Spec. buy

Current Price	$1.21
Valuation	$1.60

Code:			DEG
Sector:			Materials

* All figures in AUD unless stated otherwise

Shares on Issue (M):			1,288
Market Cap ($M):			1,552
Net cash ($M March 2021)			87
Enterprise value ($M):			1,437
52 wk High/Low (ps):		$1.61	$0.61
12m av. daily vol. (Mshs):			7.63

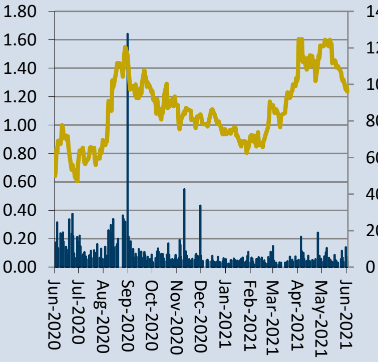
Key Metrics

	FY24e	FY25e	FY26e
P/E (x)	9.6	5.0	5.1
EV/EBITDA (x)	6.4	3.1	3.1

Financials:

	FY24e	FY25e	FY26e
Revenue ($M)	447	895	895
EBIT ($M)	205	390	386
NPAT (A$M)	161	309	307
Net assets ($M)	500	805	1,087
Op CF ($M)	203	377	377
Per share data:			
EPS (c)	12.5	24.0	23.8
Dividend (cps)	0.0	0.0	0.0
Yield (%)	-	-	-
CF/Share (cps)	15.8	29.3	29.3
Prod (koz Au)	191.7	383.4	383.4

Share Price Graph and trading volumes (msh)



Please refer to important disclosures at end of the report (from page 8)

Friday, 2 July 2021

De Grey Mining Ltd (DEG)

Go northwest

John Macdonald, Royce Haese

Quick Read

Its not just about ounces at Hemi. De Grey can also plan for solid margins for shareholders.

Main points

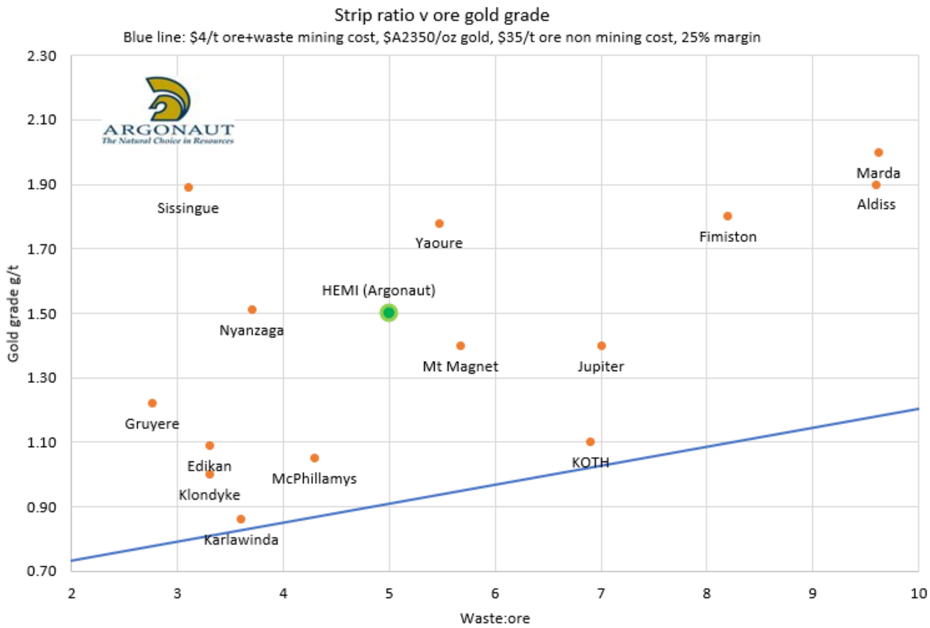
First numbers: De Grey plans to set out a scoping study for the Mallina project by the end of September 2021, giving its first indications of development plans. We will be interested in the single combination of three parameters underpinning our operational forecasts;

1. Average ore grade.
2. Average waste:ore ratio.
3. Total ounces in the mine plan.

We have put up a 3.8Mozs, 1.5 g/t and 5:1 trinity as our speculative starting point for Hemi, implying 3.8M good quality ounces with better than average project margins.

Under basic cost and gold price assumptions, 3.8Mozs, 5:1 and 1.5 g/t produces a better outcome than 4.4Mozs, 4.7:1 and 1.3 g/t. Grade and strip ratio don't grab the headlines, but they can more than offset growth in ounces.

Fig. 1: Selected gold projects, SR v grade, including Argonaut's Hemi assumptions.



Source: Argonaut Research

Recommendation

Argonaut maintains a speculative buy recommendation and a valuation of $1.60/share. Both development and exploration prospects will mature over the next 12 months, we think with positive effect.

De Grey Mining

Equities Research
Analyst: John Macdonald

Recommendation	**Speculative buy**	**Sector**	**Metals & Mining**
Current Price	**$1.21**	**Issued Capital (Mshs)**	**1,288**
Valuation	**$1.60**	**Market Cap (M)**	**$1,552**
			Thursday, 1 July 2021

Profit & loss ($M) 30 June	2021E	2022E	2023E	2024E
Sales Revenue	**0**	**0**	**0**	**447**
+ Other income/forwards	0	0	0	0
- Operating costs	0	0	0	-194
- Royalties	0	0	0	-18
- Corporate & administration	-10	-10	-10	-10
Total Costs	**-10**	**-10**	**-10**	**-222**
EBITDA	**-10**	**-10**	**-10**	**226**
- margin	0%	0%	0%	50%
- D&A	0	0	0	-21
EBIT	**-10**	**-10**	**-10**	**205**
+ Finance Income/Expense	0	0	0	-3
PBT	**-10**	**-10**	**-10**	**201**
- Tax expense	2	1	2	-40
- Impairments and other				
NPAT	**-8**	**-9**	**-8**	**161**

Cash flow ($M)	2021E	2022E	2023E	2024E
+ Revenue	0	0	0	447
- Cash costs	-10	-10	-10	-222
- Forwards	0	0	0	0
-Tax payments		1	0	-19
+ Interest & other	0	0	0	-3
Operating activities	**-10**	**-10**	**-10**	**203**
- Property, plant, mine devel.	-15	-41	-301	-404
- Exploration	-32	-32	-32	-20
Investment activities	**-47**	**-73**	**-333**	**-424**
+ Borrowings	0	0	100	300
- Dividends	0	0	0	0
+ Equity	103	1	300	0
Financing activities	**103**	**1**	**400**	**300**
Cash change	**46**	**-81**	**57**	**79**

Balance sheet	2021E	2022E	2023E	2024E
Cash & bullion	**74**	**-7**	**50**	**129**
Other Current Assets	0	0	0	0
Total current assets	**74**	**-7**	**50**	**129**
Property, plant & equip.	65	106	407	791
Investments/other	0	0	0	0
Total non-curr. assets	**65**	**106**	**407**	**791**
Total assets	**139**	**99**	**457**	**919**
Trade payables	5	10	5	57
Short term borrowings	0	0	0	120
Other	13	10	80	82
Total curr. liabilities	**18**	**21**	**86**	**140**
Long term borrowings	0	0	100	280
Other	0	0	0	0
Total non-curr. liabil.	**0**	**0**	**100**	**280**
Total liabilities	**18**	**21**	**186**	**420**
Net assets	**121**	**78**	**271**	**500**

Shares	2021E	2022E	2023E	2024E
New shs issued/exerciseable	118	4	201	0
Average issue price	0.88	0.35	1.50	0.00
Ordinary shares - end	1291	1294	1495	1495
Diluted shares - end	1295	1295	1495	1495

Financial ratios		2024E	2025E	2026E	2027E
GCFPS	A¢	15.8	29.3	29.3	29.2
CFR	X	7.6	4.1	4.1	4.1
EPS	A¢	12.5	24.0	23.8	23.7
PER	X	9.6	5.0	5.1	5.1
DPS	A¢	0.0	0.0	0.0	0.1
Yield	%	0.0%	0.0%	0.0%	5.0%
Interest cover	x	63.0	109.8	164.3	332.6
ROCE	%	26%	53%	58%	63%
ROE	%	40%	48%	35%	33%
Gearing	%	56%	20%	4%	3%

Operations summary	2024E	2025E	2026E	2027E
Pilbara project				
Ore processed (Mt)	4.1	8.2	8.2	8.2
Head grade (g/t)	1.51	1.51	1.51	1.51
Met. recovery	0.96	0.96	0.96	0.96
Gold prodn (kozs)	192	383	383	383
Cost per milled tonne (A$/t)	47	48	48	48
Cash costs pre royalty (A$/oz)	1104	1110	1117	1124
Sustaining capital ($M)	0	0	0	0
All in sustaining costs (A$/oz)	1198	1203	1210	1217
Growth capital ($M)	404	8	9	8
CAIC (A$/oz)	3488	1435	1435	1436

Price assumptions	2024E	2025E	2026E	2027E
AUDUSD	0.75	0.75	0.75	0.75
Gold	1750	1750	1750	1750

Valuation summary	A$M	A$/sh
Mallina project 7% real after tax DR	1665	1.29
Exploration, all sites	416	0.32
Corporate overheads	-52	-0.04
Cash	87	0.07
Debt	0	0.00
Tax benefit	15	0.01
Hedging	0	0.00
Option/equity dilution	-64	-0.05
NAV	**2,067**	**1.60**

Directors, management	
Simon Lill	Non-Executive Chairman
Glenn Jardine	Managing Director
Andy Beckwith	Executive Director
Peter Hood	Non-Executive Director
Ed Eshuys	Non-Executive Director
Bruce Parncutt	Non-Executive Director

Top shareholders	M shs	%
DGO Gold Limited	193.0	15.0
Van Eck	65.0	5.0
Northwest Nonferrous	51.0	4.0

Resources June '20	Mt	g/t Au	Kozs	Mkt cap/oz
Pilbara gold project	**37.4**	**1.80**	**2,163**	**717**
Measured & indicated	18.9	1.70	1,033	
Inferred	18.5	1.90	1,130	

Argonaut model Dec '20	Mt	g/t Au	Kozs	
TOTAL INVENTORY	**98.0**	**1.52**	**4,785**	**324**
Hemi open pit	80.0	1.50	3,859	
Satellite open pit	18.0	1.60	926	

Hemi's pit trinity

Argonaut initially figured about 3.8Mozs in a pit plan at Hemi, with an average ore grade of 1.5 g/t and average strip ratio of 5:1. As we said in a previous note, De Grey's maiden resource estimates can be squared with our ounces and grades. However until the Company outlines some pit designs with waste:ore estimates, we are still not much closer to narrowing down project economics.

De Grey plans to set out a scoping study for the Mallina project by the end of September 2021, giving its first indications of development plans. We will be interested in the pit trinity, which is a single combination of three parameters underpinning our operational forecasts;

1. Average ore grade.
2. Average waste:ore ratio.
3. Total ounces in the mine plan.

Our thoughts on each;

1. **Average ore grade.** Once brought to surface, ore through the mill should carry enough gold to pay for processing, administration and a margin. 0.5 g/t equates to about $35/t at present, so a 0.5 g/t bottom cutoff may be used if treatment costs, admin costs plus a margin are set at $35/t. De Grey will have scale and good logistics, but also a refractory aspect, and $25/t processing seems reasonable. At a 0.5 g/t bottom cutoff De Grey estimates average grades of between 1.5 and 1.3 g/t for indicated and inferred resources. Hence we think 1.3-1.5 g/t is a reasonable range of average grade outcomes.

Fig. 2: Hemi resources estimated June 2021.

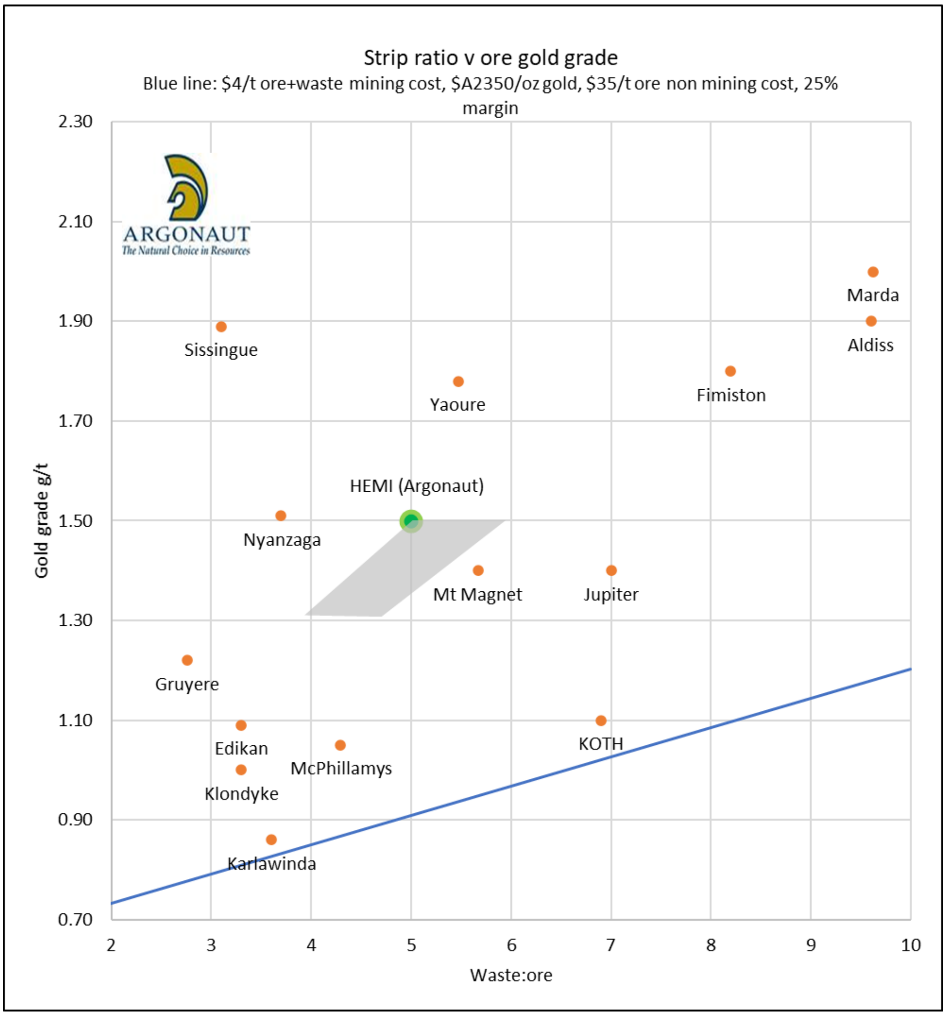
Hemi Project Mineral Resource at Various Cut-off grades

Cut-off Grade Above 370m (Au g/t)	Indicated			Inferred			Total		
	Mt	Au g/t	Moz	Mt	Au g/t	Moz	Mt	Au g/t	Moz
0.3	65.5	1.3	2.8	126.9	1.0	4.0	192.4	1.1	6.8
0.4	61.5	1.4	2.7	110.3	1.1	3.8	171.8	1.2	6.6
0.5	56.5	1.5	2.7	94.0	1.2	3.6	150.5	1.3	6.3
0.6	51.5	1.6	2.6	79.1	1.3	3.3	130.6	1.4	5.9
0.7	46.8	1.6	2.5	67.2	1.4	3.1	114.0	1.5	5.6

Source: De Grey

2. **Average waste:ore ratio.** Choice of margin has a big influence on strip ratio. At basic inputs of $4/t earth movement cost, $30/t ore surface costs, and A$2350/oz gold, a 5:1 strip ratio equates to about 0.7g/t of costs. We have chosen a relatively wide margin, to pay for capital and for shareholders.

Fig. 3: Selected gold projects, strip ratio v ore grade. The blue line is ideal for a uniform deposit extending to depth, under the conditions given. Argonaut's Cases 1 to 4 for Hemi (see Figure 4) are represented by the corners of the grey quadrilateral.



Source: Argonaut Research

Australian operators have tended to operate closer to the blue line. Ore body geometry aside, proximity to the line is a function of relatively low earth moving unit costs, or more often a measure of efforts to maximise ounces in the plan. And distance north west is a function of high earth moving unit costs, or efforts to maximise margins. Our 1.5 g/t and 5:1 presumption is well north-west of the line. Given Hemi earth moving costs should be lower than average due to scale, our figures imply 3.8M good quality ounces (better than average project margins).

3. **Total ounces of gold in the mine plan.** Ounces should fall out of the resource model once grade and strip ratio are decided. We can only guess how much gold will be captured in pit designs. We used 75% of our 4.4-5.4Mozs range midpoint, and then De Grey's indicated resources plus 1Mozs of inferred as a check, before settling on a 3.8Mozs starting point.

In Figure 4 we try some sensitivities to get a feel for how choices of ore grade and strip ratio can affect ounces and project economics.

Fig. 4: Cost and revenue sensitivity to changes in ore grade and waste:ore assumptions for Hemi.

Gold price	**A$/oz**								**2350**	
Mining cost	**$/t earth moved**							**4.00**		
Surface cost	**$/t ore**							**35.00**		
		Inventory	**SR**	**Ore grade**	**Ore**	**Waste**	**Material**	**Marginal cost**	**Marginal revenue**	**Change**
		Mozs	**Waste:ore**	**g/t**	**Mt**	**Mt**	**MT**	**$M**	**$M**	**$M**
Case 1	**Starting presumption**	3.80	5.00	1.50	79	394	473			
Case 2	**Same pits, lower bottom cutoff**	4.00	3.95	1.30	96	378	474			
	Case 2 change from Case 1	0.20	-0.94	0.37	17	-16	1	596	432	-163
Case 3	**Same bottom cutoff, deeper pits**	4.10	6.00	1.50	85	510	595			
	Case 3 change from Case 1	0.30	18.67	1.50	6	116	122	707	649	-58
Case 4	**Lower bottom cutoff, deeper pits**	4.40	4.70	1.30	105	495	600			
	Case 4 change from Case 1	0.60	3.81	0.70	26	101	127	1436	1297	-139

Source: Argonaut Research

Figure 4 suggests 3.8Mozs, 5:1 and 1.5 g/t is a better outcome than 4.4Mozs, 4.7:1 and 1.3 g/t. Cases 1 to 4 are represented in Figure 3 by the corners of the grey quadrilateral.

More gold in a mine plan is not necessarily better if it comes with a worse ore grade and strip ratio combination. The strip ratio/ore grade combination could be an indication of how the Company plans to deal with scale v margin decisions. We have put up a 3.8Mozs, 1.5 g/t and 5:1 trinity as our speculative starting point for Hemi, which implies good quality ounces. De Grey has much better cost inputs and resource models to work with, so we will revisit these numbers come September.

Valuation

The valuation is based on a discounted cash flow valuation of the Mallina project, and an informal estimate of exploration assets value and nominal assessment of De Grey's other assets and liabilities, as at March 2021. Argonaut's modelled pit inventory is 98Mt at 1.5 g/t, comprising 80Mt at 1.5 g/t at Hemi and 18Mt at 1.6 g/t in satellite pits, including but not restricted to Toweranna, Withnell, Wingina and Mallina. Waste:ore of 5:1 is assumed for all pits. Earth moving rates of $9-10/bcm material are used. Ore trucking costs of 12c/t/km are included. Resource/reserve drilling and evaluation costs of $50M and other pre-production capital costs of A$700M are assumed. Site administration costs and ore processing costs are estimated at $10Mpa and $25/t ore respectively. An estimate of the NPV of corporate overhead costs is included in the valuation. A real, after tax discount rate of 7% is used. Future tax benefits are added back as an estimate of present value. Argonaut's base case commodity and currency forecasts, set out in the summary table, are used to estimate the base case NAV.

Fig. 5: Valuation summary

Valuation summary	A$M	A$/sh
Mallina project 7% real after tax DR	1665	1.29
Exploration, all sites	416	0.32
Corporate overheads	-52	-0.04
Cash	87	0.07
Debt	0	0.00
Tax benefit	15	0.01
Hedging	0	0.00
Option/equity dilution	-64	-0.05
NAV	**2,067**	**1.60**

Source: Argonaut research

Key risks to valuation

Mineable inventory

Argonaut's estimates of mineable inventories at Mallina are based on incomplete information, subjective calls on future drilling, and pre-emption of De Grey's development decisions. A 10% change in total ore tonnes (+/-8Mt at 1.5g/t) changes the De Grey valuation by 7-8%.

Metallurgy

De Grey's early tests indicate high rates of recovery using conventional processes.

Gold price

Our estimates of De Grey cash flows are sensitive to the gold price. Each 10% change in the Australian dollar gold price changes our valuation by 20%.

Costs.

Cost assumptions are based on incomplete information or informal estimates. Operating and capital costs assumptions rely on our knowledge of industry rates. There are few relevant yardsticks for POX circuit operating and capital costs, so risks are higher than for most gold projects.

Exploration success

De Grey may invest its cash and any future free cash flows in exploration and/or other mineral asset acquisitions. Valuation assumes that future exploration and investments achieve acceptable returns. Subjective value is attributed to exploration assets at Mallina.

Interest rates/discount rates

Argonaut takes cash flow risk into account when choosing discount rates for different projects. Our valuation is sensitive to the discount rate used. A 2% change in the (after tax) discount rate makes a 16-20% difference to our De Grey valuation.

RESEARCH:

Ian Christie | Head of Research
+61 8 9224 6872 ichristie@argonaut.com

John Macdonald | Director, Metals & Mining Research
+61 8 9224 6835 jmacdonald@argonaut.com

George Ross | Analyst, Metals & Mining Research
+61 8 9224 6840 georger@argonaut.com

Royce Haese | Analyst, Metals & Mining Research
+61 8 9224 6869 rhaese@argonaut.com

INSTITUTIONAL SALES - PERTH:

Chris Wippl | Executive Director, Head of Institutional Sales
+61 8 9224 6875 cwippl@argonaut.com

Damian Rooney | Director Institutional Sales
+61 8 9224 6862 drooney@argonaut.com

John Santul | Consultant, Sales & Research
+61 8 9224 6859 jsantul@argonaut.com

Josh Welch | Institutional Dealer
+61 8 9224 6868 jwelch@argonaut.com

George Ogilvie | Institutional Dealer
+61 8 9224 6871 gogilvie@argonaut.com

INSTITUTIONAL SALES – HONG KONG:

Damian Rooney | Director Institutional Sales
+61 8 9224 6862 drooney@argonaut.com

CORPORATE AND PRIVATE CLIENT SALES:

Glen Colgan | Managing Director, Desk Manager
+61 8 9224 6874 gcolgan@argonaut.com

Kevin Johnson | Executive Director, Corporate Stockbroking
+61 8 9224 6880 kjohnson@argonaut.com

James McGlew | Executive Director, Corporate Stockbroking
+61 8 9224 6866 jmcglew@argonaut.com

Geoff Barnesby-Johnson | Senior Dealer, Corporate Stockbroking
+61 8 9224 6854 bj@argonaut.com

Ben Willoughby | Senior Dealer, Corporate Stockbroking
+61 8 9224 6876 bwilloughby@argonaut.com

Philip Grant | Senior Dealer, Corporate Stockbroking
+61 8 9224 6834, pgrant@argonaut.com

David Keogh | Senior Dealer, Corporate Stockbroking
+61 8 9224 6852, dkeogh@argonaut.com

Rob Healy | Dealer, Private Clients
+61 8 9224 6873, rhealy@argonaut.com

Cameron Prunster |Dealer, Private Clients
+61 8 9224 6853 cprunster@argonaut.com

James Massey |Dealer, Private Clients
+61 8 9224 6849 jmassey@argonaut.com

Chris Hill | Dealer, Private Clients
+61 8 9224 6830, chill@argonaut.com

Harry Massey | Dealer, Private Clients
+61 8 9224 6829, hmassey@argonaut.com

Reece O'Connell | Provisional Financial Advisor, Private Clients
+61 8 9224 6851, roconnell@argonaut.com

Quinton Meyers | Provisional Financial Advisor, Private Clients
+61 8 9224 6879, qmeyers@argonaut.com

Jonas Dorling | Assoc. Dealer / Prov. Fin. Advisor, Private Clients
+61 8 9224 6837, jdorling@argonaut.com

Important Disclosure

Argonaut acted as Joint Lead Manager in respect of the Placement to raise up to $103.2M and Senior Management SellDown in September 2020 and received fees commensurate with this service.

Information Disclosure

Each research analyst of this material certifies that the views expressed in this research material accurately reflect the analyst's personal views about the subject securities and listed corporations. None of the listed corporations reviewed or any third party has provided or agreed to provide any compensation or other benefits in connection with this material to any of the analyst(s).

For U.S. persons only

This research report is a product of Argonaut Securities Pty Limited, which is the employer of the research analyst(s) who has prepared the research report. The research analyst(s) preparing the research report is/are resident outside the United States (U.S.) and are not associated persons of any U.S. regulated broker-dealer and therefore the analyst(s) is/are not subject to supervision by a U.S. broker-dealer, and is/are not required to satisfy the regulatory licensing requirements of FINRA or required to otherwise comply with U.S. rules or regulations regarding, among other things, communications with a subject company, public appearances and trading securities held by a research analyst account. This report is intended for distribution by Argonaut Securities Pty Limited only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the U.S. Securities and Exchange Act, 1934 (the Exchange Act) and interpretations thereof by U.S. Securities and Exchange Commission (SEC) in reliance on Rule 15a 6(a)(2). If the recipient of this report is not a Major Institutional Investor as specified above, then it should not act upon this report and return the same to the sender. Further, this report may not be copied, duplicated and/or transmitted onward to any U.S. person, which is not the Major Institutional Investor.

In reliance on the exemption from registration provided by Rule 15a-6 of the Exchange Act and interpretations thereof by the SEC in order to conduct certain business with Major Institutional Investors, Argonaut Securities Pty Limited has entered into an agreement with a U.S. registered broker-dealer, Marco Polo Securities Inc. ("Marco Polo"). Transactions in securities discussed in this research report should be effected through Marco Polo or another U.S. registered broker dealer.

Hong Kong Distribution Disclosure

This material is being distributed in Hong Kong by Argonaut Securities (Asia) Limited which is licensed (AXO 052) and regulated by the Hong Kong Securities and Futures Commission. Further information on any of the securities mentioned in this material may be obtained on request, and for this purpose, persons in the Hong Kong office should be contacted at Argonaut Securities (Asia) Limited of Unit 701, 7/F, Henley Building, 5 Queen's Road Central, Hong Kong, telephone (852) 3557 48000.

General Disclosure and Disclaimer

This research has been prepared by Argonaut Securities Pty Limited (ABN 72 108 330 650) ("ASPL") or by Argonaut Securities (Asia) Limited ("ASAL") for the use of the clients of ASPL, ASAL and other related bodies corporate (the "Argonaut Group") and must not be copied, either in whole or in part, or distributed to any other person. If you are not the intended recipient you must not use or disclose the information in this report in any way. ASPL is a holder of an Australian Financial Services License No. 274099 and is a Market Participant of the Australian Stock Exchange Limited. ASAL has a licence (AXO 052) to Deal and Advise in Securities and Advise on Corporate Finance in Hong Kong with its activities regulated by the Securities and Futures Ordinance ("SFO") administered by the Securities and Futures Commission ("SFC") of Hong Kong.

Nothing in this report should be construed as personal financial product advice for the purposes of Section 766B of the Corporations Act 2001 (Cth). This report does not consider any of your objectives, financial situation or needs. The report may contain general financial product advice and you should therefore consider the appropriateness of the advice having regard to your situation. We recommend you obtain financial, legal and taxation advice before making any financial investment decision.

This research is based on information obtained from sources believed to be reliable and ASPL and ASAL have made every effort to ensure the information in this report is accurate, but we do not make any representation or warranty that it is accurate, reliable, complete or up to date. The Argonaut Group accepts no obligation to correct or update the information or the opinions in it. Opinions expressed are subject to change without notice and accurately reflect the analyst(s)' personal views at the time of writing. No member of the Argonaut Group or its respective employees, agents or consultants accepts any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research.

Nothing in this research shall be construed as a solicitation to buy or sell any financial product, or to engage in or refrain from engaging in any transaction. The Argonaut Group and/or its associates, including ASPL, ASAL, officers or employees may have interests in the financial products or a relationship with the issuer of the financial products referred to in this report by acting in various roles including as investment banker, underwriter or dealer, holder of principal positions, broker, director or adviser. Further, they may buy or sell those securities as principal or agent, and as such may effect transactions which are not consistent with the recommendations (if any) in this research. The Argonaut Group and/or its associates, including ASPL and ASAL, may receive fees, brokerage or commissions for acting in those capacities and the reader should assume that this is the case.

There are risks involved in securities trading. The price of securities can and does fluctuate, and an individual security may even become valueless. International investors are reminded of the additional risks inherent in international investments, such as currency fluctuations and international stock market or economic conditions, which may adversely affect the value of the investment.

The analyst(s) principally responsible for the preparation of this research may receive compensation based on ASPL's and / or ASAL's overall revenues.

Copyright