

## Massive Sulphides at Dogleg Ni-Cu-Co Prospect, West Kimberley Project, Western Australia.

- 6.57 m of massive (>80%) sulphides intersected in hole 23WKDD003 at the Dogleg Prospect from 179.1 m, within a 14.7 m zone of mineralisation from 176.45 m (Table 1).
- Visually logged Ni and Cu sulphides (Table 1) are supported by pXRF analyses.
- Diamond drilling has been completed, and downhole electromagnetics (EM) are scheduled to be completed in the coming days.
- The drilling program was targeting a 280 m x 75 m, 12,000 Siemen ground EM conductor.
- Assays are expected within 4-8 weeks.

Buxton Resources (ASX:BUX) is pleased to announce that its joint venture partner IGO Limited (ASX:IGO) has intersected massive sulphide mineralisation (Figure 1) at the Dogleg Prospect (IGO (64%), Buxton Resources (16%), Timothy Tatterson (20%)) located approximately 13 km northwest of the previously identified Merlin Ni-Cu Prospect (Figure 2).



**Figure 1:** 23WKDD003 at 179.1 m - massive sulphide mineralisation with visually logged Ni and Cu sulphides.



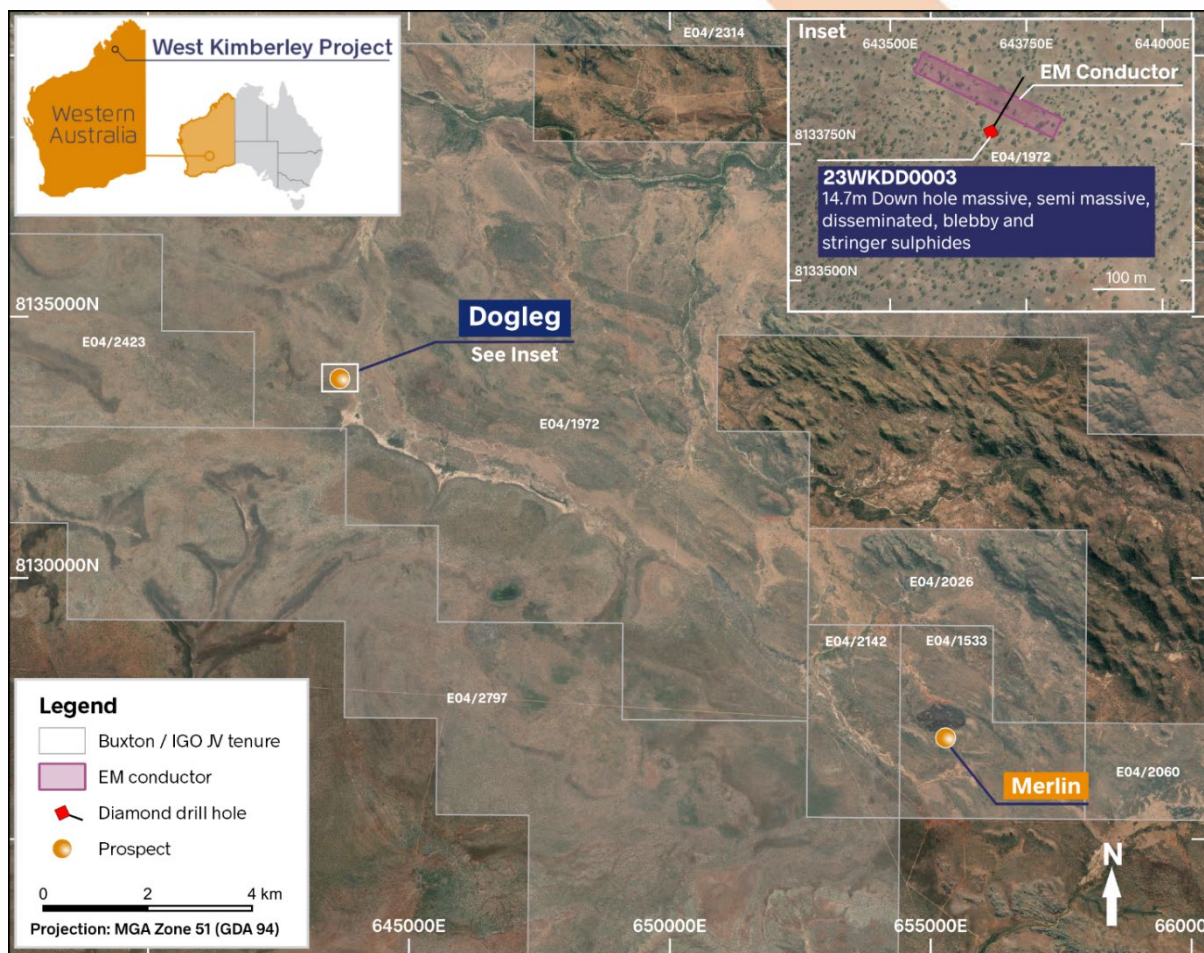
Buxton cautions that visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations. IGO regularly uses Olympus Vanta M Series portable XRF (pXRF) analysers to aid mineralogical identification in the field. Such techniques have been used extensively by IGO throughout its nickel exploration projects. The standard of the data is not considered by the competent person to be of sufficient quality to provide a preliminary indication of the expected lab assay values, as such no values for intervals are reported. The spot pXRF analyses do provide support of the visually logged nickel (pentlandite) and copper (chalcopyrite) sulphides. Buxton cautions that chemical analysis from an independent laboratory is required to confirm the presence of the visually logged nickel and copper sulphides and their proportions.

## PROJECT BACKGROUND

The Dogleg Prospect is located within tenement E04/1972 of the Quick Shears Project (E04/1972, E04/2314, and E04/2423; Figure 2), targeting Nova-style magmatic Ni-Cu sulphide mineralisation in the Proterozoic belt of the West Kimberley Region of Western Australia.

In 2019, IGO entered into an acquisition and joint venture agreement with Buxton for the tenements that now make up the Quick Shears Project.

Following completion of the deal, interests in the Quick Shears Project are Buxton Resources 16%, Tim Tatterson 20%, and IGO 64% (refer to BUX ASX announcement 2<sup>nd</sup> October 2019 for further information on the Quick Shears Project deal structure, and Section 2 of this report).



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





## DOGLEG EXPLORATION HISTORY

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 Prospect.

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

Drilling targeted this conductor and intersected at 179.1 m, 6.57 m of massive sulphides (Table 1) within a broader intersection of disseminated sulphide mineralisation (Table 1, Figure 3 and Figure 4). This 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.

Intersected sulphide mineralisation consists of pyrrhotite (barren sulphide), pentlandite (nickel sulphide), and chalcopyrite (copper sulphide). Visual estimates of sulphide mineralogy are given within Table 1.

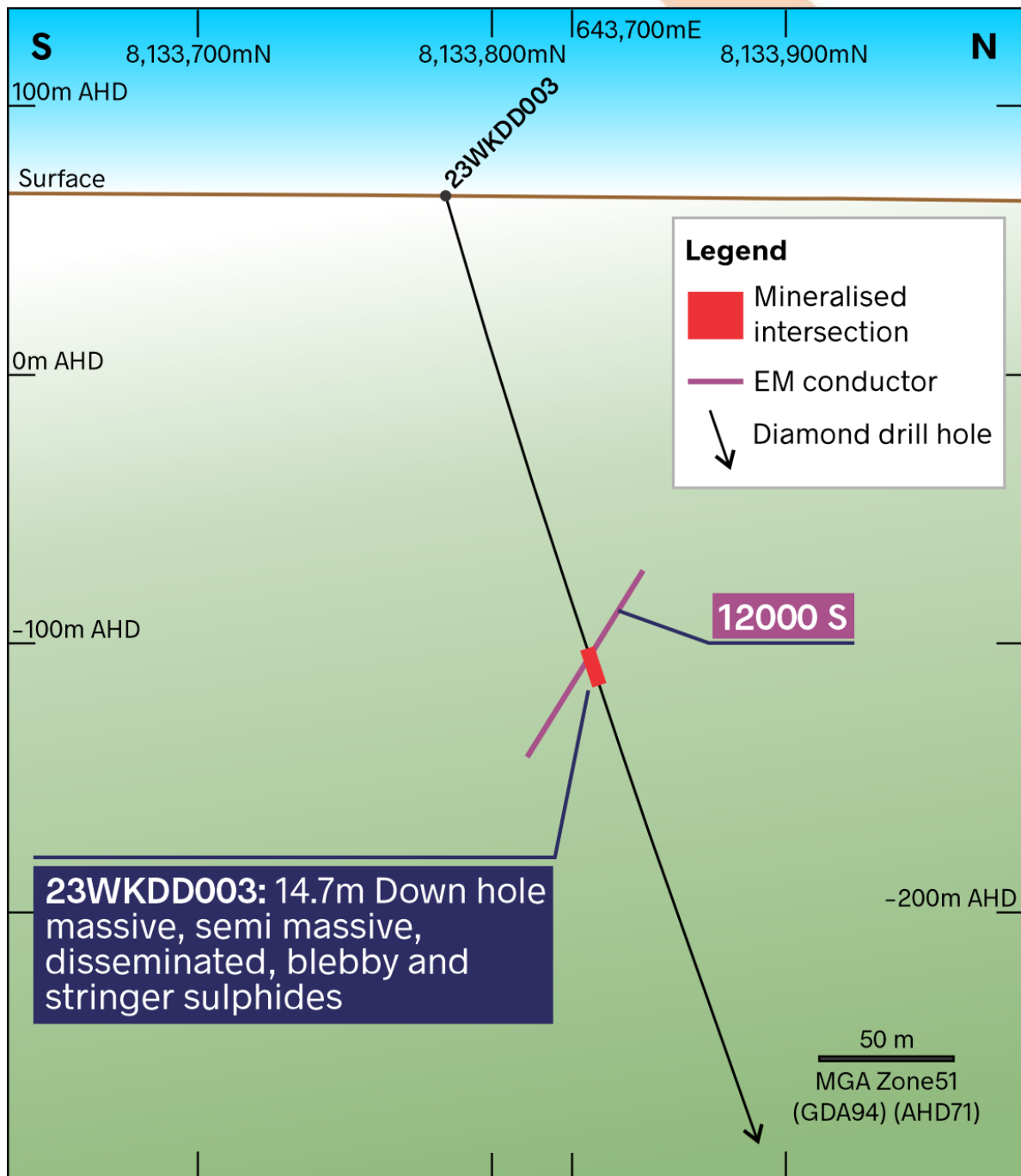
In support of the visual identification of nickel and copper sulphides are p-XRF spot analyses; however, it should be cautioned that chemical analysis from an independent laboratory is required to confirm the presences of the visually logged nickel and copper sulphides and quantify their proportions.

## MOVING FORWARD

- Downhole electromagnetics will commence in the coming days for further assessment on exploration upside.
- Lab results are expected within 4-8 weeks.



**Figure 3:** Reported sulphide interval from hole 23WKDD003.



**Figure 4:** North-South Section showing the Dogleg EM Conductor, the diamond drillhole trace, and intersected sulphide mineralisation detailed in Table 1 (14.7m of visual sulphide mineralisation from 176.45 m downhole).



**Table 1:** Logged sulphide intervals with visual estimates of sulphide mineralogy and proportions.

Hole ID	From (m)	To (m)	Interval (m) Not True Width	Mineralisation Style	Visual Estimation of Sulphide %		
					Barren Sulphide (pyrrhotite) %	Nickel Sulphide (pentlandite) %	Copper Sulphide (chalcopyrite) %
23WKDD003	176.45	178.55	2.10	Disseminated/blebby	8	2	<1
	178.55	178.85	0.30	Semi-massive	30	5	<1
	178.85	179.10	0.25	Disseminated stringer to	12	3	<1
	179.10	185.67	6.57	Massive	65	15	1
	185.67	185.90	0.23	Disseminated	8	2	<1
	185.90	186.30	0.40	Massive/semi-massive	50	10	1
	186.30	191.00	4.70	Disseminated	12	3	<1
	191.00	191.15	0.15	Disseminated	8	2	<1

This release is authorised by the Board.

For further information, please contact:

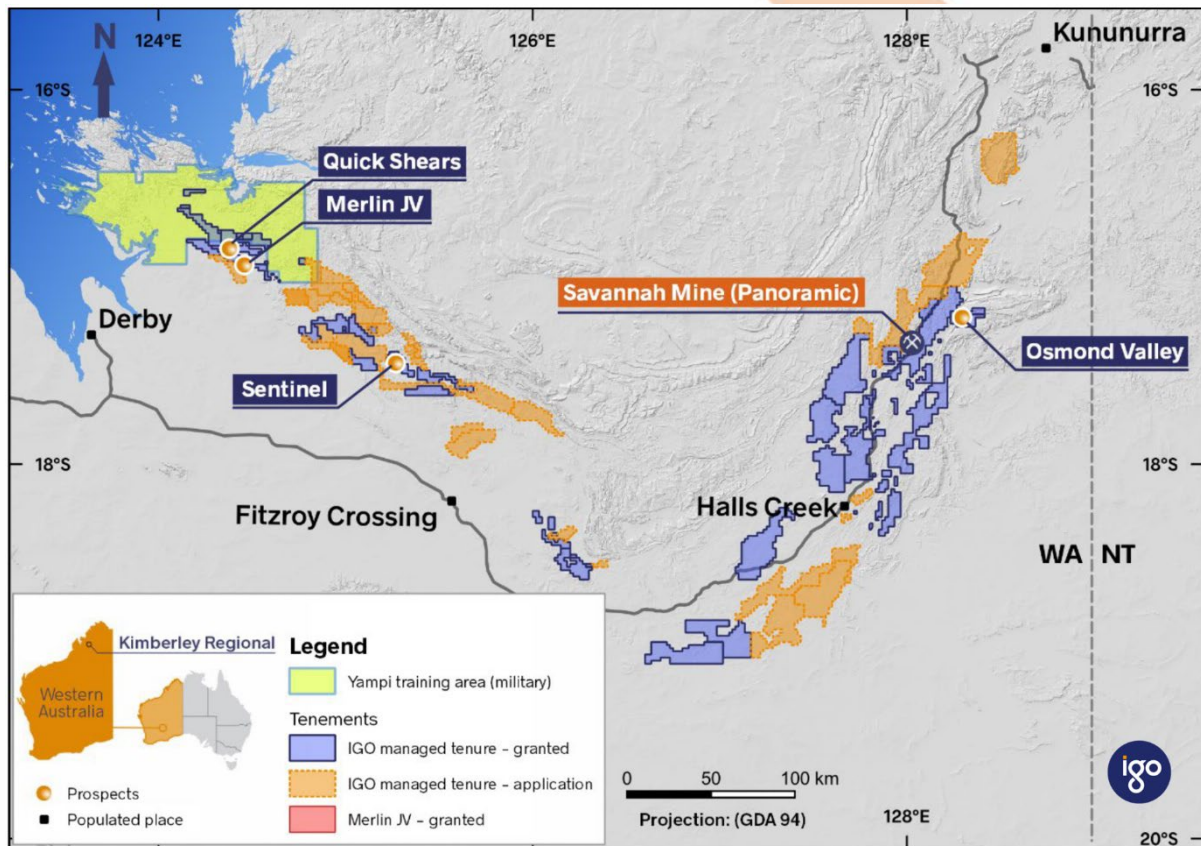
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#### About the West Kimberley JV Projects

The West Kimberley Project (Figure 5) is targeting Nova-style magmatic Ni-Cu sulphide mineralisation in Proterozoic belts of the West Kimberley Region of Western Australia. On the 10<sup>th</sup> 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 4<sup>th</sup> 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 (Quick Shears JV, Merlin / Double Magic JV and the West Kimberley Regional JV which hosts the Sentinel Project Area).

## 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 cross-referenced in this report to the date that it was reported to ASX. Buxton Resources confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcements.

## References to Previous Results

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

- 1) 2 October 2019 – [West Kimberley JV Restructure](#)

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
<b>Sampling techniques</b>	<p><b>P-XRF</b></p> <ul style="list-style-type: none"> <li>Spot analyses were performed on clean dry core from the sulphide intervals reported in this release. This is undertaken to support the geologist mineral identification, not to provide preliminary assay values. <ul style="list-style-type: none"> <li>An Olympus Vanta M Series pXRF analyser was used to undertake these indicative analyses. One spot measurement was performed in half-meter intervals of the visually logged sulphides.</li> <li>The pXRF instrument is calibrated and serviced annually, with daily instrument calibration completed as a minimum.</li> </ul> </li> </ul> <p><b>Assay</b></p> <ul style="list-style-type: none"> <li>Sampling for chemical assays will be undertaken once the diamond core has been processed at IGO's Broome processing facility. Reported visual estimates are a preliminary qualitative assessment of the intersected mineralisation which will be superseded by laboratory analysis when it becomes available (expected 4-6 weeks).</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Diamond drillholes were drilled by truck mounted rigs owned and operated by Westcore.</li> <li>Holes were collared from surface with PQ-core (85mm inside diameter) to 38.9m, followed by HQ-core (63.5mm inside diameter) from 38.9m to 101.7m, and NQ2 (50.6 mm inside diameter) from 101.7m to end of hole.</li> <li>The reported drill hole was drilled to a depth directed by IGO geologists.</li> <li>All NQ core was orientated using a REFLEX ACT III orientation tool.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>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.</li> <li>No core loss is recorded in the reported mineralised interval.</li> <li>Rod counts are routinely carried out and marked on the core blocks by the drillers to ensure the marked core block depths are accurate.</li> <li>Full assessment of recovery will be undertaken when the core is transported to IGO's core processing facility in Broome, with QA/QC of the recovery to be assessed by reconstructing the core into continuous runs in an angle iron cradle.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Logging of the diamond drill hole was conducted at the drill rig by qualified geologists with sufficient knowledge of the deposit style and the geological terrane the drilling was completed in.</li> <li>Logging of the entire mineralised interval (100%) has been completed with lithology, mineralogy and mineralisation recorded digitally.</li> <li>Logging completed can be considered qualitative in nature.</li> <li>Once the core is transported to IGO's core processing facility in Broome, further qualitative logging of the entire hole will be undertaken recording weathering, colour, and other features of the samples.</li> <li>In addition to the qualitative logging, once the hole has been transferred to IGO's core processing facility in Broome the core will be logged in a quantitative manner in terms of structure and geotechnical parameters.</li> <li>Photographs of all DD trays will be taken at IGO's core processing facility in Broome and retained on file with the original core trays stored at IGO's rented core library in Broome.</li> <li>Logging to date can be considered sufficient to report the discovery of massive sulphide mineralisation at Doglog with visually estimated nickel and copper sulphides. Logging to be completed at IGO's core processing facility in Broome will be adequate to support downstream exploration studies and follow-up drilling.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>Following core processing at IGO's core processing facility in Broome, the mineralised intervals will be subsampled into half-core using an automated wet-diamond-blade core saw and submitted to ALS Limited - Perth.</li> <li>All samples to be submitted for assay will be selected from the same side of the core, with exceptions only being for duplicate samples of selected intervals, where quarter-core subsamples will be cut from the half-core. <ul style="list-style-type: none"> <li>The nature of the drilling method means representation is investigative with sampling aimed at finding anomalous concentrations rather than absolute values for MRE work.</li> </ul> </li> </ul>



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

JORC Criteria	Explanation
<b>Quality of assay data and laboratory tests</b>	<p><b>P-XRF</b></p> <ul style="list-style-type: none"> <li>Spot analyses were performed with an Olympus Vanta M Series pXRF analyser on clean dry core from the sulphide intervals reported in this release. <ul style="list-style-type: none"> <li>Spot analyses were performed to support the geologist mineral identification, not to provide preliminary assay values.</li> <li>IGO regularly uses Olympus Vanta M Series portable XRF (p-XRF) analysers to aid mineralogical identification in the field. Such techniques have been used extensively by IGO throughout its nickel exploration projects. Application of p-XRF spot analyses to support field mineral identification are considered by the competent person to be appropriate for this application.</li> <li>The standard of data is not considered by the competent person to be of sufficient quality to provide preliminary indications of the expected lab chemical assay values for intervals, as such p-XRF values for intervals are not reported.</li> </ul> </li> <li>A reading time of 40 seconds was used, in the Geochem(2-Beam) analyser method. Cross-checking of visual mineral identification was undertaken with raw, uncorrected data. Calibration of the PXRF was completed prior to conducting spot analyses on the core with an Olympus check standard.</li> </ul> <p><b>Assay</b></p> <ul style="list-style-type: none"> <li>There is no reported lab assay data.</li> <li>Core samples will be submitted to ALS Limited – Perth following processing at IGO's core processing facility in Broome.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>Significant intersections were checked by senior IGO geological personnel.</li> <li>This is the first hole into the Dogleg Prospect; there are no twinned and scissor holes.</li> <li>Once the core is processed at IGO's core processing facility in Broome. The logging will be validated by an IGO on-site geologist and compiled onto the IGO acQuire SQL drill hole database by IGO's Geological Database Administrator.</li> <li>Assay data will be imported directly from digital assay files from contract analytical company ALS (Perth) and merged in the Company acQuire SQL drill hole database by IGO's Geological Database Administrator.</li> <li>Data is backed up regularly in off-site secure servers.</li> <li>No geophysical results are used in exploration results reported.</li> <li>Portable XRF readings were undertaken by senior IGO geological personnel with sufficient knowledge and experience in using the instrument. Results have only been used to support the geologist mineral identification, not to provide preliminary assay values. <ul style="list-style-type: none"> <li>p-XRF data was collected directly by the instrument and downloaded by digital transfer to an excel sheet with inbuilt QAQC. All data was checked by senior IGO geological personnel and digitally transferred to Perth.</li> </ul> </li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>The surface hole collar location was surveyed using a handheld Garmin GPS unit and averaging for 90 seconds with an expected accuracy of <math>\pm 6m</math> for easting and northing with elevation also recorded.</li> <li>Drill path gyroscopic surveys were at 0m and at subsequent 18m downhole intervals to final hole depth using a Reflex Gyro Omni tool.</li> <li>The grid system is GDA94/MGA Zone 51 using the AHD for elevation.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>A single diamond drill hole has been completed to date with the hole intersecting the middle of the modelled moving-loop electromagnetic (MLEM) conductor.</li> <li>Visual estimates of the entire mineralised intervals are reported.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Drilling was undertaken perpendicular to the angle of the interpreted strike and dip of the modelled MLEM plate.</li> <li>Drilling completed is at an early stage of exploration, the thickness, orientation, and dip of mineralisation are not known at this point in time.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The chain-of-sample custody is managed by the IGO staff from collection at the rig to the submission of the samples to ALS Limited – Perth for analysis.</li> <li>Samples are being stored at the drillsite before being transported and processed at IGO's core processing facility in Broome.</li> <li>To date no samples have been sent to ALS Limited – Perth for analysis.</li> <li>The diamond drill core will be wet cut using a diamond blade and sampled at IGO's core processing facility in Broome by IGO staff and contractors.</li> <li>Diamond drill core samples will be placed in pre-numbered calico bags and further secured in green plastic sample bags with cable ties. The samples are further secured in a bulk bag and delivered to the ALS -Perth by contractor freight Bishops Transport.</li> <li>Sample reconciliation advice is sent by ALS-Perth to IGO's Geological Database Administrator on receipt of the samples.</li> </ul>



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

<b>JORC Criteria</b>	<b>Explanation</b>
	<ul style="list-style-type: none"><li>• Any inconsistencies between the despatch paperwork and samples received is resolved with IGO before sample preparation commences.</li><li>• Sample preparation and analysis is completed at one of the ALS laboratories in Perth.</li><li>• The risk of deliberate or accidental loss or contamination of samples is considered very low.</li></ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"><li>• No specific external audits or reviews have been undertaken.</li></ul>





## JORC CODE, 2012 EDITION: SECTION 2 – KIMBERLEY– EXPLORATION RESULTS

JORC Criteria	Explanation														
Mineral tenement and land tenure status	<ul style="list-style-type: none"><li>Dogleg Prospect is located within WA Exploration Lease E04/1972, covering 157Km<sup>2</sup> which is part of the Quick Shears Project.</li><li>The Quick Shears Project consists of 3 granted exploration licences (E04/1972, E04/2314 &amp; E04/2423).</li><li>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:<ul style="list-style-type: none"><li>IGO manages exploration.</li><li>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).</li><li>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):<ul style="list-style-type: none"><li>the first time IGO or its subsidiaries identifies that it has intersected in drilling on the Project Tenements, on a grade-thickness basis, ≥20% 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 calculation.</li><li>the first time IGO or its subsidiaries identifies a JORC compliant resource (inferred, indicated and/or measured; of any size and/or grade; for any commodity) within the Project Tenements.</li><li>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 calculation.</li></ul></li></ul></li><li>The interests in E04/1972 and E04/2314 are held IGO (64%), Buxton Resources (16%), Timothy Tatterson (20%). The interests in E04/2423 are held IGO (80%) and Buxton Resources (20%).</li></ul>														
Exploration done by other parties	<ul style="list-style-type: none"><li>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.</li></ul>														
Geology	<ul style="list-style-type: none"><li>The regional geology setting is a low-grade metamorphic terrane in the Wunaamin-Miliwundi Orogeny of WA.</li><li>Mafic to ultramafic intrusions have intruded a metasedimentary package within the belt are the hosts to the Ni-Cu mineralisation.</li><li>The deposits are analogous to many mafic-ultramafic hosted orthomagmatic Ni-Cu deposits worldwide.</li><li>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).</li><li>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.</li></ul>														
Drill hole Information	<table><tr><th>Hole ID</th><th>Easting (m)</th><th>Northing (m)</th><th>RL (m)</th><th>Dip (°)</th><th>Azimuth (°)</th><th>EOH (m)</th></tr><tr><td>23WKDD003</td><td>643688</td><td>8133781</td><td>67</td><td>-73</td><td>020</td><td>373</td></tr></table> <p>Drill Collar Data (GDA94 MGA Zone 51; RL AHD)</p>	Hole ID	Easting (m)	Northing (m)	RL (m)	Dip (°)	Azimuth (°)	EOH (m)	23WKDD003	643688	8133781	67	-73	020	373
Hole ID	Easting (m)	Northing (m)	RL (m)	Dip (°)	Azimuth (°)	EOH (m)									
23WKDD003	643688	8133781	67	-73	020	373									
Data aggregation methods	<ul style="list-style-type: none"><li>Not applicable – no assay results reported in this announcement.</li></ul>														
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"><li>Not applicable – insufficient data available at this point to describe relationship between mineralisation widths and intercept length.</li></ul>														
Balanced Reporting	<ul style="list-style-type: none"><li>Once laboratory results are received (expected 4-8 weeks) a more comprehensive reporting will be submitted.</li><li>The exploration results reported here give the best and most balanced view of the drilling possible.</li></ul>														
Other substantive exploration data	<ul style="list-style-type: none"><li>All meaningful data available has been included.</li></ul>														



JORC CODE, 2012 EDITION: SECTION 2 – KIMBERLEY– EXPLORATION RESULTS

JORC Criteria	Explanation
<b>Diagrams</b>	<ul style="list-style-type: none"><li>A representative north-south section is shown in the main body of this Public Report, this highlights the reported sulphide intersection and the targeted Dogleg MLEM conductor. Drill collar position is shown on the plan map in the main body of this Public Report.</li></ul>
<b>Further work</b>	<ul style="list-style-type: none"><li>IGO in the coming days will attempt to complete a downhole-electromagnetic (DHEM) survey on drillhole 23WKDD003. This DHEM survey will provide a greater constraint on the nature (orientation and extent) of the original targeted MLEM conductor that spatially correlates with the reported massive sulphide mineralisation, with further drilling possible based on favourable outcomes of this surveys.</li><li>As discussed, once the core has been processed in IGO's Broome processing facility, the reported mineralised intercepts will be sent to ALS Limited – Perth for chemical assay.</li></ul>