

**ASX RELEASE**

20 July 2022

**COMPANY**

ASX: SNG  
ACN: 619 211 826

**CAPITAL STRUCTURE**

Issued Shares: 95,925,475  
Unlisted Options: 14,293,262

**BOARD**

**Brian Rodan**  
Managing Director

**Paul Angus**  
Technical Director

**Keith Murray**  
Non-Executive Director

**Sebastian Andre**  
Company Secretary

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**PROJECTS**



## Siren Expands Exploration Strategy

Siren Gold Limited (ASX: SNG) (Siren or the Company) is pleased to announce its expanded exploration strategy.

### Highlights

- Siren has a combined mineral resource of 613koz @ 2.6g/t Au.

Siren's Mineral Resource Estimate			
Project	Tonnes (kt)	Grade (g/t Au)	Ounces (koz)
Alexander River	1,000	4.1	131
Sams Creek	6,142	2.4	482*
<b>Total</b>	<b>7,142</b>	<b>2.6</b>	<b>613</b>

Tonnages are dry metric tonnes. Minor discrepancies may occur due to rounding. \* Depleted to reflect Siren's (81.9%) interest.

- Siren is targeting the expansion of the Company's exploration focus at its key projects with potential for a multi-million-ounce gold discovery.
- Drilling over the next 12 months will focus on Alexander River, Big River and Sams Creek Gold Projects. Reconnaissance exploration will also continue at St George, Lyell and Doyles with initial drilling planned for 2023.
- Initial testwork on Alexander and Big River metallurgical samples indicates that a gold recovery of approximately 90-92% could be achieved by flotation, pressure oxidation and cyanide leaching with up to 30% gravity gold recoverable from Alexander River samples. Sams Creek metallurgical samples averaged 87% recovery through a similar process.
- Siren is also investigating the use of advanced ore sorting beneficiation technologies that will reduce waste material and upgrade the Reefton and Sams Creek ores prior to trucking to a centrally located high grade processing facility.
- GR Engineering Services (GRES) were engaged by Siren Gold to conduct a Scoping Study (SS) for a processing plant and associated infrastructure to treat mineralisation derived from the company's exploration properties. The Study is well advanced.

### Background

Western New Zealand was originally part of Gondwana and lay adjacent to eastern Australia until around 80 Ma ago (Figure 1). The NW of the South Island of New Zealand comprises an area of predominantly early Paleozoic rocks in broad northerly trending belts which terminate at the Alpine Fault (Figure 2). The Paleozoic sequence is divided into the Buller Terrane, Takaka Central and Takaka Eastern Belts.

These belts are interpreted to correspond with the Western, Central and Eastern belts of the Lachlan Fold Belt. The Buller and Western Lachlan belts contain the orogenic gold deposits like Bendigo, Ballarat and Fosterville in Australia and the Reefton, Lyell and Golden Blocks Goldfields in New Zealand. The Sams Creek porphyry dyke (SCD) deposit is located in the Eastern Takaka Terrane, which is equivalent to the Eastern Lachlan belt that hosts porphyry copper-gold deposits like Cadia and Ridgeway.

There are two distinctive sub-types of orogenic gold mineralisation in Victoria. The deeper (6-12kms) mesothermal deposits that formed almost all the significant gold deposits in the Bendigo and Stawell zones and the shallower (<6km) epizonal gold deposits in the Melbourne zone and eastern Bendigo zone, including Fosterville. The latter gold mineralising event in Victoria is characterised by acicular arsenopyrite / pyrite hosted refractory gold and stibnite associated gold, which are indicative of a shallower emplacement depth. The gold mineralisation at Reefton like Fosterville is also associated with acicular arsenopyrite and stibnite mineralisation.

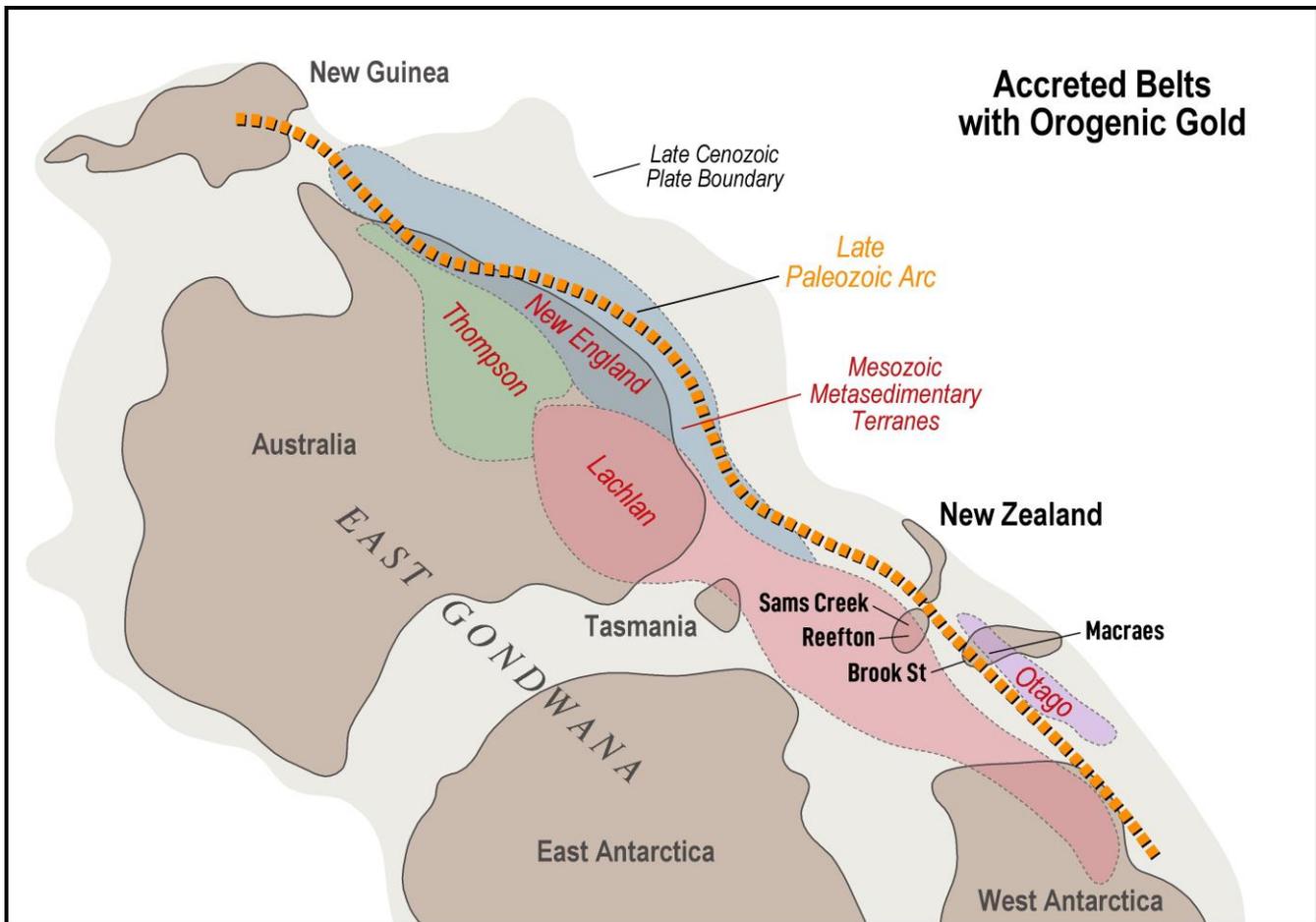


Figure 1. Gondwanaland showing the Lachlan Fold Belt and Reefton Goldfield (Cooper 1992).

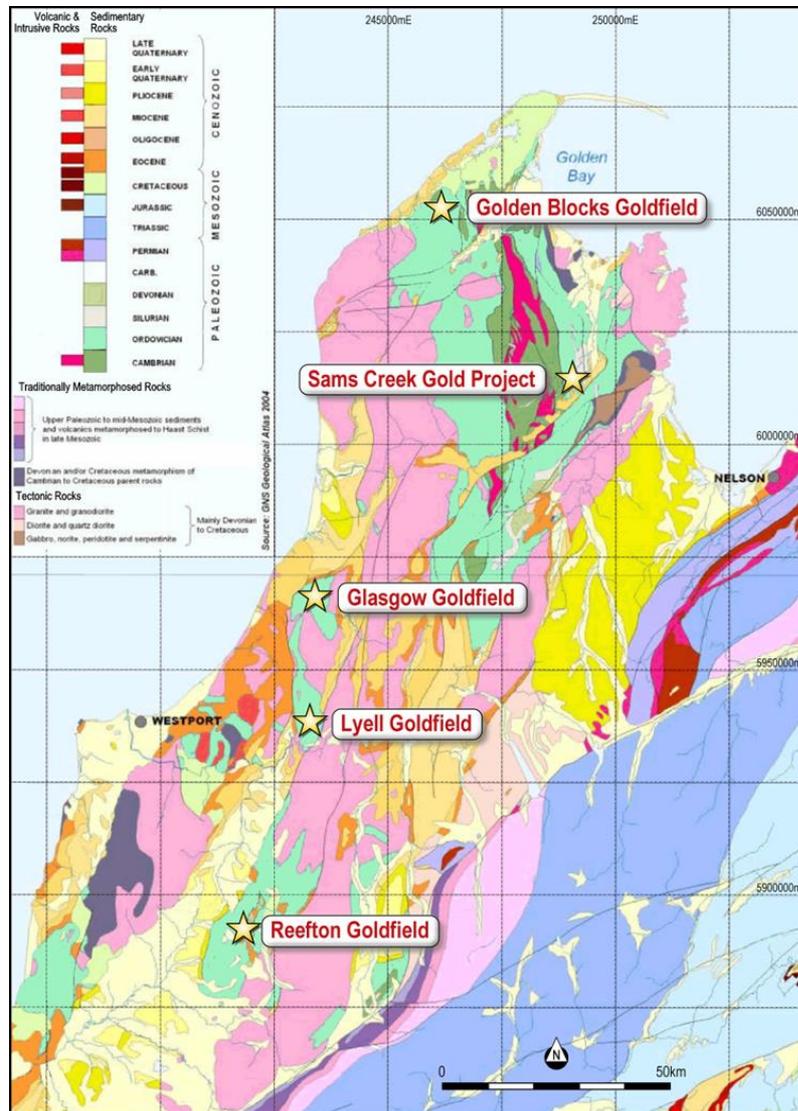


Figure 2. Top of the South Island, geology showing Paleozoic rocks in green.

The Sams Creek Gold Project is located 100kms NE of Lyell (Figure 2).

The SCD is up to 60m thick and can be traced for over 7kms along strike and over 1km down dip. The porphyry dyke generally dips moderately to the north and has been folded into a series of NE plunging anticlines and synclines. The anticlines are variably gold mineralised and have been modified by at least four alteration / mineralisation stages. The Carapace and Main Zone has a combined Inferred and Indicated MRE of 7.5Mt @ 2.43g/t Au for 588koz of contained gold at a 1.5g/t cut-off.

Siren has a large strategic tenement holding in the Reefton and Lyell Goldfields which historically produced over 2Moz of gold at an average recovered grade of 16g/t. This includes the key projects of Alexander River, where Siren recently intersected 2.5m @ 358g/t Au in diamond hole AX84 (refer announcement dated 31 March 2022), and Big River where BR04 intersected 6.6m @ 21.4g/t Au (refer announcement dated 19 April 2021). Siren has announced the Maiden Inferred Mineral Resource Estimate (MRE) for its Alexander River Project of 131koz @ 4.1 g/t Au at a 1.5g/t cut-off (Table 1) (refer announcement dated 20 July 2022).



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Siren announced entering into an agreement to acquire the Sams Creek Gold Project (comprised of an 81.9% interest in Exploration Permit 40338 and a 100% interest in Exploration Permit 54454) from Sandfire Resources Limited in June 2022 (refer announcement dated 3 June 2022). OceanaGold Limited (OGL), New Zealand's largest gold miner, has retained an 18.1% interest in Exploration Permit 40338.

As stated above, Sams Creek has a MRE of 7.5Mt @ 2.43g/t Au for 588koz of contained gold at a 1.5g/t Au cut-off, however, there is a significant potential for expansion, with only around 15% of the SCD drilled to date. Siren's interest is 482koz @ 2.4g/t Au (81.9%).

**Table 1. Resource estimate at a 1.5g/t cut-off.**

Siren Gold's Mineral Resource Estimate			
Project	Tonnes (kt)	Grade (g/t Au)	Contained Gold (koz)
Alexander River - Inferred	1,000	4.1	131
<b>Alexander River – Total</b>	<b>1,000</b>	<b>4.1</b>	<b>131</b>
Sams Creek – Inferred	2,047	2.3	153*
Sams Creek - Indicated	4,095	2.5	329*
<b>Sams Creek Total</b>	<b>6,142</b>	<b>2.4</b>	<b>482*</b>
<b>Total</b>	<b>7,142</b>	<b>2.6</b>	<b>613</b>

Tonnages are dry metric tonnes. Minor discrepancies may occur due to rounding. \* Siren's Gold (81.9%) interest.

## Key Projects

The Greenland Group paleozoic rocks that host the gold mineralisation extend intermittently over 200kms from south of Reefton to NW Nelson. The Greenland Group rocks were originally part of the Lachlan Fold Belt in Victoria, Australia that were separated by plate movement when the Tasman Sea was opened. The gold mineralisation has important similarities to the mineralisation at Bendigo and Ballarat. In both goldfields, mineralisation occurs within Ordovician sediments and is associated with folding and thrust faulting. The gold mineralisation at Reefton is interpreted to lie along a locally complex north-south trending structural corridor. Based on the orogenic-style deposit model, the gold systems are likely to be depth extensive, with deposits occurring as specific shoots in favourable structural settings.

Siren has a large strategic tenement holding in the Reefton, Lyell and Sams Creek Goldfields in the top of the South Island with Reefton 40kms south of Lyell and Sams Creek 100kms to the NE.

The Reefton Goldfield in the South Island of New Zealand was discovered in 1866 and produced +2M oz of gold at an average recovered grade of 16g/t from 84 historic mines. Most underground mining ceased by 1942, with the famous Blackwater mine closing in 1951 when the shaft failed after producing ~740koz of gold down to 710m below surface. Surface drilling has extended the mineralisation to 1,500m below surface (2,400m down plunge) and is open at depth. Federation Mining Limited is currently developing twin declines to intercept the Birthday Reef below the historic mine and plans to extract an additional 700koz.

Siren holds a large, strategic package of tenements along the under-explored 40km long Reefton and Lyell Goldfields, with permits covering a further 40kms of buried unmined Greenland Group rocks that potentially host gold mineralisation to the south of Blackwater (Figure 6). Key projects include Alexander River, Big River, St George, Golden Point and Lyell.

Sams Creek was not historically mined and was only discovered in 1974 by CRAE.

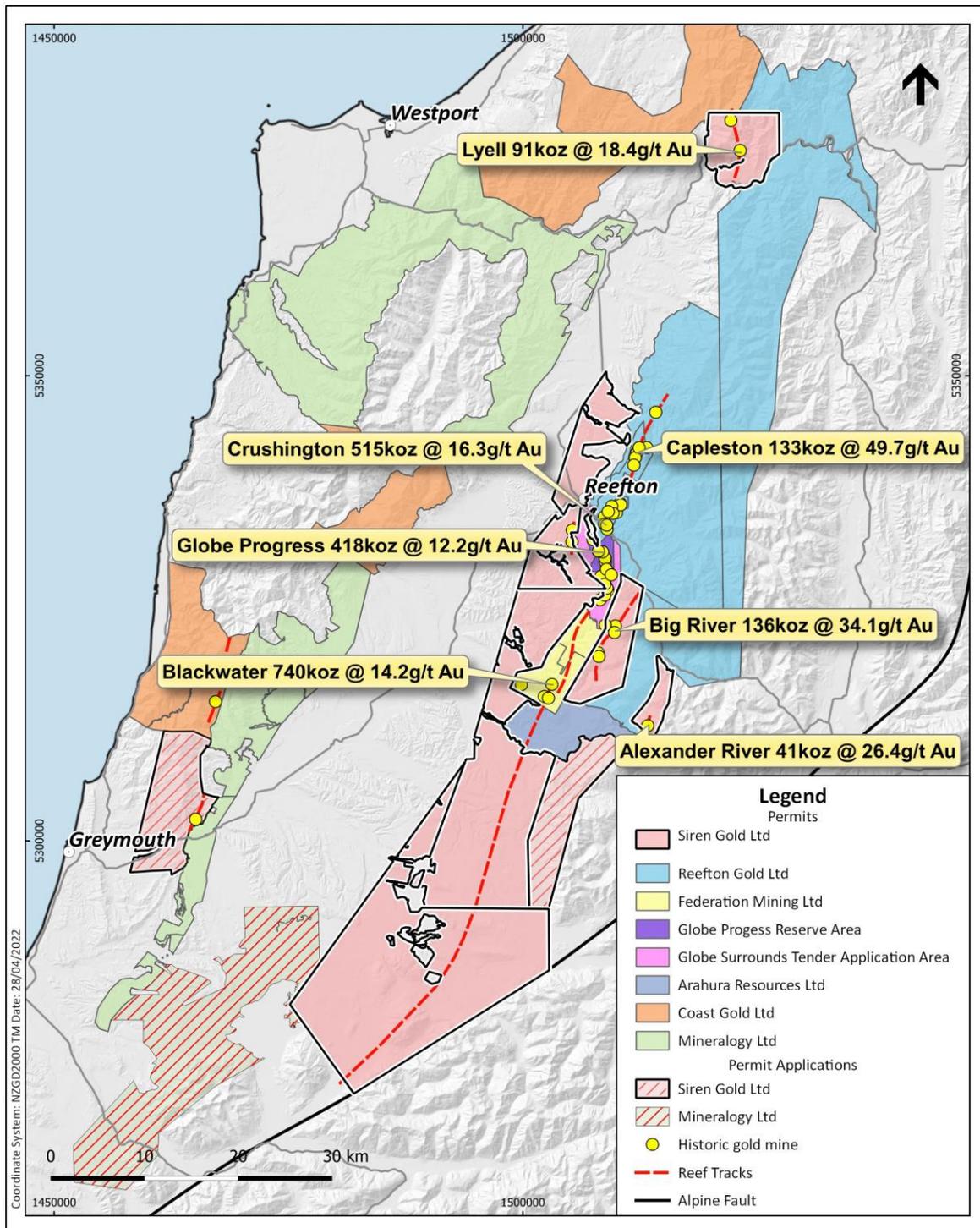


Figure 6. Reefton and Lyell goldfields tenement map.

Siren now has three key advanced projects at Alexander River, Big River and Sams Creek, with several developing projects, including St George, Lyell and Golden Point.

### Alexander River (Reefton Goldfield)

The Alexander River Project (Exploration Permit 60446) is located ~26 km southeast of Reefton and is located in a mostly fault-bounded sliver of Greenland Group 7km southeast of the main Reefton Goldfield block. It is bounded by undeformed granite to the west, and by a metamorphic core complex to the east.

The Alexander mineralisation outcrops for over 1.2kms (Figure 7) and is comprised of high-grade quartz reefs and disseminated mineralisation. Surface trenching and channel sampling shows that the mineralisation ranges from 2-15m thick, with an average thickness and grade of 4m @ 8g/t Au. Surface sampling identified four mineralised shoots, named Bull, McVicar, Bruno and Loftus-McKay. Only the McVicar East shoot was mined to any extent, with the shallow plunging shoot mined to 250m below surface, extracting 41koz at an average recovered grade of 26g/t Au before the mine closed in 1942.

Structural mapping has confirmed that the Alexander River mineralised zone can be divided into two structural domains. The Bull-McVicar-Bruno reef track (McVicar Reef) is ENE striking, steeply SE dipping, while the Loftus-McKay reef track extends from Bruno into Mullocky Creek and is NNE-striking and dips 50° to the NW. In both structural domains it appears that the intersection between anticline hinge and a mineralised fault likely control the trend and plunge of Au-bearing shoots.

The Maiden Alexander River **Inferred** Mineral Resource Estimate (**MRE**) is 1Mt @ 4.1g/t Au for 131koz at a 1.5g/t cut-off and 35g/t top-cap (Table 2). The MRE has been depleted for historic mining.

**Table 2: Inferred Resource by Geological domain at a 1.5 g/t Au Cut-off**

Shoot	Tonnes (kt)	Grade (g/t Au)	Ounces (koz)	% MRE
McVicar East	14	6.5	3	2.3
Bull East	355	2.1	24	18.5
Bruno East	32	5.9	6	4.6
Loftus-McKay	218	4.6	32	24.6
McVicar West	382	5.3	65	50.0
<b>Total</b>	<b>1,000</b>	<b>4.1</b>	<b>131</b>	<b>100.0</b>

Tonnages are dry metric tonnes. Minor discrepancies may occur due to rounding.

The McVicar West Shoot contains 50% of the MRE, with an average grade of 5.3g/t Au when a top-cap of 35g/t Au is used (ie. 1m gold composites capped to a maximum of 35g/t Au in the MRE). The McVicar West Shoot contains diamond drillhole, AX84 which intersected 2.5m @ 358g/t Au. The 35g/t top-cap has had a significant impact on the average grade of the McVicar West Shoot. If a top-cap of 200g/t Au is used the average declustered and capped mean grade increases from 5.4g/t to around 8.3g/t (>50% increase).

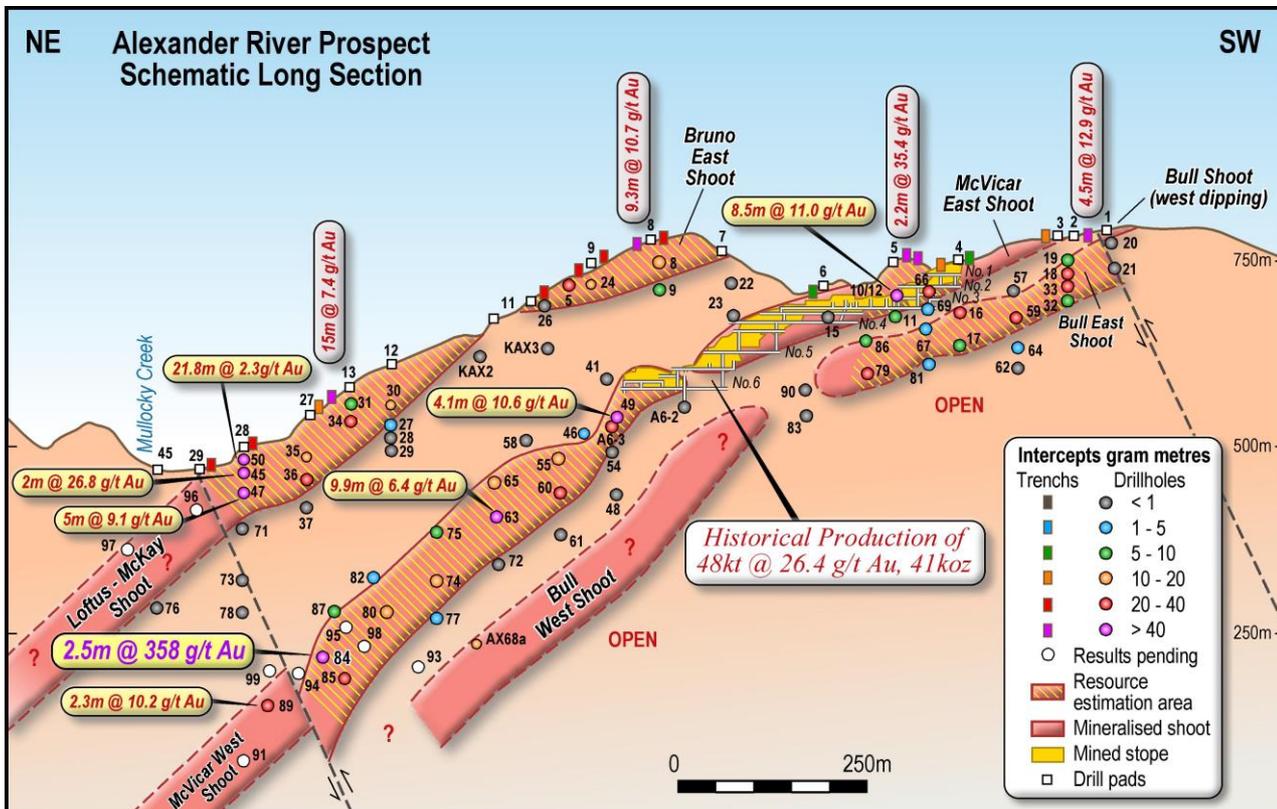
Given the style of deposit, it is likely that further infill drilling may present additional high-grade samples and will help assess whether these values are true outliers, or a higher-grade sub-population (sub-domain). In the latter case, top-cuts upwards of 50–200g/t Au may be considered appropriate.

The reported Mineral Resource was depleted for historical mining and constrained at depth by the available drillhole spacing, nominally 260m below surface topography. AX87 was the last hole included in the MRE. AX89 (2.3m @ 10.2g/t Au) that extended the McVicar West Shoot a further 100m down plunge, is not included.

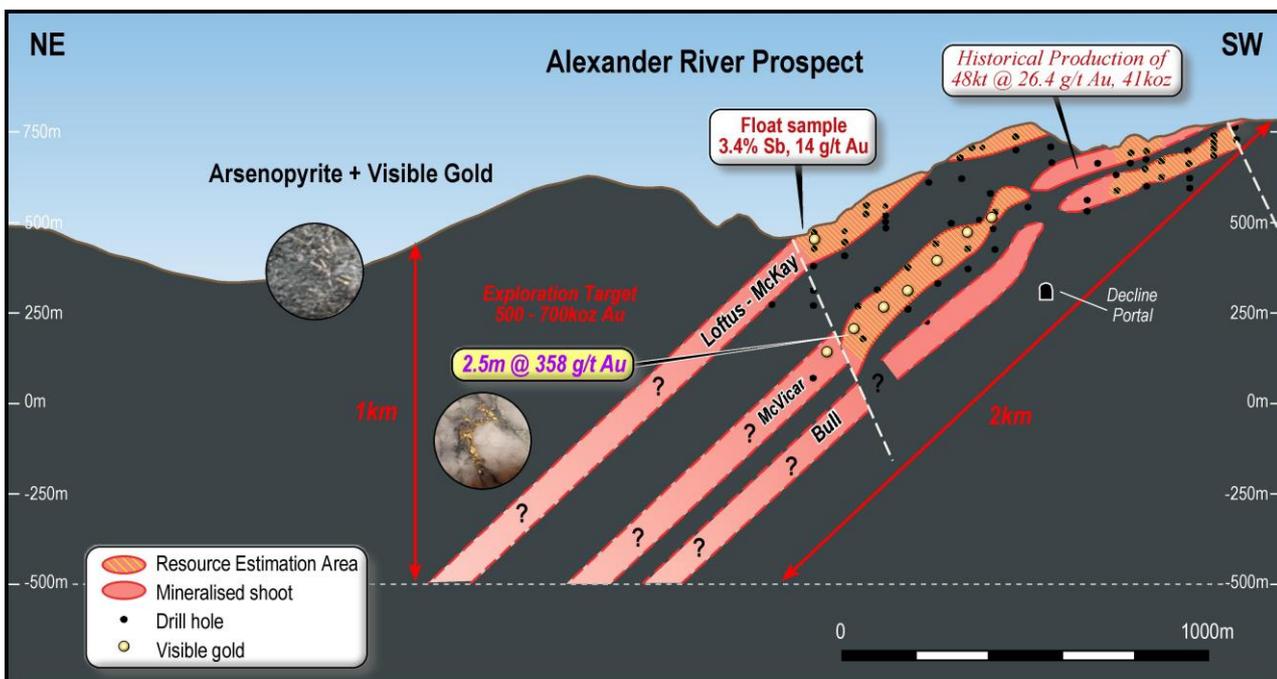
If the Loftus-McKay, McVicar West and Bull West shoots extend for 1,500m (-500mRL) as shown in Figure 8 and are similar to McVicar West Shoot then Siren considers that the Alexander River **Exploration Target** of 500-700koz @ 5-7g/t<sup>1</sup> Au still reflects the potential of the deposit. The nearby Blackwater shoots extend to 2,400m and are open at depth.



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**Figure 7. Alexander River schematic long section.**



**Figure 8. Alexander River schematic long section.**



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### Big River (Reefton Goldfield)

The Big River Project (comprised of Exploration Permit 60448) is located ~15 km SE of Reefton. The project overlays the areas of the historic Big River Mine which produced ~**136,000 oz** of gold at an average recovered grade of **34g/t** between 1880 and 1942.

The historic underground mine workings have been modelled in 3D and this, coupled with historic mine reports, shows that four main ore shoots were mined around the Sunderland anticline (Figure 10) when the mine closed in 1942. Two new potential shoots, the A2 Shoot and Prima Donna Shoot, are located east and west of the Big River mine. The A2 shoot, Big River Mine and Prima Donna Shoot combined cover a strike length of around 500m, which is overlaid by anomalous gold and arsenic soil geochemistry.

Diamond drilling commenced at the Big River Project in 2011 when OGL drilled 26 holes for a total of 5,032.6m. Siren commenced drilling in October 2020 and has drilled 16 holes for a total of 2,743m. Siren recommenced drilling in March 2022 with 6 holes for 1,767m completed to date.

Drilling to date has focused on Shoots 4 and A2. **Shoot 4** drillhole results include BR03 (**2m @ 12.1g/t Au**), BR04 (**4m @ 4.4g/t Au** from 128m and **6.6m @ 21.4g/t Au** from 136m), BR09 (**3m @ 18.5g/t Au** from 147m and **4m @ 7.8g/t Au** from 158m), BR12 (**3m @ 5.4g/t Au** from 170m and **3m @ 2.0g/t Au** from 205m), BR27 (**6m @ 5.1g/t Au**), BR34 (**5.9m @ 4.1g/t Au** from 361.7m) and BR35 (**6.3m @ 3.4g/t Au** from 374.8m). A2 drillhole results include BR20 (**5.0m @ 4.2g/t Au** from 24m), BR31 (**3.4m @ 2.5g/t Au** from 41m) and **BR37 (5.2m @ 6.3g/t Au** from 213m) (Figure 8). Results are awaited for BR40 and BR41.

The results to date indicate that the A2 Shoot is plunging around 55° to the NNE, similar to Shoots 1 to 4. The A2 shoot can now be traced from outcrop to 280m down plunge or 200m below surface.

Siren has budgeted 7,000m of diamond drilling for 2022, targeting all six shoots down to around 400m (Figure 9).

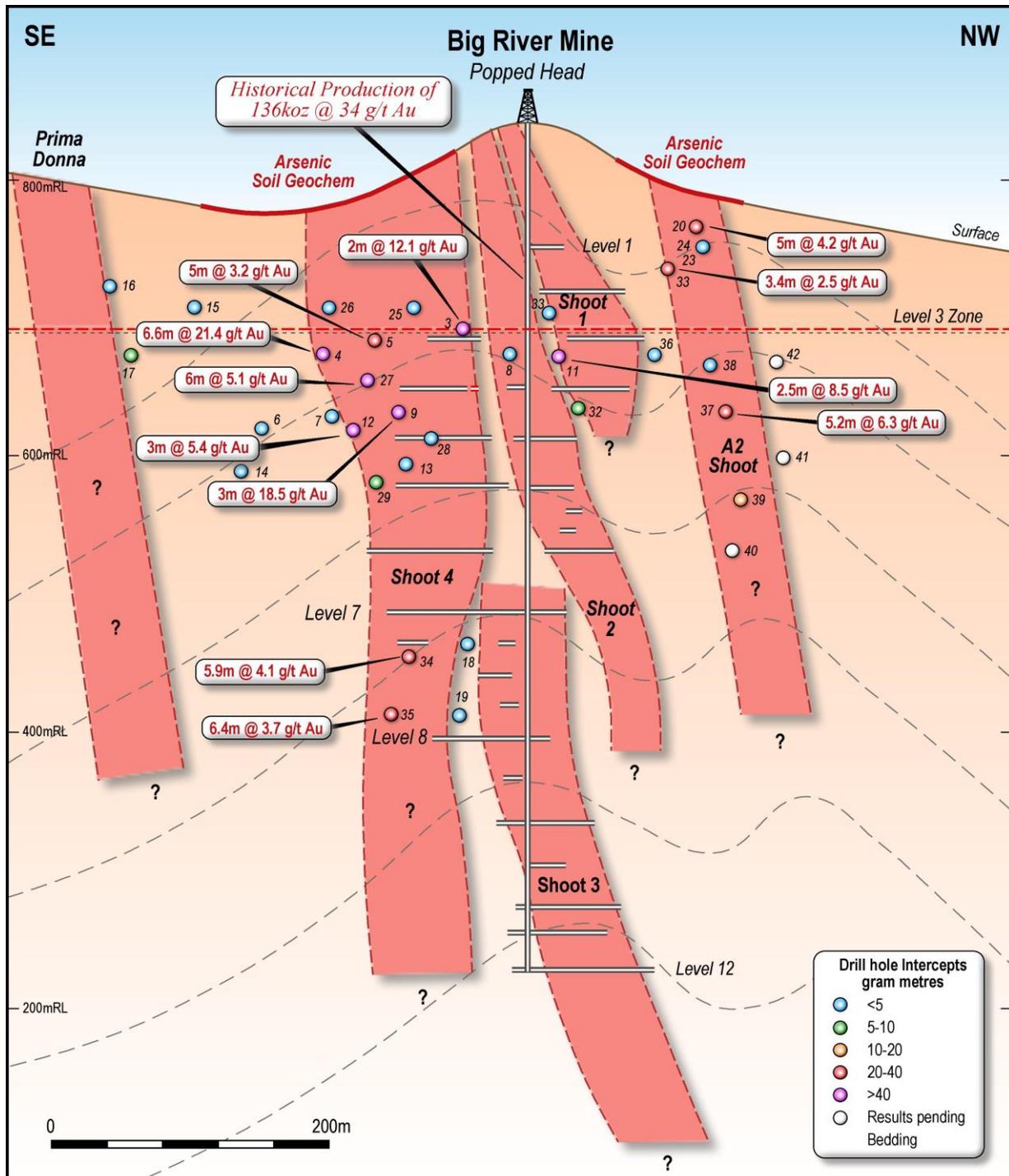
Siren has estimated an **Exploration Target of between 100koz and 125koz<sup>2</sup> at a gold grade between 7-9g/t Au for Shoot 4**, based on existing drillholes. With additional drilling, similar exploration targets could potentially be estimated on the other shoots. The Company considers Big River has upside potential of 250koz to 500koz.

### St George (Reefton Goldfield)

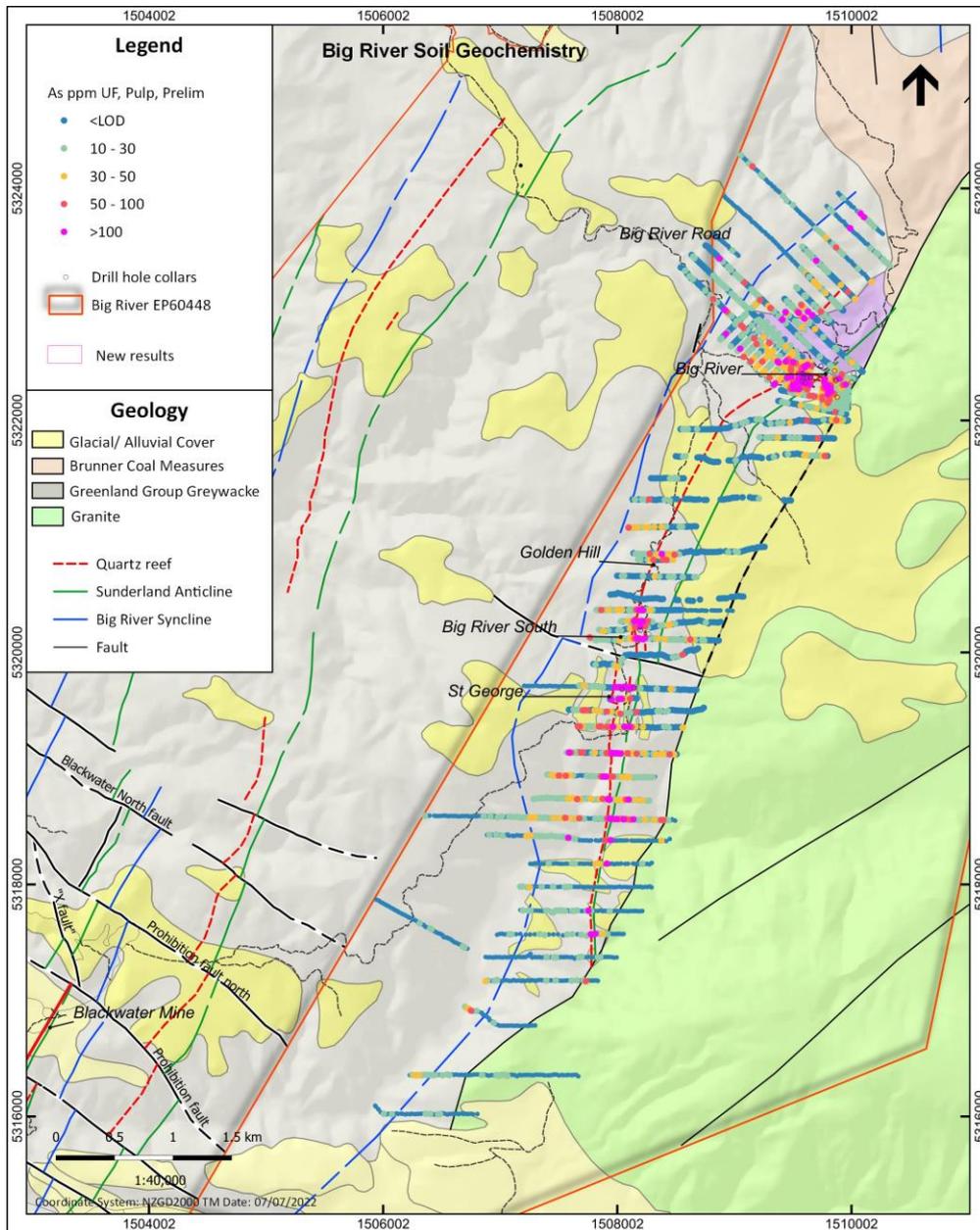
Mapping has confirmed that the Sunderland Anticline that hosts the Big River mine extends for 5kms south where it is cut off by younger granite intrusion (Figure 10). The main reef track that runs through the St George and Big River South mines is parallel and 250m to the west of the anticline hinge and appears to link into the Big River mine. These structures are prime target areas for Big River mine style mineralisation.

Soil geochemistry has now been completed for over 6kms from Big River North to around 2kms south of St George. The arsenic soil geochemistry shows large anomalies at Big River mine and a 3km long anomaly from Golden Hill to south of St George (Figure 10). The results clearly show that the arsenic anomaly continues strongly to the south until it is cut off by younger granite and extends into a broad zone south of St George into an area that has not been historically mined. This area lies 1.6kms south of the Big River mine that produced 136koz at an average grade of 34.1g/t Au and 4kms east of the historic Blackwater mine that produced 740koz at an average grade of 14.2g/t Au (Figure 10). Anomalous arsenic also extends for 1.5kms NE of Big River to the contact with overlying Eocene coal measures.

Gold soils have been sent to LabWest in Perth, where they are being analysed using the new UltraFine+ soil technique method developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and LabWest. Ultrafine has low detection limits and can potentially detect gold in areas covered by glacial till. The gold results are lagging the arsenic, but results received to date largely mirror the arsenic results.



**Figure 9. Big River schematic long section.**



**Figure 10. St George (Big River South) arsenic soil geochemistry.**

### **Auld Creek (Reefton Goldfield)**

The Auld Creek Prospect is contained within Siren's Golden Point exploration permit and is situated between the highly productive Globe Progress mine, which historically produced 418koz @ 12.2g/t Au, and the Crushington group of mines that produced 515koz @ 16.3 g/t Au (Figure 11). More recently OGL mined an open pit and extracted an additional 600koz from lower grade remnant mineralisation around the historic Globe Progress mine.

The Auld Creek mineralisation extends for over 2kms and appears to represent a block that was potentially offset to the west, along NE-SE trending faults between Globe Progress and Crushington (Figure 11). Arsenic and gold soil geochemistry from Big River to Crushington, shown in Figure 11 appears to confirm this interpretation.



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The gap in soil geochemistry north of Big River is due to the presence of coal measures that overlie the Greenland Group sediments that host the gold mineralisation

Between 1996 and 2013, OGL drilled 17 diamond holes for 2,016m, defining a mineralised zone up to 13m true width. The Fraternal mineralisation strikes north-south for over 100m, hosted in a steeply west-dipping shear zone parallel to a small anticline hinge. RDD0085 intersected a true width of 13m @ 1.6g/t Au from 30m, including 3m @ 3.0g/t Au and 3.7m @ 2.6g/t Au. RDD0087 intercepted a true width of 6m @ 4.1g/t Au from 63m including 3m @ 5.7g/t Au. The highest grades in the deposit are generally associated with strong stibnite mineralisation. The deepest drillhole intersected gold mineralisation less than 100m below surface, and mineralisation remains open at depth and along strike. The highest grades in the deposit are associated with strong stibnite mineralisation in the hangingwall contact (refer to announcement dated 9 June 2022).

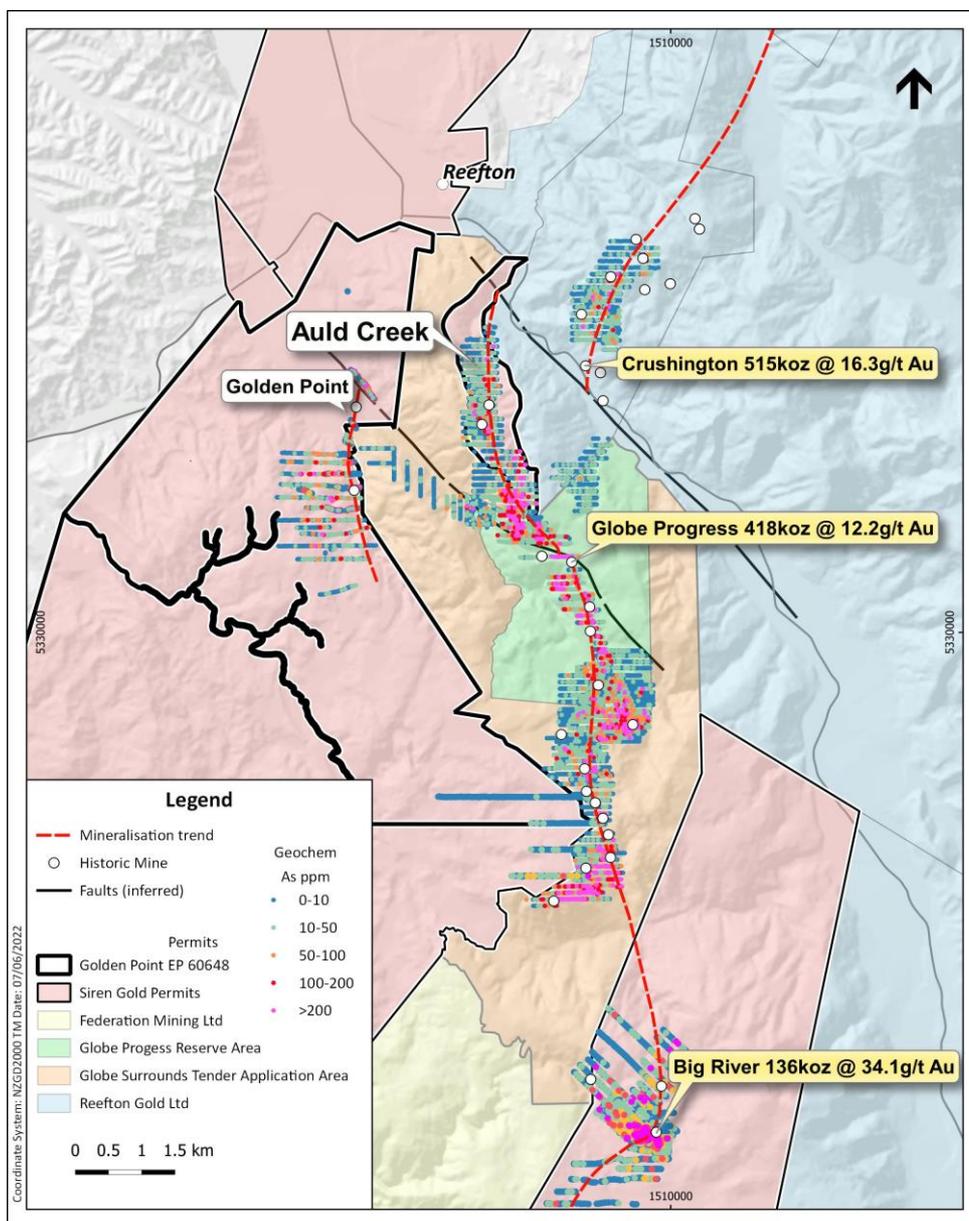


Figure 11. Regional arsenic soil geochemistry from Crushington to Big River.



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### Lyell (Lyell Goldfield)

Recent soil sampling at Lyell shows a NW trending gold anomaly that intersects the anticline around the **Alpine United** mine. **The anomaly extends for over 3kms**, as shown by the red dotted line in Figure 6, where it potentially intersects a syncline around the **United Victory** mine. The **Break of Day** mine is also located along this anomaly. The soil samples along the NW gold trend identify several anomalous areas shown by the black circles in Figure 12. These may represent mineralised shoots similar to **Alexander River**.

As previously reported, an outcrop of acicular arsenopyrite mineralisation was found along this gold anomaly at Mt Lyell (Figure 12). The outcropping mineralised zone extends for around 50m along strike and may be up to **10m thick**. This mineralisation looks very similar to the disseminated acicular arsenopyrite mineralisation found at **Alexander River**. Rock chip results ranging from **0.7 to 8.6g/t Au**, along with **visible gold**, were found in quartz float at the **Break of Day** mine 1km to the south.

The gold soil anomaly at Mt Lyell North was mapped. Outcrop is poor, but a 100m long mineralised zone was identified based on sub-crop and float samples. Samples with disseminated acicular arsenopyrite assayed up to 4.8g/t Au while samples that also contained thin <4mm grey quartz veinlets, included assays of 37g/t Au, 22g/t Au and 6g/t Au (*refer to announcement dated 6 July 2022*).

These results, along with the similarities to Alexander River, are very encouraging. Siren has applied to the Department of Conservation (DoC) for an Access Agreement to allow drilling.

### Sams Creek

The SCD is up to 60m thick and can be traced for over 7kms along strike and over 1km down dip. The porphyry dyke generally dips moderately to the north and has been folded into a series of NE plunging anticlines and synclines. The anticlines are variably gold mineralised and has been modified by at least four alteration / mineralisation stages. The main gold mineralising event consists of irregular to planar gold-bearing arsenopyrite veinlets in the anticline hinges. The synclines are unmineralised. To date only one of the mineralised anticlines has been drilled to any extent. This anticline plunges 30-40° to the NE and extends for over 1.3kms through the SE Traverse, Carapace and Main Zone (Figures 13 and 14) and is open at depth. The Carapace and Main Zone has a combined MRE of 7.5Mt @ 2.43g/t Au for 588koz of contained gold at a 1.5g/t cut-off (Table 3). There is no MRE for the SE Traverse but recent shallow drillholes intersected 12.6m @ 5.5g/t Au from 13.4m, 8.6m @ 3.2g/t Au from 39.8m, 7.0m @ 3.1g/t Au from 7.7m and 4.0m @ 4.5g/t Au from 53.5m. This hinge zone is 600m long and 100m wide and has an Exploration Target of 100-150koz @ 3-4g/t Au (*refer to announcement dated 3 June 2022*).

Rock chip samples along the SCD are shown in Figure 15. These show that Roirdans, Western Outcrops, Doyles, Anvil West and Anvil East all have high grade rock chips, interpreted to be associated with NE trending anticline hinges and have the potential to contain additional mineralisation.

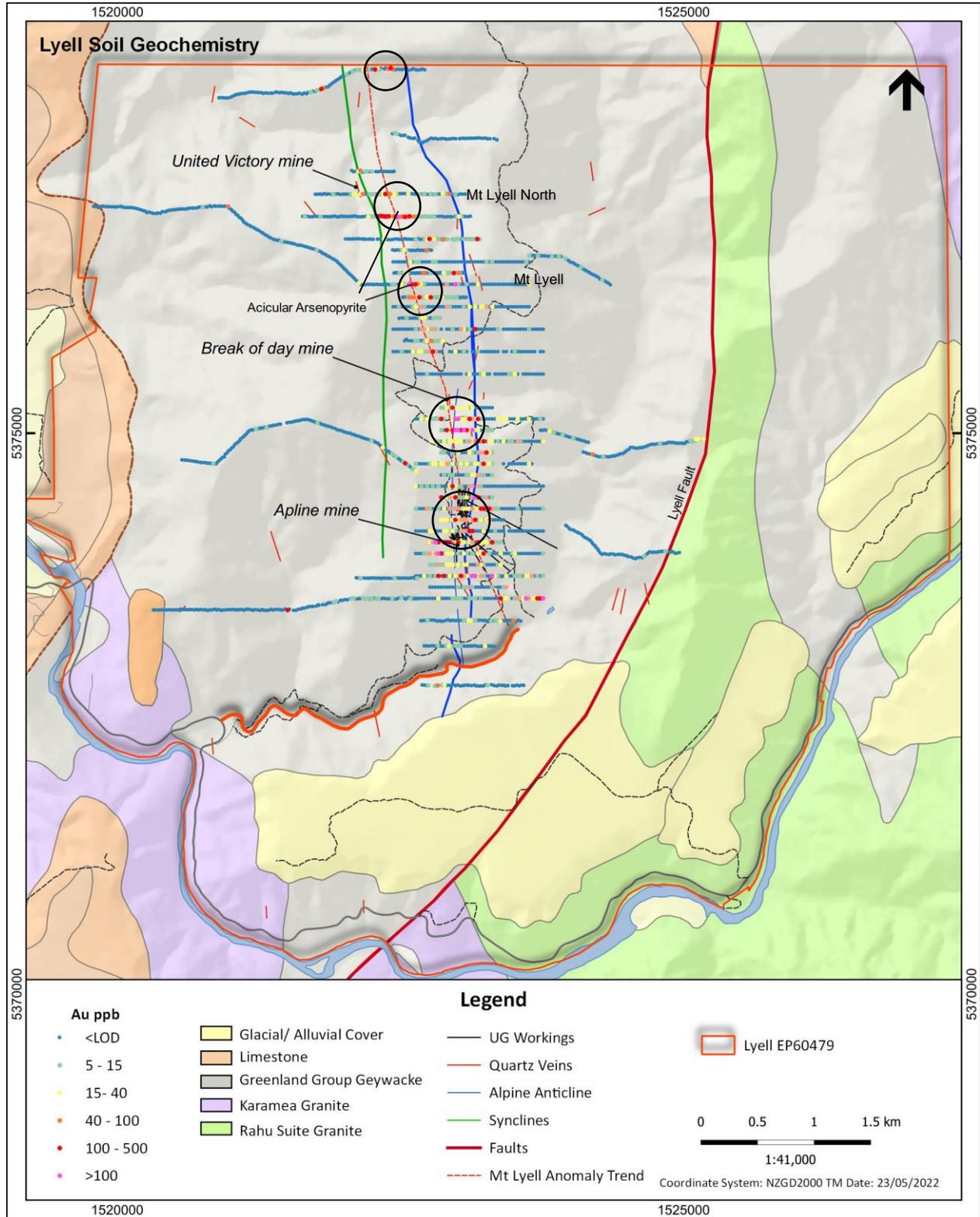


Figure 12. Lyell gold soil geochemistry.



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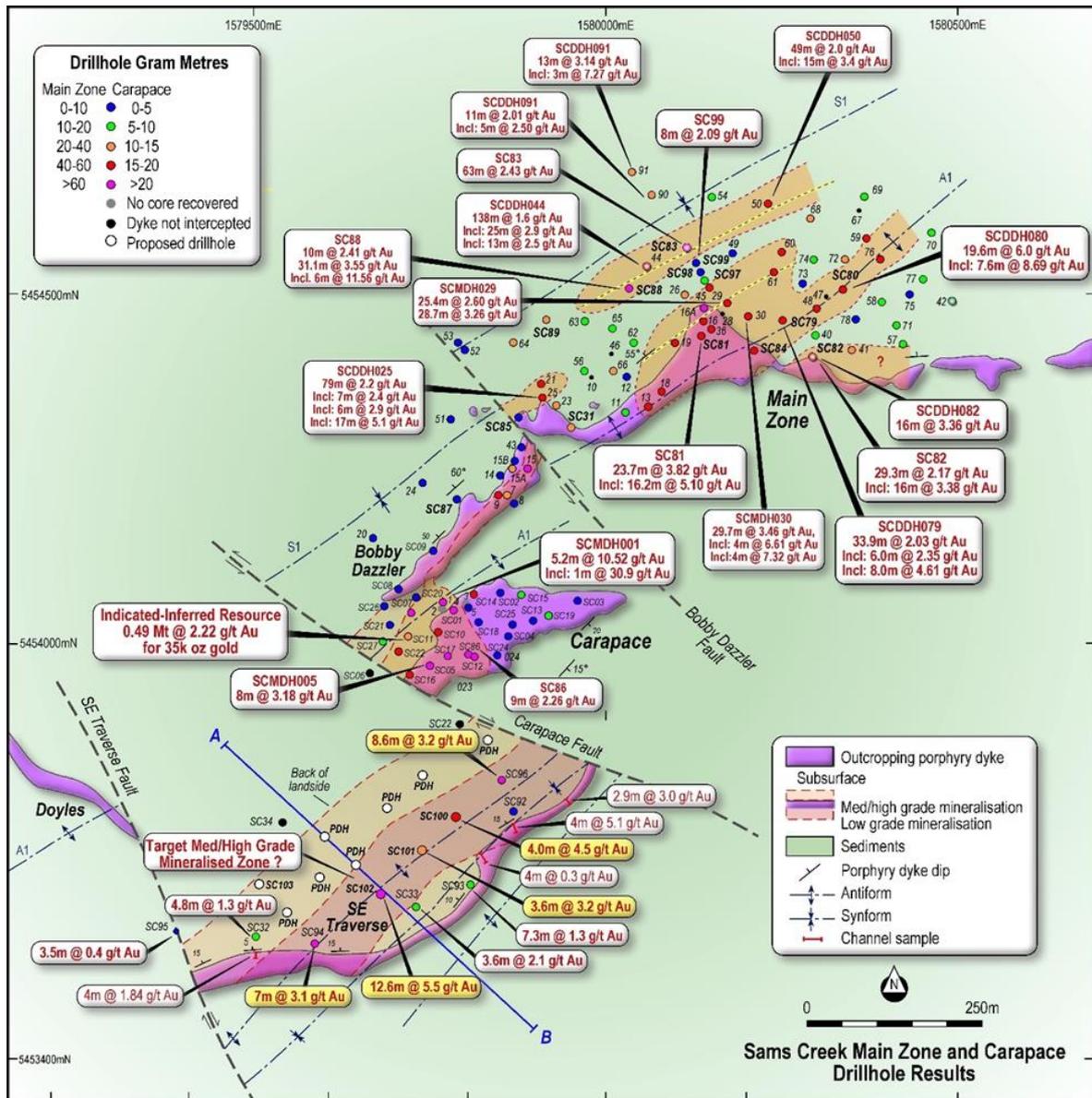


Figure 13. Plan view from SE Traverse - Main Zone showing anticline and drillhole results with mineralised shoots shown orange.

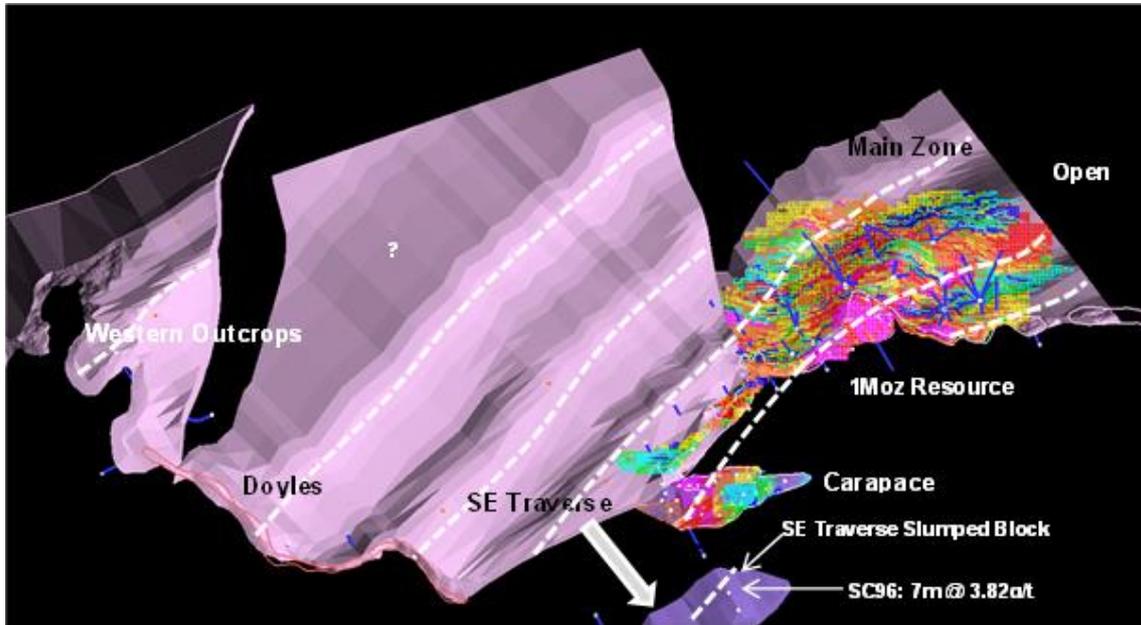


Figure 14: Plan view of SCD wireframe (pink) and block model (magenta high grade, blue low grade).

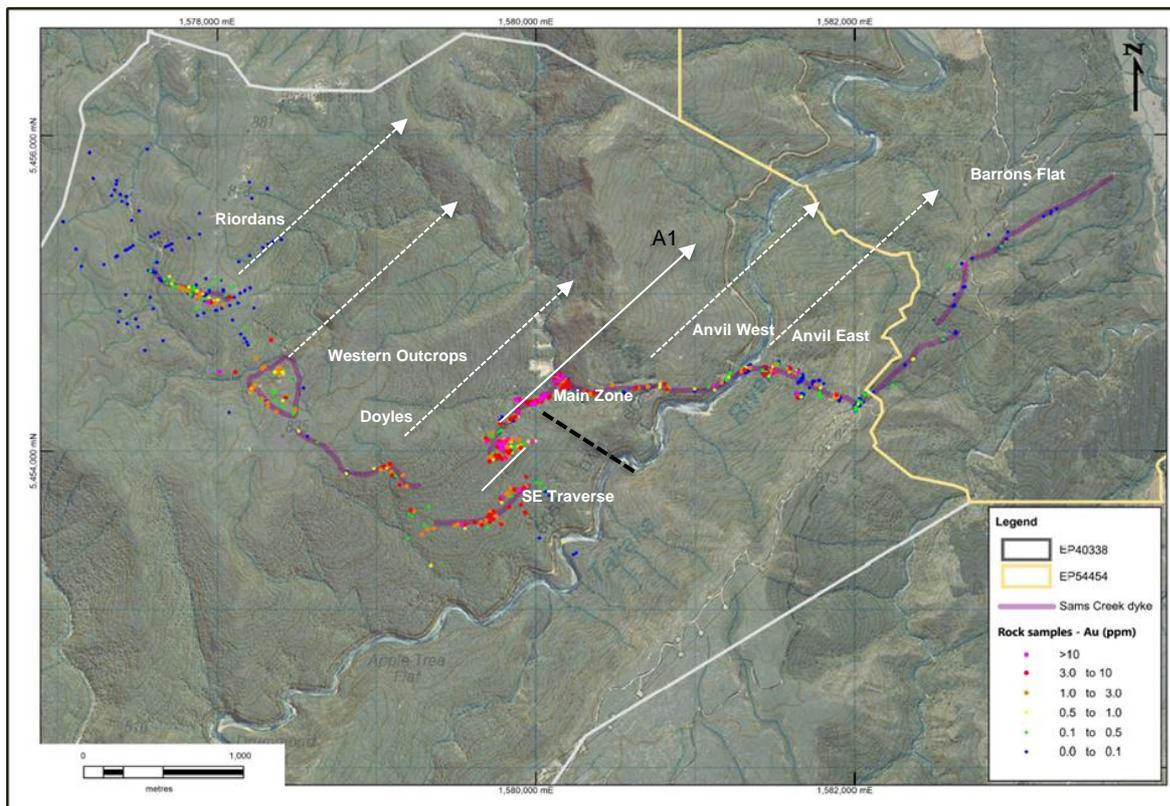


Figure 15. Rock chip samples along the SCD with potential mineralised anticline hinge show by white arrows.



**Table 3. Sams Creek 2013 Resource estimate at a 1.5g/t cut-off.**

2013 Sams Creek Mineral Resource Estimate			
Category	Tonnes (Mt)	Grade (g/t Au)	Contained Gold (koz)
Indicated	5.0	2.48	402
Inferred	2.5	2.33	187
<b>Total</b>	<b>7.5</b>	<b>2.43</b>	<b>588</b>

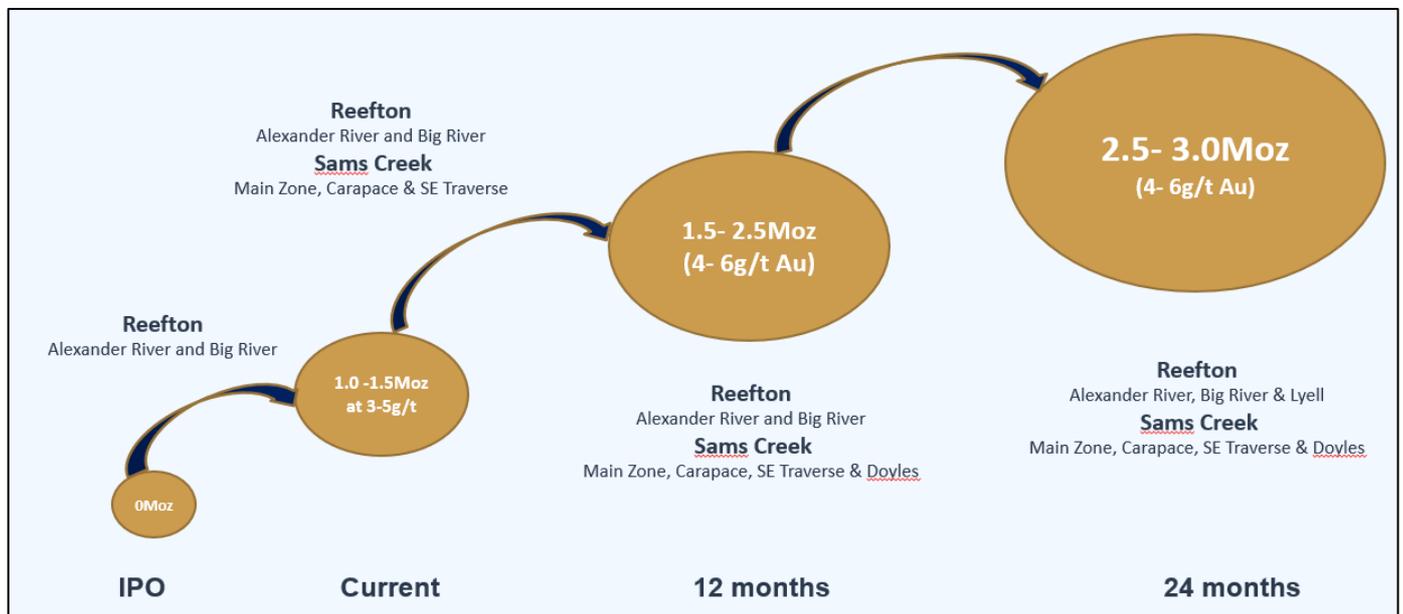
Tonnages are dry metric tonnes. Minor discrepancies may occur due to rounding.

## Strategy

Siren’s strategy is to grow its Exploration Targets organically with continued drill-focused exploration on the Companies key projects over the next 24 months. Exploration over the next 12 months will focus on Alexander River and Big River in Reefton where Exploration Targets and an Inferred Resource (*refer to announcement dated 19 July 22*) have already been estimated, and Main Zone and SE Traverse at Sams Creek, where an Inferred and Indicated Resource has been estimated (*refer to announcement dated 3 June 2022*).

Exploration will also be advanced at St George, Lyell and Doyles with initial drilling planned for 2023.

The pathway to a multi-million-ounce Exploration Target is shown in Figure 16 (*refer to Investor Presentation dated 16 June 2022*).



**Figure 16. Exploration Targets - pathway to multi-million ounces<sup>1</sup>.**

(Note 1: the potential quantity and grade of this Exploration Target is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource).



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### Metallurgical Testwork

Seven samples from the Reefton Project were submitted to Bureau Veritas (BV), Perth for preliminary evaluation of the metallurgy (*refer MRE announcement dated 20 June 22*). The samples were derived from drill core with six fresh composite samples from Alexander River (Bull East, McVicar West and Loftus McKay) and one from Shoot 4 at Big River (Table 4).

**Table 4: Predicted Gold Recovery based on Reefton 1-5 Composite Results**

Sample Name	Drilhole ID	From	To	Shoot
Reefton 1	AXDDH0059	127.0	131.0	Bull East
		132.75	134.35	
Reefton 2	AXDDH0066	58.0	63.7	McVicar East
		64.9	67.0	
Reefton 3	AXDDH0050	4.3	12.0	Loftus-McKay
Reefton 4	AXDDH0065	226.0	231.0	McVicar West
Reefton 5	AXDDH0063	261.1	261.8	McVicar West
		263.1	264.1	
		265.5	271.0	
Reefton 6	AXDDH0064	261.8	263.1	McVicar West
		264.1	265.5	
	AXDDH0074	312.8	313.3	
		314.9	315.5	
Reefton 7	BRDDH034a	361.7	367.6	Big River Shoot 4

A composite sample of five of the Alexander River intercepts was prepared with an assay of 3.33g/t Au and 0.55% sulphur. A test to assess the free gold recoverable by a laboratory Falcon concentrator followed by an intensive cyanide leach demonstrated 32.2% of the gold in the sample was amenable to simple gravity recovery.

A recleaner flotation concentrate was produced from the Reefton 1 to 5 composite with a grade of 68.7g/t Au, 11.4% sulphur and 5.6% arsenic. Based on the sample tested, a flowsheet with gravity and producing a high-grade flotation concentrate a gold recovery of 94% could be expected.

**Table 5: Predicted Gold Recovery based on Reefton 1-5 Composite Results**

Parameters	Au g/t	% Au Distribution	Recovery of Au (%)
Feed Sample	4.2	100	<b>94%</b>
Gravity Recovered Gold		32	
Flotation Concentrate (to market)	64.	62	
Flotation Tailings	0.3	6	

A rougher flotation concentrate was produced from the composite sample assaying 26g/t Au. This material was treated by pressure oxidation (POX) to liberate the gold; cyanide leaching of the POX residue gave a gold extraction of 98.5%.

If a POX circuit was added to the flowsheet to treat the flotation concentrate an overall recovery of 92% could be anticipated.

Metallurgical test work on Sams Creek was completed by OGL and reviewed by IMO in Perth. Four samples were collected from drill core (*refer to announcement dated 3 June 2022*). Direct leach recoveries ranged from 79.5% to



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87.5% and averaged 83.8%. If the mineralisation was floated and acid leached, then the total recoveries ranged from 83% to 91.3% for an average of 87.2%. Results reported are based on the samples tested to date and may vary with head grade, free gold content and mineralogy. Further test work will increase confidence in the prediction of recoveries.

### Central Processing Facility

GR Engineering Services (GRES) were engaged by Siren Gold to conduct a Scoping Study (SS) for a processing plant and associated infrastructure to treat mineralisation derived from the Company's exploration properties. GRES will develop a flowsheet based the initial metallurgical testwork from the Alexander River and Big River projects.

The flowsheet includes crushing and grinding ore to 80% passing 75 microns, with a gravity gold recovery circuit and flash flotation in the grinding circuit. The cyclone overflow was then treated by flotation to produce a gold rich sulphide concentrate that could be sold to a third party.

Siren will also investigate other beneficiation processes like ore sorting technologies, to see if Reefton or Sams Creek mineralisation could be upgraded prior to trucking to a central processing plant.

### Next Steps

#### Reefton

The McVicar West shoot extends below the current MRE with drillhole AX89 intersecting 2.3m @ 10.2g/t Au a further 100m down plunge (Figure 2). Over the remainder of 2022 the McVicar West Shoot will be targeted around 300-500m below the MRE (Figure 5). Targeting the Bull West Shoot on the SE side of the fault and targeting the Loftus-McKay Shoot on the NE side of the fault will also be undertaken. Siren still considers that the Alexander River Exploration target of 500-700koz @ 5-7g/t Au inclusive of the Inferred Resource, is still valid,<sup>1</sup> and if this drilling is successful, will significantly increase the confidence in that target.

Drilling at Big River is continuing where all 6 shoots (Shoots 1-4, A2 and Prima Donna) will be targeted to 400-500m below surface (Figure 9). Depending on results, Siren will target a maiden Inferred Resource following completion of this drilling. The larger drilling rig currently being used at Alexander River, will be required to extend the shoots below 500m and will be targeted in in 2023.

The St George area extends for over 3kms to the south of Big River (Figure 10). Some additional, mapping and rock chip sampling is required to ground truth the soil anomalies and define drill targets for 2023.

Drilling at Auld has already defined a mineralized zone up to 5-10m thick @ 2-4g/t Au and has only been drilled to 100m below surface. Auld Creek lies between Globe Progress (418koz @ 12.2g/t Au mined down to 420m where it was offset by a fault) and Crushington (515koz @ 16.3g/t Au mined down to 600m and is open at depth). Siren plans to drill deeper holes to test the mineralisation down to 300-400m in 2023.

<sup>1</sup> The potential quantity and grade of the exploration target is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource beyond what is reported in this announcement. The Company refers to the announcements dated 19/08/2021, 23/09/2021, 3/05/2022, and 16/06/2022 where further information is set out in respect to the exploration targets.



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### Lyell

Mapping and soil geochemistry has defined a mineralised structure that extends for over 3kms with outcropping acicular arsenopyrite mineralisation, very similar to Alexander River. This structure has not been previously drilled. Siren have applied for 19 drill sites focusing on Mt Lyell and Mt Lyell North prospects (Figure 12) where the outcropping mineralisation was found. Drilling is scheduled for Q1 2023.

### Sams Creek

The 2013 MRE was completed for open pit optimisation rather than an underground mine. Low grade mineralisation was included in the model domains which reduced the average grade. Siren plans to re-estimate the MRE based on an underground mining scenario, with the aim of increasing the model grade. This will be completed in 2022.

A number of mineralised anticlines have been mapped or inferred, that parallel the anticline hinge that extends for 1.5kms from SE Traverse to the Main Zone and is open at depth. This hinge zone contains the MRE of 588koz @ 2.4g/t Au (Table 3). Initial drilling will be focus on testing adjacent anticline hinges at Doyles and Anvil to confirm the grade, thickness, and continuity of the mineralisation.

### **Competent Person Statement**

The information in this announcement that relates to mineral resources, exploration results and exploration targets, is based on, and fairly represents, information and supporting documentation prepared by Mr Paul Angus, a competent person who is a member of the Australasian Institute of Mining and Metallurgy. Mr Angus has a minimum of five years' experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a competent person as defined in the 2012 Edition of the Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Angus is a related party of the Company, being the Technical Director, and holds securities in the Company. Mr Angus has consented to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

This announcement has been authorised by the Board of Siren Gold Limited.

For further information, please visit [www.sirengold.com.au](http://www.sirengold.com.au) or contact:

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