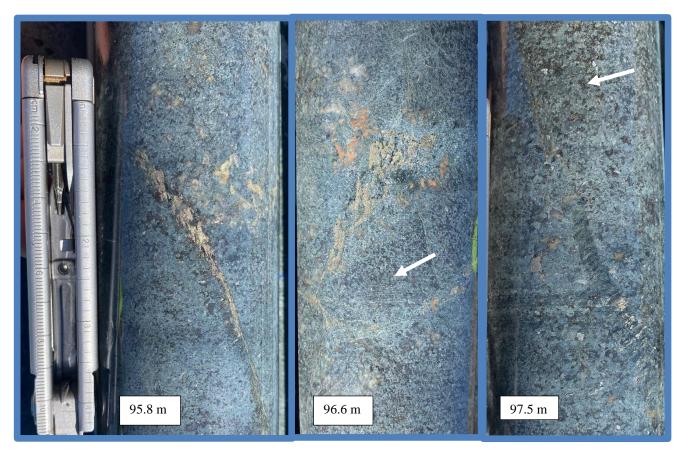
**ASX Code: IPT** 

# **ASX ANNOUNCEMENT**

Date: 3 June 2021 Number: 758/03062021

# Visible Sulphides at Little Broken Hill Gabbro and Red Hill

- Disseminated to blebby and vein sulphides identified in maiden diamond drill programme at the Rockwell prospect, part of the Little Broken Hill Gabbro.
- Confirms the potential for the basal ultramafic unit of the LBHG to host a significant massive sulphide deposit and/or a PGE-dominant low sulphide deposit.
- Weak disseminated sulphide identified over extensive widths at Red Hill. Still open down plunge to the north east.
- Assays due late July-August.
- Follow up drill programmes being planned and organised with statutory approvals in place.
- Assays from Apsley delayed due to laboratory back log and are expected over coming weeks.



**Figure 1.** Photographs of diamond core from selected intervals from 95 metres to 98 metres down hole in RWIPT016. The photographs show disseminated to blebby to vein hosted sulphide mineralisation comprising pyrite-pyrrhotite-chalcopyrite (copper sulphide) and lesser pentlandite (nickel sulphide). Fine grained disseminated sulphide occurs in many places in this interval (see arrows for example).



Visible sulphide mineralisation has been intersected in diamond drill core for the first time at Impact Minerals Limited's Little Broken Hill Gabbro and Red Hill prospects at the Company's 100% owned Broken Hill project platinum group element (PGE)-copper-nickel project in New South Wales.

Impact's Managing Director Dr Mike Jones said "It is great to get a first look at the high tenor PGE-dominant mineralisation at the base of the Little Broken Hill Gabbro. The textures indicate the mineralisation is directly associated with magmatic processes at the base of host ultramafic unit and which have the potential to form a massive sulphide deposit in the right trap such as a basal channel structure as we have already discovered at Platinum Springs.

We believe that such a channel may be close by and we look forward to getting a down hole EM survey underway to identify possible targets for massive sulphide as quickly as possible. A down hole survey is also planned at Red Hill where fine disseminated sulphide has been recognised in many places in the core and to determine if massive sulphide could be present below the base of the intrusion which has been faulted off.

We will have to wait for assays to confirm the PGE grades and of course there are significant delays in laboratories across Australia at present. These delays have also affected the delivery of the assays from our Apsley drill programme, despite promises from the laboratory, with further batches due by mid-June.

We are very encouraged by the core at Broken Hill as it confirms our belief that the LBHG may potentially contain a significant reservoir of PGE's and possibly nickel and copper. We have to remember that this is the first ever drill programme to test the basal ultramafic unit and yet every drill hole that has intersected it has returned some level of mineralisation. It is evident that there is very significant potential along the entire length of the 6.5 kilometre long intrusion and we are gearing up towards a major follow up drill programme at all of our prospects there as soon as practicable given we already have statutory permissions for a number of drill holes in place. We are in discussions with drill contractors and note that drill availability is much more reasonable in New South Wales than elsewhere in Australia."

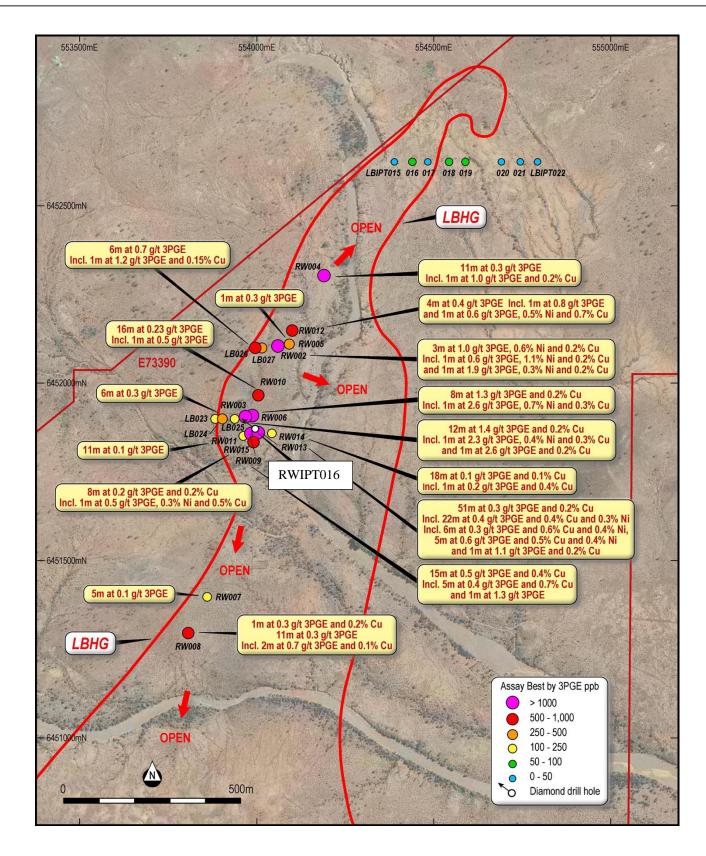
#### Little Broken Hill Gabbro

At the Little Broken Hill Gabbro (LBHG), hole RWIPT016 was drilled between two traverses of previous RC drill holes at Rockwell, which covers the northern third of the LBHG and where Impact has discovered very encouraging PGE-nickel-copper mineralisation over at least 1,500 metres of strike within the very poorly explored basal ultramafic unit (Figures 2 and 3 and ASX Releases 17<sup>th</sup> December 2020, 22<sup>nd</sup> December 2020 and 15<sup>th</sup> April 2021). For example, Hole RWIPT003 returned:

61 metres at 0.4 g/t 3PGE from 31 metres which includes
12 metres at 1.4 g/t 3PGE and 0.2% copper from 73 metres and including
1 metre at 2.3 g/t 3PGE, 0.4% nickel and 0.2% copper from 73 metres and
1 metre at 2.6 g/t 3PGE, 0.7% nickel and 0.2% copper from 79 metres.

Hole RWIPT016 intersected the basal 95 metres of the LBHG which comprises 71 metres of gabbro that overlies the target basal ultramafic unit which, in this location is 24 metres thick true width. The entire ultramafic unit contains trace to up to 1% disseminated sulphide with a zone of more intense blebby and vein sulphide from 95 metres to 98 metres down hole (Figure 1). The sulphides comprise pyrite, pyrrhotite, chalcopyrite and pentlandite in decreasing order.





**Figure 2.** Location of Impact's drill holes at Rockwell with best down hole assay results for 3PGE and showing the location of diamond drill hole RWIPT016. The northern line of drill holes with weaker results are vertical aircore drill holes that are no more than 50 metres deep. They have probably not effectively tested the basal ultramafic unit at depth and deeper RC drilling is required.



Impact's previous drill results have established that the PGE-rich mineralisation at Rockwell is generally sulphide poor and therefore these observations are consistent with previous drill results.

However, it should be noted that the information in this announcement is based solely on a visual inspection of the drill core. The core is yet to be assayed and analysed. The Company has not confirmed whether PGE mineralisation is present, given that it can only be determined through laboratory analysis.

Impact's proprietary ratio for PGE exploration (ASX Release 24<sup>th</sup> April 2021) does indicate that PGE's are present in the ultramafic. However, the ratio has been calculated on spot readings on the diamond core and by definition this is less accurate than readings taken on more homogenised RC chips which form the bulk of Impact's previous measurements. A comparison with laboratory assays is required to determine if the ratio can be used quantitatively on diamond core.

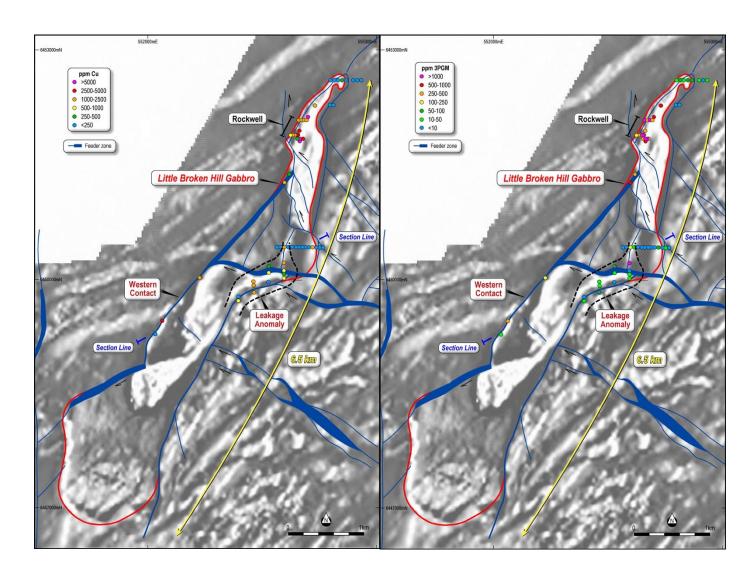
Of note, the more visible sulphides are associated with a coarsening of the surrounding crystals in the host ultramafic (Figure 1). This is indicative of the mineralisation being released from the fractionating magma as it cooled.

Such fractionation processes have been shown to be an important control on the formation of the basal Kambalda-style channel that hosts massive sulphide mineralisation at Impact's Platinum Springs prospect at Broken Hill and Impact believes that similar but much larger channels may be present at the base of the LBHG (ASX Release 2<sup>nd</sup> December 2020).

Such channels of massive sulphide may be detectable by electromagnetic geophysical methods. A down hole EM survey will be completed at Rockwell in the next Quarter and consideration is also being given to completing a high powered ground EM survey over much of the very poorly explored LBHG to also search for significant conductors (Figure 3).

However, it should be noted that there is still significant potential for a low sulphide PGE dominant deposit at LBHG and that such deposits will not be detected by EM methods. In such a case exploration will also be driven by Impact's proprietary ratio.





**Figure 3.** First vertical derivative image of airborne magnetic data over the Little Broken Hill Gabbro showing Impact's drill collars and best results down hole for copper and 3PGM (palladium+platinum+gold). Note the widespread nature of mineralisation over the entire 6.5 kilometre length of the intrusion. The LBHG is clearly very fertile with significant potential to discover a major PGE-nickel-copper deposit.

### **Red Hill**

At Red Hill, two diamond drill holes were completed to follow up a previous significant drill intercept in RC hole RHIPT34 which tested the southern contact of the Red Hill chonolith intrusion (ASX Release 21<sup>st</sup> January 2021). Hole 034 returned:

138 metres at 0.3 g/t 3PGM (Pd+Pt+Au) from surface which includes several higher grade intercepts of:

2 metres at 2.3 g/t 3PGE from 75 metres, and

12 metres at 1.5 g/t 3PGM and 0.2% copper from 103 metres which includes

2 metres at 2.3 g/t 3PGM, 0.3% copper and 0.3% nickel from 109 metres, and also includes

2 metres at 1.1 g/t 3PGM and 0.2% copper from 135 metres.



The new diamond holes intersected the basal contact of the intrusion at a depth of about 450 metres below surface. There is trace to 1% disseminated sulphide, predominantly pyrite in many places throughout the drill holes, similar to that encountered in RHIPT034.

The depth and shape of the Red Hill intrusion was estimated prior to the diamond drilling using magnetic inversion modelling and this suggested that the intrusion was very steeply dipping. The new drilling has intersected the contact at a shallower level than anticipated from the model and indicates that the intrusion likely has a shallower north east plunge and is still open at depth.

A revision of the magnetic inversion model using the new information will now be completed to help confirm this.

In addition, the basal contact is sheared and it appears that the bottom of the intrusion, and which is the target for hosting massive sulphides, may have been faulted off. The local geology suggests that any fault offset is of the order of tens to 100 metres only and accordingly a down hole EM survey will be completed to test for off hole conductors.

#### DISCUSSION AND NEXT STEPS

Impact's previous work has shown the LBHG to be of a similar size, age, chemical composition and in the same geodynamic setting as the giant Jinchuan nickel-copper-PGE deposit in China (550Mt at 1.1% nickel, 0.7% copper and 0.5 g/t PGE). These diamond holes represent the end of the first scout phase of drilling at LBHG and the results are considered to be very encouraging for the discovery of a Jinchuan-style deposit at the LBHG (ASX Release 9<sup>th</sup> July 2020 and 17<sup>th</sup> December 2020).

Virtually every drill hole that has penetrated the basal ultramafic unit of the LBHG has intersected anomalous PGE with variably anomalous nickel and copper. The ultramafic unit generally carries anomalous PGE's over its entire thickness with narrower zones of better grades of up to 2.6 g/t PGE's, 1.1% nickel and 0.7% copper towards the base of the unit in places.

In all locations the mineralisation is open along trend and down dip and this is all very encouraging for the potential discovery of a significant nickel-copper-PGE deposit at the base of the LBHG given the very small area tested thus far.

It is evident that there is potentially a very large inventory of those metals contained within the target basal unit and extensive follow-up drilling is clearly required at many places.

A detailed interpretation of the large amount of new data generated from the extensive drill programmes completed at LBHG, Platinum Springs and Red Hill is nearing completion to prioritise areas for follow up drilling.

In addition, down hole electromagnetic surveys will be completed on 5 drill holes across the project area to search for targets that may represent massive sulphide bodies.

Discussions are in progress with drilling contractors to determine timing and cost with the aim of drilling as soon as practicable. Statutory approvals are already in place for a number of drill holes.



### **About the Drill Programme and Assays**

Impact has completed 3 holes for 1,324 metres at Red Hill and LBHG-Rockwell. Drill hole details are given in Table 1 and the JORC Table. A fourth drill hole, located about 150 metres south of RWIPT016 is currently in progress and will be reported on completion. This will be the last drill hole in this programme.

The diamond core is currently being cut and sampled before being sent to Intertek in Adelaide for analysis with first results are expected by late July and into August.

## **Apsley Drill Assays**

Impact's maiden drill programme at Apsley is now complete and all samples have been received by the laboratory for assay.

Unfortunately, despite initial promises from the laboratory on prompt delivery, receipt of assays has been significantly delayed because of the increased volume of exploration drilling across Australia. Although results from a few holes have been received, the wide spaced and reconnaissance nature of the drill holes make identification of the nature and extent of the distinctive alteration zones that occur around porphyry copper gold deposits difficult.

The laboratory has indicated further batches of assays will be available by mid-June.

### **COMPLIANCE STATEMENT**

This report contains collar locations for 3 new diamond drill holes drilled by Impact. No new assays are reported.

### **Dr Mike Jones**

### **Managing Director**

The review of exploration activities and results contained in this report is based on information compiled by Dr Mike Jones, a Member of the Australian Institute of Geoscientists. He is a director of the company and works for Impact Minerals Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits 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 (the JORC Code). Mike Jones has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**TABLE 1. Drill Hole Details** 

Hole ID	Hole Type	ЕОН	Grid	Easting	Northing	Azi	Dip	Prsopect
RHIPT039	DD	491	MGA94_54	555678	6454291	354	82	Red Hill
RHIPT040	DD	546	MGA94_54	555578	6454288	25	80	Red Hill
RWIPT016	DD	187	MGA94_54	553985	6451858	290	52	Rockwell



# APPENDIX 1 - SECTION 1 SAMPLING TECHNIQUES AND DATA FOR THE BROKEN HILL PROJECT

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.	Diamond triple tube drilling was used to produce drill core with a diameter of 61.1 mm (3HQ). A handheld XRF instrument was used to analyse the drill core at 50 cm intervals.	
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Drill Samples  Sample representivity was ensured using by a combination of Company Procedures regarding quality control (QC) and quality assurance / testing (QA).  Examples of QC include (but are not limited to), daily workplace and equipment inspections, as well as drilling and sampling procedures.  Examples of QA include (but are not limited to) collection of "field duplicates", the use of certified standards and blank samples approximately every 50 samples.	
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information	Diamond Drill sampling.  Half or quarter-split diamond core are sent to Intertek Adelaide where they were crushed, dried and pulverised (total prep) to produce a 25-30 g sub-sample for analysis by four acid digest with an ICP/AES finish for ore grade base metal samples and either lead collection or nickel sulphide fire assay with AAS or MS finish for gold and the PGMs.  Quarter core is assayed over composite lengths of 2 to 3m and half core on lengths of 1m or less.	
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond Drilling comprised HQ (61.1 mm diameter) sized core. The diamond core is triple tube and is oriented. Orientation is measured using a Reflex downhole tool by the drilling contractor.	
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	Diamond core recoveries for all holes was logged and recorded. Recoveries are estimated to be approximately >97% for the Red Hill and Little Broken Hill Prospects. No significant core loss or sample recovery problems are observed in the drill core.	
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Diamond core was reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the driller.	
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No sample bias has been established.	



Criteria	JORC Code explanation	Commentary
Logging	Whather are and this complet have been appleaisable and acceptainable	Geological logging of samples followed company and industry common practice. Qualitative logging of samples included (but not limited to); lithology, mineralogy, alteration, veining and weathering. Diamond core logging included additional fields such as structure and geotechnical parameters.
	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Magnetic Susceptibility measurements were taken for each 1 m diamond core interval.
		For diamond core, information on structure type, dip, dip direction, texture, shape and fill material has been recorded in the logs. RQD data has been recorded on selected diamond holes. Handheld XRF analysis was completed at 50 cm intervals on diamond core to assist and verify logging.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All logging is quantitative, based on visual field estimates. Systematic photography of the diamond core in the wet and dry form was completed.
		All diamond drill holes were logged in full.
	The total length and percentage of the relevant intersections logged	Detailed diamond core logging, with digital capture was conducted for 100% of the core by Impact's onsite geologist.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	All core samples of 1m or less are sampled by half core.  Quarter core samples consist of composite intervals of between 2-3m.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	No RC drilling results are reported.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Company procedures were followed to ensure sub-sampling adequacy and consistency. These included (but were not limited to) daily work place inspections of sampling equipment and practices, as well as sub-sample duplicates ("field duplicates").
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Laboratory QC procedures for rock sample and diamond drill core assays involve the use of internal certified reference material as assay standards, along with blanks, duplicates and replicates.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	N/A
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Diamond Core Samples Sample sizes at Red Hill are considered adequate due to the mineralisation style of disseminated sulphide.
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.	An industry standard fire assay technique for samples using lead or nickel collection with an Atomic Absorption Spectrometry (AAS) finish was used for gold and four acid digest with an ICP/AES for major elements, base metals and silver.



Criteria	JORC Code explanation	Commentary
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools were used to determine material element concentrations. A handheld XRF was used for qualitative analysis only.
	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.	Diamond Drill Samples Reference standards and blanks are routinely inserted into every batch of samples at a rate of 1 in every 50 samples.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	The results have not been verified by independent or alternative companies. This is not required at this stage of exploration.
	The use of twinned holes.	N/A
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary assay data for drill assays has been received digitally from Intertek Laboratory then later combined with hole numbers and depths by Impact into a standard Excel templates for plotting in Mapinfo, Geosoft Target and Leapfrog. Original pdf laboratory assay certificates are saved for verification when required.
	Discuss any adjustment to assay data.	There are no adjustments to the assay data.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Sample locations and drill holes were located by hand held GPS.
	Specification of the grid system used.	The grid system for Broken Hill is MGA_GDA94, Zone 54.
	Quality and adequacy of topographic control.	Standard government topographic maps have been used for topographic validation.  For the diamond holes, down-hole single shot surveys were conducted by the drilling contractor.  Downhole surveys were conducted at 15 m, 30 m and then approximately every 30 m down-hole.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Diamond drill holes are conducted at varying spacings, orientations and depths deemed appropriate for early stage exploration. Consistent drill spacing is not possible at Red Hill since drill pad locations are limited due to undulating topography.
	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.	Estimations of grade and tonnes have not yet been made.
	Whether sample compositing has been applied.	Sample compositing has not been applied.
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 orientation of mineralisation is yet to be determined. A 3D review of the mineralisation is currently underway to better interpret the orientation of mineralisation and assist follow-up drilling.



Criteria	JORC Code explanation	Commentary		
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Not relevant to early stage exploration drill results. No sampling bias has been detected.		
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by Impact Minerals Ltd. A courier is contracted by Impact Minerals to transport the samples from Broken Hill to the Intertek laboratory in Adelaide for preparation and assay. Whilst in storage, they are kept in a locked yard. Tracking sheets have been set up to track the progress of batches of samples.		
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	At this stage of exploration, a review of the sampling techniques and data by an external party is not warranted.		

## **SECTION 2 REPORTING OF EXPLORATION RESULTS**

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 Broken Hill Project currently comprises 8 exploration licences covering 850 km². The tenements are held 100% by Impact Minerals Limited. No aboriginal sites or places have been declared or recorded over the licence area. There are no national parks over the licence area.	
	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 tenements are in good standing with no known impediments.	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	There has been no significant previous work at this prospect prior to Impact Minerals work.	
Geology	Deposit type, geological setting and style of mineralisation.	Nickel-copper-PGE sulphide mineralisation associated with an ultramafic intrusion.	
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:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length.	See Table details within the main body of this ASX Release.	
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.	All reported assays have been length weighted. No top cuts have been applied.	



Criteria	JORC Code explanation	Commentary
	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.	N/A
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents have been reported.
Relationship between mineralisation 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.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	The orientation of mineralisation is yet to be determined. A 3D review of the mineralisation is currently underway to better interpret the orientation of mineralisation and assist follow-up drilling.
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.	Refer to Figures in body of text.
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 Exploration Results.	All results reported are representative
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.	Assessment of other substantive exploration data is not yet complete however considered immaterial at this stage.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	Follow up work programmes will be subject to interpretation of results which is ongoing. A 3D review of the mineralisation is currently underway to better interpret the orientation of mineralisation and assist follow-up drilling.