# ASX Announcement

8 February 2024

## Shallow High Grade Assays Infill Tunkillia's Area 51 Target

+40 metre intervals highlight broad, coherent zone of gold mineralisation

## HIGHLIGHTS

**Barton Gold** 

- Tunkillia JORC Resources recently grew to 1.38Moz Au during December 2023<sup>1</sup>
- Further ~3,450m drilling results infill ~700m long Area 51 satellite zone
- Multiple intersections ranging from ~20m to ~50m width in central zone
- Hole TKB175D includes 44m @ 1.81 g/t Au from 64m, incl. 6m @ 5.85 g/t Au (69m) & 1m @ 19.95 g/t Au (80m)
- Supports higher-grade 'core' model for Area 51, validating prior May 2022 and January 2023 drilling
- Analysis underway for potential conversion of Area 51 to new JORC Mineral Resource Estimate (MRE)
- Additional drilling results remain outstanding and are expected soon for Tunkillia's SE Offset target and Tarcoola's Perseverance open pit

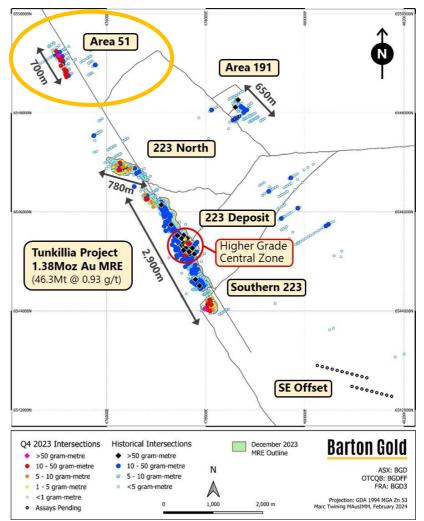


Figure 1 – Tunkillia Gold Project & Satellite Zones

Barton Gold Holdings Limited (ASX:BGD, FRA:BGD3, OTCQB:BGDFF) (Barton or the Company) is pleased to report drilling results for the Area 51 gold zone at the Tunkillia Gold Project (Tunkillia), where infill drilling has further validated a zone of broad, coherent gold mineralisation for potential JORC modelling.

## Commenting on the Area 51 drilling results, Barton MD Alex Scanlon said:

"These results further validate the expansive potential of Tunkillia's gold mineralisation. Located ~4km northwest of the 223 Deposit area, Area 51 is the fifth new gold zone we have confirmed within this radius during the past 2 years. Three of these have recently been converted to JORC Resources during December 2023, and we are now reviewing Area 51 for the same potential as we continue to build out the project's mineralised footprint."

<sup>1</sup> Refer to ASX announcement dated 11 December 2023

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# Company Directors Kenneth Williams

Non Executive Chairman Alexander Scanlon Managing Director & CEO Christian Paech Non Executive Director Graham Arvidson Non Executive Director

## **Program Background**

In May 2022 Barton completed drilling targeting the Area 51 prospect northwest of Tunkillia's 223 Deposit, confirming during September 2022 a new ~500m gold zone which was then subsequently extended to ~700m long during April 2023.<sup>2</sup> The combined drilling mapped out a broad (50 – 100m wide) zone of gold mineralisation along this ~700m strike, and also suggested a potential higher-grade concentration of mineralisation at the 'core' of Area 51. Key results from these drilling programs included:

#### May 2022 Program<sup>2</sup>

#### January 2023 Program<sup>2</sup>

TKB43: 17m @ 3.20 g/t Au from 77m
45m @ 0.92 g/t Au from 97m
TKB48: 8m @ 0.99 g/t Au from 140m
10m @ 1.22 g/t Au from 158m

TKB95D: 28.55m @ 1.32 g/t Au from 91.45m
25m @ 0.78 g/t Au from 125m
TKB106: 6m @ 1.99 g/t Au from 140m
TKB94D: 20m @ 0.70 g/t Au from 163m

Following the success of these programs, and in parallel with the major Tunkillia MRE growth drilling program completed during December 2023, Barton drilled a further 10 diamond (**DD**) and 9 reverse circulation (**RC**) holes at Area 51 comprising 1,748.5m DD and 1,700m RC, for a total 3,448.5m drilling.

Key new Area 51 intersections include (new drilling and maximum gram-metres shown on Figure 2 below):

TKB172D: 47.6m @ 0.48 g/t Au from 48.4m
TKB174D: 21.4m @ 1.06 g/t Au from 41.6m incl. 12.4m @ 1.54 g/t Au from 44.6m
TKB175D: 44.6m @ 1.81 g/t Au from 64m incl. 6m @ 5.85 g/t Au from 69m incl. 1m @ 19.95 g/t Au from 80m

TKB176D:	24m @ 0.93 g/t Au from 138m
TKB216:	<b>28m @ 0.74 g/t Au</b> from 79m
	incl. <b>6m @ 1.93 g/t Au</b> from 79m
TBK221:	22m @ 1.33 g/t Au from 158m
	Incl <b>6m @ 2.47 g/t Au</b> from 160m
TKB222:	<b>48m @ 0.52 g/t Au</b> from 175m

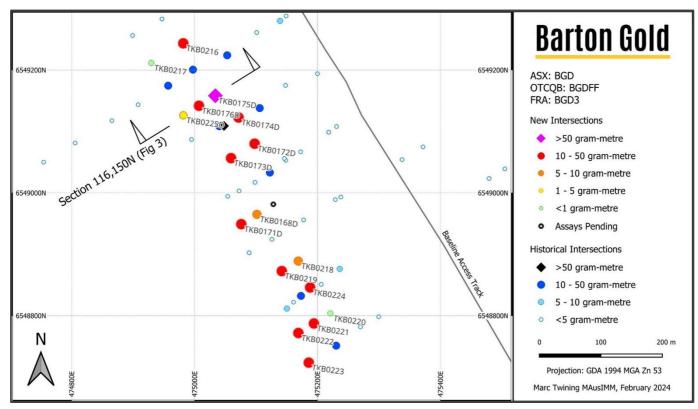


Figure 2 - Tunkillia Area 51 drilling plan showing new and historical drill hole collars

<sup>&</sup>lt;sup>2</sup> Refer to Barton ASX announcements dated 5 September 2022 and 19 April 2023

### Next Steps for Area 51 Analysis

Drilling has now confirmed and extended mineralisation at Area 51 to over 700m, with a significant 'core zone' identified to contain broad gold mineralisation in excess of 40 gram-metres and a significant amount of diamond drilling undertaken to inform local geology and structural controls on mineralisation.

Barton is now working with its external Resource consultants to evaluate the potential conversion of Area 51 mineralisation into new JORC Resources for the continued near-term growth of the Tunkillia Project.

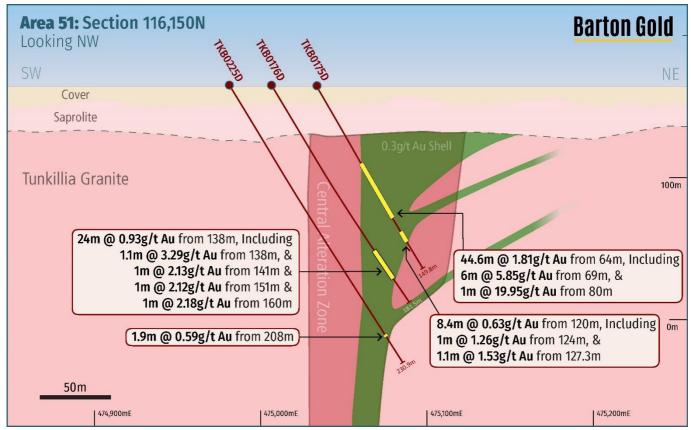


Figure 3 – Area 51 Cross Section 116,150N

Authorised by the Board of Directors of Barton Gold Holdings Limited.

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## **Competent Persons Statement**

The information in this announcement that relates to Exploration Results for the Tunkillia Gold Project (including drilling, sampling, geophysical surveys and geological interpretation) is based upon, and fairly represents, information and supporting documentation compiled by Mr Marc Twining BSc (Hons). Mr Twining is an employee of Barton Gold Holdings Ltd and is a Member of the Australasian Institute of Mining and Metallurgy Geoscientists (AusIMM Member 112811) and has sufficient experience with the style of mineralisation, the deposit type under consideration and to the activity being undertaken, 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). Mr Twining consents to the inclusion in this announcement of the matters based upon this information in the form and context in which it appears.

#### **About Barton Gold**

Barton Gold is an ASX, OTCQB and Frankfurt Stock Exchange listed Australian gold exploration and development company with **a total attributable 1.5Moz Au JORC Mineral Resources endowment** (47.2Mt @ 1.0 g/t Au), a pipeline of advanced exploration projects and brownfield mines, and **100% ownership of the only regional gold mill** in the central Gawler Craton of South Australia.\*

#### Tarcoola Gold Project

- Existing brownfield open pit mine within trucking distance of Barton's processing plant
- Under-explored asset with untapped scale potential

#### Tunkillia Gold Project

- 1.38Moz Au Mineral Resources (46.3Mt @ 0.93 g/t Au)\*
- District-scale structures with advanced satellite targets

#### **Infrastructure**

- 650ktpa CIP process plant, mine village, and airstrip
- Tarcoola ~40 person lodging to support mine operations
- Tunkillia camp to support dedicated project team



#### **Competent Persons Statement & Previously Reported Information**

The information in this announcement that relates to the historic Exploration Results and Mineral Resources as listed in the table below is based on, and fairly represents, information and supporting documentation prepared by the Competent Person whose name appears in the same row, who is an employee of or independent consultant to the Company and is a Member or Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM), Australian Institute of Geoscientists (AIG) or a Recognised Professional Organisation (RPO). Each person named in the table below has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he has undertaken to quality as a Competent Person as defined in the JORC Code 2012.

Activity	Competent Person	Membership	Status	
Tarcoola Mineral Resource	Dr Andrew Fowler (Consultant)	AusIMM	Member	
Tarcoola Exploration Results (until 15 Nov 2021)	Mr Colin Skidmore (Consultant)	AIG	Member	
Tarcoola Exploration Results (after 15 Nov 2021)	Mr Marc Twining (Employee)	AusIMM	Member	
Tunkillia Exploration Results (until 15 Nov 2021)	Mr Colin Skidmore (Consultant)	AIG	Member	
Tunkillia Exploration Results (after 15 Nov 2021)	Mr Marc Twining (Employee)	AusIMM	Member	
Tunkillia Mineral Resource	Mr Ian Taylor (Consultant)	AusIMM	Fellow	
Challenger Mineral Resource	Mr Dale Sims (Consultant)	AusIMM / AIG	Fellow / Member	

The information relating to historic Exploration Results and Mineral Resources in this announcement is extracted from the Company's Prospectus dated 14 May 2021 or as otherwise noted in this announcement, available from the Company's website at <u>www.bartongold.com.au</u> or on the ASX website <u>www.asx.com.au</u>. The Company confirms that it is not aware of any new information or data that materially affects the Exploration Results and Mineral Resource information included in previous announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the Prospectus continue to apply and have not materially changed. The Company confirms that the form and context in which the applicable Competent Persons' findings are presented have not been materially modified from the previous announcements.

#### **Cautionary Statement Regarding Forward-Looking Information**

This document may contain forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "expect", "target" and "intend" and statements than an event or result "may", "will", "should", "could", or "might" occur or be achieved and other similar expressions. Forward-looking information is subject to business, legal and economic risks and uncertainties and other factors that could cause actual results to differ materially from those contained in forward-looking statements. Such factors include, among other things, risks relating to property interests, the global economic climate, commodity prices, sovereign and legal risks, and environmental risks. Forward-looking statements are based upon estimates and opinions at the date the statements are made. Barton undertakes no obligation to update these forward-looking statements for events or circumstances that occur subsequent to such dates or to update or keep current any of the information contained herein. Any estimates or projections as to events that may occur in the future (including projections of revenue, expense, net income and performance) are based upon the best judgment of Barton from information available as of the date of this document. There is no guarantee that any of these estimates or projections will be achieved. Actual results will vary from the projections and such variations may be material. Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. Any reliance placed by the reader on this document, or on any forward-looking statement contained in or referred to in this document will be solely at the readers own risk, and readers are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty thereof.

\* Refer to Barton Prospectus dated 14 May 2021 and ASX announcement dated 11 December 2023. Total Barton attributable JORC (2012) Mineral Resources include 798koz Au (25.8Mt @ 1.0 g/t) in Indicated and 661koz Au (21.3Mt @ 1.0 g/t) in Inferred categories.

## JORC Table 1 – Tunkillia Gold Project

## Section 1 Sampling Techniques and Data

Criteria	Commentary
<b>Sampling techniques</b> Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard	Sampling during Barton Gold's RC drill programs at Tunkillia was obtained through reverse circulation (RC) and diamond drilling methods Historic RC and diamond drilling methods were also used in drilling campaigns
measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample	completed since the mid-1990s. Rotary air-blast (RAB) and aircore drilling has also been completed. These holes were used to guide interpretation but were not used modelling or grade estimations of the results reported in the accompanying Announcement.
representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry	The drilling program used a Metzke cone splitter (or similar) attached to the cyclone. One-metre splits were constrained by chute and butterfly valves to derive a 2-4kg split on the cyclone. Samples above 1m depth were not collected.
standard' work has been done this would be relatively simple (e.g. "RC drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge	Diamond core for drilling has been sawn in half using an automated core saw. Field duplicates were derived from using quarter core for the designated interval.
for fire assay"). In other cases, more explanation may be required, such as where there is coarse gold that has	Historic diamond core has been sawn in half or quarter using a core saw.
inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information	The sample preparation for drilling conducted in 2022 and 2023 of the one- metre sampling for Barton Gold's RC and diamond drill program was conducted by Bureau Veritas (Adelaide) using method FA1 where the 2-3kg split sample received at the laboratory is weighed, dried, crushed to 10mm, pulverized to 75 micron and split to provide a 40g sample for fire assay analysis.
	The sample preparation of the one-metre sampling for Barton Gold's 2021 RC drill program was conducted by Intertek Genalysis (Adelaide) using method SP1 where the 2-3kg split sample received at the laboratory is weighed, dried, crushed to 3mm, pulverized to 75 micron and split to provide a 50g sample for fire assay and adequate pulverized material for multi-element
	analysis.
	For early RC drillholes (1996–1997), the 1 metre samples were collected through a cyclone and collected in poly bags. Samples were initially taken as 4 metre spear composites and then re-assayed at 1 metre intervals if the initial sample returned a grade above a certain threshold. RC drillholes drilled post-1997 were sampled through an on-rig splitter system The majority of core samples were taken as 1 metre lengths and half-cored.
<b>Drilling techniques</b> Drill type (e.g. core, RC, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core	The RC drilling by Barton Gold used a face-sampling 5 ¾" RC drilling techniques undertaken by Kennedy Drilling using a SREPS SR650 drilling rig with auxiliary compressor.
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.).	The diamond drilling program used a UDR1200 drill rig provided by Resolution Drilling, drilling NQ (47.6mm diameter) size drill core, using a standard tube configuration. Diamond drill holes were precollared with rotary mud drilling through the strongly weathered (clay) upper parts of each drill hole. Drill core was oriented (bottom of hole) using the Axis Champ orientation system.
	Historically slimline RC drilling used a face-sampling hammer bit with a diameter of ~90mm. All other RC drillholes were drilled using a "standard size" hammer (ranging from 120mm–136mm). Diamond drillholes have been pre-drilled to fresh rock using a RC pre-collar or cored from surface, with a range of diameters used: NQ, PQ, HQ.
Drill sample recovery Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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.	During drilling programs drilling recoveries were qualitatively described for each drilled interval in the field database along with an estimation of moisture content. In general recoveries were good, in the order of 30-40kg for each one-metre interval. Water was encountered in some drill holes and wet samples were collected from some intervals, although wet samples comprise <3% of sampling overall. No reduced sample weights were recorded with wet intervals and a review of results does not indicate contamination between adjacent samples. Samples submitted to the

Criteria	Commentary
	laboratory were weighed on a dry, as-received basis and reported along with assay results.
	Recoveries for diamond drill core were measured and recorded.
	No quantitative recoveries were recorded from pre 2021 RC drilling. However, consistent sample weights were noted within mineralised zones in previous reports. No quantitative recoveries have been recorded from previous diamond drilling through mineralised zones. However, previous MRE and geological reports indicate there has been negligible loss through mineralised zones.
	Recoveries of 90-100% were achieved in geotechnical drilling of the saprolite for geotechnical assessment.
	The RC and diamond drilling was closely monitored by the site geologist to ensure optimal recovery and that samples were considered representative.
	Historically, HQ triple tube (HQ3) drilling was used for some holes to maximise core recovery. Re-entry holes were not triple-tubed as they were drilled straight into fresh bedrock. Drilling rates were controlled, and short drill runs were often used through the oxide zone to maximise core recovery.
	No relationship between grade and recovery has been identified.
Logging Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies	All drilling programs electronically logged a number of parameters direct into a database including: Stratigraphy, lithology, weathering, primary and secondary colour, texture, grainsize, alteration type-style-intensity and mineralisation type-style-percentage.
and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	Historically RC chips and diamond core were logged by experienced geologists as a hard copy or into a DataShed database. From 2023 Barton has stored all drilling data in an in-house managed MS Access database. All diamond core was photographed. Structural measurements were made on core oriented using either a spear and Ezy-Mark (pre-Barton) or Reflex (Barton) core orientation devices. Core is stored on site and at the South Australian Government's Adelaide Core Library.
	All diamond core and RC drilling has been geologically logged.
<b>Subsampling techniques and sample preparation</b> If core, whether cut or sawn and whether quarter, half or all core taken	Diamond drill core was sawn in half with one half taken for sampling. Sample lengths were generally 1m although at times were sampled to geological intervals.
If non-core, whether riffled, tube sampled, rotary split,	Selected intervals of whole core were used for geotechnical test work.
etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	The RC drilling program used an Ox sampling system cone splitter mounted on the cyclone with one-metre splits constrained by chute and butterfly valves to derive a 2-4kg split on the cyclone. The majority (>97%) of samples were dry and when samples were wet they were recorded in the sampling records.
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.	The majority of the historical RC samples have been collected at 1 metre intervals using a rifle splitter attached to the drill rig. Periodically between 1996 and 2011, within the strongly weathered portion, samples were collected over 4m intervals. The sample was speared to achieve a representative portion from the interval.
Whether sample sizes are appropriate to the grain size of the material being sampled.	During the RC drilling program a field duplicate was collected off a second chute on the cyclone splitter at a frequency of either 1 for each 16-original sample intervals (2021 drilling), 1 for each 22-orignal sample intervals (2022 drilling) or 1 for each 50-original sample intervals (2023 drilling).
	Field duplicates for diamond core were obtained by submitting quarter core for the selected intervals (ie half core was retained for all field duplicate intervals)
	Early drillholes up until 2006 utilised field duplicates and blanks as their only QAQC, this effectively accounts for 57% of the holes used in the current resource estimation.
	Sample sizes are considered to be appropriate to the grain size of the material being sampled.
<b>Quality of assay data and laboratory tests</b> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Barton Gold (2022) – 2-4kg splits were sent to Bureau Veritas in Adelaide for preparation and analysis using 40g fire assay techniques for gold. Bureau Veritas' FA1 method uses a 40g lead collection fire assay with AAS finish to a 0.01 ppm detection limit.

Criteria	Commentary
For geophysical tools, spectrometers, handheld XRF	Barton Gold (2021) – 2-4kg splits were sent to Intertek Genalysis in Adelaide
instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	for preparation and analysis using 50g fire assay techniques for gold and ICPOES/MS for multielement geochemistry. Whilst preparation and some fire assays were undertaken in Adelaide Intertek also sent some batches to their Perth laboratories for analysis. Intertek's FA50/OE04 method uses a 50
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.	g lead collection fire assay with ICP-OES / MS finish to a 0.005 ppm detection limit. Multielement samples were analysed using Intertek's method 4A/MS48 which is a 4-acid digest followed by analysis using ICP-OES and MS for 48 elements.
	Pre-2003 samples were sent to Analabs for analysis. Post 2003 samples were sent to Intertek Genalysis Laboratory for assay Gold values were determined by aqua regia digest (B/ETA or B/SAAS) and any values returning >1ppm were repeated using fire assay (FA25/AAS). If a fire assay was taken then this became the "official" assay. All other elements were determined using multi-acid digest (AT/OES)
	Analytical techniques have varied somewhat over the projects history.
	No geophysical studies were used in the course of Barton Gold drilling programs.
	Barton Gold's RC and diamond drilling programs included a comprehensive QAQC component with Field Duplicate samples taken at every 16 <sup>th</sup> (2021 drilling), 25 <sup>th</sup> sample (2022 drilling) or 50 <sup>th</sup> sample (2023 drilling); Certified Standards (selection of OREAS CRM's considered most appropriate for expected grade and composition) were inserted randomly in sequence for at every 20th (2021 drilling), 25th (2022 drilling) or 50th sample (2023) submitted; blanks were inserted in sequence at every 50th sample submitted. Additionally, the laboratories provided their internal QAQC which included check samples, CRM's, blanks and repeats.
	Analysis of the duplicate samples was reasonable given the majority fell below detection. Variances between some higher grade pairs of field duplicates was recorded, but attributed to variability in the distribution of mineralisation (vein related) and not as a consequence of analytical processes. There was no evidence of material cross-contamination in the submitted blank samples.
	Both Intertek and Bureau Veritas' analysis for gold using fire assay performed well with all batches falling within the +/-3SD test of the expected value for the given standards (3 OREAS CRM's).
	Historically, the amount of sampling and analytical QC data that has been collected has varied over the project's history. Early drillholes up until 2006 utilised field duplicates and blanks as their only QAQC, this effectively accounts for 57% of the holes used in the estimation. Post 2006, QAQC samples were submitted in the form of field duplicates and Certified Reference Standards from Ore Research & Exploration Pty Ltd. Standards were submitted every 20th sample and field duplicates every 50th sample. No material concerns were highlighted in the analysis of QAQC data.
	Tunkillia Gold used blanks to monitor carry-over contamination and no significant issues were detected. Field duplicates were used to assess sample precision, while CRMs were used to assess analytical accuracy. Some pulps were also sent to an umpire laboratory as a further check on analytical accuracy.
	Field duplicate results provide a guide to sample precision. The expected scatter (due to high nugget effect) is monitored and is expected to remain within a range. The CRMs reasonably demonstrated the accuracy of the laboratory. Pulp repeats demonstrated acceptable performance.
Verification of sampling and assaying	Alternative company personnel have verified significant intersections.
The verification of significant intersections by either independent or alternative company personnel.	No twinned holes were undertaken on the 2023 program reported in this release.
The use of twinned holes.	One previous Barton RC hole has been twinned by a diamond holes,
Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	confirming the position of the mineralised envelopes and grade characteristics in the system.
Discuss any adjustment to assay data.	
Location of data points	All data collected in the reported program including collar details, drilling records, sampling records and geological logs are recorded directly into

Criteria	Commentary
Accuracy and quality of surveys used to locate drillholes	spreadsheets in the field which includes comprehensive interval validation
(collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	processes.
Specification of the grid system used.	Gyro downhole surveys and Assay results were provided in digital format. All relevant historical data was entered into a DataShed database where
Quality and adequacy of topographic control.	various validation checks were performed. Data was exported into an Access Database.
	No adjustments were made to any assay data in this release.
	All 2023 RC and diamond drill collars were sited using a Garmin hand-held GPS system. The RL was generated from the LiDAR survey collected at the completion of drilling.
	All Barton RC holes were downhole surveyed using an Axis Champ gyro system which provided measurements at 10m intervals up and down hole.
	All Barton diamond holes were surveyed using a single-shot gyro tool at 15m or 30m intervals during drilling operations.
	488 out of a total of 556 drillhole collars from drilling prior to 2021 across the broader Tunkillia project were located using DGPS survey techniques. The raw data for 30% of these have been located and verified. Earlier collars were located by measuring off a local grid system.
	All site data is reported in Geocentric Datum of Australia 1994 (GDA94) and Vertical Datum in Australian Height Datum (AHD). The map projection is MGA Zone 53. Historic Survey Data has been converted to GDA94.
	Historically the Tunkillia Project uses the Remington local grid which is rotated 31.37 degrees west of the MGA 94 grid with a local origin of 110,000E and 111,500N
	Transformation Formula:
	Local E = 110000 + ((MGA94_E - 477614.802 ) cos a) + ((MGA94_N - 6545289.018) sin a))
	Local N = 111500 + ((MGA94_N - 6545289.018) cos a) - (MGA94_E - 477614.802) sin a))
	Where angle a = 31.37
	Local RL = mRL_MGA+1009.232
	In September 2021 Barton engaged Aerometrex to collect LiDAR and high- resolution ortho-imagery over the entire Tunkillia project area. All datasets are levelled to the LiDAR survey
Data spacing and distribution Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore	Barton's RC and diamond drilling program at the A51 project was conducted at variable spacing as dictated by existing drilling and the aims of the program to provide continuity with the existing drill coverage. Drilling has been undertaken on lines spaced a nominal 50m apart. The spacings are considered appropriate for the reporting of exploration results.
Reserve estimation procedure(s) and classifications applied.	On section drill spacing generally ranges from 20-30m, increasing to 50 metres with the majority of drilling on section and perpendicular to strike.
Whether sample compositing has been applied.	
<b>Orientation of data in relation to geological structure</b> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which	Barton's RC and diamond drill program was orientated to optimally test predicted mineralised structures and stratigraphic positions to provide were possible unbiased samples.
this is known, considering the deposit type. If the relationship between the drilling orientation and	Drill sections are orientated local grid E–W, perpendicular to the main mineralised lenses.
the orientation of key mineralised structures is considered to have introduced a sampling bias, this	The majority of drillholes used to define the steeply west dipping primary mineralisation are drilled towards the east at -60 degrees.
should be assessed and reported if material.	The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.
Sample security The measures taken to ensure sample security.	Barton Gold staff oversaw the sampling on the RC drill rig and maintained oversight of sample security whilst onsite during the drilling programs. Split samples were inserted into pre-printed calico bags. These tied bags were, in batches of 5, ziplocked into labelled poly-weave bags which were inserted into ziplocked Bulka-bags. The bulka bags were strapped onto pallets and loaded by a Barton Gold representative on to a semitrailer for transport to the laboratories in Adelaide and Perth. The trailers were not unloaded whilst in transit.

Criteria	Commentary
	Diamond drill core was either cut on site or transported from the project site to Adelaide and cut by experienced and reputable service providers. The core cutting agents undertook sampling of the drill core and subsequent delivery of samples to the laboratory. Barton Gold staff undertook regular visits during core cutting and sampling processes to verify the integrity of processes being undertaken.
	Barton does not have detailed information in regard to sample security measures taken by previous owners of the Tunkillia project. However, Barton understands that these procedures have been in accordance with commonly adopted standard industry practices.
Audits or reviews The results of any audits or reviews of sampling techniques and data	An internal peer review of the exploration data processes has been completed by Barton Gold which has included a detailed review of the assay, survey and QAQC data.

## Section 2 Reporting of Exploration Results

Criteria	Commentary					
Mineral tenement and land tenure status Type, reference name/number, location and ownership including agreements or material issues with third	The Tunkillia Project area is located 530 km north-west of Adelaide in South Australia's Gawler Craton. It is 100% owned by Tunkillia 2 Pty Ltd which is a wholly owned subsidiary of Barton Gold Holdings Limited.					
parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The project comprises two exploration licences that were grouped into an Amalgamated Expenditure Agreement on 4th October 2012 and Joint Venture Reporting on 21st January 2013.					
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.	Most of the South Australian tenements held by WPG Resources were bought by current owner Barton Gold Pty Ltd on 1st November 2019.					
incence to operate in the area.	The three current tenements comprise EL6845, EL6639 and EL5901 which have a combined area of 1,362 km2.					
	The Tunkillia Project was under three overlapping Native Title claims which are now grouped into a single organisation, the Gawler Ranges Aboriginal Corporation (GRAC) that represents all three groups.					
	Barton Gold's negotiations with GRAC secured a signed Native Title Mining Agreement for Exploration for EL's 6845, EL6639 and EL5901 on 2nd February 2021.					
	Barton's Exploration Licences 6845, 6639 and 5901 are subject to South Australian State royalties and entitled to a reduced 'new mine' State royalty rate of 2% of the value of minerals recovered until 30 June 2026, and are also subject to total 2.5% private royalties (gross product).					
	There are no joint ventures over the Tunkillia Project tenure.					
1	There are no known impediments to obtaining future licences.					
<b>Exploration done by other parties</b> Acknowledgment and appraisal of exploration by other parties.	Exploration in the Tunkillia area commenced in 1996 with a regional geochemical survey by Helix Resources who established the local Remington grid. Infill sampling delineated the Tunkillia Prospect as a 20 km2 geochemical gold in calcrete anomaly. Subsequent RAB drilling led to the discovery of the Area 223 deposit in late 1996. RC drilling in early 1997 further enhanced the discovery.					
	A joint venture was formed with Acacia who took over management of the project with subsequent exploration carried out as the Gawler Craton Joint Venture. The JV later involved AngloGold Australasia Ltd following its takeover of Acacia.					
	In June 2003, Helix finalised the acquisition of AngloGold's 49% interest and returned 100% of the project to Helix					
	An independent resource assessment by Snowden Mining Industry Consultants prompted an extensive 12,000m RC program to infill the Area 223 resource. A re-interpretation of the aeromagnetic data identified new exploration targets away from the known resource outlining mineralisation at Tomahawk and Areas 191.					
	In April-June 2004 Helix completed an 8000 m RC drilling program testing areas of the Area 223 North and South mineralisation and exploration concepts at Area 191 and the central part of the shear zone.					
	Studies were completed by Resource Evaluations Pty Ltd in June 2004 looking at resource estimates and optimisation studies based on the available drilling.					
	A Joint Venture commenced between Helix and Minotaur Exploration Ltd in April 2005 where Minotaur assumed operation and management of the project. Minotaur undertook an intense exploration effort in the immediate surrounds of the Area 223 resource, and regionally.					
	In 2007, Minotaur re-appraised the Area 223 resource using recent drilling and separated distinct oxide and sulphide domains.					
	In January 2012, Mungana acquired the 55% interest in the Tunkillia Gold Project via the acquisition of Minotaur's wholly owned subsidiary Minotaur Ventures Pty Ltd.					
	WPG Resources acquired 70% of the project in May 2014 through the acquisition of the Tarcoola and Tunkillia projects from Mungana Goldmines Ltd. In Nov 2014 WPG moved to 100% ownership of the Tunkillia gold project by acquiring the 30% owned by Helix Resources.					

Criteria	Commentary
	WPG Resources completed work on calcrete samples over a number of targets along the Tunkillia "Line of Lode". Drilling of selected Area 51 and Tomahawk Extended areas included ten RC holes for 1,641m. No further work was undertaken by WPG Resources until the project was purchased by Barton Gold in late 2019.
<b>Geology</b> Deposit type, geological setting and style of mineralisation.	The Tunkillia Project extends over a large portion of the Central Gawler Craton of South Australia which is bound to the east by the Gawler Range Volcanic Province.
	The central portion of the Gawler Craton consists of a variety of geological units and is structurally complex. Archaean metamorphic rocks and greenstone-belt units are distributed along WSW–ENE trends. During the Palaeoproterozoic, granitoids including the Tunkillia Suite were emplaced possibly with associated deformation. During these deformation episodes, major shear zones developed, including the east-trending Yerda and Oolabinnia Shear Zones and north-trending Yarlbrinda Shear Zone.
	The Yarlbrinda Shear Zone and Yerda Shear Zone are up to several kilometres wide with ductile shearing and deformation probably occurring before ~1600 Ma and before Mesoproterozoic anorogenic magmatism.
	During the Mesoproterozoic, widespread anorogenic magmatism across the central portion of the craton resulted the Gawler Range Volcanics, Hiltaba Suite granite (1595-1575 Ma) and emplacement of minor gabbroic plugs.
	Development of Cu-Au +/- U mineralisation at Olympic Dam and Prominent Hill and gold dominant mineralisation at Tunkillia and Tarcoola occurred during this period.
	Typical lithologies encountered across the Tunkillia project (including Area 51) from west to east include variably sheared chlorite-biotite-rich augen gneiss (Tunkillia Augen Gneiss) grading into a highly chloritised and mylonitised phyllonitic shear. The phyllonitic shear zone grades into a weakly gneissic unit to the east which is variably altered by sericite to form the central alteration zone. This unit has a sheared contact with the footwall granite.
	The host rocks have been intruded by at least two later episodes of dyke emplacement. The mafic dyke appears to form the footwall to the main mineralisation at Area 223.
	Relationships between dyke emplacement and the mineralisation remain unclear. The dykes appear to cross-cut mineralisation at most of the Tunkillia project prospects and deposits and are unmineralised in fresh rock. But in the weathered zone gold occurs within the weathered dyke and also to east of this apparent 'bounding' lithology.
	The main mineralisation appears to occur within en-echelon sets of quartz- sulphide tension veins predominately bounded by duplex shears, with brittle fractures extending into the hanging wall.
	The mineralised positions across the Tunkillia project has undergone extensive weathering which formed a leached kaolinitic profile capped by a silcrete layer. No palaeochannels are observed at Area 223 or Area 51 although they do occur elsewhere in the Tunkillia area.
	At 50-60 metres depth near the base of the weathering profile a zone of supergene mineralisation is developed which shows some enrichment compared with the underlying primary lodes. Gold appears to have been laterally dispersed over a distance of tens of metres within the oxide zone.
<b>Drillhole information</b> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:	A tabulation of the drilling program mentioned in this announcement are presented in Tables 2 & 3.
<ul> <li>Easting and northing of the drillhole collar</li> <li>Elevation or RL (Reduced Level – Elevation above sea level in metres) of the drillhole collar</li> <li>Dip and azimuth of the hole</li> <li>Downhole length and interception depth hole length</li> </ul>	
length. If the exclusion of this information is justified on the basis that the information is not Material and this	

<ul> <li>Reported intersections used the following criteria:</li> <li>Reported intervals have been determined by applying either</li> <li>a) a 0.5g/t Au cut-off (minimum 1gram-metre accumulation, ie the multiple of the interval in metres and the weighted average grade) and allowing for a maximum of two consecutive intervals of dilution, OR.</li> <li>b) a 0.3g/t Au cut-off (minimum 5gram-metre accumulation) and allowing for a maximum of two consecutive intervals of dilution. This is considered appropriate to convey the significant widths of mineralisation that characterise parts of the Tunkillia project</li> <li>No high-grade cut-offs were applied</li> <li>Results for quarter-core field duplicates from diamond drilling were averaged across the pair of samples to provide a result consistent with routine half-core sampling</li> <li>No metal equivalents were calculated</li> </ul>
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rue width can generally be estimated because the dip of the mineralisation s known.
See Figures included the body of this Announcement. Relevant commentary relating to diagrams is discussed under the heading of Balanced Reporting.
Balanced reporting of Exploration Results is presented
Extensive geological, geophysical, geochemical, geotechnical and netallurgical datasets are available for the Tunkillia project area.
Dther datasets including gravity that was sourced from open-file datasets SA DEM). Historical data acquired by previous owners included detailed aeromagnetic, TEMPEST airborne EM and in-fill gravity surveys completed over parts of the enement area and mostly focussed on the Yarlbrinda Shear Zone. Dther data includes gradient array IP, biogeochemical sampling, CHIM/MMI geochemical sampling and spectral scanning of reverse circulation drill chips.

Table 2: Drillhole Collar Details for Barton Gold Area 51 (Tunkillia) October-November 2023 RC & RM/DDDrilling Program mentioned in this Announcement\*

Hole ID	Easting	Northing	RL	DIP	TAZ	Total Depth (EOH)	Туре*	Completion	Target
TKB0168D	475,101	6,548,965	165	-60	58	192	RM/DD	21/10/2023	Area 51
TKB0169D	475,076	6,548,949	165	-60	58	123.8	RM/DD	21/10/2023	Area 51
TKB0170D	475,128	6,548,981	165	-60	58	154.7	RM/DD	29/10/2023	Area 51
TKB0171D	475,076	6,548,949	165	-60	58	234.8	RM/DD	2/11/2023	Area 51
TKB0172D	475,098	6,549,080	165	-60	58	153.8	RM/DD	5/11/2023	Area 51
TKB0173D	475,059	6,549,057	165	-60	58	176.5	RM/DD	11/11/2023	Area 51
TKB0174D	475,072	6,549,123	165	-60	58	150.7	RM/DD	18/11/2023	Area 51
TKB0175D	475,034	6,549,158	165	-60	58	149.8	RM/DD	23/11/2023	Area 51
TKB0176D	475,007	6,549,142	165	-60	58	181.5	RM/DD	26/11/2023	Area 51
TKB0216	474,982	6,549,243	165	-60	58	138	RC	13/11/2023	Area 51
TKB0217	474,930	6,549,212	165	-60	58	216	RC	13/11/2023	Area 51
TKB0218	475,169	6,548,889	165	-60	58	180	RC	14/11/2023	Area 51
TKB0219	475,142	6,548,873	165	-60	58	192	RC	16/11/2023	Area 51
TKB0220	475,221	6,548,804	165	-60	58	114	RC	17/11/2023	Area 51
TKB0221	475,194	6,548,787	165	-60	58	192	RC	18/11/2023	Area 51
TKB0222	475,169	6,548,772	165	-60	58	230	RC	19/11/2023	Area 51
TKB0223	475,186	6,548,724	165	-60	58	228	RC	19/11/2023	Area 51
TKB0224	475,188	6,548,846	165	-60	58	210	RC	20/11/2023	Area 51
TKB0225D	474,982	6,549,126	165	-60	58	230.9	RM/DD	29/11/2023	Area 51

\*RC=Reverse Circulation, RM/DD=Rotary Mud precollar with Diamond Core tail.

Table 3: Significant Intersections for Barton Gold Area 51 (Tunkillia) October-November 2023 RC & RM/DD	
Drilling Program Mentioned in this Announcement <sup>2</sup>	

Comments &/or including	Au (g/t)	Metres <sup>1</sup>	То	From	Hole ID
	0.57	12	128	116	TKB0168D
	0.52	35	221	186	TKB171D
including 1.6m @ 2.24g/t Au from 48.4m	0.48	47.6	96	48.4	TKB172D
	0.57	7	153	146	TKB172D
including 2m @ 1.07g/t Au from 141m	0.57	20	156	136	TKB173D
including 1.2m @ 3.81g/t Au from 35.1m	1.85	3.5	38.6	35.1	TKB174D
including 12.4m @ 1.54g/t Au from 44.6m & including 1m @ 3.71g/t Au from 54m	1.06	21.4	63	41.6	TKB174D
including 3m @ 1.05g/t Au from 76m	0.58	23	93	70	TKB174D
including 3m @ 1.16g/t Au from 110m	0.55	18	123	105	TKB174D
including 6m @ 5.85g/t Au from 69m <b>&amp;</b> 1m @ 19.95g/t Au from 80m	1.81	44.6	109	64	TKB0175D
including 1m @ 1.26g/t Au from 124m & 1.1m ( 1.53g/t Au from 127.3m	0.63	8.4	128.4	120.0	TKB0175D
including 1.1m @ 3.29g/t Au from 138m & 1m ( 2.13g/t Au from 141m & 1m @ 2.12g/t Au from 151m & 1m @ 2.18g/t Au from 160m	0.93	24	162	138	TKB0176D
	1.12	1	61	60	TKB0192D
	0.65	2	66	64	TKB0192D
including 1m @ 2.36g/t Au from 74m	0.82	6	75	69	TKB0192D
including 2m @ 0.88g/t Au from 95m	0.51	10	105	95	TKB0192D

Hole ID	From	То	<b>Metres</b> <sup>1</sup>	Au (g/t)	Comments &/or including
TKB0192D	109.55	112.98	3.43	1.06	
TKB0216	79	107	28	0.74	including 6m @ 1.93g/t Au from 79m
TKB0218	70	72	2	0.82	
TKB0218	76	87	11	0.49	
TKB0218	90	104	14	0.55	including 2m @ 1.13g/t Au from 99m
TKB0218	139	142	3	0.7	
TKB0218	147	149	2	0.69	
ТКВ0219	129	156	27	0.67	including 1m @ 1.63g/t Au from 136m & 1m @ 1.21g/t Au from 140m
TKB0219	173	192	19	0.66	including 2m @ 1.25g/t Au from 179m
TKB0221	114	116	2	1.65	
TKB0221	130	134	4	0.73	
TKB0221	158	180	22	1.33	including 6m @ 2.47g/t Au from 160m
TKB0222	175	223	48	0.52	including 2m @ 1.02g/t Au from 182m
ТКВ0223	167	179	12	0.59	including 2m @ 1.07g/t Au from 168m
ТКВ0223	193	211	18	0.74	including 1m @ 1.45g/t Au from 193m & 1m @ 1.35g/t Au from 196m & 2m @ 1.57g/t Au from 206m
TKB0224	79	85	6	0.69	including 1m @ 1.13g/t Au from 81m
TKB0224	88	98	10	0.71	including 1m @ 1.04g/t Au from 90m
ТКВ0224	143	154	11	0.75	including 2m @ 1.32g/t Au from 151m
ТКВ0224	160	179	19	0.58	including 2m @ 1.08g/t Au from 164m & 1m @ 1.02g/t Au from 167m & 1m @ 1.09g/t Au from 172m
ТКВ0224	191	205	14	0.55	including 1m @ 1.58g/t Au from 198m
TKB0225D	208	209.9	1.9	0.59	

<sup>1</sup> Note - Not true widths.

<sup>2</sup> Note – Primary intervals calculated by applying either a 0.5g/t Au cut-off (minimum 1gram-metre accumulation) OR applying a 0.3g/t Au cut-off (minimum 5gram-metre accumulation) and allowing up to 2m internal dilution in either instance. Included intervals are selected to ensure balanced and representative reporting of mineralisation within primary intervals.