Ardea Resources Limited

Emu Lake Nickel Sulphide Camp Follow-up Program

- Emu Lake core holes AELD0002 and 3 at the **Binti South Prospect** confirmed a high-grade massive nickel-copper-PGE sulphide discovery within an intact felsic footwall contact of what is now termed the Western Ultramafic:
  - AELD0002: **4.80m at 1.44% Ni** and 0.09% Cu from 365.9m
    including ***1.10m at 4.78% Ni*** *and 0.16% Cu from 366.9m*
    (Ardea ASX release 10 June 2021)
  - AELD0003: **2.72m at 5.42% Ni** and 0.85% Cu from 391.04m
    including ***1.23m at 8.22% Ni*** *and 0.55% Cu from 391.04m*
    (Ardea ASX release 14 January 2022)
- Historic exploration at the **Binti Gossan Prospect** located 1km northwest along strike from Binti South within an intact felsic footwall contact of what is now termed the Central Ultramafic:
  - ELD015: **2.0m at 6.08% Ni** and 1.82% Cu from 336.0m (**open at depth**)
    including ***0.6m at 18.82% Ni*** *and 5.57% Cu from 336.3m*
    (Heron Resources ASX release 26 November 2013)
- Regionally there are **two distinct Kalpini ultramafic units each with a 20km strike within Ardea granted Mining Lease tenure**:
  - The **Kalpini Eastern Komatiite Belt** hosts the Wellington East and Acra North nickel laterite deposits.
  - The **Kalpini Western Komatiite Belt** hosts the Emu Lake Nickel Sulphide Camp. There are three well-defined fertile nickel sulphide surfaces at Emu Lake which are characterised by dacite footwalls to the ultramafic flows with aeromagnetics indicating discrete "string of pearls" ultramafic centres ("channels").
- **Follow-up Drilling**
  - There is a valuable historic drill data base focussed almost entirely on the Binti Gossan with the ELD015 Eastern and Central Ultramafics. The Western Ultramafic at Emu Lake was almost undrilled prior to Ardea AELD0002 and 3. An historic Fixed Loop Electro-Magnetic (**FLEM**) survey indicates a large plate in the projected Western and Central Ultramafic contact position, which was assumed to be a non-sulphide conductor and had not been tested (before Ardea in 2021). This contact now becomes a key exploration target that is open in every direction.

Ardea's Managing Director, Andrew Penkethman, said:

"The focus of historic Emu Lake exploration has been at Binti Gossan testing the Central Ultramafic. Ardea's Binti South discovery on the younger, stratigraphically higher Western Ultramafic surface is 1km southeast along strike.

There are three well defined Fertile Ultramafic Surfaces as laterally extensive sheets in the Emu Lake Camp which require systematic drill exploration and DHEM aimed at locating high grade Silver Swan style, channel-hosted massive nickel sulphide. A review of legacy data in tandem with recent knowledge gained from Ardea's Western Ultramafic drilling has confirmed multiple targets with nickel sulphide mineralisation open in every direction. Ardea believes there is ample opportunity to make additional discoveries within their extensive Kalpini tenements and will be following up on this potential as a priority. Key service providers are booked in to commence drilling and DHEM work."

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ASX Symbol
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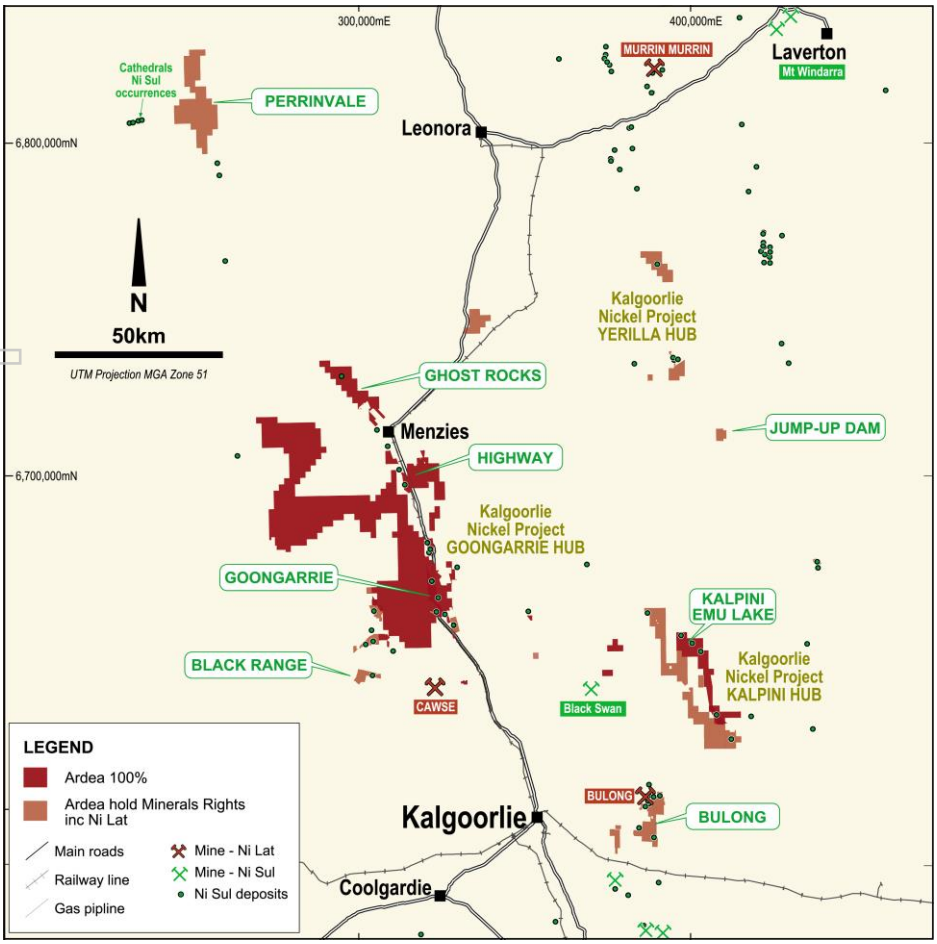
Kalpini Project - Emu Lake Nickel Sulphide Camp

Ardea's Kalpini Project is located 70km north-east of the City of Kalgoorlie-Boulder and covers 121km^2 on contiguous granted Mining Lease tenure 100%-owned by Ardea (Figure 1).

Regionally there are two distinct Kalpini ultramafic units each with around 20km strike within Ardea tenure:

- The **Kalpini Eastern Komatiite Belt** hosts the Wellington East and Acra North nickel laterite deposits containing 75Mt at 0.73% nickel and 0.04% cobalt, for 549.7kt nickel and 32.6kt cobalt (Ardea ASX release 16 June 2021). Aeromagnetics indicate a uniform sheet of ultramafic (lacking discrete volcanic centres). The ultramafics are typical of the Walter Williams Formation style, consisting of a thick 200-600m sheet with olivine orthocumulate upper and lower contacts with middle olivine adcumulate which weathers to nickel laterite. The Eastern Komatiite sits on Kurnalpi Dome granitoid basement and is presumably an older lava flow sequence.
- The **Kalpini Western Komatiite Belt** hosts the Emu Lake Nickel Sulphide Camp. There are three well-defined fertile nickel sulphide surfaces at Emu Lake. The volcanics are characterised by a bi-modal co-magmatic suite, with each cycle having a footwall dacite volcanic overlain by ultramafic volcanic flows. Aeromagnetics indicate multiple discrete ultramafic centres. The flows are typically 10-40m thick, with dacite the lower flow and komatiite the upper flow. Massive nickel sulphide typically occurs in the upper dacite and grades up into disseminated nickel sulphide in the basal komatiite. The volcanic morphology is typical of a komatiite thermal erosion setting. The Western Komatiite overlies a thick felsic volcanic sequence (Black Flag Group equivalent) and is presumably a younger flow sequence.

The Emu Lake Camp was discovered during the 1970s "Nickel Boom". More recent nickel sulphide exploration has included that completed between 2003 and 2011 by Image Resources Limited, Emu Nickel NL and Xstrata Nickel Australasia Pty Ltd. Their key target was the Binti Gossan zone, represented by a 1,200m strike zone of very strong gossan float (weathered expression of nickel sulphide). Drilling identified several high-grade, albeit thin (0.1-0.3 metre) massive nickel sulphide horizons.



The project is located 35km east of the Black Swan Nickel Project (Silver Swan nickel mine), operated by Poseidon Nickel Ltd, within a parallel komatiite belt.

There are close geological similarities between the massive nickel sulphides at Emu Lake and Silver Swan (Ardea ASX release 14 January 2022).

Figure 1: Ardea tenement plan highlighting the location of the Kalpini Project, Emu Lake Nickel Sulphide Camp and nickel mines and deposits in the region. Projection MGA 94 Zone 51.

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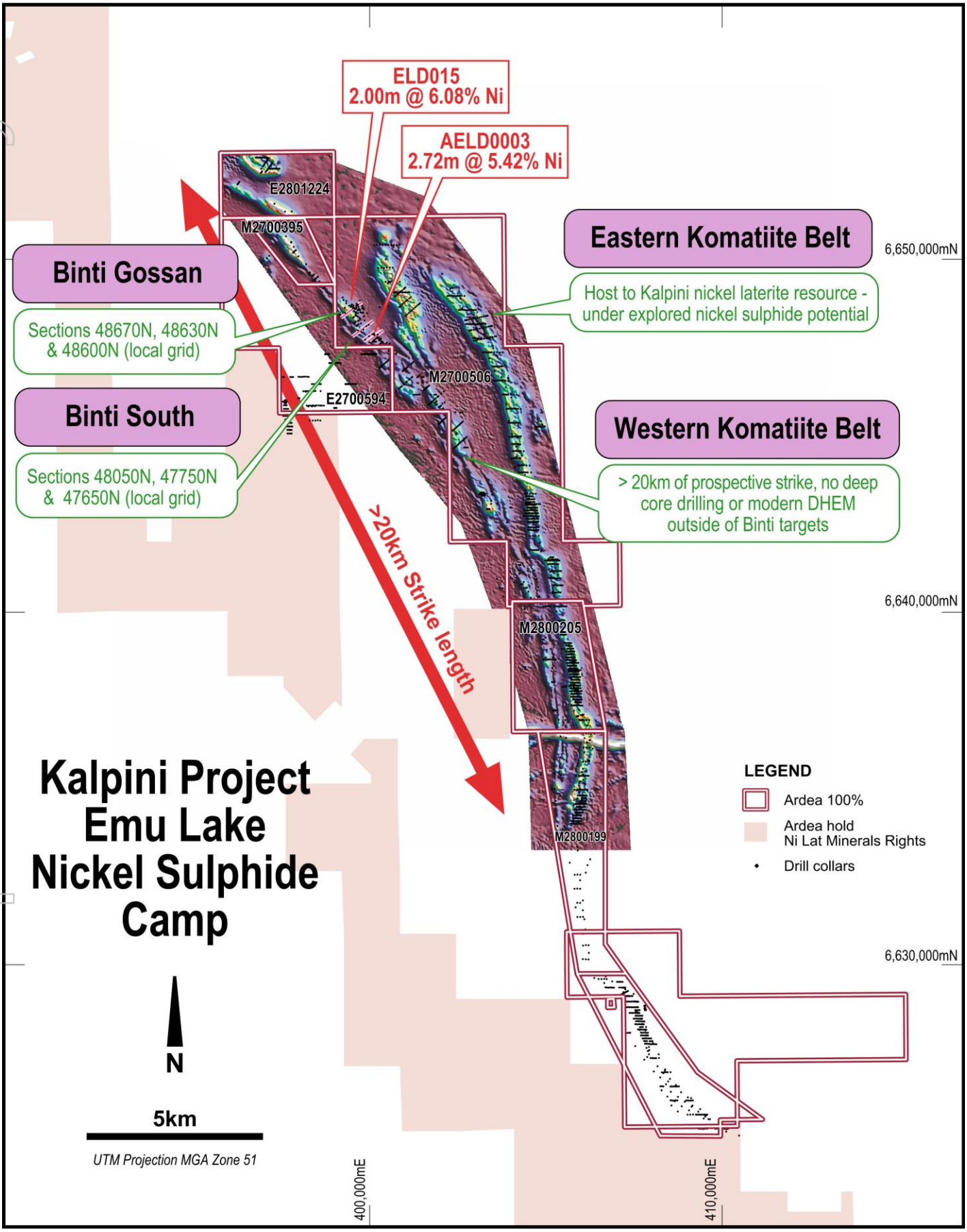

Figure 2:Aeromagnetics for the Kalpini Project showing strongly magnetic Komatiite Belts with historic shallow drill coverage focussed predominantly on nickel laterite mineralisation on the Eastern Komatiite Belt. Projection MGA 94 Zone 51.

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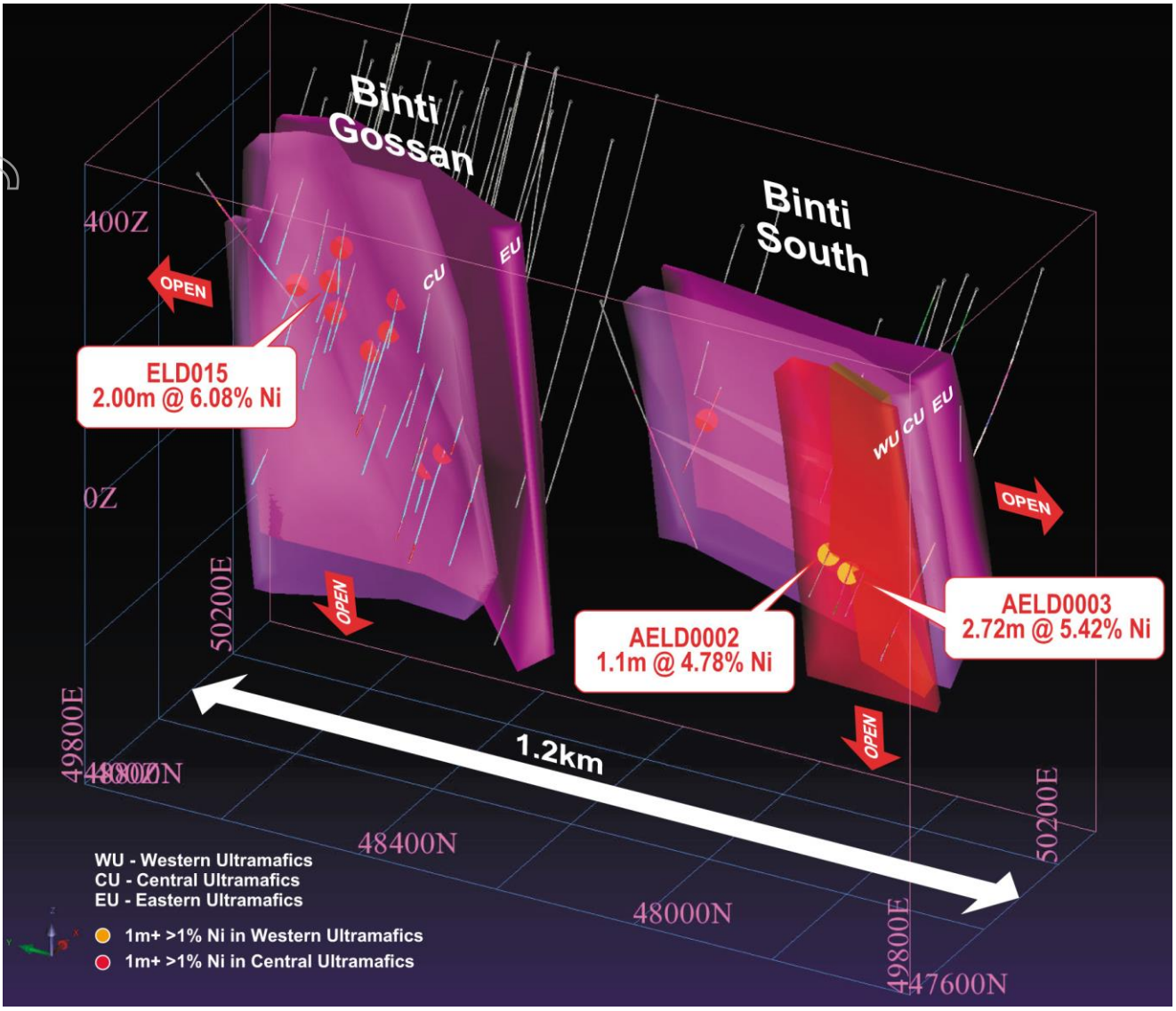

Figure 3: Three dimensional interpretation of the Binti Gossan and Binti South Prospects, showing the Western Ultramafic (WU), Central Ultramafic (CU) and Eastern Ultramafic (EU). Projection Binti local grid.

Historic drill exploration has focussed entirely on the Eastern Ultramafic (**EU**) and Central Ultramafic (**CU**), with key historic drill-hole being ELD015 with 2m at 6.08% Ni (refer table 1 following). Drill testing of the Western Ultramafic (**WU**) was restricted to minimal "scissor" sections with easterly drill direction. These holes invariably intersected the WU in the depleted saprolite weathered zone. Accordingly, figure 3 above only records the EU and CU horizons at Binti Gossan, with the WU simply not drilled at the depths prospective for nickel sulphide mineralisation.

The EU and CU nickel sulphide surfaces show remarkable continuity and are open north and south and down-dip. Their uniform geometry suggests a sheet-flow environment for the komatiite flows. The discrete flow channels that must be present to have fed the sheet flows are yet to be intersected in Emu Lake drilling. The uniform position, grade and thickness of historic drill intercepts confirms the nickel sulphide fertility of the sheet-flow system.

Ardea commenced exploration of the WU in 2021 with drill-hole AELD0001, testing an off-hole Down Hole Electro-Magnetic (**DHEM**) anomaly from an historic survey of ELD046. This led to the discovery of the AELD0003 nickel sulphides with 2.72m at 5.42% Ni. The Binti South 3D model in figure 3 records the EU and CU with contiguous strike orientation south from Binti Gossan, though the intervening ground is undrilled at depth.

Significantly, Binti South includes as the red shape (Figure 3) the WU with basal nickel sulphide mineralisation as confirmed by AELD0002 and 0003. The Western Ultramafic is now the total exploration focus of Ardea, at both Binti South and Binti Gossan, with additional exploration upside on the CU and EU ultramafic flows with all target zones able to be tested by each drillhole.

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Follow-up Program

In "Silver Swan style" nickel sulphide systems (as Emu Lake clearly is), the exploration methodology is to define a fertile nickel sulphide surface within komatiite flows and then identify the flow channel facies of the system, being the optimum setting in which massive sulphides are likely to deposit. The Ardea results for AELD0003 at Binti South and historic drill hole, ELD015, at Binti Gossan confirm an exceptionally fertile system, entirely comparable to that documented for Silver Swan.

The Ardea follow-up strategy is as follows:

1. Three Dimensional Geological Model
   Having "finger-printed" the Eastern, Central and Western Ultramafic surfaces through multi-element geochemical analysis, these surfaces have been generated as a 3D model (Figure 3), specifically to locate where the Western Ultramafic is untested. Suitable adjoining holes that have stopped in Central Ultramafic and Western Ultramafic Footwall Dacite (as is the common situation) were then selected for deepening (typically 50-100m) to drill-test the Western Ultramafic surface, and more importantly, use the deepened hole as a DHEM platform seeking channel-hosted massive nickel sulphide.

2. Legacy DHEM
   The AELD0002, 3 massive sulphide targets were generated by industry-leading consultants Newexco through re-interpretation in 2020 of historic DHEM surveys. With the Ardea 2021 discovery, there is now a good control for better ranking the many untested historic anomalies. Newexco will be systematically completing this task to fine tune the planned drill-hole positioning.

3. Drill Program
   Key historic drill holes were identified and field checked by the Ardea exploration team using a dummy probe to ascertain if clear for DHEM. All reviewed holes were blocked at shallow depths, and so require drill-clearing ahead of the proposed new DHEM survey. The operating strategy will be to use the core rig to clear the historic hole and once clear, deepen the hole to fully penetrate the targeted Western Ultramafic surface.

4. Downhole EM
   Modern high powered DHEM is an absolute priority for locating massive nickel sulphide mineralisation and with significant enhancements in this technology over the last decade in particular, Ardea can assess a larger search space than was available to past explorers.

Defined Targets Thus Far

Two initial prospect areas have been defined over an approximate 1.2km of strike, within the hosting 20km Western Komatiite Belt nickel sulphide target zone:

1. Binti South Prospect

a. Section 47750N, test the AELD0003 Western Ultramafic some 100m down-dip as a parent hole, and then potentially a 120m wedge to test 50m downdip. Both parent and daughter hole will have DHEM completed to assess any off-hole conductor plates (Figure 6).
b. Section 47715N, deepen historic hole ELD046 by 50m (if able to swing south) to test for western ultramafics, and then do DHEM. Significantly, there is up to 0.14% As in the footwall dacite at EOH, with arsenic being a mineralisation pathfinder (refer Figure 5 and table 1 following).
c. Section 47650N, deepen historic hole ELD042A, 50m to test for western ultramafics, then do DHEM (Figure 4).
d. Section 48050N, deepen historic hole ELD023, 100m to test the WU and the up-dip projection of an un-drilled historic EM plate, and then do DHEM (Figure 7).

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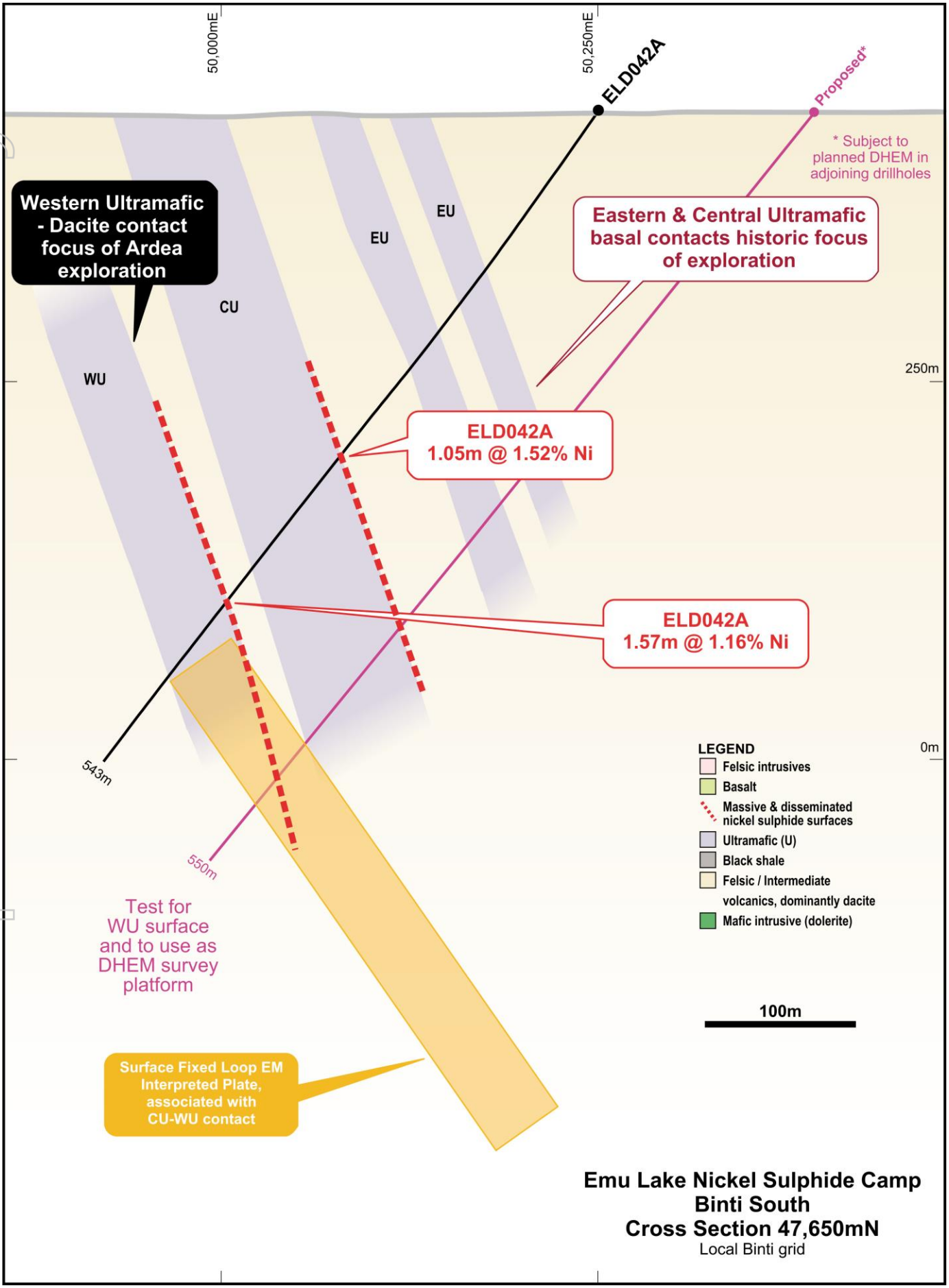

Figure 4: Binti South cross section 47,650mN. Local Binti Grid.

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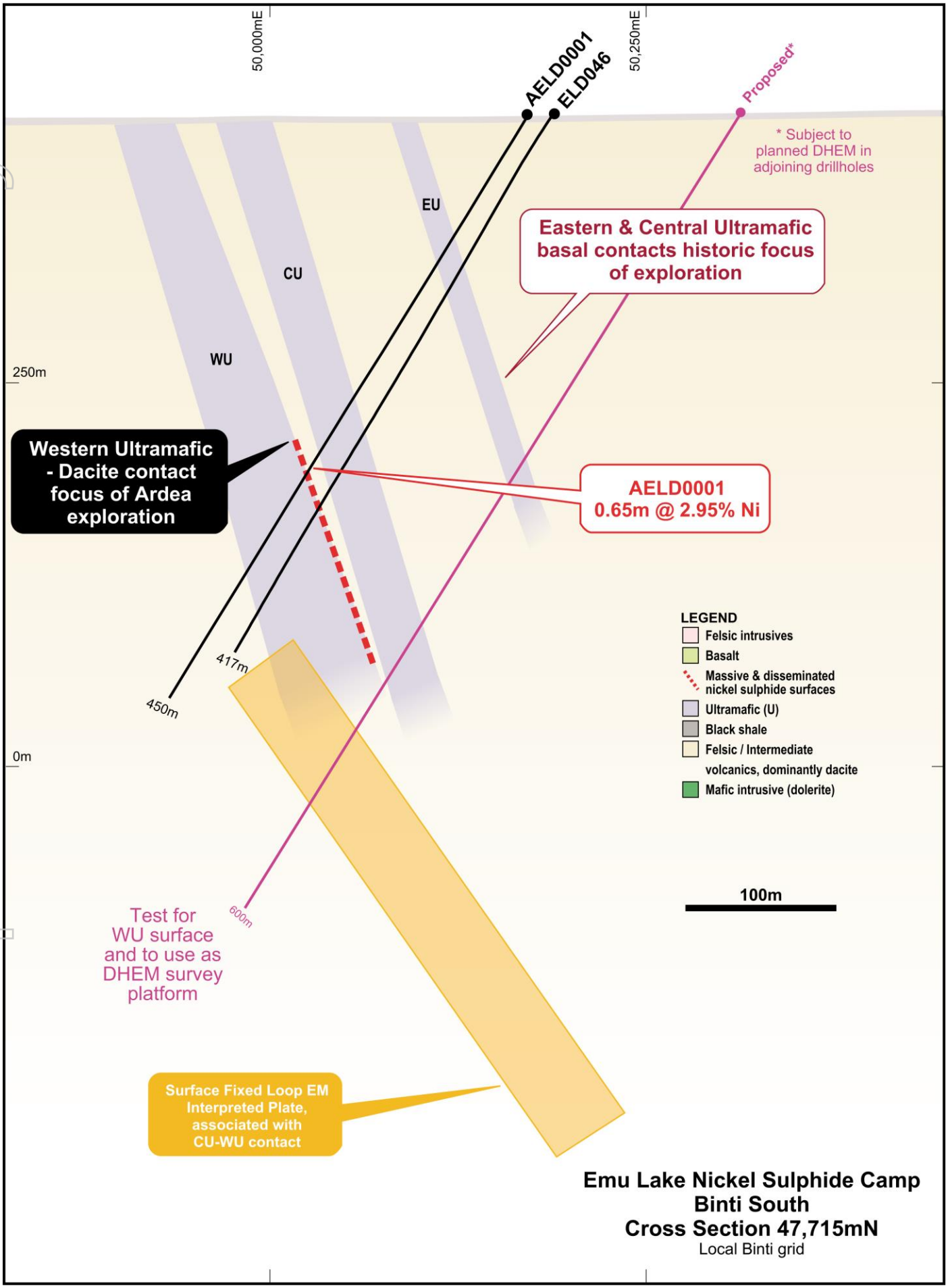

Figure 5: Binti South cross section 47,715mN. Local Binti Grid.

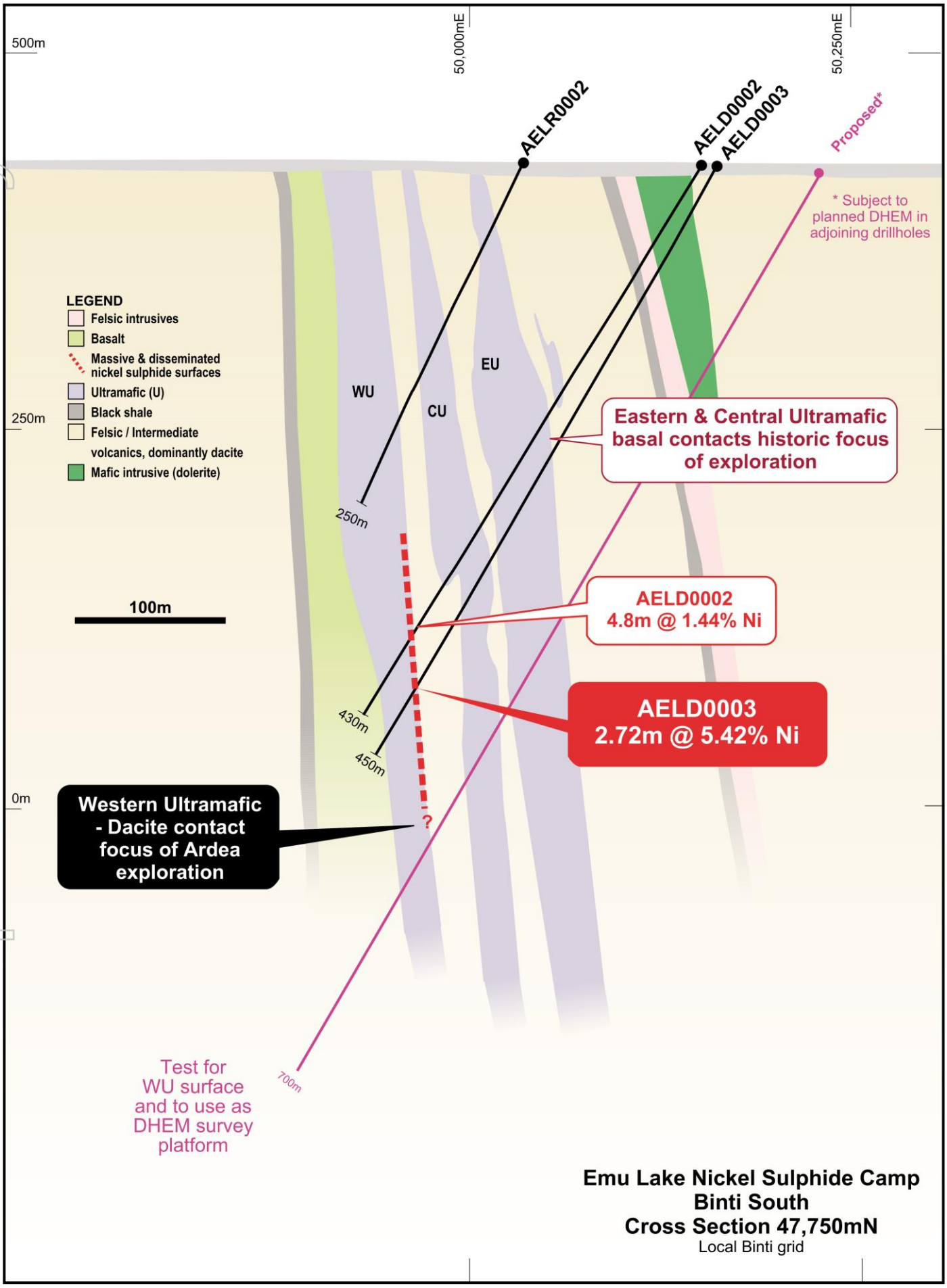

Figure 6: Binti South cross section 47,750mN. Local Binti Grid.

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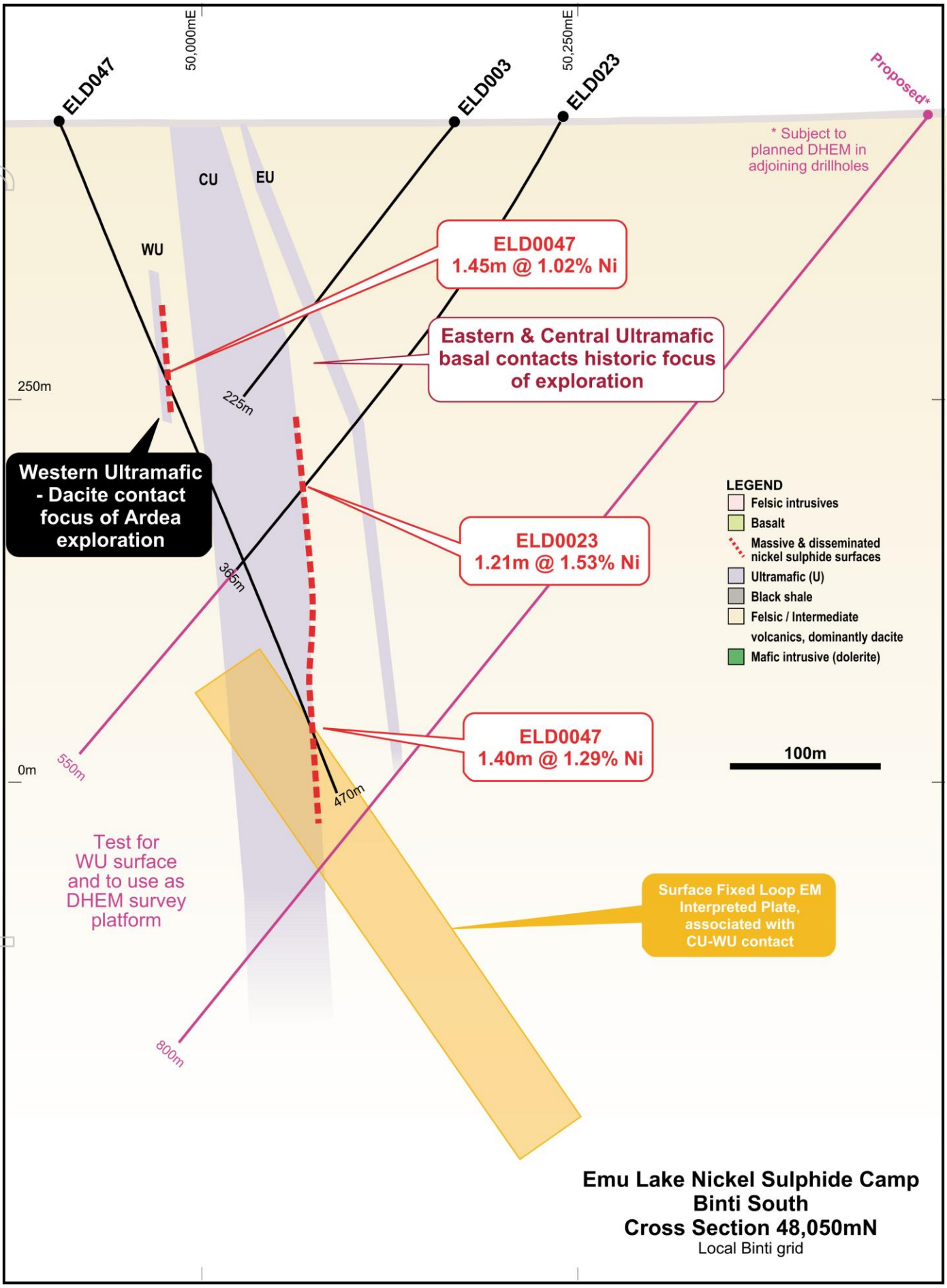

Figure 7: Binti South cross section 48,050mN. Local Binti Grid.

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2. **Binti Gossan Prospect**
   a. Section 48,630N, extend ELD015 some 209m to test the Western Ultramafic 100m down-dip as a potential parent hole, and then 120m wedge to test 50m downdip. Both parent and daughter hole will have DHEM completed to assess any off-hole conductor plates (Figure 9).
   b. Section 48,600N, deepen historic hole ELD037, 50m to test the WU, then do DHEM (Figure 8).
   c. Section 48,670N, deepen historic hole ELD020, 100m to test the WU, no historic DHEM completed so a DHEM survey is important follow-up (Figure 10).

Next Steps

Ardea have booked in key service providers such as a specialist geological consultant, Newexco, and drilling and DHEM contractors to assist with priority follow-up exploration over the initial targets defined at the Binti South and Binti Gossan prospects (Figure 3 and Figures 4 to 10). Additional nickel sulphide exploration will be planned over the full 20km of prospective strike within the Western Komatiite Belt (Figure 2).

An Exploration Incentive Scheme (EIS) diamond hole (co-funded with the WA State Government) has been approved to test the down plunge extension of AELD0003 (Figure 6).

A suitable core rig with excellent competency in deep directional drilling has been sourced and drill pad preparation arranged.

Updates will be provided as exploration proceeds on the Emu Lake Nickel Sulphide Camp.

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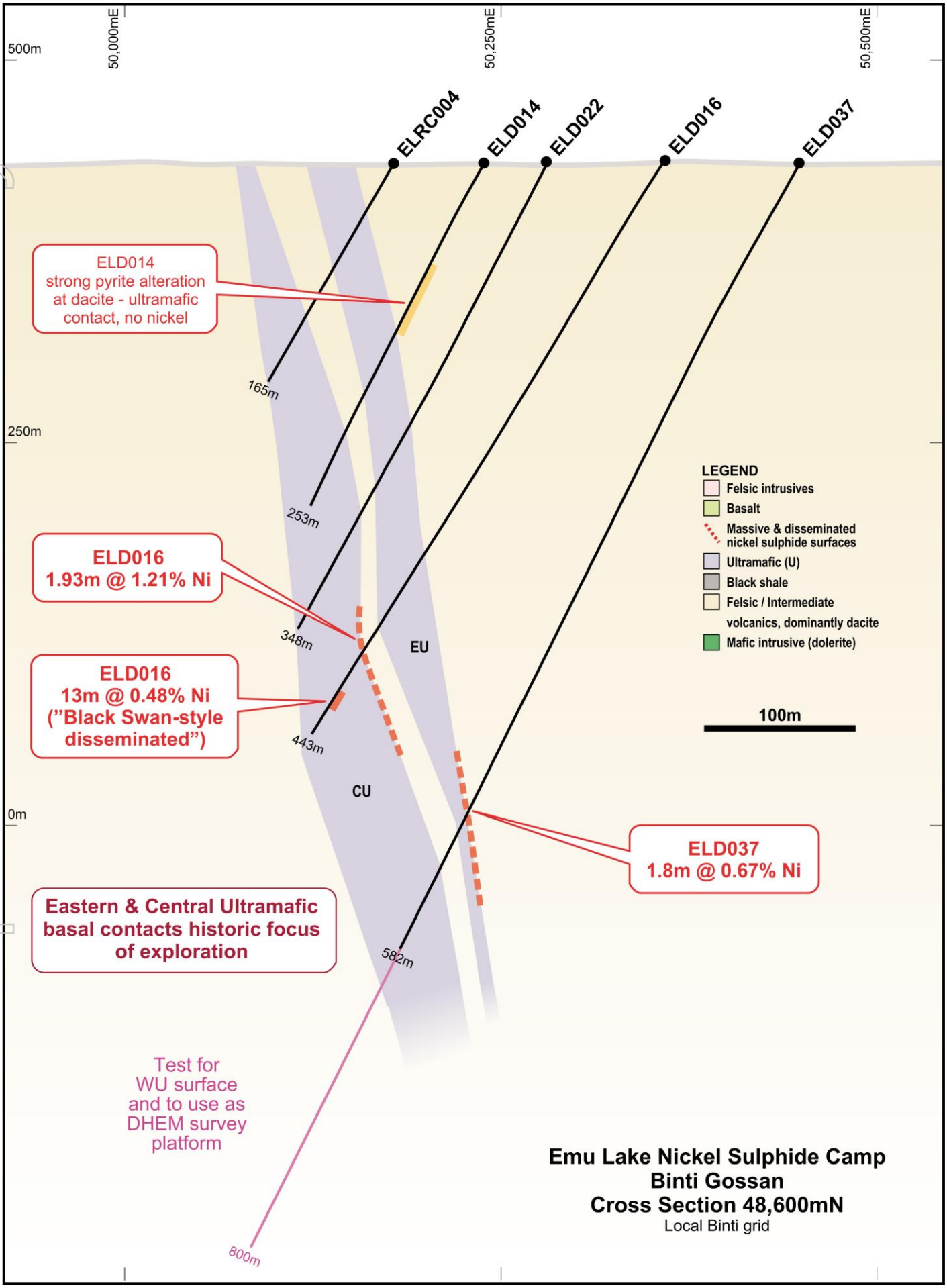

Figure 8: Binti Gossan cross section 48,600mN. Local Binti Grid.

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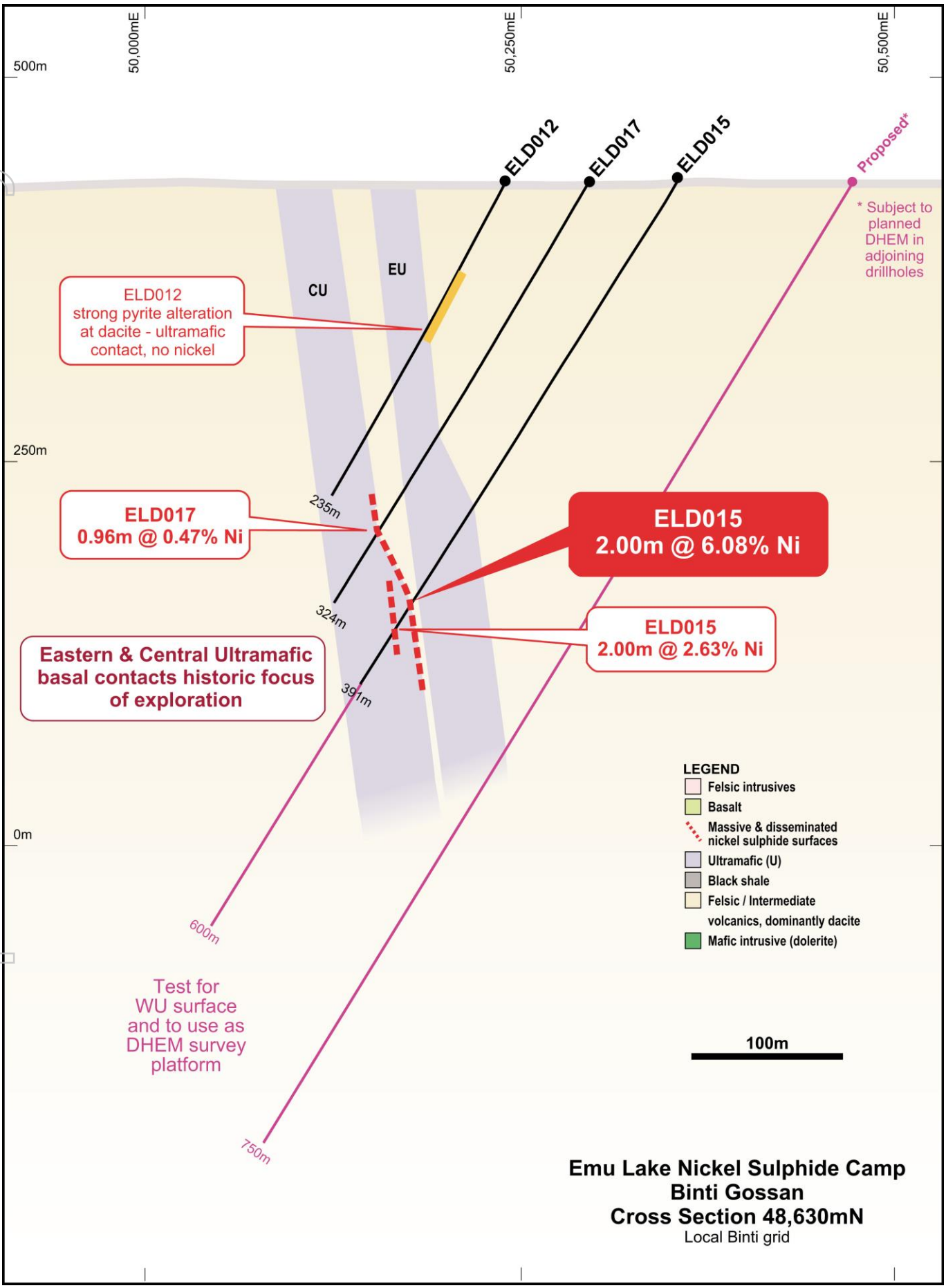

Figure 9: Binti Gossan cross section 48,630mN. Local Binti Grid.

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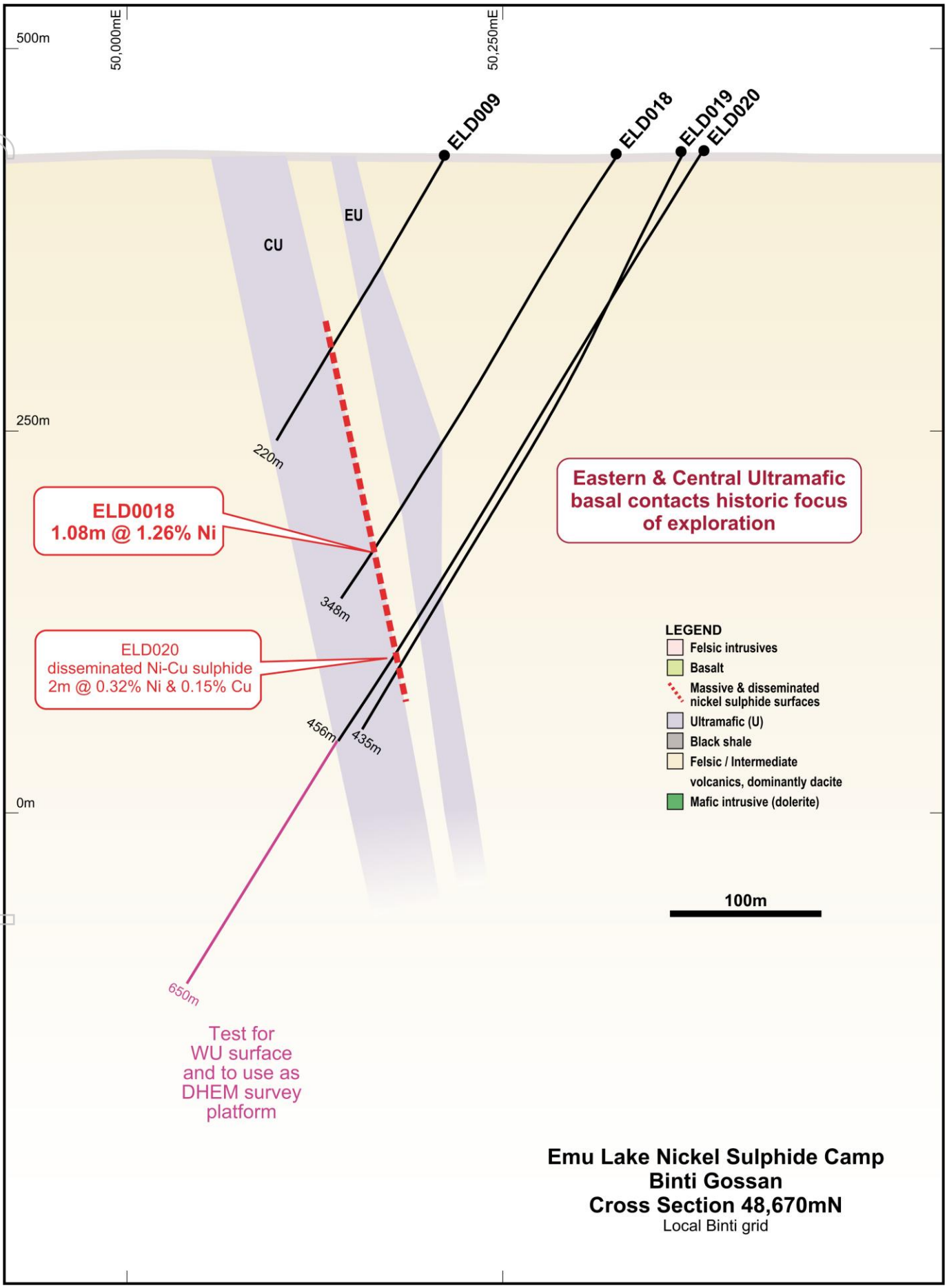

Figure 10: Binti Gossan cross section 48,670mN. Local Binti Grid.

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TABLE 1 INTERCEPT SUMMARY, BINTI SOUTH

Section	Drill Hole	From	To	Width	Ni cog	Lith 1	Lith 2	Host Unit	Ni %	Cu %	Pd g/t	Pt g/t	S %	Cr %	Mg %	Au g/t	Ag g/t	As ppm
47650N	ELD042A	281.95	283.00	1.05	>1.00	ZSMS	Fd/U	CU FW Dacite	1.52	0.30			5.75	0.07	5.0		0.97	12,842
47650N	ELD042A	345.00	348.00	3.00	>0.5	Uom		Western Ultramafic	0.57	0.04			0.32	0.09	20.1		0.73	0
47650N	ELD042A	393.43	395.00	1.57	>0.5	ZSDS	Fd/U	W1U FW Dacite	1.16	0.08			3.13	0.08	6.2		0.85	2,510
	including	*393.43*	*393.88*	*0.45*	*>1.00*	*ZSBS*	*Fd/U*	*W1U FW Dacite*	*2.67*	*0.11*			*8.26*	*0.04*	*3.7*		*1.53*	*5,560*
47650N	ELD042A	427.00	431.00	4.00	>0.5	Uoo		W1 Ultramafic	0.51	0.01			1.00	0.11	19.8		0.17	38
47,715N	ELD046	338.00	341.00	3.00	>0.5	Uom		Western Ultramafic	0.47	0.03			0.13	0.09	17.6		0.86	2
47,715N	AELD0001	270.00	274.00	4.00	>0.5	ZSDS	Uoos	Central UM	0.68	0.03	0.28	0.12	0.53	0.13	18.8	0.02	0.48	13
47,715N	AELD0001	336.00	340.60	4.60	>0.5	ZSDS	Fd	WU FW Dacite	0.76	0.03	0.09	0.04	2.98	0.04	4.9	0.01	0.86	1,806
	including	*336.70*	*337.35*	*0.65*	*>1.00*	*ZSMS*	*Fd*	*WU FW Dacite*	*2.95*	*0.08*	*0.24*	*0.12*	*14.40*	*0.05*	*5.0*	*0.03*	*2.70*	*1,180*
47,750N	**AELD0002**	366.90	369.70	**2.80**	>0.5	ZSDS	Uom	Western UM	**2.24**	0.10	0.25	0.10	7.42	0.13	13.8	0.02	0.17	4
	including	*366.90*	*368.00*	*1.10*	*>1.00*	*ZSMS*	*Uom*	*Western UM*	***4.78***	*0.16*	*0.47*	*0.20*	*16.10*	*0.09*	*6.5*	*0.03*	*0.46*	*-10*
47,750N	AELD0003	296.00	298.00	2.00	>0.5	ZSDS	Uoo	Central UM	0.57	0.01	0.16	0.07	0.37	0.13	19.0	0.01	-0.10	10
47,750N	**AELD0003**	391.04	393.76	**2.72**	>1.00	ZSMS	Fd	WU FW Dacite	**5.42**	**0.85**	**0.58**	**0.27**	20.95	0.11	2.1	0.04	3.01	-3
48,050N	ELD023	292.79	294.00	1.21	>0.5	ZSDS	Fd	CUFW Dacite	**1.53**	0.14			5.86	0.14	5.2		0.57	3,243
	including	*292.79*	*293.07*	*0.28*	*>1.00*	*Fd*	*Fd*	*CUFW Dacite*	*5.35*	*0.40*			*18.80*	*0.13*	*0.5*		*1.54*	*962*
48,050N	ELD047	171.50	172.95	1.45	>0.5	ZSDS	Uoo	Western Ultramafic	**1.02**	0.08			4.26	0.12	10.8		0.54	51
	including	*172.25*	*172.95*	*0.70*	*>1.00*	*ZSBS*	*Fd/U*	*Western Ultramafic*	*1.82*	*0.15*			*7.97*	*0.11*	*7.9*		*0.85*	*18*
48,050N	ELD047	392.70	396.30	3.60	n/a	Uom		Western Ultramafic	0.00	0.00			0.09	0.08	14.3		**15.58**	**1,072**
48,050N	ELD047	446.20	447.60	1.40	>0.5	ZSDS	Fd/U	CUFW Dacite	**1.29**	0.09			4.18	0.03	4.9		0.85	5
	including	*447.35*	*447.60*	*0.25*	*>1.0*	*ZSMS*	*Fd/U*	*CUFW Dacite*	*5.45*	*0.21*			*19.35*	*0.01*	*1.9*		*2.48*	*3*

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TABLE 1 INTERCEPT SUMMARY, BINTI GOSSAN

Section	Drill Hole	From	To	Width	Ni cog	Lith 1	Lith 2	Host Unit	Ni %	Cu %	Pd g/t	Pt g/t	S %	Cr %	Mg %	Au g/t	Ag g/t	As ppm
48,600N	ELD016	301.18	301.28	0.10	n/a	ZSDS	F	EUFW Dacite	0.02	**3.60**			4.49	0.01	1.0		**40.00**	-5
48,600N	ELD016	377.07	379.00	1.93	>0.5	ZSDS	Uoo	Central Ultramafic	**1.21**	0.06	0.04	0.07	2.64	0.13	12.3		-0.22	-5
	including	*377.07*	*377.35*	*0.28*	*>1.0*	*ZSMS*	*F*	*CUFW Dacite*	*6.66*	*0.24*	*0.23*	*0.42*	*13.49*	*0.04*	*2.8*		*1.43*	*-5*
48,600N	ELD016	410.00	423.00	13.00	>0.5	ZSDS	Uom	Central Ultramafic	0.48	0.05	0.15	0.06	0.47	0.08	21.8		-0.42	-5
48,600N	ELD014	194.00	195.00	1.00	>0.5	Uoo		CUFW Dacite	0.82	0.09	0.04	0.01	3.02	0.11	8.9		-0.09	6
	including	*194.52*	*194.65*	*0.13*	*>1.0*	*ZSMS*	*Fd/U*	*CUFW Dacite*	*5.56*	*0.18*	*0.32*	*0.09*	*19.65*	*0.12*	*2.2*		*0.50*	*26*
48,630N	**ELD015**	336.00	338.00	**2.00**	>0.5	ZSDS	Fd/U	CUFW Dacite	**6.08**	**1.82**	**0.87**	**0.46**	6.82	0.11	6.9		2.49	3,135
	including	*336.00*	*337.00*	***1.00***	*>1.0*	*ZSBS*	*Fd/U*	*CUFW Dacite*	***11.82***	***3.59***	***1.74***	***0.92***	*13.26*	*0.07*	*3.3*		*5.48*	*5,538*
48,630N	**ELD015**	343.50	345.50	**2.00**	>1.0	ZSMS	Uoo	Central Ultramafic	**2.63**	**1.07**	**3.95**	**0.24**	6.54	0.11	9.6		5.07	2,599
48,630N	ELD017	268.85	269.81	0.96	>0.5	ZSDS	Fd	CUFW Dacite	0.47	0.11			2.08	0.02	4.1		0.00	7
	including	*269.50*	*269.81*	*0.31*	*>1.0*	*ZSBS*	*Fd*	*CUFW Dacite*	*1.11*	*0.14*	*0.20*	*0.10*	*4.58*	*0.03*	*3.7*		*0.00*	*7*
48,670N	ELD018	302.57	303.65	1.08	>0.5	ZSBS	Uoo	Central Ultramafic	**1.26**	0.17	0.29	0.17	7.10	0.16	11.1		0.00	4
	including	*302.57*	*303.12*	*0.55*	*>1.0*	*ZSBS*	*Fd/U*	*Central Ultramafic*	*1.78*	*0.20*	*0.37*	*0.26*	*10.02*	*0.15*	*9.6*		*0.00*	*13*

Uom	olivine mesocumulate
Uoo	olivine orthocumulate
Fd/U	partially assimilated dacite within olivine cumulate flow with sulphide mineralisation
Fd	dacite
ZSDS	nickel disseminated sulphide
ZSBS	nickel semi-massive sulphide
ZSMS	nickel massive sulphide
	Arsenic-silver association in footwall dacite alteration or nickel sulphide mineralised surface

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Authorised for lodgement by the Board of Ardea Resources Limited.

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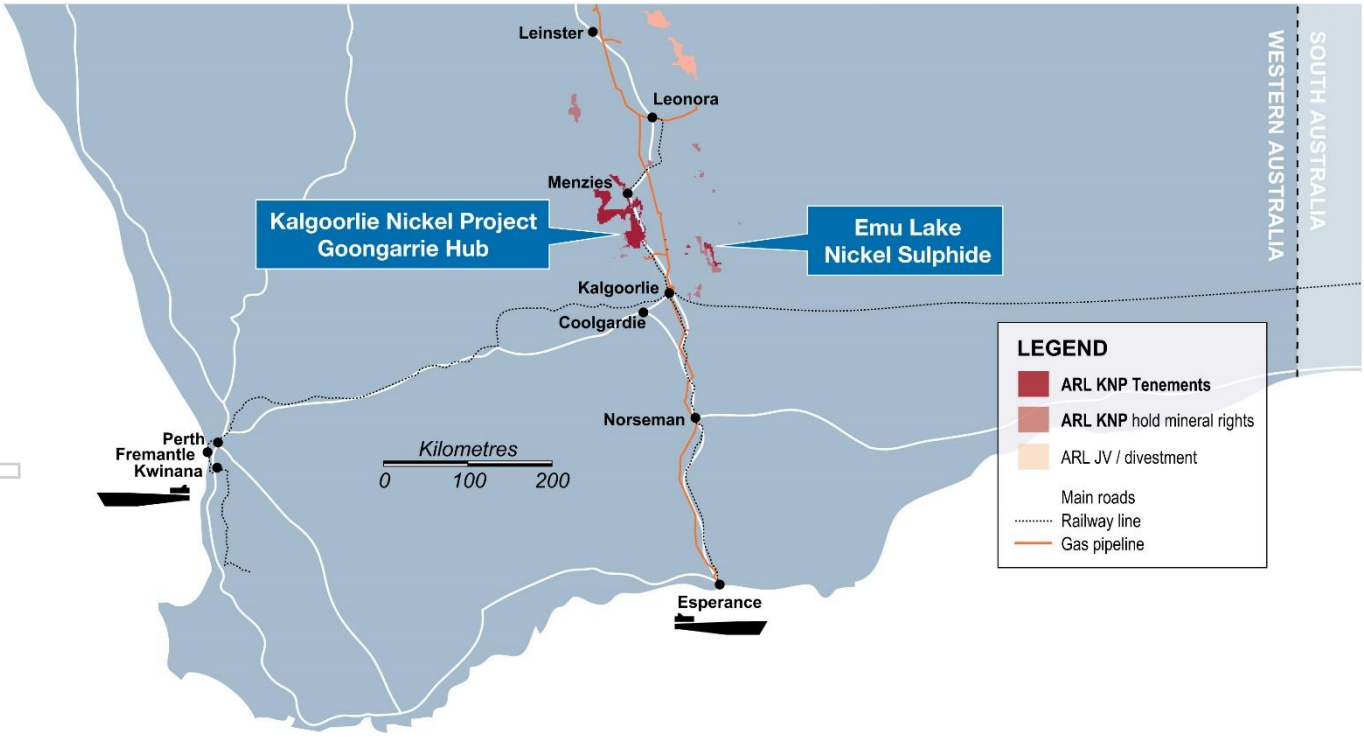
About Ardea Resources

Ardea Resources (ASX:ARL) is an ASX-listed resources company, with a large portfolio of 100%-controlled West Australian-based projects, focussed on:

- Development of the Kalgoorlie Nickel Project (**KNP**) and its sub-set the Goongarrie Hub, a globally significant series of nickel-cobalt and Critical Mineral deposits which host the largest nickel-cobalt resource in the developed world at **830Mt at 0.71% nickel and 0.046% cobalt for 5.9Mt of contained nickel and 380kt of contained cobalt** (ARL ASX announcements 15 February, 16 June 2021), located in a jurisdiction with exemplary ESG credentials.
- Advanced-stage exploration at compelling nickel sulphide targets, such as Emu Lake and Critical Minerals targets within the KNP Eastern Goldfields world-class nickel-gold province, with all exploration targets complementing the KNP nickel development strategy.



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CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This news release contains forward-looking statements and forward-looking information within the meaning of applicable Australian securities laws, which are based on expectations, estimates and projections as of the date of this news release.

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures, the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "expect", "intend", "may" and similar expressions have been used to identify such forward-looking information. Forward-looking information is based on the opinions and estimates of management at the date the information is given, and on information available to management at such time.

Forward-looking information involves significant risks, uncertainties, assumptions, and other factors that could cause actual results, performance, or achievements to differ materially from the results discussed or implied in the forward-looking information. These factors, including, but not limited to, the ability to create and spin-out a gold focussed Company, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.

Although the forward-looking information contained in this news release is based upon what management believes, or believed at the time, to be reasonable assumptions, the Company cannot assure prospective purchasers that actual results will be consistent with such forward-looking information, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither the Company nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking information. The Company does not undertake, and assumes no obligation, to update or revise any such forward-looking statements or forward-looking information contained herein to reflect new events or circumstances, except as may be required by law.

No stock exchange, regulation services provider, securities commission or other regulatory authority has approved or disapproved the information contained in this news release.

Compliance Statement (JORC 2012)

The exploration and industry benchmarking summaries are based on information reviewed or compiled by Mr. Ian Buchhorn, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Buchhorn is a full-time employee of Ardea Resources Limited and has sufficient experience, which 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'. Mr Buchhorn has reviewed this press release and consents to the inclusion in this report of the information in the form and context in which it appears. Mr Buchhorn owns Ardea shares.

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Appendix 1 - Collar Location Data

Collar location data for historic diamond drill holes at Emu Lake.

Drill hole	Type	Depth (m)	Tenure	Grid	Easting	Northing	RL (mASL)	Dip degrees	Azimuth degrees
ELD003	DD	225	M27/506	MGA94_51	6648103.1	399914.41	428.573	-52	240
ELD004	DD	165	M27/506	MGA94_51	6648471.7	399672.24	433.001	-60	240
ELD009	DD	220	M27/506	MGA94_51	6648608.3	399533.88	432.162	-60	240
ELD012	DD	235	M27/506	MGA94_51	6648608.7	399569.1	432.528	-62	240
ELD014	DD	253	M27/506	MGA94_51	6648582.3	399591.22	432.758	-63	240
ELD015	DD	391	M27/506	MGA94_51	6648683.8	399654.96	433.825	-59	240
ELD016	DD	443	M27/506	MGA94_51	6648649.7	399691.4	434.32	-60	240
ELD017	DD	324	M27/506	MGA94_51	6648627.5	399626.74	433.869	-59	240
ELD018	DD	348	M27/506	MGA94_51	6648680.1	399624.28	433.586	-59	240
ELD019	DD	435	M27/506	MGA94_51	6648732.6	399634.97	433.295	-64	240
ELD020	DD	435	M27/506	MGA94_51	6648710.7	399670.49	433.622	-58	240
ELD022	DD	348	M27/506	MGA94_51	6648598.3	399633.44	434.023	-60	240
ELD023	DD	225	M27/506	MGA94_51	6648137.4	399979.07	431.352	-57	240
ELD037	DD	582	M27/506	MGA94_51	6648671.6	399792.41	433.712	-63	240
ELD042A	DD	543	M27/506	MGA94_51	6647861.9	400233.36	427.946	-54	240
ELD046	DD	417	M27/506	MGA94_51	6647880.4	400137.07	427.376	-60	240
ELD047	DD	470	M27/506	MGA94_51	6647983.7	399675.87	424.811	-67	060

Appendix 2 - JORC Code, 2012 Edition, Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.*	• Historic core drilling by Xstrata. • Samples from NQ sized drill core were sampled on a nominal 1 to 2 metre basis taking into account smaller sample intervals up to geological contacts and massive sulphide zones. .
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details.*	• Diamond core drilling commencing with HQ size and then reducing to NQ size when fresh rock was encountered.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Drill sample recovery was recorded from diamond drilling core blocks – no material issues were reported and apart from some zones of broken ground, recoveries were consistently greater than 90%.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support*	• The diamond core was geologically logged by qualified geologists and recorded in the Ardea database.

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Criteria	JORC Code explanation	Commentary
	appropriate Mineral Resource estimation, mining studies and metallurgical studies.	• Specifically the data base records olivine cumulate host rocks (orthocumulate, mesocumulate and adcumulate lithotypes which with multi-element geochemistry allows komatiite palaeogeography to be elucidated).
Sub-sampling techniques and sample preparation	• *For all sample types, the nature, quality, and appropriateness of the sample preparation technique.*	• Samples were prepared and assayed in industry standard laboratories and significant results reported to JORC (2012) standards. • Samples were be crushed and ground to nominal 75-micron size. • The samples were split into a pulp fraction for analysis and a pulp-reject for storage.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	• Samples were assayed in an industry standard laboratory and significant results reported to JORC (2012) standards. • QAQC samples (blanks and standards) were inserted.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No independent verification of historic results has been undertaken at this stage. • Drilling by Ardea has generated results which support historical interpretations. • All field and laboratory data has been entered into an industry standard database. • No adjustment to assay data was done.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• The drill collars were surveyed by GPS which is considered sufficient for the DHEM survey. • Ardea has needed to locate historic holes from DHEM resurvey and in all cases such holes were located within the data base positions.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drilling is of an exploration nature and no resource style drilling requiring specific drill spacing was undertaken.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• The drilling orientation was designed to intersect the mineralised lenses at a close to perpendicular angle. • The Emu Lake stratigraphy based on Eastern Goldfields nickel sulphide ore genesis models is overturned. Independent experts notably CSIRO have confirmed this interpretation.
Sample security	• *The measures taken to ensure sample security.*	• Sampling was undertaken by professional Xstrata personnel and reputable laboratories used. No issues with sample security are reported.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Given the early stage of the exploration results, no audits or reviews have been undertaken or considered necessary at this stage.

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Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The project area locations are shown on Figure 1 and 2 of this report and described in the body of the report. • The tenure is secure and held 100% by Ardea under granted Mining Lease, M27/506. • Given the early stage of the exploration no mining specific applications have been made, but there are no known impediments (e.g., *overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings)* to mining in the tenure.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Emu Lake project has been explored for nickel sulphides since 2003 by Image Resources, Skryne Hill, Jubilee Mines, Emu Nickel, Xstrata – the majority of the drilling was undertaken by these companies.
Geology	• *Deposit type, geological setting, and style of mineralization.*	• The Company is seeking Archaean komatiite hosted nickel sulphide and related deposits in the project areas, commonly referred to as Kambalda-style.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*	• Significant intercepts from the Emu Lake drilling have been provided by Ardea in this release and previous ASX reports. • The previous owner of Emu Lake reported JORC2012 compliant results to ASX from 2013 to 2016.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	• The reported assays are weighted for their assay interval width. • No cutting of grades has been undertaken.
Relationship between mineralization widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	• True width of the reported sulphide zones has not been attempted during this early stage of reporting. True width is approximately the same as reported down-hole width.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Where relevant, a diagram showing the hole positions relevant for the current phase of exploration is included in the release.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Results.*	• The reporting is balanced taking into account the early stage of the exploration and the summary nature of this ASX report.

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Criteria	JORC Code explanation	Commentary
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Historical and more recent surface and down-hole electromagnetic surveys have been undertaken with the surveys designed by Newexco geophysical consultants. The recent results from AELD0003 have been discussed with Newexco but a formal report has not yet been received.

Future work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• Ardea is seeking Archaean komatiite hosted, Silver Swan and Kambalda-style, nickel sulphide deposits on its extensive ultramafic tenement holding in the Eastern Goldfields of Western Australia.
		• Future work at Emu Lake will include:
		  • An Exploration Incentive Scheme (EIS) diamond hole (co-funded with the Government) has been approved to test the down dip/plunge extension of AELD0003. Drill commencement will be subject to rig availability.
		  • CSIRO work closely with Ardea and are currently researching nickel sulphides at Emu Lake. The findings will help NiS exploration vectoring.