13 July 2016 Reference No. 1545831-007

John Bywater
Oceana Gold (New Zealand) Ltd
PO Box 5442
DUNEDIN 9058

CORONATION NORTH PROJECT CONSENT APPLICATION – S92 RESPONSES

Dear John

Oceana Gold (New Zealand) Limited (OceanaGold) has applied to Otago Regional Council (ORC) for consents authorising the construction of the Coronation North Project. Golder Associates (NZ) Limited (Golder) provided technical support to OceanaGold with respect to assessing the effects of the project on groundwater, surface water and water quality.

OceanaGold has subsequently received a letter from ORC providing a request for further information under Section 92 (S92) of the Resource Management Act. The letter from ORC requested further information in response to three sets of questions from different reviewers:

1) Four questions from ORC's Resource Science Unit (RSU) were presented in the body of the ORC letter.

2) Questions related to the assessment of the groundwater related effects were provided in a letter prepared by Tonkin and Taylor Ltd (T&T)[1] attached as Appendix 1 to the letter from ORC.

3) Questions related to the assessment of the surface water flows and quality were provided in a memorandum prepared by Dr Chris Hickey (NIWA)[2] attached as Appendix 2 to the letter from ORC.

This letter[3] has been prepared following a request by OceanaGold and provides:

- Responses to questions 1, 2 and 4 from the council's RSU.
- Responses to the questions from Dr Chris Hickey related to the work undertaken by Golder in support of the application for consents authorising construction of the Coronation North Project.

OceanaGold has previously provided a response to ORC in relation to the questions from T&T[4].

In this letter, the questions being responses to are identified in italicised text.

[1] Letter from Tonkin & Taylor Ltd to Otago Regional Council, dated 13 June 2016. Proposed OceanaGold Coronation North Project, Section 92 requests for additional information. T&T reference number 51640.0230.

[2] Memorandum from Dr Chris Hickey (NIWA) to Otago Regional Council, dated 27 June 2016. Technical assessment – Oceana Gold.

[3] This letter is provided subject to the attached statement of limitations.

[4] E-mail from J. Bywater, OceanaGold to C. Horrell, ORC, dated 6 July 2016.

Responses to RSU questions

General question

Further information requests 1 and 2; could you also relate the predicted and current water quality to Council's Plan change 6A guidelines, in particular Schedule 15 and 16 of the Regional Plan: Water.

Mining operations at the Macraes Gold Project (MGP) generate ammoniacal nitrogen and nitrate nitrogen through the use of ammonia based explosives. The nutrient concentrations and discharge loads generated through the use of explosives vary greatly depending on seasonal weather factors and operational scheduling. The nutrient concentrations and discharge loads generated through site rehabilitation vary depending on seasonal weather factors and the scheduling of the rehabilitation processes. In both cases the potential discharge of mine water transporting nutrients can be managed through adapting site operations to meet ORC objectives. OceanaGold has advised Golder that the company is committed to managing their operations to support ORC in meeting the regional objectives for nitrate-nitrogen and ammoniacal-nitrogen set out in Regional Plan Change 6A, Section 15.

Fertilisers are applied to waste rock stack (WRS) areas to support site rehabilitation operations. To date the fertilisers and soil conditioning agents applied have been superphosphate and lime. OceanaGold has not monitored phosphate concentrations in water at the MGP since 1994. OceanaGold is however not aware of any down-stream issues arising through excessive macrophyte or algal growth that may have arisen through the discharge of dissolved reactive phosphate to receiving water bodies.

Water clarity and turbidity outcomes from environmental management of the operations at the MGP are described later in this letter. OceanaGold does not monitor turbidity at the site compliance points relevant to the Coronation North Project on a regular basis. Based on past observations of turbidity in Deepdell Creek, OceanaGold is confident that the current site management procedures used to minimise the losses of suspended sediment to receiving water bodies would not restrict ORC in meeting catchment objectives in the Taieri catchment.

Bacterial contamination of mine site water is not considered to be an issue at the MGP.

Item 1: Alternative discharge methods

Council's preference, pursuant with Policy 6.5.5 (d) of the Regional Policy Statement for Otago, is to promote discharges to land where practical rather than to water bodies. Please provide comment on alternative methods of discharging.

The primary areas of mine water discharges from the proposed Coronation North Project are:

1) The toe of the Coronation North WRS in each of four gullies that contribute flows to Mare Burn (Figure 1).

2) The overflow points for the Coronation North Pit and the Coronation Stage 5 Pit.

Of the four WRS seepage discharge points, the two that contribute seepage flows to the Coal Creek catchment (Coal Creek seepage locations 1 and 2) are at elevations high enough in their respective sub-catchments that diversion of the flows to a land discharge could be considered. These discharges are however small compared to the overall site discharges (Table 1).

In terms of catchment areas available to accept discharges to land, only the discharge from Coal Creek seepage location 2 could be reasonably diverted via a race or pipeline to an adequate land disposal area, without the necessity for pumping. The other three WRS seepage discharges are located too deep in their respective gullies to enable diversion to suitable land irrigation areas without the need for ongoing pumping or the installation and maintenance of long pipelines to appropriate irrigation areas.

Table 1: Mine water discharge points and flows.

Mine water discharge point	Discharge point elevation (mRL) [(1)]	Projected discharge flow rate (m^3/day) [(2)]
WRS seepage discharges		
Coal Creek seepage location 1	527.5	3.2
Coal Creek seepage location 2	530	24.2
Maori Hen Creek seepage location	485	110
Main WRS seepage location	507.5	258.6
Pit lake seepage discharges		
Coronation North Pit	580, with some seepage losses below that elevation.	Before overflow, 0 or minor seepage. Variable following overflow.
Coronation Stage 5 Pit	632.5, with some seepage losses below that elevation.	Before overflow, 0 or minor seepage. Variable following overflow.

Notes: 1) Data from Coronation North WRS layout and catchment topography provided by OceanaGold.
2) Source: Golder (2016) Table 4[5].

The discharges from the pit lakes are not modelled to occur for considerably more than 100 years following site closure. The discharge from Coronation Stage 5 pit would be through the Coronation North WRS and contribute additional flows to the main WRS seepage location. The overflow from Coronation North Pit could potentially be diverted along contour and discharged to land, however this process would raise other issues around erosion management.

Item 2: Coal Creek dam residual flow capacity

Concerns have been raised that the proposed residual flow of 5 litres per second cannot be maintained below the Coal Creek Dam, given the size of catchment above the dam. Please provide flow summaries for the proposed Coal Creek Dam and indicate how you will maintain the proposed residual flow at all times.

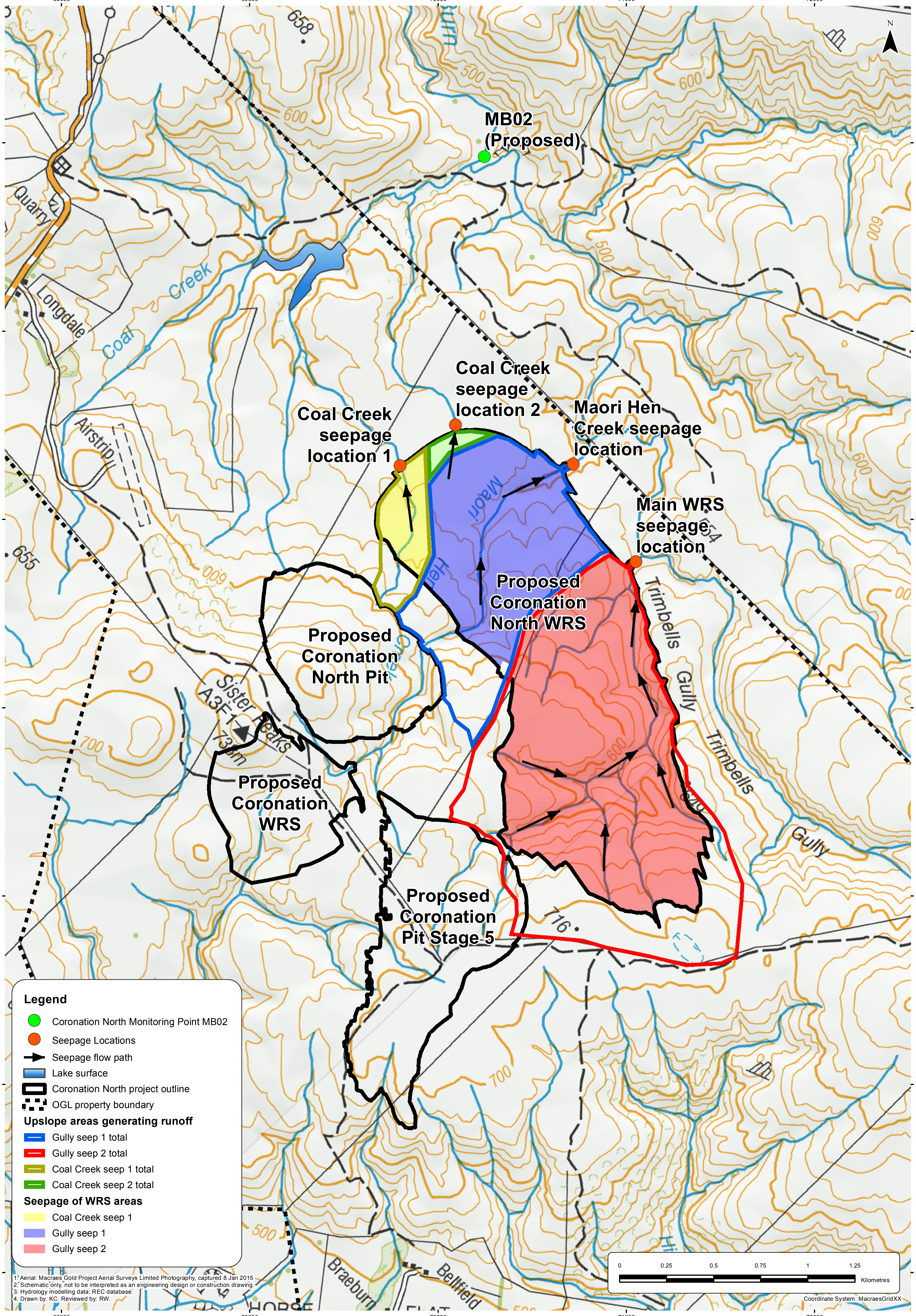
In assessing the potential for the proposed Coal Creek dam to provide a continuous discharge of 5 L/s for water quality mitigation purposes, it was assumed that the Coal Creek catchment would have similar surface water flow characteristics to Deepdell Creek, reduced proportionately for the differing areas of the two catchments. The actual modelling of the catchment was done on a slightly more conservative basis, with the run-off rates being less than would be projected from a simple proportional reduction in the flows recorded at Golden Point weir (Table 2). On this basis, we are comfortable that the proposed Coal Creek dam could potentially provide a continuous discharge exceeding 5 L/s. The modelling of the proposed freshwater dam indicated a continuous discharge of up to 7 L/s is achievable from the dam layout documented[5], although this higher flow rate is not required to enable OceanaGold to meet the proposed water quality compliance criteria.

Table 2: Deepdell Creek and Coal Creek flow statistics.

Parameters	Min	L.Q. [(2)]	Median	Average	U.Q. [(3)]	Maximum
Deepdell Creek at Golden Point weir [(1)]	catchment area 4,080 ha					
Daily average (L/s)	0.0	10.7	28.7	108.2	85.0	44,220
Coal Creek at proposed dam site	catchment area 650 ha					
Daily average (L/s)	0.0	1.3	3.7	15.8	10.4	2,880

Notes: 1) Flows calculated based on midnight to midnight for the monitoring period July 1985 – December 2015.
2) Lower quartile.
3) Upper quartile.

[5] Golder 2016. Coronation North Project. Water quality mitigation – fresh water dam scenario. Report produced for OceanaGold (New Zealand) Ltd by Golder Associates (NZ) Limited. Golder report 1545831-004.



Golder Associates

TITLE CORONATION NORTH WRS PRIMARY SEEPAGE DISCHARGE LOCATIONS

JULY 2016

PROJECT 1545831-007

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Two initial checks to the validity of the model outcomes have been undertaken:

1) An annual indicative water balance calculation (Table 3**Error! Not a valid bookmark self-reference.**).

2) A calculation of the time required to drain the freshwater dam.

Table 3: Average annual Coal Creek freshwater dam water balance.

Parameter	Units	Values
Inflows to dam		
Rain	m	0.65
Catchment yield (1)	%	8
Catchment area	ha	650
Average annual catchment inflow to dam	m^3	340,000
Outflows from dam		
Evaporation	m	1.0
Dam ponded area (full)	m^2	90,000
Evaporative loss	m^3	90,000
Managed discharge	m^3	160,000
Average annual outflows from dam	m^3	250,000
Average annual water balance in freshwater dam	**m^3**	**90,000 gain in storage**

Note: 1) The catchment yield for Deepdell Creek catchment is several percent higher at 11 %.

A catchment yield of 8 % was applied to the above calculation to provide a degree of conservatism to the result. The catchment yield for Deepdell Creek is 11 %, suggesting the yield for the Coal Creek catchment may also be higher. The conservatism was incorporated in this calculation in lieu of specific monitoring data for Coal Creek.

Once full to overflow the freshwater dam with a volume of 677,000 m^3 would provide for annual evaporative losses of 90,000 m^3 and an annual managed discharge at 5L/s of 160,000 m^3 for approximately 2.7 years even if inflows were zero. In addition, evaporative losses from the reservoir surface would decrease as the water level decreases, extending the actual period of available water even if no inflows were occurring.

Item 4: Sub-catchment effects mitigation

No comment on how discharges will be diluted in particular sections of Maori Hen Creek and Trimbells Gully. Please confirm how adverse effects on these sections will be avoided, mitigated or remedied.

The upper reaches of Maori Hen Creek are mostly within the footprint of the planned Coronation North Pit. The stretch of Maori Hen Creek between the pit and its confluence with Trimbells Gully is to be infilled with the Coronation North WRS. In addition, OceanaGold plans to install a silt dam in the Maori Hen Creek gully between the toe of the Coronation North WRS and the confluence with Trimbells Gully. On that basis, there will be no remaining free-flowing stretch of Maori Hen Creek once the Coronation North Project has been completed.

The water quality in Trimbells Gully upstream from the main WRS seepage location (Figure 1) is not expected to be affected by mine water discharges from the Coronation North Project. The water quality in Trimbells Gully and in Mare Burn for the stretch between the main WRS seepage location and the proposed compliance point MB02 will be affected by seepage discharges from Coronation WRS. Measures planned by OceanaGold to avoid, mitigate or remedy the effects of these discharges include:

- The installation of silt dams at the toe of the WRS in Maori Hen Creek and at the main WRS seepage location (Figure 1) to reduce the discharge of suspended solids from the WRS to Trimbells Gully during the operational period of the mine.
- The rehabilitation of the WRS to reduce the discharge of suspended solids from the WRS to the silt dams following mine closure.
- Iron and arsenic carried in solution in discharges from Coronation North WRS are expected to precipitate out in or upstream from the silt ponds at the WRS toe. This process has been observed at the existing silt ponds on site.

Responses to NIWA questions

Item 1

Provide background monitoring information on Mare Burn clarity (i.e., turbidity, suspended sediments, black disk clarity) to provide base flow and flood conditions.

OceanaGold has not carried out turbidity or suspended solids monitoring in Mare Burn and does not monitor either parameter on a regular basis at the Macraes Gold Project (MGP). Monitoring data from the early period of MGP development, prior to completion of the silt dam in Maori Tommy Gully downstream from the Mixed Tailings Impoundment, provides the best indication of potential turbidity levels in the Mare Burn under a range of flow regimes (Figure 2).

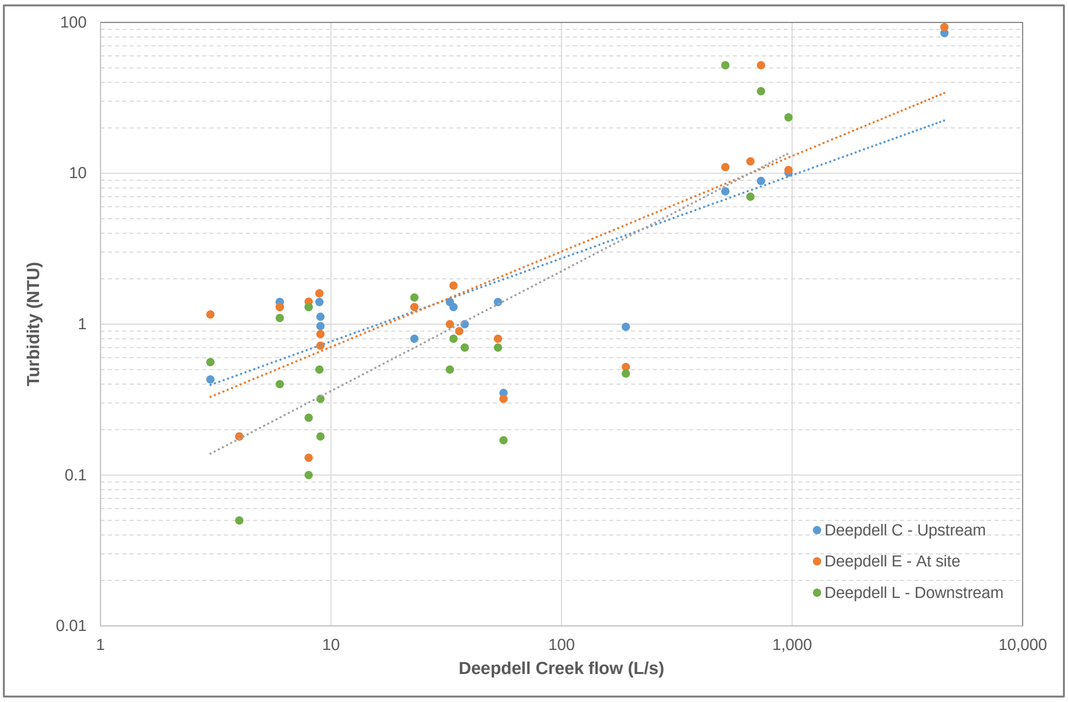

Figure 2: Turbidity data recorded from Deepdell Creek prior to 1994.

Item 2

Provide background monitoring information on Mare Burn nutrient (nitrogen and phosphorus) concentrations under base flow and flood conditions.

OceanaGold has not carried out background monitoring of nitrogen or phosphorus concentrations in Mare Burn. Data obtained from monitoring water quality in Deepdell Creek is however available and are likely to be indicative of baseline conditions in the upper Mare Burn catchment.

OceanaGold monitors nitrogen concentrations in Deepdell Creek in the form of Total Nitrogen (TN) and has monitored nitrate nitrogen concentrations in Deepdell Creek in the past. OceanaGold has also monitored phosphate concentrations in Deepdell Creek in the past but has not done so since 1994.

Nitrate nitrogen concentrations recorded at equivalent downstream compliance points in Deepdell Creek are presented in Figure 3, with the TN concentrations for the same monitoring points presented in Figure 4.

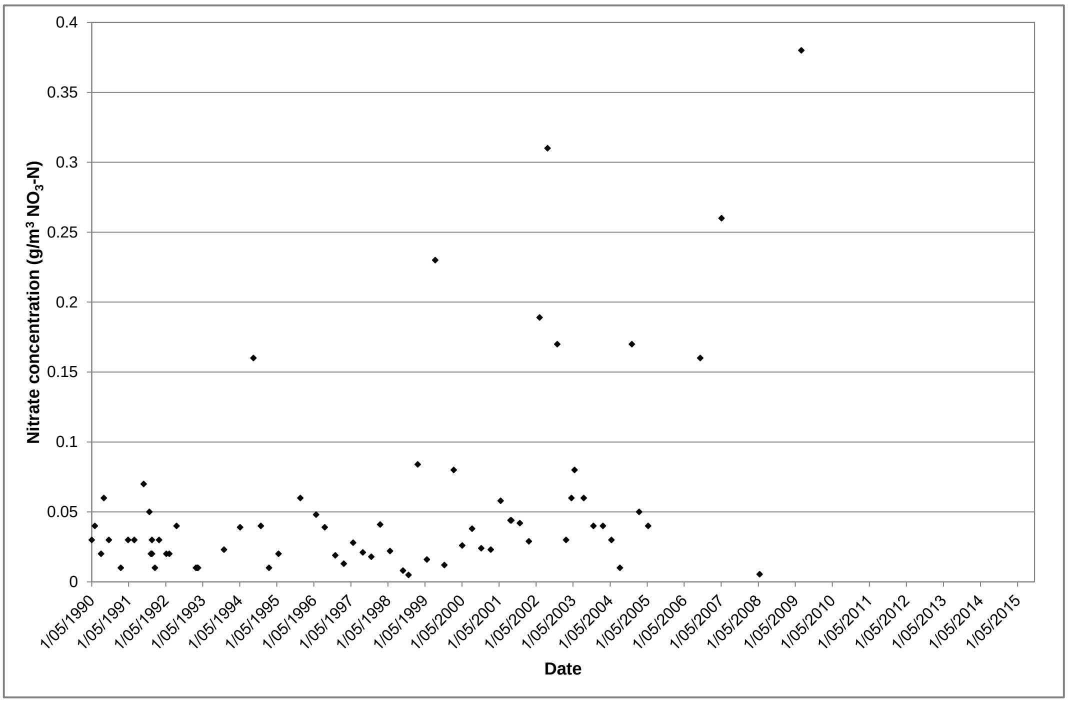

Figure 3: Nitrate nitrogen concentrations recorded from Deepdell Creek downstream from the MGP (DC07 and Deepdell_L).

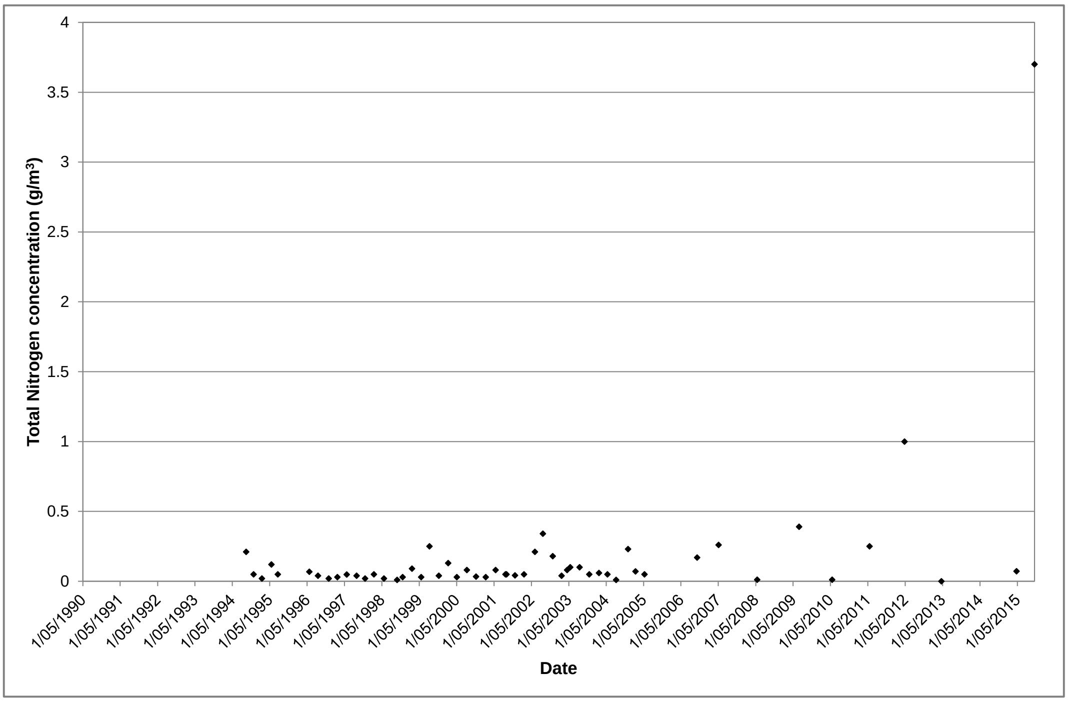

Figure 4: Total nitrogen concentrations recorded from Deepdell Creek downstream from the MGP (DC07 and Deepdell_L).

Background sampling for nitrate nitrogen has been done only four times since 1994, with a maximum concentration of 0.21 g/m^3 detected. Eleven background samples have been analysed for TN since 2006, with the results mostly being for concentrations less than 0.05 g/m^3.

Phosphate concentrations are available from Deepdell Creek for the period prior to 1994.

Indicative concentrations for both parameters may be gained from past monitoring in the Deepdell Creek catchment, downstream from the MGP (and Figure 5). Background (upstream in Deepdell Creek) monitoring indicates phosphate are present over a range of concentrations similar to that observed at the downstream monitoring points.

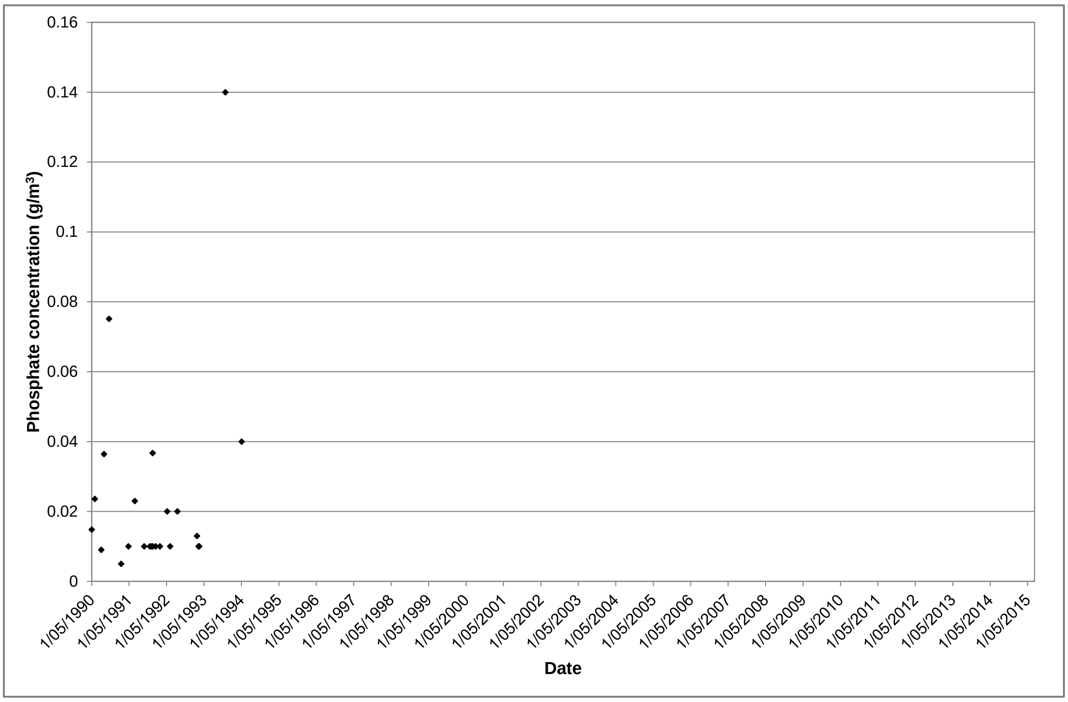

Figure 5: Phosphate concentrations recorded from Deepdell Creek downstream from the MGP (Deepdell_L).

Both nitrates and phosphates are applied in fertilisers during rehabilitation of the existing WRS areas at the MGP. Rehabilitation of closed WRS areas at the MGP has been ongoing since before 2000. A similar rehabilitation process is expected to be used for the Coronation North WRS.

Item 3

Provide background monitoring information on Mare Burn electrical conductivity and sulphate concentrations under base flow and flood conditions.

OceanaGold monitors both electrical conductivity (Figure 6) and sulfate (Figure 7) concentrations in Mare Burn at both MB01 and MB02 monitoring points on a monthly basis. Monitoring started at MB01 in January 2015 and at MB02 in February 2016. Given the short period of record, there is insufficient data available to characterise the quality of water in Mare Burn under different flow conditions. The information available to date is provided below.

Sulfate concentrations in Mare Burn at MB01 appear to have increased, although the period of monitoring prior to the initiation of mining within the Mare Burn catchment was short and the data may not reflect the full range of baseline sulfate concentrations in Mare Burn. The apparent increase in detected concentrations may be due to operational discharges of mine water from the existing Coronation Pit. These increases do not relate to WRS seepage as there is no WRS yet constructed within the Mare Burn catchment.

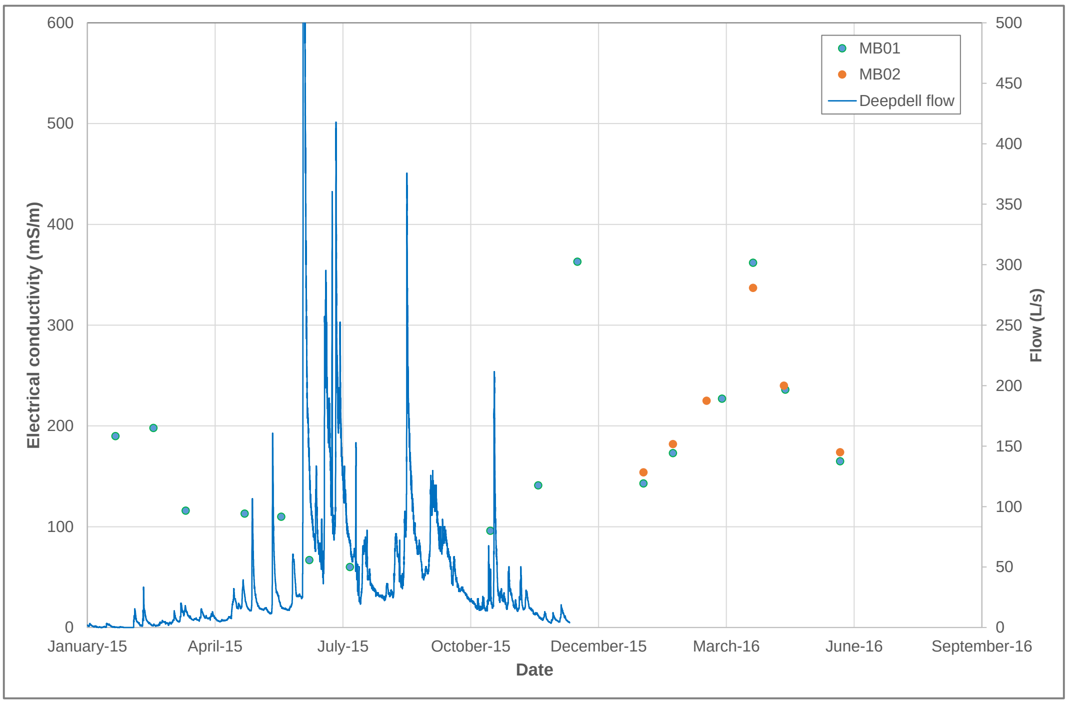

Figure 6: Electrical conductivity recorded from Mare Burn at MB01 and MB02.

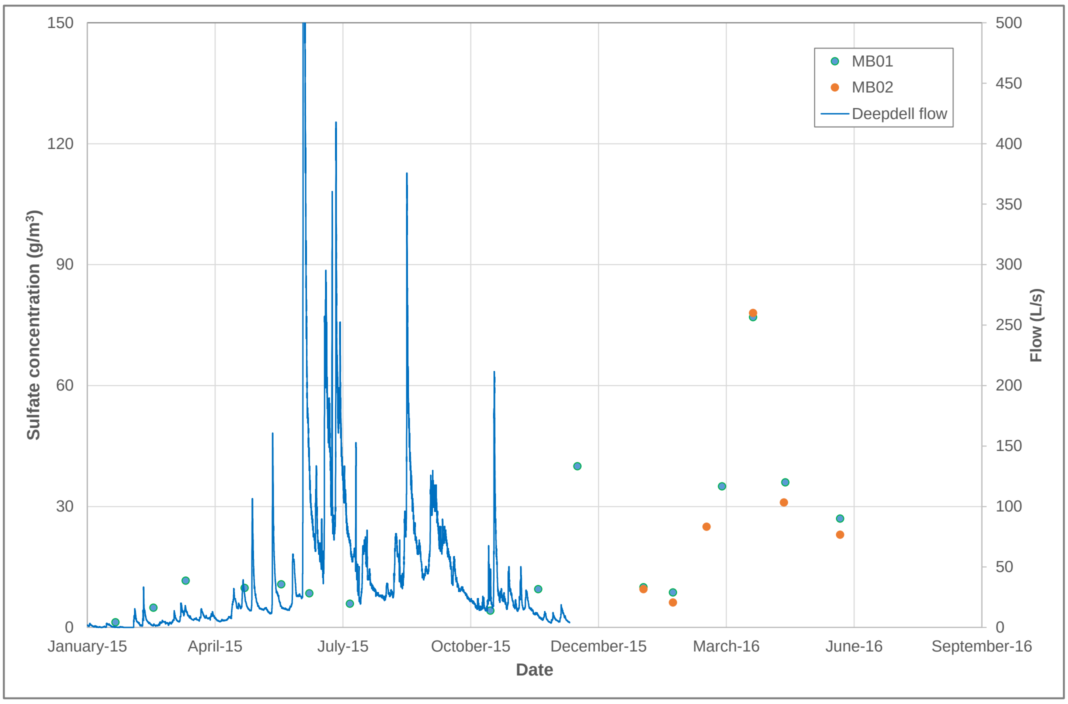

Figure 7: Sulfate concentrations recorded from Mare Burn at MB01 and MB02.

Items 5 to 9.

5: Provide an assessment of whether the proposed Coal Creek freshwater dam will stratify and the likely period of seasonal stratification.

6: Provide an assessment of whether the proposed Coal Creek freshwater dam will deoxygenate and, if so, whether it will result in elevated iron, manganese, ammonia or sulphide concentrations.

7: If the proposed Coal Creek freshwater dam will deoxygenates, provide predictions of concentrations of contaminants downstream at MB02 in Mare Burn.

8: If the proposed Coal Creek freshwater dam will deoxygenates, provide predictions of dissolved oxygen at site MB02 and a compliance assessment with NPS-FM standards for DO.

9: If the proposed Coal Creek freshwater dam deoxygenates, will mitigation measures, such as aeration be used to destratify and ensure aeration above critical thresholds?

It is expected that the water reservoir in the Coal Creek freshwater dam will stratify over the mid to late summer period, with a thermocline developing at a depth of between 5 m and 10 m, depending on the water level in the reservoir and weather patterns in any particular year. At any water stage height in the reservoir the top 5 m of water represents at least 50 % of the total stored water in the reservoir.

The temperature stratification in the reservoir is expected to decline and disappear during autumn, with the timing depending on the water level in the reservoir and weather patterns in any particular year.

The hypolimnion may become progressively deoxygenated on a transient seasonal basis during the late summer prior to the decline of the thermocline in autumn. The concentrations of contaminants in the hypolimnion have not been specifically assessed as part of the consenting process due to the nature of the discharge system currently planned to the Coal Creek Dam.

Golder is aware that the conceptual water discharge system for the Coal Creek Dam presented to ORC consists of a simple valve-controlled discharge pipe through the base of the Coal Creek embankment. This design was however preliminary and subject to change. The current conceptual design provided by OceanaGold remains preliminary but has taken into account the need to address the potential for reservoir stratification and deoxygenation of water beneath the thermocline.

Golder understands the currently proposed conceptual design for the Coal Creek dam discharge system consists of:

- An intake consisting of a floating decant system installed within the reservoir to source the discharge flows from within the top few centimetres of stored water within the reservoir.
- The discharge pipe from the intake is to be installed through the base of the embankment.
- The outflow is to be discharged to a short section of creek bed to provide for oxygenation of the water flow.
- The discharged water will then enter a small silt dam, which had been previously constructed to manage sediment losses during construction of the Coal Creek Dam. The retention time in the silt dam will provide for further oxygenation and settling of any precipitated contaminants, including iron.
- Normal operational discharges from the silt dam will also be by way of a decant system.
- Both the Coal Creek Dam and the associated silt dam would have spillways designed and installed to accommodate possible overflow discharges from the main dam.

It is reasonably expected that the concentrations of reduced contaminants at MB02 resulting from stratification of the Coal Creek Dam can be managed and minimised through an appropriate final design and installation of the reservoir water discharge system. The final design is also expected to ensure the water discharged from the silt dam contains similar dissolved oxygen concentrations to the natural water in this catchment.

Items 4 and 10 to 17

4: Provide an indication on the likelihood of compliance with potential ecological compliance conditions under base flow and flood-flow conditions. Will multiple compliance criteria be exceeded under specific circumstances and if so for what duration? Note that a cumulative exceedance plot is not sufficient for this analysis as it does not distinguish between large numbers of multiple exceedances and fewer long-duration (i.e., chronic) exceedances.

10: Provide ecological protection guidelines suitable for application to compliance monitoring site MB02.

11: Provide an updated assessment of compliance with the ecological guidelines at site MB02.

12: Provide information on predicted suspended sediment and turbidity levels in pit lake and at downstream compliance sites.

13: Provide an updated assessment of compliance with the NPS_FW standards for nitrate and ammoniacal-N at site MB02. This assessment should include an add to background approach to establish predicted concentrations downstream of the monitoring site.

14: Provide an assessment of the potential for elevated nutrient concentrations, wither from the pit lakes, waste rock storage or from the Coal Creek freshwater dam to result in increased downstream periphyton blooms.

15: Provide a specific assessment of the likely compliance with the hardness-adjusted ecological protection guideline for sulphate at site MB02 both during operations and following mine closure. If significant exceedance of this sulphate guideline occurs then information on the distance downstream for a compliance point should be provided.

16: If pit discharge and waste rock discharges are likely to result in dissolved arsenic concentrations comparable with those in the Frasers Pit (Golder Associates 2016, Appendix A, Table A3) then speciation information for arsenic should be provided.

17: Provide information on the water hardness in Mare Burn suitable for use in applying hardness-adjusted metal and sulphate toxicity guidelines.

Since the inception of the MGP in 1990 the ORC has accepted water quality compliance criteria for the receiving surface water bodies based on existing uses of the water from those streams and rivers. These criteria have been based on the use of the water for stock water and the protection of in-river values. Most recently these criteria have been accepted for application to Mare Burn at compliance monitoring site MB01. OceanaGold has designed and operated the MGP with the objective of complying with these criteria.

Mare Burn is already impacted by the development of the Coronation Project. A water quality compliance point (MB01) and criteria have been established having regard to the use of Mare Burn for stock water. The compliance criteria applicable at MB01 are the same as the compliance criteria applied at several other compliance points for the MGP (e.g. Deepdell Creek at DC08). These criteria are derived from ANZECC stock water guidelines. The design of OceanaGold’s existing mining operations within the Mare Burn catchment has been based on the need to comply with the existing criteria applicable at MB01. OceanaGold is therefore proposing the compliance criteria at MB02 remain focused on the existing downstream uses of the water, as already defined for the compliance point MB01.

Responses to some of the specific requests listed above are provided below, based on data available from the OceanaGold environmental monitoring database.

As previously noted in this letter, OceanaGold does not routinely monitor suspended sediment concentrations or turbidity at most compliance monitoring points at the MGP. The most relevant data can be derived from Deepdell Creek monitoring during the early development period of the MGP, with this data previously presented in Figure 2. Under most low-flow conditions turbidity recorded from Deepdell Creek prior to 2004 decreased from upstream to downstream (Figure 8). Under higher (but not flood) flows the turbidity increased from upstream to downstream of the MGP, however the number of records is too small to confirm any trend.

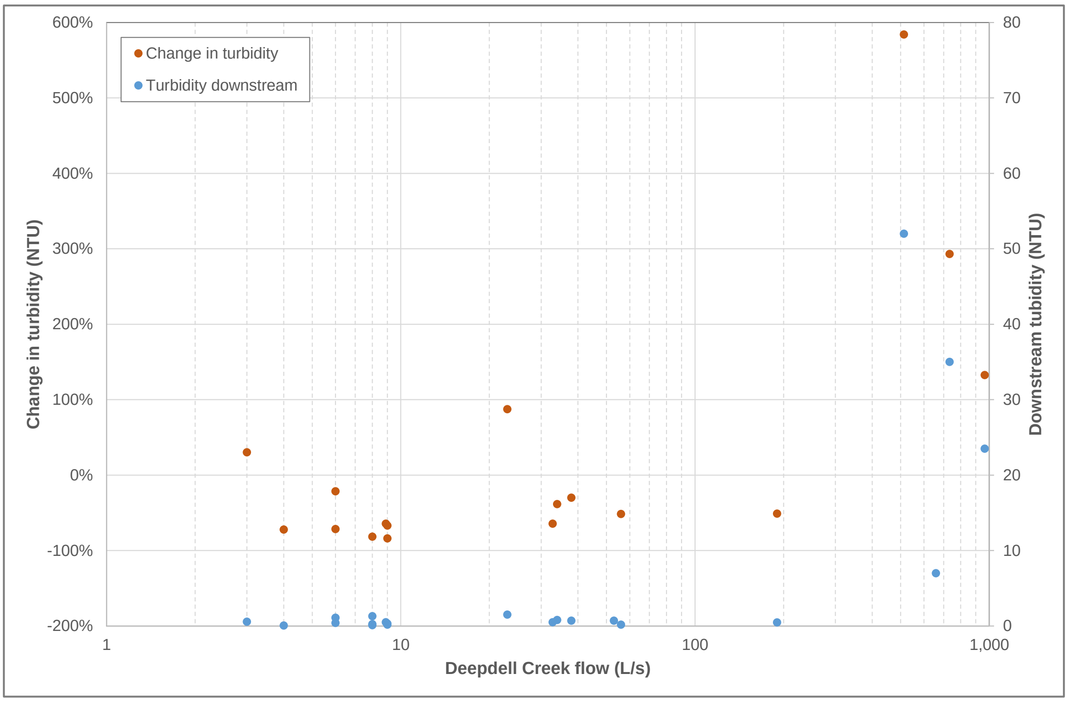

Figure 8: Change in turbidity data recorded from Deepdell Creek prior to 1994.

Item 18

Provide flow hydrographs for: (i) site MB01; (ii) MB02 (existing); and (iii) MB02 after freshwater dam inflows.

The cumulative effects of groundwater drawdown and changes to surface water catchments on flows in Mare Burn, which discharges to the Taieri River, are documented in Section 6.2.2 of the surface water assessment for the Coronation North Project[6]. Three stages of operations were modelled and documented in the surface water report:

- Stage 1 – A model of the Mare Burn catchment incorporating currently consented operations including the Coronation Pit and Coronation WRS. In the model it is assumed that the Coronation Pit and WRS are fully developed and both are still in the operational phase.
- Stage 2 – A model of the Mare Burn catchment incorporating the structures and waste storage associated with both the fully developed CS5 and Coronation North Pits. It is assumed that only the Coronation North pit and WRS are operational. The Coronation WRS is not included in this model as new mine planning has excluded it from the Mare Burn catchment. The Coronation pit lake is assumed to be developing.
- Stage 3 – A model of the Mare Burn catchment incorporating the structures and waste storage associated with both the fully developed CS5 and Coronation North Pits at post closure. It is assumed the WRSs are rehabilitated.

The model logic diagrams and supporting information are documented in the surface water report[7]. The outcomes of the modelling are summarised as flow duration curves in Figure 9 (normal vertical scale) and Figure 10 (log vertical scale). A statistical summary of the projected Mare Burn hydrology under different stages of mine development is provided in Table 20 of the surface water report, together with the supporting documentation.

[6] Golder 2016a. Coronation North Project. Surface water modelling. Report produced for Oceana Gold (New Zealand) Ltd by Golder Associates (NZ) Limited, March 2016. Golder report 1545831-003.

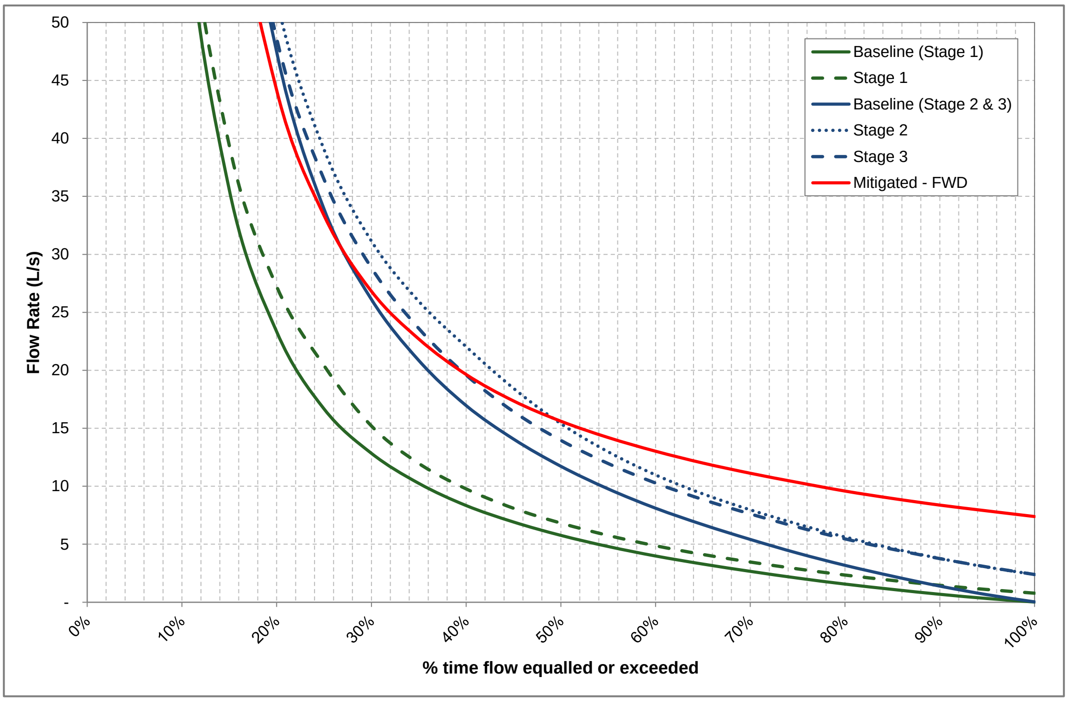

Figure 9: Coronation North Project flow duration results – normal scale (all stages).

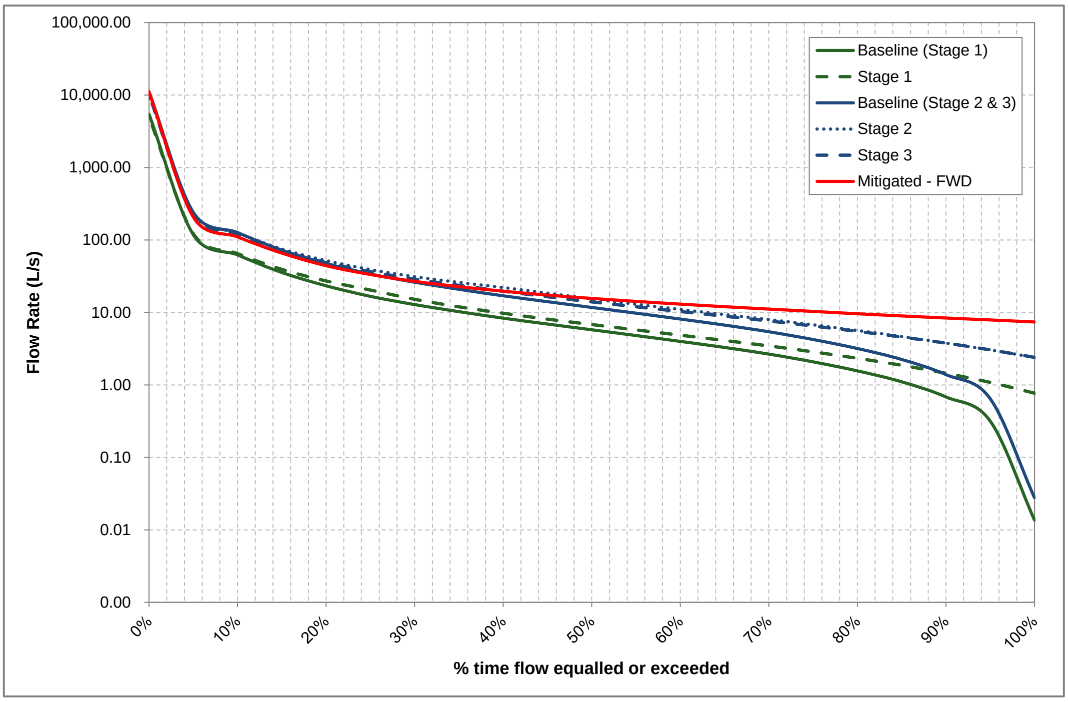

Figure 10: Coronation North Project flow duration results – log scale (all stages).

Continuous flow measurements are not available for Mare Burn at this stage. Hydrographs for Mare Burn at MB02 can best be derived through adapting the flow hydrograph from Deepdell Creek at the Golden Point weir in proportion to the two catchment areas. Deepdell Creek has a catchment of 4,080 ha at Golden Point weir and Mare Burn has a catchment of 2,930 ha at MB02. This provides a more direct indication of the stream flows at MB02 than the output from the calibrated catchment model.

As the complete hydrograph for Deepdell Creek covers a period from 1985 through to today, two representative years have been selected and the derived hydrographs for MB02 for those years provided:

- The year from 1 July 1998 through to 30 June1999 is representative of a dry year (Figure 11).
- The year from 1 July 2012 through to 30 June 2013 is representative of an average year (Figure 12).

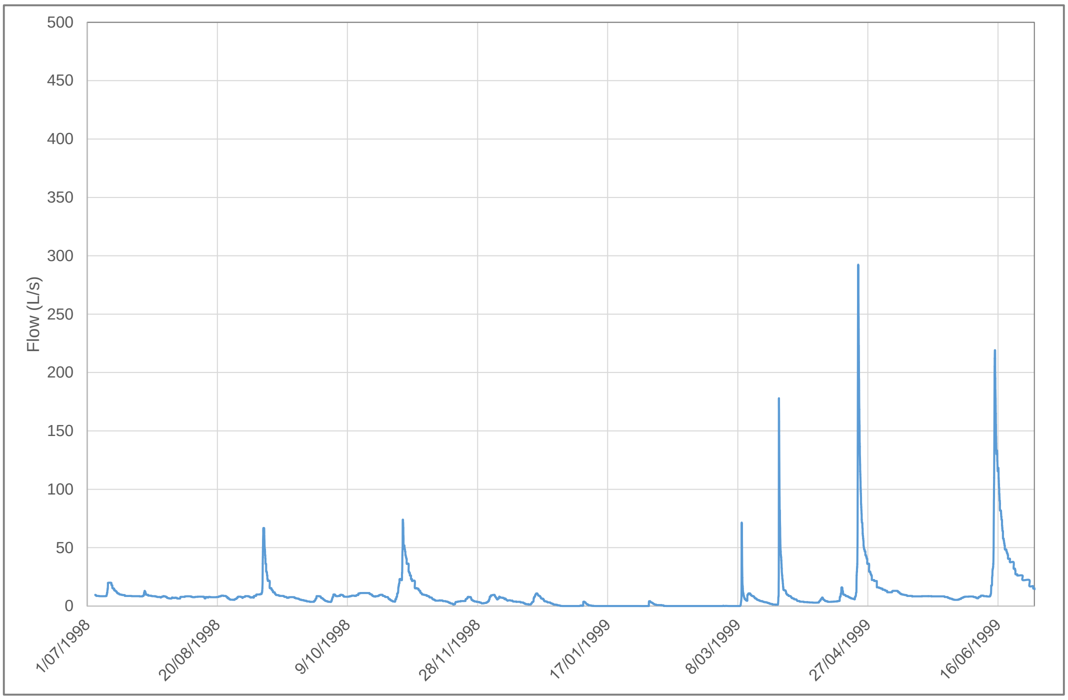

Figure 11: Dry year hydrograph for MB02 derived from Deepdell Creek hydrograph.

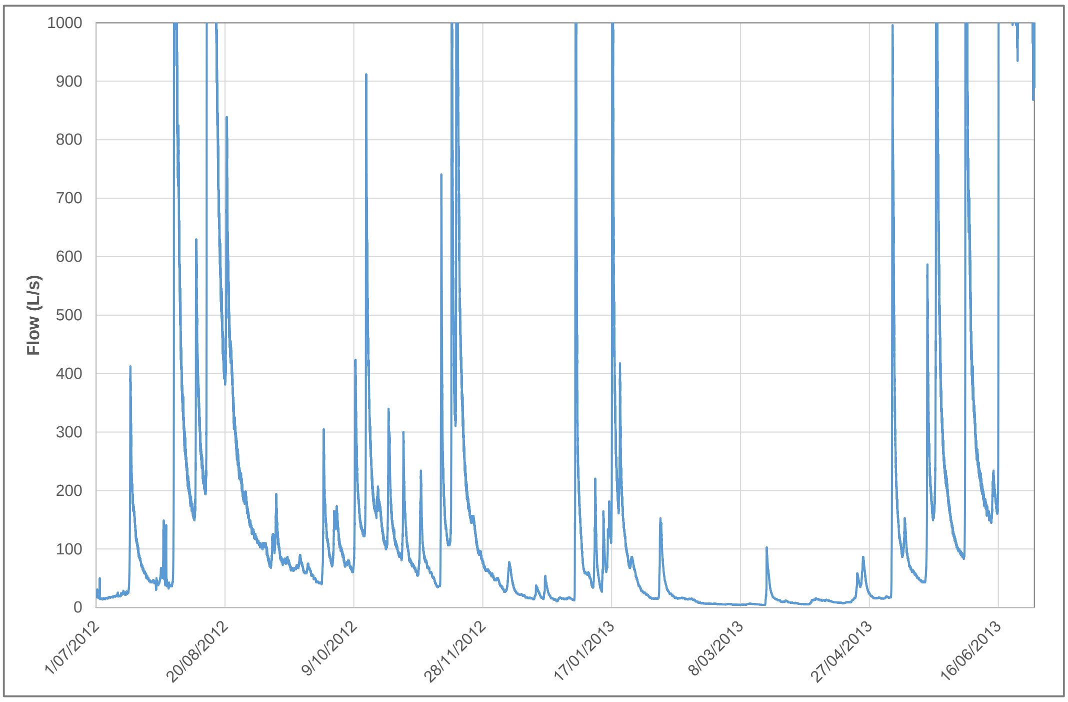

Figure 12: Average year hydrograph for MB02 derived from Deepdell Creek hydrograph.

Item 19

Provide predicted wastewater dilutions for the above monitoring sites.

The dilution factors for discharges from Coronation North WRS applicable at MB01 and MB02 are not constant.

Under base flow conditions, taking into account the proposed mitigation flows from Coal Creek Dam, the total discharges from Coronation North WRS are calculated to be approximately 204 m^3/day or 2.4 L/s. The base flow component provided by the Coal Creek Dam is 5 L/s. This implies a minimum of approximately 66 % dilution assuming no other dilution flow contributions from the remainder of the Mare Burn catchment. During much of the year, when the tributaries to Mare Burn are flowing, the dilution factors are correspondingly greater.

Item 20

Provide information on proposed chemical dosing and general management for sediments (e.g., first flush management, treatment ponds).

OceanaGold operates the existing sediment management system at the MGP without the use of flocculants or coagulants, and without the use of other chemicals to encourage sediment settling. The silt ponds are designed with sufficient water retention time to enable sediment transported by the inflowing water to settle without the need for further treatment. Generally the sediment ponds do not overflow, resulting in "first flush" issues being managed through the use of these ponds.

Sediment ponds are planned to be installed in each gully leading from the base of the Coronation North WRS, with the ponds located close to the toe of the WRS. This design is considered to be sufficient for the management of silt derived from run-off from the WRS.

Item 21

Provide further information on the seasonality of the "water deficit" for the stormwater management. Will this just be in summer or a whole year deficit?

The deficit of available water for ore processing purposes, as referred to by Engineering Geology Ltd, is exacerbated by the discharge of large volumes of water to the extensive tailings storage impoundments, which are subject to high levels of evaporative losses. Hence the need for make-up water from the Taieri River for the process plant.

There available monitoring data used to support development of the Coronation North surface water model[7] are summarised as average monthly rainfall and pan evaporation in Figure 13. The pan evaporation deficit extends for much of the year. This deficit does however not mean that there is insufficient yield from the Coal Creek catchment to provide for a continuous discharge of 5 L/s from the planned Coal Creek dam.

[7] Golder 2016. Coronation North Project surface water modelling. Report produced for Oceana Gold (New Zealand) Ltd by Golder Associates (NZ) Limited. Golder report number 1545831_7410-003.

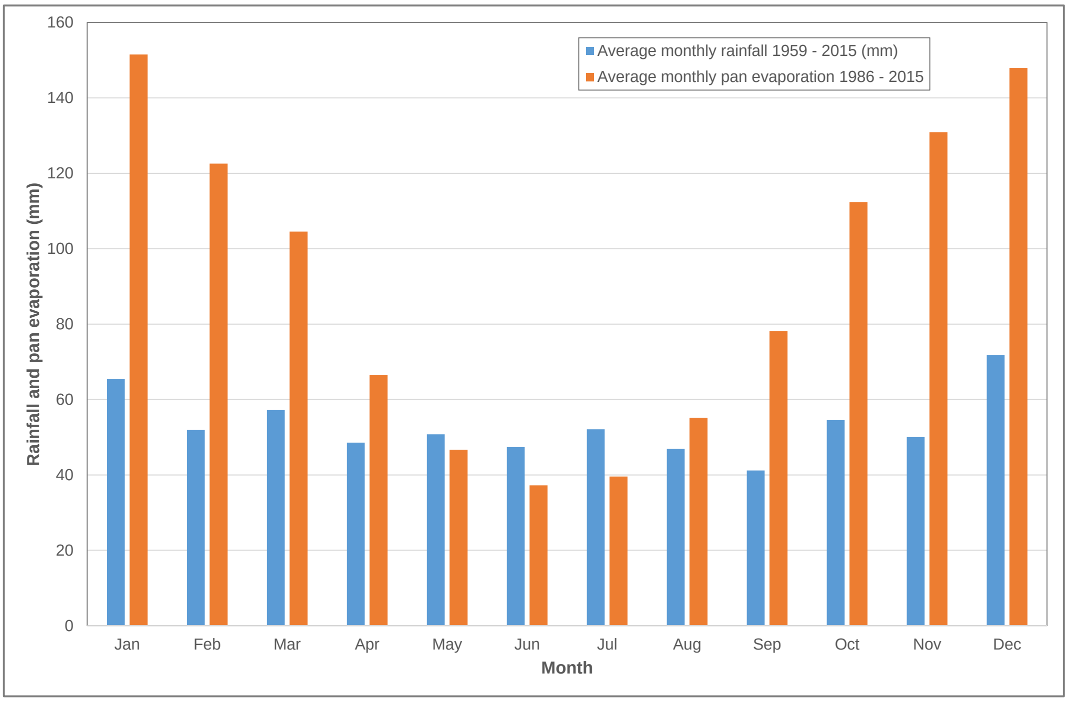

Figure 13: Average monthly rainfall and pan evaporation for Macraes Gold Project.

We trust these responses are sufficient to address the items raised in the request for further information. Should you have any questions regarding the content of this letter, please contact the undersigned.

Yours sincerely

GOLDER ASSOCIATES (NZ) LIMITED

Brett Sinclair

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Associate, Senior Hydrogeologist

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