MACRAES GOLD PROJECT – CORONATION NORTH PROJECT
ASSESSMENT OF ECONOMIC EFFECTS

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1. INTRODUCTION

1.1 Macraes Gold Project commenced operations in 1990 following the granting of initial consents in 1988. In 1992, 1997, 2000, 2001, 2002, 2004 and 2006 further consents were issued in relation to various expansions in both the rate of production and physical elements of the mine (pits, waste rock stacks and storage facilities for tailings and process water).

1.2 In 2011,OceanaGold (New Zealand) Limited (OceanaGold) sought and was granted an extension to the consented life of the Macraes Gold Project. The extension, called the Macraes Phase III Project, took the consented mine life through to 2020, instead of the mine closing as previously proposed in 2012. Under the Macraes Phase III Project, production at the Fraser's underground mine is to continue in parallel with the open pits until 2018. The Macraes opencast mining operations were to be scaled back towards the end of the mine's life (i.e. in 2019 and 2020).

1.3 In 2013 OceanaGold sought and was granted a further extension to the life of the Macraes Gold Project. The Coronation Project was expected to add approximately 1 year to the overall Macraes Gold Project's mine life. In other words, rather than the Macraes opencast mining operations being scaled back in 2019 and 2020 as was previously proposed, this was to be delayed until 2020 and 2021. The year 2019 would see a continuation of the same level of economic activity at the site as was proposed previously for the period 2015 to 2018 (inclusive) under the Macraes Phase III Project.

1.4 A further extension of the Macraes Gold Project is now proposed called the Coronation North Project (the Project). The estimated duration of the operation and rehabilitation activities of the Project will be approximately 5 years, with the Project effectively adding 3 full years to the operational life of the mine – i.e. in terms of the economic effects of the Project the operating life of the mine will continue at current levels into the years 2020, 2021 and 2022, with the scaling back of activities and rehabilitation push back to 2023 and 2024.

1.5 A report[1] covering the past, current and projected future economic effects of the Macraes Gold Project was appended to the Assessment of Environmental Effects (AEE) for the

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1 *Macraes Phase III Project Assessment of Economic Impacts;* Appendix 19 to the Assessment of Environmental Effects for MPIII; Mike Copeland, Brown, Copeland & Co Ltd; April 2011. See also Statement

Macraes Phase III Project, whilst a report[2] on the future economic effects of the Coronation Project was appended to the AEE for that project. The purpose of those reports was to consider the additional national, regional and local area economic effects of the Macraes Phase III and the Coronation Projects respectively.

1.6 The purpose of this current report is to consider the national, regional and local area economic effects of a proposed further 3 year extension of the mine's life as a consequence of the Coronation North Project.

1.7 This report is divided into 5 parts (in addition to this introductory section). These cover:

(a) A description of the key economic drivers of the Waitaki District, Dunedin City and Otago regional economies;

(b) A consideration of the relevance of economic effects under the Resource Management Act (RMA);

(c) The additional national, regional and local economic benefits of the Project extending the life of the mine by 3 years;

(d) Potential economic costs of the Project extending the life of the mine by 3 years; and

(e) Some overall conclusions.

2. THE WAITAKI DISTRICT, DUNEDIN CITYAND OTAGO REGIONAL ECONOMIES[3]

Geographical Extent of the Project and its Economic Effects

2.1 The site of the existing Macraes Gold Project is located largely within the Waitaki District, which in turn is one of the districts within the Otago region.However the Coronation and Coronation North Projects extend the mining activities over the local authority boundary into Dunedin City[4]. Also the employees at the mine reside in a number of centres stretching from Oamaru to Dunedin. Therefore in this report the "local" economic impacts

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of Evidence of Michael Campbell Copeland in the matter of an application by Oceana Gold (New Zealand) Limited for the resource consents for the Macraes Phase III Project; 16 September 2011.

2 *Macraes Gold Project – Coronation Project Assessment of Economic Impacts;* Appendix 2 to the Assessment of Environmental Effects for the Coronation Project; Mike Copeland, Brown, Copeland & Co Ltd; March 2013.

3 Data in this section from Statistics New Zealand.

4 Although the processing of all ore still occurs at the mine's processing plant within the Waitaki District.

are assessed for an area identified as north-east Otago, which includes the Waitaki District and the nearby north Dunedin City towns of Waikouaiti, Hyde and Middlemarch. The wider regional economic impacts are assessed for the Otago region which includes the local sub-region of north-east Otago, the rest of Dunedin City and the other districts which make up the Otago region. There is also separate consideration of the economic impacts for metropolitan Dunedin – i.e. the city centre and surrounding suburbs.

Population

2.2 Data from Statistics New Zealand show that the population of the Waitaki District in 2006 was estimated at 20,700 and by 2015 had grown to 21,900 – i.e. an increase of 5.8%. Dunedin City's population has grown from 122,300 in 2006 to 125,800 in 2015, an increase of only 2.9%. Over this same period Otago's population has grown from 199,800 to 215,000, an increase of 7.6%, whilst New Zealand's population has grown by 9.8%.

2.3 Statistics New Zealand is forecasting little change in the Waitaki District population over the next 20 years. Its 'medium'[5] population projections have the Waitaki District's population increasing to 22,100 by 2018, increasing to 22,600 by 2033 and remaining at this level until 2043 – i.e., a gain of 700 or 0.1% average annual growth over the period 2015-2043. Dunedin City's[6] population is projected to grow to 130,700 by 2043, up by 4,900 or average annual growth of 0.1% over the period 2015-43. For Otago, the population is projected to grow to 239,800 by 2043 – i.e. a gain of 24,800 or 0.4% average annual growth over the period 2015-2043. The comparative figures for New Zealand show a projected increase in population averaging 0.7% per annum over the same 28 year period.

Employment

2.4 Statistics New Zealand 2015 industry employment data highlight the Waitaki District's reliance on the primary sector. The agriculture (forestry and fishing)[7] industry group

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[5] Statistics New Zealand produces high, medium and low projections corresponding to different assumptions about fertility, morbidity and migration. The projections also incorporate information about the existing age structure of the population within each district. The projections do not incorporate assumptions about the likely economic performance of different industries within each sector.

[6] I.e. as defined by Statistics New Zealand's boundaries – the city centre itself, the surrounding suburbs and the hinterland stretching up to the southern boundary of the Waitaki District and the eastern boundary of the Central Otago District.

[7] The forestry and fishing labour force within the Waitaki District is estimated to be only about 12 employees.

accounted for 1,460 jobs or 15.1% of the labour force against a national percentage share for this industry group of only 5.7%. Agriculture accounts for 1,408 jobs or 14.5% of the labour force. This reliance on the agricultural sector is further illustrated by 1,470 jobs (15.2% of the Waitaki District labour force) in the manufacturing sector being in the food manufacturing industry group.

2.5 Other significant sectors within the Waitaki labour force are retail trade (1,010 jobs or 10.4% of the total labour force), healthcare and social assistance (990 jobs or 10.2% of the total labour force), accommodation and food services (810 jobs or 8.4% of the total labour force) and construction (690 jobs or 7.1% of the total labour force). Total employment in the Waitaki District grew by 6.2% over the period 2006 to 2015, as compared to employment growth for New Zealand of 8.2%.

2.6 For Dunedin City, the key sectors are healthcare and social assistance (8,720 jobs in 2015 or 16.0%of the total labour force), education and training (7,520 jobs or 13.8% of the total labour force), retail trade (6,060 jobs or 11.1% of the total labour force), accommodation and food services (4,640 jobs or 8.5% of the total labour force), construction (3,900 jobs or 7.1% of the total labour force) and manufacturing (3,770 jobs or 6.9% of the total labour force). Total employment in Dunedin City fell by 3.3% over the period 2006 to 2015. This was largely due to manufacturing sector employment reducing by 43.3% from 6,650 in 2006 to only 3,770 in 2015.

2.7 For the Otago region as a whole, employment data suggest the most significant sectors are accommodation and food services (12,280 jobs in 2015 or 11.8% of the region’s workforce), healthcare and social assistance (11,400 jobs or 11.0% of the region’s workforce), retail trade (11,080 jobs or 10.6% of the region’s workforce), education and training (9,990 jobs or 9.6% of the region’s work force),agriculture, forestry and fishing (9,820 jobs or 9.4% of the region’s workforce), manufacturing (8,360 jobs or 8.0% of the region’s workforce) and construction (7,990 jobs or 7.7% of the region’s workforce).Total employment in the Otago region grew by 6.7% over the period 2006 to 2015.

2.8 Therefore the Macraes Gold Project has helped to diversify the Otago regional economy and especially the Waitaki District economy and the north-east Otago sub-region, which remain heavily dependent upon agriculture and the processing of agricultural products. The ability of the mine to help offset periodic downturns in the agricultural sector was identified in the 1996 Brent Wheeler & Co. Ltd survey of local businesses in Palmerston and Waikouaiti.[8] The Macraes Gold Project has also helped to sustain Dunedin City's economy through the location of OceanaGold's head office in Dunedin and the city's businesses providing goods and services to the mine, its employees and other businesses supplying the mine. The Project also provides some diversity to the Dunedin City economy, although in proportionate terms the Project has greater impact in the smaller and less diversified north-east Otago sub-region.

3. ECONOMICS AND THE RMA

Community Economic Wellbeing

3.1 Economic considerations are intertwined with the concept of the sustainable management of natural and physical resources, which is embodied in the RMA. In particular, Part II section 5(2) refers to enabling "*people and communities to provide for their social, economic and cultural well being*" as a part of the meaning of "*sustainable management*", the promotion of which is the purpose of the RMA.

3.2 As well as indicating the relevance of economic effects in considerations under the RMA, this section also refers to *"people and communities"* (emphasis added), which highlights that in assessing the impacts of a proposal it is the impacts on the community and not just the applicant or particular individuals or organisations, that must be taken into account. This is underpinned by the definition of *"environment"* which also extends to include people and communities.

3.3 The Project will enhance the social and economic well being of the residents and businesses of both Waitaki District and Dunedin City by retaining levels of expenditure, employment and incomes for a further 3 years.

Economic Efficiency

3.4 Part II section 7(b) of the RMA notes that in achieving the purpose of the Act, all persons *"shall have particular regard to ... the efficient use and development of natural and*

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[8] See *The Economic Impacts of the Macraes Gold Project*; Brent Wheeler & Co. Ltd; December 1996.

physical resources" which include the economic concept of efficiency[9]. Economic efficiency can be defined as:

"*the effectiveness of resource allocation in the economy as a whole such that outputs of goods and services fully reflect consumer preferences for these goods and services as well as individual goods and services being produced at minimum cost through appropriate mixes of factor inputs*"[10].

3.5 More generally economic efficiency can be considered in terms of:

(a) Maximising the value of outputs divided by the cost of inputs;

(b) Maximising the value of outputs for a given cost of inputs;

(c) Minimising the cost of inputs for a given value of outputs;

(d) Improving the utilisation of existing assets; and

(e) Minimising waste.

3.6 The Project is consistent with the efficient development and use of resources in that it will prolong the life of the existing Macraes gold mining operations for a further 3 years utilising existing infrastructure, plant and equipment. Also the Project will retain the critical mass of the local communities in north-east Otago.

Viewpoint

3.7 An essential first step in carrying out an evaluation of the positive and negative economic effects of a development project is to define the appropriate viewpoint that is to be adopted. This helps to define which economic effects are relevant to the analysis. Typically a district or wider regional viewpoint is adopted and sometimes even a nationwide viewpoint might be considered appropriate.

3.8 For the proposed Coronation North Project extending the life of the Macraes Gold Project it is appropriate to consider the north-east Otago economic impacts given the

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9 See, for example, in *Marlborough Ridge Ltd v Marlborough District Council* [1998] NZRMA 73, the Court noted that all aspects of efficiency are "*economic*" by definition because economics is about the use of resources generally.

10 Pass, Christopher and Lowes, Bryan, 1993, *Collins Dictionary of Economics* (2nd edition), Harper Collins, page 148.

likely economic impacts forlocal residents and businesses, where north-east Otago is defined to include the Waitaki District (including Macraes Flat, Oamaru, Dunback and Palmerston) and the northern part of Dunedin City (including Waikouaiti, Hyde and Middlemarch).[11] It is also appropriate to consider the impacts on metropolitan Dunedin (i.e. the city centre and surrounding suburbs) and the wider Otago regional and national level economic impacts.

3.9 There are also private or financial costs and benefits associated with the Project. If consents are granted, and OceanaGold gives effect to those consents by proceeding with the proposed Coronation North Project, then it can be assumed that these private or financial costs and benefits have been responsibly and properly analysed and that from the viewpoint of those with money at risk, the expected financial benefits exceed the expected costs. Accountability for accuracy of the financial analysis clearly rests with OceanaGold and ultimately the net financial benefits OceanaGold might receive from the Projectare not directly relevant to the assessment of effects under the RMA. The focus of this report is therefore on the wider economic effects on parties other than OceanaGold and its customers. Economists refer to such effects as “externalities”[12].

4. ECONOMIC BENEFITS OF THE CORONATION NORTH PROJECT[13]

Retention of Employment, Wages and Salaries and Other Expenditure

4.1 The Coronation North Project will add approximately 3 years to the overall Macraes Gold Project’s mine life. This will mean the reduction in economic activity within north east Otago, metropolitan Dunedin and the Otago region as the mining operations are wound down will be delayed 3 years. This implies 3 additional years of full opencast mining activity in 2020, 2021 and 2022, with the curtailing of production for the mine’s last two years of operation now being in years 2023 and 2024, instead of 2020 and 2021.

4.2 For north-east Otago – i.e. the Waitaki District (including Macraes Flat, Oamaru, Dunback and Palmerston) and the northern part of Dunedin City (including Waikouaiti,

[11] OceanaGold 2016 data on the residence of their own staff (i.e. excluding contractors engaged on site at Macraes Flat) shows 210 (41.7%) reside in metropolitan Dunedin, 55 (10.9%) reside in Palmerston, 39 (7.8%) reside in Waikouaiti, 38 (7.6%) reside in Oamaru, 6 (1.2%) reside in Waitaiti and Warrington, 4 (0.8%) reside in Dunback and 151 (30%) reside elsewhere within the Waitaki District and Dunedin City.

[12] Defined as the side effects of the production or use of a good or service, which affects third parties, other than just the buyer and seller.

[13] Data in this section provided by OceanaGold unless otherwise stated.

Hyde and Middlemarch) - there will be the retention for an extra 3 years of 257 jobs for local residents[14] at the Macraes Flat site, wage and salary payments to these employees of $20.6 million and other expenditure in the local economy of $13.1 million. For the Otago region there will be the retention for an extra 3 years of 465 jobs, wage and salary payments to these employees of $45.7 million and other expenditure of $44.6 million. These are the direct economic impacts of the Project.

4.3 In addition to these direct economic impacts there are indirect impacts arising from:

(a) The effects on suppliers of goods and services provided to the Project (i.e. the "forward and backward linkage" effects); and

(b) The supply of goods and services to employees of OceanaGold and its contractors and to those engaged in supplying goods and services to OceanaGold and its contractors (i.e. the "induced" effects). For example, there will be additional jobs and incomes for employees of supermarkets, restaurants and bars as a consequence of the additional expenditure by these employees.

4.4 District and regional multipliers can be estimated to gauge the size of these indirect effects. The size of the multipliers is a function of the extent to which a districtor regional economy is self-sufficient in the provision of a full range of goods and services and the district's proximity to alternative sources of supply.

4.5 District multipliers typically fall in the range of 1.5 to 2.0[15] and conservatively taking the low point of 1.5 implies total north-east Otago economic impacts of the Project (i.e. direct plus indirect impacts) in the 3 year period 2020 to 2022 of:

(a) 386 retained jobs;

(b) $30.9 million in retained wages and salaries; and

(c) Retained other expenditure of $19.7 million.

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14 As at March 2016, 440 jobs in total on site but reduced by 41.7% to account for the employees who reside in metropolitan Dunedin. See footnote 11.

15 For example, employment and income multipliers estimated for the construction and operation of the proposed new Holcim cement plant at Weston in the Waitaki District ranged between 1.58 and 1.93 for employment and 1.46 and 1.58 for incomes. (See Environment Court Evidence of Michael Copeland in Holcim New Zealand Limited v Waiareka Valley Preservation Society and others, November 2008.)

4.6 Regional multipliers are higher than district multipliers because a region is more self sufficient in the provision of goods and services. The 1996 Brent Wheeler & Co. Ltd report referred to in the 2011 Brown, Copeland report, produced Otago regional multipliers for gold mining of 2.24 for expenditure, 3.66 for employment and 2.67 for wages and salaries. In 2001 updated multipliers of 1.67 for expenditure, 2.45 for employment and 2.71 for wages and salaries were estimated (see also 2011 Brown, Copeland report). Conservatively a regional multiplier of 2.0 has been assumed for employment, incomes and expenditure. The estimated total regional economic impacts (i.e. direct plus indirect impacts) in the 3 year period 2020 to 2022 of:

(a) 930 retained jobs;

(b) $91.4 million retained wages and salaries; and

(c) Retained other expenditure of $89.2 million.

4.7 It is expected that north-east Otago and metropolitan Dunedin will be the principle location of Otago suppliers to the Project and its employees. Also metropolitan Dunedin is the location of OceanaGold's head office activities. Therefore for metropolitan Dunedin (i.e. the city centre and surrounding suburbs) the economic impacts will be largely the difference between the Otago regional economic impacts and those estimated for north-east Otago. On this basis the direct plus indirect economic impacts of the Project for metropolitan Dunedin in the 3 year period 2020 to 2022 are estimated to be:

(a) 544 retained jobs;

(b) $60.5 million retained wages and salaries; and

(c) Retained other expenditure of $69.5 million.

4.8 In addition the Government will continue receiving royalty payments for an extra 3 years estimated to be worth about $2.5 million per annum, whilst for an extra 3 years the New Zealand economy will benefit from higher gross domestic product (GDP) and exports.[16]

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[16] Two earlier studies have identified the significance of the Macraes Gold Project to New Zealand's GDP and exports – see *Contribution of OceanaGold to the New Zealand Economy*; Infometrics Ltd; August 2010; and *The Value of Gold. The National Economic Benefit of GRD Macraes Gold Mining in New Zealand*; NZ Institute of Economic Research; 15 July, 2003. See also *Macraes Phase III Project Assessment of Economic Impacts;*

Economic Benefits from Increased Economic Activity

4.9 As indicators of levels of economic activity, economic impacts in terms of increased expenditure, incomes and employment within north-east Otago, metropolitan Dunedin and the Otago region are not in themselves measures of improvements in economic welfare or economic wellbeing. However, there are economic welfare enhancing benefits associated with increased levels of economic activity. These relate to one or more of:

(a) Increased economies of scale: Businesses and public sector agencies are able to provide increased amounts of outputs with lower unit costs, hence increasing profitability or lowering prices;

(b) Increased competition: Increases in the demand for goods and services allow a greater number of providers of goods and services to enter markets and there are efficiency benefits from increased levels of competition;

(c) Reduced unemployment and underemployment[17] of resources: To the extent resources (including labour) would be otherwise unemployed or underemployed, increases in economic activity can bring efficiency benefits when there is a reduction in unemployment and underemployment. The extent of such gains is of course a function of the extent of underutilised resources within the local economy at the time and the match of resource requirements and those resources unemployed or underemployed within the local economy; and

(d) Increased quality of central government provided services: Sometimes the quality of services provided by central government such as education and health care are a function of population levels and the quality of such services in a community can be increased if increased economic activity maintains or enhances population levels.

4.10 It is reasonable to presume that the retention for an extra three years of economic activity (i.e. employment, incomes and other expenditure) within north-east Otago,

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Appendix 19 to the Assessment of Environmental Effects for MPIII; Mike Copeland, Brown, Copeland & Co Ltd; April 2011.

17 Underemployment differs from unemployment in that resources are employed but not at their maximum worth; e.g. in the case of labour, it can be employed at a higher skill and/or productivity level, reflected in higher wage rates.

metropolitan Dunedin and the Otago region as a consequence of the Project would give rise to one or more of these four welfare enhancing economic benefits for the local and regional communities. For example, retaining population in north-east Otago helps underpin local school rolls. Data provided by OceanaGold indicates that in 2011 the children of OceanaGold staff and permanent contractors at Macraes Flat made up:

(a) 41% of pupils at East Otago High School (72 out of 175);

(b) 38% of pupils at Palmerston Primary School (49 out of 126);

(c) 33% of pupils at Waikouaiti Primary School (27 out of 82);

(d) 33% of pupils at Flagswamp Primary School (3 out of 9);

(e) 22% of pupils at Karitane Primary School (6 out of 27);

(f) 35% of pupils at Macraes Moonlight Primary School (6 out of 7); and

(g) 28% of children at pre-school institutions in North-East Otago (74 out of 269).

4.11 The local community benefits from better quality educational services as a consequence of the Macraes Gold Project providing a workforce, whose dependants increase the rolls at local schools and pre-schools.

Increased Diversity for the North-East Otago, Metropolitan Dunedin and Otago Regional Economies

4.12 As noted in Section 2 of this report, the Waitaki District economy is primarily driven by the agricultural sector and agricultural product processing and this is also the case for the north-east Otago area which includes the Waitaki District plus the towns of Waikouaiti, Hyde and Middlemarch and surrounding countryside.

4.13 The Project will extend the period of time the Macraes Gold Project will provide greater diversity and balance to the north-east Otago economy, retaining employmentopportunities and incomes less dependent upon returns to the agricultural sector, helping to strengthen the local economy's resilience to agricultural commodity price cycles. This greater diversity is reinforced by the contribution the Macraes Gold Project makes to tourism in north-east Otago (see next section).

4.14 This is also the case for metropolitan Dunedin and at the regional and national levels, although to a lesser extent because these economies are already more diversified and less dependent upon agriculture and agricultural product processing.

Contribution to Tourism

4.15 The Macraes Gold Project mine tour is a major reason why tourists visit Macraes Flat. Extending the life of the mine by 3 years will extend the period that the local economy will benefit from the direct and indirect impacts of tourism activity linked to the mine's operation.

Increased Rates Revenue for Waitaki District Council

4.16 In 2014/2015 rates paid by OceanaGold to the Waitaki District Council totalled about $461,000 (excluding GST) (being about $412,000 rates for the mine site and $49,000 for some OceanaGold owned farms and all OceanaGold houses)[18] representing about1.9% of the Council's total rates income in the financial year 2014/15.[19] Because of economies of scale it is likely that the rates paid by the Macraes Gold Project will be greater than the increase in Council's costs as a consequence of gold mining operations on the site as compared to pastoral farming. From the perspective of the Waitaki District Council and other ratepayers in the District, this broadening of the rating base provides the opportunity for a greater range of Council provided services or a reduction in the rates burden for other ratepayers. The Coronation North Project will extend this contribution from OceanaGold by 3 years.

4.17 In addition OceanaGold pay around $6,000 in rates to the Otago Regional Council and $8,000 in rates to the Dunedin City Council. However at these levels it is unlikely that there is a significant surplus for other ratepayers from economies of scale.

Community Sponsorship Programmes

4.18 In recognition of the important role the community plays in helping the Macraes Gold Project realise its potential, the company provides financial support to a number of initiatives at the community level. During the last two years, more than $350,000 has been distributed to community groups covering community, educational and health

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18 In addition farmers leasing land from OceanaGold pay additional rates.

19 Total rates income 2014/15 $23,846,000. Source: Waitaki District Council Annual Plan 2014/15.

initiative activities ($126,556 in 2014 and $224,989 in 2015). In November 2014 the Macraes Community Development Trust was also formed as part of a revised rehabilitation strategy for the Macraes area. Funds to the value of $2.25 million previously committed for the completion of the Heritage Art Park were redirected to the Trust. The purpose of the Trust is to support initiatives that assist future growth and development options for the Macraes community when mining ceases.

Other Socioeconomic Benefits

4.19 The Macraes Gold Project also contributes to the “social fabric” of the north-east Otago community via staff, contractors and their families belonging to service clubs, sports clubs and other voluntary organizations. As well as fulfilling leadership roles and making other contributions within the community, the Project staff, contractors and their families help provide the critical mass to underpin these organizations’ ongoing sustainability.

4.20 In addition the Macraes Gold Project has on-site 52 emergency response personnel, who respond to community emergencies as and when required. Included in the 52 are 1 qualified ambulance officer, 1 volunteer fire fighter from Palmerston, 1 volunteer fire fighter from Waikouaiti and 1 volunteer fire fighter from Middlemarch. The Macraes Gold Project emergency response team are also an official co-response unit (CRU) for the St John Ambulance southern region. As such it is dispatched as a first response unit by the ambulance communications centre. In this capacity it is responsible for an area that includes all of the Macraes-Hyde road between SH85 and SH67, SH85 up to Morrisons and Dunback, the Nenthorn Valley, Middlemarch and Hyde.

Specific Dunedin City Benefits

4.21 Dunedin City will benefit from the Project through the continuation for a further 3 years of:

(a) Expenditure, employment and incomes for the residents and businesses in the towns in the north of the District – i.e. Waikouaiti, Hyde and Middlemarch;

(b) Expenditure by the Project with Dunedin City businesses;

(c) Expenditure by the Project employees with Dunedin City businesses; and

(d) Expenditure with Dunedin City businesses by OceanaGold's head office and the employees at its head office retained as a result of the Project.

4.22 41.7% of the Macraes workforce live in metropolitan Dunedin, but even those living outside of metropolitan Dunedin will make purchases from Dunedin City businesses. As the major metropolitan centre nearest to the Project, Dunedin City is likely to capture the majority of the Project's local expenditure and the expenditure of its employees.

4.23 Earlier in this report it has been estimated that the Coronation North Project will, for 3 years, sustain 544 jobs, $60.5 million per annum in wages and salaries and $69.5 million in other expenditure for metropolitan Dunedin City residents and businesses.

5. POTENTIAL ECONOMIC COSTS OF THE CORONATION NORTH PROJECT

Lost Agricultural Production

5.1 Lost agricultural production is not an external cost of the Project. The productive value of the land in alternative uses was internalised into the cost structure of the Project – in other words OceanaGold when purchasing the land had paid a price reflective of future net returns from alternative uses for the land.Such costs are not costs to be borne by the wider community.

5.2 In terms of reduced economic activity within north-east Otago (and the Otago region) from a reduction in agricultural use, the direct and indirect economic impacts of gold mining operations at the site will significantly outweigh any reductions in economic activity from any displaced farming. In a report, *Contribution of OceanaGold to the New Zealand Economy*; Infometrics Ltd; August 2010, and the New Zealand Institute for Economic Research report for OceanaGold in 2011 the contribution to GDP of the Macraes Gold Project is shown to be substantially larger than the alternative of dairy farming at the site.[20]The reports found that the value of production equated to $3 million per hectare at that time and that it would take 767 years of dairy production on an equivalent area of land to match the revenue earned by the mine from 1990-2010.

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[20] See also *Macraes Phase III Project Assessment of Economic Impacts;* Appendix 19 to the Assessment of Environmental Effects for MPIII; Mike Copeland, Brown, Copeland & Co Ltd; April 2011.

Utilities

5.3 Externality costs can arise when utilities provided by central or local government (e.g. roads, water supply, storm water and flood control systems and wastewater disposal) are not appropriately priced. In the case of the Coronation North Project no such externality costs will arise. The Project will be completely self-sufficient with respect to water supply, wastewater disposal and storm water and flood control systems. In addition to road user charges, and roading costs payable as part of the annual rates, OceanaGold will continue to be responsible for maintenance of key sections of local roads adjacent to the mine, as already required under conditions of consent for the Macraes Gold Project and these payments are to continue for 4 years after mine closure.

Local Road Congestion Costs

5.4 An analysis of the traffic effects of the proposed development has concluded that the proposed access arrangements will readily accommodate the volumes of vehicles envisaged and that the traffic generated during the Coronation North Project will be safely and efficiently accommodated within the adjacent road network.[21]

6. CONCLUSIONS

6.1 Since its start-up in 1990, the Macraes Gold Project has been, and continues to be, a significant contributor to levels of employment, incomes and expenditure for north-east Otago, metropolitan Dunedin and the Otago region. At a national level, the Macraes Gold Project has made, and continues to make a considerable contribution to Government revenues, GDP and exports. The proposed Coronation North Project will extend mining operations at Macraes Flat for approximately 3 years, enabling these positive economic impacts to continue for a longer period.

6.2 In particular the Project will enhance the economic well being of the north-east Otago, metropolitan Dunedin and Otago communities by:

(a) Maintaining significant levels of local and regional employment, incomes and expenditure for an additional 3 years;

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[21] See OceanaGold Coronation North Project Transportation Assessment; Carriageway Consulting; May 2016.

(b) Maintaining population levels in north-east Otago, thereby maintaining the quality of some central government provided services;

(c) Extending the period of timefor the local economy to benefit from greater diversity and resilience;

(d) Extending the period of time the mine and its workforce will contribute to local community activities and socioeconomic benefits.

6.3 The Project will improve resource use efficiency by retaining economic activity and population in north-east Otago, metropolitan Dunedin and the Otago region for an additional 3 years, enabling increased economies of scale in the local provision of goods and services. It will also assist in reducing unemployment and underemployment of labour and other resources.

6.4 The Project will not give rise to economic externality costs.