



CANADA

HRT CN Outperform

Price (at 04:02, 16 Feb 2018 GMT) C\$0.42

Valuation C\$ 0.78

- DCF (WACC 5.0%, beta 1.2, ERP 7.0%, RFR 4.0%)

12-month target C\$ 0.75

12-month TSR % +80.7

Volatility Index Very High

GICS sector Materials

Market cap C\$m 235

Market cap US\$m 188

30-day avg turnover C\$m 0.2

Number shares on issue m 566.1

Investment fundamentals

Year end 31 Dec		2016A	2017E	2018E	2019E
Revenue	m	0.0	0.0	10.2	70.0
EBITDA	m	-3.1	-7.3	-0.3	27.0
Recurring profit	m	-3.1	-7.2	-3.7	11.3
Reported profit	m	-3.0	-2.5	-3.7	11.3
Gross cashflow	m	-1.9	-6.6	-1.6	25.0
CFPS	C\$	-0.01	-0.01	0.00	0.04
CFPS growth	%	-62.0	-139.6	80.4	nmf
PGCFPS	x	nmf	nmf	nmf	10.3
EPS rec	C\$	-0.01	-0.01	-0.01	0.02
EPS rec growth	%	-43.6	-64.3	59.2	nmf
PER rec	x	nmf	nmf	nmf	22.8
Total DPS	C\$	0.00	0.00	0.00	0.00
Total div yield	%	0.0	0.0	0.0	0.0
ROA	%	-5.8	-7.3	-1.6	7.4
ROE	%	-7.3	-8.9	-3.1	8.2
EV/EBITDA	x	-52.7	-28.5	-668.1	8.1
Net debt/equity	%	-44.2	-23.7	-2.4	-10.3
P/BV	x	3.2	2.2	1.8	1.6

HRT CN vs TSX, & rec history



Note: Recommendation timeline - if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, February 2018
(all figures in CAD unless noted)

Analyst(s)

Michael Gray
+1 604 639 6372 michael.gray@macquarie.com
David Medilek, CFA
+1 604 639 6378 david.medilek@macquarie.com
Michael Sroba
+1 604 639 6348 michael.sroba@macquarie.com

16 February 2018

Macquarie Capital Markets Canada Ltd.

Harte Gold

Sugar Zone delivers on resource expansion, grade underwhelms

Event

- Harte Gold reported an updated indicated and inferred Mineral Resource estimate for its 100% Sugar Zone Project, Ontario, Canada. At **1.474moz at 7.4g/tAu**, this is a 263% increase from the previous indicated and inferred resource of 406kozAu at 8.09g/t (Fig 1), along with a 2x increase in the oz/vertical m. It now incorporates the Middle Zone (first resource) and Sugar Zone to 1km depth (was 750m).

Impact

- Model updated for mineral resource – NAVPS impact -C\$0.20** DCF is now based on the updated resource, with a 75% resource/reserve conversion factor (indicated & inferred) and 20% dilution (<3m average mining widths). The cut in NAVPS was driven by lower overall diluted estimated resource grades (6.2g/tAu vs Macq 7.1g/tAu). Total resources 1.106moz are in-line (Macq 1.116moz ultimate reserves) as we predicted (and expansion upside) in our initiation. We also ascribe option value for 250koz at both the Sugar Zone and Middle Zone at \$50 EV/oz, mainly for depth extension potential (Fig 2). We reduce our land package valuation by 25% to \$75m (-C\$0.12 NAVPS), trimming our expectations on the belt prospectivity (we still think the hunting grounds are prime to discover additional high-grade deposits).
- Imminent NI 43-101 to provide further colour on resource estimation approach.** We look forward to the release of NI 43-101 Technical Report for more insight on: i) resource estimation methodology details and parameters; ii) likely stope dilution (given the narrow mining widths) - we conservatively model 20%; iii) stope sequencing potential (notably, ability to front-end mining of high-grade zones), and: iv) suitability of mining method selected (sections will help us clarify).
- 2018 will be catalyst rich – advancing towards production.** 1H18 will have three key sets of catalysts: i) NI 43-101 Updated Technical Report for revised resource estimate (1Q18); ii) Sugar Zone Project PEA (2Q18), and; iii) exploration results (ongoing). An 80km 2018 drill program is planned which will aim to define and extend the Sugar and Middle Zones (especially to depth) and further define discoveries at the Lynx, Wolf, K7 and the Moose zones. We could see key exploration discovery catalysts emerge from this drilling. HRT is targeting mill commissioning at the beginning of 2H18 with first gold pour ~4Q18.

Earnings and target price revision

- TP C\$0.75 (was C\$0.90), with other model adjustments; EPS -\$0.01 (was \$0.00).

Price catalyst

- 12-month price target: C\$0.75 based on a Sum of Parts methodology.
- Catalyst: Resource 43-101 (1Q18), UPEA (2Q18), Exploration (ongoing).

Action and recommendation

- We reiterate Outperform and await key 1H18 catalysts to enhance our Sugar Zone Project DCF model.

Please refer to page 4 for important disclosures and analyst certification, or on our website

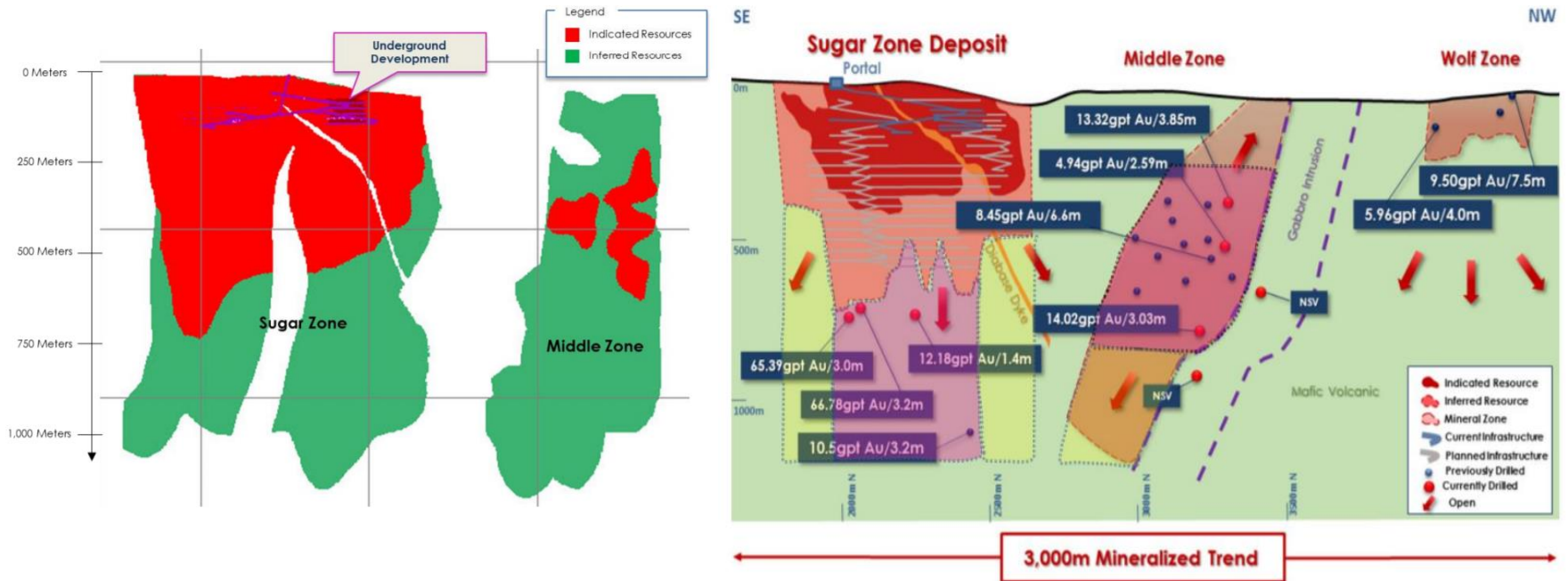
www.macquarie.com/research/disclosures.

Fig 1 Mineral Resource Comparison – 2012 NI-43-101, Feb/18 Updated Resource and Macquarie Estimated Resource. Note the substantial (+172%) increase in ounces per vertical metre with the inclusion of the adjacent Middle Zone

Mineral Resource Estimate Comparison														
	2/27/2012				2/15/2018					Δ		Macq May 2017 Estimate (Includes dilution)		
	Tonnes (metric)	Grade (g/t Au)	Ounces	Oz / Vertical m	Tonnes (metric)	Grade (g/t Au)	Ounces	Diluted Grade @ 20%	Oz / Vertical m	Total	%	Tonnes (metric)	Grade (g/t Au)	Ounces
Indicated	980.9	8.7	275.0	750m	2,607.0	8.5	714.2	7.1	1000m	439.2	160%	956.0	6.7	206.0
Inferred	580.5	7.0	131.3	Depth	3,590.0	6.6	760.8	5.5	Depth	629.5	479%	3,880.0	7.3	909.0
Total Resources	1,561	8.09	406	542	6,197	7.40	1,475	6.2	1,475	1,069	263%	4,836	7.18	1,116

Source: Company data, Macquarie Research, February 2018

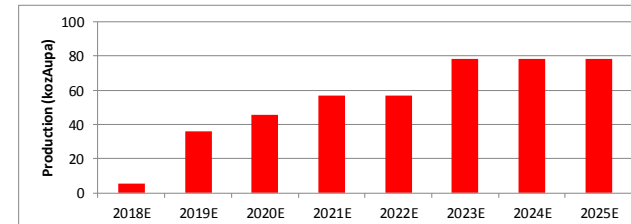
Fig 2 Comparison of Current Mineral Resource (L) to Idealised Long Section from our Initiation Report on May 17, 2017 (R). This highlights the remaining lateral and down plunge resource expansion potential to 1.2km depth (~250koz Sugar Zone and 250koz Middle Zone)



Source: Company data, Macquarie Research, February 2018

Fig 3 Harte Gold (HRT CN, Outperform, Target price: C\$0.75)

HRT CN EQUITY		C\$ 0.42		Fiscal Year-end		12/31/2017		Basic share count		485.2					
Target price		C\$ 0.75		Market cap (C\$m)		226		FD share count		539.0					
Recommendation		Outperform		Enterprise Value (C\$m)		208		Dividend per share		0.00					
Income Statement		Unit	2015	2016	2017E	2018E	2019E	Price assumptions		Unit	2015	2016	2017E	2018E	2019E
Total revenue	C\$m		0	0	0	10	70	Gold	US\$/oz		1,160	1,248	1,258	1,350	1,375
Operating expenses	C\$m		0	0	0	5	32	Silver	US\$/oz		15.69	17.11	17.24	20.00	21.75
Operating margin	C\$m		0	0	0	5	39	USD/CAD	x		1.29	1.31	1.31	1.39	1.43
Depreciation	C\$m		0	0	0	2	14	Production		Unit	2015	2016	2017E	2018E	2019E
Exploration	C\$m		0	0	4	2	8	Sugar (100%)	000oz		0	0	0	5	36
EBT	C\$m		(2)	(3)	(2)	(4)	11	Total Gold Prod	000oz		0	0	0	5	36
Total tax	C\$m		0	0	0	0	0	Gold cash costs	US\$		0	0	0	0	0
Net Income	C\$m		(2)	(3)	(2)	(4)	11	Valuation (Macq Deck)		Unit	2015	2016	2017E	2018E	2019E
Adjusted EBITDA	C\$m		(2)	(3)	(7)	(0)	27	P/E	x		NMF	NMF	NMF	NMF	16.6
Adjusted Net Income	C\$m		(2)	(3)	(7)	(4)	11	P/CF	x		NMF	NMF	NMF	NMF	7.5
Adj. EPS FD	C\$		(0.01)	(0.01)	(0.01)	(0.01)	0.02	EV/EBITDA	x		NMF	NMF	NMF	NMF	5.6
								P/NAV	x		0.54				
Cash Flow Statement		Unit	2015	2016	2017E	2018E	2019E	NAV Breakdown (5% discount, based on Macquarie price deck)		US\$m	US\$ / Sh	C\$ / Sh	% Total		
Cash flow from Operations	C\$m		(1)	(2)	(7)	(6)	22	Gold Operations (DCF)							
Cash flow from investing	C\$m		(3)	(7)	(42)	(48)	(10)	Sugar Zone		237	0.40	0.53	75%		
Cash flow from financing	C\$m		3	36	49	55	0	Other Mining Assets (Comparative analysis)							
Net change in cash	C\$m		(1)	27	(0)	1	12	Sugar Zone Option Value Resources - 250koz (\$50 EV/oz)		13	0.02	0.03	4%		
CFPS FD	C\$m		(0.00)	(0.01)	(0.01)	(0.00)	0.04	Middle Zone Option Value Resources - 250koz (\$50 EV/oz)		13	0.02	0.03	4%		
								Sugar Land Package (82000ha @ \$1200/ha) - 75% Prospective		55	0.09	0.12	17%		
Balance Sheet		Unit	2015	2016	2017E	2018E	2019E	Total Mineral Asset NAV		318	0.54	0.71	100%		
Cash and equivalents	C\$m		0	27	27	28	40	Corporate Adjustments							
Working Capital	C\$m		(1)	15	13	21	36	Net working capital		30	0.05	0.07			
Debt	C\$m		0	2	2	25	25	Long term debt (includes future financing)		(2)	(0)	(0.00)			
Total S/H equity	C\$m		27	57	104	132	144	Cash from future equity financing		0	0.00	0.00			
Enterprise Value	C\$m		226	201	202	223	212	Total Non-Operating NAV		28	0.05	0.06			
								NET ASSET VALUE		346	0.58	0.78			
								Operating multiple			0.90x				
Production profile															



Source: Company data, Macquarie Research, February 2018

Important disclosures:**Recommendation definitions****Macquarie - Australia/New Zealand**

Outperform – return >3% in excess of benchmark return
 Neutral – return within 3% of benchmark return
 Underperform – return >3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

Macquarie – Asia/Europe

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie – South Africa

Outperform – expected return >+10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie - Canada

Outperform – return >5% in excess of benchmark return
 Neutral – return within 5% of benchmark return
 Underperform – return >5% below benchmark return

Macquarie - USA

Outperform (Buy) – return >5% in excess of Russell 3000 index return
 Neutral (Hold) – return within 5% of Russell 3000 index return
 Underperform (Sell) – return >5% below Russell 3000 index return

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.

* Applicable to Asia/Australian/NZ/Canada stocks only

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:
 Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
 Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / $efpowa^*$

ROA = adjusted ebit / average total assets

ROA Banks/Insurance = adjusted net profit / average total assets

ROE = adjusted net profit / average shareholders funds

Gross cashflow = adjusted net profit + depreciation

*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 31 December 2017

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	51.82%	55.57%	44.05%	45.06%	60.00%	42.51%	(for global coverage by Macquarie, 4.36% of stocks followed are investment banking clients)
Neutral	35.40%	28.60%	36.90%	47.59%	28.67%	40.42%	(for global coverage by Macquarie, 2.58% of stocks followed are investment banking clients)
Underperform	12.77%	15.83%	19.05%	7.34%	11.33%	17.07%	(for global coverage by Macquarie, 0.69% of stocks followed are investment banking clients)

HRT CN vs TSX, & rec history

(all figures in CAD currency unless noted)

Note: Recommendation timeline – if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, February 2018

12-month target price methodology

HRT CN: C\$0.75 based on a Sum of Parts methodology

Company-specific disclosures:

HRT CN: The primary analyst for Harte Gold has visited its material operations and development assets within the past year; the company has furnished local transportation and accommodations as part of these site visits. MACQUARIE CAPITAL MARKETS CANADA LTD./MARCHÉS FINANCIERS MACQUARIE CANADA LTÉE. or one of its affiliates managed or co-managed a public offering of securities of Harte Gold Corp in the past 12 months, for which it received compensation.

Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures.

Date	Stock Code (BBG code)	Recommendation	Target Price
08-May-2017	HRT CN	Outperform	C\$.90

Target price risk disclosures:

HRT CN: Any inability to compete successfully in their markets may harm the business. This could be a result of many factors which may include geographic mix and introduction of improved products or service offerings by competitors. The results of operations may be materially affected by global economic conditions generally, including conditions in financial markets. The company is exposed to market risks, such as changes in interest rates, foreign exchange rates and input prices. From time to time, the company will enter into transactions, including transactions in derivative instruments, to manage certain of these exposures.

Analyst certification:

We hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report. The Analysts responsible for preparing this report receive compensation from Macquarie that is based upon various factors including Macquarie Group Ltd total revenues, a portion of which are generated by Macquarie Group's Investment Banking activities.

General disclaimers:

Macquarie Securities (Australia) Ltd; Macquarie Capital (Europe) Ltd; Macquarie Capital Markets Canada Ltd; Macquarie Capital Markets North America Ltd; Macquarie Capital (USA) Inc; Macquarie Capital Limited and Macquarie Capital Limited, Taiwan Securities Branch; Macquarie Capital Securities (Singapore) Pte Ltd; Macquarie Securities (NZ) Ltd; Macquarie Equities South Africa (Pty) Ltd; Macquarie Capital Securities (India) Pvt Ltd; Macquarie Capital Securities

(Malaysia) Sdn Bhd; Macquarie Securities Korea Limited and Macquarie Securities (Thailand) Ltd are not authorized deposit-taking institutions for the purposes of the Banking Act 1959 (Commonwealth of Australia), and their obligations do not represent deposits or other liabilities of Macquarie Bank Limited ABN 46 008 583 542 (MBL) or MGL. MBL does not guarantee or otherwise provide assurance in respect of the obligations of any of the above mentioned entities. MGL provides a guarantee to the Monetary Authority of Singapore in respect of the obligations and liabilities of Macquarie Capital Securities (Singapore) Pte Ltd for up to SGD 35 million. This research has been prepared for the general use of the wholesale clients of the Macquarie 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 research in any way. If you received it in error, please tell us immediately by return e-mail and delete the document. We do not guarantee the integrity of any e-mails or attached files and are not responsible for any changes made to them by any other person. MGL has established and implemented a conflicts policy at group level (which may be revised and updated from time to time) (the "Conflicts Policy") pursuant to regulatory requirements (including the FCA Rules) which sets out how we must seek to identify and manage all material conflicts of interest. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any transaction. In preparing this research, we did not take into account your investment objectives, financial situation or particular needs. Macquarie salespeople, traders and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions which are contrary to the opinions expressed in this research. Macquarie Research produces a variety of research products including, but not limited to, fundamental analysis, macro-economic analysis, quantitative analysis, and trade ideas. Recommendations contained in one type of research product may differ from recommendations contained in other types of research, whether as a result of differing time horizons, methodologies, or otherwise. Before making an investment decision on the basis of this research, you need to consider, with or without the assistance of an adviser, whether the advice is appropriate in light of your particular investment needs, objectives and financial circumstances. 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. This research is based on information obtained from sources believed to be reliable but we do not make any representation or warranty that it is accurate, complete or up to date. We accept no obligation to correct or update the information or opinions in it. Opinions expressed are subject to change without notice. No member of the Macquarie Group 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. Clients should contact analysts at, and execute transactions through, a Macquarie Group entity in their home jurisdiction unless governing law permits otherwise. The date and timestamp for above share price and market cap is the closed price of the price date. #CLOSE is the final price at which the security is traded in the relevant exchange on the date indicated.

Country-specific disclaimers:

Australia: In Australia, research is issued and distributed by Macquarie Securities (Australia) Ltd (AFSL No. 238947), a participating organisation of the Australian Securities Exchange. **New Zealand:** In New Zealand, research is issued and distributed by Macquarie Securities (NZ) Ltd, a NZX Firm. **Canada:** In Canada, research is prepared, approved and distributed by Macquarie Capital Markets Canada Ltd., a (i) member of the Investment Industry Regulatory Organization of Canada and the Canadian Investor Protection Fund, and (ii) participating organisation of the Toronto Stock Exchange, TSX Venture Exchange & Montréal Exchange. This research is distributed in the United States, as third party research by Macquarie Capital Markets North America Ltd., which is a registered broker-dealer and member of Financial Industry Regulatory Authority and the Securities Investor Protection Corporation. Macquarie Capital Markets North America Ltd. accepts responsibility for the contents of reports issued by Macquarie Capital Markets Canada Ltd. in the United States and sent to US persons. Any US person wishing to effect transactions in the securities described in the reports issued by Macquarie Capital Markets Canada Ltd. should do so with Macquarie Capital Markets North America Ltd. This research is intended for distribution in the United States only to major Institutional Investors (as such term is defined in SEC 15a-6 and Section 15 of the Securities Exchange Act of 1934, as amended) and is not intended for the use of any person or entity that is not a major institutional investor. Research analysts of Macquarie Capital Markets Canada Ltd. are not registered/qualified as research analysts with FINRA. The Research Distribution Policy of Macquarie Capital Markets Canada Ltd. is to allow all clients that are entitled to have equal access to our research. **United Kingdom:** In the United Kingdom, research is issued and distributed by Macquarie Capital (Europe) Ltd, which is authorised and regulated by the Financial Conduct Authority (No. 193905). **Germany:** In Germany, this research is issued and/or distributed by Macquarie Capital (Europe) Limited, Niederlassung Deutschland, which is authorised and regulated by the UK Financial Conduct Authority (No. 193905), and in Germany by BaFin. **France:** In France, research is issued and distributed by Macquarie Capital (Europe) Ltd, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority (No. 193905). **Hong Kong & Mainland China:** In Hong Kong, research is issued and distributed by Macquarie Capital Limited, which is licensed and regulated by the Securities and Futures Commission. In Mainland China, Macquarie Securities (Australia) Limited Shanghai Representative Office only engages in non-business operational activities excluding issuing and distributing research. Only non-A share research is distributed into Mainland China by Macquarie Capital Limited. **Japan:** In Japan, research is Issued and distributed by Macquarie Capital Securities (Japan) Limited, a member of the Tokyo Stock Exchange, Inc. and Osaka Exchange, Inc. (Financial Instruments Firm, Kanto Financial Bureau (kin-sho) No. 231, a member of Japan Securities Dealers Association). **India:** In India, research is issued and distributed by Macquarie Capital Securities (India) Pvt. Ltd. (CIN: U65920MH1995PTC090696), 92, Level 9, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India, which is a SEBI registered Research Analyst having registration no. INH000000545. **Malaysia:** In Malaysia, research is issued and distributed by Macquarie Capital Securities (Malaysia) Sdn. Bhd. (Company registration number: 463469-W) which is a Participating Organisation of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission. **Taiwan:** In Taiwan, research is issued and distributed by Macquarie Capital Limited, Taiwan Securities Branch, which is licensed and regulated by the Financial Supervisory Commission. No portion of the report may be reproduced or quoted by the press or any other person without authorisation from Macquarie. Nothing in this research shall be construed as a solicitation to buy or sell any security or product. The recipient of this report shall not engage in any activities which may give rise to potential conflicts of interest to the report. Research Associate(s) in this report who are registered as Clerks only assist in the preparation of research and are not engaged in writing the research. **Thailand:** In Thailand, research is produced, issued and distributed by Macquarie Securities (Thailand) Ltd. Macquarie Securities (Thailand) Ltd. is a licensed securities company that is authorized by the Ministry of Finance, regulated by the Securities and Exchange Commission of Thailand and is an exchange member of the Stock Exchange of Thailand. The Thai Institute of Directors Association has disclosed the Corporate Governance Report of Thai Listed Companies made pursuant to the policy of the Securities and Exchange Commission of Thailand. Macquarie Securities (Thailand) Ltd does not endorse the result of the Corporate Governance Report of Thai Listed Companies but this Report can be accessed at: <http://www.thai-iod.com/en/publications.asp?type=4>. **South Korea:** In South Korea, unless otherwise stated, research is prepared, issued and distributed by Macquarie Securities Korea Limited, which is regulated by the Financial Supervisory Services. Information on analysts in MSKL is disclosed at <http://dis.kofia.or.kr/websquare/index.jsp?w2xPath=/wq/fundMgr/DISFundMgrAnalystStut.xml&divisionId=MDIS03002001000000&serviceld=SDIS03002001000>. **South Africa:** In South Africa, research is issued and distributed by Macquarie Equities South Africa (Pty) Ltd, a member of the JSE Limited. **Singapore:** In Singapore, research is issued and distributed by Macquarie Capital Securities (Singapore) Pte Ltd (Company Registration Number: 198702912C), a Capital Markets Services license holder under the Securities and Futures Act to deal in securities and provide custodial services in Singapore. Pursuant to the Financial Advisers (Amendment) Regulations 2005, Macquarie Capital Securities (Singapore) Pte Ltd is exempt from complying with sections 25, 27 and 36 of the Financial Advisers Act. All Singapore-based recipients of research produced by Macquarie Capital (Europe) Limited, Macquarie Capital Markets Canada Ltd, Macquarie Equities South Africa (Pty) Ltd and Macquarie Capital (USA) Inc. represent and warrant that they are institutional investors as defined in the Securities and Futures Act. **United States:** In the United States, research is issued and distributed by Macquarie Capital (USA) Inc., which is a registered broker-dealer and member of FINRA. Macquarie Capital (USA) Inc, accepts responsibility for the content of each research report prepared by one of its non-US affiliates when the research report is distributed in the United States by Macquarie Capital (USA) Inc. Macquarie Capital (USA) Inc.'s affiliate's analysts are not registered as research analysts with FINRA, may not be associated persons of Macquarie Capital (USA) Inc., and therefore may not be subject to FINRA rule restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. Information regarding futures is provided for reference purposes only and is not a solicitation for purchases or sales of futures. Any persons receiving this report directly from Macquarie Capital (USA) Inc. and wishing to effect a transaction in any security described

herein should do so with Macquarie Capital (USA) Inc. Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures, or contact your registered representative at 1-888-MAC-STOCK, or write to the Supervisory Analysts, Research Department, Macquarie Securities, 125 W.55th Street, New York, NY 10019.

© Macquarie Group

Equities

Research

Heads of Equity Research

Peter Redhead (Global - Head)	(44 20) 3037 4263
Christine Farkas (US)	(1 212) 231 6668
Greg MacDonald (Canada)	(1 416) 628 3934

Consumer

Gaming & Leisure

Chad Beynon (Head of US Consumer)	(1 212) 231 2634
-----------------------------------	------------------

Beverages & HPC

Caroline Levy (New York)	(1 212) 231 1818
--------------------------	------------------

Consumer Discretionary

Bob Summers (New York)	(1 212) 231 1072
Laurent Vasilescu (New York)	(1 212) 231 8046
Chris Li (Toronto)	(1 416) 848 3553

Leisure & Online Travel

Matthew Brooks (New York)	(1 212) 231 1585
---------------------------	------------------

Energy

Oil & Gas

Vikas Dwivedi (Head of Oil & Gas, Global Energy Strategist)	(1 713) 275 6352
Iain Reid (London)	(44 20) 3037 2119

US Exploration & Production

Paul Grigel (Denver)	(1 303) 952 2754
----------------------	------------------

US Refining

Jay Tobin (Houston)	(1 713) 275 6123
---------------------	------------------

Oilfield Services

Walt Chancellor (Houston)	(1 713) 275 6230
---------------------------	------------------

International/Canadian Oil & Gas Producers

Brian Bagnell (Calgary)	(1 403) 539 8540
Brian Kristjansen (Calgary)	(1 403) 539 8508
Tom Hems (Calgary)	(1 403) 218 6666

Financials

Banks/Trust Banks

David Konrad (New York)	(1 212) 231 0525
Mike Rizvanovic (Toronto)	(1 416) 848 3687

Industrials

Chemicals

Cooley May (Head of US Basics & Industrials)	(1 212) 231 2586
---	------------------

Airlines

Susan Donofrio (New York)	(1 212) 231 6535
---------------------------	------------------

Building Products

Adam Baumgarten (New York)	(1 212) 231 0633
----------------------------	------------------

Business Services

Hamzah Mazari (New York)	(1 212) 231 2442
--------------------------	------------------

Construction & Engineering/Machinery

Sameer Rathod (San Francisco)	(1 415) 762 5034
-------------------------------	------------------

Diversified Industrials

Jamie Clement (New York)	(1 212) 231 0452
Michael Glen (Montreal)	(1 514) 905 3636

Transports

Konark Gupta (Toronto)	(1 416) 848 3539
------------------------	------------------

Materials

Global Metals & Mining

David Lipschitz (New York)	(1 212) 231 1232
Michael Siperco (Toronto)	(1 416) 848 3520
Matt Murphy (Toronto)	(1 416) 848 3541
Michael Gray (Vancouver)	(1 604) 639 6372

TMET

Media & Entertainment

Tim Nollen (Head of TMET)	(1 212) 231 0635
---------------------------	------------------

Cable, Satellite & Entertainment

Amy Yong (New York)	(1 212) 231 2624
---------------------	------------------

Hardware & Equipment

Gus Papageorgiou (Toronto)	(1 416) 848 3512
----------------------------	------------------

Internet

Ben Schachter (New York)	(1 212) 231 0644
--------------------------	------------------

Satellite & Data Centers

Andrew DeGasperi (New York)	(1 212) 231 0649
-----------------------------	------------------

Semiconductors

Srini Pajjuri (San Francisco)	(1 415) 762 5018
-------------------------------	------------------

Software

Sarah Hindlian (New York)	(1 212) 231 1371
Gus Papageorgiou (Toronto)	(1 416) 848 3512

Telecommunications

Amy Yong (New York)	(1 212) 231 2624
Greg MacDonald (Toronto)	(1 416) 628 3934

Utilities & Alternative Energy

Angie Storozynski (Head of US Utilities & Alternative Energy)	(1 212) 231 2569
--	------------------

Commodities & Precious Metals

Jim Lennon (London)	(44 20) 3037 4271
Matthew Turner (London)	(44 20) 3037 4340
Vivienne Lloyd (London)	(44 20) 3037 4530
Serafino Capoferri (London)	(44 20) 3037 2517
Lynn Zhao (Shanghai)	(86 21) 2412 9035

Economics and Strategy

Ric Deverell (Chief Economist & Head of Macro Research)	(612) 8232 4307
David Doyle (Toronto)	(1 416) 848 3663

Quantitative Analysis

Gurvinder Brar (Mumbai)	(9197) 8055 5902
Giuliano De Rossi (London)	(44 20) 3037 1997

Find our research at

Macquarie:	www.macquarieresearch.com/ideas/
Thomson:	www.thomson.com/financial
Reuters:	www.knowledge.reuters.com
Bloomberg:	MAC GO
Factset:	http://www.factset.com/home.aspx
CapitalIQ	www.capitaliq.com
Contact macresearch@macquarie.com for access requests.	

Email addresses

FirstName.Surname@macquarie.com
eg. peter.redhead@macquarie.com

Equities

Head of Canadian Equities

David Washburn (Toronto)	(1 416) 848 3631
--------------------------	------------------

Sales

Head of US Sales

Khristina McLaughlin (New York)	(1 212) 231 8012
---------------------------------	------------------

Head of Canada Sales

David Ricciardelli (Toronto)	(1 416) 572 7150
------------------------------	------------------

Trading

US Sales Trading

J.T. Cacciabauda (New York)	(1 212) 231 6381
-----------------------------	------------------

Canada Trading

Perry Catellier (Head, Toronto)	(1 416) 848 3619
---------------------------------	------------------

International Sales Trading

Mike Gray (New York)	(1 212) 231 0928
----------------------	------------------