

ASX Release 01 Feb 2024

High-Grades in Net Textured Nickel Sulphides from Second Hole at the Dogleg Ni-Cu-Co Prospect, West Kimberley Project, Western Australia

- Assay results returned from second diamond drillhole 23WKDD004 at the Dogleg Prospect:
 - 2.89 m (True Width 2.63 m) at 4.17% Ni, 0.83% Cu, 0.14% Co from 233.63 m
- IGO currently planning follow-up drilling program for the 2024 field season

Buxton Resources (ASX:BUX) is pleased to announce that assay results have been received for the second hole (23WKDD004) drilled into the Dogleg Prospect by joint venture partner IGO Limited (ASX:IGO).

Assay results from the first hole (23WKDD003) established the high-grade nature of the massive sulphides at the Dogleg Ni-Cu-Co Prospect (Table 1 - refer to BUX ASX announcement 6th November 2023). Significantly, the assays reported here for the second hole (see Table 1) establishes that there is a broader zone of high-grade semi-massive mineralisation which ground EM surveys did not detect (see Figure 4).

The assays support the sulphide mineralisation species logged in the drill hole as being a combination of pyrrhotite, pentlandite and chalcopyrite (Figure 1 - refer to BUX ASX announcement 19th October 2023). Like 23WKDD003, no other deleterious elements have been noted in 23WKDD004.

Buxton Resources CEO Marty Moloney commented: "These are outstanding grades for semi-massive sulphide mineralisation, particularly given that these results lie outside the modelled ground EM plate. Dogleg is emerging as a particularly high tenor nickel sulphide deposit, and we are eagerly looking forward to updating shareholders with IGO's plans for the 2024 field season".

 Table 1: Dogleg Prospect Significant Drill Intersections.

Hole ID	Assays Previously Reported	Note	Intercept (m)			Estimated	Assay Results		
			From	То	Length	True Width (m)	Ni (pct)	Cu (pct)	Co (pct)
23WKDD004	No		233.63	236.52	2.89	2.63	4.17	0.83	0.14
23WKDD003	Yes ⁷		177.34	191.19	13.85	13.24	4.35	0.34	0.15
	Yes ⁷	includes	179.08	184.94	5.86	5.60	7.47	0.31	0.25





Figure 1: 23WKDD004 at approximately 234.0 m – Semi-massive "net textured" Ni-Cu sulphide mineralisation. The 2.89 m (True Width 2.63 m) interval assayed at 4.17% Ni, 0.83% Cu, 0.14% Co from 233.63 m (Table 1).

About the Dogleg Prospect and Latest DHEM Results

The Dogleg Prospect (Figure 2) is located within tenement E04/1972 of the Quick Shears Project (E04/1972, E04/2314, and E04/2423), targeting Nova-style magmatic Ni-Cu sulphide mineralisation in the Proterozoic belt of the West Kimberley Region of Western Australia. The Dogleg Prospect was originally identified as an area of interest, based on the interpretation of magnetic data suggesting it being in an analogous position to the magnetic features that are associated with the Merlin Ni-Cu-Co Prospect.

A moving-loop electromagnetic (MLEM) geophysical survey was undertaken over the magnetic features at Dogleg in 2022 identifying a 280 x 75 m, 12,000 Siemen conductor (refer to \underline{BUX} ASX announcement $\underline{14^{th}}$ September 2023).

An initial drilling program, consisting of a single diamond drillhole, targeted this conductor. This hole, 23WKDD003, intersected massive sulphides from 179.06 m,



within a broader intersection of disseminated sulphide mineralisation (refer to <u>BUX</u> <u>ASX announcement 4th October 2023</u>). Sulphide mineralisation is hosted in the Ruins Dolerite, which sits within a similar package of quartz-muscovite bearing metasediments of the Marboo Formation to Merlin.

A second hole (23WKDD004) was drilled 65 m down-plunge (pierce point) of 23WKDD003, and outside the area of the original MLEM conductor (Figure 3 and Figure 4). This drillhole intersected 2.89 m (downhole length) of semi-massive (>60%) sulphide mineralisation (refer to <u>BUX ASX announcement 19th October 2023</u>).

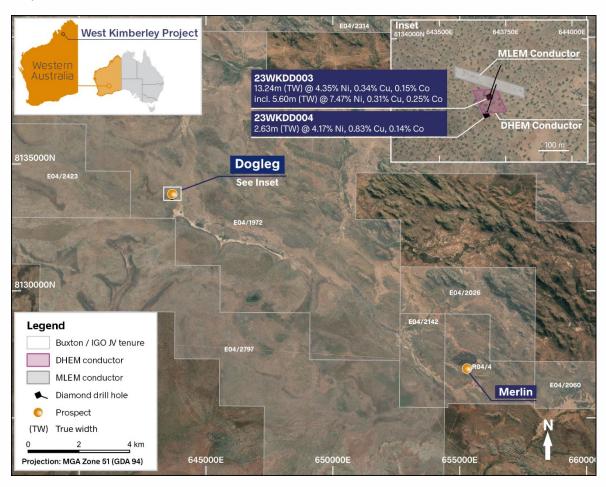


Figure 2: Location of Dogleg Prospect in relation to the Merlin Ni-Cu-Co Prospect.

Downhole surveying of drillholes 23WKDD003 and 23WKDD004 both show strong in-hole responses from sulphide mineralisation immediately surrounding the drill holes. As such, the effectiveness of the DHEM technique to see away from the holes is limited in terms of both strike and plunge. Combined interpretation of the DHEM data does suggest a potential extension of the MLEM conductor down-plunge.

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Modelling of the combined DHEM surveys has produced a 15,000 Siemen conductor with dimensions of 100 m x 125 m, which supersedes the DHEM conductor previously announced (refer to BUX ASX announcement 19th October 2023) but does not supersede the original MLEM conductor (Figure 3 and Figure 4).

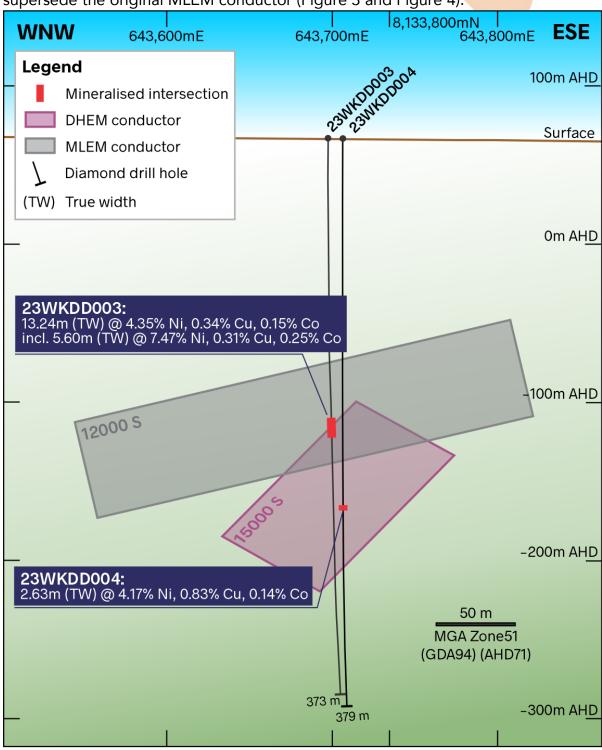


Figure 3: Long Section showing the Dogleg MLEM and DHEM conductors, diamond drillhole traces of 23WKDD003 and 23WKDD004, intersected sulphide mineralisation with assays reported here from 23WKDD004, and previously reported assays from 23WKDD003 (refer to BUX ASX announcement 6th November 2023).



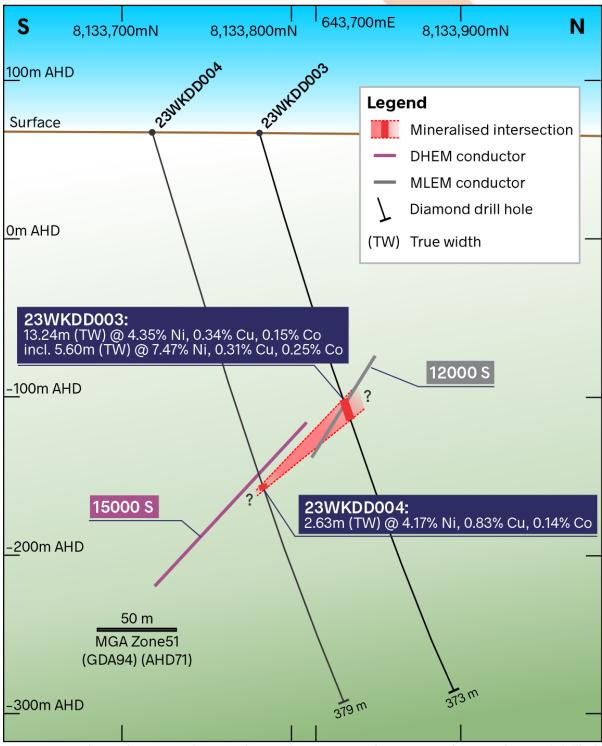


Figure 4: North-South Section showing the Dogleg MLEM and DHEM conductors, diamond drillhole traces of 23WKDD003 and 23WKDD004, intersected sulphide mineralisation with assays reported here from 23WKDD004, and previously reported assays from 23WKDD003 (refer to BUX ASX announcement 6th November 2023).



This release is authorised by the Board.

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About the West Kimberley JV Projects

The West Kimberley Project (Figure 5) is targeting Nova-style magmatic Ni-Cu-Co sulphide mineralisation in Proterozoic belts of the West Kimberley Region of Western Australia. On the 10th August 2015 Buxton announced the discovery of high tenor magmatic sulphide mineralisation in hole DMRC003 at the Merlin Prospect. After additional technical work including substantial drilling programs Buxton secured an Earn-In and Joint Venture agreement with IGO Limited whereby IGO could earn up to 70% in the Double Magic Project tenements for \$8M over 4 years. Buxton now have Farm-In and JV agreements over three separate Project areas (Merlin / Double Magic Project, Quick Shears Project and West Kimberley Regional Project) which fall within the overall BUX/IGO West Kimberley JV Projects Area of Interest. On the 4th October 2022 Buxton received shareholder approval for Buxton and IGO to amend the existing Merlin Project Joint Venture in the West Kimberley (then at IGO 51% and BUX 49% ownership level) allowing IGO to earn a further 29% interest to take IGO to 80% for a cash payment to Buxton of \$1,000,000.

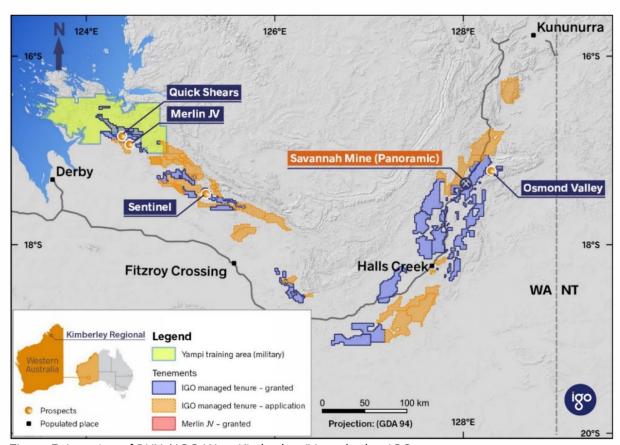


Figure 5: Location of BUX / IGO West Kimberley JVs and other IGO tenure.



Competent Persons

Information in this report that relates to Exploration Results for the Quick Shears Project is based on information compiled by Dr Ben Cave, who is a Member of Australasian Institute of Mining and Metallurgy (MAusIMM; 318334). Dr Cave has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Cave is a full-time employee of IGO Ltd and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Information in this report that relates to previously reported Exploration Results has been crossed-referenced in this report to the date that it was reported to ASX.

References to Previous Results

Nedlands WA 6009

14-16 Rowland Street

Subiaco WA 6008

There is information in this announcement relating to exploration results previously announced on:

- 1) 10 August 2015 - New Nickel Copper Discovery at Double Magic Ni-Cu Project
- 2) 6 November 2018 - Buxton Acquires Large Land Holding Adjacent to Merlin, Double
- 3) 2 October 2019 - West Kimberley JV Restructure
- 4) 14 September 2023 - Drilling commences at the Double Magic Project
- 5) 4 October 2023 - Massive Sulphides at Dogleg Ni-Cu-Co Prospect
- 6) 19 October 2023 - Second Hole Intersects Semi-Massive Sulphides at Dogleg Ni-Cu-Co
- 7) 6 November 2023 - High-Grade Nickel Sulphides Confirmed at Dogleg Prospect

Buxton Resources Ltd confirms that it is not aware of any new information or data that materially affects the information included in this announcement or the announcement referenced above.



JORC CODE, 2012 EDITION: SECTION 1 - KIMBERLEY - SAMPLING TECHNIQUES AND DATA

JORC Criteria	Explanation				
Sampling techniques	Drilling Diamond core drilling was completed using standard industry best practice. Reported results are from diamond drilling with core samples taken from halved or quartered (for duplicate samples) NQ2 core. Sample intervals were determined according to the geology logging of the drill core. Further information about the diamond drill holes is detailed in the following subsections. Assay Sample preparation was undertaken at ALS Limited – Perth and details of the methodology and QA/QC provided in the following subsections. DHEM Down-hole Electromagnetic (DHEM) surveying was undertaken on 23WKDD003 and 23WKDD004 by IGO's in-house geophysical crews, using the following configuration/parameters: Configuration: Down-hole EM (DHEM) Receiver: Digital Atlantis (A, U, V) Transmitter: DRTX-e Loop-Size: 400 m x 400 m Current: 60A Station Spacing: 5-10 m Base Frequency: 0.5-0.25Hz DHEM surveys are an industry standard practice in testing the presence of bedrock conductors.				
Drilling techniques	 Diamond drillholes were drilled by truck mounted rigs owned and operated by Westcore. Holes were collared from surface with PQ-core (85mm inside diameter) and the diameter decreased to HQ-core (63.5mm inside diameter), and NQ2-core (50.6 mm inside diameter) at depths directed by the geologists. The reported drill holes were drilled to a depth directed by IGO geologists. All NQ core was orientated using a REFLEX ACT III orientation tool. 				
Drill sample recovery	 Sample recovery for core loss is recorded by the drillers with any core loss intervals noted on annotated wooden blocks inserted into the core boxes by the driller. Rod counts are routinely carried out and marked on the core blocks by the drillers to ensure the marked core block depths are accurate. Full assessment of recovery and orientation of drillcore was conducted at IGO's core processing facility in Broome, with QA/QC of the recovery assessed by reconstructing the core into continuous runs in an angle iron cradle. No core loss is recorded in the reported mineralised interval. 				
Logging	 Qualitative logging of DD core included lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. DD core was additionally logged in a quantitative manner in terms of structure and geotechnical parameters. 				



JORC CODE, 2012 EDITION: SECTION 1 – KIMBERLEY – SAMPLING TECHNIQUES AND DATA

JORC Criteria	Explanation
	 The total lengths of all drill holes have been logged (unless stated otherwise). Photographs of all DD trays are taken and retained on file with the original core trays stored in the core library. The logging is considered adequate to support downstream exploration studies and follow-up drilling.
Sub-sampling techniques and sample preparation	 DD core was generally subsampled into half-core using an automated wet-diamond-blade core saw. Lengths of cut intervals submitted for assay were between 0.3 and 1 m. All samples submitted for assay were selected from the same side of the core. Exceptions were for duplicate samples of selected intervals, where quarter-core subsamples were cut from the half core. Sample intervals were determined according to the geology logging of the drill core. The sample sizes are appropriate to the grain size of the material being sampled. The primary tool used to ensure representative drill core assays was monitoring and ensuring near 100% core recovery. The nature of the drilling method means representation is investigative with sampling aimed at finding anomalous concentrations rather than absolute values for MRE work. Sample preparation was undertaken at ALS Limited – Perth. ALS Limited – Perth: Prepares each sample by oven drying 2.5 to 3kg of material for 12 hours at 100°C (DRY-21). Samples are then crushed in a jaw-crusher to 70% passing 6 mm (CRU-21). The entire sample is then pulverized in LM5 grinding robotic mills with low Cr-steel pulverising bowls (particle size distribution (PSD) target of 85% passing 75 micron;PUL 32). A 300g master pulp is collected for analysis, with the remaining "reject" pulp being retained in storage. Quality control procedures involve insertion of certified reference materials (OREAS 85 and OREAS 86), blanks, and collection of duplicates at the pulverisation stage. The results of quality control sampling are consistent with satisfactory sampling precision. The nature, quality, and sample preparation technique are considered appropriate for the style of mineralisation submitted for assay.
Quality of assay data and laboratory tests	 No geophysical tools were used to determine any element concentrations for reported intervals. ALS laboratories, Perth complete pulveriser size checks every 50th sample to ensure particle size distribution compliance as part of routine internal quality procedures to ensure the target PSD of 85% passing 75 μm is achieved. Field duplicates, CRMs and blanks were routinely inserted at frequencies between 1:10 and 1:20 samples for DD sample streams. Laboratory quality control processes include the use of internal lab standards using certified reference materials (CRMs) and duplicates. Certified reference materials (OREAS 85 and OREAS 86) were used to monitor accuracy and have expected values ranging from low to high grade. These were inserted randomly into the routine sample stream to the laboratory. Nickel, Cu, Co, Cr, and Mg were consistently checked for accuracy. The results of the CRMs confirm that the laboratory sample assay values have good precision and accuracy. The results of blank assays indicate that any potential sample cross contamination has been minimised. Following sample preparation, samples were analysed by: — Four- acid digestion, with inductively coupled plasma spectroscopy (ICP-MS) finish (ME-MS61r) for Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga,



JORC Code, 2012 Edition: Section 1 – Kimberley – Sampling Techniques and Data

JORC Criteria	Explanation				
	Gd, Ge, Hf, Ho, In, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Nd, Ni, P, Pb, Pr, Rb, Re, S, Sb Sc, Sc, Se, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr. The digestion method can be considered near total for all elements. Loss on ignition (LOI) was determined by robotic 10hermos gravimetric analysis at				
	1000°C (ME-GRA05).				
Verification of sampling and assaying	 Significant intersections were checked by senior IGO geological personnel. Only two holes have been completed at the Dogleg Prospect; there are no twinned or scissor holes. The logging has been validated by an IGO on-site geologist and compiled onto the IGO 				
	acQuire SQL drill hole database by IGO's Geological Database Administrator.				
	 Assay data are imported directly from digital assay files from contract analytical company ALS (Perth) and are merged in the Company acQuire SQL drill hole database by IGO's Geological Database Administrator. 				
	Data is backed up regularly in off-site secure servers.				
	 No geophysical or portable XRF results are used in exploration results reported. There have been no adjustments to the assay data. 				
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Location of data points	 The surface hole collar location was surveyed using a handheld Garmin GPS unit and averaging for 90 seconds with an expected accuracy of ±6m for easting and northing with elevation also recorded. 				
	 Drill path gyroscopic surveys were at 0m and at subsequent 18m downhole intervals to final hole depth using a Reflex Gyro Omni tool. 				
	The grid system is GDA94/MGA Zone 51 using AHD for elevation.				
Data spacing and distribution	Two diamond drillholes have been completed to date at Dogleg Prospect. The first hole (23WKDD003) intersected the middle of the modelled moving-loop electromagnetic (MLEM) conductor. The Second drillhole (23WKDD004) was drilled 60 m down-plunge of the first drillhole and intersected the bottom third of the modelled downhole electromagnetic (DHEM) conductor, which was outside of the original MLEM modelled conductor.				
	 Data spacing and distribution are not considered sufficient to establish the degree of geologic and grade continuity appropriate for Mineral Resource and Ore Reserve estimation. 				
	All samples have been composited using length-weighted intervals for Public Reporting.				
Orientation of data in relation to geological structure	 Drilling was undertaken perpendicular to the angle of the interpreted strike and dip of the modelled MHEM and DHEM conductors. The true thickness is estimated to be 95.6% for 23WKDD003 and 91.0% for 23WKDD004. Downhole thickness is estimated using the dip and orientation of the drillholes from survey data and measured dip and orientation of the target geology. 				
Sample security	The chain-of-sample custody is managed by IGO staff from collection at the rig to the submission of the samples to ALS Limited – Perth for analysis.				
	 Samples were stored at the drill site before being transported and processed (cut) at IGO's core processing facility in Broome. 				
	 Samples were placed in pre-numbered calico bags and further secured in sample bags with cable ties. The samples are further secured in a bulk bag and delivered to the ALS -Perth by contractor Bishops Transport. 				
	 A sample reconciliation advice is sent by the ALS-Perth to IGO's Geological Database Administrator on receipt of the samples. 				
	 Administrator on receipt of the samples. Any inconsistences between the despatch paperwork and samples received is resolved with 				
	IGO before sample preparation commences.				
	Sample preparation and analysis is completed only at ALS-Perth.				
	The risk of deliberate or accidental loss or contamination of samples is considered very low.				



JORC CODE, 2012 EDITION: SECTION 1 – KIMBERLEY – SAMPLING TECHNIQUES AND DATA			
JORC Criteria	Explanation		
Audits or reviews	No specific external audits or reviews have been undertaken.		



JORC Code, 2012 Edition: Section 2 – Kimberley – Exploration Results **JORC EXPLANATION CRITERIA** Dogleg Prospect is located within WA Exploration Lease E04/1972, covering 157Km2 which is part of the Quick Shears Mineral tenement and Project land tenure The Quick Shears Project consists of 3 granted exploration licences (E04/1972, E04/2314 & E04/2423). status Buxton Resources acquired the Quick Shears Project from New World Cobalt in 2018 (readers are referred to ASX:BUX announcement on the 6 November 2018 for further information). This transaction was compromised of an initial issue of 1,333,333 fully paid ordinary shares in Buxton Resources, and 3 deferred issues of fully paid ordinary shares (equal to the \$1,000,000) in Buxton Resources, conditional upon satisfaction of milestones as set out below: Within 5 days of Buxton Resources announcing it has intersected in drilling on the Quick Shears Project, on a grade-thickness basis, >20%m Ni equivalent, providing the grade of the mineralisation intersected is >1.5% Ni equivalent (e.g., ≥10m @2.0% Ni, or ≥13.33m @ 1.5%Ni). The issue of an additional number of Buxton Resources shares equal to \$250,000. Within 5 days of Buxton Resources announcing it has a JORC compliant resource (inferred, indicated and/or measured; of any size and/or grade; for any commodity) within the Project Tenements. The issue of an additional number of Buxton Resources shares equal to \$250,000. Within 5 days of Buxton Resources announcing it has a JORC compliant resource that exceeds 15,000 tonnes of contained nickel equivalent within the Project Tenements. The issue of an additional number of Buxton Resources shares equal to \$500,000. In each case the number of Shares to be issued to New World will be based on the 10-days VWAP prior to the date on which each relevant milestone is met. Under this arrangement, Buxton were able to acquire: 100% interest in E04/2423; and 80% interest in E04/1972 and E04/2314. With Timothy Tatterson holding the remaining (20%) interest. IGO entered into an agreement with Buxton Resources in relation to the Quick Shears Project (readers are referred to ASX:BUX announcement on the 2 October 2019 for further information). Under this agreement: IGO manages exploration. Buxton Resources is free carried until completion of a feasibility study and Timothy Tatterson is free carried until a decision to mine (in respect of his interest in E04/1972 and E04/2314). Buxton Resources is to be paid 3 deferred cash payments of \$500,000 each, conditional upon satisfaction of

milestones as set out below (being total deferred payments of up to \$1,500,000):

done by other parties

Geology

Exploration

Historical exploration (prior to Buxton Resources involvement) on the Quick Shears tenements was limited to a single phase of work conducted by Ram Resources Limited (ASX:RMR) during the period 2015- 2016. This comprised a helicopter EM survey (VTEM), ground EM and three diamond drill holes on E04/1972.

For clarity, the interests in E04/1972 and E04/2314 are held IGO (64%), Buxton Resources (16%), Timothy Tatterson

the first time IGO or its subsidiaries identifies that it has intersected in drilling on the Project Tenements, on a grade-thickness basis, ≥20%m Ni equivalent provided the grade of the mineralisation intersected is ≥1.5% Ni equivalent (e.g., ≥10m @2.0% Ni, or ≥13.33m @ 1.5%Ni). Ni equivalent is to be based on the spot price for the relevant metals as published by the London Metals Exchange (LME) on the date of the relevant

the first time IGO or its subsidiaries identifies a JORC compliant resource (inferred, indicated and/or

the first time IGO or its subsidiaries identifies a JORC compliant resource that exceeds 15,000 tonnes of contained nickel equivalent within the Project Tenements. Contained nickel equivalent is to be calculated based on the spot price for the relevant metal as published by the LME on the date of the relevant

measured; of any size and/or grade; for any commodity) within the Project Tenements.

- The regional geology setting is a low-grade metamorphic terrane in the Wunaamin-Miliwundi Orogeny of WA.
- Mafic to ultramafic intrusions have intruded a metasedimentary package within the belt and are the hosts to the Ni-Cu mineralisation.
 - The deposits are analogous to many mafic-ultramafic hosted orthomagmatic Ni-Cu deposits worldwide.

(20%). The interests in E04/2423 are held IGO (80%) and Buxton Resources (20%).



JORC Code, 2012 Edition: Section 2 – Kimberley – Exploration Results

JORC Criteria	EXPLANATION The sulphide mineralisation is interpreted to be related to the intrusive event with mineralisation occurring in several styles including massive, network texture, and disseminated sulphides. The main sulphide mineral is pyrrhotite (barren), with lesser amounts of nickel sulphides (pentlandite) and copper sulphides (chalcopyrite). The region is considered by Buxton and IGO to have the potential to host mafic or ultramafic intrusion related Ni-Cu-Co deposits based on Buxton's discovery of the Merlin Prospect.								
Drill hole		Hole ID	Easting (m)	Northing (m)	RL (m)	Dip (°)	Azimuth (°)	EOH (m)	
Information		23WKDD003	643688	8133781	67	-73	020	373	
		23WKDD004	643677	8133713	67	-73	020	379	
	Drill Collar Data (GDA94 MGA Zone 51; RL AHD)								
Data aggregation methods	 No capping or top-cutting of high grades were undertaken. The intercepts are calculated on a length weighted basis. 								
Relationship between mineralisation widths and intercept lengths	 Drilling was undertaken perpendicular to the angle of the interpreted strike and dip of the modelled MHEM and DHEM conductors. The true thickness is estimated to be 95.6% for 23WKDD003 and 91.0% for 23WKDD004. Downhole thickness is estimated using the dip and orientation of the drillholes from survey data and measured dip and orientation of the target geology. 								
Balanced Reporting	The exploration results reported here give the best and most balanced view of the undertaken works from available data.								
Other substantive exploration data		All meaningful data a body of this Public R		n included or previo	ously reporte	d to the mar	ket with appropria	ate references in the	ne mair
Diagrams		A representative cross assay results for 23V plan map in the main	VKDD004 and the	previously reporte	ed assay res	ults from 23\	NKDD003. These	are also shown on	n a
Further work	•	A program of works i	a still to be finalis	6					