

19 June 2024

24 Month Price Target: (>A\$1.00)

## CAPITAL STRUCTURE

Share Price	\$0.087
Net Asset Value	A\$15m
12 Month Range	\$0.045- \$0.14
Market Cap (undiluted)	A\$18m
Issued Shares	204.9m
Unlisted Options	106.4m
Fully dil capital @ A\$0.10	267.9m
Cash (est)	A\$3.1m

## DIRECTORS

Brian Rodan	Non-Exec Chairman
Victor Rajasooriar	Managing Director
Paul Angus	Technical Director
Keith Murray	Non-Exec Director
Sebastian Andre	Company Secretary

## TOP SHAREHOLDERS

BBR Group + Directors	15.00%
Perennial Value Mgt Ltd	5.14%
GSI EDA	2.73%
Lynden investments Pty Ltd	3.01%
HGL Investments Pty Ltd	2.54%
Top 20	45%



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 antimony and gold deposits

### 1.0 SUMMARY

Siren Gold has a portfolio of tenements including historic gold mines along the significant high grade Reefton Goldfield line of lodes in West Coast New Zealand. The line of lodes extends >150km with SNG holding >40km over key known mines and a further 40km of excellent exploration potential that could feed a central processing hub.

The geology of this region is the same age as the Fosterville-style Victorian goldfields and SNG has resources with high grade deep mine potential with antimony coproducts.

SNG also has a growing 0.82moz gold porphyry resource at Sams Creek 120km to north.

*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 2.5 million oz medium term exploration and development targets
- Current combined resources total 1.3moz at Reefton and Sams Creek
- Reefton geology has similar epizonal and antimony character as Fosterville
- Active diamond drilling programmes underway with ~10,000m in FY25
- Sams Creek 0.824moz @ 2.8g/t porphyry gold resource growing
- Changed New Zealand Government is strongly pro-mining

#### Gold Potential Recognised in SNG Growth Assets – 24 month resource targets

- **Sam's Creek** Gold Project – 824koz - near term target 1500koz
- **Lyell Goldfield** – proving up high grade gold with antimony
- **Alexander River** Gold Mine Project – 170koz resource - target 1000koz
- **Big River** Gold Mine Project – 106koz - target 500koz
- **Golden Point**– Auld Creek 103koz - open at depth – target 750koz

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

Siren Gold	Gold Resources					Longer Tem	Historic Production	
	Current	Near	12 mths	24 mths	Est grade		koz	g/t
	koz	koz	koz	koz	koz	g/t		
<b>Reefton</b>								
Alexander River	170	250	250	500	1000	5.5	41	26.4
Big River	106	106	106	300	500	6	136	34.1
Auld Ck*	65	150	300	300	750	6	n.a.	n.a.
Supreme	100	100	100	100	250	3	n.a.	n.a.
<b>Lyell</b>					500	5	91	18.4
<b>Langdons</b>							1.5	60
Sams Creek (81.9%)	824.4	1000	1200	1500	2000	2.8		
<b>Total</b>	<b>1265</b>	<b>1606</b>	<b>1956</b>	<b>2700</b>	<b>5000</b>			

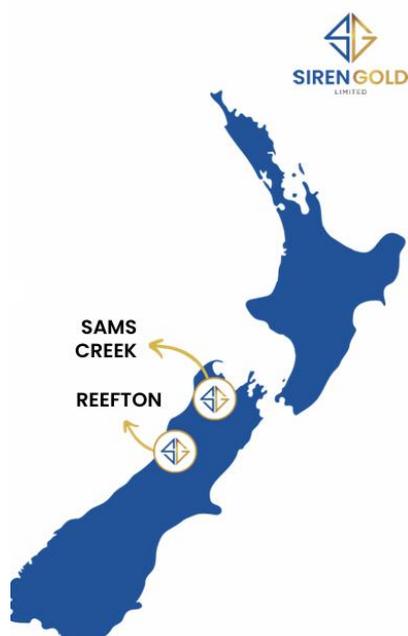
Siren Gold with a market cap of around A\$18m has high leverage to exploration targets of 2.7moz in the Reefton Goldfields development and exploration programmes.

Financial History A\$000	2019	2020	2021	2022	2023
Year End 31 Dec					
Assets	485	11,173	14,281	16,833	19,263
Cash	158	8,801	5,729	354	869
Accum losses	(1,324)	(2,747)	(4,066)	(5,772)	(7,547)
Net equity	325	10,536	13,648	16,351	18,771
Net equity per share (cts)	1.5	13.0	14.2	14.0	11.7
Shares on issue (m)	22.1	81.0	95.9	116.9	160.9

Quality tenements developed over past six years

New Zealand

– Project location



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

Resources at Reefton

- Alexander River
- Big River
- Auld Creek
- Supreme

Resources at Sams Creek

A\$7.5m in carried forward losses

~A\$17m in exploration assets

## 2.0 SIREN GOLD - IN PROFILE

SNG was listed on ASX in October 2020 and has expended ~ A\$19m on exploration on several large tenements in the historic Reefton goldfields West Coast NZ and which include 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 exploration on its tenement holdings in favourable geological terrains at Reefton and also at the 0.588moz Sams Creek Porphyry Project about 120km N of Reefton in 81%/19% joint venture with OceanaGold (OGC.TSX).

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

- Alexander River Project (EP 60446) 17km<sup>2</sup>
- Big River Project (EP 60448) 48km<sup>2</sup>

Reefton Line of Lode gold exploration projects (935 km<sup>2</sup>)

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

Langdons (PP 60893) Permit near Greymouth - high-grade antimony-gold

Sams Creek Gold Porphyry Project (47km<sup>2</sup>)

- Indicated & Inferred resource of 0.824moz at 1.5g/t Au cutoff
  - Resource is >1.2moz @ 0.7g/t cutoff
- Additional contiguous exploration tenement is 100% SNG

### 2.2 SIREN GOLD - RESOURCE ASSETS

SNG is focusing on steadily building up resources on its tenements within the Reefton Goldfield and at Sams Creek.

Siren Gold	Gold Resources		
	Mtonnes	koz	g/t
<b>Reefton</b>			
Alexander River		170	
Big River		106	
Auld Ck*		65	
Supreme		100	
<b>Sams Creek (81.9%)</b>		<b>824</b>	
Indicated	3.29	296	2.80
Inferred	5.81	529	2.83
<b>Total</b>		<b>1265</b>	<b>3.1</b>

### Financial History

Financial History A\$000	2019	2020	2021	2022	2023
Year End 31 Dec					
Total assets	485	11,173	14,281	16,833	19,263
Exploration & Evaluation Assets	327	1,951	8,036	15,904	17,786
Cash	158	8,801	5,729	354	869
Exploration expenditure	(138)	(1,313)	(6,151)	(7,954)	(1,938)
Accum losses	(1,324)	(2,747)	(4,066)	(5,772)	(7,547)
Net equity	325	10,536	13,648	16,351	18,771
Net equity per share (cts)	1.5	13.0	14.2	14.0	11.7
Shares on issue (m)	22.1	81.0	95.9	116.9	160.9

### 3.0 INVESTMENT REVIEW

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

- *Drilling, rock chips and geochem programs*
- *Resources outlined*
- *New tenements acquired*

*For Reefton, think same geology as Victorian goldfields*

*2moz from underground historic hard rock*

*8moz from historic alluvial mining*

*NZ gold is having a renaissance*

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

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SNG is an active explorer and has carried out over 30,000m of mostly diamond core drilling for building resources at Reefton and other drilling expanding Sams Creek.

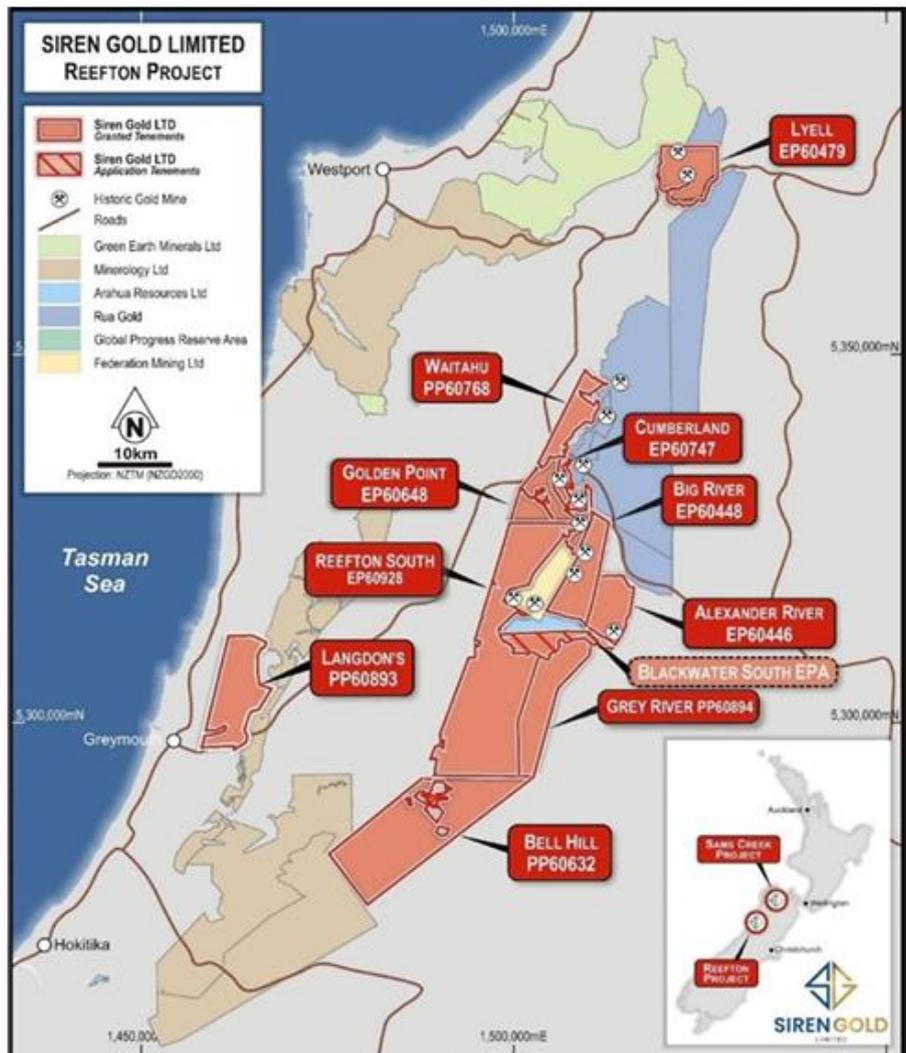
SNG has recognised considerable potential at Reefton where long-closed (mostly pre 1915) historic recovered mine grades are ~16g/t yet most mines have been quite shallow. In contrast, the last-closed mine was in the 1950s as the 700m deep and 800koz Blackwater Mine which has another 700koz down to 1500m currently being developed with an inferred resource @ 23g/t.

The SNG Reefton tenements extend down the Line of Lode from the old workings at Lyell in the north (~40km N of Reefton) down through resources in the Cumberland and Golden Point tenements down to Bell Hill exploration area. SNG also has resources at Alexander River and Big River on a sub parallel splay to the east of the Blackwater Mine.

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 in the tenements at Auld Creek and Lyell in the north and Langdons in the south-west are 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 alluvial dredging.

SNG sees potential for several +million oz gold deposits to be discovered at Reefton along strike and especially down dip at the old mines and recent work at Lyell and Auld Creek in the north and at Langdons is providing strong evidence for the potential for a large scale aggregated antimony resource.



**Figure 2: Reefton and Lyell Tenement Map**

## HISTORY OF THE REEFTON GOLD FIELD

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

The eastern corridor from the north 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.

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.

The graphic below gives the **relative mining depths, historic gold production and grade** of the nine 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.

*The Reefton Line of Lode is extensive..*

*...data shows nine historic mines producing ~2moz at an average grade of 16g/t.*

*Structure is more important than lithology*

*SNG has three of these nine...*

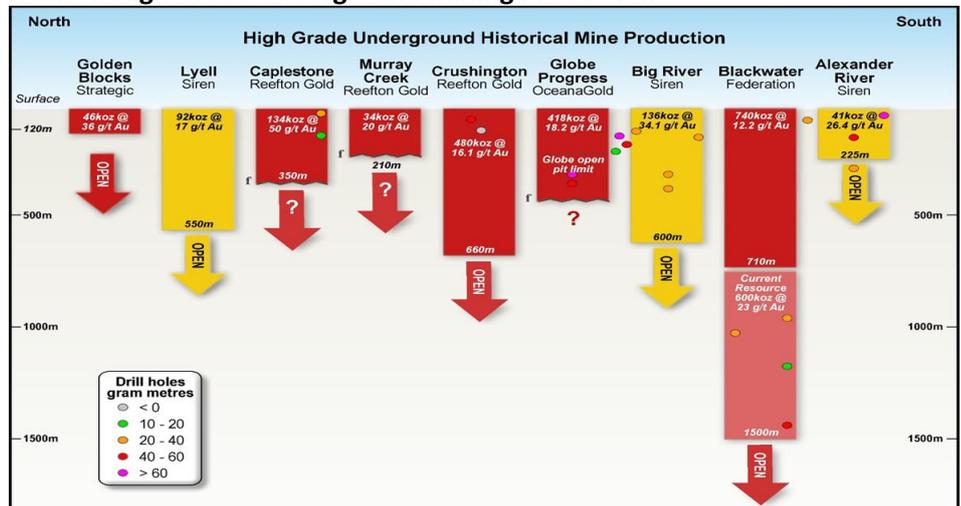
*(in yellow)*

*The average mine depth is less than 350m....*

*..Federation Mining's Blackwater is being extended from 700m to 1500m below surface*

*Considerable potential exists down dip for all these mines.*

### Reefton High Grade Underground Mining Production



### Sams Creek Porphyry Project (SCPP)

The SCPP has Indicated and Inferred Resources of 9.1mt @ 2.82g/t at 1.5g/t cutoff.

SNG considers there is considerable additional potential down dip and along strike, particularly at the Anvil Prospect.

A 1000m diamond core program is underway there.

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

*Sams Creek Porphyry Project is potentially another significant ore body.*

*0.82moz so far with >2moz*

**OceanaGold** has been a major player in the Reefton Goldfield with 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 after** acquisition from OceanaGold and has established 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 2026. It also has some nearby exploration potential.

**RUA Goldfields Inc** with investment by Eric Sprott and Oliver Lennox-King 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 has potential to develop antimony resources as well as gold. The Sams Creek Gold Porphyry Project to the North has considerable potential as an IRGS.

Environmental regulations in NZ have limited 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. Newer regulations in New Zealand will ease much of the previously very tight bureaucratic controls.

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

### ***SNG has a busy schedule for the next 12 months***

#### ***10,000m of drilling at***

- ***Auld Creek***
  
- ***Lyell***
  
- ***Big River***
  
- ***Alexander River***
  
- ***Sams Creek***

All these programs should add to SNG's gold resources over the next 12 months.

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

This is ~A\$100m.

Fully diluted with 311.3m shares

SNG could get quickly to over 2moz

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.

## 3.1 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 Reefion should be also given relatively high value for insitu Inferred ounces. Keep in mind the high grades at Reefion (historic mined grade 16g/t and Blackwater's resource target is 23g/t).

The rise in the US\$ gold price has also increased in the in-ground value of resources.

An expectation of A\$50-70/oz would give SNG a value of A\$0.20-0.29/share.

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 (fully diluted) A\$				
0.5	0.05	0.07	0.08	0.10
1.0	0.11	0.14	0.16	0.19
1.5	0.16	0.20	0.25	0.29
2.0	0.22	0.27	0.33	0.38
2.5	0.27	0.34	0.41	0.48
3.0	0.33	0.41	0.49	0.57
3.5	0.38	0.48	0.57	0.67
4.0	0.44	0.55	0.66	0.76

The NPV<sub>10</sub> of a 1 moz deposit at 10 g/t operated with underground mining at 50,000ozpa and costs of US\$800/oz giving a current operating margin of US\$1500/oz would be over A\$500m (~A\$500/oz).

Valuation Matrix	SNG							0.08		2026 Revenue	Book Value		Market Value		Appraised Value	
	Year end Dec 31	2022	2023	2024	2025	2026	2027	2028	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	0.0	20.0	50	5	0.03	10	0.06	51	0.32	
Big River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	15	4	0.03	6	0.04	30	0.19	
Sams Creek PP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	30	2	0.01	25	0.15	35	0.22	
Cumberland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	1	0.00	3	0.02	10	0.06	
Auld Creek	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0	1	0.01	3	0.02	20	0.12	
Lyell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	1	0.00	1	0.01	10	0.06	
St George	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	1	0.00	1	0.01	2	0.01	
Reefion South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	1	0.00	1	0.01	2	0.01	
Bell Hill	0.0	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	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	0.0	0	3	0.02	3	0.02	3	0.02	
Admin	-1.2	-2.0	-3.0	-3.0	-4.0	-4.0	-8.0				0.00		0.00		0.00	
<b>Total Pretax</b>	-1.2	-2.0	-3.0	-3.0	-4.0	-4.0	32.0				18	0.11	55	0.35	165	1.03
<b>Tax</b>	0.0	0.0	0.0	0.0	0.0	0.0	-9.6									
<b>Net</b>	-1.2	-2.0	-3.0	-3.0	-4.0	-4.0	22.4		95	18	0.11	55	0.35	165	1.03	
Cash generation	-1.2	-2.0	-3.0	-3.0	-4.0	-4.0	57									
Capex	8	8	15	15	15	15	50									
EPS	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	0.11									
CFPS	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	0.28									
DPS	0	0	0	0	0	0	0									
Shares on Issue*	95.9	160.0	204.9	204.9	204.9	204.9	204.9									

COMPARISON OF LISTED NEW ZEALAND GOLD PROJECT DEVELOPERS

Siren Gold is based in the Reefton Goldfields as is RUA Gold.

Santana Minerals is to the south of Reefton an din different gae rocks.

*Siren Gold is significantly underpriced vs regional peers*

Stock		Siren Gold	Santana Mins	RUA Gold
Currency		A\$	A\$	C\$
Share Price		0.083	1.030	0.180
	in US\$	0.055	0.679	0.131
Currency	US\$	0.6593	0.6593	0.7274
Shares		204.9	206	193.5
Market cap	US\$m	11.2	139.9	25.3
	A\$m	17.0	212.2	38.4
	C\$m	15.4	192.3	34.8
Enterprise value	US\$m	9.2	113.5	21.0
<b>Assets</b>				
Cash	US\$m	2.0	26.4	4.4
	A\$m	3.0	40.0	
	C\$m			6.0
<b>Resources</b>				
	koz			
Reefton		511		0
Sams Ck		824		
Rise and Shine			2216	
Come in time			59	
Shreks			185	
Glamorgan				0
Total		1335	2460	0
	US\$/oz	8.4	56.9	0.0

*Only US\$8.4/oz resource*

## 4.0 New Zealand Gold Mining History

### 4.1 Historic Production in South Island New Zealand

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

Big River and Alexander River each had higher than average grades

#### History of the Reefton Gold Field

The Reefton Goldfield has been explored and mined for both hard rock and alluvial. 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							
Rank	Mine Name	Goldfield	Mine Area	Production		Recovere d Grade	Percentag e of Total
				Tonnes	Ounces		
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%
<b>Total Underground Production</b>				<b>4,074,901</b>	<b>2,091,053</b>	<b>16.0</b>	<b>100%</b>

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					
Rank	Mine Name	Underground Production		Recovered	Percentage
		Tonnes	Ounces	Grade (g/t Au)	of Total oz 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
<b>Total Underground Prod</b>		<b>3,903,413</b>	<b>1,984,539</b>	<b>15.8</b>	<b>100</b>

Blackwater was by far the biggest...

..then Globe Progress...

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

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

## 5.0 SIREN GOLD PROJECTS

### 5.1 REEFTON REGION

#### Siren Reefton Project Locations

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

**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.

#### 5.1.1 ALEXANDER RIVER PROJECT EP60446

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

#### Alexander 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.

1.2km strike of mineralisation in trenches with ave thickness 4m and ave grade 8g/t

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.

Historic production 41koz @ 26.4g/t

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.

Resource potential >600koz

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 and are open.

#### Alexander River Project – Schematic Long Section

Four mineralised shoots that continue down dip >1200m

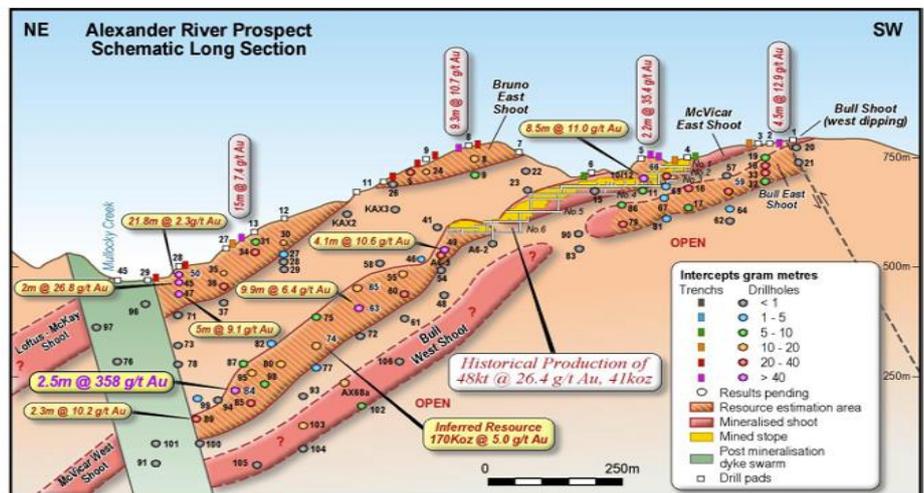


Figure 13. Schematic long section showing surface sampling and drillhole intersections.

AX DDH084 gave 3m @ 358g/t including 0.9m @ 1,460g/t.

A highlight of the ARP to date has been drillhole AX DDH084 providing an exceptional intercept **2.5m @ 358g/t including 0.9m @ 1,460g/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.

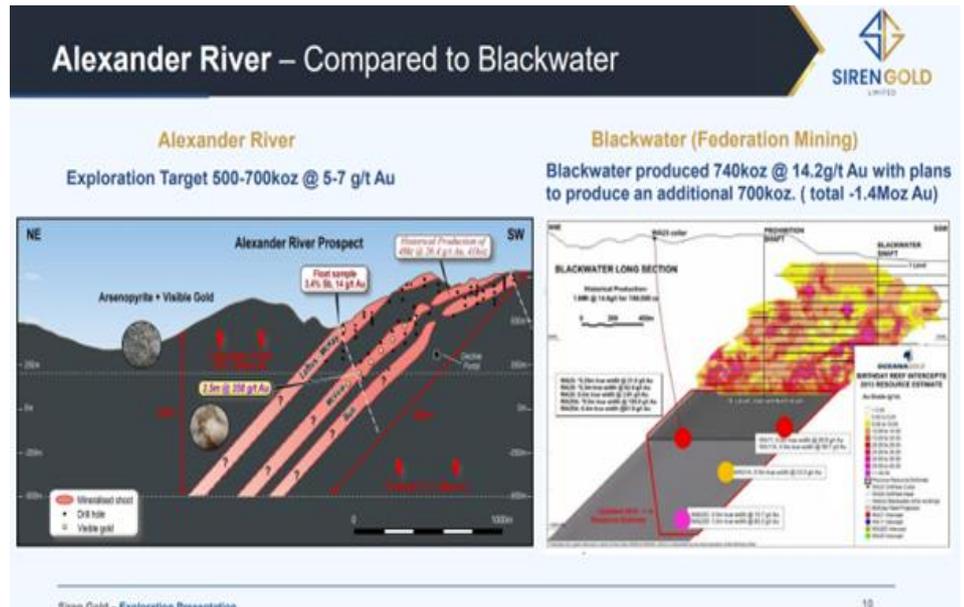
**SNG sees continuity of each of these three currently identified shoots down a further 250 vertical metres and a total of around 2000m down plunge.**

Potential of >1.0moz.

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

*Alexander River has strong comparison with the Blackwater mine*

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. The Snowy River (Blackwater) Decline has been completed. Note different scales.



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.

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.

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

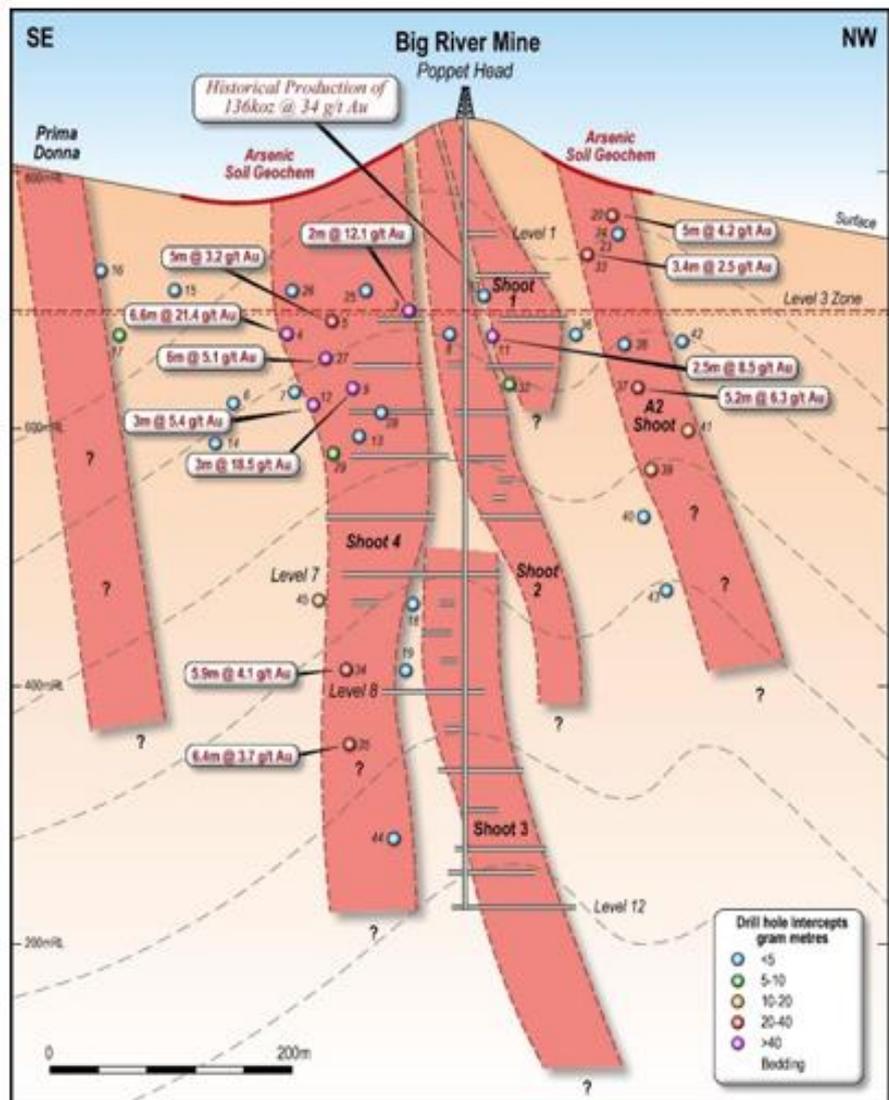
Big River was the 5<sup>th</sup> largest producer and had double the Reefton average gold grade.

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.

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.

Big River has an Inferred Resource of **106koz at 3.94g Au/t** and should all six shoots continue down to 500 metres **SNG envisions a resource target of 400koz.**

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



Source: Siren Gold

Big River has historic production of 136koz @ 34.1g/t.

5<sup>th</sup> largest Reefton producer

Double Reefton average grade

four main shoots 1,2,3 and 4...

Shoot 4 produced most of the gold and SNG drilling has shown excellent promise....

6m @ 21.4g/t

3m @ 18.5g/t

2m @ 12.1g/t

6m @ 5.1g/t

5m @ 4.2g/t

Exploration target is >400koz

..

...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.

More lower down.

5.1.3 GOLDEN POINT EP 60648

**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. Collectively these mines produced 1.6Moz at 10g/t Au.

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.

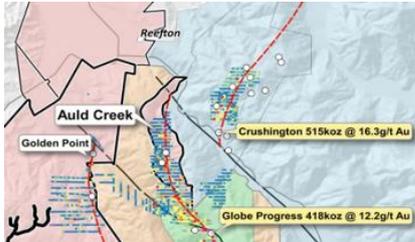
Mapping and soil sampling has indicated that the reef extends for at least 2km along strike to the south of this Golden Point mineralised zone.

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.

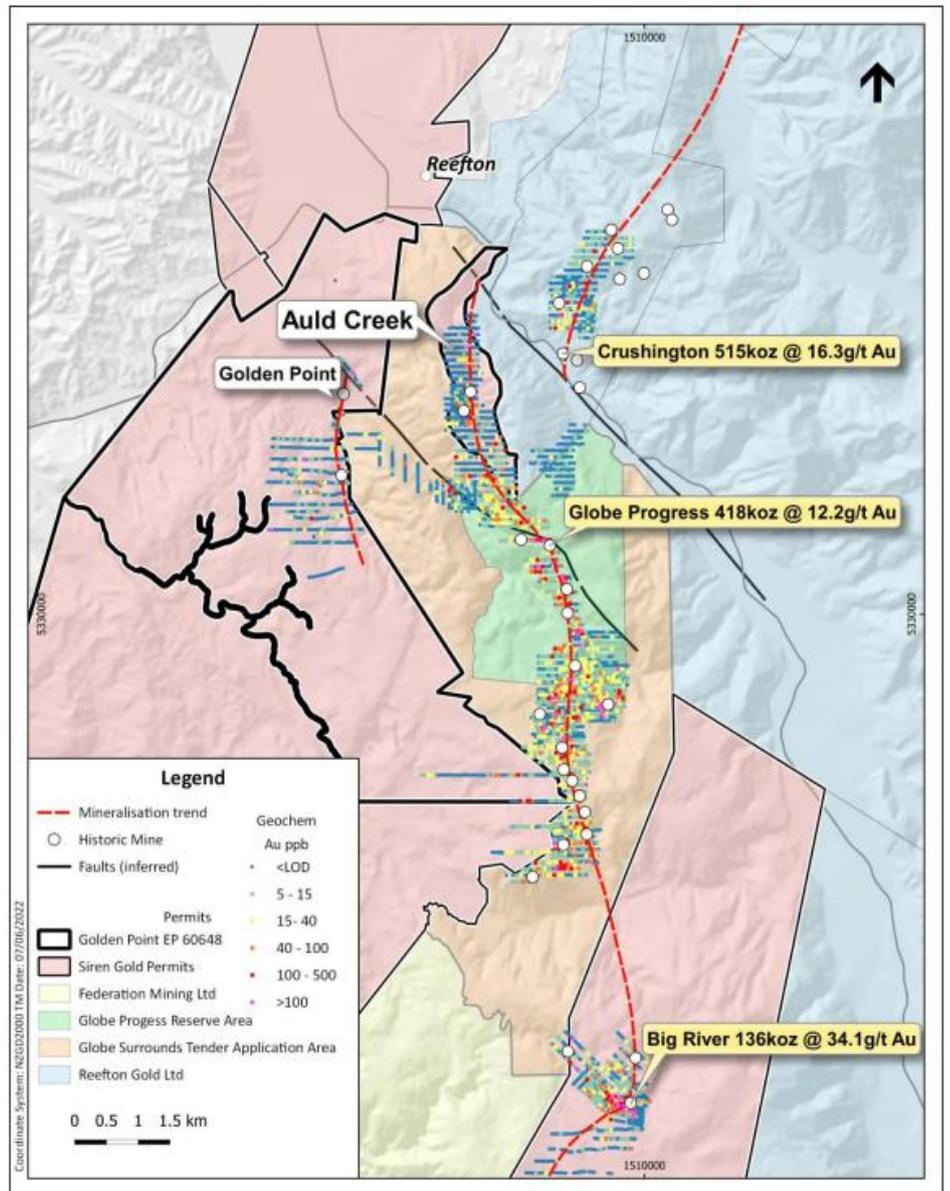
*Golden Point is on sub parallel reef and quite near key large mines at Globe Progress and Crushington.*

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



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

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



5.1.3.1 AULD CREEK

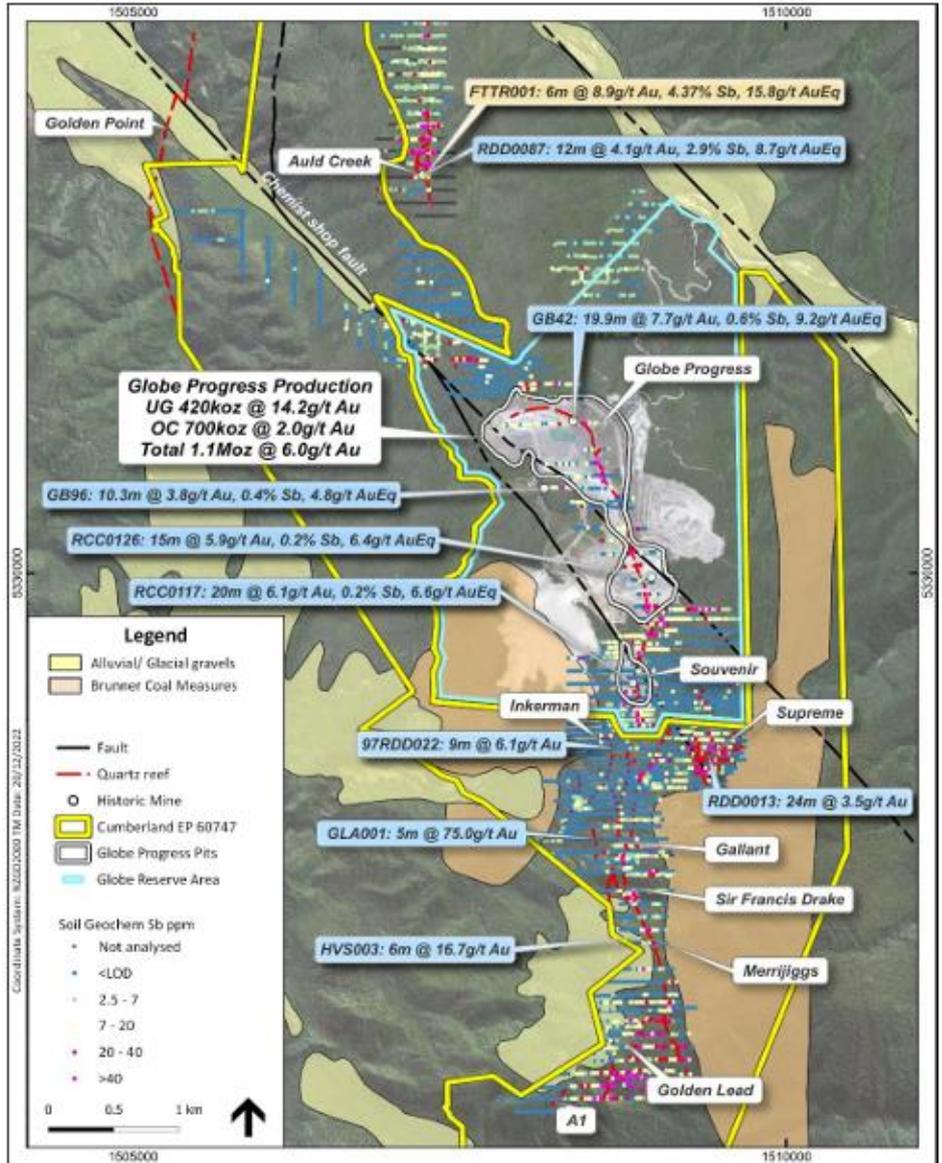
The Auld Creek Prospect is within Siren’s Golden Point exploration permit and is situated between the Globe Progress mine, which historically produced 418koz @ 12.2g/t Au, and the Crushington group of mines that produced 515koz @ 16.3g/t Au.

More recently OceanaGold Limited (OGL) mined an open pit and extracted an additional 600koz of gold from lower grade remnant mineralisation around the historic Globe Progress mine.

**SNG’s Golden Point Tenement (Auld Creek) and Cumberland Tenement**

*Auld Creek is just south of Reefton*

*Gold and antimony potential*



**Figure 5.** Reefton area showing Auld Creek Project, and surrounding gold and coal mines.

Auld Creek is at the northern end of the Golden Point tenement.

The gold-antimony mineralisation extends south from Auld Creek through the Globe Progress reserve area, through the Cumberland prospects (lower half of diagram) and on to Big River, a strike length of 12kms, with 9kms in Siren’s permits and 3kms in that Globe Progress reserve area.

*Exploration target of 300koz and much more later*

Soil sampling and trenching at Auld Creek has defined an arsenic soil anomaly over 700m along strike and clearly defines the Fraternal and Bonanza mineralisation (Figure ).

The Fraternal zone has been subdivided into the Fraternal and Fraternal North zones and Bonanza into the Bonanza and Bonanza East zones.

The Fraternal and the Bonanza zones dip steeply to the west, while the Bonanza East zone dips steeply to the east and appears to link the two west dipping mineralised zones.

*Auld Creek has 700m arsenic soil anomaly .*

*Two major shoots*

- Fraternal
- Bonanza

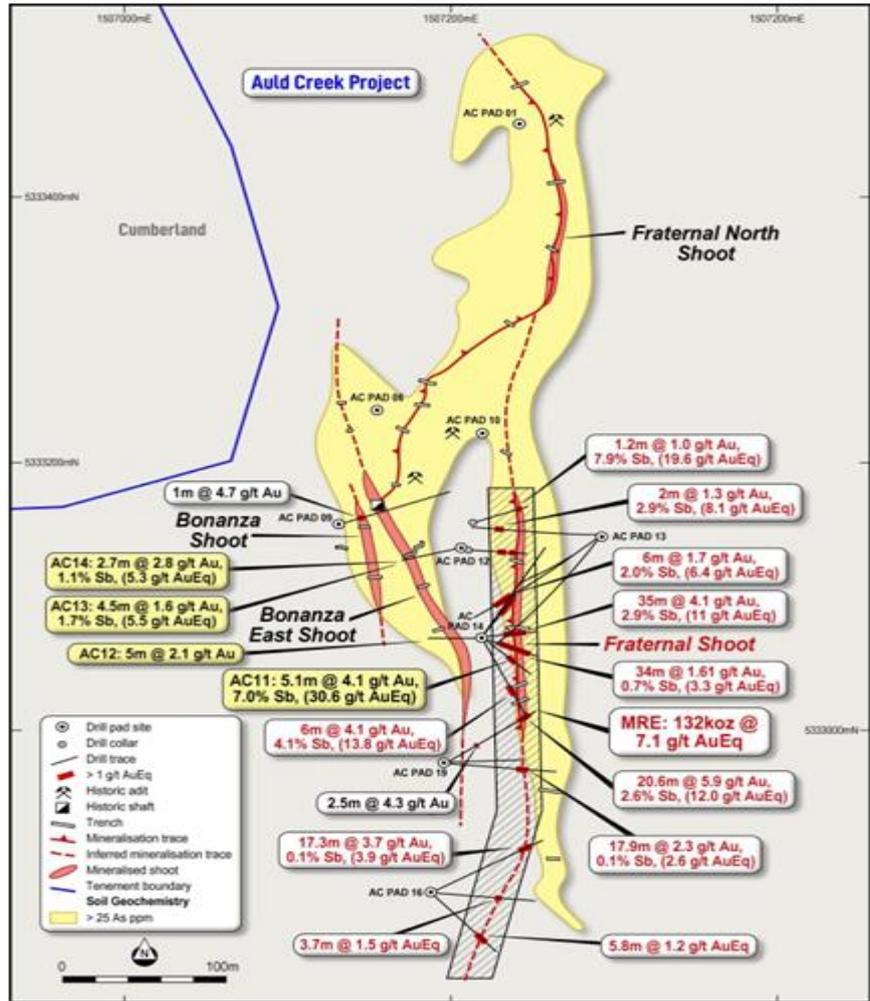
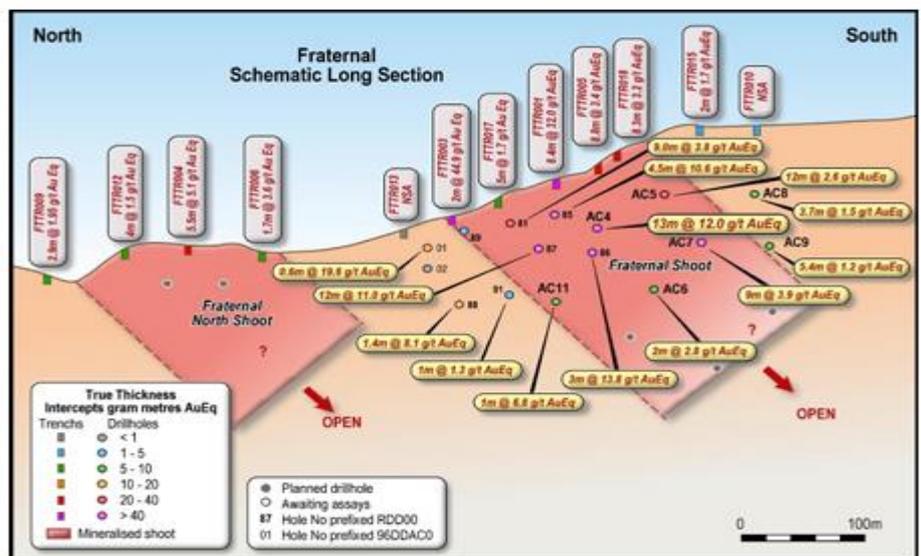


Figure 6. Auld Creek drillhole plan showing downhole intersections.

The plunge of the Fraternal Shoot is to the east and is considered to have considerable potential.

*These are high grade shoots and have potential to significant depths.*



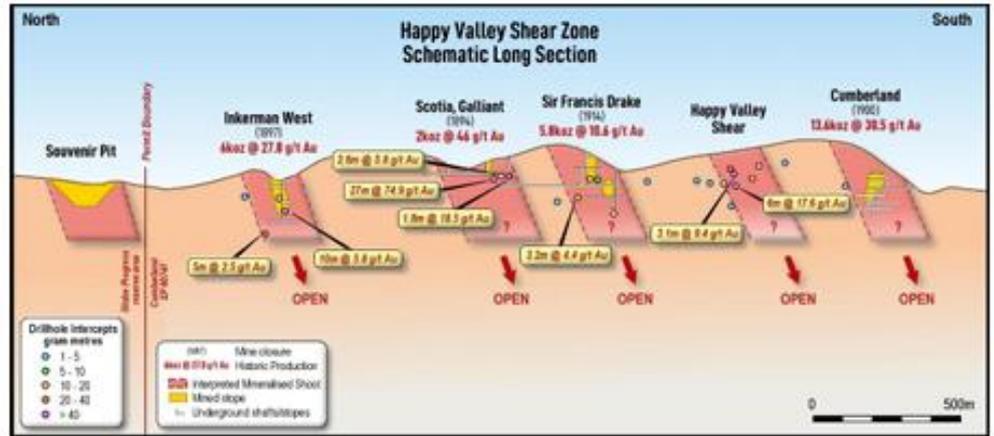
### 5.1.4 CUMBERLAND TENEMENT

*Cumberland has the Happy Valley Shear Zone with several shallow workings*

The Cumberland Tenement continues to the south from Golden Point.

It contains the Happy Valley Shear Zone which hosts several shallow high grade mines and also the Souvenir Pit in the Globe Progress reserve area to the north.

#### Happy Valley Shear Zone



*Supreme deposit has 100koz resource*

The Supreme deposit runs NS to the east of the Happy Valley Shear Zone and hosts a resource of 103koz @ 2.71g/t and historic mining of an estimated 27koz @ 27g/t.

### 5.1.5 LYELL GOLDFIELD PROJECT

*Mt Lyell*

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.

*Soil geochemistry highlighted five potential mineralised shoots at*

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.

*1 United Victory*

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.

*2 Alexander River lookalike*

*3 Break of Day*

*4 Alpine United*

#### Ranking of Lyell Goldfield Mines

Rank	Mine Name	Goldfield	Mine Area	Production		Recovered Grade (g/t)	Percentage of Total oz
				Tonnes	Ounces		
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%
<b>Total Underground Production</b>				<b>154,826</b>	<b>91,350</b>	<b>18.4</b>	<b>100%</b>

*SNG has high expectations for the Lyell tenements due to extensive strike length and high grades.*

Source: Siren Gold

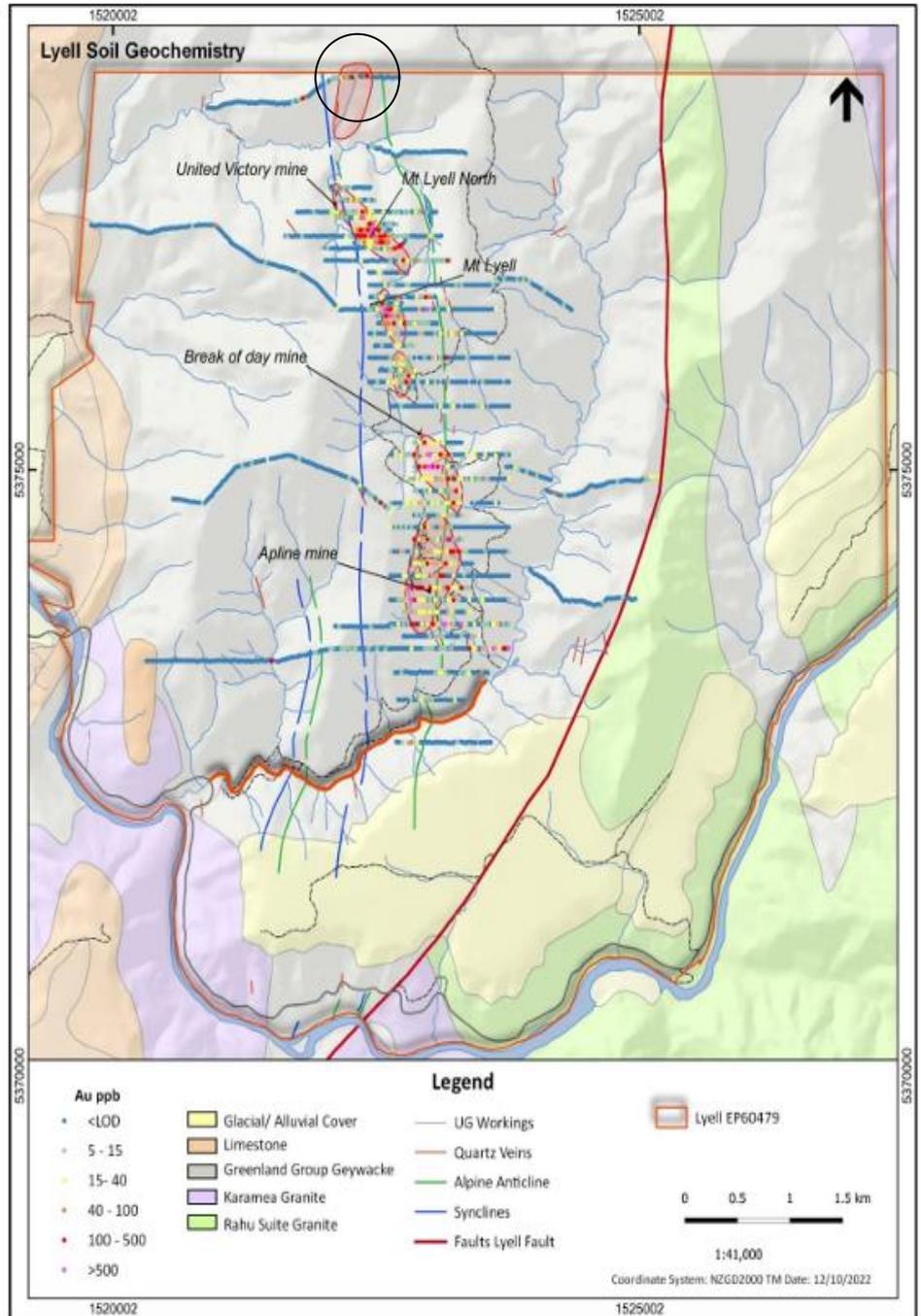
Rock chip samples along this outcrop ranged from 0.7 to 8.6g/t Au.

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

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

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

*Lyell is very similar to Alexander River*



**Figure 3. Lyell Line of Strike Gold Soil Geochemistry.**



## 6.0 SAM'S CREEK PORPHYRY PROJECT SCPP

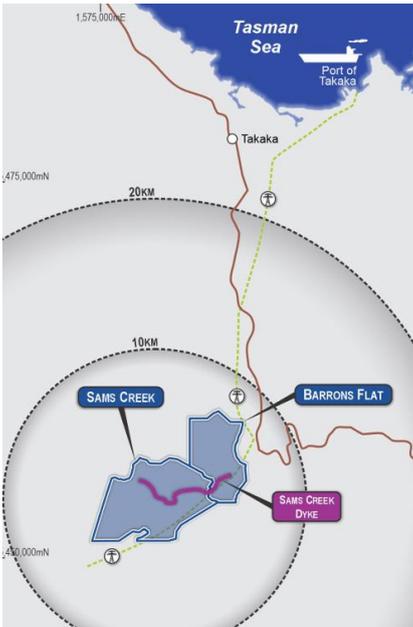
The Sams Creek Porphyry Project (SCPP) is a porphyry gold dyke deposit that cuts across part of the North-South mineralized corridor in Ordovician-Silurian volcanic and metasediment rocks, 140km north of Reefton and is ~40km South of Port Takaka.

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.

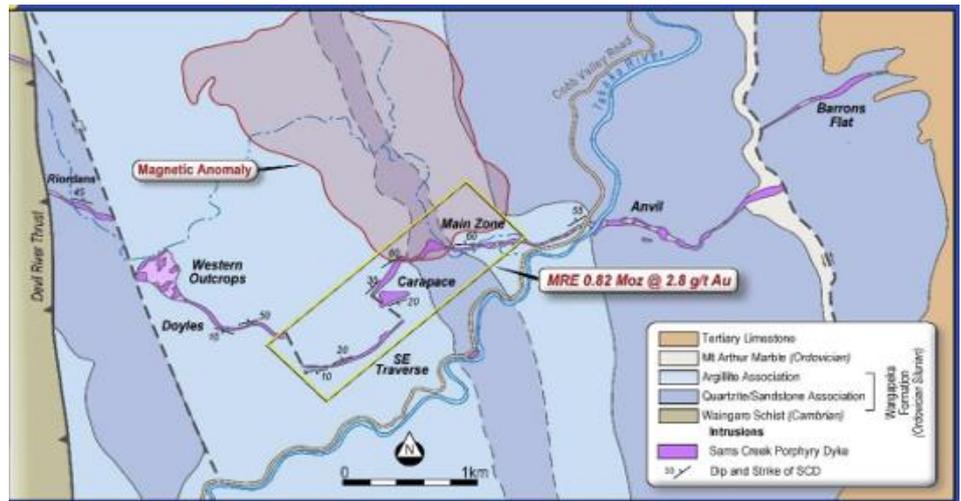
The project consists of two tenements:-

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

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



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



*824koz @ 2.82g/t Au at 1.5g/t cutoff*

*>1.0moz at 0.7g/t cutoff*

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

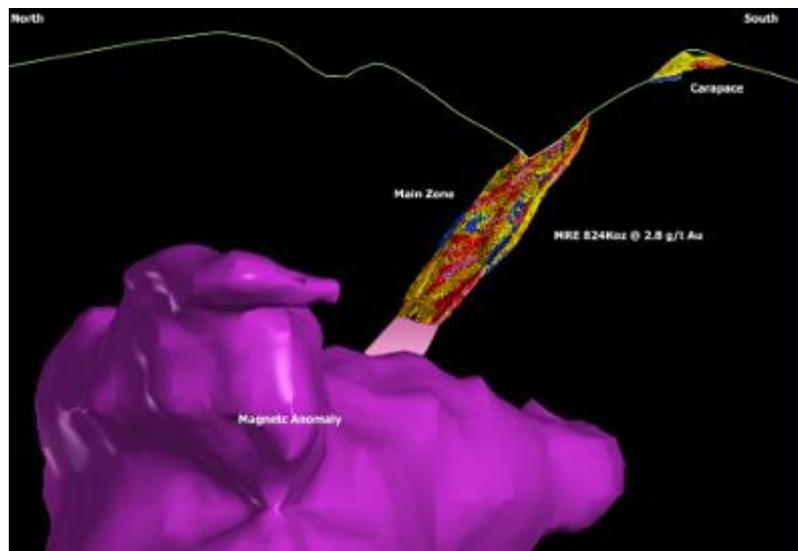
*Large magnetic anomaly at foot of dyke*

### Current Resources

Sams Creek Category	Minerals Resource Estimate		
	Tonnes (m)	Grade (g/t)	Contained gold (Koz)
Indicated	3.29	2.80	296
Inferred	5.81	2.83	529
<b>Total</b>		<b>3.1</b>	<b>825</b>

Considerable potential exists for additional resources along strike and downdip. A large magnetic anomaly has been identified and is a potential source of the mineralisation.

### Sams Creek Dyke and Magnetic Anomaly



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 824koz) 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*

*These grades and widths within the dyke are very encouraging....*

44m @ 3.04g/t

98m @ 2.80g/t

31.1m @ 3.55g/t

29.7m @ 3.46g/t Au

Incl 4m @ 7.3g/t Au

24.5m @ 2.60g/t Au

Incl 5m @ 5.70g/t Au

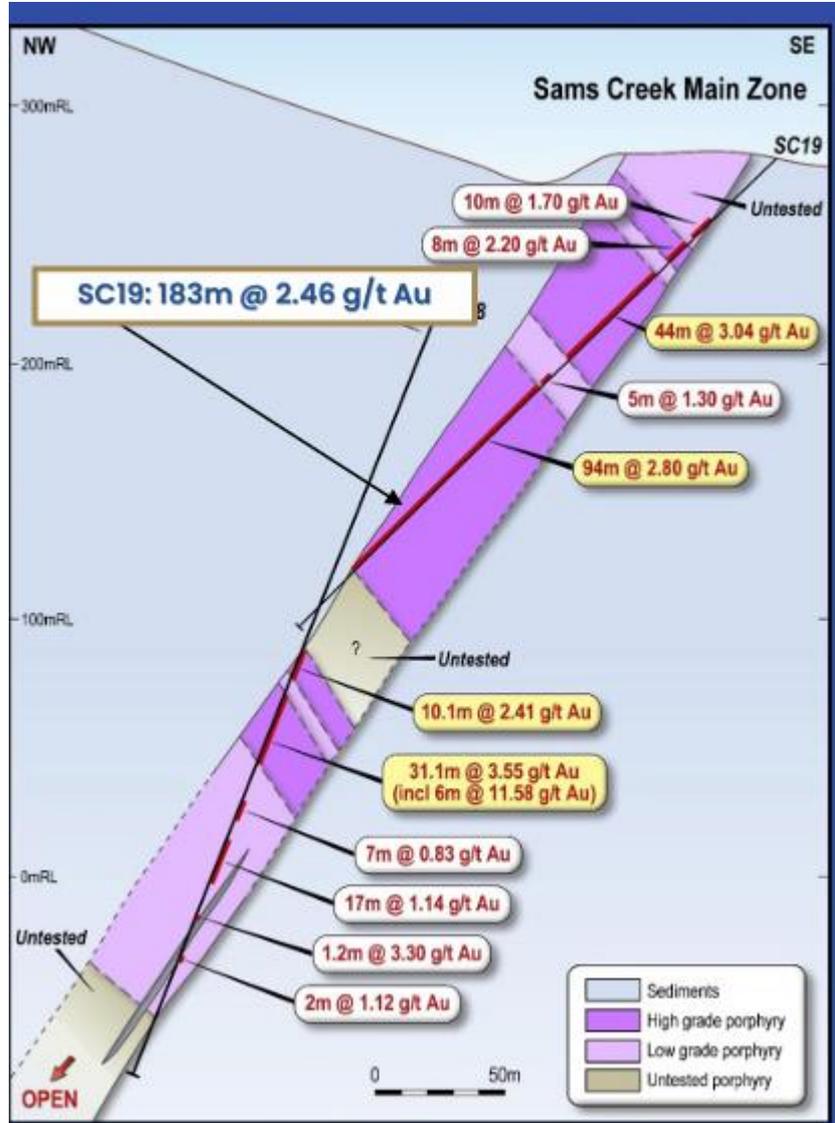
28.7m @ 3.26g/t Au

Incl 7m @ 6.50g/t Au

63m @ 2.43g/t Au

Incl 7m @ 5.0/t Au

**Cross Section of Sams Creek Dyke**



**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.

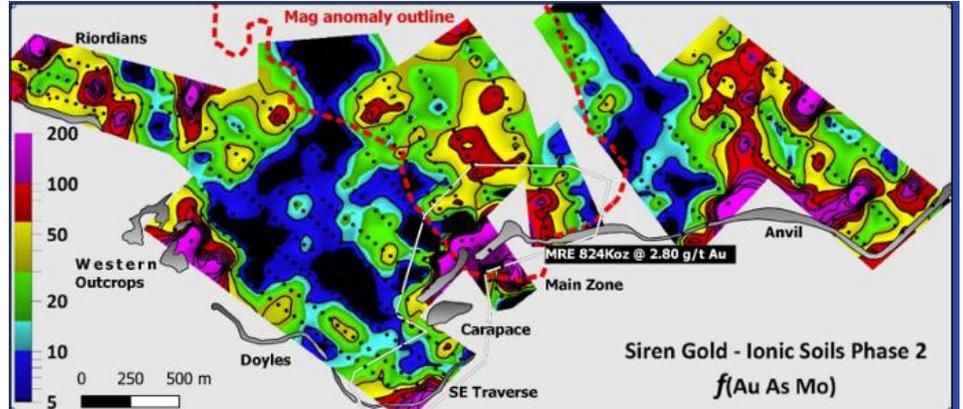
The SCPP has been folded into northeast plunging folds with gold veins preferentially forming in the fold hinges resulting in northeast plunging mineralised shoots.

The Sams Creek Dyke dips to the north west and a large magnetic anomaly has been identified to the north as a possible intrusive mineralisation source.

*Siren has carried out an Ionic Soil Geochem survey that has shown good results for gold and arsenic*

The dyke extends at least 2km to the east and SNG from ionic soil sampling it has carried out has identified some high gold-arsenic-molybdenum anomalies, particularly over the Anvil prospect.

**Ionic Soil Geochem Phase 2 survey.**



*Drilling at the Anvil prospect to the east is underway*

The Anvil Prospect is particularly encouraging and SNG is carrying out a 1000m drilling program.

## 6.0 ENVIRONMENTAL PERMIT REQUIREMENTS

**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 especially with a change of government in New Zealand.

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**

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.

*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*

*The new Government has set up a Fast Track system for resource development and Reefton and Sams Creek are on the list for consideration.*

*Environmental permits and Resource Consents*

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## **ANALYST VERIFICATION**

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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 shares in SNG at the date of this report. This position may change at any time

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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.