

SAMS CREEK GOLD LTD

Sams Creek Gold Project

DoC Access Agreement Application - Additional Information

February 2017



Table of Contents

SUMMARY	4
1. Introduction	6
2. Description of EP 40338	6
2.1 Area of AA Application.....	8
3. Previous Exploration.....	10
4. Summary of Proposed Activities	13
4.1 Helicopter Usage.....	14
4.2 Temporary Field Camps	16
4.3 Foot tracks	18
4.4 Geological Mapping and Rock Chip Sampling	18
4.5 Soil Geochemistry	18
4.6 Ground Based Geophysical Surveys	19
4.7 Aerial Surveys.....	19
4.8 Hand held Trenches	19
4.8.1 Safeguards against Adverse Effects.....	19
4.9 Drilling.....	20
4.9.1 Safeguards against Adverse Effects.....	21
5. Access, Plant and Equipment	26
5.1 Access	26
5.2 Existing and Proposed Services	26
5.3 Accommodation	27
5.4 Surface Structures.....	27
5.5 Water Supply and Disposal	27
5.6 Waste Disposal	27
5.7 Resource Consents.....	28
5.8 Economic Evaluation	28
6. Assessment of Environmental Effects	28
6.1 Description of Existing Natural Environment	28
6.1.1 Topography	28
6.1.2 Hydrology	29
6.1.3 Geology	29
6.2 Nature Conservation Values and Biodiversity	29
6.2.1 Plant Assessment	29
6.2.2 Animal Assessment	31
6.2.3 Habitat Assessment	31
6.3 Archaeological and Historical Sites.....	32
6.4 Social Environment	32

6.4.1 Landscape and Scenic Qualities	32
6.4.2 Noise	33
6.4.3 Use by the Public	33
6.5 Tangata Whenua.....	33
6.6 Effects of Proposed Activities	34
6.6.1 Removal of Vegetation.....	34
6.6.2 Reduction of Water Flows	35
6.6.3 Discharge of Sediment.....	35
6.6.4 Discharge of Contaminants	35
6.6.5 Noise	35
6.6.6. Weed Infestation	35
7. Management Plan	36
7.1 Vegetation Removal	36
7.2 Cultural Sites.....	36
7.3 Erosion and Sediment Control	36
7.3.1 Trenching.....	36
7.3.2 Drilling	36
7.4 Weed Infestation	37
8. Rehabilitation.....	37
9. Mitigation Measures.....	37
10. Monitoring.....	38
11. Additional Exploration and Access Applications.....	38
BIBLIOGRAPHY	39
APPENDIX 1 – Exploration Permit.....	40
APPENDIX 2 – Resource Consents.....	41
APPENDIX 3 – Current DOC Access Agreement.....	42
APPENDIX 4 – EP 40338 80% Transfer certificate	43
APPENDIX 5 – MOD’s Permit to Work Procedure	44

SUMMARY

This Access Arrangement (AA) application is for the use of land managed by the Department of Conservation (DoC) in the Takaka River Valley, upstream of the township of Upper Takaka, covered by EP 40338 (Appendix 1). This application for access is made to replace the Access Arrangement dated 11 April 2012 that expires on 26 March 2017. EP 40338 has recently been renewed and now expires on 26 March 2021.

It should also be noted that the current AA has been granted to Oceana Gold New Zealand Limited (OGC). Sams Creek Gold Ltd (SCG) entered into a joint venture agreement (JV) with OGC in 2011 whereby SCG has to sole fund exploration activities to earn a percentage of the 40338. To date SCG has invested around \$10M and has earned 80% of the project (see 80% Transfer Certificate in Appendix 4).

This AA application is in the name of SCG and OGC as they join holders of the permit.

Further access is required to enable the continuation of the existing hard rock exploration activities ranging from low impact geological mapping and geochemical sampling to helicopter assisted surface drilling to prove up the mineral resources present within the Sams Creek Porphyry and environs.

**APPLICATION FOR AUTHORITY TO ENTER
LANDS MANAGED BY
THE DEPARTMENT OF CONSERVATION**

Name of Company: Sams Creek Gold Limited

(i) **Address:** s 9(2)(a)

(ii) **Contact person:** Paul Angus

(iii) **Phone:** s 9(2)(a)

(iv) **E-Mail :** s 9(2)(a)

Type of Minerals Permit: Exploration Permit

(i) **Permit Number:** 40388

(ii) **Type of Mineral Resource Sought:** Hard rock gold and other metallic
.....minerals.

Justification for Proposed Use:

The Company has reviewed past detailed prospecting and exploration data from the area as well as the current programme being carried out under the existing Access Arrangement and has determined that this area warrants further work. EP 40338 has recently been renewed and expires on 26th March 2021. The objective of the exploration programme is to systematically explore the area to determine more accurately the size of the potential mineral resource.

It should be noted that under the exploration permit no mining or mining activities as defined under the Crown Minerals Act 1991 is allowed.

Term:

The term sought for this access arrangement is 5 years until 26th March 2022, but will cease to exist over any part of the area where the applicant does not hold an exploration permit or application for such. The applicant will advise the Department of any partial surrender or full surrender of these permits.

1. Introduction

The Sams Creek gold deposit near upper Takaka in the Cobb Valley was discovered in 1974 by CRA. CRA undertook a comprehensive exploration program between 1982 and 1988 and identified a potentially large gold resource estimated at ~600,000oz. CRA subsequently sold all their NZ assets including Reefton, to OceanaGold Corporation (OGC) in 1992. OGC have been operating the Macraes Gold Mine since 1990 and developed the Reefton Gold Mine in the DoC estate in 2007. To date OGC has produced over 4.5Moz of gold within NZ worth over \$7 billion dollars at today's gold price.

MOD Resources Ltd (MOD) entered into a Joint Venture with OGC in October 2011. To date the JV has drilled 72 diamond holes over 10,600m at a cost of around \$10M. This drilling has been very successful increasing the resource to over 1.0Moz making it the largest undeveloped gold resource in NZ. With only 10% of the Sams Creek mineralisation tested by drilling to date there is excellent potential to increase this resource significantly.

The Sams Creek Gold Project (SCGP) comprises two exploration permits EP 40338 (Sams Creek) and EP 54454 (Barrons Flat) (Figure 1). This DoC Access Application (DoC AA) is for part of EP 40338 only. A separate Minimum Impact Activity (MIA) application for the remainder of the permit will also be applied for in a separate application. EP 40338 is jointly owned, with SCG currently owning 80% and OGC 20%.

EP 40338 was originally granted on 27 March 1998 and the permit Appraisal Extension expires on the 26th March 2021.

The following Resource Consents were granted on 25 June 2008 and expire on 26 June 2018 (Appendix 2).

- Land Disturbance (RM080324)
- Take, Use or Divert Surface Water (RM080318), and
- Discharge Permit (RM080317).

There have been several Doc AA's over EP 40338. The current agreement was granted on 11th April 2012 and expires on the 26th March 2017 (Appendix 3). These agreements have covered the entire permit area.

The company is seeking a 5-year extension of the DOC AA to 26th March 2022 or the term of EP 40338 whichever is lessor.

This document provides additional information to support these applications.

2. Description of EP 40338

EP 40338 is situated in an area of rugged topography, with elevations ranging from 200 m to 800 m above sea level and covers 3063 Ha. Very steep sloping ridges separate deeply incised valleys, with a typical vertical relief of 600m. Some of the higher ridges exhibit flattened tops corresponding with a Tertiary peneplain.

The Sam's Creek waterway is a deeply incised tributary of the Takaka River, located on the eastern side of the Lockett Range (Figure 2). An oblique aerial photo of the area is shown in Figure 4.

The area is generally covered with beech forest with native scrub and sub-alpine grasslands. Some of the beech forest has been logged, with other areas burned and grazed. Where logged or grazed in the past, the area is now regenerating as native scrub.

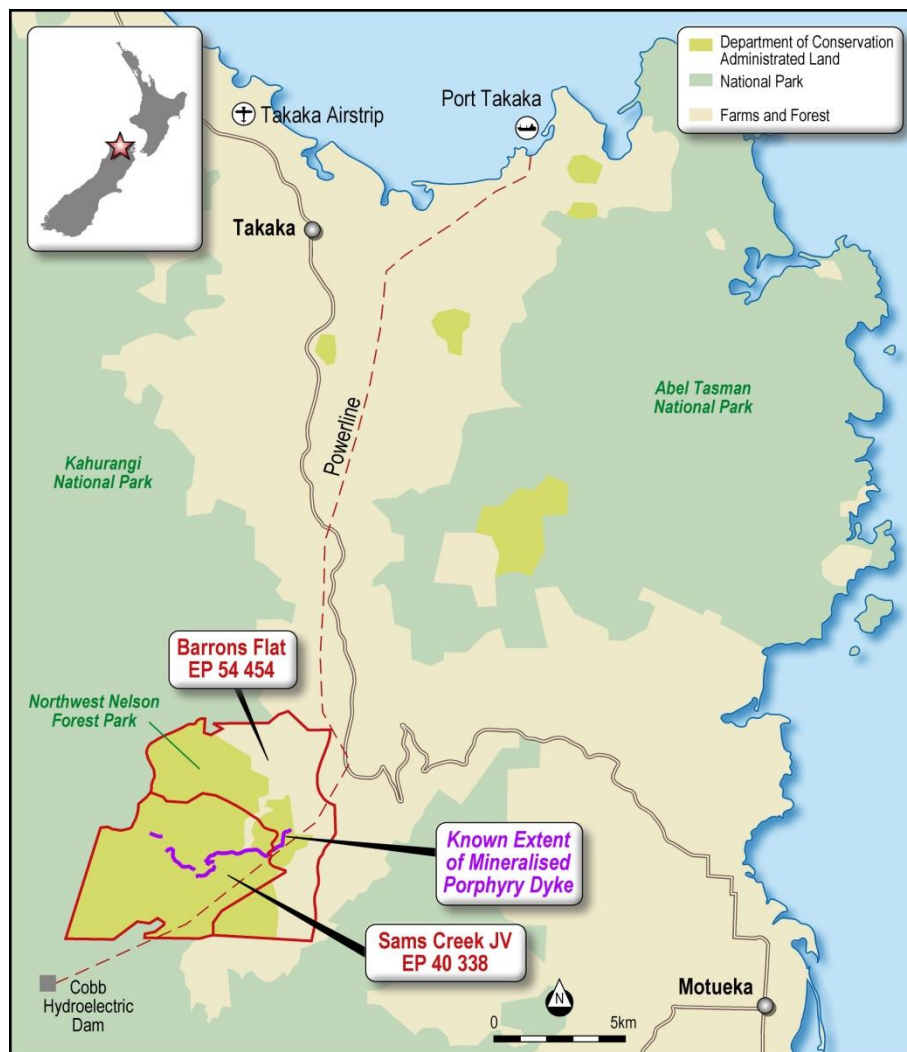


Figure 1. Location of the Sams Creek Gold Project.

The permit area lies to the east of the Kahurangi National Park and is largely contained in the North West Nelson Forest Park (Figure 3), which is a Conservation Park held under Section 19 of the Conservation Act 1987.

The principal access to the site is via State Highway 6 from Nelson. At Upper Takaka, the access follows the Cobb Dam Road, a sealed private road (owned by Meridian Energy Limited) which passes within 1 km of the Main Zone prospect area. This road is a popular access road to Kahurangi National Park.

2.1 Area of AA Application

The DoC AA application has been reduced to a smaller area that surrounds the Sams Creek Dyke (Figures 2 - 5). This area contains approximately 971ha or 32% of the permit area. A separate access agreement for minimum impact activities (DoC MIA) will be applied for over the remainder of the permit for a 5-year term.

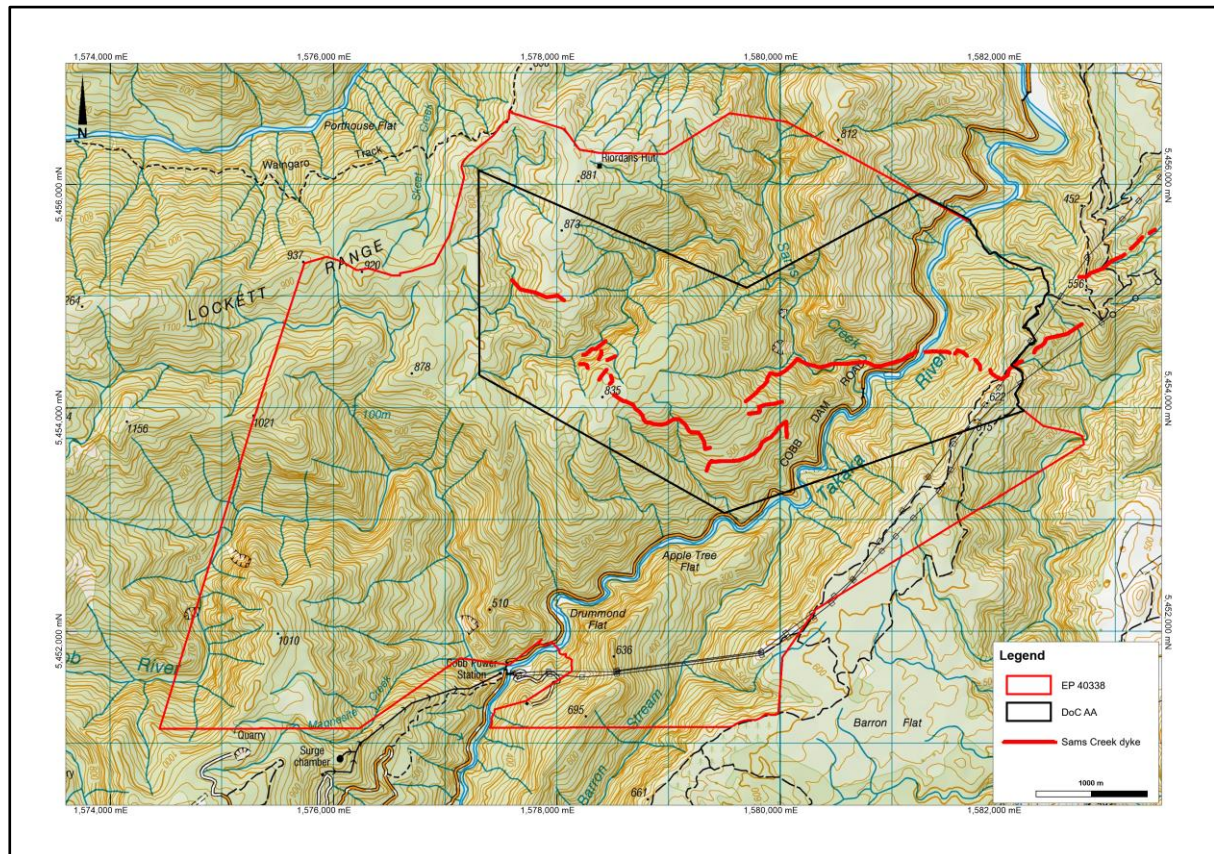


Figure 2. Location of exploration permit EP 40338, DoC AA application area and the trace of the Sams Creek Dyke.

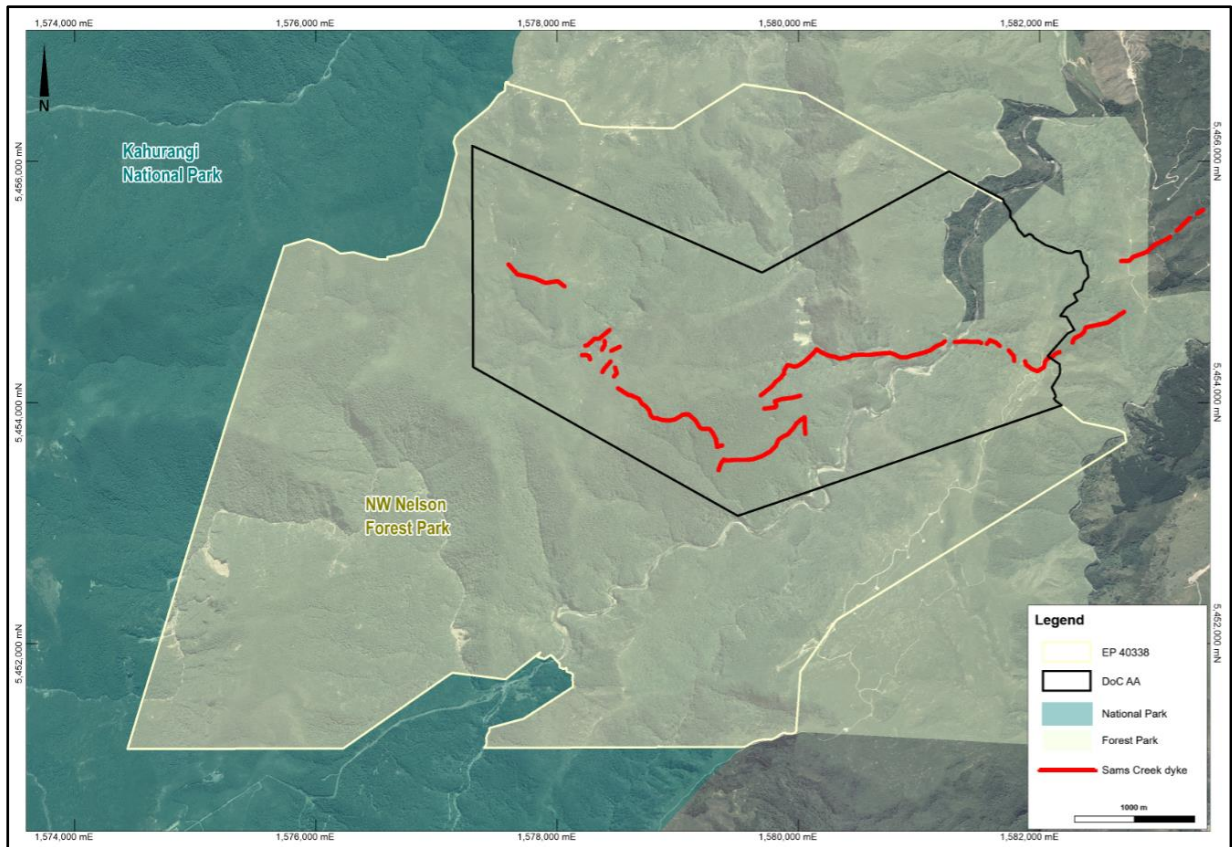


Figure 3. Doc administered land within and adjacent to the permit area.

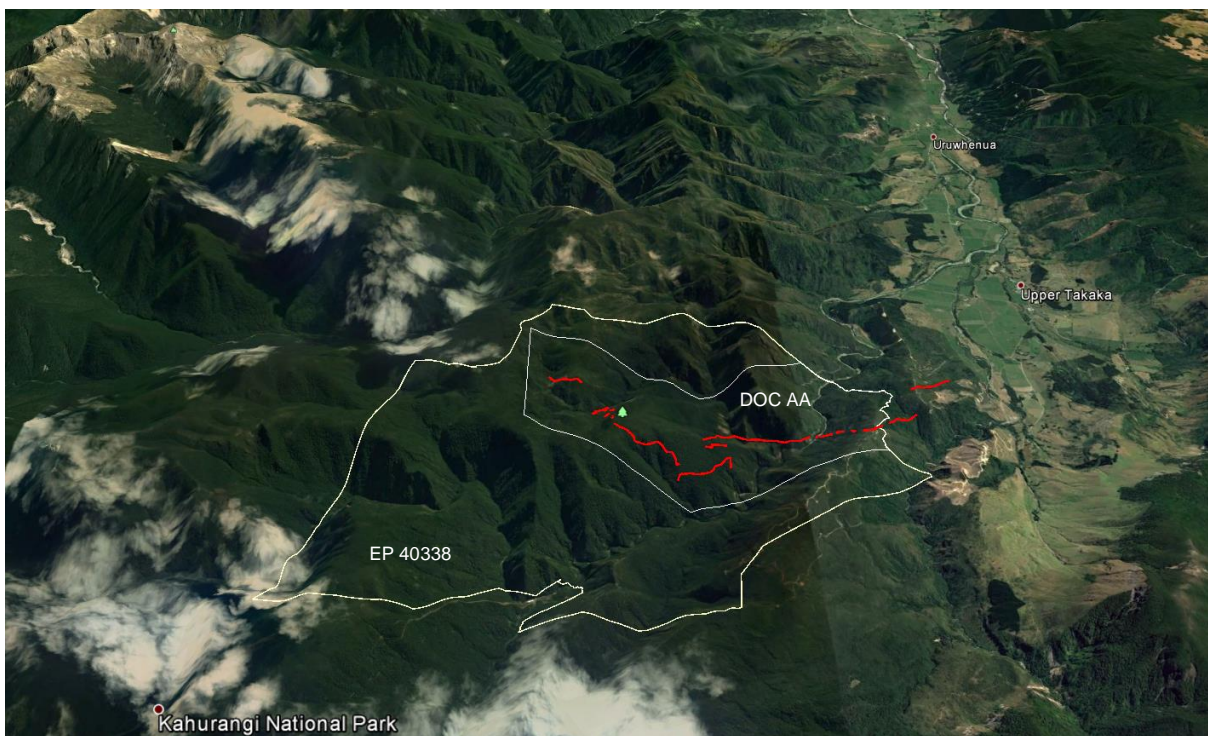


Figure 4. Sams Creek area showing EP40338 and the DoC AA application area. Sams Creek Dyke shown in red.



Figure 5. DoC AA application area and Sams Creek prospect areas.

3. Previous Exploration

Discovery of the Sams Creek deposit is credited to CRA Exploration (CRAE) geologist G.W. Patterson, who sampled boulders of altered pyritic dyke at the confluence of Sams Creek and the Takaka River in 1974. Grab samples showed low but significant gold grades. The source of the boulders was subsequently traced upstream to exposures of the dyke at the Main Zone prospect.

CRAE commenced systematic exploration of the Sams Creek area in 1980 with a programme of geological mapping and rock chip sampling. Detailed exploration was focussed on the Main Zone prospect, where it was demonstrated that gold mineralisation was extensive and at potentially economic grades. Diamond drilling commenced in this area in 1982 and over the following years a number of intersections indicated that a target of 2 to 3 g/t Au was feasible.

Regional mapping and extensive rock sampling continued in parallel with the drilling, resulting in the progressive discovery of other mineralised dyke exposures along strike from Main Zone. A large surveyed grid was established over the project area in 1985, upon which later geological mapping, soil geochemical sampling, detailed ground magnetic and induced polarisation (IP) geophysical surveys were based.

Work on the project by CRAE ceased in 1987. Overall, CRAE completed 42 diamond drill holes for a total of 5,847 metres drilling. From this, 1,288 samples of mineralised porphyry were collected for assay. The bulk of the drilling was completed at Main Zone (30 holes), with reconnaissance drilling completed at Riordans, Western Outcrop, Doyles and South East Traverse.

The feasibility of further exploration drilling from an underground drive at Main Zone was investigated.

OGC purchased the project from CRAE and recommenced diamond drilling at the Main Zone prospect in December 2002. Two drilling programmes were completed. Both programmes took around 6 months and were completed between mid-November and mid-May.

- In 2002 / 2003 - 6 drill holes for 1,040m of HQ core
- In 2003 / 2004 - 6 drill holes for 1,562m of HQ core

The MOD / OGC JV commenced exploration in July 2011 and included the following key activities;

1. A LIDAR high resolution topographic survey;
2. An heli-magnetic survey;
3. A stream sediment survey of all main drainage catchments;
4. Completion of the CRAE soil survey over the known dyke between the Main Zone and Anvil;
5. Field mapping and rock chip sampling;
6. Limited trenching; and
7. Drilling of 72 diamond drill holes totaling 10,683m within the Main Zone, Carapace and SE Traverse prospects.

The extent of the soil geochemistry sampling is shown in Figure 6 and location of drill holes, camps and helipads are shown in Figure 7. To date 130 diamond holes have been drilled (Table 1).

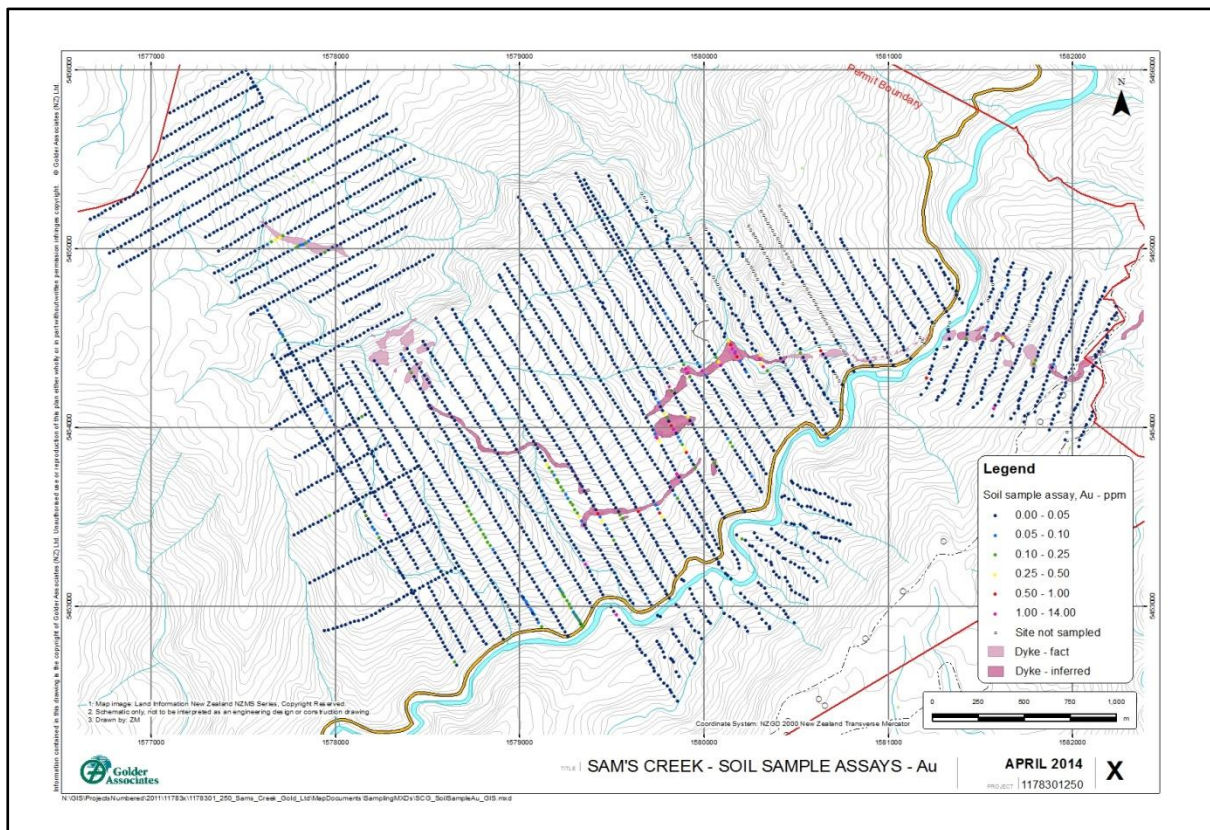


Figure 6. Gold Soil Geochemistry sites.

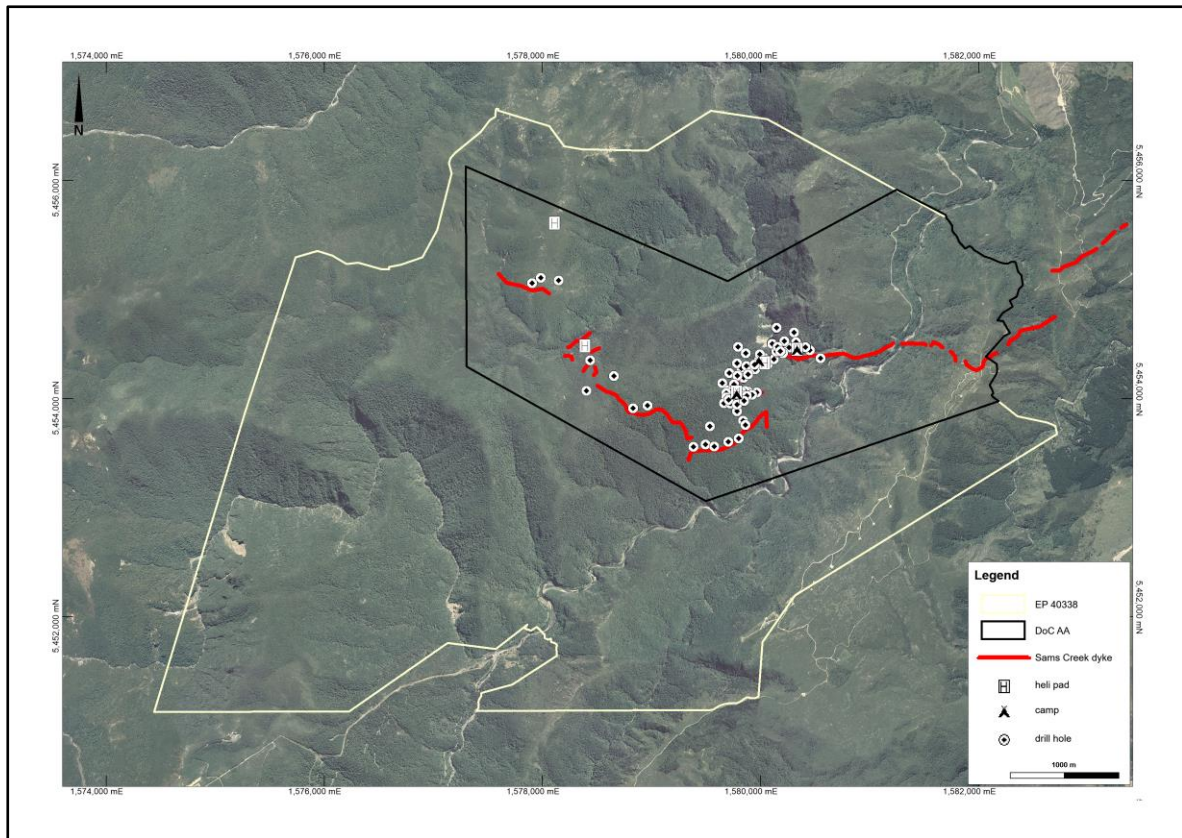


Figure 7. Location of historical drill holes, camp sand heli-landing sites

Company	No Holes	Metres
CRA	46	5,846
OGL	12	2,715
MOD	72	10,683
Total	130	19,244
Prospect	No Holes	Metres
Anvil	0	-
Main Zone	82	16,195
Carapace	32	1,033
SE Traverse	8	618
Doyles	2	258
Western Outcrops	3	701
Riordans	3	438
Total	130	19,244
Stage	No Holes	Metres
Pre-MOD	61	8,585
1	9	2,350
2	53	7,000
3	7	1,310
Total	130	19,244

Table 1. Total number of diamond drill holes and metres drilled at the Sams Creek prospect

4. Summary of Proposed Activities

The proposed exploration programme is to investigate the area for a potential economic mineral deposit.

The following activities within the DoC AA area are proposed:

- Establishment of temporary field camps;
- Establishment of Helicopter landing sites;
- Establishment of foot tracks;
- Geological mapping and rock chip sampling;
- Soil Geochemistry over the target mineralised zones;
- Ground based geophysical surveys;
- Aerial surveys;
- Hand held geological investigation trenches, and
- Drilling of exploration holes.

The following activities within the DoC MIA (separate application) area are proposed:

- Establishment of temporary field camps;
- Establishment of Helicopter landing sites;
- Geological mapping and rock chip sampling;
- Soil Geochemistry over the target mineralised zones;
- Ground based geophysical surveys;
- Aerial surveys;

It is not possible to accurately locate the position of trenches, drill holes, camps and helicopter landing sites within the DoC AA area as this will depend on the exploration results achieved over the 5-year term. However, the maximum number of activities within the DoC AA applied for is included in Table 2.

Activity	No.
Temporary filed camps	10
Helicopter landing sites	10
Trenches	25
Drill hole sites	100

Table 2. Proposed maximum number of activities within the Doc AA area.

Once work programmes have been finalised the Company will apply for an Authority to Enter and Operate to complete the proposed work programmes as it has done in the past. This process has worked well.

4.1 Helicopter Usage

Helicopter landing sites are required for access, establishing camps, supporting drilling operations, removal of samples and safety. The use of helicopters is dependent on the location, type and amount of work being conducted. In the last few years since MOD commenced operations several helicopter companies have been used from Nelson, Motuaka and Karamea. Small helicopters were used for access and supplying camps and drilling rigs and the removal of core, with larger B2 helicopters, used moving the drilling rig and camps. Helicopter hours by year are shown in Table 3.

Year	Helicopter hours
2011	70
2012	293
2013	156
2014	12
2015	15
2016	1
Average	91

Table 3. Helicopter hours by year.

Several helicopter landing sites already exist at Sams Creek, and range from wooden decks (Figure 8), cleared rock outcrops (Figure 9), and on the roof of the camp (Figure 10). Any new sites will generally utilise existing clearings and will be subject to the DoC guidelines. Where possible, helicopter companies with exiting landing permits (concessionaires) will be utilised.



Figure 8. Carapace Helipad.



Figure 9. Main Zone Helipad constructed by CRA in the 1980's



Figure 10. Helipad on top of Camp Austin.

4.2 Temporary Field Camps

Temporary field camps will be established for both field work and drilling activities. Tent based camps will be used for field work and will be positioned close the work areas where there is sufficient open level ground (Figure 11). Water for the camps will either be sourced from a nearby stream or flown in. A compost or portaloo toilet will be used and grey water will be discharged onto land.

Hut based camps will be used when drilling operations are being undertaken. These camps are likely to comprise of a series of portacoms on a wooden deck similar to those previously used at Sams Creek (Figure 12). Where possible they are located on existing drilling platforms such as Camp Austin (Figure 13). To date only three sites have been used (Main Camp, Camp Austin and Carapace). Additional sites are likely to be required at Riordans, Western Outcrops, Doyles, Main Zone East and at Anvil (Figure 5) on the eastern side of the Takaka River. The drill hole procedure (Appendix 5), will be used for camps as well.

These camps will be powered by a generator and include a kitchen and shower and portaloo. Grey water is generally collected in a sump or tank and drained through the bush leaf litter. Portaloo's are flown out when full to be cleaned.

All rubbish will be collected and stored in containers approved for these purposes and removed for disposal.



Figure 11. Indicative tent camp.

Waste domestic water (eg shower, washing, etc) will be piped to a suitably located sump dug into the ground where solids will settle out and liquid will dissipate into the ground.



Figure 12. Main camp on the south side of Sams Creek.



Figure 13. Camp Austin on the north side of Sams Creek.

4.3 Foot tracks

A number of foot tracks have already been established at Sams Creek i.e. Main Zone track, North side track and Carapace track. Limited additional foot tracks will be established to aid access to drilling sites. These will be created by hand held methods with minimal vegetation clearance where there are no existing tracks.

4.4 Geological Mapping and Rock Chip Sampling

Low impact mapping and rock chip sampling will be completed over the project area and will utilise activities 4.1 - 4.3.

4.5 Soil Geochemistry

Soil geochemistry involves the collection of soil samples on a regular grid. Samples of the soil C horizon are collected with a spade or auger by excavating a small hole generally between 500mm and 1m deep. A small sample of the C horizon is collected (approximately 250gms) and the hole backfilled (Figure 12). To date soil samples have been collected over the Sams Creek Dyke (SCD) within EP 40338 (Figure 6).



Figure 14. Soil Sampling.

4.6 Ground Based Geophysical Surveys

Ground based geophysical surveys would generally include magnetics, gravity and IP /resistivity. Magnetic and gravity are passive surveys that use hand held instruments to measure the naturally occurring magnetic or gravitational fields on a regular grid.

A resistivity survey measures the variations in the electrical resistance, by injecting an electrical current into the ground through two current electrodes and measuring the resulting voltage difference at two potential electrodes.

Limited IP / Resistivity and Magnetics surveys were completed by CRA in the 1980's.

4.7 Aerial Surveys

Aerial surveys can include magnetic, radiometric, gravity and electro-magnetic. A magnetic / radiometric survey was completed over the project in 2011. A LiDAR (Light Imaging, Detection, and Ranging) survey was also completed in 2011.

4.8 Hand held Trenches

Trenches excavated by hand held methods are used to remove the surface soil layer and expose the underlying bed rock so it can be mapped and sampled. This would generally be done across areas of anomalous soils to try and expose the underlying mineralisation. The trenches would generally be around 1m deep and less than a metre wide and maybe 10s of metres long. The topsoil is removed and placed to one side of the trench and the remaining material on the other side. Once the trench has been mapped and sampled it will be backfilled and topsoil and leaf litter spread on top.

Trenching has been completed by CRA and a limited extent by MOD Resources.

4.8.1 Safeguards against Adverse Effects

4.8.1.1 Trench Sites

To avoid or safeguard against potential adverse effects from trenching the following Permit to Work procedure (Appendix 5), that has been used successfully in the past will be used for this next campaign;

1. The location (Northing and Easting) and orientation for a new trench is planned;
2. The field location is inspected and the best nearby location (+/-25m) identified, taking into account, the contour of the terrain, existing gaps between trees that can be utilised and flora type (i.e. any threatened or high value species i.e. rata);
3. The proposed site is inspected by DoC to ensure that the adverse effects are minimised;
4. The site is inspected for nests, burrows and any signs of human activity;
5. The new location is recorded (Northing and Easting)
6. Site included in an Authority to Enter and Operate (AEO) application;

Once AEO signed off by DoC;

1. The trench is dug with hand tools with top soil stacked on one side and excavated dirt on the other side;
2. One end of that trench is cut at a shallow angle so any fauna that inadvertently falls into the trench can escape;

3. Once the trench has been mapped and sample results received the trench will be backfilled and compacted, with the topsoil and any leaf litter spread over the top.

4.9 Drilling

To date 130 diamond cored drill holes for a total of 19,244m has been completed with 72 holes for 10,683m drilled by MOD. The Main Zone and Carapace (1km strike) are the only prospects to be systematically explored. Outside of this area only 17 holes have been drilled (Table 1 and Figure 7).

Drilling operations have been undertaken using a helicopter portable drilling rigs. A timber platform is constructed and the drilling rig is flown in sections and assembled on the platform (Figure 15). Over 90 holes have been drilled at Sams Creek using this technique. A smaller minimum impact drilling rig has also been used at Sams Creek with the rig positioned either on sleepers or a small deck by helicopter (Figure 16).

A number of drill holes are often drilled from one platform with holes drilled in different directions. Hole depths can range from 10's of metres to several hundred metres. The deepest hole at Sams Creek is 730m. Holes can take anywhere from a couple of days to 24 days for the 730m deep hole. If several holes are drilled from same platform the rig maybe on that site for one or two months depending on the depth of the holes. Drilling operations generally work 24/7 with two 12 hour shifts per day but is completed in campaigns. Previous drilling campaigns at Sams Creek completed by MOD are shown in Table 4. To date up to 3 drilling rigs have been used at the same time.

Year	Drilling Period
2011	Oct - Dec
2012	Jan - Nov
2013	Mar - Oct
2014	No drilling
2015	No drilling
2016	No drilling

Table 4. Sams Creek drilling periods by year.

Diamond drilling rigs are used, with core samples collected (Figure 17), by drilling a ~100mm diameter hole from surface to depths up to several hundreds of metres.

At the completion of drilling the rig is dismantled and flown to the next site. It generally takes around a day to deconstruct the rig and re-assemble it on a new site with around 6-10 loads required with a B2 helicopter (1T lift capacity).

At Sams the drilling sites are often on ridges sometimes several hundreds of metres above the water source. For example, the Carapace drill holes are around 600m asl and water was pumped from Sams Creek (Figure 20) at around 250m asl, a head of around 350m. Subsequently, two stage pumping was required with a small water storage tank in the middle and larger tank (25000L) at the top of the hill. Water is distributed via alkathene pipe.



Figure 15. Helicopter supported drilling at Main Zone of Sams Creek.

4.9.1 Safeguards against Adverse Effects

4.9.1.1 Drill Hole Sites

To avoid or safeguard against potential adverse effects from the drilling the following Permit to Work procedure (Appendix 5), has been used successfully in the past will be used for this next campaign.

1. The location (Northing and Easting) and orientation (azimuth and dip) for a new drill hole is planned;
2. The field location is inspected and the best nearby location (+/-25m) identified, taking into account, the contour of the terrane, size of canopy trees, any existing gaps in the canopy that can be utilised and flora type (i.e. any threatened or high value species i.e. rata);
3. The proposed site is inspected by DoC and the drilling contractor to ensure that the adverse affects are minimised and that the site once cleared will meet safety standards;
4. The site is inspected for nests, burrows and any signs of human activity;
5. All trees to be cleared is marked and preclearance photographs are taken;
6. Discharge / spill management is discussed;
7. The new location is recorded (Northing and Easting) and drill hole orientation modified if necessary;
8. The site is included in an Authority to Enter and Operate (AEO) application;

Once AEO signed off by DoC;

1. The site is cleared as agreed and in accordance with the AEO;
2. The site inspected by the drilling contractor and signed-off as fit for purpose;

3. The cleared site is photographed;
4. Drill platform is constructed and the drilling rig is flown in and assembled along with ancillary equipment and site works (tanks, bunds and channels) for water management;
5. Hole/s are drilled and a PVC collar and cap installed on completion. If a hole is producing water then it is plugged prior to capping;
6. At completion of the hole/s the equipment, platform and all foreign objects are removed (except caps and collars);
7. Any logs or slash removed is spread around the site;
8. The site is included in the schedule for regular weed inspection and control by Kaitiaki O Ngahere Ltd as per the Weed Management Strategy.

4.9.1.2 During Drilling Operations

Biodegradable lubricants are mixed with water (drilling fluid) and pumped down the hole. The drilling fluid lubricates the hole and picks up drill cuttings (rock around the outside of the hole that is ground down to generate the core sample) as it is recirculated back to the surface. The drilling fluid and cuttings are directed to a series of tanks (see black four compartment tank below the drilling platform in Figure 15) where the cuttings settle to the bottom of the tank and the drilling fluid is pumped back down the hole. At the completion of the hole the drill cuttings are dug out of the bottom of the tanks and bagged. The bags are flown out for disposal.

In all cases contour drains and sumps will be dug at the bottom of the site to control any run-off from rain events. Any run-off from sumps will be through the bush and leaf litter.

Any excess drilling water (which can occur if artesian aquifer is intersected) will be passed through the settling tanks to remove the fines and then discharged to ground via a diversion drain and then run through bush and leaf litter.

Hazardous materials, including fuels, will be stored in double skinned tanks (Figure 18) or bunds (Figures 19 and 20) or to minimise the risk of contamination to land or water. All refuelling, and maintenance works will be undertaken in such a manner as to prevent contamination of land and surface water. Only biodegradable additives will be used during drilling activities and at the completion of drilling boreholes will be capped.



Figure 16. Man-portable rig at the Carapace of Sams Creek.



Figure 17. Diamond core rock sample in core barrel.



Double skinned Diesel tanks

Figure 18. Stainless steel double skinned diesel containers as indicated.



Figure 19. 200L diesel drums under tarp stored in a containment bund.



Figure 20. Water pump and banded fuels above Sams Creek.



Figure 21. Water pump and bunded fuels above Sams Creek are covered to prevent rainwater filling bund.

5. Access, Plant and Equipment

5.1 Access

Within the project area, access is restricted to walking or via helicopter. Walking access is through the bush or on rough tracks that connect the various known zones of mineralisation in the project areas with the Cobb Dam Road. New access tracks maybe required to access Doyles, Western Outcrops and Riordans and drilling sites.

Helicopters have been and will be used extensively for exploration activities within the project area with a number of helipads and field camps established for this purpose.

Plant and equipment will be flown in by helicopter.

5.2 Existing and Proposed Services

There are no existing services and no new services are required.

5.3 Accommodation

Relocatable huts would be required during the drilling programme, and possibly during other extended activities. For safety reasons alone the Company wishes to have a relocatable hut on site to allow shelter during bad weather if helicopters cannot extricate people. The huts would be located in existing clearings. No huts will however be established without the approval of the Regional Conservator.

Portable chemical toilets will be used for sanitary purposes and all domestic waste will be flown from site for disposal as approved by the Tasman District Council.

5.4 Surface Structures

Additional platforms / camps as discussed above will be required to support drilling activities. Where possible existing platforms will be used or multiple holes will be drilled on new platforms.

Pumps, water tanks and pipelines will be required to support the drilling rig operations.

5.5 Water Supply and Disposal

Water will be required for drilling, drinking and for toilet facilities. It is estimated that approximately 20 cubic metres of water will be required per day when drilling, which is lower than the allowance under District Plan rule 31.1.2.1(f), which allows for 50 cubic metres/day or 350 cubic metres/week. However, the amount of water needed would depend on the amount of water recycled and the amount lost down the drill hole.

Water will be pumped to a holding tank close to the site and then pumped to the rig as and when required. Similarly water required for drinking and toilet facilities will be pumped into a holding tank. By pumping water to a holding tank the effects of the draw off on in stream values will be minimal as the draw off will not be continuous.

The only additives that would be used during drilling would be lubricants, to provide assistance in the recovery of equipment if needed and to correct any technical drilling difficulties. These additives are the same or similar to those used in drilling domestic water wells and are biodegradable. The use of these additives has been approved by various Regional Councils throughout New Zealand and has been successfully used during previous drilling programmes at Sams Creek.

Excess water from the holding tank not recirculated to the drilling rig will be discharged across leaf litter to avoid run off into surface water or streams and creeks.

5.6 Waste Disposal

All rubbish and sewage will be collected and stored in containers approved for these purposes and removed for disposal.

Waste domestic water (eg shower, washing, etc) will be piped to a suitably located sump dug into the ground where solids will settle out and liquid will dissipate into the ground.

5.7 Resource Consents

The Company has the following resource consents issued by the Tasman District Council which expire in 25th June 2018:

RM080317 – Discharge of Water

RM080318 – Water Take

RM080324 – Land Use

A copy of the resource consent is attached as Appendix 2.

5.8 Economic Evaluation

s 9(2)(b)(ii)

6. Assessment of Environmental Effects

In this environmental assessment the Company has made an attempt to give a comprehensive overview of the natural and historical values of the area of its proposal. The Company has also carefully considered the impact of exploration activities on the natural, cultural and historical resources and on the recreational activities in the area. A bibliography of references used in completing this document is attached. From the assessment it can be concluded that the impact of the activities will be minimal and will not cause undue disturbance to the fauna and flora in the area.

It should be noted that this access arrangement application is to allow the Company to continue its current exploration activities within the Sams Creek area. Each work programme carried out under a granted access arrangement will be subject to specific approval by the Department after a site visit to determine whether or not the proposed activity's impact on the environment could be sustained.

6.1 Description of Existing Natural Environment

6.1.1 Topography

The application area covers 4,494 hectares and is situated in part of the North West Nelson State Forest Park between the Arthur and Lockett Ranges and is bounded by Kill Devil Creek in the North.

A feature of the topography of the area is the remnants of the North West Nelson peneplain. The flat topped ridges such as Barrons Flat in the northern foothills of the Arthur Range and Riordans Flat in the Lockett Range represent remnants of the peneplain.

The Takaka River has cut deeply into the peneplain producing a valley of very marked relief rising steeply over about 550 m in altitude on the western side of the valley and over 350 m on the eastern side. Sams Creek, the only major creek draining into the Takaka River within the application area, is deeply incised in its lower reaches but in its upper reaches, which drain the Riordans Flat area, relief is not so pronounced. The Waitui Stream to the east also contributes to the generally steep relief. In general, altitudes within the application area range from 180 masl in the floor of the Takaka River to 890 masl on Riordans Flat.

6.1.2 Hydrology

The main river system in the area is the Takaka River. The northern part of the area is drained by Kill Devil and Rheumatic Creeks while the Waitui Stream traverses the eastern boundary of the area. Sams Creek drains the central part of the area.

The main weather systems influencing the area come from the west. The climate of the area can be described as an area of high rainfall with a mountain climate and conditions changing with altitude. Rainfall is in the range of 2,000mm to 3,000mm per annum with spring and autumn maximums. Occasional storms from the north - west can bring exceptionally high rainfalls, flooding and slipping. Flooding of the Takaka River sometimes follows periods of intense rain.

Snowfalls are common at higher altitudes during the winter months.

6.1.3 Geology

The geology and structure of the general area is complex. Two of the three sedimentary belts of the North West Nelson region are represented in the general area, namely the Central and Eastern Sedimentary Belts. These two belts are separated by the Devil River Thrust which tends north - south.

The Central Sedimentary Belt (Haupiri Group) ranging in age from Pre - Cambrian to Ordovician, comprised mainly of volcanic and volcanogenic sediments, siltstones, conglomerates and limestone is located to the west of the application area. Also occurring in this belt are ultramafic rocks of the Cobb Igneous Complex.

The Eastern Sedimentary Belt (Mt Arthur Group) of Ordovician age, comprised mainly of black shales, makes up the rocks of the application area. The Haupiri rocks were thrust over Ordovician rocks and were subsequently tilted eastwards and refolded.

Gold mineralisation is hosted within the Sams Creek porphyry, a 20 m to 50 m wide, steeply dipping granodiorite that has intruded into the host sediments. The porphyry has been dated as Cretaceous in age and is the principal exploration target within the application area.

6.2 Nature Conservation Values and Biodiversity

6.2.1 Plant Assessment

The vegetation of the application area is dominated by beech forest, with smaller areas of subalpine and alpine vegetation. There are areas of open vegetation below the regional timber line, on poorly

drained peat soils on the Tablelands. These areas have been extended through burning. Fires have also produced open vegetation and tall shrub in the Cobb Valley area. There are also areas of shrubs, grasses, lichens and mosses on sites too unstable to support trees, such as cliff faces and stream beds.

The main types of vegetation identified in the permit application area all fall broadly within the podocarp, beech, broadleaf forest vegetation class and location is influenced by topography, aspect, altitude, past disturbance through burning, and the fertility of the parent soils. Native forest dominated by beech species is generally restricted to the steep sided gullies of the Sams Creek catchment and to the true right side of the Takaka River valley.

The vegetation in the Takaka Valley is still dominated by manuka but it also contains other common shrubs, eg *Coprosma* spp, *Cyathodes juniperina*, beech saplings and in some places kamahi and *Phyllocladus alpinus*. The east and west faces of the Takaka River are in relatively young regenerating hardwoods dominated by kanuka.

The slopes above the Waitui Stream have regenerated into tall kanuka with rimu emergents over beech and kamahi. The gullies have a greater diversity of hardwood species including *Quintinia acutifolia* and five finger. A few of these gullies contain small remnants of the original vegetation including bog pine and cedar. The higher, more level parts of Barrons Flat are covered with infertile podsolised soils which support little more than slow growing manuka. Manuka blankets most of the gently sloping country of Riordans Flat with modified sub - alpine vegetation on the highest parts.

In the general Sams Creek catchment mountain beech, kamahi and *Quintinia* forest dominates on ridge crests above 750 metres with canopy associates which include yellow pine, southern cedar, mountain celery pine and southern rata. The characteristic understory species in these areas are *Gahia procera*, *Pittosporum rigidum*, *Coprosma colensoi*, *pokaka*, *Dracophyllum traversii* and *Coprosma foetidissima*. It is known that a small area of *Chionochloa cheesemanii* may also be present.

Black beech, kanuka and hard beech forest occurs on the shallow soiled ridges and dry north east facing slopes. Kanuka is the dominant species on the driest sites and where there has been past burning around the lowest reaches of Sams Creek. Other major canopy associates include kamahi and *Quintinia*. Bare rock sites are common in the area and especially on the warmer sites *akeake*, *Helichrysum aggregatum*, *Asplenium flabellifolium*, *Melicope simplex*, *Arthropodium candidum*, *Coprosma linariifolia*, *Pelaea rotundifolia*, *Cyathodes juniperina*, *Earina mucronata*, *Hymenophyllum multifidum*, *Hebe vernicosa* and *Pyrrosia serpens* grows in abundance. *Astelia trinervia* is also found here, which is rare, as it is normally associated with the area west of the Haupiri Range.

Broadleaf, miro, mapou, heketara and lancewood grow along the minor gullies and hollows with rimu occurring in small quantities throughout the area. Thin barked totara grows on the shaded south east facing slopes above 700 meters.

Diverse open forest and shrubland vegetation with high herbaceous and tussock component occurs in the cliff areas adjacent to the Takaka River and the Cobb Dam Road. Common species includes tutu, akeake, lemonwood, karamu, blue tussock, *Olearia avicenniifolia*, *Olearia arborescens*, *Hebe gracillima* and *Blechnum vulcanicum*.

6.2.2 Animal Assessment

The permit application area supports a wide variety of common forest birds, including bellbird (good numbers utilising honey dew on the black beech), yellow breasted tit, and tui. In addition South Island kaka, yellow - crowned parakeet and falcon (all endemic New Zealand species with declining national populations) utilise the application area at times. Introduced species such as redpoll, chaffinch, black bird and thrush also frequent the area. Other birds known to occur in the general North West Nelson area and likely to occur in the permit application area are New Zealand pigeon, morepork, long - tailed and shining cuckoo, kakariki and kingfisher.

Where sufficient water flows in Sams Creek and other creeks and in the Cobb and Takaka Rivers, black and little shags, grey and blue duck, mallard and shellduck may occur.

Lizards are not abundant in the area. If any are present in the area, the species most likely to be present are the forest and common gecko and the spotted skink.

The only native land mammals present in New Zealand are the long - tailed and short - tailed bats and the existence of both have been recorded in the North West Nelson area. However, indications are that if any occur in the application area it will be the commoner of the two species, the long - tailed bat. The short - tailed bat was last recorded in 1977 in the Roaring Lion valley. The only other mammals in the area are introduced deer, goats, pigs, rats, mice and possum.

Invertebrate diversity in North West Nelson is high due to the wide range of habitats available. The large, endemic carnivorous land snails of the genus *Powelliphanta* is a notable example. Innumerable species of insects occur in the North West Nelson area. Examples of those which can be found in the application area are carabid beetles, millepedes, wetas, and speargrass weevil.

It is possible that mountain trout, bullies, eels and salmon could be present in the rivers and streams in the area. The Takaka River has been stocked with salmon which have been recorded as being caught as far upstream as the permit application area. The area is not a whitebait spawning area.

6.2.3 Habitat Assessment

The area is situated mostly in the North West Nelson State Forest Park. The North West Nelson region is characterised by a wide diversity of wildlife habitats. A complex interaction of geological, topographical and historical features have produced a range of vegetation types which have, in turn, influenced the evolution of a wide array of animal communities.

The majority of endemic plants as well as a greater diversity of these are found in zones above the timber line. As described earlier the permit application area is dominated by beech forest with areas of shrub and subalpine shrub introduced by past clearing and burning for grazing purposes.

The rare native plant *Pittosporum dahlia*, protected in the Hikatau Forest Sanctuary to the north - west of the application area and known to exist from the Cobb Ridge to the south is typically found along rocky forested creek margins and appears to favour open habitats in their early stages of development (recorded growing on bulldozed banks along the road to the Cobb Dam). While not recorded in the application area it is possible that Sams Creek may offer suitable conditions for it to grow.

The beech forests of North West Nelson support a high diversity and number of native avifauna. Native species of limited numbers and/or distribution recorded in the area outside the application area included kaka and New Zealand robin while those likely to inhabit the area include kakariki and New Zealand falcon. While North West Nelson is a stronghold for the Great spotted kiwi the closest recordings to the application area are at Flora Saddle and the head of the Cobb River. While blue duck is present in sizeable numbers in the North West Nelson area, the degradation of the riverine habitat in the application area strongly suggests that they would be absent from the area.

Endemism, evident in the flora of the Region is also notable in invertebrate fauna. The large carnivorous land snails *Powelliphanta* are one of the most notable examples. They occur under deep moist forest litter generally at altitudes above 650m asl where humidity is suitably high and consistent and are generally associated with calcium rich soils. *P. hochstetteri* is recorded in the Lockett, Arthur and Pikipiruna Ranges. However, the limited amount of forest above 650m asl due to past degradation by clearing and grazing suggests the species is absent or at best confined to small pockets within the application area.

The Company in consultation with the Department has set up a programme to destroy invasive weeds and to continue with an active monitoring programme. The programme of monitoring and weed control will continue through the term of the Access Arrangement as determined by the Department.

6.3 Archaeological and Historical Sites

Rivers of the area were subject to a gold rush in 1858 and the Kill Devil Track was much used by pack horses during that era. The areas referred to as Barrons and Riordans Flats were used for summer grazing from about 1875 to as late as the 1950's.

Data from the Central Index of Archaeological Sites has no sites identified within the application area.

The Company is aware of its obligations under the Historic Places Act 1993 and will continue to work closely with the Department of Conservation and Historic Places Trust to ensure that if anything of historical significance is discovered during its exploration activities it be recorded and preserved.

6.4 Social Environment

6.4.1 Landscape and Scenic Qualities

The general North West Nelson area contains mountains and plunging gorges, massive rivers, spectacular waterfalls and tall cliffs. However, the scenery within the application area is not of the same importance and value as those areas within the Kahurangi National Park. This was indeed one of the reasons why the application area was excluded from the Park.

Parts of the application area have been modified through grazing. Rehabilitated drill sites current drill platforms and helicopter pads are the only visible evidence of past exploration in the area.

A marked landscape feature of the Main Zone area within the application area is a 1929 earthquake slip.

Although the sealed Cobb Dam Road passes through the permit application area it is unlikely that exploration activities will be seen by traffic passing through due to the steep topography. Trampers choosing to walk through the active exploration sites would see evidence of exploration activities.

6.4.2 Noise

Due to the location of the application area the noise from the drilling rig and other activities proposed will be localised to the immediate area of activity. The normal operating noise from a rig is approximately 55 dBA measured about 50 metres from the rig. The surrounding forest will also act as an insulator.

Recreational users in other parts of the Forest Park or in Kahurangi National Park may hear noise from the helicopters which will be used to access the application area. However, helicopter use in the wider area is quite common and there are no known documented cases of lasting impacts on people, fauna or flora caused by helicopter noise.

6.4.3 Use by the Public

The public use the general area for fishing, tramping, hunting, canoeing, rafting and mountain biking. The attractions of the Upper Cobb Valley Tablelands, the Arthur Range and the Cobb Reservoir means that the Cobb Dam Road is used for access to these areas. However, the Company is unaware of any recreational amenities within the access application area itself.

The Waingaro Track lies to the NE of the permit (Figure 2) and will not be affected by the exploration activities.

Riordan's Hut is located on a spur off the Waingaro Track and lies on the northern edge of the permit but outside the DoC AA application area (Figure 2). The DoC Takaka office believes around 250 people a year use the Riordans Hut. The hut lies over 1km away from the Dyke outcrop at Riordans and will not be affected by the exploration activities when they occur.

Because of the location of the area, exploration activities will not be visible to the public from any walking tracks. The Company therefore considers that given the short duration of each phase of activity that there is no need to reduce the visual impacts of its activities.

6.5 Tangata Whenua

It is estimated that Polynesians settled in the North West Nelson area at least 700 to 800 years ago. From records it appears that Maori settlement was concentrated in coastal areas with middens and general occupation clustered around the larger river mouths and estuaries which provided shelter and food resources. It is possible that the application area could have formed part of the wider food gathering or travelling area. However, no evidence of this could be found.

The Company is also aware that some of the limestone caves in the North West Nelson area are sacred to Maori, because of their use as burial sites. No caves are known in the application area. The Company therefore considers that its exploration activities will not impact on the Maori values in the area.

The Company will be using water for drilling and domestic purposes. However, no water will be taken without resource consent from the Tasman District Council. In considering such an application due regard will be given to the spiritual value of water to Maori.

NZ Petroleum and Minerals has consulted with Maori Groups with an interest in the application area prior to granting the exploration permits. Consultation between the Company and tangata whenua hapu and iwi has also taken place during its previous operations in the area. During past consultations Manawhenua Ki Mohua corresponded with the Department of Conservation and the Ministry of Economic Development. Their major concerns were “leaching” from trenches into water bodies. A further concern is the contamination of water bodies through operations. The Company’s operations will all be further than 50m from any water body thus the possibility of the operations contaminating water bodies is negligible.

6.6 Effects of Proposed Activities

The potential effects on the environment due to exploration activities are assessed as follows;

- 1) removal of vegetation;
- 2) the reduction in steam flows due to water extraction;
- 3) the risk of sediment being discharged into a water body or erosion of land;
- 4) the risk of contaminants being discharged into a water body;
- 5) noise from drilling operations, and
- 6) risk of weed infestation.

6.6.1 Removal of Vegetation

Removal of vegetation for tracks, camps, drilling platforms and trenching may be required. Where possible, existing clearings will be used to minimise this impact.

During construction or reinstatement of existing tracks vegetation removal will be kept to a minimum and all trees and shrubs with trunks greater than 10cm in diameter at 1.4m in height will be avoided.

Location of portable huts and associated chemical or compost toilet will be sited to cause minimal disturbance. Vegetation clearance shall be kept to a minimum with all trees and shrubs with trunks greater than 10cm in diameter at 1.4m above the ground being avoided unless approved by DoC. Some minor benching may be required to site huts on level ground. At the completion of activities huts and toilets will be removed from the land and site rehabilitated to restore the natural contour using the retained topsoil and forest humus.

For drilling operations equipment will be positioned by a helicopter through the forest canopy by using long strops with minimal canopy disturbance but not compromising the safe working operations of the helicopter or drilling rig. Each site will be restricted to a minimum possible area and shall not exceed 100 square metres. Damage to ground cover adjoining drilling pads shall be minimised. Any disturbance to the ground shall be restored to a natural contour using retained topsoil / forest humus and any removed vegetation cut into 2m lengths and spread over the site.

Trenches will be dug using hand held methods only and no trench shall be greater than 15m in length or shall exceed 1m in width or 1.5m in depth. Vegetation clearance will be kept to a minimum with all trees and shrubs with trunks greater than 10cm in diameter at 1.4m above the ground being avoided and care taken not to compromise associated canopy tree root stocks. All excavated topsoil will be stockpiled on one side of the trench and excavated material on the other side. Trenches will be graded into the contour at one end to prevent inadvertent capture of any native fauna. Once the trenches have been mapped and sampled, the trenches will be rehabilitated by filling in the excavated material compacted back to the original contour, and covering with topsoil and humus.

6.6.2 Reduction of Water Flows

Only relatively small quantities of water are required for drilling activities and camps and water takes will be significantly less than the flows in the stream, and any take will be short term in nature. Water take for drilling is estimated at 20 cubic metres/day and will not exceed rule 31.1.2.1(f) which allows for 50 cubic metres/day or 350 cubic metres/week.

6.6.3 Discharge of Sediment

Discharge of sediment from any earth disturbance or drilling operations into any water course will be minimised by use of contour drains and sumps. Drilling water will be recycled and sediment settled out in tanks or sumps before being redirected down the hole. Settled fines will be dug out of the tanks, bagged and removed from site. If any excess settled water is discharged onto ground it will be directed through bush leaf litter.

6.6.4 Discharge of Contaminants

Hazardous materials, including fuels, will be stored in bunds or double skinned tanks to minimise the risk of contamination to land or water. All refuelling, and maintenance works will be undertaken in such a manner as to prevent contamination of land and surface water. Only biodegradable additives will be used during drilling activities and at the completion of drilling boreholes will be capped.

6.6.5 Noise

Noise from drilling operations when measured from the notional boundary of any dwelling will not exceed permitted limits.

6.6.6. Weed Infestation

Plant and equipment to be used for exploration will be as far as practicable, clean and free of any exotic weed and seed material prior to entry onto the land.

7. Management Plan

7.1 Vegetation Removal

Prior to removal of any vegetation written approval is required from DoC as part of the DoC AA. Any area requiring vegetation removal will be documented in Work Programmes which are required to ensure the exploration activities are consistent with the DoC AA. These areas will be inspected by DoC staff and if satisfied that the conditions of the DoC AA have been met will issue a written Authority to Enter and Operate. Previously DoC has routinely inspected areas of vegetation removal to ensure that they comply with the Authority.

7.2 Cultural Sites

Historical and cultural sites will be avoided and any protected New Zealand object, or taonga tuturu (as defined by the Protected Objects Act 1975), or any object of historical significance found in the area or on the land will be left in situ and the DoC Conservator and Secretary of Internal Affairs notified as soon as reasonably practicable.

Authority from the Heritage New Zealand will be obtained before any historical site is destroyed, damaged or modified.

7.3 Erosion and Sediment Control

The location of the exploration activities are not fixed and will be determined by results as exploration progresses. The following erosion and sediment control procedures will ensure that a management plan can be adapted for each specific site where earthworks are required.

7.3.1 Trenching

Trenches may be dug up to 15m long, 1m wide and 1.5m deep. At the downhill end of the trench and contour drain will be dug to direct any dirty water from a rainfall event into a sump with the overflow directed through bush and leaf litter.

7.3.2 Drilling

When the topography is relatively flat drilling operations will generally be conducted on a wooded sleepers or wooden deck. Generally earthworks will not be required but in some instances a sump will need to be dug so the settling tanks (see Figure 12 as an example) can be placed below the drilling rig. When the topography is moderate to steep, drilling platforms are generally built out over topography and ground vegetation with little disturbance (see Figure 14 as an example). Some minor benching may be required to key the platform where it meets the ground surface.

In all cases contour drains and sumps will be dug at the bottom of the site to control any run-off from rain events. Any run-off from sumps will be through the bush and leaf litter.

Any excess drilling water (which can occur if artesian aquifer is intersected) will be passed through the settling tanks to remove the fines and then discharged to ground via a diversion drain and then run through bush and leaf litter.

7.4 Weed Infestation

A condition of the Sams Creek DoC AA requires the permit holder prepares, in conjunction with the DoC, a comprehensive pest plant control plan for the Sams Creek area. This involves creating a pest plant inventory of all existing and historical work sites that had been disturbed by exploration activity including naturally disturbed sites (i.e. slips) that were susceptible to pest plant infestations. These areas are inspected and reported on annually with spraying completed as required. A similar requirement is likely to be included in this DoC AA when it is granted.

8. Rehabilitation

It is envisaged that with careful management and forward planning there should be no long term environmental effects or off site consequences as a result of exploration activities.

Trench and drill sites will be located after discussions with the Department to ensure that the impact on the vegetation and general environment is kept to a minimum. Where possible, drill sites will be located in areas previously used as drill sites, in natural clearings, or sites requiring minimal removal of vegetation.

If trees are to be removed it would be limited to those necessary for the safe operation and siting of equipment. The preparation of drill platforms could be expected to be most noticeable in areas of regenerating forest. However, it has been shown in this area that platforms built above ground reduce the need for the clearance of ground cover and benching.

Research into the rehabilitation of areas disturbed through exploration has indicated that natural rehabilitation is preferable to, and more successful than artificial means. It has been evident that if disturbance is kept to a minimum and ground cover provided, a natural planting environment can be created which has proven much more successful than those sites with artificial planting environments. All sites will be kept free of gorse and broom and existing weeds.

9. Mitigation Measures

It is not envisaged that the proposed exploration programme will have any long term effect on the environment, the local landowners or the wider community. It may result in some employment for local people as field staff or contractors and accommodation suppliers, particularly at the drilling stage. The only mitigation measure considered necessary is to rehabilitate disturbed areas as soon as possible after activities ceased in any one area. A condition of the access arrangement could be that this rehabilitation is to the satisfaction of the Department and District Council.

During the term of the current Access Arrangement Sams Creek Gold Ltd commissioned the preparation of a Pest Plant Management Strategy for the area by Kaitiaki O Ngahere Limited. Kaitiaki O Ngahere has also carried out the weed control delineated in the Management Plan. Copies of the annual inspection reports have been provided to the Department.

In conclusion therefore, with the appropriate planning, consultation, implementation and rehabilitation, even the higher impact activities contemplated under the proposed work programme will be spatially restricted and any visual impacts and impacts on vegetation that may arise will be minimal in the short to medium term.

10. Monitoring

Most activities will be monitored by the Company's own expert personnel unless otherwise requested by the Department. However, Department field officers are welcome to visit the area to enable them to monitor the exploration work and to continue the development of the Company's working relationship with the Department. Officials from the District Council may also visit the area.

11. Additional Exploration and Access Applications

During the term of the permit it is possible that further access arrangements or variations to the access arrangement will be applied for so that additional activities can be conducted (depending on the success or otherwise of the activities detailed in this current application) This may include tunnel construction, underground bulk sampling and drilling in areas where surface based exploration has defined targets for more intensive exploration.

BIBLIOGRAPHY

- Angus, P, 2014:
...
40 338 Sams Creek Technical Report, June 2014.
Unpublished report to New Zealand Petroleum.
and Minerals.
- Bioresearchers Ltd, 1984:

Zealand
Vegetation and Wildlife, Sams Creek North West
Nelson. Unpublished Report. Auckland, New
- Department of Conservation, 1993:

North West South Island National Park
Investigation: Report to Conservation
Authority. Wellington, New Zealand
- Gaze P., 1991:

Mining Report: Application for Prospecting
Licence 31 2661, Takaka River. Unpublished
Report. Department of Conservation.
Nelson, New Zealand
- Hayward, J., 1991:

Mining Report: Application for Prospecting
Licence 31 2178, Sams Creek. Unpublished
Report. Department of Conservation.
Nelson, New Zealand
- Ministry of Commerce, 1990:

Management Options for the Protection of
an area of North West Nelson Forest Park
from the Impacts of Mineral Exploration
and Development. Wellington, New
Zealand
- Walker, K. J., 1987:

Wildlife in the Nelson Region. Fauna Surve
Unit Report 42. New Zealand Wildlife
Service. Department of Internal Affairs.
Wellington, New Zealand
- Whitaker, A. H., 1996:

Adventive Plants on Sites Disturbed by
Prospecting Activities, Sams Creek, Takaka
River, Golden Bay. Unpublished Report.
Motueka, New Zealand
- Williams, P., 1989:

Report on a Visit to CRA Drill Sites at Sams
Creek. Botany Division, DSIR.
Unpublished Report. Nelson, New
Zealand
- Williams, P. and Hay, R., 1988:

Vegetation and Wildlife of CRA Prospecting
Areas North West Nelson. Ecology Division
DSIR. Unpublished Report. Nelson, NZ.

APPENDIX 1 – Exploration Permit

APPENDIX 2 – Resource Consents

APPENDIX 3 – Current DOC Access Agreement

APPENDIX 4 – EP 40338 80% Transfer certificate

APPENDIX 5 – MOD's Permit to Work Procedure