

3 September 2018

**ASX CODE: HDY** 

# **Speculative Buy**

#### **Capital Structure**

Sector	Materials
Share Price (\$)	0.004
Fully Paid Ordinary Shares (m)	2,649.0
Options (ex 2c, exp 30/4/20) (m)	2,100.0
Options (ex 6c, exp 19/8/20) (m)	45.4
Options (ex 4.4c, exp 1/10/20) (m)	3.4
Market Capitalisation (undil) (\$m)	10.6
Share Price Year H-L (\$) 0.0	018-0.003
Approx Cash (\$m)	0.8

#### **Directors & Management**

Terence Clee	Executive Chairman
Robert McCauley	Non-Exec Director
Robin Armstrong	Non-Exec Director
Sarah Smith	Company Secretary

#### **Major Shareholder**

Top 20 53.0%

#### **Analyst**

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Source: CMC Markets

# **Hardey Resources Limited**

High grade Vanadium mine to drive near-term market interest

#### Nelly Mine-High-grade Vanadium mineralisation with upside

- Recent analysis by technical consultants SRK has found the newly acquired Argentinian Nelly Vanadium Mine (covering 53 ha) contains 1km extensions to the known old workings with three of the four mineralised veins remaining untouched. No modern exploration has been undertaken with surface inspections confirming mineralised horizons varying in width from 1 metre to 10 metres and grades (from 1959 sampling) averaging around 0.80% (up to 1.9%) V<sub>2</sub>O<sub>5</sub>. These results are not compliant with JORC 2012.
- Mineralised horizons comprise SSW-NNE trending quartz rich hydrothermal veins containing elevated V, Pb, Zn and Cu. Previous production (1949—1957) extracted four tonnes of V<sub>2</sub>O<sub>5</sub>, however this only exposed the ore body down to 15 metres depth. Detailed mapping, sampling, and induced polarisation surveys are likely to take place in the near term ahead of follow up diamond-drilling.

## Wollagalong & Chisholm (NT)...the right address

- HDY has acquired highly prospective vanadium exploration ground along strike from TNG Limited (ASX: TNG) Mt Peake project (JORC Indicated & Inferred Resources of 160Mt @ 0.28% V₂O₅, cut-off grade of 0.1% V₂O₅). Mt Peake is situated approximately 190 kilometres north of Alice Springs (Northern Territory).
- Interpretation of aero-magnetics (supported by geochemical sampling) by HDY has
  confirmed the presence of Vanadium being titano-magnetites (within a layered ultramafic
  envelope) on both tenements. This includes the Anningie Formation that has been
  interpreted to occur within the Wollagalong Project. The presence of vanadium bearing
  stratigraphy near surface represent potential open cut targets. Additional vanadium
  deposits of this style within the Arunta craton include the Jervois Vanadium Deposit (JV
  between Arafura Resources Limited and Thor Mining Limited).
- Significantly, TNG have a market capitalisation of approximately \$112 million (assuming a 13.5 cent closing share price on 31/8/2018). A DFS has returned an NPV<sub>8</sub> of \$4.9 billion with an IRR of 44%.

#### VanMin (QLD)—Toolebuc Formation identified on four Prospects

• The discovery of a significant aircore database comprising 393 shallow holes on the highly prospective Toolebuc Formation has provided the Company with significant encouragement on it's recently acquired **VanMin** package of Queensland vanadium projects. Better results included 3 metres @ 0.31% V<sub>2</sub>O<sub>5</sub> (Sharptooth Prospect) and 5 metres @ 0.48% V<sub>2</sub>O<sub>5</sub> from 2 metres downhole (Cera Prospect). The Toolebuc formation has been modelled across all four prospects (Sharptooth, Cera, Spike & Petrie) with pXRF sampling by **HDY** consultants suggesting that mineralisation may continue across all prospects.

#### Vanadium Market outlook remains strong

• Prices for V<sub>2</sub>O<sub>5</sub> 98% remain strong at just under US\$19/lb with strong steel and battery metal demand likely to put a floor under prices in the medium term.

# **Near-Term Price Catalysts**

 We anticipate further good news as HDY moves to complete surface mapping/geophysics at the Nelly Mine together with the quantification of stockpiles and other exploration targets. We consider Nelly has potential to become another small-medium size vanadium producer such as Energy Fuels Inc's Pandora Mine (Reserves of 1.0Mt @ 0.97% V<sub>2</sub>O<sub>5</sub>), situated in the La Sal complex (Utah, USA), scheduled to come on line with a 7-year mine life.

# Action and Recommendation

RM Research is maintaining its Speculative Buy on this potentially high-grade vanadium
play with a strong likelihood of near-term exploration success. Importantly the permitting
process in Argentina for bringing legacy mines back in to production is relatively
straightforward.



Nelly Mine presents many near term, walk up targets ...

...the style of mineralisation is amenable to the use of induced polarisation surveys

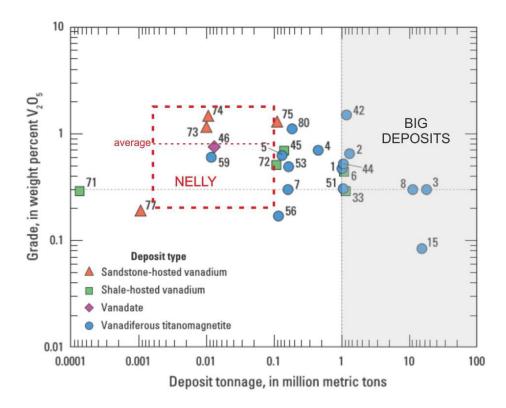
Nelly has the potential to be a medium sized deposit similar in size and grade to Pandora (La Sal Complex, Utah)...

A JORC (2012) target in the order of 0.1Mt @ 0.82% V<sub>2</sub>O<sub>5</sub> is achievable

Vanadium prices are set to continue their strong run on the back of its use as a steel hardener and surging battery demand

## **INVESTMENT CASE**

• NELLY MINE - WALK UP TARGETS: Extensive outcropping mineralisation, numerous shallow pits/shafts, mineralised stockpiles and multiple previously unidentified vein sets has presented many drill/geophysical targets at Nelly Mine for immediate follow up. RM Research considers there is an excellent chance of outlining JORC 2012 Resources in the near term. Given the polymetallic nature of the mineralisation, induced polarisation surveys should light up the vein systems. The permitting process for old mines in Argentina is also very favourable. We consider Nelly has the potential to be a small-medium sized high-grade deposit similar to Pandora (Utah, USA).



			Resource			
Name	Туре	Mineralogy	Av. grade	Ore (Mt)	V2O5	Category
			[% V2O5]		(Kt)	
La Nelly	Hydroth.	Vanadinite, descloizite	0.82	~0.1	~0.8	Undefined
Maracás	VTM	Titaniferous magnetite	1.2	21.4	256	Meas. + ind +
Ivana	SSV	Carnotite	0.019	23.9	4.5	Inferred
Pandora	SSV	Montroseite	0.91	0.22	2	Meas + indi +

- AUSTRALIAN VANADIUM PROJECTS-THE RIGHT ADDRESS: Sharptooth, Spike, Cera and Petrie Prospects in Queensland are situated in highly prospective terrain known for hosting large tonnage, low grade vanadium mineralisation. The NT suite of projects (Chisolm & Wollagalong) are situated close to Mt Peake within the same geological terrain. The DFS on Mt Peake has presented an impressive set of financial metrics.
- BURRAGA COPPER: The Lloyds copper mine (NSW, Lachlan Fold Belt) represents a
  brownfields exploration play targeting down-plunge copper targets from historical
  workings. We believe there is an excellent chance of finding down-plunge extensions to
  known copper mineralisation.
- SURGING VANADIUM PRICES: Vanadium prices have put on over 300% since 2017
  and are likely to continue their strong run driven by increasing use as a steel hardener,
  stricter Chinese regulations around rebar and the surging demand for use in Vanadium
  Redox Flow batteries.



Infrastructure advantages....

The mine produced V<sub>2</sub>O<sub>5</sub> and VO<sub>3</sub>NH<sub>4</sub> from 1949 to 1957...

...mining only targeted one vein leaving three other veins intact.

# **EXPLORATION PORTFOLIO**

# **The Nelly Mine**

#### **Location and Access**

Nelly Vanadium Mine (Figure 1) covers 53-hectares, and is located 170 kilometres from San Luis Province in Argentina. Infrastructure (power, water, roads and a nearby Port) is excellent with production of high-grade  $V_2O_5$  and  $VO_3NH_4$  from 1949 to 1957 via gravimetric separation and a processing plant on-site.



**FIGURE 1**: Nelly Vanadium Mine, San Luis, Argentina. (*source*. **HDY** website, September 2018).

#### **Geology and Mineralisation**

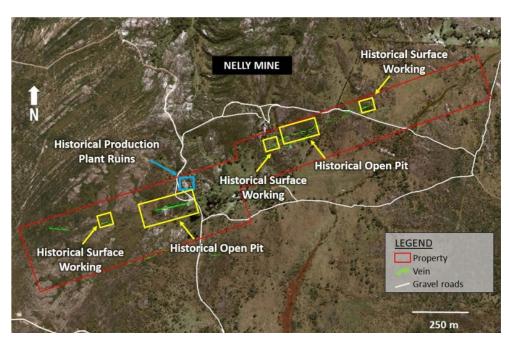
The Las Aguadas mining district is composed of an igneous-metamorphic basement of lower Precambrian-Palaeozoic schists, migmatites, granites, pegmatites, aplites, lamprophyres, basalts and hydrothermal veins.

Micaceous schists are intruded by post-kinematic pegmatites which coincided with ductile deformation at the end of the upper Palaeozoic, when the basement begun to undergo brittle deformation.

Extensional tectonics coincided with the ingress of hydrothermal fluids in three pulses of mineralizing fluids that filled the dilational zones. Repeated brittle deformation led the veins to multiple dislocation and mineralization events.

The polymetallic deposits occur as veins with variable strike and dip, ranging in thickness from a few centimetres to over 10 metres. These deposits underwent hydrothermal processes, which altered the surrounding host rocks in alteration zones that vary between 0.1 and 0.8 metres in width.





**FIGURE 2**: Nelly Vanadium Mine, satellite image. (source. **HDY** website, September 2018).

3544000 3544500 3545000 WM05 WM03 WM04 Legend Property - Faults Mining work 300 m 150 Vein 3544000 3544500 3545000

**FIGURE 3**: Nelly Vanadium Mine, structural interpretation. (*source*. SRK Consulting, 14 August 2018).

Induced polarisation and diamond drilling are likely to lead to a better understanding of the mineralised vein systems...

...historical assays range up to 1.9% V<sub>2</sub>O<sub>5</sub>.



Mineralisation has been traced for over 1.5 kilometres....

**FIGURE 4**: North wall of mining work MW01.

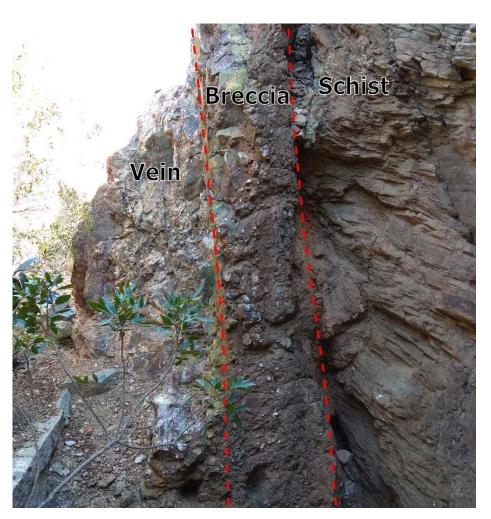
(source. SRK Consulting, 14 August 2018).

#### Mine Description and Site Visit

The mine is located in the Las Aguadas district (San Luis) and comprises mostly Precambrian to Cambrian metamorphic rocks, interspersed with granite intrusions. Previous mining comprised shallow open pits and some limited slots. Field inspections by **SRK** have indicated that the majority of the mineralised veins remain untouched, therefore providing a significant amount of near term exploration upside.

Recent field inspections including surface mapping and sampling by technical consultants **SRK** have confirmed the presence of at least four north-north-east striking vanadium rich-polymetallic vein sets striking for approximately 1.0 kilometre respectively. Widths were typically 0.50 to 2.0 metres and up to 5.5 metres. The site visit also confirmed the presence of numerous shafts, open cut workings and unexploited mineralised vein sets adjacent and along strike from known workings.

The mining work shows mineralisation within a near vertical, ENE striking 160 metre long quartz-rich lens-shaped vein, 8 -10 metres wide in the central part. Fault breccias are in the order of 30cm wide or are absent altogether, being the vein in direct contact with the host rock. (Figure 4).



The mineralised vein is associated with a quartz-rich body with numerous secondary veins/ stockwork textures. Quartz is also stained by other minerals in some instances. Breccias on both sides of the quartz vein appeared to have been infiltrated with mineralising fluids.



Much of the mineralisation identified near surface remains untouched...

**FIGURE 5**: Mining work at WM03 measuring 3 metres in width.

(source. SRK Consulting, 14 August 2018).

The mining work identified in Figure 3 as WM02 corresponds to a 2.0 metre long 0.50 metre wide quartz-rich vein. The vein is fractured and grades into stockwork textures and mineralisation is hosted in fractures.

The second main mining operation identified in Figure 3 as WM03 (Figure 5) comprises a 50 metre long, 3 metre wide mineralised vein with a similar structure and mineralisation style to the Nelly mine vein (WM01). The veins strike ENE and dips vertically. The vein is mainly composed of quartz in a stockwork framework hosting metalliferous minerals.



The mining work shown in Figure 3 as WM04 has the same structure and mineralogy as workings identified at WM01 and WM03 although the outcrop is smaller, approximately 10 metres long and 2 metres wide.

Given the location and characteristics of the vein outcrops, **SRK** consider that mineralisation is hosted in steeply dipping NE-SW trending fault, post dated by NW-SE faults with a horizontal sinistral component. The main vein and the outcrops that show the highest mineralisation are located in areas close to the NW-SE faults. Further work (geophysics and drilling) are required to test for mineralisation at depth.

## **Nelly Mine Exploration Target**

Assuming a strike length of between 1.0 kilometres and 1.2 kilometres, an average width of between 2.0 and 3.0 metres, a depth of between 13 and 18 metres, a Specific Gravity of 2.65 and grades varying from 0.70% to 0.90%  $V_2O_5$ , we arrive at a resource target range of between 0.048Mt and 1.54Mt of ore.

This Exploration Target is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource

The Exploration Target comprises a reasonably conservative set out assumptions as ore mineralisation may persist at depth and there may also be parallel structures that are not visible on surface or in the existing workings. The affect of weathering and concentration of oxide minerals near surface may serve to increase grades in the weathering zone, so the persistence of grade at depth requires detailed drilling to resolve this question.



Infrastructure advantages....

Sharptooth is situated near the Richmond Vanadium Project...

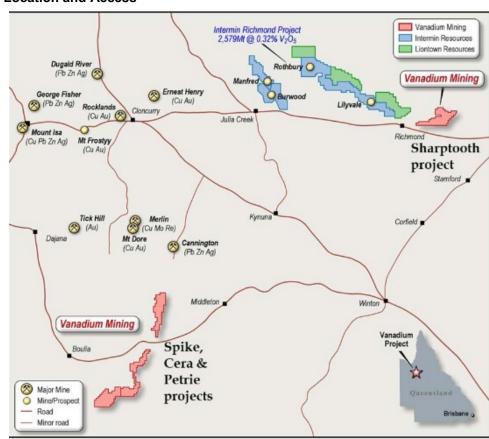
...hosting 2.6Mt @ 0.32% V<sub>2</sub>O<sub>5</sub>.

# **FIGURE 7**: Sharptooth, Spike, Cera and Petrie Projects (Queensland) together with known occurrences of Toolebuc Formation & significant drill intercepts.

(source. **HDY** ASX Announcement, 19 July 2018).

# **Australian Vanadium Projects (Queensland)**

#### **Location and Access**

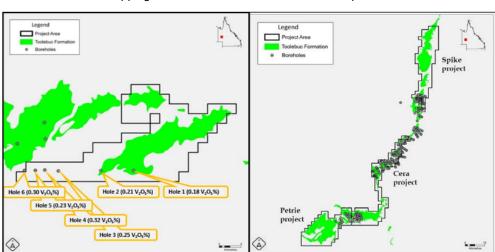


**FIGURE 6**: Sharptooth, Spike, Cera and Petrie Projects (Queensland). (*source*. **HDY** ASX Announcement, 19 July 2018).

The Sharptooth, Spike, Cera and Petrie Projects (Figure 6) were acquired in August 2018 as part of the Vanadium Mining Pty Ltd ("VanMin") acquisition. The tenements are close to the well known mining centre of Mt Isa and are well serviced by sealed roads.

## **Geology & Mineralisation**

The highly prospective Toolebuc formation (figure 7) is widespread throughout **HDY's** tenements with outcropping areas selected for immediate follow up.





**TABLE 1**: Significant vanadium drill hole intercepts (refer Figure 7).

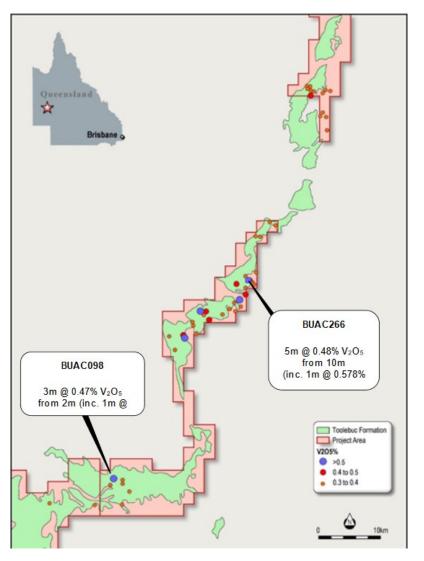
(source. **HDY** ASX Announcement, 19 July 2018).

The	recei	nt ide	entifi	catior	n of
383	histo	rical	airc	ore	drill
holes	has	given	the	proje	ect a
majoi	boos	st			

...mineralised zone averaged 0.29% V<sub>2</sub>O<sub>5</sub>.

Borehole No	From (m)	To (m)	Length (m)	Grade V%	V <sub>2</sub> O <sub>5</sub>
1	15	16	1	0.10	0.18
2	13	14	1	0.12	0.21
3	32	33	1	0.14	0.25
4	41	42	1	0.18	0.32
5	57	58	1	0.13	0.23
6	52	53	1	0.17	0.3

Significantly, Table 1 shows a number of highly anomalous drill holes that were completed within the Company's tenements. These intercepts represent targets for immediate follow up exploration. On 22 August 2018, **HDY** announced it had identified a total of 383 Aircore holes along the 150km NS trending strike length through the Spike, Cera and Petrie Projects and within the Sharptooth Project. Highlights from this program were a number of shallow intercepts (Figure 8) of highly anomalous Vanadium including 3m (from 4 metres downhole) @ 0.31%  $V_2O_5$  at Sharptooth and 5 metres (from 10 metres downhole) @ 0.48%  $V_2O_5$ . at Cera. Importantly drilling only reached 30 metres depth with the mineralised horizon averaging around 0.29%  $V_2O_5$ . In addition to the potential for further mineralisation at depth, the use of wider diameter drilling could provide more reliable samples.



**FIGURE 8**: Sharptooth, Spike, Cera and Petrie Projects (Queensland). (source. **HDY** ASX Announcement, 19 July 2018).



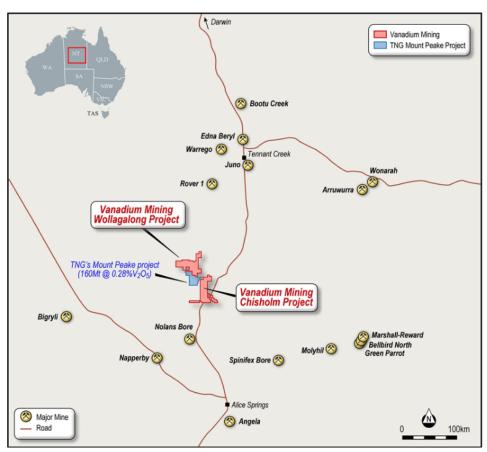
# **Australian Vanadium Projects (Northern Territory)**

#### **Location and Access**

Chisolm and Wollagalong are situated approximately 190 kilometres of Alice Springs just off the main Darwin to Alice Springs sealed highway. The projects are continuous with the Mt Peake VTM project (Figure 9).

#### **Geology & Mineralisation**

The Wollagalong and Chisolm Projects are situated within the prospective Arunta Orogen, host to the Mt Peake titano-vanadium Vanadium deposit. The projects are prospective for Vanadium mineralisation and are contiguous with **TNG Limited** (ASX: **TNG**) Mt Peake Project (160Mt @ 0.28% V<sub>2</sub>O<sub>5</sub>, cut-off grade of 0.29% V<sub>2</sub>O<sub>5</sub>). The Mt Peake DFS (updated in November 2017) showed a robust set of financial metrics including an NPV<sub>8</sub> (pre-tax) of \$4.9 billion, an internal rate of return of 44% and a project payback of 3 years with a CAPEX of approximately \$850 million.

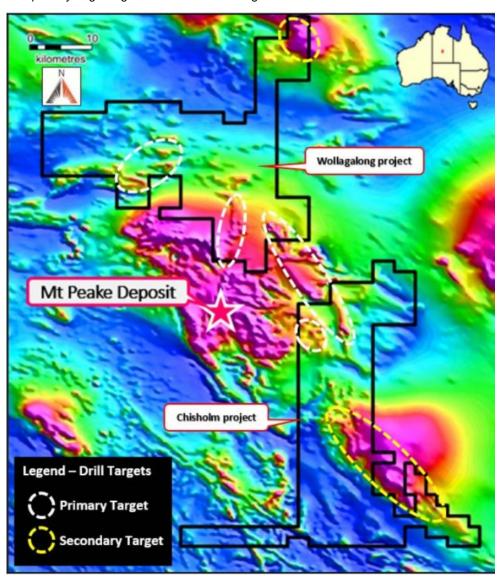


**FIGURE 9**: Sharptooth, Spike, Cera and Petrie Projects (Queensland). (source. **HDY** ASX Announcement, 19 July 2018).

More recent investigations of previous exploration data have confirmed the presence of the Anningie Formation, host to the Mt Peake deposit, which has also been mapped on the Wollagalong Project.



Examination of regional EW and NS trending structures on the magnetic images in figure 10, together with the favourable geology, indicates there numerous targets to be followed up. The primary target is gabbro hosted titano-magnetite mineralisation similar to Mt Peake.



**FIGURE 10**: Aeromagnetic images showing regional structures on the Wollagalong and Chisolm Projects. (*source.* **HDY** ASX Announcement, 19 July 2018).

Significant regional structure + favourable geology on the Wollagalong + Chisolm Projects



A Scoping Study on copper tailings + slag has generated positive financial metrics

Drilling is likely to focus on identifying down-plunge extensions to known copper mineralisation...

...an environmental impact statement is also underway

# **Burraga Copper Project**

**Location and Access** 

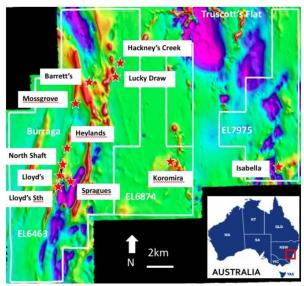


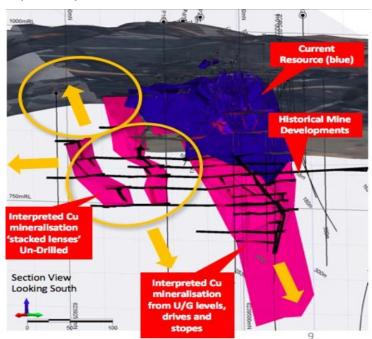
FIGURE 11: Burraga Project, & prospects. Lachlan Fold Belt NSW. (source. HDY ASX Announcement, 13 June 2018).

The Burraga Copper Project (Figure 11) covers approximately 84 square kilometres in the Lachlan Fold Belt of NSW proximal to former producer the Lloyd's Copper Mine (19,443 tonnes of Cu @ 3.14% Cu from 1880 to 1920).

**Geology & Mineralisation** Within EL6463, the Lucky Draw Gold Mine discovered by Renison Goldfields Consolidated Ltd in 1980 yielded 1.41Mt of ore at an average grade of 4.2 g/t Au. Further assessment will undertaken of the un-mined portion of the Lucky Draw Gold Mine as well as the Hackney's Creek Project. HDY is targeting further mineralisation these at two locations.

EL 6874 covers approximately 24 square kilometres and includes the Burraga Granite and Rockley Volcanics. Geophysics and geochemical surveys are planned to identify drill targets for Lucky Draw style mineralisation. EL 7975 (covering 75 square kilometres) covers the eastern portion of the Burraga Granite and Rockley intrusions. Geophysics and geochemical sampling on the Burraga Granite contact are also planned to establish drill targets for Lucky Draw style mineralisation.

#### **Proposed Exploration**



Follow up drilling is likely to focus on down-plunge extensions to mineralisation, in particular testing the hypothesis that copper mineralisation occurs as stacked lenses (Figure 12).

An Environmental Impact Statement is also underway, a key component required for the granting of a mining license. The primary objective is the treatment of Cu stockpiles.

**FIGURE 12**: Lloyds Mine and modelled ore body Fold Belt NSW. (*source*. **HDY** ASX Announcement, 13 June 2018).



6 alluvial nuggets have so far been found at Bellary

#### Many of the Pilbara gold discoveries in the Pilbara associated with the Mt Roe Basalt are believed to be similar in age and style to the Witwatersrand deposits of South Africa

## OTHER PROJECTS

**Pilbara Gold** (Bellary E47/3578, Hamersley E47/3827, Elsie North E45/5020), Cheela E08/2880); The four exploration licenses cover over 500 square kilometres and are prospective for paleo-Proterozoic Witwatersrand style gold mineralisation. So far 6 alluvial gold nuggets have been found at Bellary with follow up work likely to consist of a POW and access approvals to commence the next phase of exploration. This is likely to take the form of drilling at the Porphyry South Area and the completion of a shallow RC drilling program

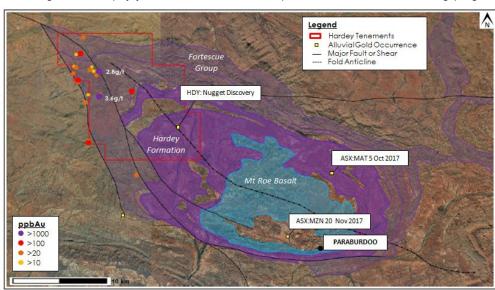


FIGURE 13: Bellary project 25 km north-west of Paraburdoo (Pilbara, WA). (source: Hardey Resources website).

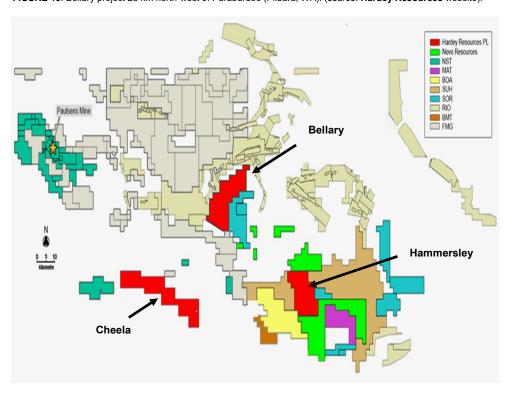


FIGURE 14: Location of Bellary, Hamersley (conglomerate Au) and Cheela (Zn, Pb, Ag, Au) projects, in the southern Pilbara (WA). Note Elsie North project located off the map near Nullagine. (source: Hardey Resources website).

(Figures 13, 14).



HDY is targeting VMS style mineralisation

V<sub>2</sub>O<sub>5</sub> prices are up over 300% since 2017...

...driven by both increasing usage in steel together with surging demand for Vanadium Redox Flow Batteries

Vanadium Redox Flow Batteries will hold a charge for up to 12 months Horseshoe South Project (HDY: 100%): This tenement covers 5.5km² and lies 4km to the south of the Horseshoe Lights Mine (Western Australia) which is a VMS style high grade copper ore body. Over the past several years, Horseshoe Metals Ltd (ASX:HOR) has been delineating extensions to the south plunging ore-body. Other notable deposits in the same geological terrain include De Grussa Mine (60 kilometres NE) (64Kt Cu and 39K oz Au in 2018) (Sandfire Resources NL, ASX: SFR). Previous exploration by Sabminco in the 1990's included 9 metred @ 10.2 g/t Au approximately 200-300 metred west of the Company's tenement. Interpretation of previous magnetic data suggests targets are 100-200 metres deep and will require further deep RC drilling.

# **COMMODITY OUTLOOK**

#### Vanadium

Over 90% of Vanadium is used in steel making, with usage as a hardening additive increasing on the back of more stringent regulation (Figure 17). The addition of only 0.10% Vanadium is able to increase steel strength by 100%, with use in rebar increasing by 6% p.a. New Chinese standards relating to rebar are set to take effect from 1 November 2018. Vanadium slag imports to China were also banned in January this year. In addition to Vanadium's use in steel, the increasing usage in batteries is likely to further contribute to forecast supply deficits. Vanadium prices already up over 300% since 2017 (Figure 15);

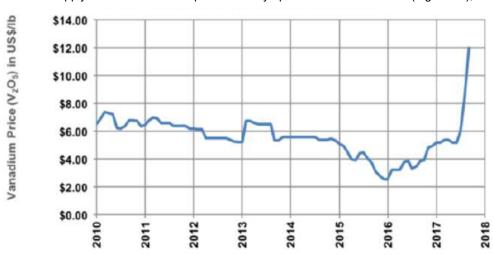


FIGURE 15: Vanadium prices, 2010 to 2018 (source: Metal Bulletin & assetmacro.com, September 2017).

Vanadium has superior energy storage capabilities in Vanadium Redox Flow Batteries (VRFB's), compared to conventional batteries.

Advantages of VRFB's include:

- These batteries are long lasting compared to their piers (>20 years);
- VRFB's hold charge for up to 12 months;
- These batteries can discharge 100% charge with no damage;
- VFRB's are scalable;
- The batteries are much more stable than their piers due to the presence of only one element in the electrolyte.

Over 85% of Vanadium production comes from Russia, South Africa and China so end users will be looking for diversity of supply in more stable jurisdictions. Figure 18 also sets out Vanadium Reserves which are concentrated in the same countries.



In 2017 Vanadium consumption exceeded production by over 9,000 MTV

Vanadium is primarily used for steel strengthening however its use in energy storage is accelerating

Vanadium reserves and production are dominated by South Africa, Russia and China

Vanadium Flow Batteries have potentially significant implications for the Australian energy market

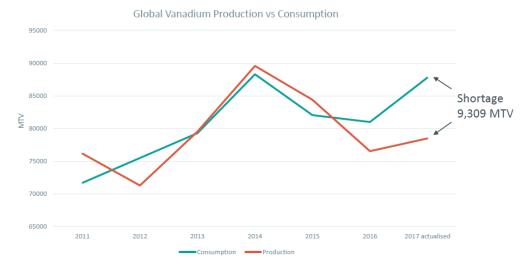


FIGURE 16: Vanadium consumption-production metrics (source: Metal Bulletin & assetmacro.com)

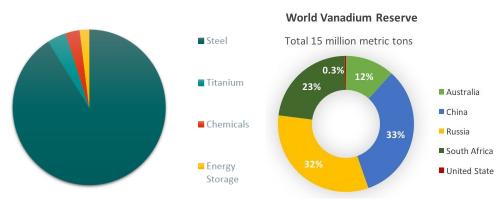


FIGURE 17: Vanadium use by industry. (source: USGS)

**FIGURE 18**: World Vanadium reserves. (source: **USGS**)

Rising power costs are topical in Australia and other developed nations. The use of Vanadium batteries could significantly reduce both peak and off peak power costs and there are also opportunities for off-grid use, particularly in remote areas where power costs are high and energy storage is a significant issue. A CEC report in 2012 has predicted that Australia's energy storage requirements will exceed 3,000MWH by 2030.

Vsun Energy Pty Ltd (a subsidiary of Australian Vanadium Limited, ASX: AVL) has been active in identifying residential and commercial opportunities for its Vanadium Flow Batteries ranging from 5KWH power with15KWH of energy storage to 40MW of power with 160MWH of storage (Figure 19).

**FIGURE 19**: VSun Energy Vanadium Flow Battery. (source: vsunenergy.com.au)





**HDY** recently completed the acquisition of the Argentinian and Australian (Queensland and Northern Territory) Vanadium assets

Immediate risks surround permitting and access at Argentina...

...given that the Nelly Mine is a former producer, the risks here are considered low

Terence has significant experience in start up and junior companies

Robert has had senior position with a number of highly successful natural resource projects

Robin was formerly a director of Sydney based Findlay Stockbroking

## **CORPORATE**

HDY recently (24/8/2018) completed the acquisition of 100% of **Nelly Vanadium Pty Ltd** and **Vanadium Mining Pty Ltd** respectively, in the process issuing the following consideration:

- (a) 737,500,000 (NVPL) & 550,000,000 (VanMin) Shares; and
- (b) 737,500,000 (NVPL) & 550,000000 (VanMin) listed options (exercisable at \$0.02 on or before 30 April 2020).

# **KEY RISKS**

**POLITICAL RISK**: The Company is exposed to political risks in both Australia and Argentina which are considered low to moderate risk jurisdictions with respect to exploration and development.

**PERMITTING/APPROVALS/LICENSING:** Despite the well publicised currency risks that have plagued Argentina in the past, it is considered a relatively friendly mining jurisdiction with, in this case, a fairly straightforward permitting procedure given the Nelly Mine is a past producer.

**COMMODITY PRICE OUTLOOK**: The Company is primarily exposed to Vanadium, and to a lesser extent, gold prices. While gold has been in decline over most of 2018, prices for Vanadium Pentoxide have remained firm and projected to rise further on the back of battery metal demand.

**METALLURGY/PROCESS RISK**: Polymetallic ores have historically presented metallurgical challenges however given the good recoveries reported at the Nelly Mine from past production, **RM Research** considers the risks to be low to moderate.

**FINANCE RISK:** Taking into consideration the large exploration acreage recently acquired by the Company, it is highly likely to need to raise further equity in the short to medium term which could be dilutive to existing shareholders. In respect to the Nelly Mine however, this is likely to be a relatively low capital intensity project (from a production perspective).

#### **DIRECTORS**

## Mr Terence A Clee, B.Comm. L.L.B.

#### **EXECUTIVE CHAIRMAN**

He commenced his career as an accountant at **KPMG** working in corporate audit and corporate tax. Terence co-founded Hemsley Lawyers alongside lawyers from **Allens Arthur Robinson** and **Blake Dawson** (now **Ashurst**) and was responsible for the business development and strategic growth of the practice. Terence has experience in the start up and small cap space having advised technology start ups and junior miners on commercialisation, cross border transactions and R & D.

#### Mr Robert McCauley, B.Sc.

#### NON-EXECUTIVE DIRECTOR

Mr McCauley has held senior board and management positions in ASX Listed Companies including **Commissioners Gold Ltd** (now **Gold Mountain Ltd**, ASX:**GMN**) and has extensive experience in capital raisings, IPO's, finance, media, corporate advice and acquisitions. Robert was also nominated in 2011 as an industry representative on the ASX equity market review panel reporting to ASIC. Robert holds a B.Sc. degree and is a Member of the Royal Institution of Chartered Surveyors (Aust.UK). He is also a Registered Surveyor, Licensed Surveyor WA and a Chartered Land & Minerals Surveyor. Robert has over 35 years of experience and involvement in infrastructure development including Boddington Gold Mine WA – now **Newmont Mining Corporation**; North West Shelf Natural Gas Project and the Monasavu Hydro Electric Scheme, Fiji - World Bank Project.

#### Mr Robin Armstrong

#### NON-EXECUTIVE DIRECTOR

Robin has extensive corporate experience in listed companies specializing in the small to medium market caps. Mr Armstrong provides **HDY** with expertise in finance, strategic advice, merger & acquisitions and capital raisings. He was formerly a director of **Findlay's Stockbrokers Limited** from 1996-2009 and a director of **Wolf Strike Rentals Limited** until 2016.



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Care has been taken to define the level of risk to return associated with a particular company. Our recommendation ranking system is as follows:

Buy Companies with 'Buy' recommendations have been cash flow positive for some time and have a moderate

to low risk profile. We expect these to outperform the broader market.

Speculative Buy

We forecast strong earnings growth or value creation that may achieve a return well above that of the

broader market. These companies also carry a higher than normal level of risk.

Hold A sound well managed company that may achieve market performance or less, perhaps due to an

overvalued share price, broader sector issues, or internal challenges.

Sell Risk is high and upside low or very difficult to determine. We expect a strong underperformance relative to

the market and see better opportunities elsewhere.

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