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Think Nickel

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Eddy Haegel Asset President Nickel West 5 August 2019

> Sam Penglis Operations Readiness Manager Nickel Sulphate Project, Kwinana

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Forward-looking statements

This presentation contains forward-looking statements, including statements regarding: trends in commodity prices and currency exchange rates; demand for commodities; plans, strategies and objectives of management; closure or divestment of certain operations or facilities (including associated costs); anticipated production or construction commencement dates; capital costs and shortages of materials and skilled employees; anticipated productive lives of projects, mines and facilities; provisions and contingent liabilities; tax and regulatory developments.

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5 August 2019

Exploration Results - Competent Person Statement

Nickel West Exploration Results Competent Person Statement

M Menicheli is a current Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and a full-time employee of BHP. M Menicheli has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). M Menicheli consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Perseverance Channel is located on the eastern margin of the Agnew-Wiluna greenstone belt, a well-endowed nickel sulphide province, between Perseverance and Venus operations on mining lease ML255A and has unlimited renewal terms of 21 years.

Local stratigraphic sequence comprises a lower tholeiitic basalt with minor gabbro, overlain by a thick sequence of dominantly felsic, volcanic and volcaniclastic rock with lesser mafic units, cherts, pelitic sediments and black shales (Gole et al, 1988). Several komatilite sequences are intercalated within the felsic sequence, some of which contain large olivine adcumulate units. These units have been altered to a mid-amphibolite facies grade with the ultramafic typically serpentinised with varying degrees of talc-carbonate alteration.

The structural architecture is a result of polyphase folding with later stage regional faulting. Duuring et al (2004), in general agreement with earlier workers, recognise a regional D1 event involving south-vergent, tight to isoclinal folds overprinted by NNW-trending D2 upright folds forming regional scale anticlines and synclines. Subsequent deformation events have resulted in smaller scale subordinate parasitic folds and faults.

Perseverance Ultramafic host several nickel deposits with the most notable being Perseverance and Venus. The Perseverance architecture is used as a proxy for Perseverance channel interpretation sitting in the same geological context and comprises a main highgrade disseminated nickel core with associated, structurally remobilised and constrained, massive sulphide lenses (mainly formed pentlandite and pyrrhotite assemblage) surrounded by a large low grade disseminated 'cloud' of mineralisation. The deposit occupies the stratigraphic base of a major komatilitic channel complex located on the eastern limb of an overturned regional anticline (Gole et al, 1988). The complex is east facing, strikes north south for about 2km and is about 700m at its widest.

The target was first tested in 2012 from the surface using diamond drilling. The 2012 drill campaign comprised of one diamond drill hole with collar started in PQ (LSDX132) and three wedging holes deriving from parent hole were wedge 1 (W1) missed the target and W2 pierced the main mineralisation. W3 pierced mineralisation higher up in the sequence missing the high grade zone. The initial drillholes commenced as PQ core size and the drill holes sizes reduced to HQ, NQ and BQ as a strategy to drill through unconsolidated shear zones. The sampled mineralised zones core size ranges between NQ to BQ.

The 2019 program consisted of four diamond holes (HQ diameter), drilled from the Venus underground lower access drives. All the relevant intersections of the mineralised zone, including internal barren lithologies, are listed in Table 1. Only two holes, LVU465-2 and LVU465-3, have assays returned at the time of this presentation.

Samples in both campaigns were collected following company protocols, consisting of, cutting the core in half for samples where ultramatics or sulphides were identified from logging and including a 10m sampling buffer beyond the contacts. The remaining half core is stored at the Leinster core farm. The minimum sample interval is 10cm to a maximum of two metres, dependent upon lithological boundaries. All assays were performed in an external certified laboratory using XRF and verified using company QAQC procedures, with no issues identified. All drill holes were monitored with survey partial shots and surveyed as a whole for final validation and record.

Nickel percent of intervals presented on **slide 14** are weighted averages including the barren rocks and are weighted by length and density. Significant intervals are selected based on geological continuity and an approximate one percent nickel cut-off as a separation guide. Intersections lengths on **slide 14** are apparent down-hole lengths and do not represent true width of the mineralisation. Current interpretation of the target is based on rock types and stratigraphy acquired from geological logging, assay results and current understanding of the Perseverance Ultramafic structural architecture. A north looking vertical cross section and its relative location is shown in Figure 1 (slide 4), summarising current geological understanding.

A drill hole program to further define the Perseverance Channel target is in progress with 15 drill holes planned for completion by end of FY2020.

References

Duuring, P., Bleeker, W., Beresford, S., 2004. Structural Overview of the Agnew–Wiluna Greenstone Belt, Yilgarn Craton, Western Australia. P710 AMIRA Research Project

Gole, M.J., Barnes, S.J., Hill, R.E.T., 1988. The Geology of the Agnew Nickel Deposit, Western Australia. CIM Bulletin, September 1988



Perseverance Channel Exploration – Figure 1









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Exploration Statements Table 1 - drill hole intersections Perseverance Channel Drilling Campaigns

		Collar position	MGA94_51- East	MGA94_51- North	MGA94_5 1-Elev	Depth	End date	Collar AZM	Collar Dip	Mineralisation FROM	Mineralisation TO	Length	Density	Weighted Ni% Average	Best FROM	Best TO	Length	Density	Weighted Ni% Average
	LSDX132		272,932.1							872.3	874.7	2	3.0	0.9	1720.9	1733.4	12	2.8	1.4
		o (6,921,489.4	505.4	0.054.4		62.8 - 71		1720.9	1789.85	66	3.1	1.1	-	-	-		-
		Surrace			525.1	2,251.1	29-Apr-12		- 71.0	2027.05	2040	13	3.1	1.1	-	-	-		-
u										Total 81			3.1	1.0	То	tal	12	2.8	1.4
paiç	LSDX132W1	LSDX132	272,932.1	6,921,489.4	525.1	2,275.9	4-Jul-12	62.8 -	71.0					Not Mineralised					
12 Cam										1701.45	1705.82	4	3.1	1.40	1702.5	1705.8	3	3.2	1.6
	LSDX132W2	LSDX132	272,932.1	6,921,489.4	525.1	1,927.3	30-Aug-12	62.8 -	- 71.0	1713.9	1847	133	3.2	0.85	1717.0	1740.6	24	2.9	2.1
20										Τα	otal	137	3	0.9	То	tal	27	2.9	2.0
	LSDX132W3	132W3 LSDX132	272,932.1	6,921,489.4	525.1	2,000.9	3-Nov-12	62.8 -		1726.45	1730.8	4	2.7	0.94	-	-	-		-
									- 71.0	1745.15	1747.1	2	2.7	0.69	-	-	-		-
										Τα	otal	6	2.7	0.9	То	tal	-		-
	LVU465-2	UG	273,687.8	6,921,546.7	- 526.8	552.9	24-May-19	107.3	- 84.9	449.27	521.12	72	2.9	1.6	454.4	495.1	41	3.0	2.0
aign	LVU465-3		273,687.0	6,921,547.3						442.82	451.3	8	2.9	1.5	442.8	451.3	8	2.9	1.5
) Campa		UG			3 - 526.6	6 577.2	? 6-Jul-19	109.7 - 79.4	- 79.4	464.82	543.4	79	3.0	1.1	464.8	489.0	24	3.2	2.1
										Тс	otal	87	3.0	1.1	То	tal	33	3.1	2.0
2019	LVU465-10	UG	273,687.8	6,921,545.6	- 526.6	561.7	21-Jan-19	70.9	- 76.7		Assays pending								
	LVU465-11	UG	273,687.9	6,921,545.6	- 526.5	566.6	13-Feb-19	38.2	- 75.8	Assays pending									

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Mineral Resources - Competent Person Statement

Nickel West Mineral Resources Competent Person Statement

The information in this slide relates to Nickel West Mineral Resources as at 30 June 2019 and are inclusive of Ore Reserves and is based on information prepared by M Menicheli, Competent Person for all declared Mineral Resources.

M Menicheli is a current Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and a full-time employee of BHP. M Menicheli has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). M Menicheli consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Mineral Resources as presented are reported in 100 per cent terms. All tonnes and quality information have been rounded, hence small differences may be present in the totals. Total contain nickel metal is presented in the table below as kilotonnes and as million tonnes rounded to two significant figures on **slide 11** (no metallurgical recovery have been applied to the calculation of contained nickel metal). Mineral Resource classification depends on mineralisation type and geological complexity, with no Mineral Resources beyond 100m x 100m drilling spacing.

Nickel West Mineral Resources as at 30 June 2019

Commodity	Ore Type	Cut-off	Measured Resources	Indicated Resources Inferred Resources					Total Resources			BHP Interest
Deposit			Mt	%Ni	Mt	%Ni	Mt	%Ni	Mt	%Ni	KtNi metal	%
Leinster (1)	OC	≥ 0.40%Ni	3.3	1.8	2.8	1.2	3.2	1.0	9.3	1.4	130	100
	Disseminated Sulphide	≥ 0.40%Ni	2.6	0.70	76	0.52	89	0.50	168	0.52	874	
	UG	≥ 1.0%Ni	16	2.1	10	2.2	5.4	2.0	31	2.1	651	
	Oxide	≥ 1.2%Ni	_	_	_	_	5.3	1.8	5.3	1.8	95	
	SP	≥ 0.70%Ni	_	_	1.4	1.0	_	_	1.4	1.0	14	
	SP Oxidised	≥ 0.70%Ni	_	_	_	_	1.9	1.7	1.9	1.7	32	
Mt Keith (2)	Disseminated Sulphide	Variable between 0.35%Ni and	134	0.54	67	0.52	24	0.52	225	0.53	1,193	100
	SP	0.40%Ni	8.4	0.48	_	_	_	_	8.4	0.48	40	
Cliffs (3)	Disseminated Sulphide	≥ 0.40%Ni	_	_	6.7	0.88	2.0	1.0	8.6	0.92	79	100
	Massive Sulphide	Stratigraphic	0.72	3.7	1.3	3.9	0.49	3.8	2.5	3.8	95	
Yakabindie	Disseminated Sulphide	≥ 0.40%Ni				0.62	170	0.62	439	0.61	2,678	100
Venus (4)	Disseminated Sulphide	≥ 0.40%Ni	_	_	4.2	1.9	2.3	1.6	6.5	1.8	117	100
	Massive Sulphide	Stratigraphic	_	_	0.84	6.2	0.69	6.1	1.5	6.2	93	
Nickel West Projects	·											
Jericho	Disseminated Sulphide	≥ 0.40%Ni	_	_	_	_	31	0.59	31	0.59	183	50

(1) Leinster - Mineral Resources increased including a maiden declaration of Oxide ore type and an updated estimate of UG ore type supported by additional drilling. SP tonnage decreased due to depletion.

(2) Mt Keith - The decrease in SP Mineral Resources was due to depletion.

(3) Cliffs - The increase in Disseminated Sulphide Mineral Resources was due to an upgrade in the resource estimate supported by additional drilling.

(4) Venus - The increase in Disseminated Sulphide Mineral Resources was mainly due to an updated resource estimate supported by additional drilling.

Ore Reserves - Competent Person Statement

Nickel West Ore Reserves Competent Person Statement

The information in this slide relates to Nickel West Ore Reserves as at 30 June 2019 and is based on information prepared by the Competent Persons for each deposit. The Competent Persons are C Barclay and S Gadi for Leinster; D Brosztl and S Gadi for Mt Keith and Yakabindie; A Hadzhiev for Cliffs; and C Barclay and P Cunningham for Venus

All Competent Persons are current Members of the Australasian Institute of Mining and Metallurgy (MAusIMM) and are full-time employees of BHP except P Cunningham who is employed by AMC Consultants. All Competent Persons have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). All Competent Persons consent to the inclusion in this presentation of the matters based on their information in the form and context in which it appears.

Ore Reserves as presented are reported in 100 per cent terms. All tonnes and quality information have been rounded, hence small differences may be present in the totals. Total contained nickel metal is presented in the table below as kilotonnes and as million tonnes rounded to two significant figures on slide 11 (no metallurgical recovery have been applied to the calculation of contained nickel metal). Drill spacing used to define Ore Reserves classification and metallurgical recoveries are presented in footnotes (1), (3) and (4) respectively.

Nickel West Ore Reserves as at 30 June 2019

Denosit	Cut-off	Ore Type _	Proved Ore Reserves		Probable Ore Reserves		т	otal Ore Reserve	Reserve Life	BHP	
Dopoon			Mt	%Ni	Mt	%Ni	Mt	%Ni	ktNi metal		%
Leinster (5)(6)	≥0.40%Ni	OC	1.3	0.96	2.8	0.79	4.1	0.84	34	11	100
	≥0.90%Ni	UG	_	_	5.3	1.6	5.3	1.6	85		
Mt Keith (7)	Variable between 0.35%Ni and 0.40%Ni and 0.18% recoverable Ni	0.40%Ni and ≥ OC	69	0.57	19	0.55	88	0.57	502	12	100
		SP	4.7	0.51	3.7	0.45	8.4	0.48	40		
Cliffs (8)	≥1.2%Ni	UG	_	_	0.45	2.0	0.45	2.0	9	0.9	100
Yakabindie ⁽⁹⁾	≥0.35%Ni	OP	107	0.56	44	0.61	150	0.57	855	15	100
Venus (10)	≥1.3%Ni	UG	_	_	2.1	2.7	2.1	2.7	57	7	100

(1) Approximate drill hole spacings used to classify the reserves were:

Deposit	Proved Reserves	Probable Reserves	(6)
Leinster	25m × 25m	25m × 50m	(0)
Mt Keith	40m × 40m	80m × 80m	ui
Cliffs	25m × 25m (and development)	25m × 25m	(7)
Yakabindie	40m × 60m	80m × 60m	pa
Venus	25m x 25m	50m x 50m	(8)
(2) Ore delivered to	o the process plant.		(9)
(3) Metallurgical re	coveries for the operations were:		(10
Deposit	Metallurgical Recovery		(
Leinster OC	83%		
Mt Keith	64%		
Cliffs	83% recovery at 10% concentrate g	grade.	
Yakabindie	63% (based on metallurgical test w	ork)	
Venus	89%		
(4) Predicted meta	lurgical recoveries for the projects were:		
Deposit	Metallurgical Recovery		
Leinster UG	88%		
OC	51%		

- (5) Leinster - Ore Reserves includes operations and projects.

) Leinster - The decrease in Ore Reserves was due to depletion. Inherent within the Reserve Life calculation were OC and UG, which have Reserve Life of 3 years and 11 years respectively.

) Mt Keith - The increase in Ore Reserves was mainly due to the inclusion of additional mining areas based on updated economic arameters.

8) Cliffs - The decrease in Ore Reserves was mainly due to depletion and redesign of the mine areas.

9) Yakabindie - The increase in Ore Reserves was mainly due to the inclusion of additional mining areas.

10) Venus – Maiden reporting of Ore Reserves.



Nickel West is a valuable option

Nickel West offers several potential growth pathways each unlocked through exploration, debottlenecking and processing innovation.



Optionality

In execution

The transformative impact of electric vehicles will ...

Electric vehicles sales growth ranges between 19 - 36% CAGR

- We have increasing confidence in this megatrend and have raised our low case for electric vehicle market share
- While electric vehicle numbers are presently low, they are expected to grow in the long run
- Significant investment by car manufacturers is driving an unprecedented increase in lithium-ion battery demand and investment
- Average cost of batteries is declining: Full pack now costs less than \$180 per kWh on average¹, down from almost \$290 per kWh two years ago and over \$1000 per kWh in the early part of this decade
- When battery pack costs fall to \$100 per kWh, they become cost competitive to combustion engines.

1. Bloomberg New Energy Finance

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Source: BHP analysis. Analyst forecast to 2025 includes UBS; BoAML; IDTechEx; Liberum; Woodmac; BNEF; Navigant and IHS.

BHP

... drive a significant increase in future nickel demand

Nickel is the "workhorse" of battery technology

Nickel in vehicle demand is increasing

- Batteries are becoming larger to improve vehicle range and performance
- Within the battery, nickel-based cathodes are taking market share from non-nickel cathodes
- And within nickel-based cathodes, the nickel in cathodes is increasing to realise better vehicle performance and lower costs (NMC111 to NMC811)
- A 60kwh NMC811 battery needs 70kg of nickel, 11kg of lithium and 9kg of cobalt ¹
- These changes will drive a significant increase in global nickel demand - just not yet
- Expect nickel in battery demand to impact the market in the mid-late 2020s
- In the meantime we are making investments to position Nickel West for this future opportunity.

Global primary nickel demand and battery demand (000 tonnes)



1. BHP, IDTechEx

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We are transitioning to new mines while replenishing Reserves ...

Ore Reserves increase by 654kt¹ to 1,506kt¹ contained nickel

- Measured and Indicated Resource is 4.1Mt² with Total Resource Contained Nickel at 6.3Mt²
- Mt Keith Stage H will be completed in the next few months, Stage J in ore now and will bridge to Yakabindie later this year
- Cliffs low grade continues to be redirected to Mt Keith to improve Fe:MgO
- Camelot is in ore, with more cutbacks to follow
- Rocky's Reward Cutback 3 is approaching ore, with Cutback 4 in planning
- Leinster B11 ('baby' block cave) is in development
- Venus declares first Reserves (57kt ¹ contained nickel) and will ramp up with paste fill plant commissioning towards the end of the calendar year.

1. Refer to slide 7 for full Ore Reserves breakdown

2. Refer to slide 6 for full Mineral Resources breakdown

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... and will invest further to prepare for this opportunity



With new greenfield exploration in WA ...

We have secured a new tenement package, called Seahorse

- 26 tenements along a strike length of 350km over an area of approximately 13,000km².
- It is ten times larger than our current tenement holding at Agnew Wiluna Belt.
- Seahorse has direct access to rail and major highway routes to Nickel West processing infrastructure.
- It is around 450km by road to the Kalgoorlie Nickel Smelter and is in close proximity to the Transline Railway corridor.





... and increasing brownfield exploration at Leinster ...

Leinster has far more untapped potential

• Brownfield exploration success at Leinster is highly value accretive by providing potential feed to fill spare capacity in the mill.



... increasing Mineral Resources¹ of existing deposits ...

Leinster has far more untapped potential

• Increases of Mineral Resources and improved classification at Venus¹ from ongoing successful resource definition drilling.



Venus Mineral Resources classification upgrade

... completing the study to expand capacity at Mt Keith ...

Mt Keith production could grow by debottlenecking the milling circuit

- We can leverage the significant spare capacity in the flotation circuit of the concentrator, increasing feed from 10.5mtpa to 12mtpa
- Progressive and incremental investment in new flotation technology could further expand capacity to 15mtpa over time
- Expanding the milling capacity could improve processing of harder ores, reduce grind size and provide a recovery benefit
- This would increase equity production and support our plans to fill the smelter.



Note: Subject to approvals and strict capital allocation framework



... by debottlenecking and filling the smelter ...

The Kalgoorlie Nickel Smelter is the heart of Nickel West

- The furnace hearth was undamaged by the transformer fire in 2018 and the next furnace rebuild remains scheduled for 2026
- Several low cost debottlenecking opportunities have been identified at the smelter which offer the ability to increase smelter production
- We are investing in the plant and equipment to increase sustainability of production and increase capacity
- We aspire to grow capacity to 110-120ktpa over the coming years.



Note: Subject to approvals and strict capital allocation framework



... by studying the application of a new technology, HPOX

HPOX offers a processing pathway for waste streams

- HPOX (High Pressure Oxidation) can process waste streams like refinery residue, converter and furnace slag
- It can also process our significant stockpiles of oxide material and our in-ground oxide resources
- Batch pilot test work has been completed and demonstrates successful extraction of up to 95% recovery of contained nickel and cobalt using HPOX
- HPOX also better manages high arsenic and talc concentrates, offering an alternative pathway to the refinery, alongside the conventional smelter route.
- A continuous pilot plant could validate these results ٠
- If approved, would be constructed adjacent to the Kalgoorlie smelter to prove up the technology at a commercial scale
- HPOX could unlock potential in waste slag and trigger Ore • Reserves study on Nickel West Oxide Mineral Resources.

Note: Subject to approvals and strict capital allocation framework

5 August 2019





... and by continuing to expand the Kwinana Refinery

Record production for the third year

- Refinery continues to deliver annual production records
- Capacity enabled by low cost debottlenecking •
- Refinery expansion to 90ktpa submitted for regulatory approval
- Nickel West debottlenecking cost to 90kt is expected to be less • than US\$5k/t
 - UBS¹ estimate new HPAL refinery capacity would cost ~US\$40k/t.
- Refinery operating costs are benefiting from scale benefits
- Increased margin achieved by converting matte to metal plus by-• products.

^{1.} UBS, 2017

5 August 2019

Metal Production



Nickel metal sales to the battery sector move past 75%

Powder and briquettes are the preferred form of nickel metal for the production of nickel sulphate

- In 2015, Nickel West sold no product to the battery sector
- Today we sell 75% of our production
- With about 30% share of imports, Nickel West has become a leading supplier of nickel powder to China.
- Our customers include car and battery manufacturers and cathode and precursor producers
- All metal is used for consumption in Asia.

Sales to the battery sector, Kwinana

% of Ni Metal sales

100% 90% 80% Forecast 70% 60% 50% 40% 30% 20% 10% 0% H2 H1 H2 H1 H2 H1 H2 H1 H2 H1 2017 2018 2018 2019 2019 2016 2016 2017 2020 2020

Calendar Year



Our first nickel sulphate product will be produced next year ...

Construction of the Nickel Sulphate Plant progresses

- All contracts have been issued
- All civils and concrete work complete
- Crystalliser assembly is well advanced
- All major components due to arrive over the next few months
- Over half of the plant is being fabricated locally, including the steel work, fibreglass leach vessels and other stainless steel tanks and pipe-racks
- We anticipate delivering first nickel sulphate product in Q2 CY2020.





WA's nickel industry has a great future ahead

Nickel will be retained in the BHP portfolio

- The nickel industry has been operating in the Goldfields region for over 50 years, and Nickel West is the most significant nickel player in this region
- The decision to retain Nickel West and invest in the asset is testimony to the innovation and hard work of our people to find new markets and partners
- It is a vote of confidence in Western Australia as a destination to invest and be part of the new battery materials supply chain
- Our people are resilient, innovative and transformative and continue to **Think big** when it comes to Nickel West.





