

Proposed Alluvial Gold Mine, Luggate Cromwell Road, Sandy Point

Landscape Effects Assessment Report

21 February 2025



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Introduction

Awa Koura Mining Ltd has applied for resource consent to undertake alluvial gold mining on an approximately 70ha rural property at Luggate Cromwell Road, Sandy Point. The land is currently used for pastoral activities and an approximately 50ha area is proposed to be mined and subsequently rehabilitated back to pastoral farmland on completion of the project. There is an existing consent for rural subdivision which is likely to be given effect to following the proposed mining rehabilitation.

The land is within the Rural Resource Area in the Central Otago District Plan (CDDP) and is not within any landscape overlays. The application for mining is a discretionary activity in terms of Rule 4.7.4.

This report addresses the landscape effects of the proposed mining, and will be structured as follows:

- Methodology.
- Site and area description.
- Landscape values.
- The proposed development
- Mitigation and rehabilitation
- Natural character assessment.
- Landscape effects assessment.
- Assessment against the relevant Central Otago District Plan provisions,
- Conclusion.

Methodology

This assessment follows the concepts and principles outlined in the New Zealand Institute of Landscape Architects (NZILA) Best practice guidelines¹, and has been

¹ Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

informed by a review of the relevant statutory provisions and a site visit on 29 November 2024.

Site and area description

The property is approximately 70ha in area and is legally described as Lot 1 DP 466676. It is located between the Clutha River / Mata-Au and Luggate Cromwell Road (State Highway 6) near Queensbury. The area is known as Sandy Point, where there is a bend in the river, as shown in **Figure 1**.

The land proposed to be mined is approximately 50 ha of river flood plain and is separated from the river by Crown land of varying width. The mining site is on recent river flood plain comprised of gravel that is defined to the west by an approximately 6 - 8m high river terrace. The topography is largely flat overall but undulating with old river channels evident. There are some small wetted areas in some of the relic channels but these do not qualify as 'natural inland wetlands' under the National Policy Statement for Freshwater Management 2020². Generally, the land is under exotic pasture cover (some irrigated) and is managed by stock grazing. There are some isolated mature exotic trees present in a few places. Several relocatable tiny homes are present on the property but otherwise the only permanent structures are a house and farm shed along with fences and farm tracks.

The wider landscape context is the Upper Clutha Valley where it narrows between the more expansive Wanaka – Hawea Basin and Tarras area. In this area the valley is defined to the west by the end of the Pisa Range, and to the east, by unnamed high hill country between the Clutha and Lindis valleys. The dominant feature in this landscape is the willow-lined Clutha River / Mata Au which has carved terraces into glacial outwash surfaces.

This landscape is predominantly agricultural in character and exhibits a gradation from modified valley floor and lower elevation areas, to more natural higher slopes on the

² Advice – D Sycamore, Planner

ranges which are predominantly managed under an extensive pastoralism regime. In recent years, the lower parts of this landscape, including Queensbury and the river terraces across the river from the site, have become significantly more settled and domesticated with subdivision into smaller rural lots. There is still significant presence of kanuka forest, which contributes to natural landscape values. More subtly, the evidence of historic gold mining (such as tailings) is still present in places.

Figures 2 - 7 illustrate the character of the site and area.

Landscape values

Landscape and landscape values are defined in the NZILA Landscape Assessment Guidelines³ as follows:

'Landscape embodies the relationship between people and place. It is the character of an area, how the area is experienced and perceived, and the meanings associated with it'.

Landscape values are – *'The reasons a landscape is valued. Values are embodied in certain attributes'.*

The property is not within areas mapped in the CODP as outstanding natural landscapes (ONL) or significant amenity landscapes (SAL), but the values outlined in the CODP for rural zoned areas are applicable.

The values of the Central Otago landscape, as generally discussed in the CODP and supporting landscape assessment⁴ are based on its distinctive flat topped, fault block mountain ranges, its semi-arid character expressed through extensive tussock grasslands, the powerful Clutha / Mata-au River and associated hydro lakes, and highlights of orchards, vineyards, and historic gold-mining artefacts. The area is notable for its expansive scale and legible natural landforms. The Upper Clutha / Sandy Point area has a character that aligns to a large extent, with these quintessential Central

³ ³ Te Tangi a te Manu, Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

⁴ LA4, 2008, Central Otago District Rural Review Landscape Assessment Report and Recommendations

landscape values. Values specifically articulated in the CODP relating to the rural landscape are essentially natural character (naturalness) and open space (openness), with particular emphasis on open natural character of the hills and ranges, skylines, prominent places, natural features and terraces⁵

There are no physical landscape values officially recognized in the CODP or other relevant statutory documents in the vicinity of the site but the Clutha River / Mata-Au is a major natural feature with natural character that has been assessed as 'very high' – 'high' in the Otago Regional Council Natural Character, Riverscape & Visual Amenity Assessment⁶. Other significant physical values relate to the river terrace landforms and the presence of areas of indigenous vegetation, particularly kanuka forest.

The Mata-Au is the subject of a Statutory Acknowledgement under the Ngāi Tahu Claims Settlement Act 1998 and cultural values relate to creation traditions, mahinga kai trails and its role as a major transportation route. Other associative values in the area relate to European gold mining heritage.

The river landscape has perceptual values focused on the natural, powerful river and the legibility of the landforms it has created. Naturalness values are enhanced in places by the presence of indigenous vegetation. The landscape has rural character and amenity values based on rural land use, modest impact of built form and openness and legibility of natural landforms. Recent and on-going subdivision and associated domestication are eroding these values to an extent.

The proposed development

It is proposed to mine approximately 50ha of the alluvial flats using a floating dredge mining plant. This operation involves removal and stockpiling of topsoil / overburden prior to dredging with a hydraulic digger and excavating the river gravels to a depth of approx. 3m. This material is then discharged to a hopper on the floating plant and fed to

⁵ CODP Objective 4.3,3 and Policy 4.4.2.

⁶ Boffa Miskell, 2018, Natural Character, Riverscape & Visual Amenity Assessments, Clutha / Mata-Au Water Quantity Plan Change – Stage 1

a trommel for washing and removal of larger material. The remaining gold bearing gravels are directed to sluice boxes. As the excavation proceeds, tailings are discharged behind the floating plant. These are then contoured to provide a generally level surface for re-spreading of topsoil / overburden.

The mining will take place progressively, impacting a limited area of the site at any one time, and with remediation work being undertaken as the operation proceeds. Mining is proposed to commence at the south end of the site and to take a zigzag path, culminating at the northern end of the site. Awa Koura Mining Ltd estimate that the plant will move 13m per day.

The key aspects of the proposed operation that will have visual and landscape character effects are as follows:

- Machinery will be present on the site and will move around the site as the operation proceeds. The machinery to be used will be one 50 - 60 tonne excavator and the dredge / gold screen plant. The gold screen plant is approx. 10m long and 5m high. When working it will sit low in the landscape, floating within the excavated mine pond which will be lower than the level of the surrounding river flats.
- There will be disturbed land in the area of the operation, in the form of overburden / topsoil bunds, stripped area awaiting excavation, the dredge pond, tailings piles and reinstated land not yet revegetated. The width of the swept path of the operation will be 50m, and the area actively mined will be no more than approx. 210m in length x 85m width (including overburden bunds), as illustrated in **Figure 8**. The area of soil and overburden removed in front of the dredge will be restricted to no more than 50m width and 50m long. The extent of the area of obvious disturbance behind the operation (due to absence of vegetation cover) will vary with the season.
- There will be a small depot area, from which the operation will be run. This area will host fuel tanks, two storage containers, and a small portacom building. Vehicles, including staff cars and (intermittently) a second digger, would also be

parked in this area. It is proposed that this depot area is located in two places over the life of the operation as illustrated in Figure 8.

- Lighting of the processing, depot and active work area will be present in winter months. Lighting levels will comply with the CODP standards for rural areas. As well as lighting, moving vehicles will have visual effects where visible from beyond the site.

The term sought for the consent is 3 years.

Mitigation and rehabilitation

Buffer zones and avoidance areas

To ensure that adverse effects on the natural character of the Clutha River and areas of kanuka are avoided, buffer zones are proposed as follows, with no mining to be undertaken in these areas:

- 40m from top of the riverbank
- 5m from the drip line of any kanuka

Landform remediation

Immediately following mining, the river gravels and overburden will be replaced and contoured, to as far as possible, restore the original landform. This will include the replacement of existing small-scale swale / watercourse features.

Pasture remediation

The mined areas will be remediated and restored to pasture progressively, and as soon as practicable following the mining operation. A mix of appropriate cultivars and ongoing care will ensure the site becomes stabilised from erosion, dust loss or sediment loss relatively quickly.

Controls over temporary structures (depot area)

To limit the visual impact of the proposed temporary structures, the following controls are proposed:

- There shall be no more than two containers, which shall have dimensions not exceeding 12.5 x 2.5 x 2.6m.
- Any Portacom building shall have a footprint no greater than 10m² and shall be no higher than 2.6m.
- Fuel tanks shall not exceed 10,000 litres in capacity and shall be no higher than 2m above ground level.
- All temporary site structures are to be finished to match in the same colour, which shall be Resene colour 'Karaka' (approx. 7% LRV). or another suitable colour found in the rural environment approved by Council.
- Other than the temporary topsoil / overburden windrows associated with the active mining, there shall be no bunds created.
- Any fencing shall be confined to rural post and wire fences.

The following conditions of consent are recommended to appropriately minimise adverse landscape and visual effects:

- (a) *All mining and rehabilitation works are to be complete within 3 years.*
- (b) *All works shall avoid the river terrace landform and shall be set back a minimum of 40m from the top of the Clutha River Mata-Au bank and 5m from any mature kanuka.*
- (c) *The actively mined area (including pre-stripped area, overburden / topsoil windrows, mine pit and un reinstated tailings) shall be no greater than 18,000m².*
- (d) *A rehabilitation plan is prepared that details and provides for the following:*
 - *Removal of all structures and other elements related to the mining operation.*
 - *Reinstatement of the floodplain landforms to restore existing natural landform character, including relic river channels.*
 - *Reinstatement of pasture and fences in consultation with the landowner.*

Natural character assessment

The site is close to the Clutha River / Mata-Au, potentially making RMA section 6a (*the preservation of the natural character of ... wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development*) relevant.

With regard to river margins, Te Tangi a te Manu guidance⁷ is as follows:

- *The word 'margin' suggests a relatively narrow area compared to 'environment'.*
- *While the Queen's Chain (20m) is sometimes referred to as a starting point, especially for streams, the High Country Rosehip Orchards decision says that "margins are likely to be areas beyond the wave action of a lake or extending away from the banks of a river for, depending on topography and other factors, at least 20–50 metres and sometimes more.*
- *The margins should be determined with reference to the attributes and context of the lakes and rivers themselves.*
- *The extent is likely to be influenced by the size of the feature. For example, the margins of Taupō moana are likely to be wider than those of a small lake or tarn, the margins of a river may be wider than those of a stream.*
- *The margins are also likely to be influenced by topography (for instance, the sides of a gorge) and land use (for instance, the boundary between cultivation and natural riparian vegetation).*

I understand margins to include the land between the active riverbed and the wider river landscape context. Margins include areas where river processes and patterns are evident and have some significance, such as evidence of occasional flooding, historic channel patterns or riparian vegetation. From the margin, the active riverbed is the visually dominant feature and topographic features such as historic banks or terraces typically define the margin.

⁷ See Te Tangi a te Manu paragraph 9.20

In this case and on the basis of the topography, vegetation and land use, it is my assessment that the river margins include the immediate riverbanks but do not extend significantly beyond these. I do not consider that the proposed mining activity will be within the river margin. As already noted, there are no areas that fall within the definition of ‘natural inland wetlands’ (in the National Policy Statement for Freshwater Management, October 2020) within the proposed mining area.

Given this situation it is my assessment that affects on natural character (as it applies under Section 6a RMA) are avoided by the proposed mining.

Landscape effects assessment

Landscape effects are defined in the NZILA Landscape Assessment Guidelines⁸ as follows:

‘An adverse or positive outcome for a landscape value as a consequence of changes to a landscape’s physical attributes’.

As noted in the Guidelines, visual effects are a subset of landscape effects, and a visual effect is described as *‘a consequence for landscape values as experienced in views’*.⁹

I assess the landscape effects of the development against the landscape values discussed above, and those inherent in the relevant statutory provisions. Landscape effects may be positive or adverse in nature and I rate the degree of effect in terms of the 7-point rating scale recommended in the NZILA Landscape Assessment Guidelines. The relationship of this scale to RMA terminology is illustrated below in the table copied from Te Tangi a te Manu.

⁸ Te Tangi a te Manu, Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

⁹ Te Tangi a te Manu para 6.08.

Degree of effect assessment scale



Physical effects

The proposed mining will modify the existing natural floodplain landform but conditions are proposed to ensure rehabilitation restores the natural floodplain landform character as closely as possible. The natural / rural character of the site will be adversely impacted for the short duration of the works, but this will be remedied progressively and in short order following completion of the works. The scale of the mining activity disturbance will be significant but not excessively so in the scale of the floodplain. Elements of natural character significance such as terrace landform, wetlands and indigenous trees will be avoided.

In my assessment, physical effects will be as follows:

- During mining operations / prior to final rehabilitation – adverse / moderate.
- After final rehabilitation – Adverse / very low.

Visual effects

The proposed mining site is visible from State Highways 6 and 8a and from many private dwellings in the area surrounding. The following is my assessment of the visual effects of the activity from representative public viewpoints.

State Highway 6 (see Figures 2 and 3)

Relevance of viewpoint	SH6 is a major highway. Impacted viewers will be road users with effects being experienced as transient whilst they pass by.
Viewing distance (to)	Ranges from approx. 70m – 1.1km

areas to be mined)	
Existing views description	SH6 is adjacent to the property for approximately 1km on its southwestern side, on higher terraces. The area proposed for mining can be intermittently seen from the highway, where not screened by vegetation, as open, pastoral rural land on the lower terrace / floodplain with the river beyond. The background landscape is one of river terraces and high hills with a largely pastoral open character and there are a number of dwellings visible on the river terraces.
Description of visual effects	Until rehabilitation is complete the proposed mining will have adverse effects on the rural landscape values (particularly naturalness) due to the modification to the pasture cover and the natural floodplain landforms. In addition, there will be adverse effects associated with the visibility of the mining machinery and the depot facilities. The degree of these adverse effects will be mitigated by the limited extent of the disturbance area and the progressive rehabilitation. Re-establishing pasture is a characteristic element in rural landscapes. The degree of adverse effect from the State Highway will vary as the activity moves around the site with greater and lesser proximity to the viewpoint and varying degrees of screening by the intervening terrace landform and / or trees. Degree of effect is also modified by the transient nature of the views for most road users. Once rehabilitation is complete there will be little evidence that the mining has occurred except that some mature exotic trees will have been removed and the site is more open. Overall, it is my assessment that visual effects on landscape values will be as follows: - During operations: Adverse / moderate-low – Adverse / low. - After rehabilitation: Neutral

State Highway 8a (see Figure 4)

Relevance of viewpoint	SH8a is across the river from the site and over approximately 580m distant. In general, it is screened from this highway by river terrace landforms but there are a few places where views are possible as shown in Figures Impacted viewers will be road users with effects being experienced as transient whilst they pass by.
Viewing distance (to areas to be mined)	Approx 1.3km
Existing views description	Where visible, the site is seen as open, pastoral rural land on the river floodplain. The Pisa Range forms the background and the lower slopes of this range and adjacent river terraces are rural in character but relatively densely settled.
Description of visual effects	Until rehabilitation is complete the proposed mining will have adverse effects on the rural landscape values (particularly naturalness) due to the modification to the pasture cover and the natural floodplain landforms. In addition, there will be adverse effects associated with the visibility of the mining machinery and the depot facilities. The degree of these adverse effects will be mitigated by the limited extent of the disturbance area and the progressive rehabilitation. Re-establishing pasture is a characteristic element in rural landscapes. The degree of adverse effect from this viewpoint will be mitigated by the very limited visibility and where visible, the considerable distance. Once rehabilitation is complete there will be little evidence that the mining has occurred except that some mature exotic trees will have been removed and the site is more open. Overall, it is my assessment that visual effects on landscape values will be as follows: - During operations: Adverse / very low. - After rehabilitation: Neutral

Sandy Point Lookout (see Figure 5.)

Relevance of viewpoint	There is public access to the Sandy Point Conservation Area on the high terrace top overlooking the site across the river. Viewer numbers are unlikely to be high but motivations for viewers are likely to include landscape appreciation.
Viewing distance (to areas to be mined)	310m
Existing views description	This is an impressive lookout with views north-westward toward the Wanaka Hawea Basin. The Clutha River / Mata-Au is the most significant element in this view but the site is in the foreground and seen as open pastoral land in a rural landscape. River edge kanuka adds natural character as does (more subtly) the relic river channel landforms.
Description of visual effects	Until rehabilitation is complete the proposed mining will have adverse effects on the rural landscape values (particularly naturalness) due to the modification to the pasture cover and the natural floodplain landforms. In addition, there will be adverse effects associated with the visibility of the mining machinery and the depot facilities. The degree of these adverse effects will be mitigated by the limited extent of the disturbance area and the progressive rehabilitation. Re-establishing pasture is a characteristic element in rural landscapes. The degree of adverse effect from this viewpoint will vary as the activity moves around the site with greater and lesser proximity to the viewpoint. The high vantage point and the location of the site in the foreground of the view will make the works a focal point when activity is in the northern part of the site. Mining at the southern end of the site will be completely screened. Once rehabilitation is complete there will be little evidence that the mining has occurred except that some mature exotic trees will have been removed and the site is more open. Overall, it is my assessment that visual effects on landscape values will be as follows:

	- During operations: Adverse / moderate – Adverse / very low. - After rehabilitation: Neutral
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Pukerangi Drive (see Figures 6 and 7)

Relevance of viewpoint	Pukerangi Drive provides access to many smaller rural properties and dwellings on the terrace landforms to the west of the site. Figures ... are generally representative of the views from this area including residential viewpoints.
Viewing distance (to areas to be mined)	Approx. 540m – 3.3km
Existing views description	The site is visible on the valley floor below adjacent to the river as open rural farmland within a working rural landscape.
Description of visual effects	Where visible and until rehabilitation is complete, the proposed mining will have adverse effects on the rural landscape values (particularly naturalness) due to the modification to the pasture cover and the natural floodplain landforms. In addition, there will be adverse effects associated with the visibility of the mining machinery and the depot facilities. The degree of these adverse effects will be mitigated by the limited extent of the disturbance area and the progressive rehabilitation. Re-establishing pasture is a characteristic element in rural landscapes. The degree of adverse effect from this area will vary as the activity moves around the site with greater and lesser proximity to the viewpoint and varying degrees of screening by the intervening landform and / or trees. Once rehabilitation is complete there will be little evidence that the mining has occurred except that some mature exotic trees will have been removed and the site is more open. Overall, it is my assessment that visual effects on landscape values will be as follows: Closer, lower viewpoints

	- During operations: Adverse / moderate-low – Nil - After rehabilitation: Neutral Higher, more distant viewpoints - During operations: Adverse / low – Nil - After rehabilitation: Neutral
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Residential viewpoints across the Clutha River / Mata-Au

There are a number of dwellings on terraces across the Clutha River / Mata-Au which overlook the site at varying distances as close as approximately 280m (738 Luggate Tarras Road). These are private properties, and I have not visited.

On the basis of views back toward these dwellings from the site, my assessment is that the proposed mining will have adverse effects on landscape values that will vary as activity moves around the site. The current pastoral rural landscape will be modified by disturbance associated with vegetation stripping, landform modification, and machinery presence and movement. This disturbance will be relatively confined in spatial extent, short term, and temporary.

Overall, it is my assessment that visual effects on landscape values will be as follows. In assessing the nature and degree of effect I have factored in that these viewpoints are residential / living environments and particularly sensitive as a result.

- During operations: Adverse / moderate-high – Nil
- After rehabilitation: Neutral

Residential viewpoints to the north of the site

There are dwellings to the north of the property that also overlook the site, including Lot 1 DP 364424, 3364 Luggate Cromwell Road and 3396 Luggate Cromwell Rd. I understand that the owners of all these properties have provided written approval.

Landscape effects discussion and conclusion

The proposed mining will be temporary and is for a short duration. In spatial extent its effects will be contained by the intention to rehabilitate progressively. Limits and setbacks imposed will ensure that adverse effects on the Clutha River / Mata-Au margins and indigenous trees are avoided. Conditions are proposed to ensure reinstatement of floodplain landform character and pasture.

The visual effects on users of adjacent roads and walkways and on nearby residents will likewise be mitigated by the temporary, short term and spatially limited nature of the activity. Whilst the activity overall is likely to have a duration of two years, the effects in any one part of the site are much less.

Overall, it is my assessment that effects on landscape values will be adverse / moderate-high – adverse / very low during the operation and adverse / very low following rehabilitation.

Assessment against the relevant Central Otago District Plan provisions

The property is within the Rural Resource Area in the Central Otago District Plan (CODP), and the application for mining is a discretionary activity in the CODP in terms of Rule 4.7.4. The following is my assessment of the proposed activity against the objectives and policies relevant to landscape matters:

CODP objectives and policies considered relevant to landscape effects of the proposed subdivision	Comment
4.3.3 <u>Objective – Landscape and Amenity Values</u> <i>To maintain and where practicable</i>	The site is within the Upper Clutha Valley and the proposed activity does not have any impact on the open natural character of the hills and

<i>enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.</i>	ranges. The activity proposed avoids natural character effects on the Clutha River / Mata-Au and has minimal impact on open space characteristics. Adverse effects on rural character and amenity will be short term, temporary and limited in extent. I consider that the proposed mining is consistent with this objective.
4.4.2 <u>Policy – Landscape and Amenity Values</u> <i>To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied or mitigated through:</i> <i>(a) The design and location of structures and works, particularly in respect of the open natural character of hills and ranges, skylines, prominent places and natural features,</i> <i>(b) Development which is compatible with the surrounding environment including the amenity values of adjoining properties, ...</i> <i>(e) The location of tree planting, particularly in respect of landscape values, natural features and ecological values, ...</i> <i>(g) Encouraging the location and design of buildings to maintain the open natural character of hills and ranges without compromising the landscape and amenity values of prominent hillsides and terraces.</i>	Structures proposed associated with the mining will be temporary and relatively small scale. In my assessment there will be effects on the amenity of adjoining properties that will be adverse in nature and up to moderate-high (more than minor) in degree. These will be short term only however (generally no more than 1 year, given the migration of mining activity around the site). In the long term any adverse effects of the activity on landscape values will be no greater than very low (less than minor).
4.4.10 <u>Policy – Rural Subdivision and Development</u>	The proposed mining does not impact the hills and ranges. Effects on rural landscape values

<i>To ensure that the subdivision and use of land in the Rural Resource Area avoids, remedies or mitigates adverse effects on:</i> <i>a. The open space, landscape and natural character amenity values of the rural environment in particular the hills and ranges,</i> <i>b. The natural character and values of the District's wetlands, lakes, rivers and their margins,</i> <i>c. The production and amenity values of neighbouring properties,</i>	including naturalness, openness and rural character will be up to moderate-high in degree in my assessment but temporary. There are no 'natural inland wetlands' on the site and effects on the natural character of the Clutha River / Mata-Au margin will be avoided. In my assessment there will be some adverse effects on the visual amenity values of nearby properties that will be up to moderate-high in degree but these will be short term and completely remedied.
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Conclusion

It is proposed to undertake alluvial gold mining on approximately 50 ha of river floodplain at Sandy Point. The mining would be for a maximum 3-year term, within which, full site rehabilitation will be completed. The actively mined area is proposed to be restricted to 18,000m² at any time with landform and pasture remediation progressively undertaken. Setbacks from the Clutha River / Mata-Au river margin and kanuka trees / stands are proposed to avoid adverse effects on natural character.

The area has rural character values associated with naturalness, openness and rural land use but there are no landscape overlays applying in the CODP.

I have assessed effects on landscape values as adverse in nature and up to moderate-high (more than minor) in degree for limited periods during the operational phase of the mining. These effects include visual effects experienced from nearby properties. Following final rehabilitation however, any adverse effects will be very low (less than minor).

Given the limited degree of adverse effects and their temporary nature, I assess the proposed mining as generally consistent with the CODP provisions relevant to landscape matters.

Mike Moore

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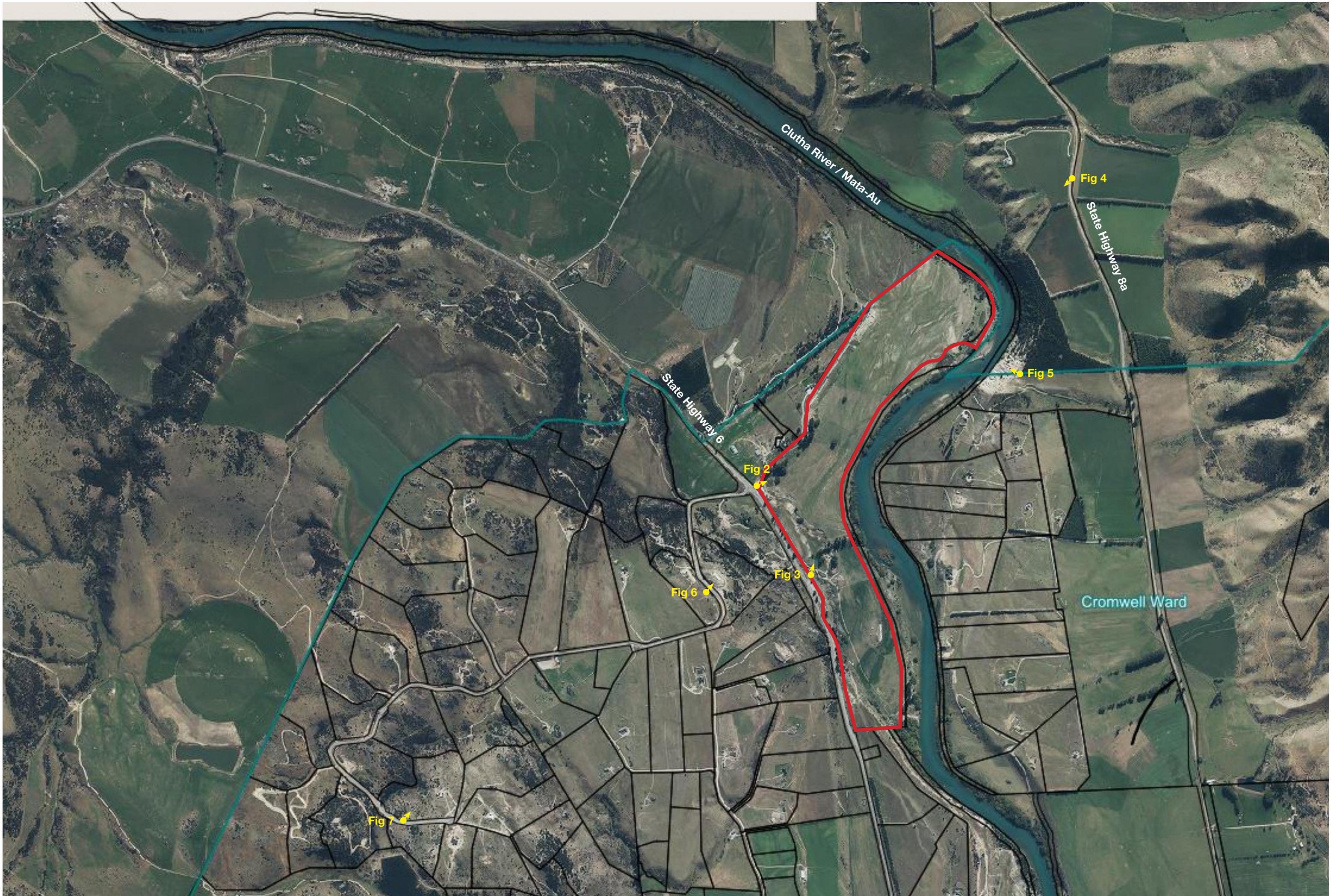


Figure 1: Proposed Alluvial Gold Mine, Sandy Point – Site and photo-points location plan



Figure 2: View eastward across the site from State Highway 6 near its intersection with Pukerangi Drive

Camera: Canon EOS 80D
Image: Stitched photographs – focal length 50mm



Figure 3: View north-eastward across the site from State Highway 6 approximately 440m south of its intersection with Pukerangi Drive.

Camera: Canon EOS 80D
Image: Stitched photographs – focal length 50mm



Figure 4: View south-westward toward the site from State Highway 8a

Camera: Canon EOS 80D
Image: Stitched photographs – focal length 50mm



Figure 5: View across the site from Sandy Point Lookout.

Camera: Canon EOS 80D
Image: Stitched photographs – focal length 27mm

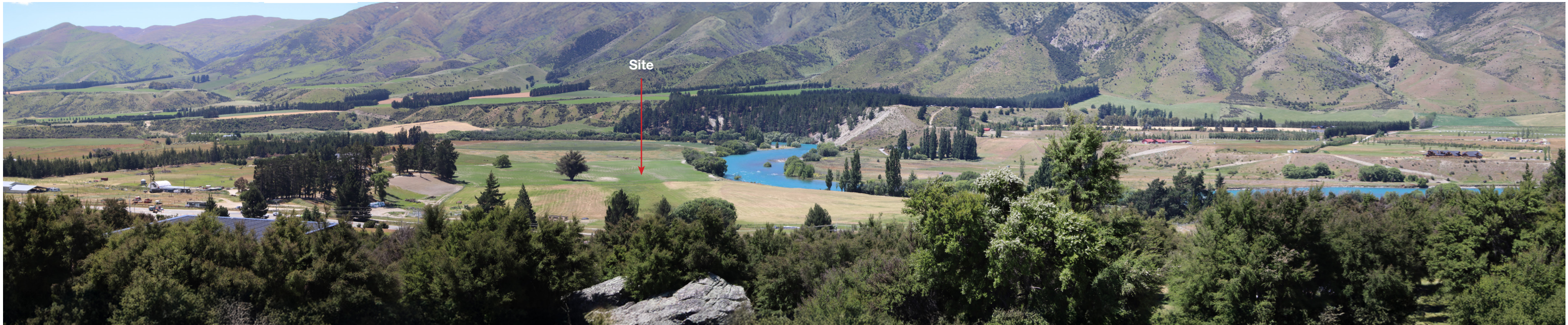


Figure 6: View toward the site from adjacent to 71 Pukerangi Drive

Camera: Canon EOS 80D
Image: Stitched photographs – focal length 50mm



Figure 7: View toward the site from adjacent to 347 Pukerangi Drive

Camera: Canon EOS 80D
Image: Stitched photographs – focal length 50mm

Mining Method Concept

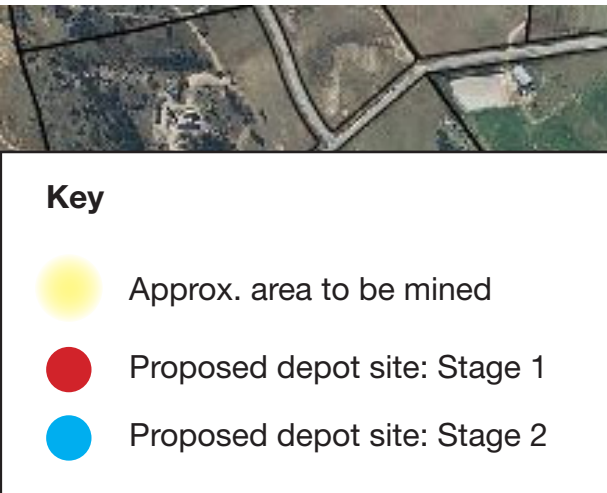
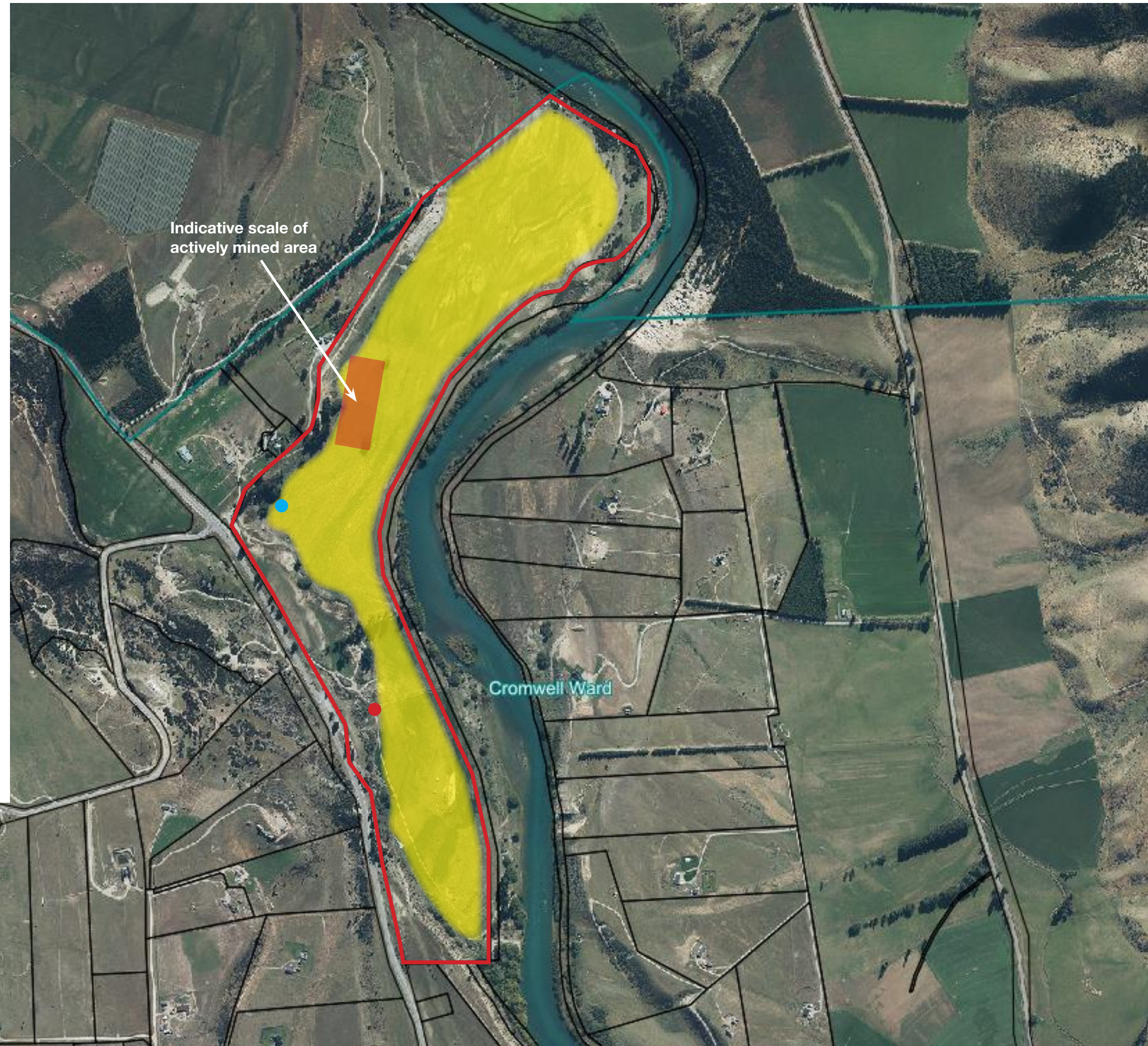
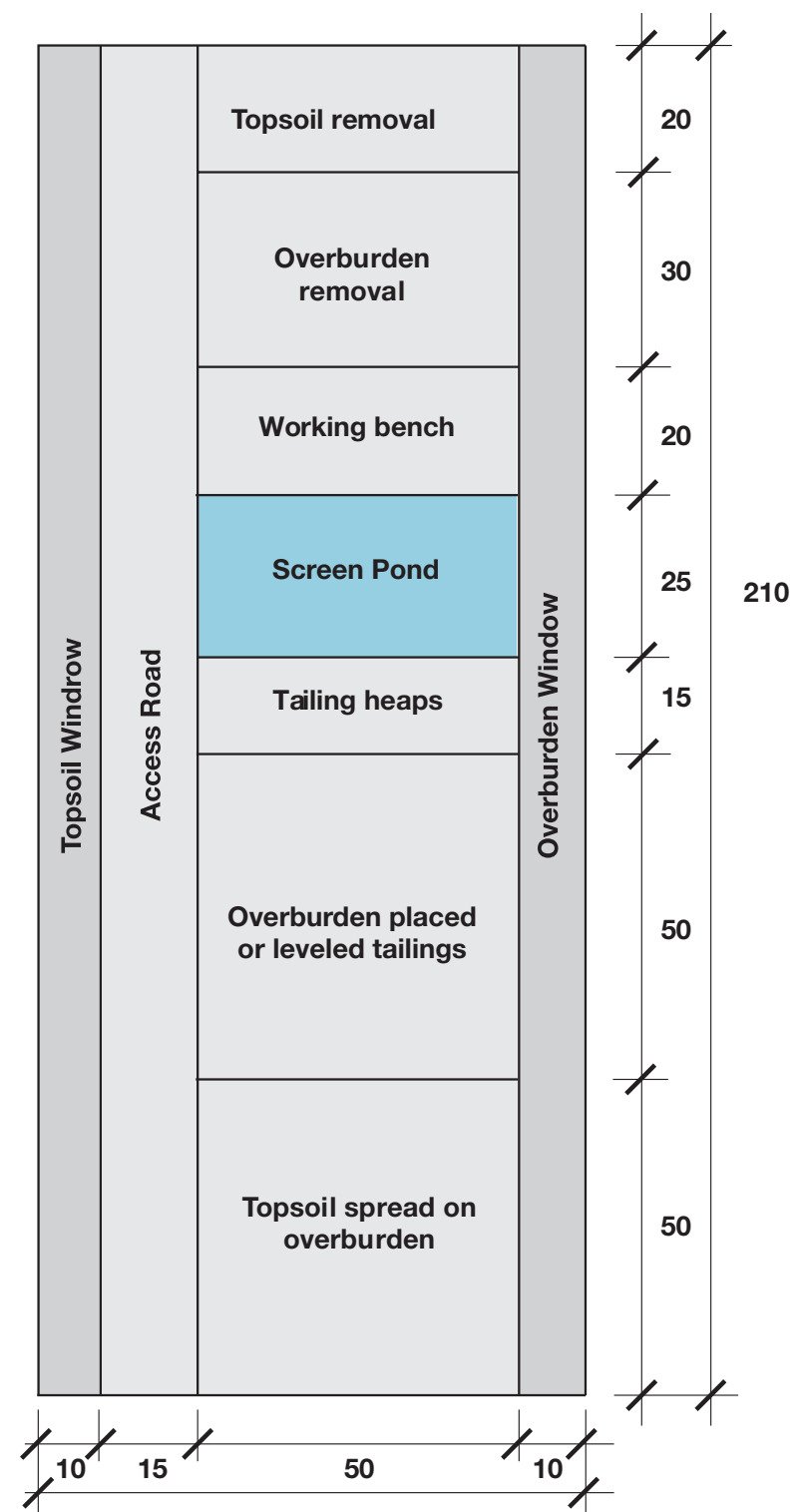


Figure 8: Proposed mining site plan