



Reference:

23 May 2016

Jackie St John
OceanaGold

Dear Jackie,

Re: *Clarifications regarding Coronation North (0219-04) and Coal Creek Dam (0219-08)
Ecological Impact assessments*

The following is provided as further detail in relation to the above reports.

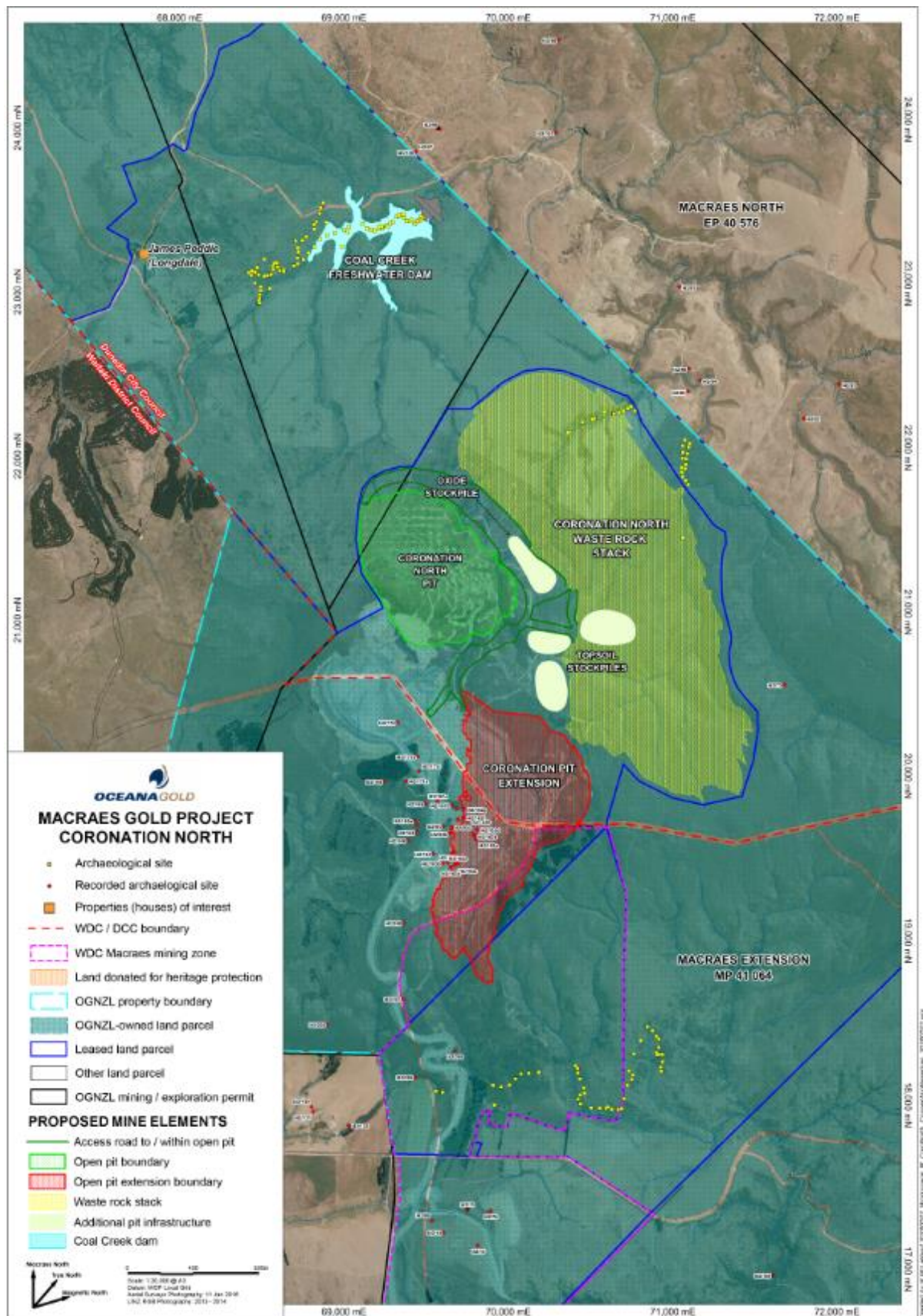
Result of modifications of Coronation North project outlines

The new (May 2016) Coronation North project outlines (Figure 1) differ in size and shape from those that the original reports were based on. In addition, the new project area contains some areas that overlap with the existing Coronation consent area. Therefore the new Coronation North project impact area is defined by the revised project outlines with a 100m buffer, but excluding the areas within the already-consented Coronation project. Redefining the impact area in this way will affect the contents and conclusions of these reports, mainly by reducing the area impacted on by the redesigned project and there will also be fewer species of interest that occur within the new impacted area. The main changes are provided here.



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Figure 1. May 2016 revised Coronation North project boundaries.



The areas of the vegetation types within the new Coronation North impact area are:

Vegetation type	Area (ha) where vegetation loss is expected to be total	Area (ha) within 100m buffer where some impact may occur on vegetation
Basalt contact flush wetlands	4.2	0
Bluff	7.3	1.3
Cultivated	46.8	18.3
Ephemeral wetlands	0.2	1.2
Gully slope mosaic	20.7	92.0
Narrow-leaved tussock grasslands	163.4	54.9
Pine (disused)	2.9	1.6
Pond	0.0	0.0
Riparian herbfield & sedgeland	6.1	1.0
Seepage	0.1	0.1
Short tussock grassland	59.8	26.6
Shrubland	3.5	5.6
SUM EXOTIC VEGETATION	49.7	19.9
SUM NATURAL VEGETATION	265.3	183.8
TOTAL AREA	315	203.7

The following species of interest are also known¹ to occur within the new project impact area:

Location	Date	Name	Easting_NZ	Northing_N	Comment_1	Comment_3	Comment_4
WRS	7/01/2016	Simplicia laxa	1394807	4978732	several plants in rock overhang	Threatened	Nationally Critical
WRS	7/01/2016	Simplicia laxa	1395345	4979313	several plants in deep rock overhang	Threatened	Nationally Critical
WRS	7/01/2016	Anogramma leptophylla	1395259	4979356	several plants in rock overhang	Threatened	Nationally Vulnerable
Dam	6/04/2016	Pachycladon cheesemanii	1392703.905	4979417.755	2x plants on shelf in overlay	Threatened	Nationally Vulnerable
Dam	16/12/2015	Senecio dunedinensis	1392723	4979422	1 x plant 3m up bluff in overhang	Threatened	Nationally Vulnerable
WRS	7/01/2016	Sonchus novae-zelandiae	1395359	4979308	1 plant on bluff	Threatened	Nationally Vulnerable
WRS	21/01/2016	Aciphylla subflabellata	1395860.759	4978759.505	1 plant	At Risk	Declining
WRS	21/01/2016	Aciphylla subflabellata	1395782.946	4978179.259	1 plant	At Risk	Declining
Haul Road	7/01/2016	Aciphylla subflabellata	1393812	4978142	individual plant	At Risk	Declining
WRS	7/01/2016	Carmichaelia corrugata	1395128	4978759	2-9 plants	At Risk	Declining
WRS	7/01/2016	Carmichaelia corrugata	1395142	4978768	2-9 plants	At Risk	Declining
WRS	7/01/2016	Carmichaelia corrugata	1395337	4978883	30-50 plants	At Risk	Declining
WRS	7/01/2016	Carmichaelia crassicaulis	1394484	4979028	5 plants	At Risk	Declining
WRS	7/01/2016	Carmichaelia crassicaulis	1394558	4978985	4 plants	At Risk	Declining
WRS	7/01/2016	Carmichaelia crassicaulis	1394945	4979445	6 plants	At Risk	Declining
WRS	7/01/2016	Carmichaelia crassicaulis	1394559	4979420	3 plants	At Risk	Declining
WRS	21/01/2016	Carmichaelia crassicaulis	1394867.406	4979401.787	6 plants	At Risk	Declining
Dam	16/12/2015	Carmichaelia crassicaulis	1392693	4979273	c. 11 plants	At Risk	Declining
Dam	16/12/2015	Carmichaelia crassicaulis	1392694	4979361	c. 9 plants	At Risk	Declining
Dam	16/12/2015	Carmichaelia crassicaulis	1392854	4979514	c. 3 plants	At Risk	Declining
Dam	7/01/2016	Carmichaelia crassicaulis	1393096	4978988	1 plant	At Risk	Declining
Dam	7/01/2016	Carmichaelia crassicaulis	1392965	4979036	6 plants on top of bluff	At Risk	Declining
Dam	7/01/2016	Carmichaelia crassicaulis	1392875	4979128	1 plant	At Risk	Declining
Dam	14/01/2016	Carmichaelia crassicaulis	1393121.7	4978980.7	1 plant	At Risk	Declining

¹ Other species may also be known from the area, but the exact locality was not recorded.

Dam	1/04/2016	Carmichaelia crassicaulis	1392576	4979160	3 plants	At Risk	Declining
Dam	16/12/2015	Coprosma intertexta	1392711	4979229	8m x 3m toeslope	At Risk	Declining
Dam	16/12/2015	Coprosma intertexta	1392719	4979368	c. 11-14 plants, toeslope.	At Risk	Declining
Dam	1/04/2016	Coprosma intertexta	1392847	4979290	4 plants	At Risk	Declining
Dam	1/04/2016	Coprosma intertexta	1392876	4979177	5 plants	At Risk	Declining
WRS	7/01/2016	Anthosachne falcis	1394954	4978710		At Risk	Naturally Uncommon
Dam	16/12/2015	Cardamine bilobata	1392723	4979422	6 plants on ledges and crevices from 20cm to 2m up cliff	At Risk	Naturally Uncommon
Dam	16/12/2015	Cardamine bilobata	1392877	4979495	5x plants c. 1.6m up on ledge bluff 2	At Risk	Naturally Uncommon
WRS	7/01/2016	Celmisia hookeri	1394519	4979011	<20 plants	At Risk	Naturally Uncommon
WRS	7/01/2016	Celmisia hookeri	1394818	4978714	hundreds of plants in bluffs extending down gorge	At Risk	Naturally Uncommon
WRS	7/01/2016	Celmisia hookeri	1395584	4979087	thousands of plants in bluffs extending up and down valley	At Risk	Naturally Uncommon
WRS	7/01/2016	Celmisia hookeri	1395382	4979286	hundreds of plants in bluffs	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395651.591	4979108.049	50 plants	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395684.644	4979088.1	100's plants extending upstream	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395789.793	4979058.918	Upper end Celmisia hookeri	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395884.925	4978924.541	200 plants	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395884.238	4978705.55	100 plants	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395839.476	4978495.697	50 plants	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1395866.596	4978491.681	50-60 plants	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1396289	4978814	100 plants	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1396178	4978839	200 plants on bluffs	At Risk	Naturally Uncommon
WRS	21/01/2016	Celmisia hookeri	1396010	4978905	small scattered groups on rocks	At Risk	Naturally Uncommon
Dam	16/12/2015	Celmisia hookeri	1392723	4979422	several 100 plants on brow, outcrops, cleft and gully on large bluff system	At Risk	Naturally Uncommon
Dam	16/12/2015	Celmisia hookeri	1392838	4979466	c. 50 plants on rocky spur	At Risk	Naturally Uncommon

Dam	16/12/2015	Celmisia hookeri	1392877	4979495	c. 100 plants scattered around bluff 2	At Risk	Naturally Uncommon
Dam	16/12/2015	Dracophyllum uniflorum var. frondosum	1392723	4979422	few plants along brow of cliff	At Risk	Naturally Uncommon
Dam	16/12/2015	Dracophyllum uniflorum var. frondosum	1392723	4979422	Bluff 1	At Risk	Naturally Uncommon
WRS	21/01/2016	Lagenophora barkeri	1395626.518	4979097.228	Small patch	At Risk	Naturally Uncommon
WRS	21/01/2016	Lagenophora barkeri	1395850.606	4978954.57	widespread in area	At Risk	Naturally Uncommon
Oxide	7/01/2016	Lagenophora barkeri	1394744	4978556	several plants on stream edge	At Risk	Naturally Uncommon
Dam	16/12/2015	Lagenophora barkeri	1392723	4979422	Bluff base w. Lagenophora pinnatifida	At Risk	Naturally Uncommon
WRS	7/01/2016	Epilobium insulare	1394808	4978638	large population nearby	Species of Interest	Data Deficient
WRS	7/01/2016	Epilobium insulare	1395554	4978950	several plants nearby	Species of Interest	Data Deficient
WRS	21/01/2016	Epilobium insulare	1395835.871	4978573.204	small patch	Species of Interest	Data Deficient
WRS	21/01/2016	Epilobium insulare	1395816.324	4978263.078	small patch	Species of Interest	Data Deficient
Dam	16/12/2015	Epilobium insulare	1392519	4979250	c. 12 scattered	Species of Interest	Data Deficient
Dam	1/04/2016	Epilobium insulare	1392836	4979361	2 plants	Species of Interest	Data Deficient
Dam	1/04/2016	Epilobium insulare	1392839	4979345	2 plants	Species of Interest	Data Deficient
WRS	7/01/2016	Olearia bullata	1394426	4979321	several plants	Species of Interest	DCC Rare Plant
Oxide	7/01/2016	Olearia bullata	1394744	4978556	large population scattered up and down stream	Species of Interest	DCC Rare Plant
Dam	6/04/2016	Coprosma dumosa	1392758.932	4979443.583	red fruit	Species of Interest	Morphologically distinct
WRS	7/01/2016	Brachyglottis southlandica	1394808	4978638	several plants in bluffs	Species of Interest	Rare in Ecol. District
WRS	7/01/2016	Carex kaloides	1395584	4979087	large population	Species of Interest	Rare in Ecol. District
WRS	7/01/2016	Carex kaloides	1394426	4979321	Approximately 100 plants	Species of Interest	Rare in Ecol. District
WRS	21/01/2016	Carex kaloides	1395888.499	4978867.385	small patch	Species of Interest	Rare in Ecol. District
Oxide	7/01/2016	Carex kaloides	1394744	4978556	large population nearby	Species of Interest	Rare in Ecol. District
Dam	16/12/2015	Carex kaloides	1392684	4979225	1.5m x/m edge of stream	Species of Interest	Rare in Ecol. District

Dam	16/12/2015	Carex kaloides	1392809	4979444	6x4m dense patch by stream	Species of Interest	Rare in Ecol. District
Dam	16/12/2015	Carex kaloides	1392824	4979452	3x3m sparse patch on stream flat	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392553.773	4979057.39	patches	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392539.163	4979050.682	patches	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392593.598	4979089.616	8x4m	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392573	4979126	2mx2m and 2mx3m	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392570	4979102	5mx3m and 2mx3m	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392618	4979036	dense to scattered over 20mx30m	Species of Interest	Rare in Ecol. District
Dam	1/04/2016	Carex kaloides	1392841	4979401	2mx2m	Species of Interest	Rare in Ecol. District
WRS	7/01/2016	Rumex flexuosus	1394559	4979420	2 plants	Species of Interest	Rare in Ecol. District
Dam	16/12/2015	Veronica rakaiensis	1392723	4979422	large pop c. 100 plus	Species of Interest	Rare in Ecol. District

Significance of vegetation communities

To clarify sections 5.2.7.5 and 5.2.7.6 of the Coronation North (0219-04) and Coal Creek Dam (0219-08) Ecological Impact Reports.

Using the criteria within Policy 10.5.2 of the 1998 Otago Regional Policy Statement 10: Biota, all the natural vegetation types within the new Coronation North impact area are considered **significant** as they are, or contain, species or vegetation that: 1) provide habitat or vegetation that support the maintenance or recovery of indigenous species that are uncommon or threatened with extinction (rare, vulnerable or endangered) regionally or nationally, 2) vegetation that contains associations of indigenous species which are rare or representative regionally or nationally. These are also likely to be considered significant under some or all 5 criteria within Schedule 5 of the 2015 draft Regional Policy Statement.

Using the criteria within Method 16.4.4 Schedules [Amended by Consent Order 4/5/04] of the 2006 Dunedin City Council District Plan, all the natural vegetation types within the new Coronation North impact area are considered **significant** as they are, or contain, species or vegetation that meet criteria d), e), f), g), h), i), and j) of this plan. These are also likely to be considered significant under some or all of criteria b) to g) (inclusive) of Policy 2.2.3.1 of the 2015 draft Second Generation District Plan

Using the criteria within Policy 16.9.3 of the 2010 Waitaki District Council District Plan, all the natural vegetation types within the new Coronation North impact area are considered **significant** as they are, or contain, species or vegetation that meet criteria i) representativeness, ii) rarity and distinctiveness, iii) diversity and pattern, iv) ecological context, size and shape, of this plan.

None of the exotic vegetation types (cultivated or pine) are considered significant using the criteria outlined above.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'M-J Thorsen', with a long horizontal flourish extending to the right.

Dr Michael J. Thorsen
Director & Principal Ecologist
ERA Ecology NZ Ltd