MPS
MARTIN PLACE SECURITIES

7 July 2022

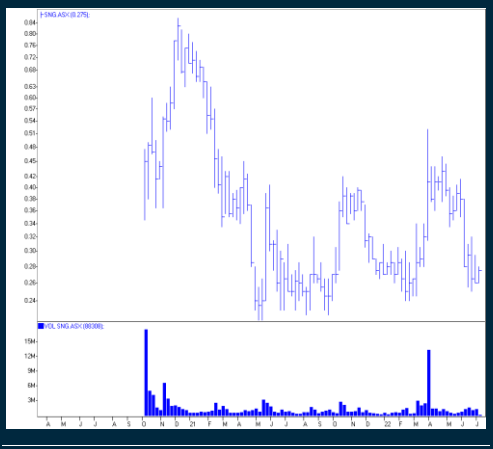
24 Month Price Target: (>A$1.00)

**CAPITAL STRUCTURE**

| | |
|---|---|
| Share Price | $0.27 |
| Net Asset Value | A$15m |
| 12 Month Range | $0.215- $0.52 |
| Market Cap (undiluted) | $26m |
| Issued Shares | 95.9m |
| Unlisted Options | 14.4m |
| | |
| Fully dil capital @ A$0.35 | 100.9m |
| Cash (est) | A$3.1m |

**DIRECTORS**

| | |
|---|---|
| Brian Rodan | Exec Chairman + CEO |
| Paul Angus | Technical Director |
| Keith Murray | Non-Exec Director |
| Sebastain Andre | Company Secretary |



**TOP SHAREHOLDERS**

| | |
|---|---|
| Brian Rodan | 19.46% |
| BNP Paribas Noms | 5.32% |
| National Noms | 2.95% |
| Beaurama Pty Ltd | 2.61% |
| Vixen Resources Pty Ltd | 2.08% |
| Top 20 | 61.8% |

This report has been written by Martin Place Securities Pty Ltd.

Data has been sourced from available public information and reflects the author's own assessments.

# SIREN GOLD LTD (SNG.ASX)

## 2.7moz targeted resources with Fosterville-style gold deposits

## 1.0 SUMMARY

Siren Gold has accumulated a valuable portfolio of tenements including historic gold mines along the significant geological structure that supports the high grade Reefton Goldfield line of lodes in West Coast New Zealand. It extends >150km with SNG holding >40km over key known mines and a further 40km of excellent exploration potential.

The geology of this region is the same age as the prolific Victorian goldfields based on similar Ordovician sediments and contemporaneous compressional structural activity.

*SNG has a 24mth target of achieving 2.7moz from >1moz targets along strike & downdip from historic high grade mines.*

## 1.1 KEY POINTS

### New Zealand West Coast Gold Renaissance

Mining and exploration is resuming along the historic Reefton gold trend in New Zealand

- Has Lachlan Fold Belt style geology and is similar to Victorian goldfields
- SNG has +million oz medium term exploration and development targets
- First SNG discovery resource of ~200koz expected in mid 2022
- Geology has same epizonal and antimony character as Fosterville
- Active diamond drilling programmes underway with 20,000m in 2022
- Sams Creek 0.588moz porphyry gold resource acquired

### Gold Potential Recognised in SNG Growth Assets – 12 month resource targets

- **Alexander River** Gold Mine Project – 700koz
- **Big River** Gold Mine Project – 400koz
- **Sam's Creek** Gold Project – 800koz
- **Lyell Goldfield** – early stage
- **Golden Point**– Auld Creek early stage

### SNG's Gold Project Targets 2.7moz within 24 mths for a new central hub mill.

| Siren Gold | Current | Near | 12 mths | 24 mths | Est grade | Historic Production | |
|---|---|---|---|---|---|---|---|
| | koz | koz | koz | koz | g/t | koz | g/t |
| Near Term Targets | | | | | | | |
| Alexander River | | 500 | 750 | 900 | 5.5 | 41 | 26.4 |
| Big River | | 100 | 400 | 500 | 6 | 136 | 34.1 |
| Sam's Creek | 588 | 713 | 800 | 1,100 | 3 | | |
| Sub total | 588 | 1313 | 1950 | 2500 | | | |
| Longer Term Targets | | | | | | | |
| Lyell | | | | 200 | 5 | 91 | 18.4 |
| Waitahu | | | | | | | |
| St George | | | | | | | 23 |
| Bell Hill | | | | | | | |
| Reefton Sth | | | | | | | |
| Langdons | | | | | | 1.5 | 60 |
| Sub total | 588 | 1313 | 1950 | 2700 | | | |
| TOTAL | | | | | | | |

Acquisition of Sams Creek from Sandfire (SFR.ASX) gives SNG a 588koz (1.5g/t cutoff) resource with potential near-term production (>1moz @ 0.7g/t cutoff).

**Siren Gold with a market cap of under A$30m has high leverage to exploration targets of 2.7moz in the Reefton Goldfields development and exploration programmes.**

| Financial History A$000 | | | |
|---|---|---|---|
| Year End 31 Dec | 2019 | 2020 | 2021 |
| Assets | 485 | 11,173 | 14,281 |
| Cash | 158 | 8,801 | 5,729 |
| Accum losses | (1,324) | (2,747) | (4,066) |
| Net equity | 325 | 10,536 | 13,648 |
| Net equity per share (cts) | 1.5 | 13.0 | 14.2 |
| Shares on issue (m) | 22.1 | 81.0 | 95.9 |

# 2.0 SIREN GOLD - IN PROFILE

*Quality tenements acquired over past four years*
***New Zealand***

***– Project location***


*Tenements located in the Reefton line of lode within the West Coast Goldfields.*

***– First resource at Sams Creek***

***-First discovery resource coming soon at Alexander River***

***Sams Creek has 402koz in 2013 Indicated Resource set when gold was <US$1400/oz***

*A$4m in carried forward losses*

*~A$17m in exploration assets*

SNG was listed on ASX in October 2020 after raising A$10m for exploration funding for several large tenements in the historic Reefton goldfields West Coast NZ and which included some of Reefton's highest grade now-closed mines.

The Reefton goldfield has many features giving it a strong similarity to the very high grade Fosterville epizonal gold deposit with associated antimony co-mineralisation.

SNG has continued to build up its tenement holdings in favourable geological terrains including the recent acquisition of the 0.588moz Sams Creek Porphyry Project from Sandfire Resources in a joint venture with OceanaGold (OGC.ASX).

An experienced team gives a strong platform for SNG to develop these key assets.

## 2.1 SIREN GOLD - NEW ZEALAND TENEMENT ASSETS

**Reefton Goldfields - Main Gold Mine Revival Projects (65 km$^2$)**

- **Alexander River Project** (EP 60446) 17km$^2$
- **Big River Project** (EP 60448) 48km$^2$

**Reefton Line of Lode gold exploration projects (935 km$^2$)**

- **Lyell** (EP 60479)
- **Golden Point** (EP 60648) -Auld Hill
- **Waitahu** (PP 60759)
- **St George** (EP 60448 Sthn Portion)
- **Reefton South** (PP 60465)
- **Bell Hill** (PP 60632)

**Langdons** (PPA 60893)

- Permit application near Greymouth

**Sam's Creek Gold Porphyry Project (47km$^2$)**

- Inferred resource of 0.588moz at 1.5g/t Au cutoff
  - Resource is >1moz @ 0.7g/t cutoff
- Additional contiguous exploration tenement is 100% SNG

## 2.2 SIREN GOLD - RESOURCE ASSETS

SNG's most advanced project at **Alexander River** should deliver the first discovery gold resource from the current exploration programme with a figure around 200koz and a medium target of 500-750koz. A resource at **Big River Project** possible in early 2023.

The acquisition of Sams Creek Porphyry Project has given SNG its first gold resource with expectations of additional resources >1moz over time.

| Sams Creek - 2013 Resource estimate at 1.5g/t cutoff | | | |
|---|---|---|---|
| Category | Tonnes (M) (M) | Grade Au g/t | Contained gold (koz) |
| Indicated | 5.0 | 2.48 | 402 |
| Inferred | 2.5 | 2.33 | 187 |
| Total | 7.5 | 2.43 | 588 |

**Financial History**

| Financial History A$000 Year End 31 Dec | 2019 | 2020 | 2021 |
|---|---|---|---|
| Total assets | 485 | 11,173 | 14,281 |
| Exploration & Evaluation Assets | 327 | 1,951 | 8,036 |
| Cash | 158 | 8,801 | 5,729 |
| Exploration expenditure | (138) | (1,313) | (6,151) |
| Accum losses | (1,324) | (2,747) | (4,066) |
| Net equity | 325 | 10,536 | 13,648 |
| Net equity per share (cts) | 1.5 | 13.0 | 14.2 |
| Shares on issue (m) | 22.1 | 81.0 | 95.9 |

*SNG showing an active and dynamic track record since listing:-*

*20,000m of diamond drilling planned for 2022.*

*first resource coming soon.*

*think same geology as Victorian goldfields*

*2moz from underground historic hard rock*

*8moz from historic alluvial mining*

*Good progress since listing*

*NZ gold is having a renaissance*

*SNG tenements Spread over 80 km of 180 km West Coast structure*

**Index**



# 3.0 INVESTMENT REVIEW

SNG has an impressive track record since listing less than two years ago. It has worked on its pre-IPO Reefton assets and drilled 10,000m in 2021 and is planning 20,000m in 2022. This drilling will produce the first inferred resource by early Sept quarter 2022.

The key initial and most advanced asset is the **Alexander River Project** where two diamond drill rigs are operating followed by the **Big River Project** with one. Geochem exploration is well under way on the other tenements where extensive gold mineralisation has already been identified at **Lyell**, **Golden Point** and **Saint George**.

SNG has also been very active in acquiring additional tenements up and down the 180 km long belt of Palaeozoic rocks along the West Coast structural corridor that has proved to be a successful conduit for gold mineralisation along much of its length.

The style of mineralisation along this structure of Ordovician age turbidites and subsequent compressive tectonic forces is very similar to the Victorian goldfields. The historic high grades from these earlier mines together with the antimony co-mineralisation is clearly supporting Fosterville-style high grades and cross veins.

Around 2moz gold has been recovered from historic underground mines at Reefton with another 8moz recovered by panning, sluicing and later large scale dredging of alluvial deposits.

SNG sees potential for several +million oz deposits to be discovered at Reefton.

The experience in Australia is reopened old goldfields have typically delineated resources that are multiples of historic output and the same is expected at Reefton.

The company has maintained a strong momentum at Reefton since listing in October 2020 and progress to date has included:

- Encountered significant gold mineralisation at **Alexander River**.
- Defined an exploration target at **Alexander River Project**.
- Defined an exploration target at **Big River Project**.
- Prepared a 20,000m diamond drilling exploration budget for 2022.
- New 3.5km long mineralised zone target discovered at **Lyell**.
- Preparation of a Scoping Study for a central processing plant at **Reefton**.
- New 3 km mineralised zone discovered at **St George**.
- Underground access scoping study for **Alexander River** and **Big River**.
- **Golden Point Project** has identified high grades and historic **Auld Creek** mine
- **Langdons** prospect acquisition near **Greymouth**.
- **Sams Creek Porphyry Project** acquisition.

**History of the Reefton Gold Field**

Hard rock mining for gold at Reefton began around 1865 and peaked soon after at ~300,000ozpa(10k kg) and had essentially ceased by 1915, but Blackwater - the last important gold mine at Reefton - was operated by Consolidated Goldfields NZ from 1921 to 1951. Blackwater is currently being revived by unlisted Federation Mining.

The historic mines of Reefton are located on two assessed main mineralised corridors along about 35km of strike.

The eastern corridor includes **Caplestone**, **Crushington**, **Globe Progress**, **Cumberland** and **Big River**.

The western corridor extends from Reefton township south with **Golden Point**, **Morningstar**, **Blackwater** and **Homer** mines.

The eastern corridor potentially contains a thicker high sulphide deposits while the western corridor contains low sulphide high grade narrow veins like Blackwater.

The line of strike for the ~2moz of underground mining at Reefton extends for around 35km along the primary western lode for most of the gold with other important high grade mines on two shorter sub parallel reef structures (at **Big River**) and (at **Alexander River**) to the east. SNG tenements cover both of these two mines.

*Reefton Line of Lode is extensive but historic mining shows nine historic mines producing ~2moz at and average grade of 16g/t.*

*The average mine depth is under 350m….*

*..Blackwater is being extended from 700m to 1500m below surface…*

*SNG has three of these nine…*

*(in yellow)*

Probabilities would suggest the main reef corridor structure extends 35km to the north to SNG's Lyell tenements and to the south under glacial sediments with SNG tenements covering an additional 40km of strike.

The character of Reefton goldfields, as with much of the Victorian goldfields, is about geological structure rather than lithology.

The mineralisation within the entire Reefton Goldfields is almost all structurally controlled within Ordovician-Silurian sedimentary rocks subject to east-west compressive forces.

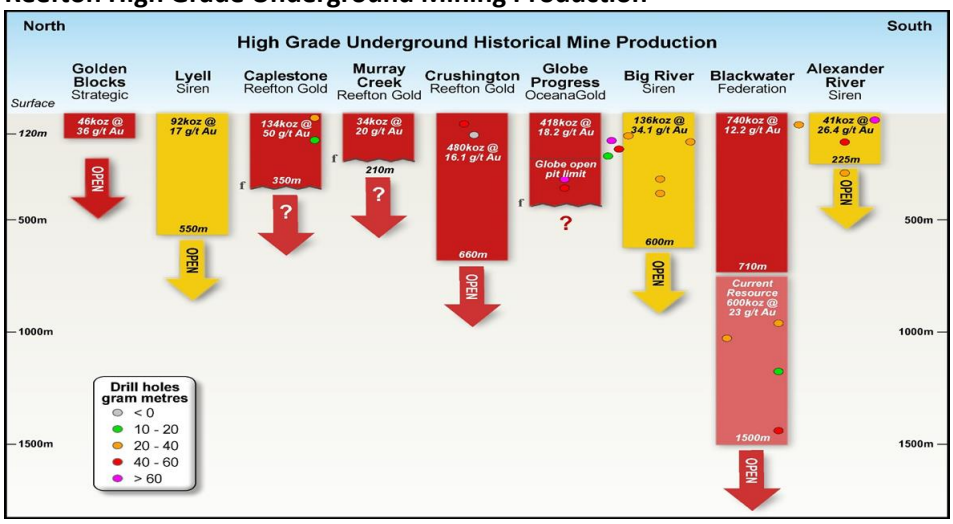
Whilst the Reefton and Lyell goldfields extend over 80km it has been the Reefton Line of Lode which extends for 35km north-south that provided the bulk of the gold.

This graphic gives the **relative mining depths**, **historic gold production** and **grade** of the key mines. It also include the **Golden Blocks** deposit 200km north of Lyell.

Average grade of 16g/t over ~2moz and mostly to only shallow depths gives a good impression of future gold mining potential.

SNG is well positioned here with three of these mines and other exploration plays.

**Reefton High Grade Underground Mining Production**




## Sams Creek Porphyry Project 0.588moz Acquisition (SCPP)

*Sam's Creek Porphyry Project is potentially another ore source.*

*A$250k purchase.*

*0.588moz with >1.5moz potential*

SNG has made an outstanding acquisition in the Sams Creek gold project for A$250k ( ~A$5/oz).

The **SCPP** has **Indicated and Inferred Resources of 7.5mt @ 2.43g/t at 1.5g/t cutoff** and **>1moz @ 0.7g/t cutoff.** As a standalone project this does not have a lot of value but with exploration and the potential to deliver Sams Creek ore to a central processing plant at Reefton this project becomes worth so much more to SNG.

SNG could expect to see >1.5moz being delineated here.

## Current activity at Reefton

*OceanaGold has been key player in the Reefton Goldfield*

*Federation is redeveloping the Blackwater Mine for start up in 2024*

*Reefton Goldfields is being supported by Eric Sprott*

*Siren Gold is on the way to becoming a major player with production and a large land package*

*Environmental conditions are stringent but recent developments show that permits can be obtained.*

*Globe and Blackwater are recent approvals*

*Siren Gold tenements (in pink) in the Reefton line of lode extend from Lyell in the north to beyond Blackwater in the south.*

- *Lyell*
- *Big River*
- *Alexander River*

*Langdons is a recent acquisition.*

*Much of the Ordovician Greenland Group Formation rocks to the south of Blackwater are under glacial moraine and essentially untested.*

**OceanaGold** has been major player in the Reefton Goldfield the mining of **Globe Progress** over 2006-2017 and ownership of the Blackwater mine together with extensive exploration interests. It has carried out significant exploration programmes over the past two decades.

**Federation Mining** is redeveloping the **Blackwater Mine** in an acquisition process from OceanaGold and has gained approval to establish twin 3400m decline access at the Blackwater mine to carry out resource drilling into the lower 700koz inferred resource section to allow mining startup in 2024. It also has some nearby exploration potential.

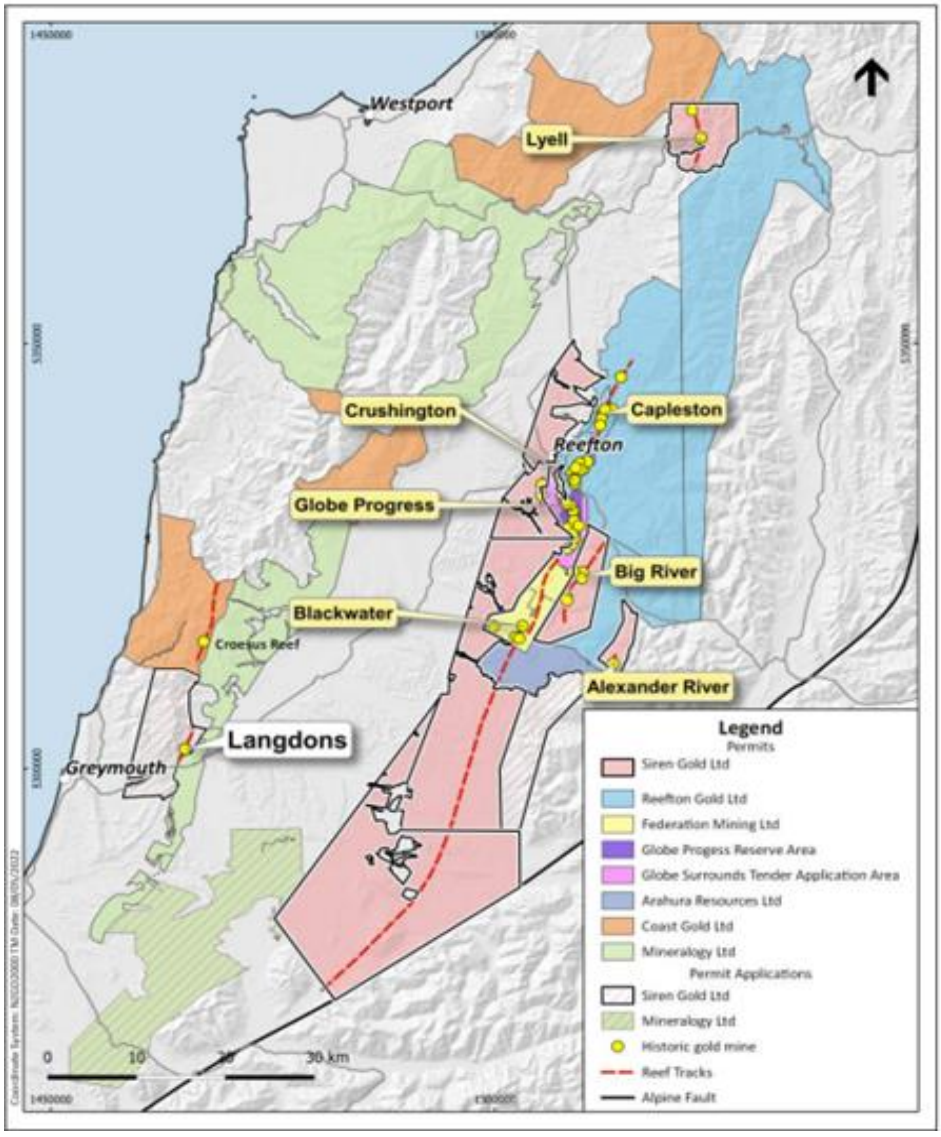
**Reefton Goldfields Inc** with investment by Eric Sprott and other has several of the old mines and some exploration potential with a longer term profile.

**Siren Gold** now has the opportunity to also become a major player in West Coast New Zealand along the extended Reefton line of lode that runs over 80km at Reefton in the south and to the Sams Creek Porphyry Project to the North.

Environmental regulations in NZ limit surface operations and mining such that it is usually only underground mining, with a process plant that redirects mullock and tailings back underground, that will get a social licence to operate.

The operations of OceanaGold and Federation Mining confirm that it is possible to meet stringent regulations and successfully achieve the required Resource Consents.

**Siren Gold has important tenements in the Reefton Goldfield**



# Siren Gold's Programme for 2022/23

*SNG has a busy schedule for 2022/23*

SNG has had active programme since listing with 10,000m drilled in 2021 and 20,000m planned in 2022. Two diamond drill rigs are currently operating at **Alexander River**. One has capability of drilling to 1200m and test deeper zones.

*Three rigs drilling*

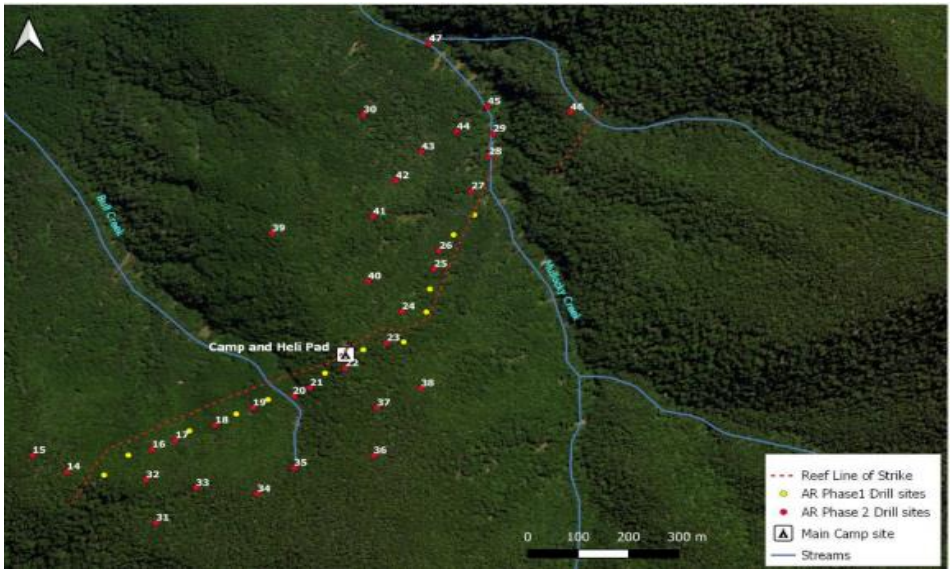
The deeper rig will be testing that McVicar West shoot where Fosterville-style very high grade intersection of 2.5m @ 358g/t (incl 0.6m @ 1460g/t) in AXDDH084 was encountered.

Drill pad locations are already in place at Alexander River for the majority of the 2022 programme.

*Two at Alexander River*

**Currently Approved Alexander River Drill Pads**

*.. deeper drilling to seek to confirm additional near term resources*




Source: Siren Gold

*Big River also seeking near term resource definition*

Another diamond rig is operating at **Big River** to test 500 metres of strike that incorporates testing of six shoots down to 400m.

*Geochem sampling continuing*

Geochem and rock chip sampling has been successfully carried out on SNG projects at **Lyell** (EP60479), **Saint George**(EP06448) and **Golden Point**(EP60648) with SNG picking up gold and arsenic anomalies as well as encouraging results rock chips along trends.

Follow up drilling is expected.

New data from **Auld Creek** in the **Golden Point** tenement and the application for a new permit at **Langdons** near Greymouth will keep SNG very active.

*Scoping studies on decline access*

SNG will also be attempting a sampling programme over the glacial sediments at **Reefton South**(PP60465) using the CSIRO Ultrafine+$^{TM}$ technique.

Contracts have been let to recognised engineering firms to carry out scoping studies on decline access for **Alexander River** and **Big River** and also for the profile of a potential processing plant to be the receival for output from all the SNG Reefton mines.

*Scoping study on a potential processing plant*

A contract is also in place to an engineerring group to determine an initial resource at AlexanderRiver.

*A maiden resource is expected at Alexander River soon*

The current exploration programme has 12 month targets as follows:-

| Project (000oz) | Current Target | 12 mths Target | Gain |
|---|---|---|---|
| Reefton | | | |
| Alexander River | 500 | 700 | 200 |
| Big River | 100 | 400 | 300 |
| Sams Creek | 713 | 800 | 87 |
| Total | 1313 | 1900 | 587 |

*Siren Gold is an explorer and developer….*

*Valuing the assets becomes difficult in the current volatile market ..*

*High grade underground resources can have quite low operating costs per oz..*

*Also have lower fuel and energy costs per oz..*

*Hydropower is likely to be the main energy input from local and grid units.*

*SNG's gold resources should be within the range of A$50-70/oz*

*SNG could get quickly to over 2moz*

*This is ~A$100m*

*With just 96m shares*

*A two year target of over A$1.00 seems reasonable and A$1.50 achievable*

*The pathway to production might also come quickly if resources are confirmed.*

# VALUATION ASSESSMENT

## Valuation process

The valuation process for gold explorers and developers at present seems to lack a consistent approach to the value of Indicated and Inferred gold resources.

Reality suggests each project should be taken on its own economic merit with issues such as deposit size, grade, host rock geology, gold recovery, location, management, open cut or underground and mining dilution being taken into account.

Key features such as higher grade with good gold and mining recovery should give valuations that sit towards the top of the range.

And high grade gold fields with long-term successful mining histories like Reefton should be also given relatively high value for insitu Inferred ounces.

It is clear from market values SNG's assets would be worth at least A$64m ($0.68 per share) and as much as A$89m (A$0.95) in a strong gold market.

| In ground valuation A$m Inferred Resource | | | | |
|---|---|---|---|---|
| | A$/oz | A$/oz | A$/oz | A$/oz |
| moz | *40* | *50* | *60* | *70* |
| 0.5 | 17 | 21 | 26 | 30 |
| 1.0 | 34 | 43 | 51 | 60 |
| 1.5 | 51 | 64 | 77 | 89 |
| 2.0 | 68 | 85 | 102 | 119 |
| 2.5 | 85 | 106 | 128 | 149 |
| 3.0 | 102 | 128 | 153 | 179 |
| 3.5 | 119 | 149 | 179 | 208 |
| 4.0 | 136 | 170 | 204 | 238 |
| **Value per SNG share (undiluted)** | | | | |
| 0.5 | 0.18 | 0.23 | 0.27 | 0.32 |
| 1.0 | 0.36 | 0.45 | 0.54 | 0.63 |
| 1.5 | 0.54 | 0.68 | 0.81 | 0.95 |
| 2.0 | 0.72 | 0.90 | 1.09 | 1.27 |
| 2.5 | 0.90 | 1.13 | 1.36 | 1.58 |
| 3.0 | 1.09 | 1.36 | 1.63 | 1.90 |
| 3.5 | 1.27 | 1.58 | 1.90 | 2.22 |
| 4.0 | 1.45 | 1.81 | 2.17 | 2.53 |

Development of a net 0.5moz deposit with a ten year mine life producing around 50kozpa at a head grade of 5.0g/t (vs 7 g/t resource grade) would have an after tax $NPV_{10}$ of cashflows of around A$300m (~A$600/oz). A resource upgrade and exploration potential could be expected to push this number higher and extend mine life.

The appraised values developed in the following valuation matrix suggest a target of over A$1.00 should be achieved by SNG within two years in a static gold market and should be considered as the base case and A$1.50 likely.

Keep in mind the high grades at Reefton (historic mined grade 16g/t and Blackwater's resource target is 23g/t).

*Alexander River could be developed within four years.*

*SNG has A$3m cash and should receive a further A$1.25 m from Jan 2023 A$0.25 option exercise.*

*A further 9.3m @A$0.375 for Sept 2024 will bring in ~A$3.5m*

*Valuation matrix suggests a two year price target of over A$1.50 fully diluted for options and pre financing.*

The $NPV_{10}$ of a 1 moz deposit at 10 g/t operated with underground mining at 75,000ozpa and costs of US$800/oz giving a current operating margin of US$1000/oz would be over A$500m (~A$500/oz).

The upside leverage in having large tenements for the Reefton Gold Project is very substantial for SNG.

On the basis of SNG determining over 2.5moz of resources and developing a 50,000ozpa processing plant fed by multiple mine sources the project could have overall annual revenue of close to A$100m and A$35m EBIT.

| Valuation Matrix | SNG | 0.29 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year end Dec 31 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2026 | Book Value | | Market Value | | Appraised Value | |
| A$m | Contributions to earnings | | | | | | | Revenue | A$M | A$/sh | A$M | A$/sh | A$M | A$/sh |
| Alexander River | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 50 | 6 | 0.06 | 45 | 0.41 | 85 | 0.77 |
| Big River | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 15 | 5 | 0.05 | 15 | 0.14 | 40 | 0.36 |
| Sams Creek PP | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 30 | 0 | 0.00 | 8 | 0.07 | 30 | 0.27 |
| Lyell | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 0.01 | 1 | 0.01 | 5 | 0.05 |
| St George | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 0.01 | 1 | 0.01 | 2 | 0.02 |
| Reefton South | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 0.01 | 2 | 0.02 | 2 | 0.02 |
| Bell Hill | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 0.01 | 1 | 0.01 | 1 | 0.01 |
| Langdons | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0.00 | 1 | 0.01 | 1 | 0.01 |
| Interest/cash | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 3 | 0.03 | 3 | 0.03 | 3 | 0.03 |
| Admin | -1.8 | -1.0 | -1.2 | -2.0 | -2.0 | -3.0 | -4.0 | | | 0.00 | | 0.00 | | 0.00 |
| | | | | | | | | | 17 | 0.17 | 77 | 0.70 | 169 | 1.54 |
| Total Pretax | -1.8 | -1.0 | -1.2 | -2.0 | -2.0 | -3.0 | 31.0 | | | | | | | |
| Tax | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -9.3 | | | | | | | |
| Net | -1.8 | -1.0 | -1.2 | -2.0 | -2.0 | -3.0 | 21.7 | 95 | 17 | 0.17 | 77 | 0.70 | 169 | 1.54 |
| Cash generation | -1.8 | -1.0 | -1.2 | -2.0 | -2.0 | -3.0 | 56 | | | | | | | |
| Capex | 1.3 | 6.2 | 8 | 8 | 15 | 50 | 50 | | | | | | | |
| EPS | -0.08 | -0.01 | -0.01 | -0.02 | -0.02 | -0.03 | 0.20 | | | | | | | |
| CFPS | -0.08 | -0.01 | -0.01 | -0.02 | -0.02 | -0.03 | 0.51 | | | | | | | |
| DPS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| Shares on Issue* | 22.1 | 81.0 | 95.9 | 99.9 | 110.0 | 110.0 | 110.0 | | | | | | | |

The current market value should be close to A$0.70 with potential for well over A$1.00 once resources are established and A$1.50 once a clear path to production is visible.

# 4.0 NEW ZEALAND GOLD HISTORY

***NZ was part of a global gold rush in the 1860s.***

The worldwide gold rush underway in the 1850s bought a surge in gold production in California, Australia, South Africa and India. Other countries would have been involved including Africa, South America and Russia.

In NZ, gold was discovered on the South Island in the early 1860s. Early alluvial discoveries were in Otago District in the south east and later in the West Coast District near Greymouth with early production exceeding over 600kozpa over a few years before declining sharply.

***Major goldfields are on the West Coast in the Palaeozoics on the western side of the Alpine Fault***

The gold deposits on South Island were divided into two main types :-

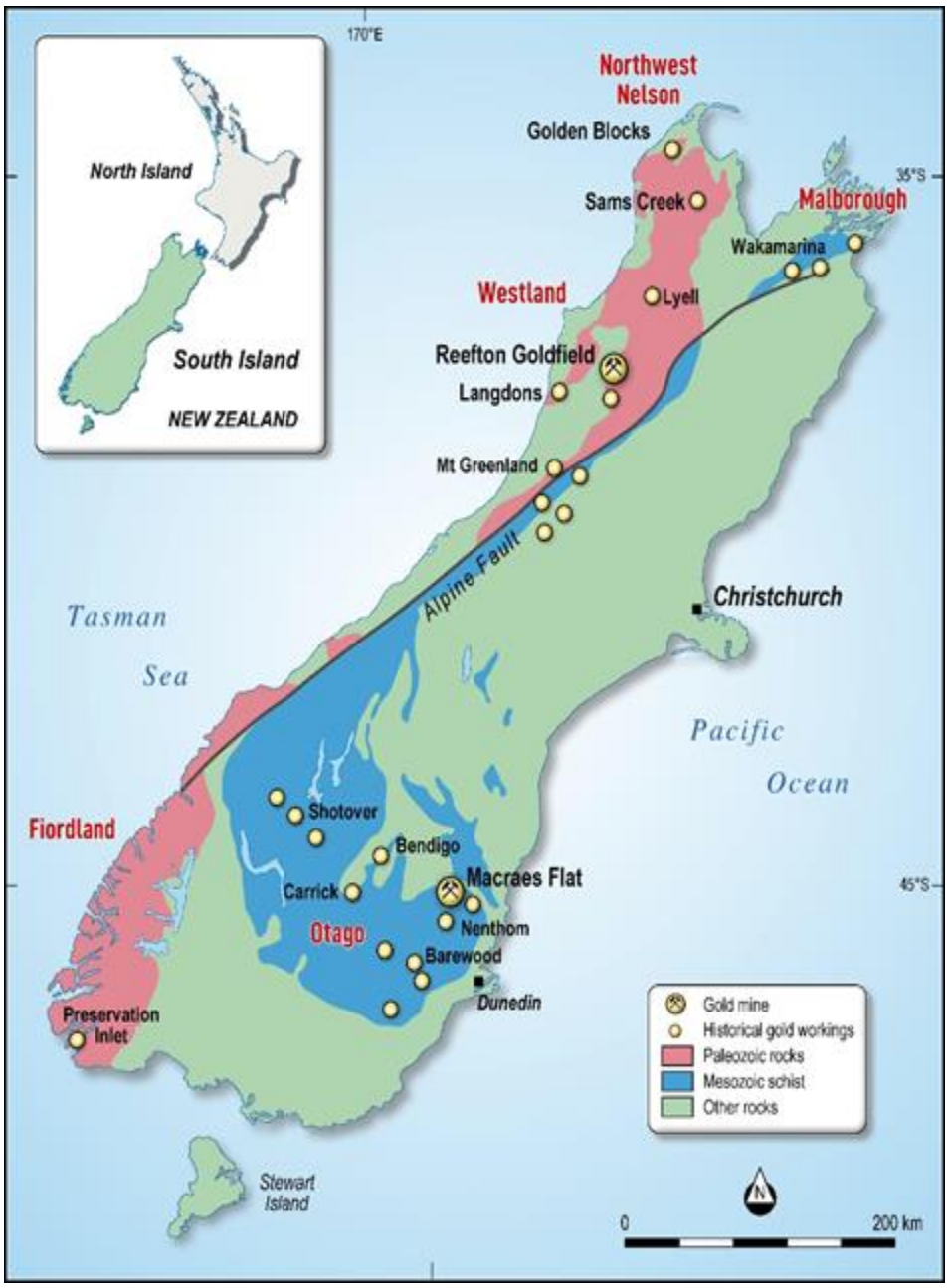
- those in the Cambrian-Ordovician-Silurian Palaeozic rocks (in pink) on the western side of the Alpine Fault
- Those in metamorphosed schist rocks as well as other rock types and mostly on the eastern side of the Alpine Fault,

***Other goldfields like Macraes in Otago were in younger, more highly metamorphosed rocks***

Palaeozics are mostly volcanic metasediments stretching from the midpoint of South Island up to Northwest Nelson and which have been separated in places by subsequent intrusive rocks. Reefton was at the centre of hard rock gold mining.

***Reefton was at the centre of the western gold fields.***

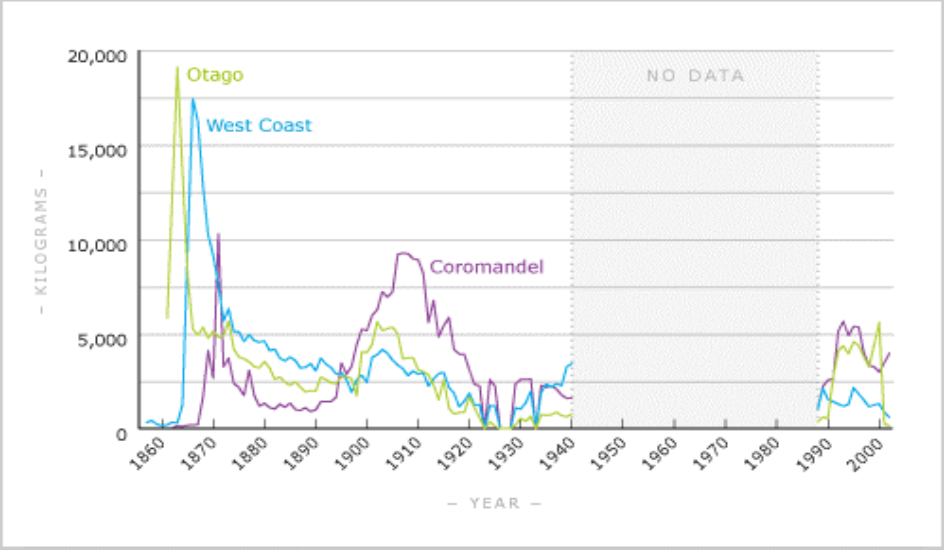

*Source: Google Maps*



Otago and West Coast provided mosty of the early gold from alluvial deposits.

***Alluvial discoveries in the 1860s in Otago and then West Coast initially produced a sharp peak of over 600kozpa before rapidly declining.***

**New Zealand regional gold production by region(kg)**




Source: Teara.govt.nz

Gold bearing quartz reefs were discovered in the Reefton Goldfield upstream along the Grey River soon after with the short lived peak producing over 300,000oz(10,000kg) in 1871 and declining into 1890.

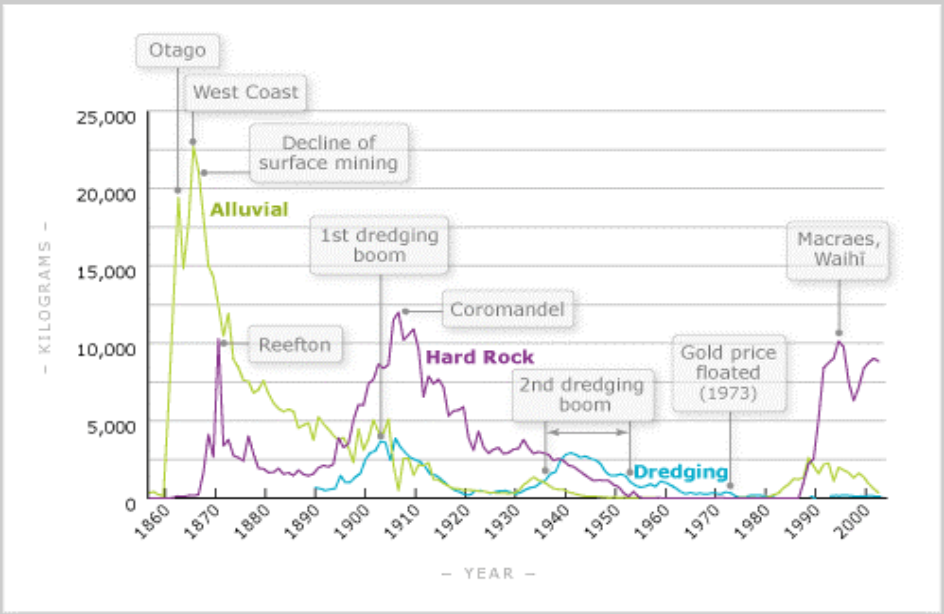
Subsequent gold discoveries on the North Island on the Coromandel Peninsula saw a short term renaissance but after 1930 and WWII gold production became almost dormant with the last mine Blackwater closing in 1951.

OceanaGold revived Globe Progress at Reefton to recover ~600koz between 2006-2017

***Hard rock began on the West Coast at Reefton in the 1870s and after an initial surge declined steadily until 1951.***

***Coromandel took over as production leader after 1890.***

**New Zealand regional gold production by mining type(kg)**




Source: Teara.govt.nz

Gold production resumed at Macraes on the South Island at Otago in 1990 and Waihi in 1988. Both mines are currently operated by OceanaGold.

## 4.1 Historic Production in South Island New Zealand

*Reefton was the main township in rugged topography*

*The valleys and rivers provided excellent alluvial yields for early prospectors.*

*Hard rock mining was a short term affair*

*But over 2moz were recovered from underground mining over 35km of the Reefton line of strike set*

*Blackwater run by Consolidated Gold Fields of New Zealand became the major mining operation*

*Greymouth at the mouth of the Grey River became an important port for gold mining and for timber and coal.*

**History of the Reefton Gold Field**

The Reefton Goldfield has been explored and mined for both hard rock and alluvial gold with a total of 10moz recovered.

Alluvial gold was first discovered in 1866 in Redmans Creek and other discoveries were soon made throughout the area. Several periods of alluvial mining took place over the next 80 years.

Substantial alluvial mining took place on the West Coast with an estimated 8m oz recovered.

The first discovery of auriferous quartz was in 1870 and over 1874-1875 several lodes were mined with a peak over ~30kozpa before declining.

Mining activity at Reefton was revived in 1899 by Consolidated Gold Mines of New Zealand (CGNZ) who operated in the area for the next 55 years when the last of their operations, the Blackwater Mine, closed in 1951.

Total recorded historical quartz lode production to 1951 was ~2 moz.

The line of strike for the ~2moz of underground mining at Reefton extends for around 35km along the primary western lode with important high grade mines on two shorter sub parallel reef structures at Big River and Alexander River to the east. SNG tenements cover each of these.

Probabilities would suggest the main reef structure in the Ordovician Greenland Group extends 30km to the north to SNG's Lyell tenement and also to the south under glacial sediments with SNG tenements covering over 40km of strike.


Source: Google maps

Reefton is just over the watershed and the Inangahua River tributary running through Reefton flows into the Buller River and flows into the Tasman Sea at Charleston. Over 8moz of alluvials are reported to have been recovered in the Reefton region.

*From north to south the gold fields were as follows*

*Golden Blocks (Aorangi)*

*Sams Creek ( not orogenic gold)*

*Lyell*

*Capleston*

*Murray Creek*

*Crushington*

*Globe Progress*

*Big River*

*Blackwater*

*Alexander River*


The focus of Siren's activity is the hard rock endowment for underground mining.

The historic output from the north (Aorangi is also in Ordovician sediments but is about 140km to the north) to the south along the line of lode amounts to ~2moz.

**Underground Gold Production – From North to South**

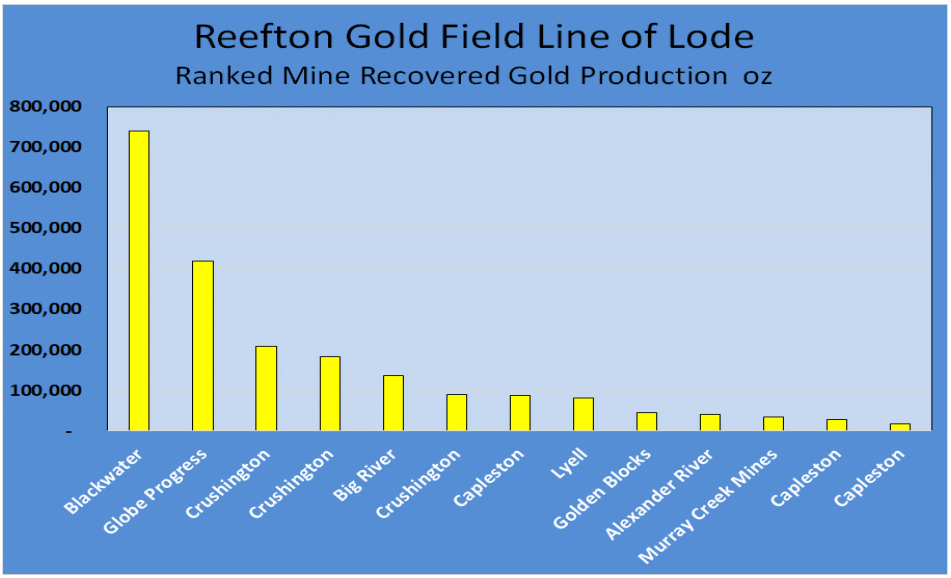
| From North to South Underground Production | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Production | | Recovered | Percentage |
| Rank | Mine Name | Goldfield | Mine Area | Tonnes | Ounces | Grade (g/t | of Total oz |
| 9 | Aorangi | Golden Blocks | Golden Blocks | 22,464 | 26,000 | 36.0 | 1.2% |
| 8 | Alpine United | Lyell | Lyell | 149,024 | 80,514 | 17.0 | 3.9% |
| 12 | Fiery Cross | Reefton | Capleston | 24,956 | 27,843 | 34.8 | 1.3% |
| 7 | Welcome / Hopeful | Reefton | Capleston | 44,867 | 88,607 | 61.4 | 4.2% |
| 13 | Just-In-Time | Reefton | Capleston | 13,755 | 17,168 | 38.8 | 0.8% |
| 11 | Murray Creek | Reefton | Murray Creek | 52,943 | 33,887 | 19.9 | 1.6% |
| 6 | Ajax / Golden Fleece | Reefton | Crushington | 136,642 | 89,636 | 20.4 | 4.3% |
| 3 | Wealth of Nations | Reefton | Crushington | 458,034 | 208,980 | 14.2 | 10.0% |
| 4 | Keep-it-Dark | Reefton | Crushington | 333,780 | 182,616 | 17.0 | 8.7% |
| 2 | Globe Prog | Reefton | Globe Prog | 1,062,727 | 418,345 | 12.2 | 20.0% |
| 5 | Big River | Reefton | Big River | 124,060 | 135,965 | 34.1 | 6.5% |
| 1 | Blackwater | Reefton | Blackwater | 1,603,157 | 740,403 | 14.2 | 35.4% |
| 10 | Alexander River | Reefton | Alexander River | 48,492 | 41,089 | 26.4 | 2.0% |
| Total Underground Production | | | | 4,074,901 | 2,091,053 | 16.0 | 100% |

The ranking of the goldfields puts **Blackwater** a clear leader with **Globe Progress** being an initial underground (418koz) and later open cut (612koz) mine operated by OceanaGold over the period 2006-2017..

**Underground Gold Production - Ranked by Gold Production**

| Reefton Goldfield | | | | | |
|---|---|---|---|---|---|
| | | Underground Production | | Recovered Grade (g/t | Percentage of Total oz |
| Rank | Mine Name | Tonnes | Ounces | Au) | Au |
| 1 | Blackwater | 1,603,157 | 740,403 | 14.2 | 37.1 |
| 2 | Globe Progress | 1,062,727 | 418,345 | 12.2 | 21.2 |
| 3 | Wealth of Nations | 458,034 | 208,980 | 14.2 | 10.6 |
| 4 | Keep-it-Dark | 333,780 | 182,616 | 17.0 | 9.2 |
| 5 | Big River | 124,060 | 135,965 | 34.1 | 6.9 |
| 6 | Ajax / Golden Fleece | 136,642 | 89,636 | 20.4 | 4.5 |
| 7 | Welcome / Hopeful | 44,867 | 88,607 | 61.4 | 4.5 |
| 8 | Alexander River | 48,492 | 41,089 | 26.4 | 2.1 |
| 9 | Murray Creek mines | 52,943 | 33,887 | 19.9 | 1.7 |
| 10 | Fiery Cross | 24,956 | 27,843 | 34.8 | 1.4 |
| 11 | Just-In-Time | 13,755 | 17,168 | 38.8 | 0.9 |
| Total Underground Prod | | 3,903,413 | 1,984,539 | 15.8 | 100 |

SNG's **Big River** and **Alexander River** were the 5th and 8th largest mines by output.



## *Siren locations*

***Sams Creek***

***Lyell Goldfield***

***Reefton Goldfields***

***Key mines in the Reefton history.***

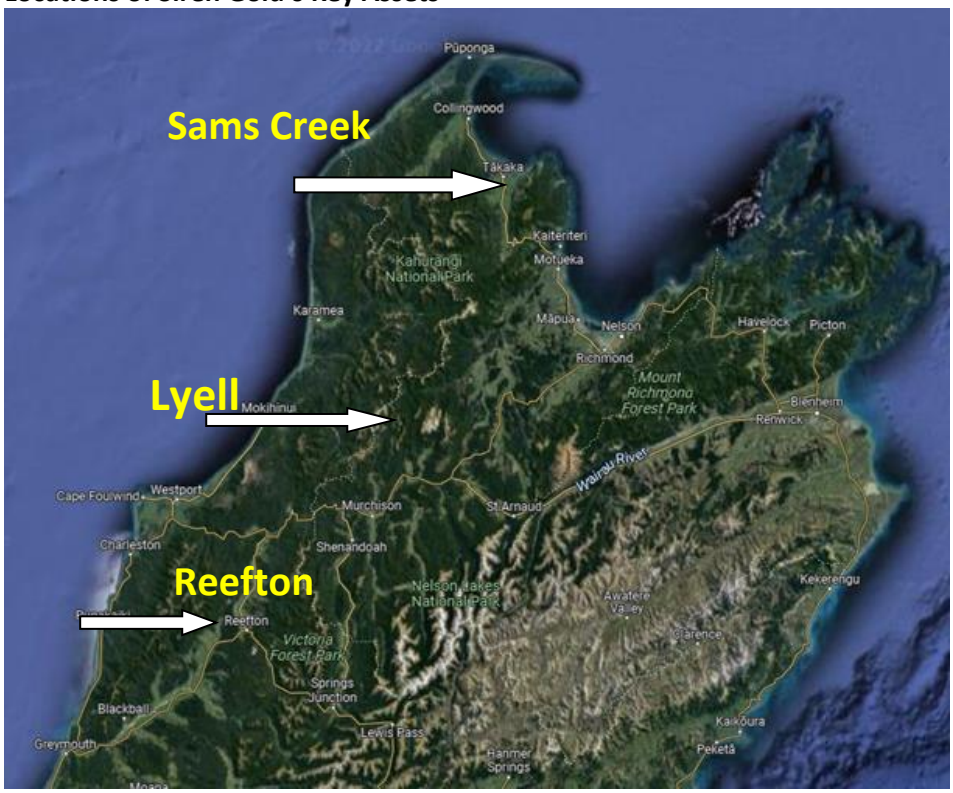
***Big River***

***Blackwater***

***Alexander River***

***Globe Progress***

**Locations of Siren Gold's Key Assets**




The first discovery of auriferous quartz in the Reefton area was made in 1870 in the headwaters of Murray Creek and several small mines began production from a number of lodes.

The **Big River Mine** operated in two periods 1880 to 1887 and subsequently in 1927 to 1934 and produced approximately 136koz at 34.1 g/t.

**Consolidated Goldfields NZ** operated in the Reefton area from around 1900 until the last of the operations at the **Blackwater Mine** closed in 1951 after producing ~740koz.

The **Alexander River Mine** was the last deposit on the Reefton goldfield to commence mining and was a series of shoots along a sub parallel structure ~7km east of the main Reefton line of lode. From around 1920 until its closure in 1943 gold was produced here for an average recovered grade of 26.4g/t.

**Globe Progress** produced 412koz as an underground mine until 1926 and was revived as an open cut over 2007-2016 by OceanaGold and produced 600koz.

**Federation Mining** acquired an option over the Blackwater Mine and surrounding tenement from in 2018 with transfer to take place upon a Final Investment Decision (FID) after the current exploration decline project is complete.

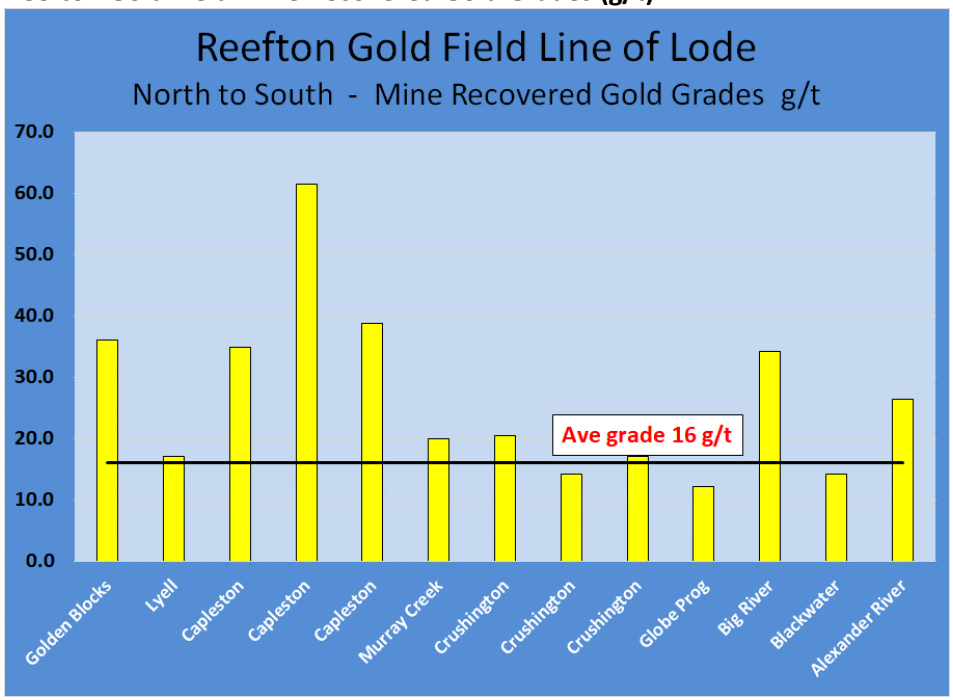
A resource of 700,000oz @ 23g/t has been identified with additional 200koz potential down dip and exploration potential.

***Reefton goldfields had a weighted average of around 16g/t Au***

For the Reefton gold mines the average grade was 16g/t over ~2moz with SNG's Alexander River and Big River being much higher than the average.

**Reefton Gold Field Mine Recovered Gold Grades (g/t)**

***Big River and Alexander River each had higher than average grades***



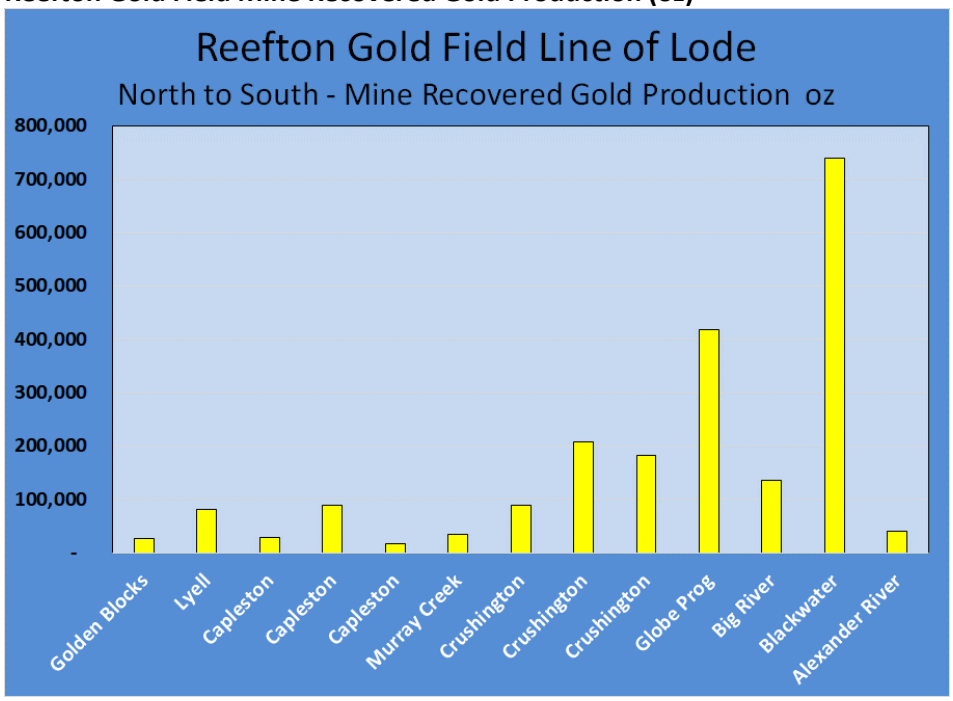

***Blackwater was by far the biggest…***

***..then Globe Progress…***

**Blackwater** was by far the largest followed by **Globe Progress** undeground. Globe Progress was later mined as an open cut.

**Reefton Gold Field Mine Recovered Gold Production (oz)**

***SNG's Big River and Alexander River were the 5th and 8th largest mines***



A large proportion of the mined gold from Reefton was from free gold within the quartz lodes using traditional stamper batteries.

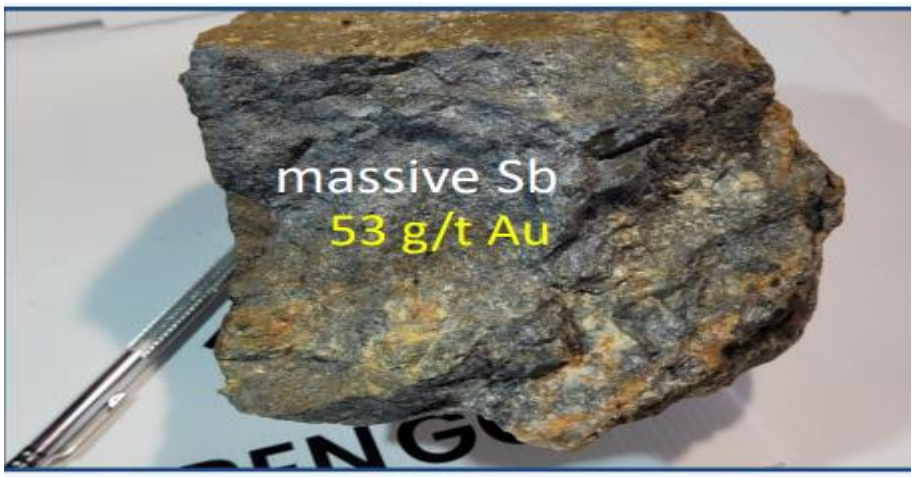
***Much of the gold recovered was free gold crushed and separated in old stamper batteries (batteries of stamper rods that rose and fell on cam shafts to crush the ore)***

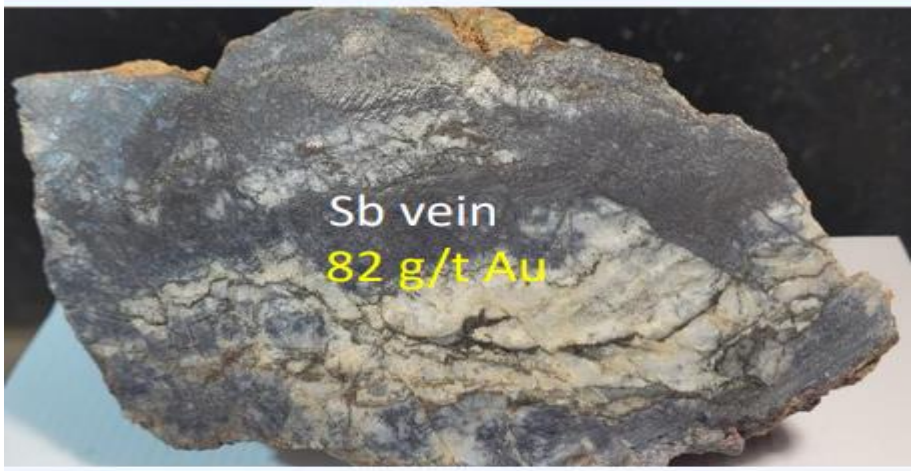
**Historic Stamper Battery at the Lyell Goldfield**

Due to these early gravity process extraction methods and the limits of extractive technology of the day any refractory gold mineralisation from within the sulphides zones was often left behind as this material could not be processed.

***More complex ores with sulphides of iron, arsenic and antimony were impossible to treat at the time...***

***Ore like this with 53g/t gold but with high stibnite (antimony sulphide) were untreatable***




***And this 82g/t material was left as mullock.***

***Interestingly, with the introduction of cyanide recovery Reefton was the first place in the world to apply it to begin to extract gold from the sulphide material.***

## 4.2 THE GEOLOGY OF THE WEST COAST GOLDFIELDS

*The Ordovician-Silurian metasedimentary rocks extend from far north QLD down to Antarctica.*

The geology of the West Coast of the South Island of New Zealand is, as noted, contemporaneous and similar to that of the Lachlan Fold Belt of Eastern Australia.

The same rocks extend from far north Queensland in the Thompson Fold Belt into the Lachlan, through northeastern Tasmania and include NZ West Coast and to Antarctica.

The Hodgkinson Basin found in Far North Queensland also has the same turbidites, compressional structures and associated antimony-gold mineralisation.

**It should be expected that this style of gold mineralisation will become recognised as a major target in eastern Australia and also other parts of the world such as we are seeing with New Found Gold in Newfoundland.**

*These rocks support gold deposits in QLD, down the New England Fold Belt and include the Lachlan Fold Belt starting in NSW, passes through Victoria and Tasmania, include part of New Zealand and extend to Antarctica.*

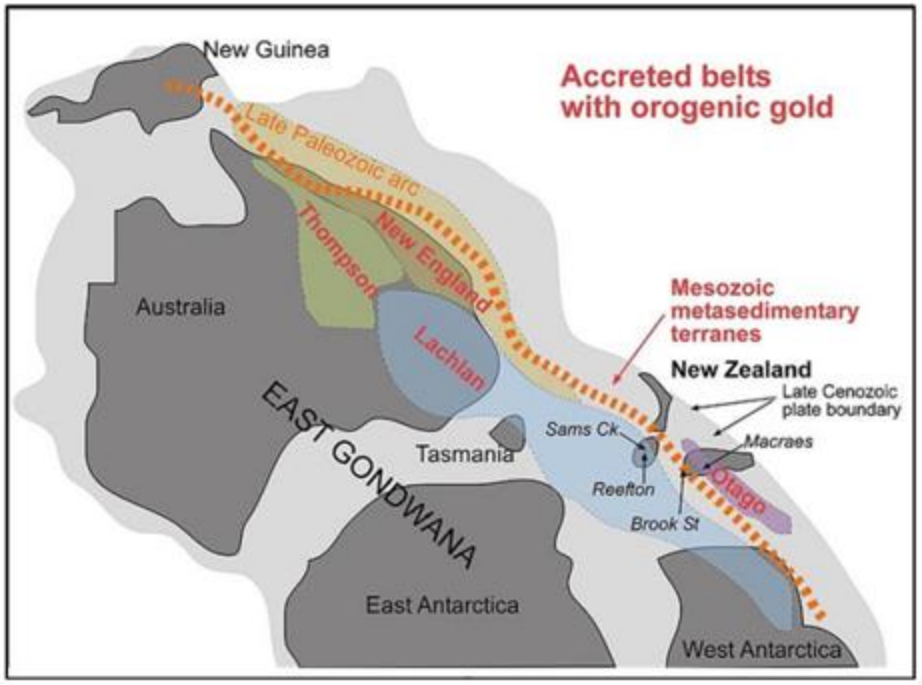



Figure 1. Gondwanaland showing the Lachlan Fold Belt and Reefton Goldfield ([1]Cooper 1992).

*these rocks are turbidites of shales and sandstones that have undergone low grade metamorphism.*

The Reefton Goldfield is situated in late Cambrian to Ordovician Greenland Group sedimentary rocks. These rocks consist of turbidite sediments derived from the erosion of island arc landmasses and have undergone a late Silurian to mid Devonian low grade metamorphism.

*Compressional forces develop anticlinal structures in these often brittle settlements.*

Subsequent deformation due to east-west compression resulted in the formation of tight and upright, north-south trending fold axes as seen in the Victorian goldfields,

As deformation progressed, fold hinges were commonly stressed and allowed quartz veins to run through reverse faults and also between bedding planes where there was a change in rock competency from siltstone to sandstone bedding planes.

*Mineralizing fluids deposit gold along anticlinal axes Anne between planes of sediments strata.*

These anticlinal fold structures are very common in Victoria.

These shear zones host the bulk of the gold mineralisation in the Reefton Goldfield and are thought to have formed as a late stage event at the end of the tectonic defamation period.

*Reefton and Fosterville have very much in common*

This is exactly the same as at Fosterville where the late stages associated with the Benambran orogeny provided fluids with very high concentrations of gold with associated antimony mineralisation in these epizonal sections.

The Reefton Goldfield fits of this class of orogenic gold that is formed at a relatively shallow crustal level.

*Reefton Goldfield fits within this grouping and shows it was formed at relatively shallow levels.*

*An idealised diagram of distribution of rocks and minerals..*

*Shallow deposits are EPIZONAL,*

*Deeper deposits are MESOZONAL,*

*The Deepest are HYPOZONAL.*

*Fosterville and parts of Reefton (Alexander River) are considered epizonal..*

*…with characteristic arsenic and antinomy sulphides*

*Victorian goldfields were same types of sediments and experienced the same compressional forces around the same times*

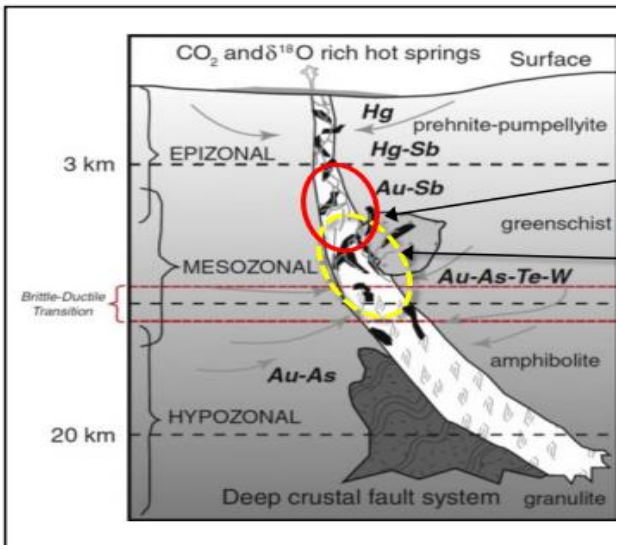
*Reefton and Fosterville have very much in common*

*The first stage was the quartz veins*

*The second stage was associated with the sulphides*

Surface surveys have shown that the encountered main textures and arsenic and antimony sulphide minerals are characteristic of the high level epizonal gold deposit class that includes the high grade Fosterville mine.

**Distribution of minerals in Epizonal and Mesozonal positioning**




**Fosterville/Alexander River(?)**

**Bendigo**

*Source: modified from GBM Resources*

The extended continuity of mine workings, encouraging but incomplete gold recovery records and the presence of historic crushing facilities indicate the high grade of the ores mined in this area in the past.

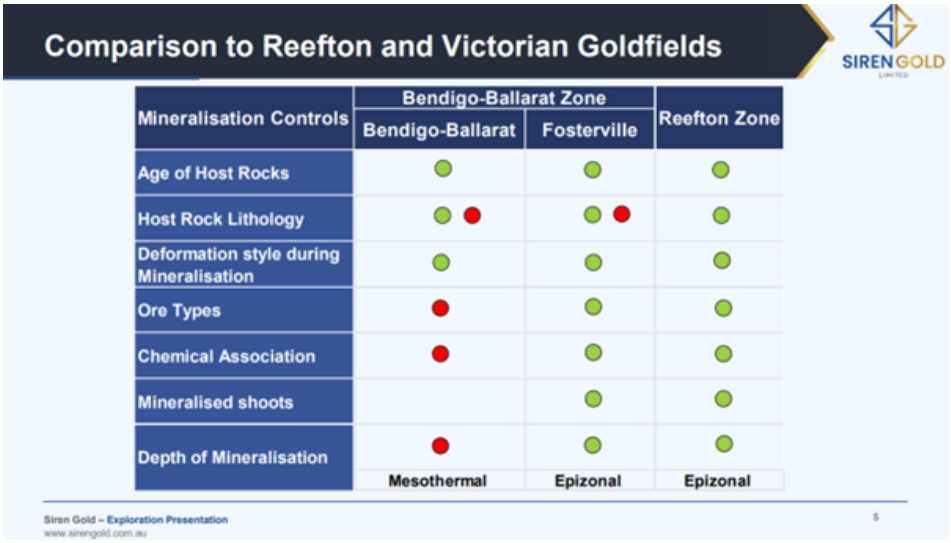
Consequently there is a very strong comparison between Reefton and the Victorian goldfields as seen in this table.

In particular, **Alexander River** and **Fosterville** have much in common.

Alexander River mineralisation is only tested down to 500m below surface in comparison to the high grade gold mineralisation at Fosterville which is around 1300m below surface and 2400m down plunge.

Fosterville has the disseminated arsenopyrite gold down to 800m and beyond that the arsenopyrite gold is joined by stibnite (antimony) gold mineralisation which dominates.

Below 1350m the gold is free of arsenopyrite and stibnite.




Source: Siren Gold

The gold mineralisation in Victoria is associated with two main events of 445Ma and 380Ma.

***Victorian goldfields were same types of sediments and experienced the same compressional forces around the same times***

The 445Ma event (the Taberabberan) involved crustal compression and the subsequent circulation of fluids that form gold deposits at Bendigo, Castlemaine, Maldon and Daylesford.

The 380Ma event (the Benambran) was restricted to the Melbourne Zone and the eastern part of the Bendigo Zone and was responsible for the source of the high grade gold at Fosterville and elsewhere where it was typically found in these late stage faulted veins.

This tectonic activity divided orogenic gold mineralization in Victoria into two distinctive subtypes.

The subtypes were

- deeper (6-12km) mesothermal deposits that formed almost all the significant gold deposits in the Bendigo Zone and also the Stawell Zone
- Shallower epizonal (<6km) epizonal gold deposits in the Melbourne Zone and eastern Bendigo Zone, including Fosterville.

This latter gold mineralizing event is characterised by arsenopyrite and pyrite-hosted refractory gold and stibnite associated gold indicative of shallower emplacement depth.

***Reefton and Fosterville have very much in common***

Gold mineralisation in the Reefton goldfield also appears to have two distinctive emplacement events.

***The first stage was the quartz veins***

- The first stage comprised gold mineralized quartz veins
- the second is characterised by quartz, stibnite, arsenopyrite, pyrite and gold.

***The second stage was associated with the sulphides***

Epizonal characteristics with associated stibnite appears very common in many of the Reefton veins.

Further examples of Fosterville-styled mineralisation are at Big River where stockpiled historic mullock discarded at the local battery as untreatable but when recently assayed provided 62-82g/t gold and 20% stibnite.

The geology of SNG's tenemens is as follows:-

### 4.1.1 ALEXANDER RIVER GEOLOGY ARP

***Alexander River has the arsenic, iron and antimony sulphides..***

**Alexander River Project** is Siren's most advanced project and has historic gold production of 41koz @ 26.4g/t.

***It is SNG's most advanced project***

It is located about 10km from Reefton township and is situated in a separate 2km x 7km fault bounded block of the Greenland Group rocks some 5 km southeast of the main Reefton line of lode.

These rocks are similarly metamorphosed and are the primary host rock for gold mineralisation.

The quartz lodes at the ARP are fissure reefs hosted by a northeast trending shear zone plunge shallowly to the northeast within this shear.

Gold occurs as visible gold in quartz reefs and disseminated gold associated with arsenopyrite and, to a lesser degree, pyrite.

### 4.1.2 BIG RIVER PROJECT GEOLOGY BRP

*Big River is the second on the SNG priority list.*

The Big River Project is the second priority for SNG and had total mine historic gold production of approximately 136koz of gold from around 124k tonnes for an average recovered grade of 34.1g/t.

*It is also open at depth and along strike*

It is located 15km southeast of Reefton and the tenement area has the same Ordovician Greenland Group Formation rocks.

These rocks are weakly metamorphosed and are the primary host rock for gold mineralisation with two anticlinal fold hinges likely to have played a critical role in the distribution of the mineralisation.

The ore shoots here are hosted within the steeper dipping mineralised faults related to the anticline hinge zone.

*The lower portion of the Big River permit is operated as the Saint George Project.*

Several smaller mines were also worked in the area including **Big River North**, **Big River South**, **Prima Donna** and **Saint George**.

The lower half of the Big River Project tenements has been assigned to a separate **Saint George Project** covering over 5km of mineralised trend of quartz reefs similar the Birthday Reef at the key Blackwater Mine.

*Similar geology to the Blackwater mine.*

The northwest striking faults control mineralisation and current thought is that the Big River South and Saint George rocks could host significant mineralisation, similar to the high-grade Blackwater style deposits.

### 4.1.3 LYELL PROJECT GEOLOGY

*Lyell Project in 40km north of Reefton.*

The Lyell Project is located about 40km north of Reefton and has historic gold production of 91koz gold at 18.4g/tAu.

*Similar rocks…*

The Lyell goldfield is the northern extension of the Reefton Goldfield and is also within the Greenland Group metasediments. These Ordovician sediments have been intruded by or have been in fault contact with Cretaceous granites and diorites.

*Highly compressed strata..*

The Greenland Group here has been compressed so the resulting tight anticlines and high angled shears become the avenues for the main mineralised zones.

The gold tends to occur primarily in narrow high-grade quartz veins controlled by fold-related high-angle shears and faults.

*Alpine United Mine was the major producer*

The main gold deposits include the **Alpine United**, **Tichborne** and **Break of Day** mines.

The most significant mine, the **Alpine United Mine**, indicates metasediments form a tight anticlinal structure within the broader syncline (informally Lyell Synclinorium) and its mined gold-bearing quartz veins appear to have been deposited within the sheared steeply-dipping axial plane of the anticline.

## 4.1.4 REEFTON SOUTH PROJECT GEOLOGY RSP

*The Reefton South project has the same Greenland Group metasediments..*

The northern section of the RSP area is dominated by the typical Greenland Group low level metamorphosed shales and sandstones.

Most of the southern portions are covered by Quaternary glacial till and other alluvium.

The Reefton "Line of Lode" structures of NNE-SSW trending anticlines and synclines are followed southwards to the overlying gravel on the south side of the Snowy River. The structures are inferred to extend further to the south with potential for gold mineralisation

*… but most of the tenement is covered by glacial moraine masking the underlying rocks..*

In April 2020 SNG engaged Velseis Processing Pty Ltd (Velseis) to re-process a single historical 2D seismic line covering the Reefton South area to determine the position of the underlying Greenland group below glacial deposits.

*SNG took some old seismic and had it re-processed in an attempt to determine the underlying rocks and structures..*

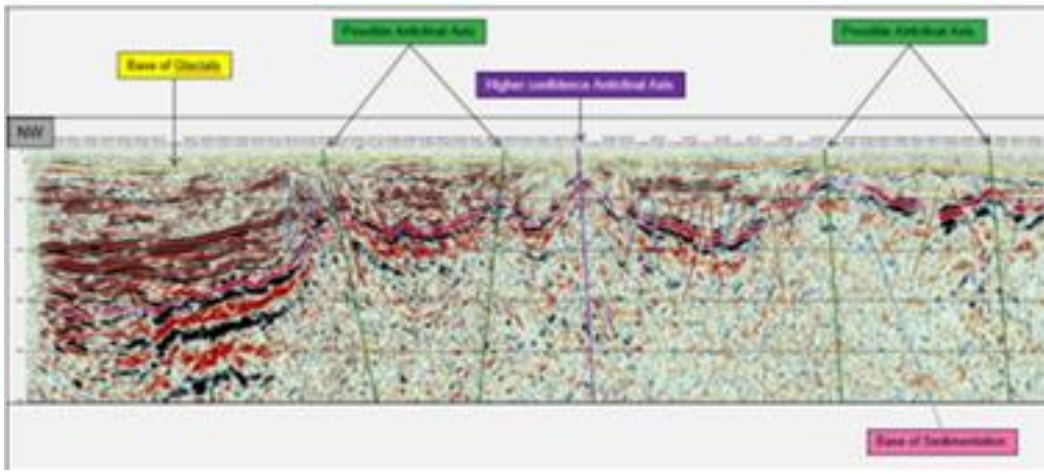
The near surface responses were interpreted as the base of glacial sedimentation with another he deeper interface as earlier Cenozoic sediments.

Beneath these a deeper response was noted from basement rocks interpreted to be those of Greenland Group with potential anticlinal fold axes.

Low levels of confidence have been placed on the direct results given no drilling data exists but given the length of the Reefton Line of Lode structure to the North the indirect evidence suggests it is highly likely that it the interpreted basement will prove to be Greenland Group formation.

*the results were inconclusive but gave good indication up the potential of the Greenland group beneath the gravels and also some structural features like anticlinal axes*

**Seismic line showing `Base of Gravels' (yellow) and `Possible Anticlinal Axes' (green)**

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# 5.0 SIREN GOLD PROJECTS

## *5.1 REEFTON REGION*

*Reefton renaissance Includes*

The Reefton region is experiencing a renaissance with three new groups assessing tenements and undertaking development In this quality historic high grade goldfield.

*Federation Mining*

Unlisted company **Federation Mining** is acting upon earlier work done by OceanaGold at the old Blackwater mine and has commenced an exploration twin-decline down to 700 metres below surface where it will carry out resource drilling before moving to Final Investment Decison (FID) onto whether to go ahead with a 70kozpa mine from a resource grade of 23g/t. Federation is also carrying out near-mine exploration.

*Reefton Goldfields*

Eric Sprott and Oliver Lennox-King are supporting private company **Reefton Goldfields** in also exploring for Fosterville-style epizonal deposits.

*and Siren Gold.*

**Siren Gold** has embarked on a programme to consolidate key areas of historic production and/or exploration along the entire length of the Reefton Line of Lode as it combines with the extent of the Ordovician Greenland Group Formation stretching from the tip of the South Island down to Greymouth.

SNG has recently acquired the Sams Creek Porphyry Project in the far north of this structure to add to the tenements at IPO and is still seeking to add to its tenement schedule.

The company's most advanced project is **Alexander River** where it is expecting to achieve a maiden resource in early Sept Qtr 2022 and this should be followed later in 2022 by a resource at **Big River**. Scoping studies are underway on decline access to these projects and for a central processing plant.

*Alexander River is the most advanced project*

*Resource expected soon*

The historic mines at Reefton are potentially located on two mineralised corridors.

The **eastern corridor** includes Capleton, Crushington, Globe Progress, Cumberland and Big River.

The **western corridor** extends from Reefton town South with Golden Point, Morning Star, Blackwaterr and Homer mines.

The eastern corridor contains thicker, high sulphur sheared deposits while the western corridor contains low sulphur narrow high grade quartz veins, like the Birthday Reef at Blackwater.

### 5.1.1 ALEXANDER RIVER PROJECT EP60446

The Alexander River Project (ARP) is located 26km south east of the township of Reefton.

The terrain consists of steep and rugged topography with elevations between 300 and 900 metres above sea level and bush covered flats to the South on the banks of the Upper Grey River.

The Project is based on previous mining of a high grade east dipping reef with gold shoots that plunge to the northeast along a northeast trending shear zone.

The mineralisation outcrops for over 1.2 km and is comprised of high grade quartz reefs and disseminated mineralisation.

Surface trenching and channel sampling shows that the mineralisation ranges from 2 to 15 metres thick with an average thickness and grade of 4 metres and 8g/t.

Surface sampling identified four mineralised shoots – Bull, McVicar, Bruno and Loftus, Mackay.

Historically, only the McVicar shoot was mined to any extent and down to 250 metres below surface.

Gold production was 41koz at an average of 26.4g/t.

Prior to Siren, only limited drilling had been completed at Alexander River but Macraes Mining in 1993 filed a report giving resource potential of ~4million tonnes @ >5g/t for ~643koz after significant earlier work by CRA.

***Alexander River structure has a strike trace that follows around the ridge topography***

***Four reefs can be recognised at surface.***

- *Bull*
- *McVicar*
- *Bruno*
- *Loftus-McKay*

***Rock chip sampling is confirming them and follow up drillholes***

***High grade gold and antimony float from McVicar mine***

***Some very good intersections have included:-***

***4.1m @ 10.6 g/t***

***9.9m @ 6.4 g/t***

***2.5m @ 358 g/t***

***2.1m @ 18 g/t***

Siren has now drilled 100 holes and has confirmed that the surface shoots continued for at least 1300 metres down plunge and are still open at depth.

SNG's drilling has proved the discovery of a new shoot below the McVicar West shoot which extends for at least 700m from the bottom of the historic MciVicar mine and is open at depth.

An exploration target of 500 to 700koz @ 5 – 7g/t has been estimated based on three 100m high shoots (Bull, McVicar and Loftus-McKay) that extend down plunge for approximately 1.2km and approximately 500m below surface.

Siren is planning an additional 10,000m of diamond drilling in 2022 and will focus on extending the shoots to around 900m below surface or 2000m down plunge that could match the depth of Blackwater and add another 200koz.

An initial resource target of around 200koz is expected early in the Sept Qtr of 2022.

In comparison, the Blackwater Mine worked to 710m below surface and 1200m down plunge with the recovery of 740koz at an average recovered grade of 14.2g/t..

The twin declines being constructed by Federation Mining at Blackwater are heading to 750m below surface or 2400m down plunge.

The only significant mining took place in the McVicar East shoot where 41koz were produced at 26.4g/t. The shoot was mined down to between level 5 and level 6, 250m below surface, where the dip of the reef switched from East to West dipping.

Only limited tonnage was mined from the West dipping reef on level 6. Below level 6 the McVicar West shoot extends for at least 700m down plunge as ascertained from drilling to date.

ARP is also examining the Bull West shoot and the Loftus-Mackay shoots that also dipped to the West.

**Surface expression of the key shoots – Bull, McVicar, Bruno and Loftus- McKay.**

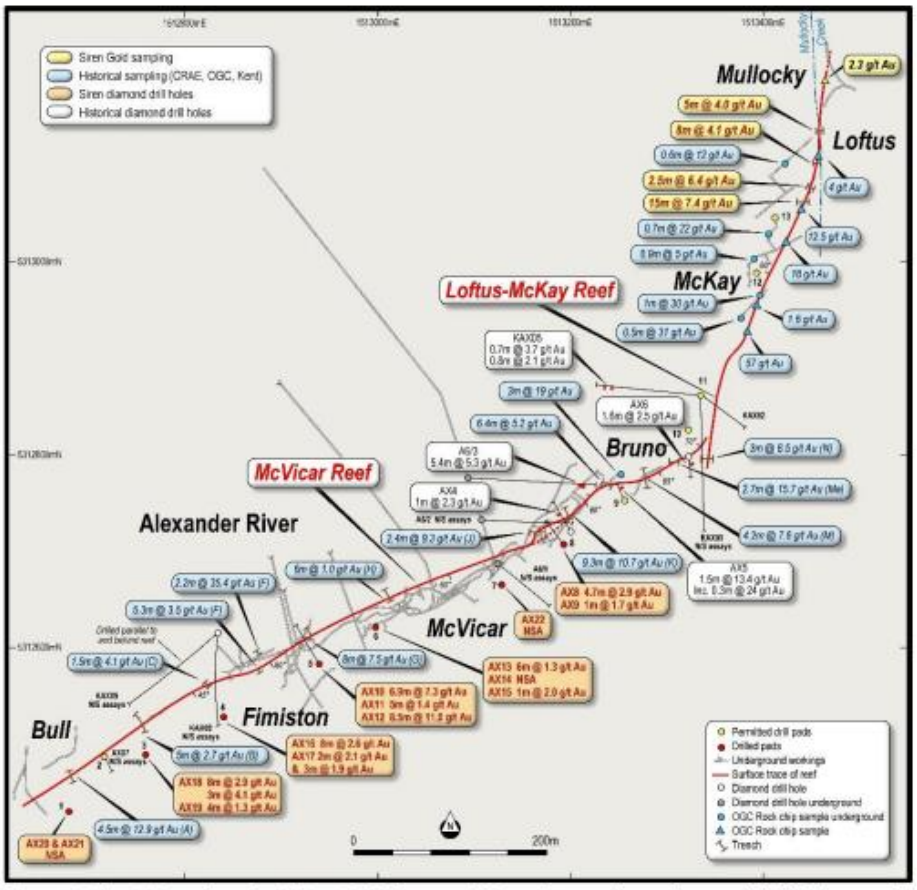



**Figure 2. Plan View showing historical data and Siren channel samples and drill hole results**

Trenching and drilling in the north eastern-most section at Bruno and Loftus-Mackay shoots has produced some good results including

*Very good intersections including*

*Bruno East*

*9.3m @ 16.7g/t*

*Loftus-McKay*

*15m @ 7.4g/t*

*McVicar East*

*8.5m @ 11.0g/t*

*McVicar West*

*Hole AXDDH084 provided some Fosterville-like results*

*2.5m @358g/t including 0.9m @ 1460g/t*

*Possibly more to come..*

*Assays awaited*

**Bruno East portion**

9.3m @ 16.7g/t (trenching)

**Loftus-McKay portion**

15m @ 7.4g/t (trenching)

21.8m @ 2.3g/t (drillhole)

2m @ 26.3g/t (drillhole)

5m @ 9.1g/t (drillhole)

**McVicar East Shoot**

The McVicar East shoot down to #6 level provided **almost all the historic production of 41koz @ 26.4g/t** and consequently is a key initial target as it already provides some access development.

Intersections have included:-

8.5m @ 11.0 g/t (drillhole)

**McVicar West Shoot**

The McVicar West shoot extends below Level 6 with some significant intersections down to 600 below Level 6.

Intersections have included:-

4.1m @ 10.6 g/t (drillhole)

9.9m @ 6.4 g/t (drillhole)

2.5m @ 358 g/t (drillhole)

2.1m @ 18 g/t (drillhole)

Hole 84 provided an outstanding result of 2.5m @358g/t including 0.9m @ 1460g/t which is true Fosterville grades.

This is the deepest hole drilled to date with assay results AX89 was drilled a further 100m down plunge and intersected 2.2 thick strongly mineralized zone with assay results awaited.

SNG has defined an initial resource estimate target area that incorporates only portion of the shoots to give around 200koz and due in early Sept Qtr.

**Bull Shoot**

The Bull Shoot Is divided into Bull East Shoot and Bull West Shoot.

Assay results for Bull East Shoot included:-

4.5m @ 12.9g/t (trenching

7.9m @ 3.3g/t (drillhole)

Bull West Shoot has insufficient drilling to date so is only conjecture at this stage

McVicar East, Bull East, Loftus-McKay, and McVicar West shoots will be included in the initial resource estimate area target.

The overall exploitation target is 500-700koz down to 500m below surface with further exploration potential of another 200koz down to 900m.

Planned holes for the current drilling programme are numbered in this diagram

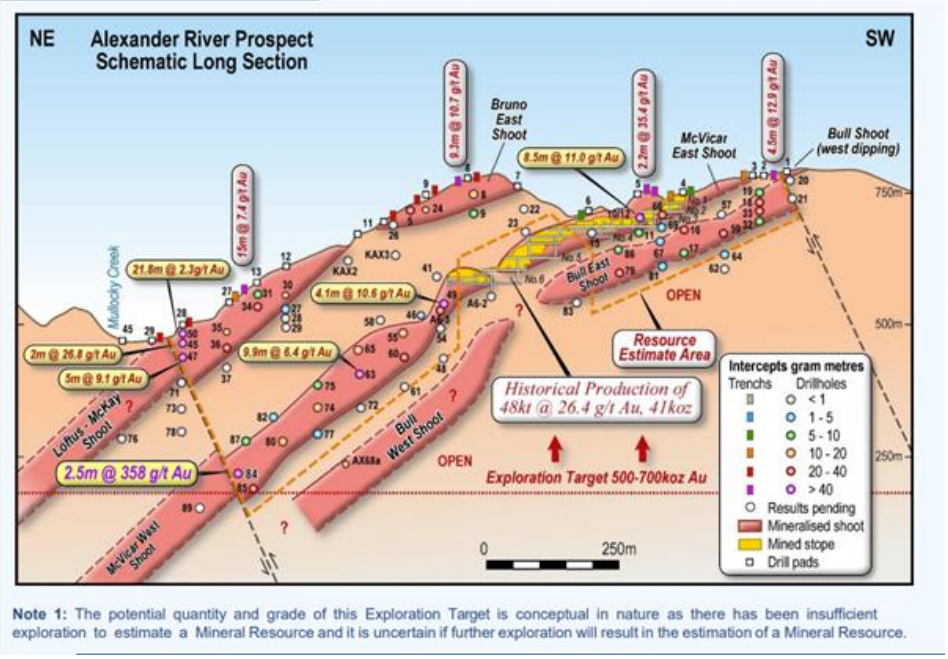
*Diagram shows schematic of shoots..*

**Alexander River Project – Schematic Long Section**

*Loftus McKay*

*McVicar*

*Bull*




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.

**McVicar West Shoot - Drill hole AXDDH084**

*Visible gold in abundance in AXDDH084 drill core*

As noted, a highlight of the ARP to date has been drillhole AX DDH084 providing an exceptional intercept **2.5m @ 358g/t including 0.9m @1460g/t.**

This is true Fosterville style mineralisation and is very encouraging for SNG's concepts.

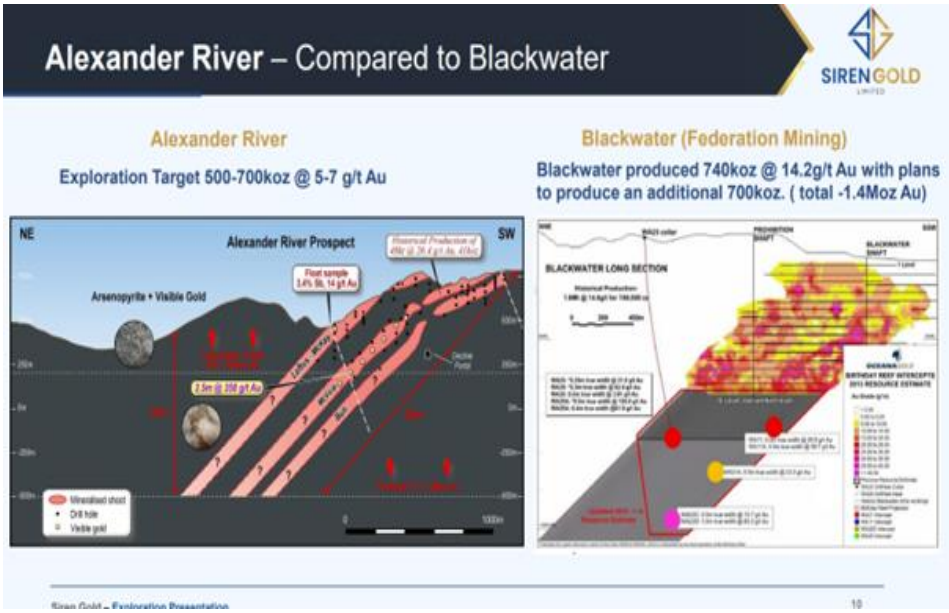
Visible gold is in the quartz and further mineralisation in the metasediments.


**SNG sees continuity of each of these three currently identified shoots down a further 250 vertical metres and a total of around 2000m down plunge.**

Such continuity would make potential resources of 1.0-1.2moz.

There is a strong correlation with the character of the Blackwater Mine which had historically produced 750koz @14.2g/t and has further 700koz as resource. A decline is currently under construction. Different Scale though here.

***Strong comparison with Blackwater***




The Alexander River Project has many similarities with the Fosterville mineralisation with grade, shape and structure as well as the association with antimony and arsenopyrite. SNG considers that deeper drilling could confirm more similarities.

Visible gold is in the quartz and further mineralisation in the metasediments.

***And Fosterville…***

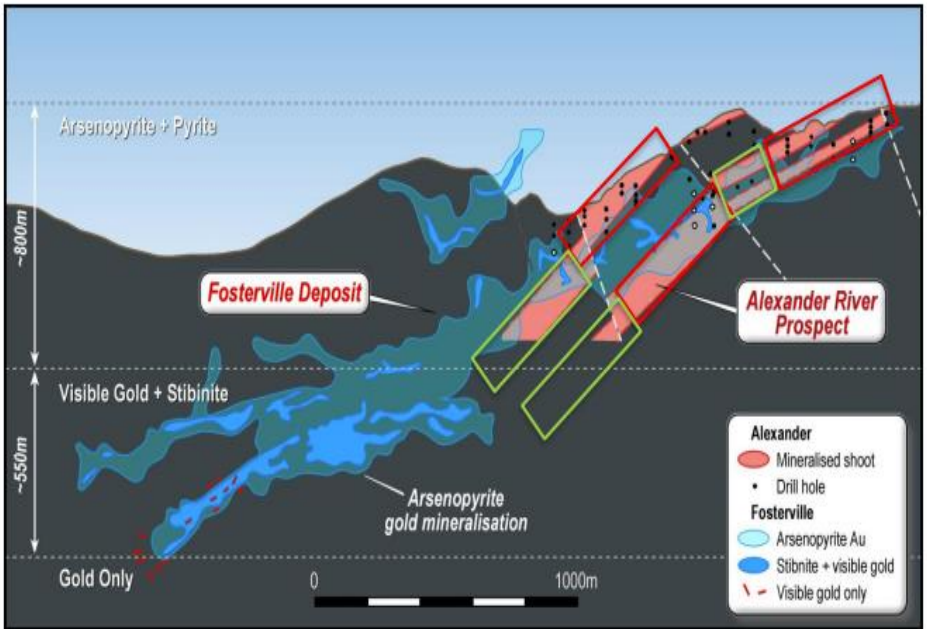
***Alexander River looks like the upper sections of Fosterville.***

***The initial Alexander River resource target is in red boxes***

***The green are the potential extensions***

***Drilling to depth should encounter sulphide-free gold ores***

**Schematic Long Section of Alexander River overlayered on Fosterville**




In this schematic long section Alexander River mineralised shoots ( in red) overlayed on the Fosterville shoots with Alexander River topography.

The red rectangles represent the inferred resource target area.

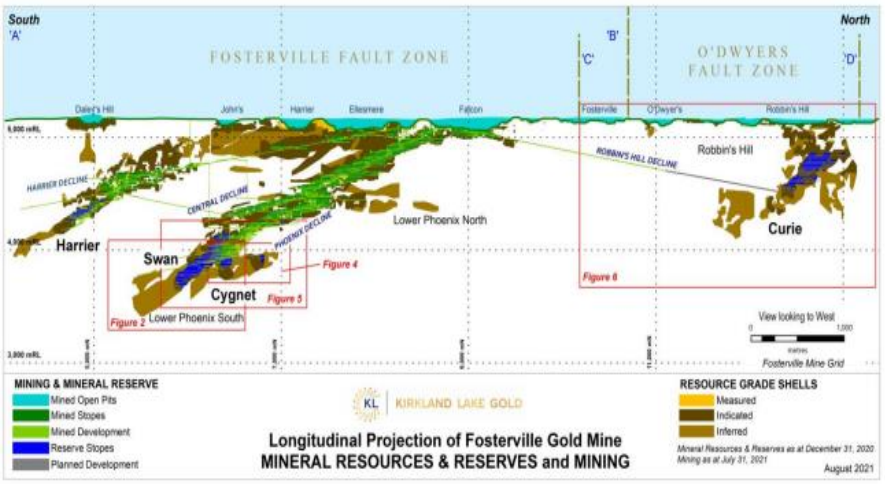
The green rectangles show the potential extension of the shoots down to 600 below surface that will be targeted in 2022.

The blue areas show the extent of the arsenopyrite gold mineralisation at Fosterville with the outlines in a lighter blue indicating visible gold and stibnite.

The Fosterville deposit has been recognised as a remarkable discovery with deeper drilling that led to the proving up of over 2moz In the Swan Zone at the remarkable grade of ~60 g/t and proved up an initial mining reserve of **1.56moz @38.6g/t.**

***The Fosterville mineralisation is extensive..***

**Figure 1. Longitudinal Projection – Fosterville Gold Mine**



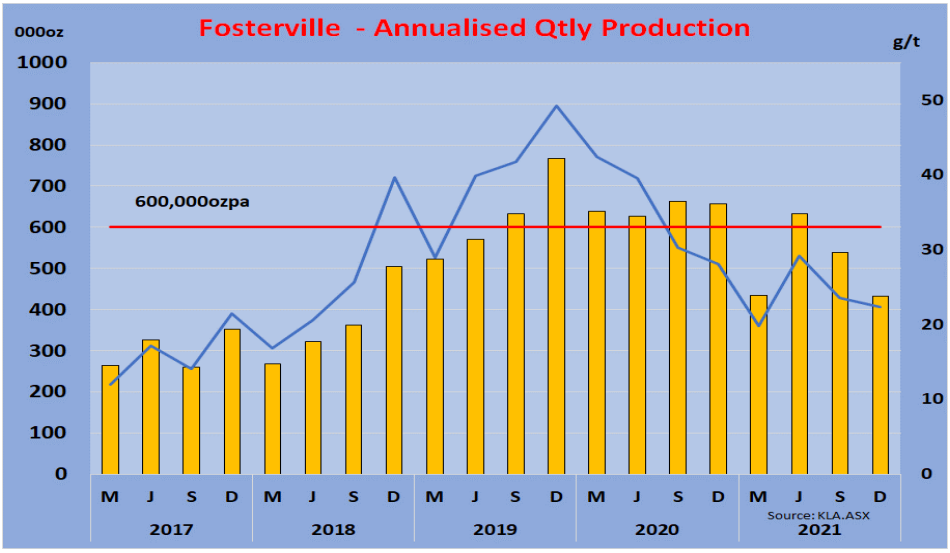

Mining of the Swan Zone began in 2019 and gave the Fosterville mine international fame with production figures of over 600,000ozpa at grades of over 30g/t and low operating costs that made it a world leader.

***Fosterville has been a remarkable gold mine***

***600kozpa and grades over 30g/t.***

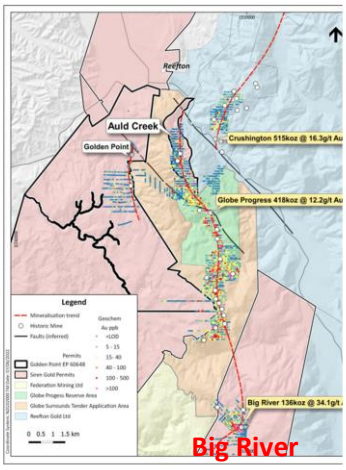
***…but winding down now..***

**Fosterville – Qtly Production data - Annualised production and recovered grade**




*Source: Kirkland Lake*

## 5.1.2 BIG RIVER PROJECT (BGP) (EP 60448)




The Big River Exploration permit is located 15km southeast of Reefton in steep topography with elevations from 400 to 900 metres above sea level.

Gold bearing quartz was first discovered in the BRP area in 1880 but gold production did not begin until 1887 and continued with some breaks until 1927. It was reopened in 1932 and finally closed in 1942, chiefly due to a shortage of skilled labour.

A second stage of mining took place some remining off the upper stopes for a short period over 1938-42.

Historic production is 136K oz @ 34.1g/t and was mined down on 12 levels to 560 metres below surface.

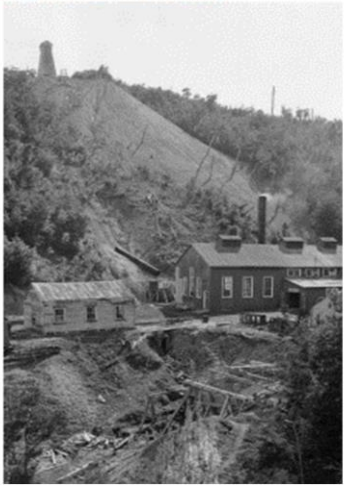
Big River was the 5th largest producer and had double the Reefton average gold grade.

The mineralisation is associated with the Sunderland Anticline shear that extends for at least five km through Big River North, the Big River Mine and the Saint George areas.

The mine is positioned on a sub parallel structure that is about 4km east of the main Reefton Line of Lode and is also only 4km from the Blackwater mine.

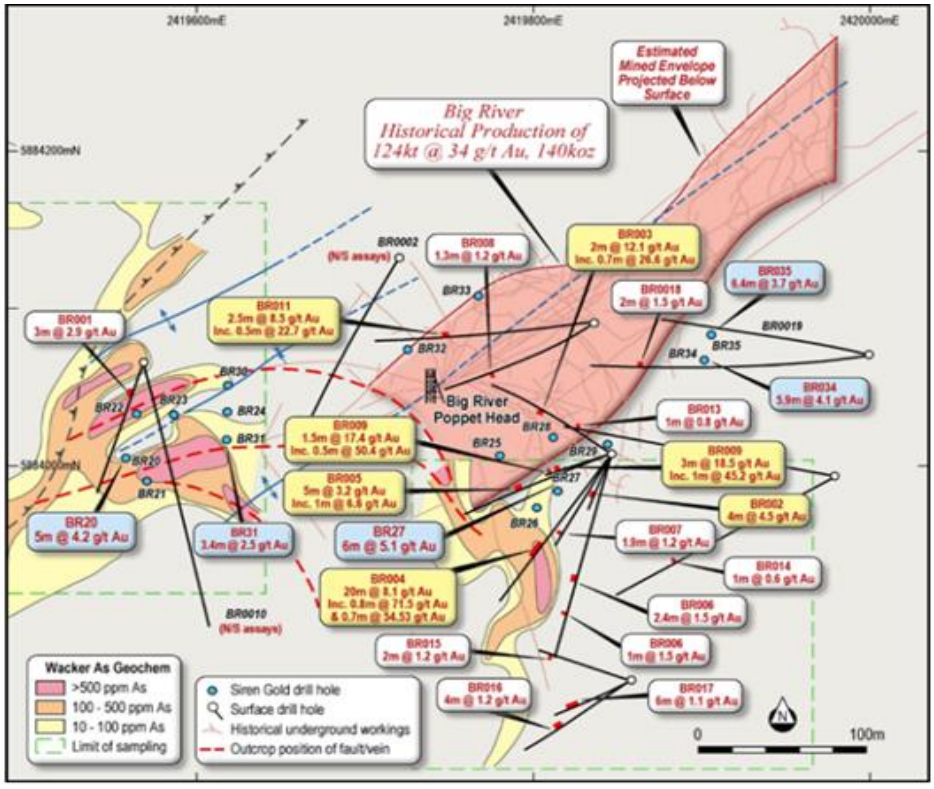
Big River seems to have a similar geology to the Bendigo fields with gold mineralization hosted in the anticline hinges but also showing cross cutting structures similar to Fosterville with high grades.

**Big River in its day**



**Big River mullock scree**

**Big River Gold Project – Plan View of Reefs**




*Source: Siren Gold*

Over 6000m of drilling has been completed at Big River mine. SNG has carried out about 4000m of this.

Visible gold is in the quartz and further mineralisation in the metasediments.

***Big River has four main shoots 1,2,3 and 4…***

***Shoot 4 produced most of the gold and recent SNG drilling shows excellent promise..***

***6m @ 21.4g/t***

***3m @ 18.5g/t***

**2m @ 12.1g/t**
**6m @ 5.1g/t**

**5m @ 4.2g/t**

***Exploration target in 100koz ..***
***…mining in Shoot 3 has been down as deep as 600m at Level 12.***

***Drilling has been even deeper…***

***Prima Donna and A2 were not mined ..***

***So the expectation down to 600m is a 400koz target.***

The historic underground mine workings have been modelled in 3D and this coupled with historic mine reports show that **four main ore shoots were mined** around the main anticline. Shoot 1 was mined to level 4, Shoot 2 to level 6, Shoot 3 to level 12 and shoot 4 to level 8 when the mine closed in 1942. The A2 shoot and Prima Donna were not mined.

Siren has been carrying out exploration with major focus on Shoot 4 with some very significant results including as set out above and indications are that it is open at depth.

Some of the best drill holes in Shoot 4 include

6m @ 21.4g/t

3m @ 18.5g/t

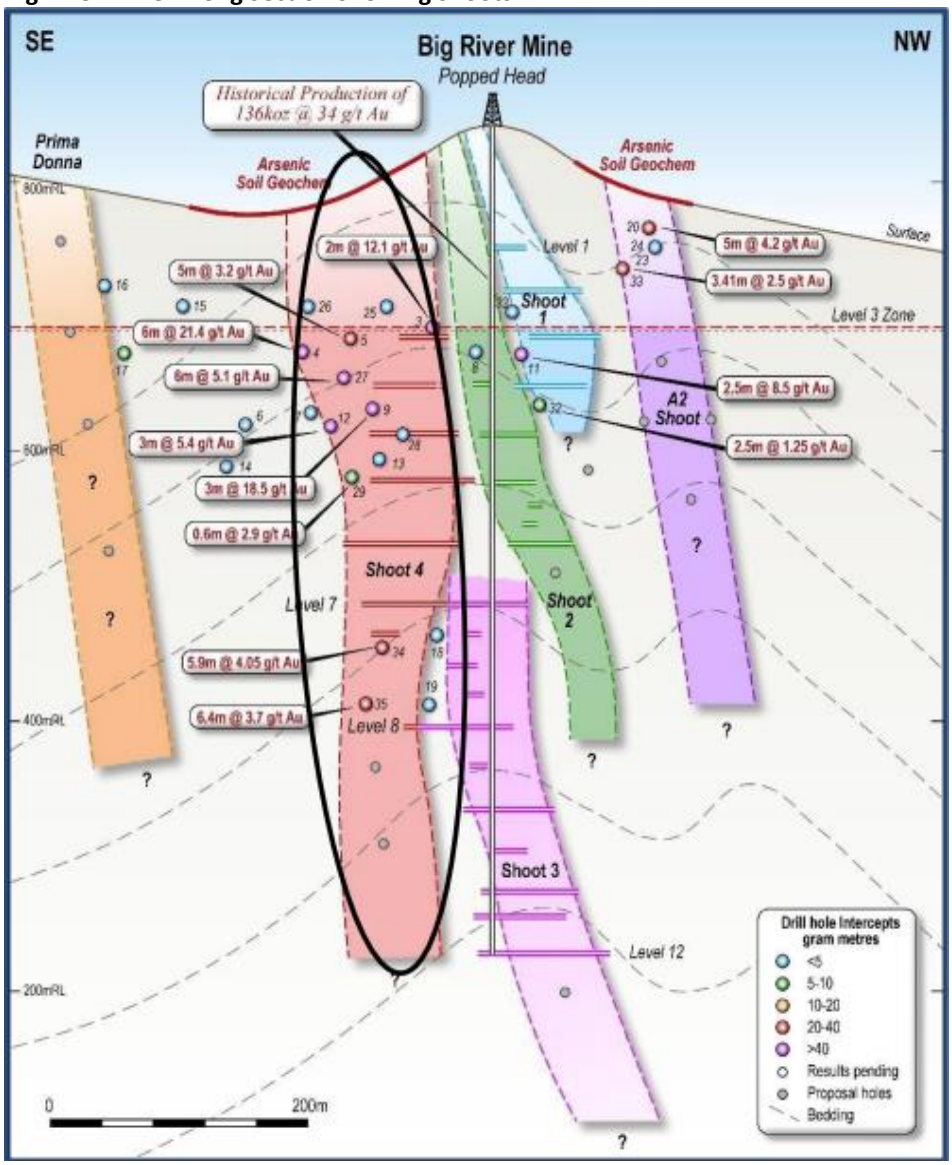
2m @ 12.1g/t

6m @ 5.1g/t

5m @ 4.2g/t

Big River has an **exploration target of 100koz at 7g/t** and should all six shoots continue down to 500 metres **SNG expects a resource of 400koz within 12 months**.

**Big River Mine – Long Section Showing Shoots**




*Source: Siren Gold*

## 5.1.2.1 ST GEORGE REGION PROJECT (EP 60448)

*Project is in the southern half of Big River permit*

Saint George Region Project is located in the southern half of the Big River exploration permit 60448 and is ~16km south of the Big River mine and just 4km east of the historic Blackwater mine.

The Saint George area comprises **Golden Hill**, **Big River South** and **Saint George** historical prospected areas that lay along a single mineralised trend that exhibited gold in quartz reefs.

*The rock chip sampling is backed up by geochem*

**Golden Hill** had a 0.6 to 2m wide quartz reef found in the late 1880s and mining activities produced small tonnages of ore at >7g/t Au. The quartz reef here was traced over a strike length of 900m but has not been folllowed up.

*Single mineralized trend both detected with gold in quartz reefs*

**Big River South** was discovered later as another quartz vein running over 45m with estimated grades of 23-32g/t Au at about 1.5m with visible gold and similarities to the nearby Blackwater mine. Again, no follow upwork has been done.

**Saint George** had some early mining and a 570m adit development with gold ore recovered at over 70g/t from a 1m wide quartz reef. No follow up work has been recorded here.

Big River and these three gold reef quartz veins have been followed up with geochemistry highlighting gold and arsenic.

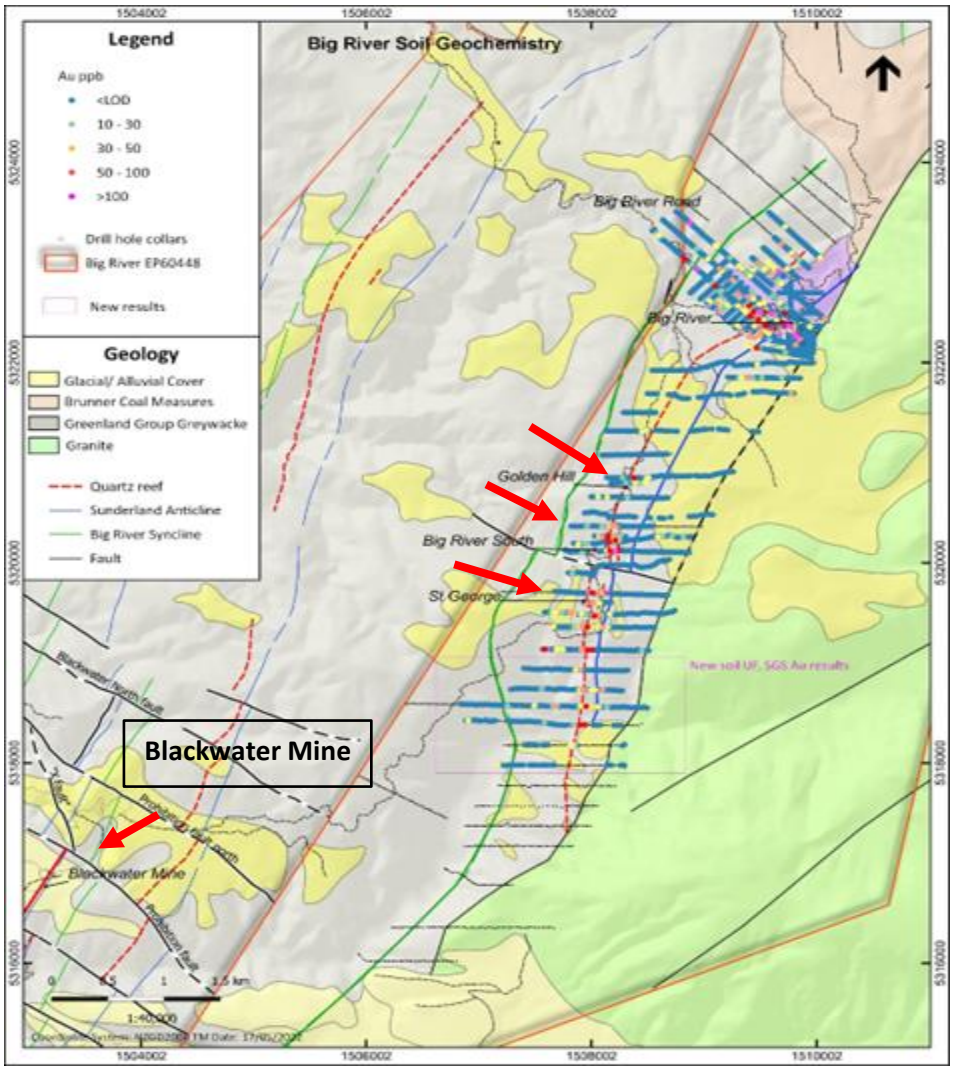
**Geochem sampling results around and south of the Big River Mine**

*Good results at*

*Golden Hill*

*Big River South*

*Saint George*




*Source: Siren Gold*

*Saint George is only 4km from Blackwater to the SW*

The gold and arsenic geochem surveys were initially done around Big River and then to the south along the Saint George mineralising trend.

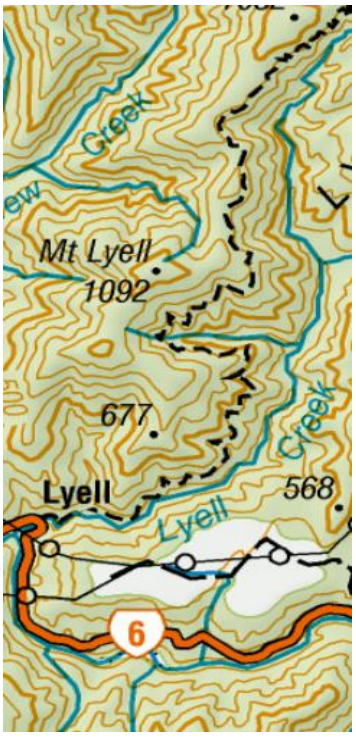
**The southernmost anomaly at Saint George is within 4km of the Blackwater mine.**

## 5.1.1.3 LYELL PROJECT

The Lyell Goldfield is the northern extension of the Reefton Goldfield and is located 40kms north of Reefton. It was the only other significant goldfield on the West Coast.

It had gold bearing quartz lodes worked over a continuous strike length of 5km with key mines **Alpine United**, **Break of Day** and **United Victory** being along this trend. Lyell is also well known for the discovery of numerous gold nuggets with reports of specimens up to 52oz.

Quartz mining commenced in the 1870's, with the Alpine United mine producing the first reef gold in 1871 and over a 42-year period 21 mines produced over 91koz of gold at an average recovered grade of 18.4g/t (see Table below). The Alpine United was by far the biggest and produced ~80koz at 17g/t Au.




***Soil geochemistry highlighted five potential mineralised shoots at***

***1***

***2 United Victory***

***3 Alexander River lookalike***

***4 Break of Day***

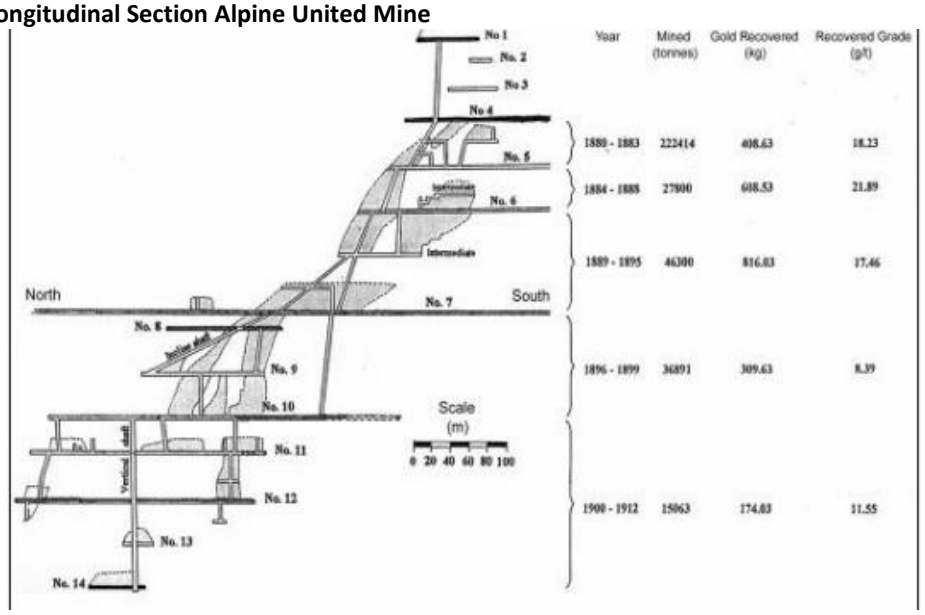
***5 Alpine United***


**Ranking of Lyell Goldfield Mines**

| Rank | Mine Name | Goldfield | Mine Area | Production Tonnes | Production Ounces | Recovered Grade (g/t | Percentage of Total oz |
|---|---|---|---|---|---|---|---|
| 1 | Alpine United | Lyell | Lyell | 149,024 | 80,514 | 17 | 88.1% |
| 2 | Break of Day | Lyell | Lyell | 2,180 | 4,598 | 66 | 5.0% |
| 3 | United Italy | Lyell | Lyell | 513 | 2,219 | 69 | 2.4% |
| 4 | Croesus | Lyell | Lyell | 2,773 | 1,897 | 21 | 2.1% |
| 5 | Tyrconnell | Lyell | Lyell | 201 | 1,672 | 259 | 1.8% |
| 6 | Lyell Creek | Lyell | Lyell | 135 | 450 | 104 | 0.5% |
| Total Underground Production | | | | 154,826 | 91,350 | 18.4 | 100% |

The Alpine United mine was worked by adits and underground shafts from outcrop down to the No 9 Level. The vein is reported as being up to 15m in width, with two 45° north plunging ore shoots worked along a maximum strike length of about 120m.

**Longitudinal Section Alpine United Mine**




*Source: Siren Gold*

Below the No 6 Level cross faulting disrupted the main vein and the displacement block was not rediscovered and caused the closing of the mine in 1905.

The mine was abandoned at a total vertical depth of approximately 490m below surface.

Examination of the Alpine longitudinal section indicates that the ore had split into three narrower discrete shoots at depth with a possibly steeper plunge from that displayed in the upper levels.

.

The Lyell region exhibits good exploration potential with its small historic workings SNG's follow up rock chip sampling and float has provided very encouraging results.

The area has only had 6 diamond drills holes with one providing 2m at 4.6/t and only about 60m from the Break of Day mine which had produced 4600oz.@66g/t.

SNG has carried ~~out~~ these rock chip and geochem surveys over 5 kilometres along this North- South trend up from the Alpine United.

In particular, a 50m long outcrop along this zone between the Break of Day and the United Victory and mines contains disseminated acicular arsenopyrite that looks very similar to the mineralisation found at Alexander River.

Mapping indicates that the mineralisation maybe up to 10m thick.

Rock chip samples along this outcrop ranged from 0.7 to 8.6g/t Au.

***Soil geochemistry highlighted five potential mineralised shoots at***

***1***

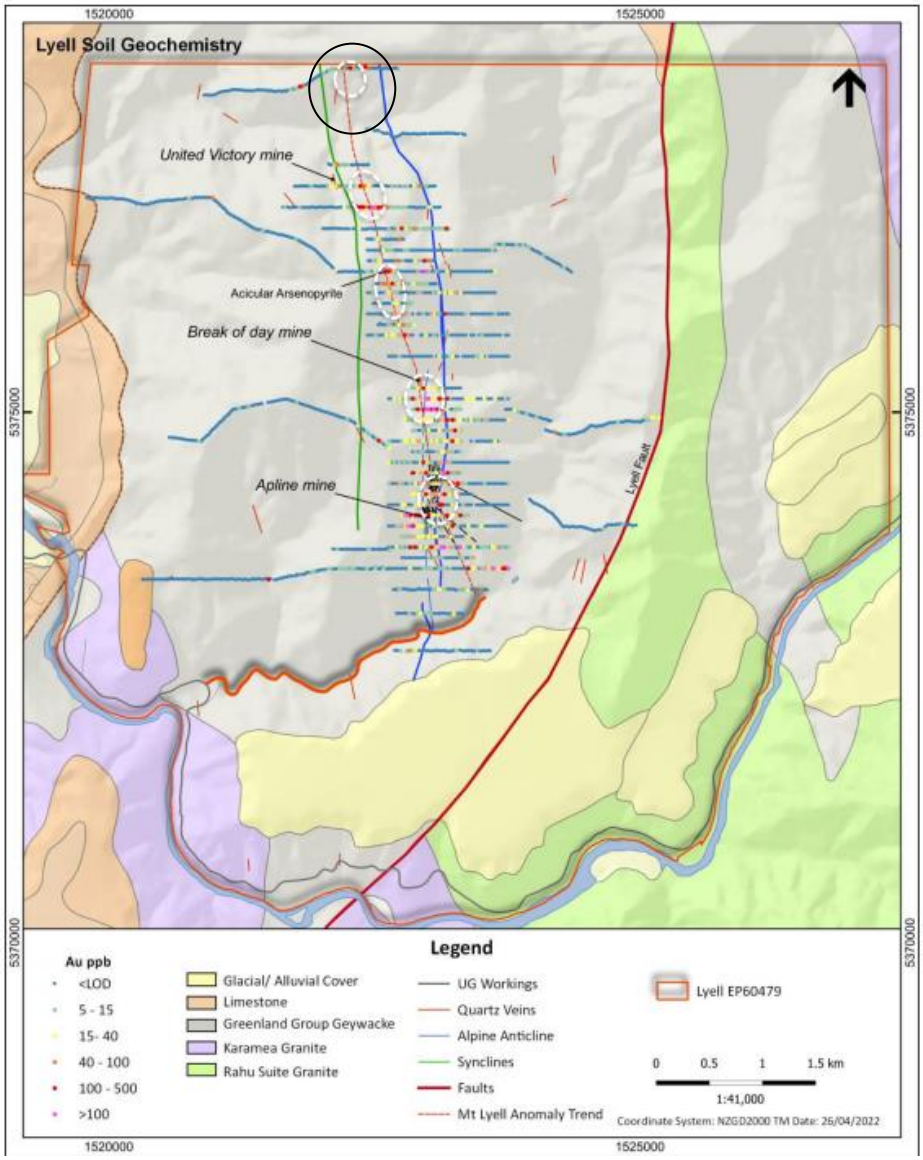
***2 United Victory***

***3 Alexander River lookalike***

***4 Break of Day***

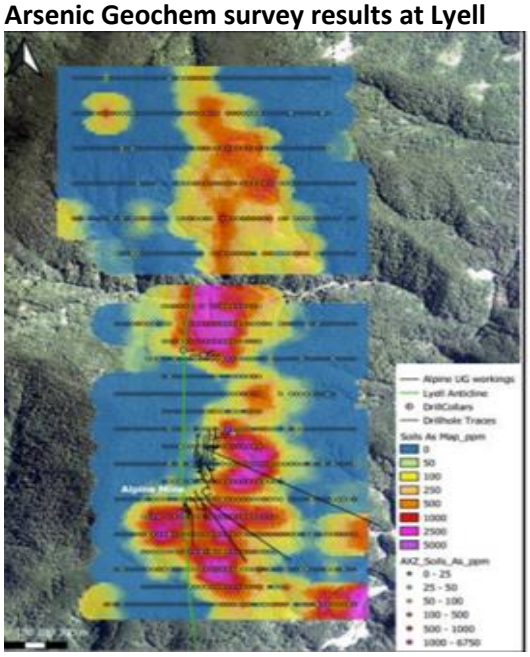
***5 Alpine United***

**Lyell Gold Soil Geochem(white elipses - potential mineralised shoots)**




SNG's Lyell geochem sampling included gold and arsenic. Arsenic is very good pathfinder associated with mineralizing fluids and its concentration is many times that of gold and consequently is easier to map.

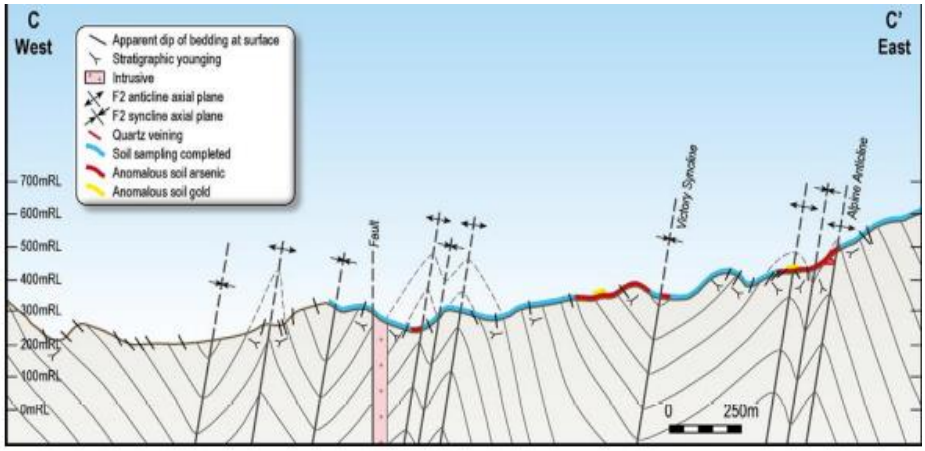
**Arsenic Geochem survey results at Lyell**




***Some very strong arsenic geochem results were achieved along the line of strike***

Mapping by Siren had a particular focus on determining the wider structure of Greenland Group sediments within the permit. The Greenland Group bedding is shown to be folded into a series of north trending folds with east dipping axial planes in the south and west dipping axial planes in the north of the permit.

**Structural Cross Section at Lyell showing folds, faults and geochem anomalies**




*Source: SNG*

***This style of mineralisation might become recognised as more common throughout the West Coast Ordovician metasediments***

***Lyell is very similar to Alexander River***

This is very similar to Alexander River, with east dipping axial planes and the Bull and McVicar east dipping mineralised shoots in the south, and west dipping axial planes and Loftus-McKay, McVicar and Bull West dipping shoots in the north.

The main structure of significance identified during mapping is the Alpine Anticline.

This fold extends along the length of the permit. Quartz veining in the Lyell Creek, Irishmans Creek and in adits 300m south of Eight Mile Creek are bedding parallel, suggesting a saddle reef system developed in the hinge zone.

Quartz veins are mostly milky with occasional smoky grey patches and contain rare fine pyrite and arsenopyrite. Vein thickness is commonly 0.1- 0.4m although 1-4m wide quartz veins have been observed.

***Work is expected on Lyell before the end of 2022***.

**Lyell is an important target for Siren and drilling work is expected during late 2022.**

## 5.1.2. REEFTON SOUTH GOLD PROJECT EP60465

Reefton South is an early stage prospecting permit covering Ordovician Greenland group rocks which are covered by a veneer of glacial moraine.

The rocks here outcrop to the west of Cumberland and Blackwater mines but are buried to the south of Blackwater and have not been explored for hard rock deposits.

Siren considers the Reefton line of lode continues further to the north and has picked up the Waihatu prospect permit for possible continuation of this mineralisation.

### 5.1.2.1 GOLDEN POINT EP 60648

***Golden Point is on sub parallel reef and quite near key large mines at Globe Progress and Crushington.***

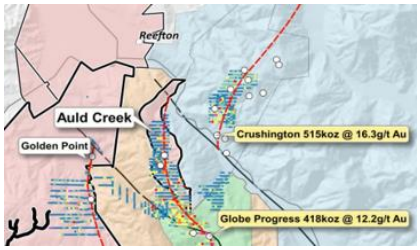
***Total historic production is 1.5moz within a range of 4km***

**Golden Point** is located just south of Reefton township and 3km to the west of **Globe Progress** mine which produced 418koz of gold from an historic underground mine and 600koz from the 2006-2017 open pit operated by OceanaGold.

The mine is also only 4km east of the **Crushington** field that produced 515koz@ 16.3g/t.

Two important small mines noted in the north of the permit are **Golden Point** and **Morningstar**. Golden Point recorded some minor gold ore but Morningstar has no production figures.

This portion of the Reefton Goldfield has been very rewarding with the Golden Point reef itself being mined in the 1880s when 400oz @ 9.4 g/t was recovered.




***Auld Creek prospect sits on continuation of Reefton Line of Lode***

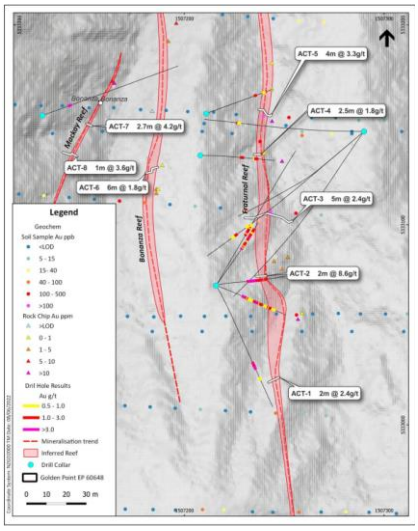
Mapping and soil sampling has indicated that the reef extends for at least 2km along strike to the south of this Golden Point mineralised zone.

Recent drilling by Siren confirmed the extension of the shear zone and a mineralised zone with high arsenic levels with quartz intersection of 2m @ 1.6g/t in GP002 hole.

The **Auld Creek** prospect lies within this permit and sits on a continuation of the Reefton Line of Lode along strike from Globe Progress and only 2km from the Crushington mines.

Two major veins, **Bonanza** and **Fraternal**, have been recognised in geochem sampling over 700m and have each been trenched. 17 diamond holes were drilled by OceanaGold on the Fraternal reef.

Strike length of 100m has been identified at Fraternal with mineralised intersections of up to 13 metres true thickness and down to only 100m.




***This graphic provides a useful breakdown of the Reefton Line of Lode and the various splays and sub parallel reefs.***

Results for gold to date have included:-

6m @ 4.1g/t

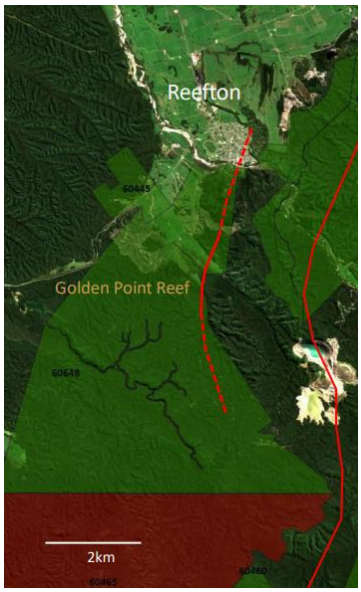
13m @ 1.6g/t

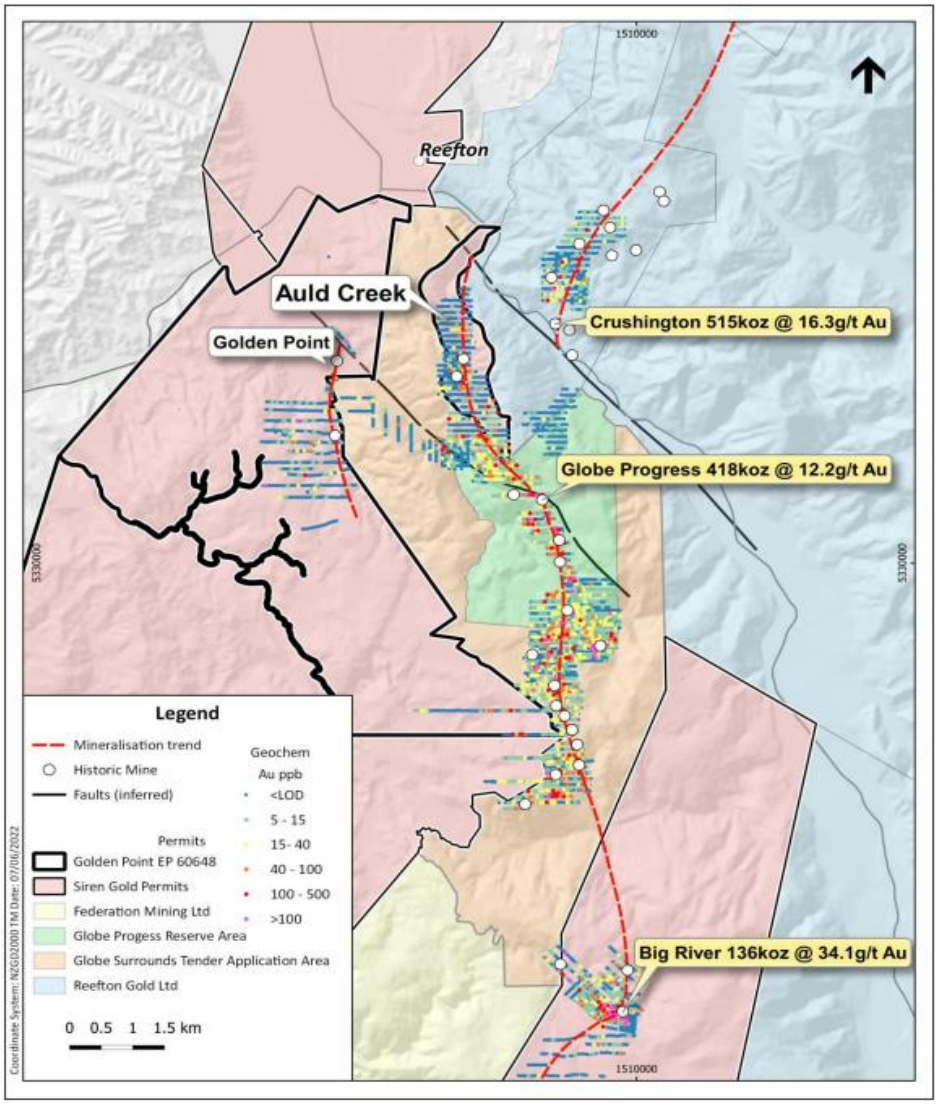
Including 3m @ 3g/t and 3.7m @ 2.6g/t

The Bonanza vein has not yet had a drillhole.

.

***Auld Creek is just south of Reefton***




## 5.1.2.2 BELL HILL EP 60759

***Bell Hill is an early stage exploration target***

This permit was acquired in December 2021 and is located approximately 40 kilometres south of Reefton and abuts the southern boundary of Reefton South tenement.

***..continuation of Greenland Group rocks under glacial cover***

The project contains a continuation of the buried Greenland Group rocks found in the Reefton South permit. There has been no hard rock mining but alluvial gold has been mined from the overlying gravel sourced from Greenland group

## 5.1.2.3 WATAHU

***Another early stage exploration target***

This is a northern extension of Golden Point reef undercover.

.

## 5.2 LANGDONS

***A permit application acquisition to give a larger footprint in this important region.***

***Early reported grades were up to 2,610g/t Au and 1,120g/t Ag.***

***Similarities to Alexander River geology and mineralisation***

SNG has applied for a permit about 15km east of Greymouth covering the Langdons prospect where minor high grade gold was discovered and mined.

A number of high-grade Au-Sb reefs ranging from 0.6 to 2.7m wide were mined with a recovered grade of 60g/t Au. Early reported grades were up to 2,610g/t Au and 1,120g/t Ag.

**Exploration History**

Outcrop in the area is sparse and only minor quartz vein development not removed by historic mining can be identified. Since mining finished in 1952 there has only been very limited exploration in the 1980's, which included mapping, rockchip, stream sediment and soil sampling completed by Tasman Gold Developments.

Anomalous gold, stibnite and arsenic soil geochemistry have been found over a strike length of 500m. Gold and arsenopyrite were also reported in the wall rock. An earlier explorer sampled silicified sheared sandstone with minor quartz stringers and sulphide that assayed 1.1m @ 7.0g/t Au, which may be similar to the disseminated arsenopyrite gold mineralisation found Siren's Alexander River project.

**Exploration – Next Steps**

Once the permit is granted Siren intends to conduct mapping and rock chip sampling over the exposed reefs as well as conducting a UFF Soil sample programme over the 5km x 1km area of exposed prospective Greenland Group rocks.

The potential of this area includes very high-grade gold as well as high grade stibnite.

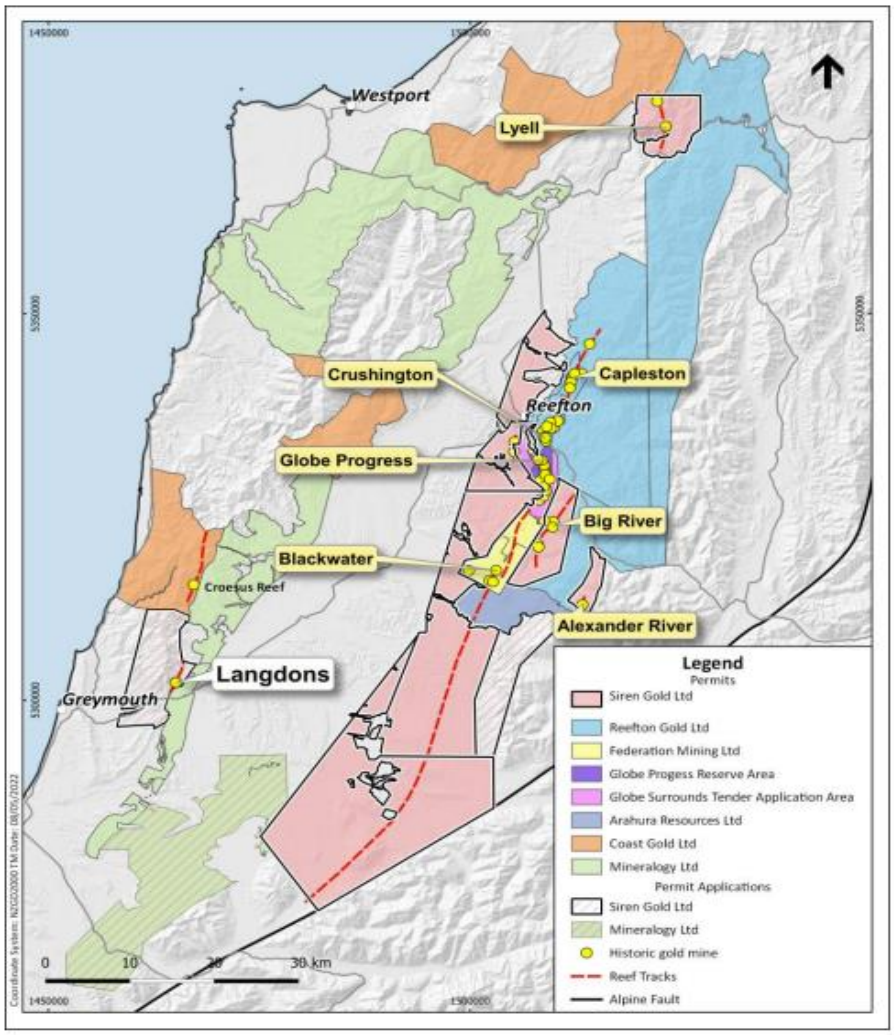



**Figure 1. Reefton tenement map with the Langdons PPA area shown.**

*Source: Siren Gold*

## 6.1 EXPLORATION DECLINE SCOPING STUDY

***Siren has contracted Entech to prepare a scoping study to design exploration declines for Alexander River and Big River***

SNG engaged Entech to provide mine planning and technical assistance to design exploration declines for the Alexander River and Big River gold projects.

The study will focus on the design of underground access declines to allow underground exploration drilling to ~1500m below surface.

The study wil also assess the options for decline development for deeper drilling rather thandrilling from surface.

The results from this study will allow SNG to begin discussions with local authorities regarding construction of the exploration decline.

***The topography will allow access from valleys into lower levels***

This decline will be similar to that being constructed by Federation Mining at Blackwater but would not be as deep.

The study is expected to be completed during the September quarter.

## 6.1 PROCESSING PLANT SCOPING STUDY

***Processing plant would be constructed to treat several types of ore***

SNG has engaged GR engineering services to complete a scoping study to examine the possibility of establishing a central multipurpose processing plant at the Reefton Gold Project with the potential of treating treat all other historic ores from the Reefton Goldfield.

Samples have been subject to various metallurgical tests and results are awaited.

***Ore sorting would reduce operating costs by grinding less ore material and reduce tailings***

The Reefton Gold Project is expected to have several types of ore including potentially ore from the Sam's Creek project 140km to the north.

Depending on metallurgical test work results the plant will likely include a flotation plant to produce a concentrate as well as recovering gravity gold from the quartz veins.

***Plant would need to be small footprint and returning tailings into the mined stopes***

Siren gold has also investigated the use of ore sorting which would work particularly well for the quartz gold ores.

Ore sorting reduces the volume of ore that needs to be crushed, and more importantly, to be sent to a ball mill for grinding.

## 7.0 SAM'S CREEK PORPHYRY PROJECT SCPP

*Sams Creek Dyke intersects the same Ordovician-Silurian metasediments*

SNG has acquired Sams Creek Porphyry Project (SCPP) which is a stranded porphyry gold dyke deposit that cuts across part of the North-South mineralized corridor in Ordovician-Silurian volcanic and metasediment rocks, 140km north of Reefton and is ~40km South of Port Takaka.

The deposit is well served by infrastructure and is close to a main road and the power line from the Cobb hydroelectric dam runs nearby.

The project consists of two tenements:-

- EP54454 exploration permit 100% owned by SCPP
- EP40338 resource-containing permit held in 81.9%:18.1% joint venture with OceanaGold.

The project was acquired for nominal A$250k(at A$5/ resource oz) from Sandfire Resources which had acquired it from MOD Resources in 2020.

*588koz @ 2.43g/t at 1.5g/t cutoff*

*>1.0moz at 0.7g/t cutoff*

The deposit currently has an Indicated and Inferred Resource of **588koz @ 2.43g/t at a cutoff of 1.5g/t** and **1.0moz @ 0.7g/t Au** cutoff.

| Sams Creek - 2013 Resource estimate at 1.5g/t cutoff | | | |
|---|---|---|---|
| Category | Tonnes (M) (M) | Grade Au g/t | Contained gold (koz) |
| Indicated | 5.0 | 2.48 | 402 |
| Inferred | 2.5 | 2.33 | 187 |
| Total | 7.5 | 2.43 | 588 |

Considerable potential exists for additional resources along strike and downdip.

SNG has an exploration target of a further 125koz in the SE Traverse Zone and 100koz as a 12 month target for the Doyles prospect for 800koz.

Longer term target is over 1.1moz at the higher cutoff grade.

The deposit is suitable for underground mining but it would be unlikely for it to be developed as a standalone operation.

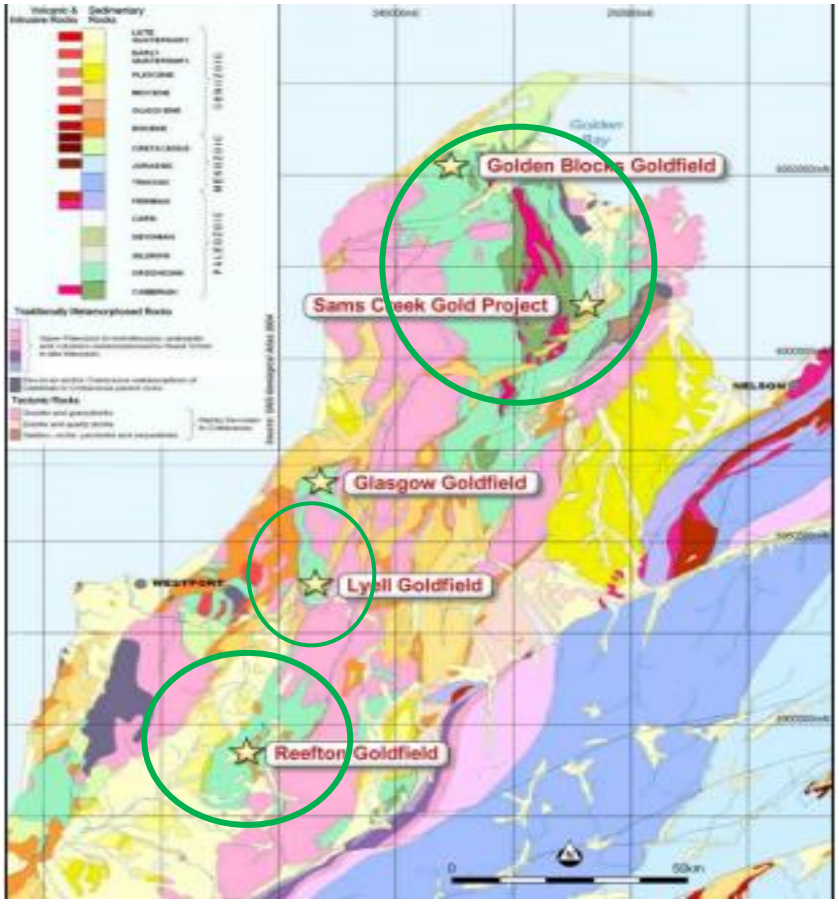
The scoping study being undertaken by SNG for a possible centralised Reefton processing plant will include the potential treatment off Sams Creek porphyry ores.

The regional structure along the Palaeozoic Ordovician-Silurian rocks that includes the Reefton line of lodes extends to the northern extremity of the South Island.

The gold mineralizing events would be the same two identified at Reefton and could be indicative of additional gold deposits along this regional structure corridor.

***The Palaeozoic rocks on West Coast New Zealand appear to have been broken up into several sections as they have been intruded by later age granites..***

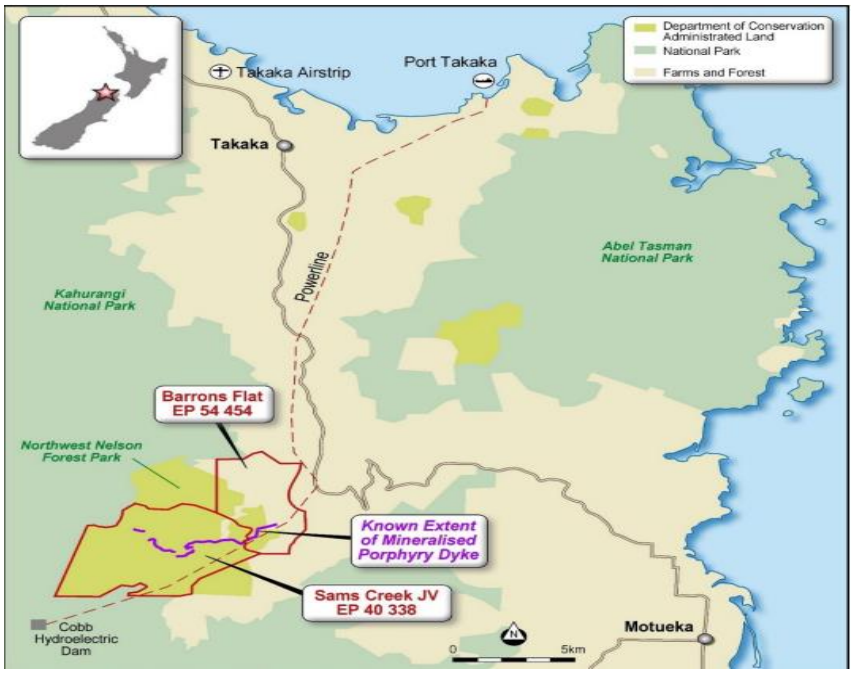
**Top of the South Island geology showing the Palaeozoic rocks in green**




***Infrastructure is in place***

- ***on the powerline***
- ***within 5km from the main road***
- ***within 40km of the port***

**Location of the SCPP tenements and the extent of the mineralised porphyry dyke**




The SCPP is divided into several exploration prospects and including the current resource.

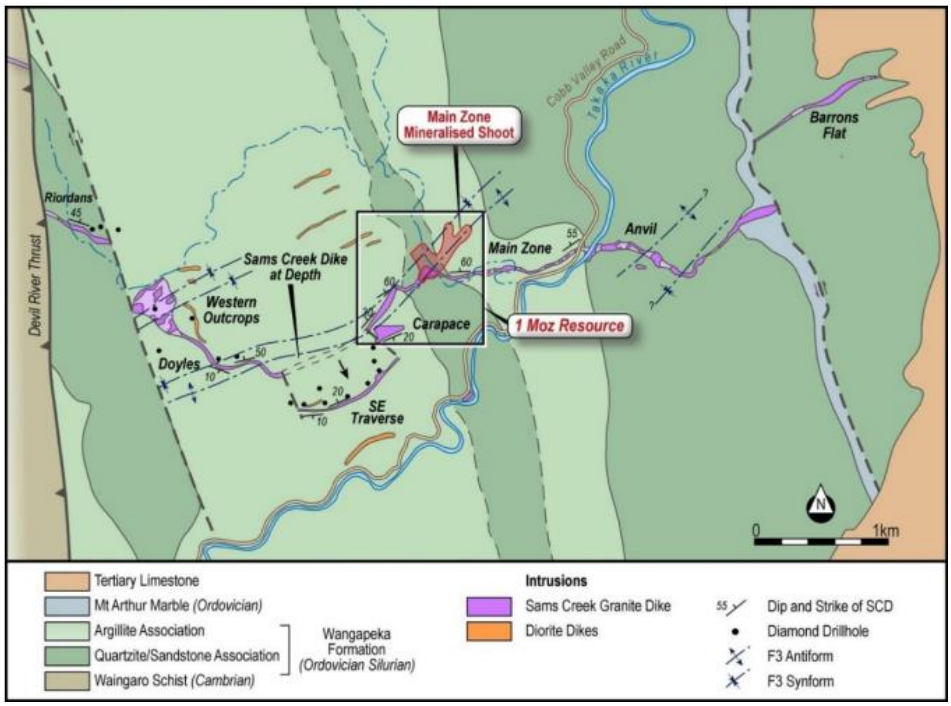
The Main Zone Mineralised Shoot has an identified potential for >1moz (including the current 588koz) and along the 7km strike of the Sams Creek Dyke.

This dyke is up to 60 metres thick and can be traced over 7km as shown below.

***The surface trace of the dyke…***

***..shows curves and some faulted and displaced blocks***

**Geology of the Sam's Creek Deposit.**




The dyke cuts roughly perpendicularly through the Ordovician Wangapeka Formation of low metamorphosed volcanic siltstones and sandstones and extends from the Devil River Thrust at Riordan's in the West along a winding trace over 7 km to Barron's Flat in the East.

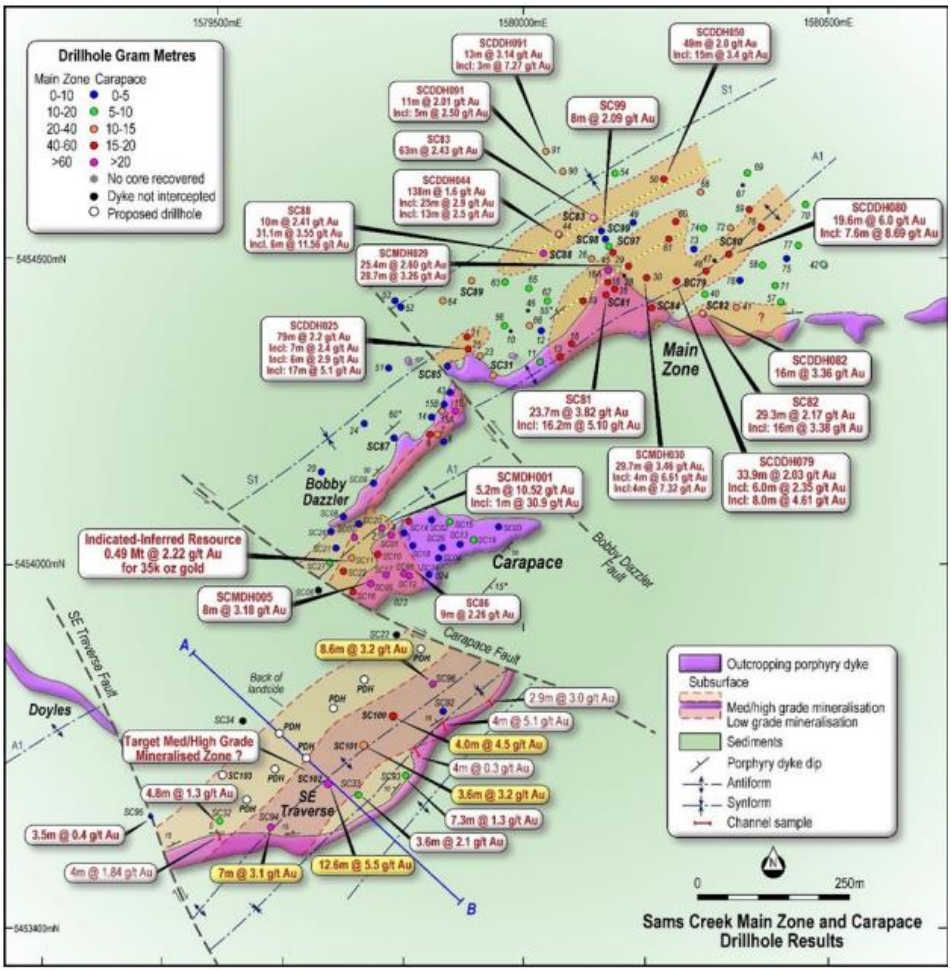
The current Main Zone Mineralised Shoot makes up less than 5% of the strike.

The porphyry dyke is variably mineralized and has alteration for at least four mineralisation stages.

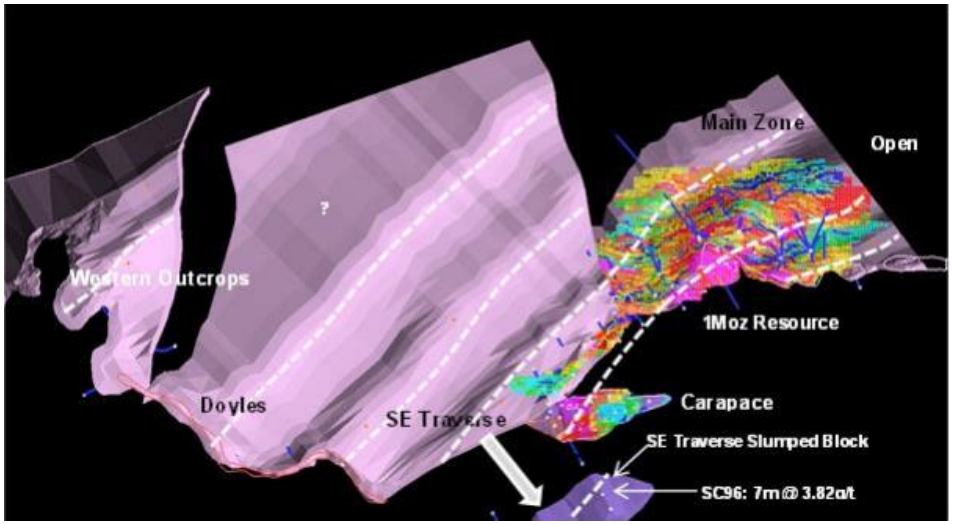
The SCPP has been folded into northeast plunging folds with gold veins preferentially forming in the fold hinges resulting in northeast plunging mineralised shoots.

The plan view from Doyle's two Main Zone showing the A1 anticline and drill hole results. The mineralised shoots are shown in orange.

**Sams Creek Main Zone and Carapace Drilling**




**Sams Creek Dyke - plan view**




***Historic focus has been on resources definition but SNG would look to test the hinges at Doyles.***

***The white dashed lines are the hinges of the anticline and dip to the NE***

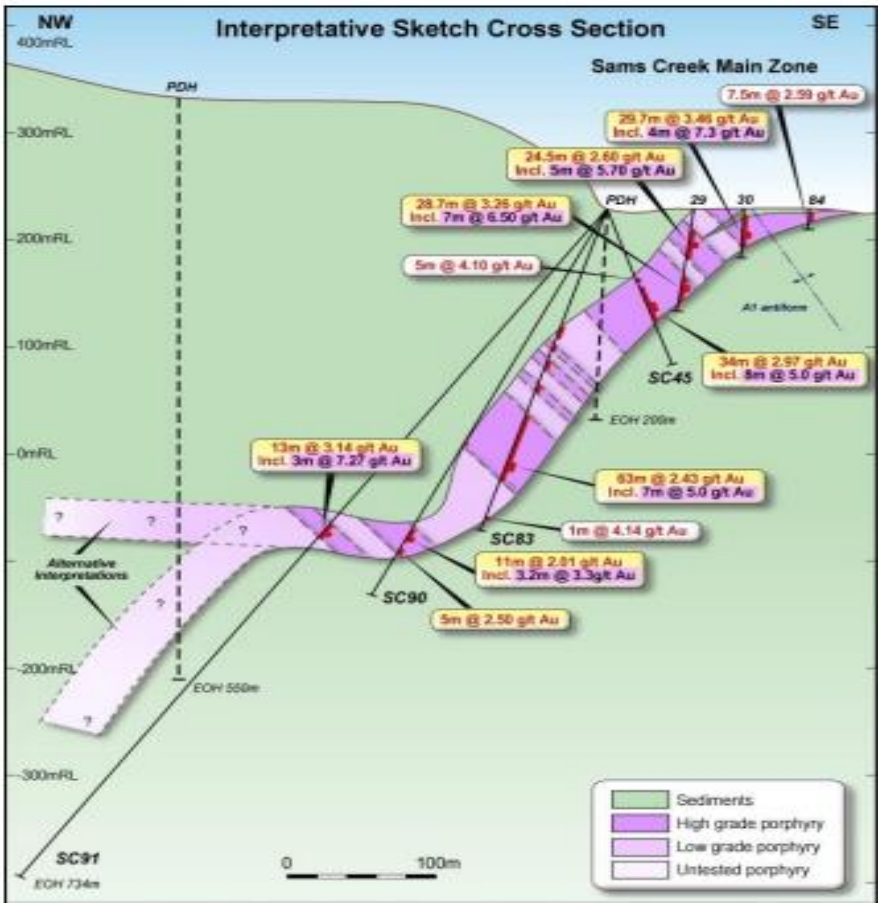
The SCD has been folded into NE plunging folds with the gold found preferentially forming in the fold hinges as noted above by the dashed white lines.

SNG plans to drill holes adjacent to the anticline hinges shown by the dashed white lines.

***These grades and widths are very encouraging….***

***29.7m @ 3.46g/t Au***
***Incl 4m @ 7.3g/t Au***
***24.5m @ 2.60g/t Au***
***Incl 5m @ 5.70g/t Au***
***28.7m @ 3.26g/t Au***
***Incl 7m @ 6.50g/t Au***
***63m @ 2.43g/t Au***
***Incl 7m @ 5.0/t Au***

**Sams Creek Dyke –Interpretive Cross section**




Some of the intersections and grades are as follows:

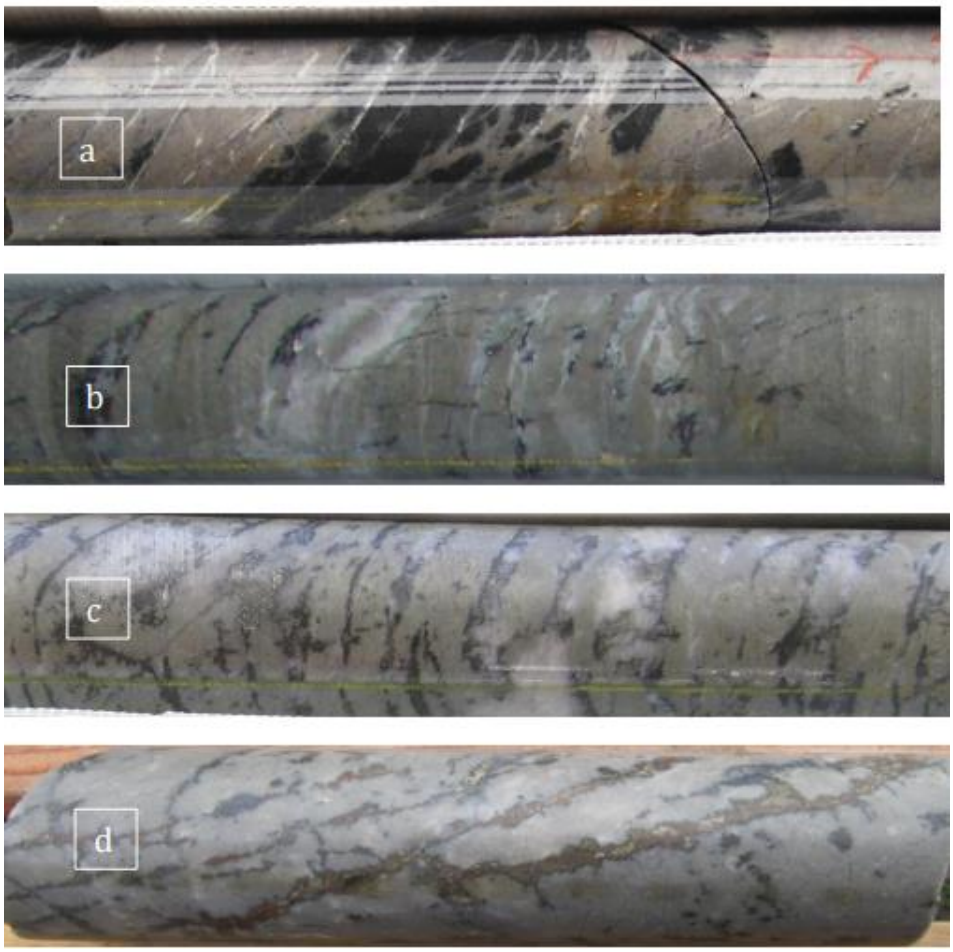
From the top
7.5m @ 2.59g/t Au
29.7m @ 3.46g/t Au
Incl 4m @ 7.3g/t Au
24.5m @ 2.60g/t Au
Incl 5m @ 5.70g/t Au
5.0m @ 4.10g/t Au
28.7m @ 3.26g/t Au
Incl 7m @ 6.50g/t Au
63m @ 2.43g/t Au
Incl 7m @ 5.0/t Au
13m @ 3.14g/t Au
Incl 3m @ 7.27/t Au
11m @ 2.01g/t Au
Incl 3.2m @ 3.3/t Au
5m @ 2.50g/t Au

These widths and grades are attractive and should not be too difficult to mine.

The key issue for the project has always been its stranded location and the need to have a standalone processing plant for which this deposit is not big enough.

***Four clearly identifiable stages of alteration have taken place….***

## Drill core samples showing four stages of alteration




***Gold occurs with Arsenopyrite and base metals***

***..***

The four stages of alteration noted in the dike can be seen here in the drill core.

a) **Stage 1 – Magnetite-ankerite biotite alteration**
b) **Stage II - Quartz and pyrite**
c) **Stage III – Arsenopyrite and pyrite veins**
d) **Stage IV - Base metals veins**

***Reasonable initial recoveries achieved***

Metallurgical test work completed by OceanaGold gave acceptable initial recoveries as follows:-

| Sams Creek - Metallurgical testwork by Oceanagold | | | |
|---|---|---|---|
| % Gold recovery | Low | High | Average |
| Direct leach | 79.5 | 87.5 | 83.8 |
| Flotation and leach | 83 | 91.3 | 87.2 |

The SCPP has considerable potential for additional resources with the 1moz target within the Main Mineralized Zone quite likely and substantially more along the anticline hinges.

## 8.0 ENVIRONMENTAL PERMIT REQUIREMENTS

***New Zealand has a strong environmental protection to mining but the control is managed under the Resources Management Act (RMA) by district and regional councils***

**NZ is perceived to have stringent environmental requirements for mining operations and this can be seen as an inhibitor to investment in New Zealand.**

However, whilst the rules might be strict it appears that they are not roadblocks.

Federation Mining has already received mining permits and Resource Consents to develop its 3400m exploration twin declines and it would not have committed the funding unless it was assured that approvals in the form of Resource Consents would have been granted in respect of other aspects of the mining operations.

Similarly OceanaGold had been able to get Resource Consents for the Golden Progress now-closed open pit.

Also the extension of the OceanaGold Waihi mine through the development of the Wharekirauponga (WKP) exploration tunnel is also progressing well towards its Resource Consent on the Coromandel.

An understanding of the current state of permits and consents is summarised here.

***Environmental permits and Resource Consents***

***..***

### Environmental permits

NZ's principal Environment Protection law is the Resource Management Act 1911 (RMA).

District and regional councils have primary responsibility for administering the RMA.

**Resource Consents**

Projects use of land, water, and air in the course of its mining operations must be permitted by a rule in a district or regional plan or sanctioned under Resource Consents.

Some of the activities involved in developing and operating any bonding project will be permitted under the district and regional plans and others require Resource Consents.

SNG will require Resource Consents from West Coast Regional Council and the Buller District Council which authorised the exploration and mining activities

**Other environmental permits**

The West Coast Regional Council and the Buller District Council are the regulatory authorities responsible for granting Resource Consents so these will be the primary agencies with regulatory oversight of environmental impact of anything within the SNG Reefton Projects.

Secondary agencies include Heritage New Zealand Pouhere Taonga, which can oversee impact on archaeological sites and also the Environmental Protection Authority which regulates the transport, handling and storage of hazardous goods.

Also the extension of the OceanaGold Waihi mine through the development of the Wharekirauponga (WKP) exploration tunnel is also progressing well towards its Resource Consent on the Coromandel.

## 9.0 OTHER PLAYERS IN THE REEFTON GOLD FIELDS

*Other players in the Reefton Goldfields*

As noted above Siren Gold is not the only player in the Reefton goldfields.

Summaries of the other key players are here.

*Federation Mining*

## 9.1 FEDERATION MINING - SNOWY RIVER GOLD MINE REEFTON

*Reopening the Blackwater Mine as the Snowy River Mine*

**Federation Mining** has an option to acquire the old Blackwater mine from OceanaGold in its Snowy River gold mining project for US$28m by 2024.

The mine will be working the Birthday Reef which had exhibited strong continuity along strike for 700m and down to 700 metres vertical depth. The mine had complete and accurate mining record up until its closure in 1951 when the main shaft suffered a collapse.

*Birthday Reef has inferred resource of 700koz @ 23g/t.*

Federation Mining is currently constructing a 3400m twin exploration decline down to the base of the old workings at 740m to provide drilling access to confirm the inferred 700koz resource at 23g/tAu. In May 2022 the declines had passed 2000m.

Additional resource potential has been noted and the ore shoot is open at depth.

Federation is also carrying out exploration along strike.

The project is based on production of 70kozpa 14 years with estimated all in sustained costs (**AISC**) of US$590-650/oz Au that would generate free cash flow of over US$100mpa.

*70kozpa at ASIC of US$590-650/oz*

Capital costs are A$60m for mine development and A$80m for plant construction.

The funding for this project has come from two unusual sources:-

- Australian Super A$50m Convertible Note
- Australian Super A$37m Share Portfolio
- Crown Holdings NZ$15m Loan

*Total capital costs A$140m*

*A$60m mine development*

The processing plant would have a small footprint and tailings would be redirected into the old mining stopes.

*A$80m plant construction*

Federation Mining has just recently submitted its Resource Consent Application to West Coast Regional Council and Buller District Council to cover the processing plant.

**Exploration History**

Outcrop in the area is sparse and only minor quartz vein development.

*Blackwater Resource*

*700koz @ 23g/t*

*Further 200koz downdip*

*Shaft collapsed in 1951 and forced mine to close*

*Impressive high grade drill results included*

- **WA21A** : 0.5m at **23.3g/t Au**
- **WA22D** : 1.0m at **85.2g/t Au**
- **WA11A** : 0.5m at **59.7g/t Au**
- **WA25A** : 0.5m at **134.0g/t Au**
- **WA25** : 0.3m at **62.4g/t Au**

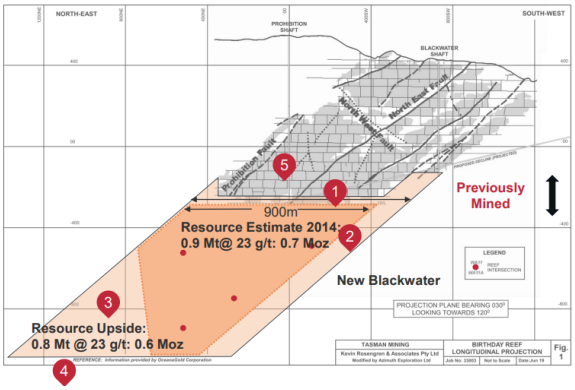
*The mine has strike length of 1200m but exploration along strike has identified extensions.*

*These are not far and due west from SNG's Big River Mine and its Saint George target which are on a sub parallel structure.*

## Blackwater Resource

**Opportunities to grow the current resource**

1. **Unmined reef left on 16 and 17 levels** when shaft collapsed in 1951
2. **1200m** potential strike length based on mining above
3. Northern down dip extent **200koz**
4. Open at depth
5. Full mining records to 1951 (mine closure)

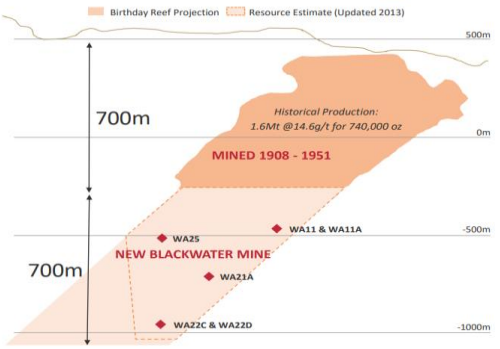


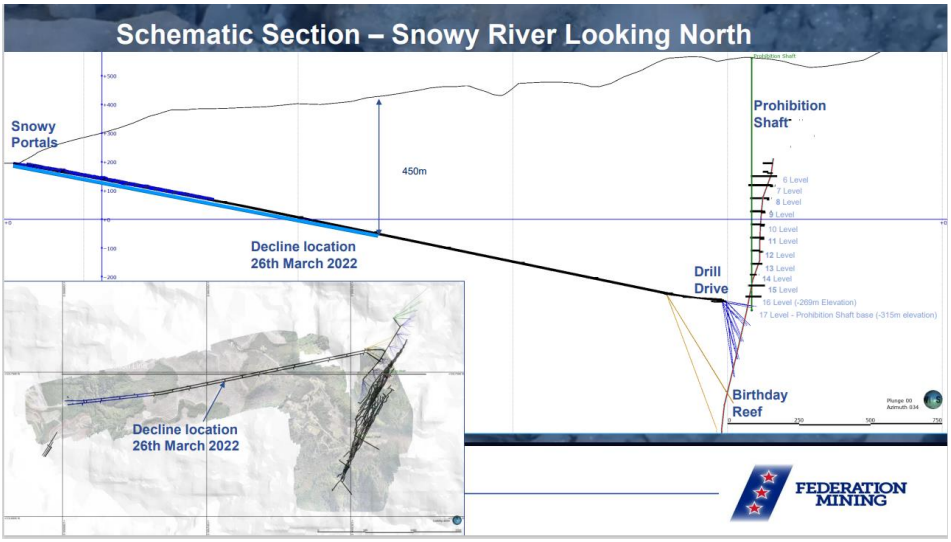

## Blackwater Drilling Results

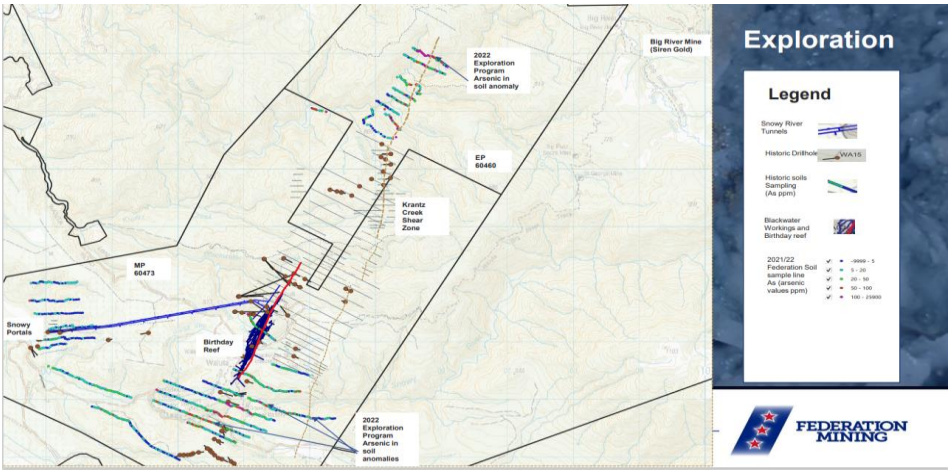
**COMPLETED BY OCEANAGOLD 2011 - 2013**

- Six holes intersected high-grade mineralisation and confirmed the deposit continues at depth
- All holes intersected gold mineralisation
- Gold intersected 650m below the base of historical workings
- Drill results included:
  - WA21A : 0.5m at 23.3g/t Au
  - WA22D : 1.0m at 85.2g/t Au
  - WA11A : 0.5m at 59.7g/t Au
  - WA25A : 0.5m at 134.0g/t Au
  - WA25 : 0.3m at 62.4g/t Au

*Comprehensive production and geology records provide confidence in the inferred resource*



## 9.2 REEFTON GOLDFIELDS INC

*This is another unlisted company with interests in the Reefton gold field*

Reefton Goldfields has emerged from unlisted Advent Gold Ltd with new financing from Eric Sprott and Oliver Lennox-King and has acquired tenements in the Reefton area.

*Eric Sprott is a 6% share holder*

At Reefton the company has over 1000km$^2$ tenements along 25km strike of the Reefton line of lode and these have produced over 600koz @ 18.9g/t.

| | | | | Production | | Recovered | Percentage |
|---|---|---|---|---|---|---|---|
| Rank | Mine Name | Goldfield | Mine Area | Tonnes | Ounces | Grade (g/t | of Total oz |
| 12 | Fiery Cross | Reefton | Capleston | 24,956 | 27,843 | 34.8 | 1.3% |
| 7 | Welcome / Hopeful | Reefton | Capleston | 44,867 | 88,607 | 61.4 | 4.2% |
| 13 | Just-In-Time | Reefton | Capleston | 13,755 | 17,168 | 38.8 | 0.8% |
| 11 | Murray Creek | Reefton | Murray Creek | 52,943 | 33,887 | 19.9 | 1.6% |
| 6 | Ajax / Golden Fleece | Reefton | Crushington | 136,642 | 89,636 | 20.4 | 4.3% |
| 3 | Wealth of Nations | Reefton | Crushington | 458,034 | 208,980 | 14.2 | 10.0% |
| 4 | Keep-it-Dark | Reefton | Crushington | 333,780 | 182,616 | 17.0 | 8.7% |
| Total Reefton Goldfields mines | | | | 1,064,977 | 648,737 | 18.9 | |
| Total Underground Production | | | | 4,074,901 | 2,091,053 | 16.0 | 31% |

## 10.0 NEW FOUND GOLD INC

***The Fosterville discovery has encouraged explorers to revisit similar Palaeozoic metasediments environments around the world.***

**New Found Gold Inc** is a Canadian TSX-listed company that has made a significant gold discovery in Ordovician-Silurian age sediments in Newfoundland.

The discovery of the Fosterville epizonal high grade gold deposits in the Ordovician metasediments within the Victorian goldfields has encouraged explorers to look at other examples of this type of deposit.

***New Found Gold has found a major gold discovery in similar styled rocks.***

The New Found Gold discovery at Queensway in Newfoundland appears to be another such deposit.

Novo Resources president Quinton Hennigh had significant input in the discovery of the high grade Swan Zone at Fosterville when Eric Sprott was the chairman of the then owner Kirkland Lake.

***The success of these project will bring significant new focus on the `Fosterville' style of epizonal deposit***

Hennigh has also been involved in Reefton Goldfields in its search for similar high grade epizonal deposits at Reefton.

Hennigh has also been involved with development of Queensway and Eric Sprott has made a major investment in New Found Gold inc.

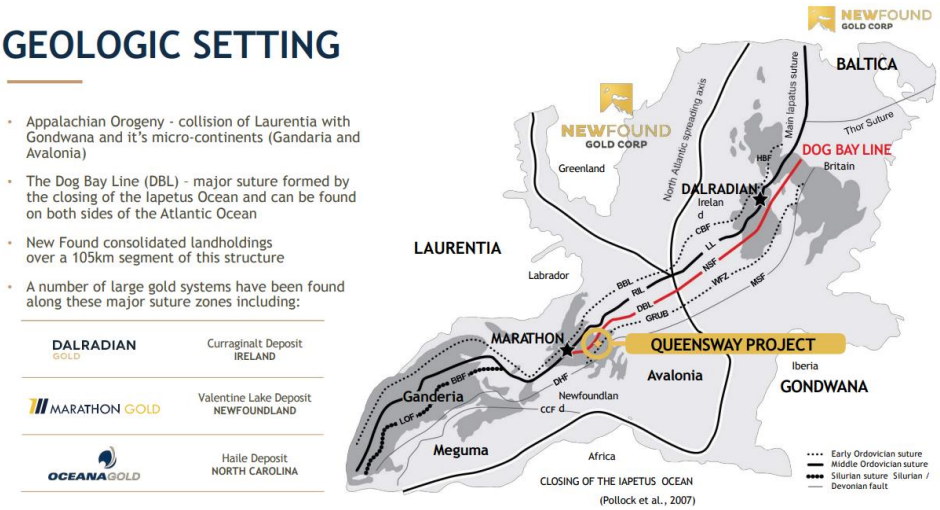
The Queensway Project has developed along the concept of an Ordovician-Silurian belt of sediments extending from the UK into Newfoundland and extending as far as Florida.

This Central Newfoundland Gold Belt has many similarities with the Victorian goldfields including Fosterville.

***Eric Sprott is a 31.4% share holder***

The regional geological setting for the Queensway Project

***This structure runs from Europe through Ireland to Newfoundland and Nova Scotia ….and down to OceanaGold's Haile in Florida.***



## QUEENSWAY NORTH: APPLETON AND JBP FAULT ZONES

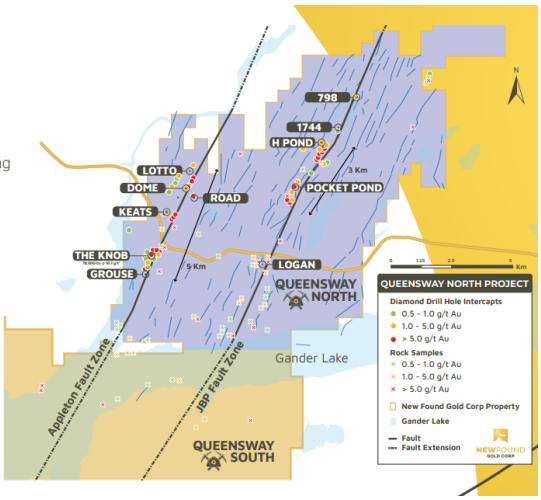
The Queensway Project covers two prominent NE trending faults that cross the property which are the vital fluid conduits allowing for the formation of gold deposits. The two fault zones are geologically best defined in the northern portion of the property but projected with geophysics to extend along the entire project.

### Appleton Fault Zone

- Auriferous quartz veins hosted within shale and greywacke identified over a 5km strike length
- Total historical drilling of 14,325m (132 drill holes)
- The Knob deposit contains an historical resource of 77,943 oz Au @ 10.3 g/t by Noranda*
- Open along strike and down dip

### JBP Fault Zone

- Sedimentary hosted quartz vein gold system identified over 3km strike
- Total historical drilling of 9,872m (54 drill holes)
- Open along strike and down dip




***The comparisons are made with the Victorian Goldfields and the hosting of Fosterville.***

**Geologic comparison of Victoria Goldfields and Central Gold Belt, Newfoundland**

| | Victoria Goldfields, Australia | Central Gold Belt, Newfoundland |
|---|---|---|
| Host Lithology | Cambro-Ordovician to Devonian turbidites (sandstones, siltstones, shales) | Middle Ordovician turbidites (shales, siltstones sandstones) |
| Structural Features | Classic saddle reef fold structures AND fault hosted deposits (e.g. Fosterville Swan Zone) | Fault hosted orogenic gold deposits |
| Metamorphic Grade | Sub-greenschist to greeenschist | Sub-greenschist to greeenschist |
| Minerology | Visible gold is common as disseminations in quartz-carbonate veining<br><br>Accessory minerals include arsenopyrite, pyrite, sphalerite stibnite and boulangerite | Visible gold is common as disseminations in quartz-carbonate veining<br><br>Accessory minerals include pyrite, arsenopyrite, chalcopyrite, sphalerite, stibnite and boulangerite |
| Mining History | Victoria Goldfields originally discovered in 1850's and produced over 22 Moz | First gold occurrence noted in early 1980's; exploration phase |

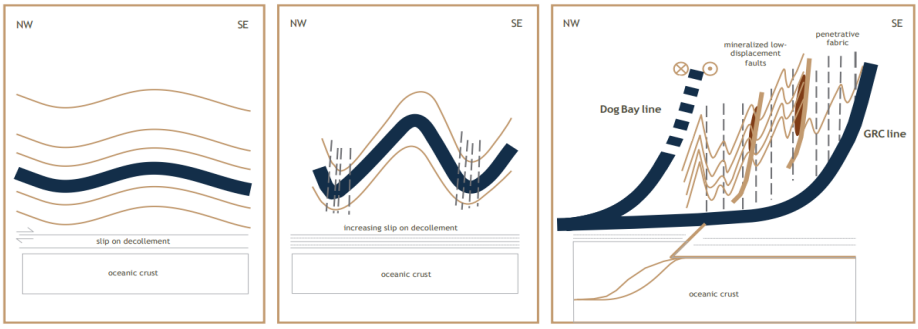
***The settings are the same…***

***Palaeozoic sediments***

***Compressional forces***

***Anticlines formed with associated faulting***

## LITHO-STRUCTURAL SETTING




Progressive compression, folding, faulting and mineralization of sediments.
High-grade gold mineralization at Queensway focusses on small displacement accommodation faults, similar to Fosterville's Swan Zone.

***Share price was very excited by the discovery in 2021***

*Source: SNG*

## 11.0 Directors of Siren Gold

# DIRECTORS

**Brian Rodan** **Exec Chairman**

Managing Director and owner of Australian Contract Mining Pty Ltd (ACM), a mid-tier contracting company that successfully completed $1.5B worth of work over a 20-year period. ACM was sold to an ASX listed gold mining company in 2017. Founding Director of Dacian Gold Limited who purchased the Mt Morgans Gold Mine from the Administrator of Range River Gold Ltd. After listing on the ASX in 2012 Mr Rodan was Dacian's largest shareholder. Executive Director of Eltin Limited. 15 year tenure with Australia's largest full service ASX listed contract mining company with annual turnover of +$850M

**Paul Angus** **Technical Director**

Mr Angus has over 30 years' experience in mining and exploration in New Zealand. He joined OceanaGold in 1990 and performed numerous management roles within OceanaGold, including Exploration, Mining and Development Manager between 1996 and 2005. During that time his team discovered more than 2Moz of gold at Macraes and Reefton and was responsible for the mining planning at Macraes and the Frasers Underground and Reefton Goldfield feasibility studies. Experience – Mr Angus has been consulting on various exploration and mining projects for the last 13 years, including Project Manager for MOD Resources Limited at the Sams Creek Project since 2011.

**Keith Murray** **Non-exec Director**

B. Acc, Chartered Accountant (CAANZ) Experience – Mr Murray is a Chartered Accountant with over 40 years' experience at a general manager level in audit, accounting, tax, finance, treasury and corporate governance. During the 1990s Mr Murray was Group Accounting Manager Corporate and Taxation and joint Company Secretary for Eltin Limited, a leading Australian based international mining services company. Mr Murray is currently General Manager Corporate and Company Secretary for the Heytesbury Group. Directorships held Iceni Gold Limited (current) in other listed Desert Metals Limited (current)

## FINANCIAL FEATURES

### Profit and Loss

*Simple P&L account*

*Exploration is currently capitalised*

| Profit and Loss Statement 31-Dec | 2019 | 2020 | 2021 |
|---|---|---|---|
| **Operating revenue** | | - | - |
| Other net | 0 | 4 | 2 |
| **Total** | **0** | **4** | **2** |
| **Expenses** | | | |
| **Cost of Sales** | | | |
| **Employee benefits** | **-14** | **180** | 341 |
| **Exploration write off** | **25** | 64 | - |
| **Other** | **238** | 1,182 | 979 |
| **Total** | **249** | **1426** | **1320** |
| **PreTax** | **(249)** | **(1,460)** | **(1,422)** |
| Tax | 0 | 0 | 0 |
| **Net** | **(249)** | (1,460) | (1,422) |

### Cashflows

*Cashflows*

*SNG will have an operating burn rate of about A$6mpa but exploration is likely to step up significantly in the years ahead.*

| Cash Flows Statement A$000 31-Dec | 2019 | 2020 | 2021 |
|---|---|---|---|
| **Cashflows from operating activities** | -331 | -1077 | -1372 |
| Other net | 0 | 0 | -2 |
| **Total** | **-331** | **-1077** | **-1374** |
| **Cashflows from investing activities** | | | |
| Exploration | -138 | -1313 | -6151 |
| Fixed assets | 0 | -127 | -64 |
| **Total** | **-138** | **-1440** | **-6215** |
| **Cashflows from financing activities** | | | |
| Capital raising | 598 | 12013 | 4722 |
| Other net | -17 | -695 | -205 |
| **Total** | 581 | 11318 | 4517 |
| **Net cashflows** | **112** | **8801** | **-3072** |
| **Opening cash** | **47** | **158** | **8644** |
| **Closing** | **158** | **8644** | **5729** |

*Balance Sheet*

*Cash at 31 March was A$4.5m*

| Balance Sheet<br>Year End 31 Dec | 2019 | 2020 | 2021 |
|---|---|---|---|
| **Current assets** | | | |
| Cash | 158 | 8,801 | 5,729 |
| Receivables | - | 144 | 221 |
| Other | - | 114 | 125 |
| Total Current | 158 | 9,059 | 6,075 |
| | | | |
| **Non Current** | | | |
| Exploration expenditure | 327 | 1,951 | 8,036 |
| Other assets | 0 | 163 | 170 |
| Total Non Current | 327 | 2,114 | 8,206 |
| | | | |
| Total Assets | 485 | 11,173 | 14,281 |
| | | | |
| **Liabilities** | | | |
| Current liabilities | 158 | 588 | 578 |
| Borrowings | 2 | 50 | 39 |
| Total liabilities | 160 | 638 | 617 |
| | | | |
| Net assets | 325 | 10,535 | 13,664 |
| | | | |
| **Equity** | | | |
| Issued capital | 1,445 | 12,441 | 16,974 |
| Equity Reserves | 204 | 842 | 740 |
| Accum losses | (1,324) | (2,747) | (4,066) |
| Total Equity | 325 | 10,536 | 13,648 |

**Top 20 Shareholders** as at 21 June 2020

*Exec Chairman Brian Rodan is largest shareholder with 19.5%.*

*Top 10 own 41%*

*Top 20 own 49.9%.*

*Top 50 own 68.3%*

| Top 20 Shareholders | | | |
|---|---|---|---|
| 1 | Brian Rodan | 18,664,385 | 19.5% |
| 2 | BNP Paribas Nominnes Pty Ltd | 5,102,402 | 5.3% |
| 3 | National Nominees Ltd | 2,831,664 | 3.0% |
| 4 | Beaurama Pty Ltd | 2,500,000 | 2.6% |
| 5 | Vixen Resources Pty Ltd | 2,000,000 | 2.1% |
| 6 | Lynden Investments | 2,000,000 | 2.1% |
| 7 | CSB Investments | 1,997,132 | 2.1% |
| 8 | Marvel Heart Investments | 1,600,000 | 1.7% |
| 9 | Mr Kenneth Joseph Hall | 1,200,000 | 1.3% |
| 10 | HGL Investments Pty Ltd | 1,142,857 | 1.2% |
| 11 | Bronwyn Bergin | 1,014,285 | 1.1% |
| 12 | Liberty Management Pty Ltd | 1,000,000 | 1.0% |
| 13 | Mine Management Pty Ltd | 1,000,000 | 1.0% |
| 14 | North Lanark Pty Ltd | 1,000,000 | 1.0% |
| 15 | Ante & Ivanka Mihalj | 1,000,000 | 1.0% |
| 16 | Gladstone Mining (WA) Pty Ltd | 900,000 | 0.9% |
| 17 | R&J Karangis Holdings Pty Ltd | 800,000 | 0.8% |
| 18 | Citicorp Nominees Pty Ltd | 772,636 | 0.8% |
| 19 | H&G Investments Pty Ltd | 681,155 | 0.7% |
| 20 | Repusburns Pty Ltd | 634,226 | 0.7% |
| Total | | 47,840,742 | 49.9% |
| Total issued capital | | 95,925,475 | 100.0% |

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## ANALYST VERIFICATION

Barry Dawes, as the author of this report, and as Head of Resources of Martin Place Securities, hereby certifies that the views expressed in this research accurately reflect his personal views about the subject securities or issuers. No part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research. The analyst principally responsible for the preparation of this research has received compensation based on overall revenues, including investment banking revenues, of Martin Place Securities. The Analyst has taken reasonable care to achieve and maintain independence unbiased objectivity in making any recommendations.

The Analyst and his related entities hold no shares in SNG at the date of this report.

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This report has been prepared with the assistance of SNG and the views are entirely those of the Analyst using publicly available information.

No site visit has been made but visits to Fosterville and various Victorian gold mines and projects have been made.