

Freegold Ventures

Exploration update

Shorty Creek potential validated by South32

Freegold Ventures has granted South32 (an A\$19.0bn market cap major demerged from BHP in 2015) an option to earn up to a 70% interest in Shorty Creek by investing US\$30m, of which at least US\$10m will be in the form of exploration expenditure. Freegold will remain the operator. However, South32's (time deferred) option effectively represents a validation of the exploration potential at Shorty Creek and (significantly) allows it to be further explored and validated with no further share dilution to Freegold investors.

Year end	Revenue (US\$m)	PBT* (US\$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
12/16	0.0	(1.0)	(0.7)	0.0	N/A	N/A
12/17	0.0	(0.6)	(0.4)	0.0	N/A	N/A
12/18e	0.0	(0.9)	(0.5)	0.0	N/A	N/A
12/19e	0.0	(0.9)	(0.5)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Shorty Creek valuation alone 6.8–9.6 US cents/share

South32's commitment of US\$30m for a 70% interest in Shorty Creek implies a valuation for the project currently of c US\$12.9m, or 6.8 US cents (9.0 Canadian cents) per share. In our recent report *Gold stars and black holes*, published in January 2019, Edison calculated an average in-situ value for copper resources of US\$22.50 per tonne of contained metal. When applied to our estimate of 0.8Mt of contained copper metal at Hill 1835 (see our note Freegold Ventures: [Boldly going](#), published on 20 August 2018), this implies a potential value for Shorty Creek of c US\$18.1m, or US\$0.096/share (assuming that the resources can be brought to NI 43-101 standards). South32's implied pre-resource valuation of the project of US\$12.9m represents a 29.0% discount to Edison's resource-stage valuation. However, the exploration programme at Shorty Creek will also be focusing on the outlying areas of the project with the intention of proving up its district scale potential – in which case its ultimate in-situ resource could to far exceed our (order of magnitude) estimate based on drilling to date.

Valuation: 13.1c + 6.8–9.6c for Shorty Creek + upside

In the wake of Freegold's C\$1.2m October fund-raising, we estimate a value to Freegold of 13.1 US cents per share from the development of the Golden Summit project (see our note, Freegold Ventures: [Boldly going](#), published on 20 August 2018). Like Shorty Creek however, Golden Summit is wide open in terms of the geological opportunity that it represents and successful exploration has the potential to increase this valuation materially (eg by 43.5%, to US\$0.188/share, if Freegold is able to double its oxide resource to 1.2Moz, thereby supporting a doubling in early-stage production rates).

Metals & mining

22 March 2019

Price **C\$0.06**

Market cap **C\$12m**

C\$1.3256/US\$

Net cash (US\$m) at end September 2018 0.3

Shares in issue (000s) 188,954

Free float 86.3%

Code FVL

Primary exchange TSX

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs 9.1 (14.3) (29.4)

Rel (local) 6.3 (24.0) (31.8)

52-week high/low C\$0.1 C\$0.0

Business description

Freegold Ventures' focus is on copper and gold exploration near Fairbanks, Alaska. It holds both the Golden Summit project (on which a PEA was completed in January 2016) and the Shorty Creek copper-gold porphyry project, where potential by-products include gold, silver, cobalt and tungsten.

Next event

Q4 results April 2019

Analyst

Charles Gibson +44 (0)20 3077 5724

mining@edisongroup.com

[Edison profile page](#)

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Shorty Creek option detail

Freegold has granted South32 a four-year option to earn a 70% interest in Shorty Creek for a US\$30m commitment. To maintain the option in good standing, South32 is required to contribute minimum expenditures of US\$2m in years one and two and US\$3m in years three and four (an aggregate investment of US\$10m). Freegold will act as the operator during the four-year option period. The year one commitment of US\$2m is guaranteed and, subsequently, South32 may elect to exercise its option at any time thereafter by committing US\$30m less expenditures to date. If South32 elects to withdraw during the four-year option, the option shall lapse and South32 shall have no further interest in, or claim over, the property.

Provided that all the exploration data and information has been made available by 31 December of each year of the option agreement, South32 will decide within 30 days whether to fund the next tranche of investment. Hypothetically, therefore, South32 could expend US\$10m (5.3 US cents, or 7.0 Canadian cents per Freegold share) during the option phase of the project and then decide not to exercise its option and have no claim over the property. At an absolute minimum, it will expend US\$2m (1.1 US cents, or 1.4 Canadian cents per Freegold share) and have no claim over the property.

After the subscription funding US\$30m has been expended, South32 and Freegold will contribute additional funding pro-rata to their shareholdings (ie in the ratio 70:30).

Recent Shorty Creek exploration

In January, Freegold announced the results of two holes at Hill 1835 (just one of the targets at Shorty Creek). Both intersected broad, consistent copper porphyry mineralisation as well as continuing to define and validate it as a new copper porphyry with significant size potential. Hole SC 18-01 recorded a mineralised interval of 442.2m at a copper equivalent (CuE) grade of 0.42%, including 121.15m at 0.80% CuE. Hole SC 18-02 recorded a mineralised interval of 442.4m at a copper equivalent grade of 0.44%, including 126m at 0.54% CuE.

The results compare to those of earlier drill holes completed by Freegold at Hill 1835, as shown in the Exhibit below:

Exhibit 1: Hill 1835 drill intercept summary					
Hole number	From (m)	To (m)	Interval (m)	CuE (%)	Cu (%)
SC15-03			91.4	0.81	0.55
SC16-01			434.5	0.64	0.36
SC16-02			409.5	0.49	0.29
SC17-01	83.0	443.0	360.0	0.42	0.24
SC17-02	77.0	485.0	408.0	0.42	0.27
SC17-03	116.0	362.2	246.2	0.36	0.20
SC17-04	308.5	500.5	192.0	0.25	0.11
SC17-05	209.0	495.3	286.3	0.44	0.21
Averages			303.5	0.47*	0.27*

Source: Freegold Ventures, Edison Investment Research. Note: *Interval weighted.

Note that, in addition to all 10 drill holes encountering mineralisation, all 10 also ended in mineralisation.

Interpretation

In contrast to typical copper–gold mineralisation hitherto encountered in Alaska, Freegold believes that its drilling to date is consistent with having intersected the upper portions of buried porphyry mineralisation at Hill 1835. Regional scale structures often control clusters of porphyry systems, which manifest themselves as magnetic lows owing to magnetite-destructive alteration associated

with mineralisation. Primary controls are structural features such as faults, shears, fractures and breccias. Secondary controls are often porous volcanic and/or sedimentary units, bedding plane contacts and unconformities. Breccias provide channel pathways for hydrothermal fluids originating from deeper porphyry copper systems and commonly carry elevated values of gold and silver. Significantly, multiple generations of veins and hydrothermal breccias are common. Evidence in support of this interpretation at Shorty Creek includes the long mineralised intersections, the fact that the project is known to encompass several porphyritic intrusives, which extend approximately 10km in diameter, and the presence of crackled (or crackle) zones, veins, stockworks, breccia pipes and elevated grades of tungsten again at Hill 1835. While virtually undocumented in Alaska to date, mineralised porphyry systems of this scale are not uncommon in large porphyry systems, such as Bingham District (Utah), the Central Mining District (New Mexico), Los Bronces (Chile) and Chuquicamata (also Chile).

Political background

US midterms generally showed Democrat gains, with one exception...

In general, midterm election results at the state level in 2018 tended to mirror results at a national level. Immediately prior to the elections, Republicans had complete control of 26 state governments (ie they controlled the state legislature as well as the governorship), while the Democrats had total control of eight and a further 16 were 'hung' in the sense that one party controlled the governorship while the other party had primacy in the legislature. After the midterms, the Republicans controlled 23 state governments, while the Democrats controlled 14 and 13 were 'hung'.

...being Alaska, albeit still showing its traditional independent mindedness

In Alaska, Republicans won 23 of the 40 seats available in the 2018 elections, while the Democrats won 16 seats and one was taken by a Democratic-aligned independent. However, Republicans were not able to organise a majority in the House owing to defections from the party, with the result that Alaska's political status stayed as 'divided' – as in 2017 to 2018. At the same time, Alaska was one of 36 states that held an election for governor in 2018. The governorship changed hands in eight of the states in which elections occurred, with all but one representing gains for the Democrats, with the single exception being Alaska, which shifted toward the Republicans.

While Republican-leaning politics should not be taken as a guarantee towards developing mining projects, it may reasonably be assumed that they are less constrained by bureaucracy and environmental considerations and certainly less openly hostile to the mining industry than some of their political counterparts. Within this context, it is notable the effect that the change in the presidency had in mobilising the share prices of some of Freegold's fellow miners in Alaska in 2016, of which Northern Dynasty (which had a project that was otherwise moribund in environmental bureaucracy for many years) is an example:

Exhibit 2: Northern Dynasty share price (C\$), January 2016-present



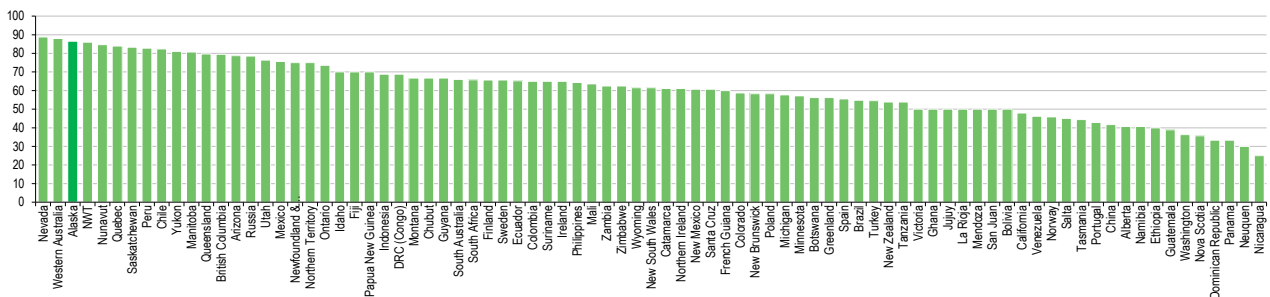
Source: Refinitiv.

Geological background

While not generally thought of as such, Alaska is located on the Pacific’s famed Ring of Fire, which is a nearly continuous series of oceanic trenches, volcanic arcs and volcanic belts that are a direct result of plate tectonics. In the case of Alaska, the breakup of Pangea c 200m years ago mobilised the North American plate, which consequently accreted various terranes onto it as it drifted westwards. The geology of Alaska is typical of that of the North American cordillera and hosts rocks from the Precambrian (ie the Earth’s earliest geological eon) to the present. Owing to the combination of accretion and volcanism, Alaska is, along with the rest of the Ring of Fire and its near neighbour, the Yukon, across the border in Canada, highly prospective and should be thought of in a similar manner to British Columbia, California, Mexico, Columbia, Ecuador, Peru, Chile, Indonesia, Papua New Guinea and the Philippines in terms of their potential mineral endowment and mining opportunities. As a result, historically, the Yukon is famed for the Klondike gold rush in the late nineteenth century around Dawson City, and has played host to White Gold’s recent success in the region as well as Victoria Gold’s Eagle project, while Alaska boasts major deposits such as Pebble, Red Dog, Fort Knox, Pogo, Kensington and Green’s Creek.

An idea of its geological prospectivity may be gained from the fact that Alaska polled third of the world’s mining destinations in the Best Practices Mineral Potential index of Fraser Institute’s annual survey of mining jurisdictions:

Exhibit 3: Fraser Institute’s Policy Mineral Potential index, 2018



Source: Fraser Institute

The Best Practices Mineral Potential index assumes jurisdictions’ policies are based on “best practices” and is designed to rank them based on which region’s geology either “encourages exploration investment” or is “not a deterrent to investment”. Since it assumes a “best practices” policy regime, the index therefore represents as closely as possible survey respondents’ assessment of a jurisdiction’s pure mineral potential.

Exhibit 4: Financial summary

	US\$000s	2016	2017	2018e	2019e	2020e	2021e
Year end 31 December		IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS							
Revenue		0	0	0	0	0	0
Cost of Sales		0	0	0	0	0	0
Gross Profit		0	0	0	0	0	0
EBITDA		(967)	(636)	(915)	(781)	(781)	(781)
Operating Profit (before amort. and except.)		(978)	(645)	(923)	(790)	(790)	(790)
Intangible Amortisation		0	0	0	0	0	0
Exceptionals		14	318	0	0	0	0
Other		21	(16)	(2)	0	0	0
Operating Profit		(942)	(343)	(926)	(790)	(790)	(790)
Net Interest		8	5	(0)	(111)	(518)	(1,981)
Profit Before Tax (norm)		(970)	(641)	(924)	(901)	(1,307)	(2,770)
Profit Before Tax (FRS 3)		(935)	(339)	(926)	(901)	(1,307)	(2,770)
Tax		0	0	0	0	0	0
Profit After Tax (norm)		(949)	(657)	(926)	(901)	(1,307)	(2,770)
Profit After Tax (FRS 3)		(935)	(339)	(926)	(901)	(1,307)	(2,770)
Average Number of Shares Outstanding (m)		129.5	152.2	176.5	189.0	189.0	521.7
EPS - normalised (c)		(0.7)	(0.4)	(0.5)	(0.5)	(0.7)	(0.5)
EPS - normalised and fully diluted (c)		(0.7)	(0.4)	(0.4)	(0.4)	(0.5)	(0.5)
EPS - (IFRS) (c)		(0.7)	(0.2)	(0.5)	(0.5)	(0.7)	(0.5)
Dividend per share (c)		0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)		N/A	N/A	N/A	N/A	N/A	N/A
EBITDA Margin (%)		N/A	N/A	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)		N/A	N/A	N/A	N/A	N/A	N/A
BALANCE SHEET							
Fixed Assets		34,015	36,765	38,567	41,368	53,370	125,153
Intangible Assets		33,638	36,396	36,396	36,396	36,396	36,396
Tangible Assets		377	369	2,171	4,973	16,975	88,757
Investments		0	0	0	0	0	0
Current Assets		2,392	898	51	51	51	51
Stocks		0	0	0	0	0	0
Debtors		7	66	0	0	0	0
Cash		2,306	780	0	0	0	0
Other		79	51	51	51	51	51
Current Liabilities		(650)	(664)	(545)	(545)	(545)	(545)
Creditors		(650)	(664)	(545)	(545)	(545)	(545)
Short term borrowings		0	0	0	0	0	0
Long Term Liabilities		(835)	(221)	(1,242)	(4,944)	(18,253)	(62,459)
Long term borrowings		0	0	(1,012)	(4,705)	(18,005)	(62,201)
Other long term liabilities		(835)	(221)	(230)	(239)	(249)	(258)
Net Assets		34,922	36,778	36,832	35,931	34,624	62,201
CASH FLOW							
Operating Cash Flow		(462)	(666)	(828)	(772)	(772)	(772)
Net Interest		8	5	(0)	(111)	(518)	(1,981)
Tax		0	0	0	0	0	0
Capex		(2,464)	(2,827)	(1,810)	(2,810)	(12,010)	(71,791)
Acquisitions/disposals		31	0	0	0	0	0
Financing		4,823	1,963	846	0	0	30,347
Dividends		0	0	0	0	0	0
Net Cash Flow		1,935	(1,525)	(1,792)	(3,693)	(13,300)	(44,196)
Opening net debt/(cash)		(371)	(2,306)	(780)	1,012	4,705	18,005
HP finance leases initiated		0	0	0	0	0	0
Other		(0)	0	0	0	0	0
Closing net debt/(cash)		(2,306)	(780)	1,012	4,705	18,005	62,201

Source: Freegold Ventures data, Edison Investment Research

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Frankfurt +49 (0)69 78 8076 960
Schumannstrasse 34b
60325 Frankfurt
Germany

London +44 (0)20 3077 5700
280 High Holborn
London, WC1V 7EE
United Kingdom

New York +1 646 653 7026
1,185 Avenue of the Americas
3rd Floor, New York, NY 10036
United States of America

Sydney +61 (0)2 8249 8342
Level 4, Office 1205
95 Pitt Street, Sydney
NSW 2000, Australia