

19 Aug 2024

DRILLING UPDATE BARKLY COPPER-GOLD SUPER PROJECT

HIGHLIGHTS:

- Diamond drill ('DD') programme within the Georgina Project ('Georgina') area completed
- Designed as an initial test of the Pebble, Dino and Wilma IOCG target
- Base metal sulphides presented in the shallow sedimentary cover at both Dino and Pebbles prospects and in the targeted basement associated with strong 'redrock' alteration at Pebble requires further investigation

Middle Island Resources Limited (ASX: **MDI**, "**Middle Island or** "**the Company**") has concluded the first round of the Georgina area exploration drilling at the Barkly Copper-Gold Super Project in the Northern Territory. The drill programme was awarded co-funding from the Northern Territory Government as part of the *Resourcing the Territory* initiative.

MDI Chief Executive Officer, Roland Bartsch commented:

"The drilling of the first two holes was completed without issue. While no economic visible sulphides were recorded in the holes, the presence of trace copper sulphides and alteration dispersed in the first hole at the large Pebbles prospect is significant – maybe equating to hitting near the outer bull of a dart board. While the target at the Wilma Prospect remains valid, consequent upon encountering unforeseen geology in the cover sequence of the third hole drilling was suspended pending reassessment of our approach to drilling and that target."

The drilling is providing significant information that will be key to refining our next round of drilling, both at Pebbles, with its encouraging footprint, as well as our expansive list of priority targets across the region. The presence of observed possible MVT style mineralisation in the cover rocks is also an interesting development that opens new exploration possibilities in shallower target positions."

Preliminary observations from the first hole were reported in MDI ASX release dated 31 July 2024.

The second hole was designed to test the Dino IOCG target within the Georgina Project area (Appendix 1; Figures 2 and 4). The hole was drilled to 584.3m depth. Logging of the hole is in progress. No significant visible sulphide mineralisation has been noted in field reports and the hole intersected target basement rocks (predominantly altered metasediments/schists) from 383.6m. As per the first hole at Pebbles, narrow intervals of trace lead sulphides were recorded in fractured carbonates in the overlaying Georgina Basin cover sequence (main intervals from 263 to 265m and 298.3 to 304.7m) adding further materially significant support to the postulated presence of new exploration possibilities in shallower target positions. The character and mineralogy of these are again suggestive of Mississippi Valley Type (MVT) base metal style mineralisation.



The third hole was designed to test the Wilma target (Appendix 1; Figures 2 and 5). Drilling at the site was suspended when hole 24GPDD003 intersected unexpected geological issues in shallow cover rocks that could not be drilled without risk with the standard equipment available. The target is still valid and remains untested; further assessment of an appropriate approach is required prior to considering whether to drill this prospect.

Final results will be provided upon completion of the sampling and assaying; expected to take 2 months.

Hole Id	Prospect	Easting (m)	Northing (m)	Azimuth (°)	Dip (°)	RC Precollar Depth (m)	DD Depth (End of Hole) (m)	
24GPBDD001	Pebbles	518398	7811096	225	-65	180.4	645.21	
24GPDD002	Dino	514592	7812379	205	-62	193.5	584.27	
24GPDD003	Wilma	510172	7806261	Abandoned at 97m in RC collar (in cover rocks)				

Table 1: Summary Drillhole Details

Note: coordinates are in GDA94/MGA Zone 53; and, hole 1 naming prefix revised from 24PBDD to 24GPDD

RELEASE AUTHORISED BY THE MDI BOARD:

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Forward Looking Statements

Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Middle Island, industry growth or other trend projections are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.

Competent Persons Statement

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Roland Bartsch, BSc (Hons), MSc, MAIG. Mr Bartsch is a full-time employee of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being 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 Bartsch consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.



Appendix 1

Project and Drilling Programme Outline

Barkly Copper-Gold Super Project

The Barkly Copper-Gold Super Project is prospective for large Iron Oxide Copper Gold (IOCG) and Sediment Hosted Cu-Zn-Pb-Ag (SedH) deposits at Tennant Creek and Barkly. The Company's exploration holdings in the region covers some 6,918 sq kms with a large pipeline of significant (quality and scale) targets (Figure 1).

The commenced drill programme comprises three 600-650m diamond drillholes and is the maiden test of a spread of IOCG targets at the Wilma, Pebbles and Dino prospects within the Georgina Project area (EL32109). The drilling is covered by one of the two co-funding grants awarded to MDI.

The drill targets are based on interpretations and modelling of detailed geophysical data (see ASX release dated 8 April 2024). The drillholes are designed to test well-defined density anomalies ('shoots') that are consistent with the densities, size, and geometries of known examples of the target deposit types. All drill targets are 'blind' beneath post-mineralisation cover. Each presents as a significant scale discovery opportunity.

Middle Island was the only entity awarded the maximum \$300,000 in aggregate under two co-funding grants under Round 17 of the Northern Territory Government's Geophysics and Drilling Collaborations ("**GDC**") program (see ASX release dated 12 June 2024). The GDC program is a competitive program funded by the Northern Territory Government as part of the *Resourcing the Territory* initiative, administered by the Northern Territory Geological Survey.

Planned drill programmes at Barkly are being conducted in stages; another round of drilling at the Bedrock Prospect (recipient of the second co-funding grant) is proposed for the later part of 2024.



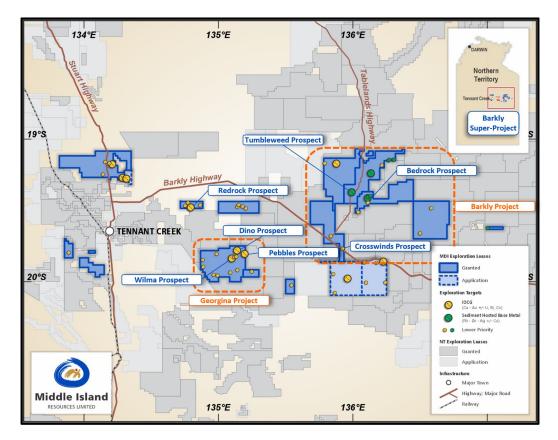


Figure 1. Barkly Copper-Gold Super Project, project areas, tenements and exploration prospect locations. First round drilling is within the Georgina Project area.

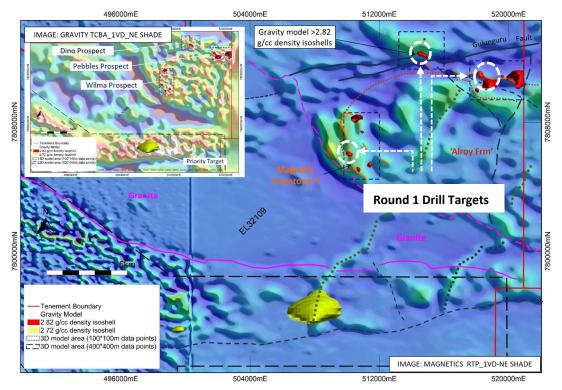


Figure 2. First-round drill programme targets - dense 'shoots' (red) from gravity 3D inversion models of detailed ground gravity survey data.



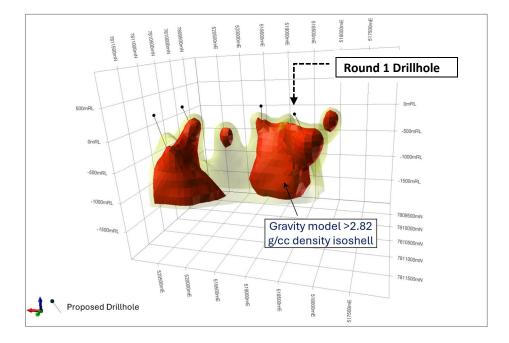


Figure 3. Pebbles Prospect - planned co-funded round one drillhole relative to the gravity 3-D density inversion model targets. (showing planned position of reported hole 24GPDD001).

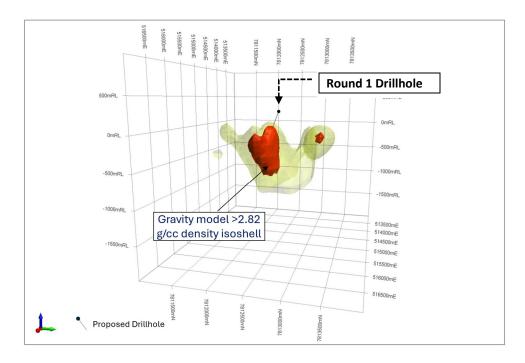


Figure 4. Dino Prospect - planned co-funded round one drillhole relative to the gravity 3-D density inversion model targets. (showing planned position of reported hole 24GPDD002; dip of actual hole varied slightly due to cavities in limestone cover rocks).



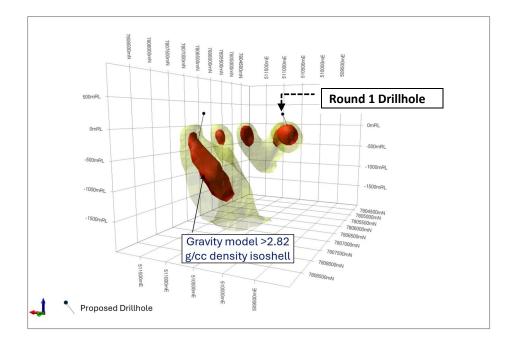


Figure 5. Wilma Prospect - planned co-funded round one drillhole relative to the gravity 3-D density inversion model targets. (showing original planned position of reported hole 24GPDD003 which was not completed and the sited hole did not intercept the basement).

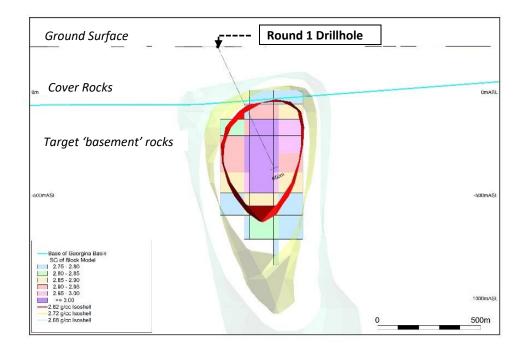


Figure 6. Example density model x-section, view looking east – first drillhole at the Pebbles Prospect (showing planned position of reported hole 24PBDD001; dip of actual hole dropped ~5° from ~150m due to cavities in limestone cover rocks).



APPENDIX 2:

TABLE 1 OF THE 2012 EDITION OF THE JORC CODE

The table below is a description of the assessment and reporting criteria used in reporting the Exploration Results that reflects those presented in Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Criteria	Commentary						
Sampling	Pebbles, Dino & Wilma Prospect Drilling						
techniques	RC chip precollar samples; and DD HQ and NQ core.						
	RC samples were collected on 1m intervals using cone splitter to provide ~2kg samples.						
	No samples from the abandoned hole at Wilma						
Drilling	Pebbles & Dino Prospect Drilling						
techniques	New hole completion reported; RC precollar using face sampling hammer; then diamond core drilling (DD) using HQ and then NQ core size.						
Drill sample	Pebbles, Dino & Wilma Prospect Drilling						
recovery	RC chip and DD core sample recovery was good (typically >95%).						
	No samples from the abandoned hole at Wilma						
Logging	Pebbles & Dino Prospect Drilling						
	Summary field logging only to date. Detailed logging in progress						
Sub-sampling techniques and sample preparation	not applicable, no new sampling or drilling reported						
Quality of assay data and laboratory tests	not applicable, no new sampling or drilling reported						
Verification of sampling and assaying	not applicable, no new sampling or drilling reported						
Location of	All data and surveys are presented in GDA94 / MGA Zone 53.						
data points	Pebbles & Dino Prospect Drilling						

Section 1: Sampling Techniques and Data



Criteria	Commentary
	Completed drillhole collars were located/surveyed using a handheld GPS approx. accuracy $\pm 5m$ apart from the abandoned hole which may be $\pm 5-10m$.
	Gravity Surveys
	For the new (2023) Daishsat gravity surveys, Leica GX1230 GNSS receivers were used for gravity station positional acquisition.
Data spacing	Pebbles Prospect Drilling
and distribution	The reported drillhole 24GPDD001 is the first and only hole drilled to date at the Pebbles Prospect which has an approximate 2.5km strike extent.
	Dino Prospect Drilling
	The reported drillhole 24GPDD002 is the first and only hole drilled to date at the Pebbles Prospect.
	<u>Gravity Surveys</u>
	Ground gravity survey station spacings vary.
	Wilma, Pebbles, Dino, Bedrock Prospects – 100 x 100m spaced infill survey stations (by Daishsat 2023 for MDI)
	Rockhead Prospect – 100 x 400m spaced infill survey stations (by Daishsat 2023 for MDI)
	Initial gravity surveys at Wilma, Pebbles, Dino Bedrock and Redrock prospects were collected at various spacings 800 x 800 and 400 x 400m by Daishsat commencing in 2020 for Strategic Energy Resources Limited). These data were integrated into the detailed infill grids for modelling.
	Tumbleweed Prospect – 100m x 400m spaced survey stations (by Daishsat 2023 for MDI)
	Redrock Prospect – 100m x 400m spaced survey stations (by Haines 2005 & 2008 for Red Metal Ltd)
Orientation of data in relation to geological structure	Gravity grid survey lines are orientated north – south across the dominant north-westerly and south-easterly regional structural grain. Detailed grids have been infilled to 100m x 100m spacing to remove any directional bias and provide detailed target resolution for drill planning.
Sample	Pebbles, Dino & Wilma Prospect Drilling
security	Drilling supervised and samples collected and delivered to MDI's secure exploration office in Tennant Creek for logging by MDI personnel.
	otherwise not applicable, no new sampling results reported
Audits or reviews	Gravity data has been collected by independent contractors with recent (2023) detailed infill surveys by Daishsat Geodetic Surveyors. Gravity data processing and modelling was completed by independent experts Southern Geoscience Consultants. Interpretations of the data have been completed



Criteria	Commentary
	by MDI's technical team. No external audits or reviews of the data, models
	and interpretations have been completed.

Section 2: Reporting of Exploration Results

Criteria	Commentary						
Mineral tenement and land tenure status	Barkly Copper-Gold Super Project (Barkly Project) comprises 16 exploration licences (14 granted & 2 applications; Figure 1). All tenements are in good standing. The granted tenements are predominantly in the 3 nd to 5 th years of their terms and are in good standing. The Exploration Licences are 100% owned by Middle Island.						
	No joint ventures apply.						
	There are no agreements in place with the native title holders.						
	No significant historic sites or national parks are located within the reported exploration prospect or target areas.						
Exploration	Barkly Project Area (EL33588 – Bedrock & Tumbleweed Prospects)						
done by other parties	Limited previous work by previous explorers.						
	MDI acquired the western portion of EL33588 from Strategic Energy Resources (SER) in 2023. SER had, commencing in 2020, completed coarsely spaced ground gravity surveys (400m x 400m). MDI identified initial targets for further assessment/infill surveys using the SER data.						
	No previous exploration drilling has tested the target basement rocks in the area of the Bedrock Prospect. The closest drillhole to both the Bedrock and Tumbleweed Prospects is one stratigraphic hole NDIBK09, drilled as part of the MinEx CRC National Drilling Initiative East Tennant Campaign, that is located ~ 12km to the SW of the Bedrock target area in EL33588.						
	Georgina Project Area (EL32109 - Wilma, Pebbles & Dino Prospects)						
	Limited previous work by previous explorers.						
	MDI acquired EL32109 from SER in 2023. SER had, commencing in 2020, completed coarsely spaced ground gravity surveys (800m x 800m and 400m x 400m). MDI identified initial targets for further assessment/infill surveys using the SER data.						
	No drilling has occurred previously on EL32109.						
	The closest drill hole was completed in late 2023 by Inca Minerals Limited at its Alpaca Prospect that's located ~3km to the east of Pebbles. Full results have not been reported by Inca; however significant alteration with pervasive disseminated sulphides that includes traces of copper sulphides have been reported (ICG ASX Announcement, 21 December 2023)						
	Other Project Areas (EL32760 - Redrock Prospect)						



Criteria	Commentary
	MDI acquired EL32109 from SER in 2023; no new surveys or drilling data were completed by SER. Previous exploration was conducted by Red Metal Limited with ground gravity surveys and drilling completed from 2005 to 2006 (NT NTDME Annual Reports CR2005-0402 and CR2006-0437). The ground gravity data was collected on a 100m x 400m grid that covered the target magnetics highs and fault zones. 5 RC/diamond holes (4 within the EL) were completed by Red Metal targeting observed magnetic and gravity highs (over an approximate 9km strike length) looking for Tennant Creek style IOCG deposits. The holes varied in depth from 174m to 255m. In four holes zones of trace iron and copper sulphides were logged (with the exception of the short RC precollars) no assays are available for the core intervals from the 2 'historical holes" (hole RMTCK03 and RMTCK04) illustrated in Figure 7. The area was surrendered by Red Metal in 2010 having concluded that drilling had sufficiently tested the identified anomalies; MDI's modelling (Figure 7) indicates the holes were too shallow and did not test the gravity targets.
Geology	General
	The Barkly tenements extend from outcropping areas near Tennant Creek and the interpreted eastward extensions of prospective Proterozoic stratigraphy that includes the East Tennant Ridge and Burnette Downs Rift corridor beneath shallow to moderate depth Georgina Basin cover.
	The Georgina Basin extends east from Tennant Creek across the border to Mt Isa and is sub-divided by several basement highs into sub-basins. The principal basement high, the East Tennant Ridge, runs through the Barkly Project area, where the interpreted depths of post-mineral Georgina Basin sedimentary cover range from 100m -250m along the ridge access, increasing on the flanks of the ridge. The underlaying basement and Paleoproterozoic are relatively unexplored as a result of the veneer of younger sedimentary rocks.
	The East Tennant corridor has gained recognition as a priority, largely unexplored, IOCG mineral province (Figure 2). IOCG deposits, which are MDI's primary target to date, include large lower grade deposits to smaller high-grade variants. Australian deposit examples include Olympic Dam, Prominent Hill, and Carrapateena in South Australia; Ernest Henry in Queensland, and Warrego and Juno located to the west of the Barkly Project at Tennant Creek.
	IOCG deposits and alteration surrounding them have elevated levels of iron oxide minerals magnetite and hematite, which give rise to elevated magnetic and gravity (density) signatures that can be mapped readily with geophysical surveys (magnetics and gravity). The copper-gold mineralisation that makes up the deposits occurs as sulphide minerals with a more restricted areal extent that can commonly be mapped by other geophysical techniques (IP, EM, MT). The often-strong geophysical signatures of the alteration and mineralisation lends itself to effective explorations under cover, as is the



Criteria	Commentary						
	case at Barkly. Significant examples of 'blind' IOCG deposits discovered beneath substantial sedimentary cover include BHP's Olympic Dam and Oak Dam deposits in South Australia, which are respectively overlain by approximately 400m and 900m of post-mineralisation cover.						
	The corridor is also considered to be prospective for other styles of mineralization including large sediment hosted Cu-Zn-Pb-Ag deposits like those found in the Mt Isa Inlier to the east and southern McArthur Basin to the north. Deposit examples include Cannington, Mount Isa, Hilton, George Fisher, Lady Loretta, Century, Walford Creek and McArthur (HYC). The East Tennant Ridge is fault bound and marks the southern margin to the Burnette Downs rift corridor. Palaeoproterozoic sedimentary strata within the rift grabens and onlapping onto the basement highs include rocks interpreted to be extensions of the superbasins that host many of the listed deposits.						
Drill hole Information	No new exploration drill data. All results are from Open File historical exploration annual reports CR2006-0437.						
	No material information has been excluded.						
Data	These exploration results are not from Mineral Resources.						
aggregation methods	Gravity 3D Density Inversion Modelling						
	Gravity density 3D inversion modelling was completed by Southern Geoscience Consultants.						
	Geosoft Oasis Montaj VOXI Earth Modelling algorithm was used to perform standard density modelling on the data. In the standard gravity modelling, the inversion assigns density (SI) values to each cell in a user-defined 3D mesh that best fits the observed gravity data (g/cm3).						
	The resultant models are then used to generate a range of density isosurfaces.						
	Final products are delivered in a Micromine and MapInfo compatible format using a GDA94 MGA Zone 53 projection.						
	Resulting 3D models are non-unique as there are many possible solutions which may fit the observed data. However, as a first pass result it would be the best estimate.						
	Smooth model inversions are not always able to adequately represent geology with clear/sharp boundaries.						
	These types of inversions often result in a smeared result. To reduce the "smearing" effect observed in the smooth model inversion, an iterative re- weighting (IRI) focus factor of three was used to provide a model with more defined boundaries between modelled high and low susceptibilities.						
	In addition to sharpening these contacts, the IRI focussing can help to provide a more geological plausible inversion by improving the geometry,						



Criteria	Commen	tary									
	approxima values.	ation of	true	dip o	f the	targe	t and	the	amplitu	ides of the reco	vered
	Gravity Density 3D Modelling Parameters										
	Inv_Type	Block	x	Cell Size (m)		Volume Dimen (cells) X Y		isions Z	IRI Focus	Data Fit Error (Absolute Error)	
	Density Density	A1 A2	100	100 100	50 50	25	45 26	18 16	2	0.05	
	Density	A3	100	100	50	36	26	17	2	0.05	
	Density	~	200	200	50	67	62	18	2	0.05	
	A1 -Wilma Pr	ospect, A2		-			bles Pi		t 1		
	Inv_Type	Block	x	Cell Size (r Y	n) Z	x	(cells) Y	z	IRI Focus	Data Fit Error (Absolute Error)	
	Density	A1	100	100	50	110	50	21	2	0.05	
	Density	A2	100	100	50	30	26	12	2	0.05	
	Density	~	200	200	50	72	76	21	2	0.05	
		Cell			Size (m) Volu		ume Dimensions			Data Fit Error	
	Inv_Type	x	Y	z	x	(cells Y) Z		RI Focus	(Absolute Error)	
	Density	200	200	100	54	20	14	4	2	0.05	
	Tumbleweed	Cell Size (m)		Volume Dimensions (cells)		IR	1 Focus	Data Fit Error (Absolute Error)			
	Density	X 200	Y 200	Z	X	Y	Z		2		
	Redrock Pros	200 spect	200	100	59	36	14		2	0.05	
Relationship	Not applic	able. N	lo rep	orted	l mine	eralis	ation				
between mineralisation widths and	Reported mineral abundance ranges: minor 1.0-0.1%, and, trace >0.1%.										
intercept lengths											
lengins	Narrow intervals with trace to minor base metal sulphides are at this stage reported to support exploration concepts as evidence of mineralising processes. (reported abundance ranges: minor 1.0-0.1%, and, trace >0.1%)										
	The hole was collared to drill at the optimal most cost effective angle of approach to cross the modelled anomaly, however due to the depth and steep dip of the target zone the hole was at low angle to the broader target zone, and in addition the hole dropped 5 degrees to follow fabrics in the rock.										



Criteria	Commentary
Diagrams	Please refer to Figures 1 to 6.
Balanced reporting	<u>Pebble Prospect Drilling</u> Data provided is a generalised overview from summary field reports to provide shareholders drilling status information; final results/interpretations may vary on completion of detailed logging, sampling and assaying.
	<u>General</u> A full compilation of available data collected by MDI and compiled from previous explorers that are relevant to the prospects described has been referenced in this Table 1.
Other substantive exploration data	Exploration results are not for Mineral Resources. Newly reported gravity survey grids from 2023 were by Daishsat Geodetic Surveyors. Scintrex CG-5 Autograv gravity meters were used for gravity data acquisition and base station control. Survey information: technique employed -post processed DATV gravity; repeats – 3.6 to 5 %; height observations accuracy (SD) 0.019m to 0.045m; gravity observation accuracy (SD) 0.012 to 0.025 mGal.
Further work	 <u>Pebble & Dino Prospect Drilling</u> Detailed logging, sampling and assaying expected to take a minimum of 2.5 months to complete. <u>General</u> Additional work will consist of forward modelling of the existing geophysics applying data collected from drilling, in conjunction with ongoing prospect scale mapping, soil sampling and ground-based geophysics (such as gravity and IP) and RC and diamond exploration drilling.