines	\$50m (at 14 Nov 2010)
Debt	US\$85m when fully drawn
Top Shareholders	Dundee Corporation 10.1% Macquarie Group 5%
Latest Issue	Placed 50.6 mill. at C\$1.80 (C\$91m) May '10



### Key Observations from Field Visit

- Perseus continues to impress us with the scale of production proposed for CAGP (Ayanfuri). It demonstrates all the requisite features of a super efficient, large tonnage low grade gold operation. It is not until you roll out the sections and see the huge intercepts in perspective that you begin to understand what is happening.
- There are four, and possible five granite bodies outcropping at 400m intervals along a 2 km strike. The pit designs vary in depth, to a maximum of 280m, but the waste to ore ratio is still only 2:1 when the inferred ore is included. We can speculate as to whether these fingers join up at depth, and whether there are inflection points that may provide stronger gold mineralisation, but a simple extrapolation of existing bodies could easily add a few million ounces more as you go lower, without blowing out the stripping ratio too much. The JORC resource is already 5.1 Moz. There is no reason that this could not be several million ounces larger. The leverage to the gold price is sensational.
- We have heard reports that some analysts don't believe the capex figure even though it is a turnkey contract. They also question the cash costs. They may be missing the point that the ore lends itself to flotation, reducing the feed to the CIL circuit by 95% i.e. 400,000 tpa at the 8 Mtpa feed rate. This has significant capital and operating cost economies. Also, the coarse grind to 212 microns offers great savings on comminution costs. We see no reason to doubt the veracity of the numbers presented by the Company.
- The construction team will roll on to build Tengrela gold mine once it finishes at CAGP. This is being fast-tracked with the knowledge that the first two years will supply 170,000 oz p.a. at the low cash cost of US\$421/oz. On the existing mine plan the grade and gold production tapers off quickly thereafter, but the Company is confident that it will prove up significantly greater ounces at good grade to maintain strong production for much longer.
- Perseus has the most aggressive exploration budget of any of the West African companies with 300,000m scheduled this year, employing up to 12 rigs. Useful increments to the resource base should be expected. A particularly exciting prospect, Kanadia, is located 75 km SE of Tengrela and only 7.5 km from the 4.6 Moz Tongon deposit. PRU has identified a 5x6 km soil geochem anomaly it is seeking to drill ASAP.

Resources - Ghana and Ivory Coast				
CAGP	Mt	gpt	Moz	CutOff
Measured/Indicated	92.5	1.30	3.36	0.5
Inferred	85.40	1.00	2.71	0.5
Total Resources	177.9	1.06	6.07	
Proved/Prob. Reserve	55.40	1.20	2.14	0.5
Tengrela				
Measured/Indicated	15.50	1.90	0.93	0.5
Inferred	6.90	1.20	0.26	0.5
Total Resources	22.40	1.65	1.19	
Proved/Prob. Reserve	9.70	2.10	0.66	0.55
EV Calculations (ignoring hedging)				
Mkt Cap'n	\$1349m		\$186/oz	
Cash	\$93m	Debt	\$85m	fully drawn
Hedging	-\$22m		170,000 oz at US\$1,240	
EV Resources	\$1341m		\$185/oz	resources
EV Reserves			\$479/oz	reserves

CAGP (Ayanfuri) Project Economics - Ghana		
Capacity	5.5 Mtpa	(increasing to 8 Mtpa)
Capital Cost	\$160m	\$29 pt
Head Grade	1.4 gpt	90% mill recovery
Gold Prod'n p.a.	222,805 oz	average LOM
Cash Costs	\$520/oz	(Yr 1 \$409/oz)
Waste:Ore	2:1	
Co. Equity	90%	after payback
Tax Rate	25%	
Royalty	5.0%	Gov't 1.75% Private
Tengrela Project Economics - Ivory Coast		
Capacity	2 Mtpa	(1.6 Mtpa on hard ore)
Capital Cost	\$115m	
Head Grade	2:1	90% mill recovery
Gold Prod'n p.a.	110,000 oz	(Yr 1 178,000 oz)
Cash Costs	\$505/oz	(Yr 1 \$421/oz)
Waste:Ore	4:1	

## Resolute Mining RSG

Share Price	125¢
12 Month Range	64¢-149¢
Market Cap.	\$565m (not diluted for CNs, options)
Issued Shares	452 mill. ordinary
Listed Options	53 mill.
Unlisted Options	8 mill. various
Convertible Notes	146 mill. mostly 50¢, 60¢
Cash Balance	\$31m (at 30/9/10)
Debt	\$176m incl. \$73m CN, hedging \$48m
Top Shareholders	Alliance Life Common Fund 20% M&G (Vanguard Precious Metals) 19.1% Baker Steel 9.9%
Latest Issue	Placed 11.8m shares at \$1.24 (\$14.6m) Oct 10 and 42m opts converted at 60¢ (\$25m)
Fully diluted for options and CN, there are 659 mill. shares	



### Key Observations from Field Visit

- The isolation of the Syama operation was a leading observation, both geographical and with regards to personnel. It was a difficult site to get to due to border controls and aviation logistics. This means that the site gets almost no visitors.
- After an extended commissioning period during which capex blew out from \$160m to over \$300m, it seems like the new Resident Manager (there since January) is on top of things. A major issue was insufficient maintenance which resulted in poor crusher availability, which led to inconsistent feed to the roaster which compromised its efficiency. This has been addressed and we should see improved performances going forward. Optimisation of the blend of ore, fine tuning the open pit and underground cut-offs and a 1.5 Mtpa free milling process route addition are key planning focuses.
- Cash costs were \$982/oz in the September Qtr on gold production of 25,800 oz (103,000 oz p.a.) and 67% plant availability. The budget calls for 140,000 oz in 2010/11, so we need to see 38,000 oz for each of the remaining three quarters to achieve budget. Further out, perhaps in 2011/12, as the plant performs better and the mining progresses to grade up to 1 gpt better, the target is 240,000 oz p.a. Cash cost could fall significantly into the range of \$500-600/oz.
- Diesel generated power accounts for approximately 30% of cash costs at Syama. A high voltage power line from Cote d'Ivoire to Sikasso in Mali is scheduled to be commissioned in 2011. RSG is looking at extending a power line 80 km from Sikasso to Syama, at a capital cost of about \$25m. This will give considerable cost savings.
- Exploration potential is good but it has not been the primary focus to now. Nevertheless, over 1.8 Moz have been added to resources over the past five years. Mine life on reserves is currently seven years (17 Mt at 3.14 gpt for 1.73 Moz, sulphide), from a 39 Mt resource. Opportunity exists for a mine life well in excess of 10 years at the rate of 2.4 Mtpa.
- Gold production could be boosted by another 50-100,000 oz p.a. in 18 months depending on the size of the oxide circuit being considered, at low cash costs of around \$400/oz. A 4-5 year mine life is contemplated, but this would most likely expand as exploration identifies more resources.

Syama Reserves & Resources (mostly 80% RSG)				
Syama Sulphide Ore	Mt	gpt	Moz	RSG Share
Measured & Indicated	32.8	2.70	2.85	2.2816
Inferred	6.70	2.30	0.50	0.396
Total Resources	39.5	2.64	3.35	2.68
Proved/Prob. Reserve	21.57	2.30	1.58	1.2624
Other Mali Resources				
M/I Resources	18.7	2.24	1.35	1.0
Upside Resource Potential		(subjective)		
Oxide	1 Moz	depends on drilling		
Sulphide	2 Moz	open at depth		

Syama Project Economics		
Capacity	2.4 Mtpa	sulphide plant with roaster
Capital Cost	\$360m	\$150 pt
Head Grade	2.8-3.8 gpt	
Gold Prod'n p.a.	140-240,000 oz	
Cash Costs	\$1,000/oz	but expected to fall to <\$600/oz
Co. Equity	80%	Government holds 20%
Tax Rate	35%	Tax exoneration period 3-5 years
Royalty	6.0%	Gov't
Oxide Circuit Possibility - 18 Mths Away		
Capacity	1.5 Mtpa	CIL
Capital Cost	\$64m	
Gold Prod'n p.a.	80-100,000	
Cash Costs	\$400/oz	
<i>Note: Further study shows a 0.8 Mtpa circuit would cost \$38m</i>		

**Disclosure** Interests associated with the author own shares and options in some of the companies covered in this research. BGF Equities has received capital raising and advisory fees from some of the companies.

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