Report to:

Victoria
GOLD CORP

Technical Report – Feasibility Study
Eagle Gold Project, Yukon

Document No. 1154860100-REP-R0008-02

WARDROP
A TETRA TECH COMPANY

Report to:

TECHNICAL REPORT – FEASIBILITY STUDY EAGLE GOLD PROJECT, YUKON

EFFECTIVE DATE: APRIL 5, 2012

Prepared by Allan Moran, R.Geol., CPG
Bruce Marshall, CPG
Clyde Smith, Ph.D., P.Eng.
Corey Aurala, P.Eng.
Dan Kappes, PE
Gregory Mosher, P.Geo.
H. Warren Newcomen, P.Eng.
Hassan Ghaffari, P.Eng.
Honorio Narciso, P.Eng.
James Myers, P.Eng.
Jay Collins, P.Eng.
Leah Mach, CPG
Peter Guest, D.Eng., MBA, P.Eng.
Randy Powell, PE
Sam Billin, PE
Troy Meyer, PE, P.Eng.
Tysen Hantelmann, P.Eng., M.Eng.

Suite 800, 555 West Hastings Street, Vancouver, British Columbia V6B 1M1
Phone: 604-408-3788 Fax: 604-408-3722

1154860100-REP-R0008-02

WARDROP
A TETRA TECH COMPANY

Victoria
GOLD CORP

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

GLOSSARY

UNITS OF MEASURE

above mean sea level	amsl
acre	ac
ampere	A
annum (year)	a
Australian dollar	AUD
bank cubic metre	bcm
billion	B
billion tonnes	Bt
billion years ago	Ga
British thermal unit	BTU
centimetre	cm
cubic centimetre	cm^3
cubic feet per minute	cfm
cubic feet per second	ft^3/s
cubic foot	ft^3
cubic inch	in^3
cubic metre	m^3
cubic yard	yd^3
Coefficients of Variation	CVs
day	d
days per week	d/wk
days per year (annum)	d/a
dead weight tonnes	DWT
decibel adjusted	dBa
decibel	dB
degree	°
degrees Celsius	°C
diameter	ø
dollar (American)	US$
dollar (Canadian)	Cdn$
dry metric ton	dmt
Euro	EUR
foot	ft
gallon	gal
gallons per minute (US)	gpm
Gigajoule	GJ
gigapascal	GPa
gigawatt	GW
gram	g
grams per litre	g/L
grams per tonne	g/t

greater than	>
hectare (10,000 m^2)	ha
hertz	Hz
horsepower	hp
hour	h
hours per day	h/d
hours per week	h/wk
hours per year	h/a
inch	in
kilo (thousand)	k
kilogram	kg
kilograms per cubic metre	kg/m^3
kilograms per hour	kg/h
kilograms per square metre	kg/m^2
kilometre	km
kilometres per hour	km/h
kilopascal	kPa
kilotonne	kt
kilovolt	kV
kilovolt-ampere	kVA
kilovolts	kV
kilowatt	kW
kilowatt hour	kWh
kilowatt hours per tonne	kWh/t
kilowatt hours per year	kWh/a
less than	<
litre	L
litres per minute	L/m
loose cubic metre	lcm
megabytes per second	Mb/s
megapascal	MPa
megavolt-ampere	MVA
megawatt	MW
metre	m
metres above sea level	masl
metres Baltic sea level	mbsl
metres per minute	m/min
metres per second	m/s
microns	µm
milligram	mg
milligrams per litre	mg/L
millilitre	mL
millimetre	mm
million	M
million bank cubic metres	Mbm^3
million bank cubic metres per annum	Mbm^3/a

million tonnes	Mt
minute (plane angle)	'
minute (time)	min
month	mo
ounce	oz
pascal	Pa
centipoise	mPa·s
parts per million	ppm
parts per billion	ppb
percent	%
pound(s)	lb
pounds per square inch	psi
revolutions per minute	rpm
second (plane angle)	"
second (time)	s
short ton (2,000 lb)	st
short tons per day	st/d
short tons per year	st/y
specific gravity	SG
square centimetre	cm^2
square foot	ft^2
square inch	in^2
square kilometre	km^2
square metre	m^2
three-dimensional	3D
tonne (1,000 kg) (metric ton)	t
tonnes per day	t/d
tonnes per hour	t/h
tonnes per year	t/a
tonnes seconds per hour metre cubed	ts/hm^3
volt	V
week	wk
weight/weight	w/w
wet metric ton	wmt

Abbreviations and Acronyms

acid base accounting	ABA
acid rock drainage	ARD
adsorption, desorption, and recovery	ADR
ammonium nitrate fuel oil	ANFO
annual net cash flow	NCF
atomic emission spectroscopy	AES
BGC Engineering Inc.	BGC
bicarbonate	HCO_3^-

calcium carbonate	$CaCO_3$
Canadian Council of Ministers of the Environment	CCME
Canadian Dam Association	CDA
Canadian Institute of Mining	CIM
capital cost estimate	CAPEX
carbonate	CO_3^{2-}
Christian Labour Alliance of Canada	CLAC
Comprehensive Cooperation Benefits Agreement	CBA
Construction Labour Relations Association	CLRA
copper sulphate	$CuSO_4 \cdot 5H_2O$
cumulative frequency plot	CF Plot
cumulative net cash flow	CNCF
cyanide detoxification plant	CDP
discounted cash flow	DCF
distributed control system	DCS
engineering, procurement and construction management	EPCM
Explosives Regulatory Division	ERD
First Dynasty Mines Ltd.	First Dynasty
Fish Habitat Compensation Plan	FHCP
Fisheries and Oceans Canada	DFO
free on board	FOB
front-end loader	FEL
general and administrative	G&A
Geological Strength Index	GSI
geosynthetic clay liner	GCL
global positioning system	GPS
harmful alteration, disruption or destruction	HADD
hazard and operability analysis	HAZOP
health, safety and environmental	HSE
heap leach facility	HLF
heating, ventilation, and air conditioning	HVAC
high pressure grinding roll	HPGR
humidity cell testing	HCT
hydrochloric acid	HCl
hydrofluoric acid	HF
hydrogen peroxide	H_2O_2
hydroxide	OH^-
inductively coupled plasma	ICP
industry standard practices	ISP
input/output	I/O
Inspectorate Exploration & Mining Services Ltd.	Inspectorate
internal rate of return	IRR
International Electrotechnical Commission	IEC
International Organization for Standardization	ISO
Internet protocol	IP
inverse distance squared	ID2

Kappes, Cassiday & Associates	KCA
Knight Piésold Ltd.	Knight Piésold
leak detection and recovery system	LDRS
life-of-mine	LOM
linear low-density polyethylene	LLDPE
local area network	LAN
maximum credible earthquake	MCE
maximum design earthquake	MDE
Merit Consultants International Inc.	Merit
metal leaching	ML
metal mining effluent regulations	MMER
mine water treatment plant	MWTP
Mineral Resources Development Inc.	MRDI
motor control centre	MCC
Na-Cho Nyak Dun	NND
National Building Code of Canada	NBCC
National Instrument NI 43-101	NI 43-101
Natural Resources Canada	NRCan
nearest neighbour	NN
net invoice value	NIV
net operating hours	NOH
net present value	NPV
net smelter return	NSR
neutral mine drainage	NMD
nitric acid	HNO_3
operating cost estimate	OPEX
operator interface station	OIS
Ore Research & Exploration Assay Standards	OREAS
overall project schedule	the Schedule
peak ground accelerations	PGA
perchloric acid	$HClO_4$
potable water treatment plant	PWTP
pregnant leach solution	PLS
probable maximum flood	PMF
probable maximum precipitation	PMP
Process Research Associates	PRA
Qualified Person	QP
quality assurance/quality control	QA/QC
quality management system	QMS
Quantile-Quantile	Q-Q
Quartz Mining License	QML
Reduced Intrusion Related Gold System	RIRGS
Rescan Engineering Ltd.	Rescan
reverse circulation	RC
rock quality designation	RQD
Rock Mass Rating 1976	RMR_{76}

run-of-mine	ROM
Scott Wilson Roscoe Postle Associates Inc.	Scott Wilson
seismic hazard analysis	SHA
Snowden Mining Industry Consultants	Snowden
SRK Ltd.	SRK
StrataGold Corp.	StrataGold
Tetra Tech Inc.	Tetra Tech
the Dublin Gulch Property	the Property
the Eagle Gold Project	the Project
the Project Team	the Team
three-standard deviation	3-SD
tonnes of solution to tonnes of ore	T_S/T_O
total suspended solids	TSS
two-standard deviation	2-SD
vibrating wire piezometer	VWP
Victoria Gold Corp.	Victoria Gold
voice over internet protocol	VoIP
Wardrop, a Tetra Tech Company	Wardrop
waste rock storage area	WRSA
water management plan	WMP
water quality guidelines	WQG
Water Use License	WUL
weak acid dissociable	WAD
Workers' Compensation Board	WCB
Yukon Environmental and Socio-economic Assessment Act	YESAA
Yukon Environmental and Socio-economic Assessment Board	YESAB

1.0 SUMMARY

1.1 INTRODUCTION

This Feasibility Study and National Instrument 43-101 (NI 43-101) discusses scope, design features and economic viability of the Eagle Gold Project (the Project), located in central Yukon, Canada.

Victoria Gold Corp. (Victoria Gold) is the 100% owner of the Dublin Gulch Property, comprising a total area of 34,576 ha, a contiguous block of 1,912 quartz claims, 10 quartz leases, and 1 federal Crown grant. This Project focuses on the Eagle Zone portion of the Dublin Gulch Property, which contains vein-hosted gold mineralization. The deposit contains a Probable Mineral reserve of 91.6 Mt, with a diluted grade of 0.781 g/t Au. The Project is based on a conventional open pit mine; ore will be mined and processed at a rate of 29,500 t/d for a 10-year life of mine (LOM). Ore will be crushed using three stages of conventional crushing, and then heap leached to produce saleable gold doré. The Project will require a construction and commissioning period of 24 months, at an initial capital cost of $399,741,091 (Q1 2012).

The Project has a pre-tax internal rate of return (IRR) of 24.1% and a pre-tax net present value (NPV) at an 8% discount of $273 million with recovery of initial capital in 3.1 years. The base case financial model used a gold price of US$1,325/oz and an exchange rate of Cdn$1.00 = US$0.92 (all currencies discussed in this study are expressed in Canadian dollars, unless stated otherwise).

Wardrop, a Tetra Tech Company (Wardrop) worked with additional qualified consulting companies that took responsibility for various portions of the report. The areas of responsibility for each consultant are listed below:

- Wardrop – overall project management, property description and location, accessibility, climate and physiology, history, geological setting and mineralization, deposit types, exploration, mineral reserves, mining methods, economic analysis, operating costs pertaining to mining, and infrastructure
- Tetra Tech Inc. (Tetra Tech) – environmental, recovery methods, infrastructure pertaining to the heap leach facility (HLF) and water treatment facilities, and operating costs pertaining to processing and general and administrative (G&A) costs
- SRK Consulting (US), Inc. (SRK) – drilling, sample preparation and security, data verification, and mineral resource estimates

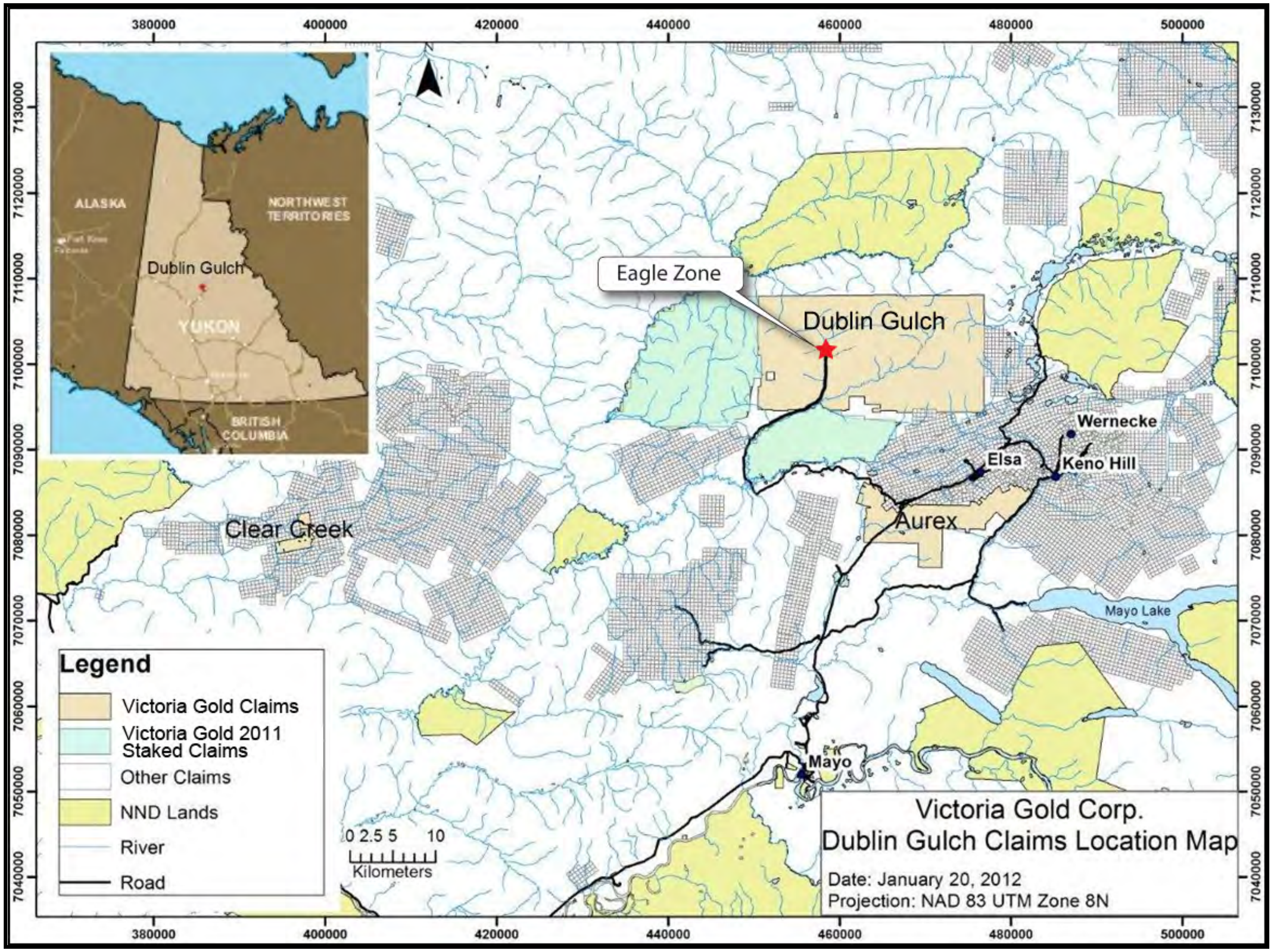
- Kappes, Cassiday & Associates (KCA) – mineral processing and metallurgical testing
- Merit Consultants International Inc. (Merit) – capital cost estimate, and project execution plan
- BGC Engineering Inc. (BGC) – geotechnical engineering for infrastructure, the waste rock storage areas (WRSAs) and the open pit
- Knight Piésold Consulting (Knight Piésold) – water management

1.2 PROPERTY, ACCESS, AND HISTORY

The Project area has a long history of placer gold mining, starting in 1895, and exploration drilling by several companies, starting in 1972. To date, a total of 493 holes have been drilled totalling 89,447 m. The most recent drilling was conducted by Victoria Gold in 2011, and includes 22 diamond drill core holes totalling 5,144 m.

A property location map is provided in Figure 1.1.

Figure 1.1 Property Location Map



1.3 GEOLOGY

The Dublin Gulch Property covers the 600 x 1,600 m Eagle Zone, which is a zone of gold mineralized, northeast-striking, steeply-dipping, closely spaced, sub-parallel, narrow, extensional quartz veins; the zone has been drilled to a depth of approximately 500 m. The Eagle Zone is hosted in the southwestern end of the northeast-elongate, Cretaceous-age, Dublin Gulch granodiorite stock. The Eagle Gold deposit is classified as a Reduced Intrusion-Related Gold System (RIRGS) deposit; this class includes four additional gold deposits in the northwest-southeast-trending Tintina Gold Province that stretches for several hundred kilometres from central Yukon to western Alaska.

1.4 MINERAL RESOURCE

SRK concluded that drilling procedures employed by Victoria Gold in 2011 were consistent with industry standard practices, that the 2011 drill hole data augment previous drill data, that industry standard sampling, preparation, sample security, appropriate quality assurance and control practices were employed at analytical laboratories, and that the data used by SRK in a mineral resource estimation has been adequately verified. SRK completed a mineral resource estimation using an Inverse Distance Squared (ID2) procedure. The resources are stated at a cut-off of 0.2 g/t Au and are constrained within a Gemcom Whittle™ shell. The Indicated Mineral Resource is 133,699,000 t grading 0.69 g/t Au containing 2,979,000 oz of gold.

1.5 MINERAL RESERVE

Wardrop used Gemcom Whittle™ software with the Lerchs-Grossman optimization algorithm to evaluate the optimal open pit cone designs within the referenced SRK mineral resource. Assumptions used were prevailing mining, process, and G&A costs, an average heap leach gold recovery based on test work, pit slopes recommended based on geotechnical studies, a production rate of 29,500 t/d ore for 350 d, and a gold price of US$1,200/oz. (The economic analysis discussed in Section 22.0 uses an updated gold price of US$1,325/oz). The diluted Probable Mineral Reserve calculated by Wardrop within a final open pit is 91,600,000 t of gold mineralized rock grading 0.78 g/t Au containing 2,300,768 oz Au.

The Mineral Reserve is summarized in Table 1.1.

Table 1.1 Mineral Reserves

Resource Class	Reserve Class	Ore Type	Diluted Tonnes (Mt)	Diluted Grade (g/t)	Contained Ounces (oz)
Indicated	Probable	A	32.0	0.875	900,686
		B	41.8	0.727	977,692
		C	11.0	0.715	252,724
		E	6.8	0.780	169,667
		Total	**91.6**	**0.781**	**2,300,768**
Inferred	n/a	**Total**	**2.2**	**0.456**	**32,256**

1.6 MINING

Wardrop designed an optimum open pit with final dimensions of 780 x 1,420 m to a depth of 562 m and a three-stage pushback phased mining plan. The plan anticipates 1.5 years of pre-production stripping, an average production of 29,500 t/d, and a 10-year LOM production of 91.6 Mt.

A total of 132.4 Mt of waste will be stored in WRSAs adjacent to the south (Platinum Gulch) and north (Eagle Pup) of the open pit. Open pit mining operations will be conducted by conventional drill/blast and load/haul using 91 t ore trucks, 136 t waste trucks, and shovels on initial 7.5 m benches, to be double-benched in later years.

1.7 HEAP LEACH RECOVERY

Column and bottle roll cyanide leach tests conducted by KCA showed that an optimum gold recovery of 72.9% Au could be achieved at both ambient and freezing temperatures by crushing to P_{80} 6.4 mm with leach times of 150 d when stacked and leached in 10 m lifts.

Wardrop selected a three-stage run-of-mine (ROM) material crushing design. Primary gyratory crushing will have a discharge setting of 150 mm; crushed product will be delivered by covered conveyors to two secondary crushers, which incorporate two vibrating screens with 89 and 38 mm apertures. Oversize material from the screens will be crushed to the 19 mm discharge settings of the secondary crushers, and then delivered to four tertiary crushers designed to produce the final P_{80} 6.4 mm discharge size.

Crushed material will then undergo heap leaching at the HLF, located approximately 1.2 km north of the Eagle Zone deposit. The HLF will comprise an earth/rock-filled embankment, a lined storage area, an in-heap storage pond, pumping wells, events ponds, diversion ditches, and leak detection, recovery and monitoring systems.

Production for 250 days of the year will consist of mining, crushing, agglomeration, and heap leach stacking and leaching. Material that has been stacked on the heap leach pad will continue to be leached year-round; however, during the 100 d winter period, mined material will be stockpiled until the following 250 d summer period, when it will then be delivered to the secondary and tertiary crushers and the heap leach pad.

Final crushed material will be agglomerated on the conveyor system, delivered to the heap leach pad, and stacked on 10 m lifts in a series of 60 x 500 m ribbons. The final in-valley heap will cover an area of 520 x 1,980 m on a slope of approximately 17°, with an average vertical thickness of 103 m, and a maximum thickness of 150 m. The pad will be lined with linear low-density polyethylene (LLDPE) over a geosynthetic clay liner (GCL) and the lower section will act as an in-heap pond with a storage capacity of up to 459,349 m^3 of pregnant leach solution (PLS). The HLF will operate year-round, with heating of barren cyanide solution in winter as required.

Barren solution containing cyanide will be distributed to the stacked material through pumps, pipe headers, and drip emitters buried 3 m below the surface of agglomerated material. Cold climate conditions will be mitigated by location of the heap in a south-facing, in-valley site, in-heap storage of PLS, material stacking during the 250 d summer period, “ripped-in” drip emitter lines buried 3 m deep, heating of barren solution, in-heap temperature monitoring, and heat-tracing and insulation of barren solution tank and pipelines.

PLS will be pumped from the in-heap pond to an adsorption, desorption, recovery (ADR) facility. Gold will be recovered onto activated carbon particles; gold-loaded carbon will be pumped to an elution/desorption column where hot caustic and cyanide solution will strip the gold from the carbon. Gold in the resultant high-grade pregnant solution will then be recovered by electrowinning on stainless steel cathodes. Gold sludge from washed cathodes will be smelted in a crucible furnace and poured into doré bars.

Based on an average production of 29,500 t/d, 10,325,000 t/a, 91,594,000 t over the LOM, average diluted grade of 0.78 g/t Au, total contained 2,300,768 oz Au, and average 72.9% expected gold recovery, the total production estimated over the LOM is 1,676,234 oz Au.

1.8 INFRASTRUCTURE

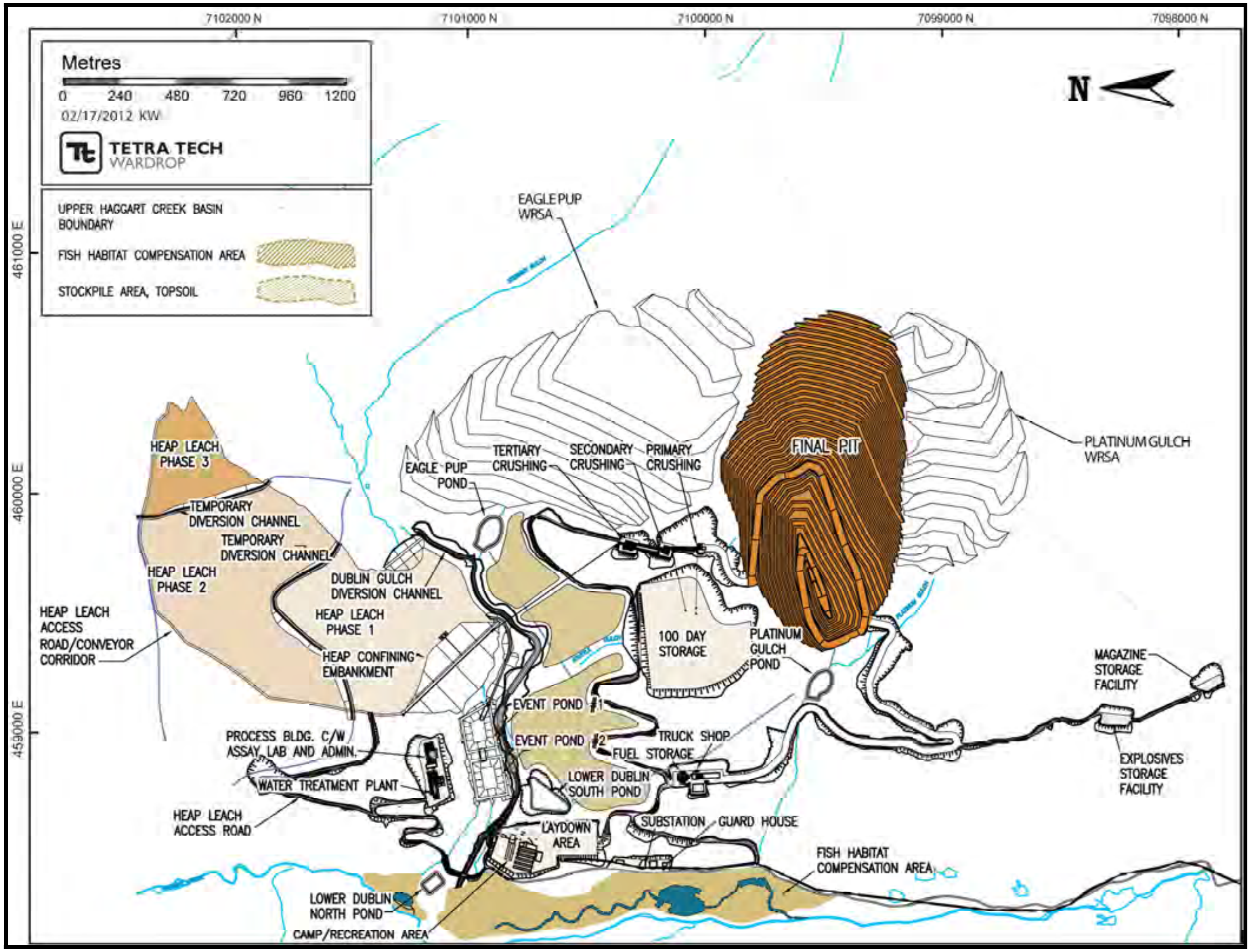
The Project will require the development of a number of infrastructure items, including:

- a HLF, to be progressively developed in three phases—one phase during construction, and two phases during operations. The HLF will occupy an area of 40 ha at the end of Year 3, 91 ha at the end of Year 7, and 105 ha at the end of the LOM.

- a Dublin Gulch Diversion Channel, which is a major structure designed to relocate the Dublin Gulch waterway around the HLF
- fresh water supply systems to treat and distribute process water, fire water, and potable water
- access and site roads, including the upgrading of the existing 23 km Haggart Creek access road
- water management infrastructure, including an extensive series of diversion ditches for both contact and non-contact water, two interceptor ditches, and a series of water storage ponds and pumps
- water treatment infrastructure, including a mine water treatment plant (MWTP), detoxification facility, and potable and sewage treatment infrastructure
- waste management systems, including sewage disposal and domestic waste disposal
- ancillary facilities, including:
  - warehouse/truck shop/mine dry/first aid
  - cold storage/laydown
  - administration building
  - on-site fuel storage
  - on-site explosive storage
  - detonator magazine storage
  - assay laboratory
  - temporary and permanent camp accommodations with recreation area, commissary and laundry facilities
- power supply and distribution, including:
  - a 45 km long, 69 kV power supply line from the Yukon Energy Corporation power grid where a tap in point is available, approximately 25 km southeast of the Property
  - power distribution from the mine site substation to all the facilities
  - process control and instrumentation
  - communication systems

A complete site layout drawing is provided in Figure 1.2.

Figure 1.2 Site Layout



1.9 CAPITAL, SUSTAINING, AND OPERATING COSTS

Merit used standard industry practices, including consultations with engineers, procurement specialists, cost estimators, and with input from Wardrop, Knight Piésold, and Victoria Gold (Owner's costs) in arriving at a total capital cost estimate (CAPEX) of $399,741,091, including an overall contingency of 11% of direct and indirect costs. The CAPEX does not include escalation of costs, interest payments, exchange rates, scope changes, schedule or permit delays, or taxes.

A summary of the CAPEX is provided in Table 1.2.

Table 1.2 Capital Cost Estimate Summary

Area	Cost ($000)
Direct Costs	
Mining and Preproduction Development	53,207
Site General	33,522
Process and Material Handling	96,399
Ancillaries	3,284
Plant Site Infrastructure including Truck Shop	17,873
Power Supply and Distribution	11,113
Heap Leaching	63,833
Water Storage/Distribution/Treatment	5,085
Total Direct Costs	**284,313**
Indirect Costs	
Owner's Costs	8,912
Indirects	68,277
Total Indirect Costs	**77,189**
Subtotal	**361,502**
Contingency (11%)	38,239
Total Project	**399,741**

Using the same criteria, Merit estimated a total sustaining capital cost of $132,900,000 starting during the first full year of production (Year 1) and running over a seven-year period.

Wardrop calculated a total OPEX of $12.21/t material leached that includes a mining cost of $4.77/t, processing cost of $6.33/t, and an all-in G&A cost of $1.11/t. A summary of the operating costs is provided in Table 1.3.

Table 1.3 Operating Cost Summary

Function	Operating Cost ($/t leached)
Mining	4.77
Processing, Water Treatment, and Rinsing	6.33
G&A	1.11
Total Cost	**12.21**

1.10 ENVIRONMENTAL

A comprehensive set of base line environmental studies has been carried out by Stantec, Knight Piésold, and Wardrop from 2007-2011. In all cases these studies have indicated that possible adverse effects can be satisfactorily mitigated and that the mine and processing site will be returned to a landscape comparable to the surrounding area. Water treatment facilities include a potable water treatment plant (PWTP), a septic system, a cyanide detoxification plant (CDP) plant and a MWTP; these facilities are expected to produce water suitable for discharge into the local Haggart Creek drainage system.

1.11 ECONOMIC ANALYSIS

Wardrop Qualified Persons (QPs) have performed a base case, 100% equity, pre-tax, economic analysis of the Project based on the following:

- price of gold – US$1,325/oz
- currency exchange – Cdn$1.00 = US$0.92.
- total LOM production of 91,600,000 t of ore
- average grade of 0.781 g/t Au and average recovery of 72.9% Au
- total of 1,672,000 oz Au recovered over the LOM and 181,000 oz Au recovered per year
- LOM at-mine revenue of $2,378,626,000 with a total OPEX of $1,118,772,000 and a total CAPEX of $596,867,000.

The resulting discounted cash flow NPV at 8% is $273,113,000; the IRR is 24.1%, and the payback period is 3.1 years.

In addition to the possible impact on overall economics that could result from variations in heap leach gold recovery or ore grades, sensitivity analyses show that the project economics are particularly sensitive to changes in gold price and exchange rate with lesser influence from operating and capital costs. It is apparent that increases in gold price would have a very significant positive impact on profitability of the Project.

1.12 PROJECT EXECUTION

Wardrop supports the recommendation by Merit of a comprehensive project execution strategy that includes adherence to standards of human rights; remaining informed of essential political, social, and technical aspects; providing long-lasting benefits to local communities; and project management that results in environmental protection. Merit has recommended traditional project management with a construction time table that runs from October 2012 until start of production in October 2014.

2.0 INTRODUCTION

In January 2011, Victoria Gold commissioned a team of engineering consultants to complete a feasibility study in accordance with NI 43-101. All mines acts regulations with respect to health, safety, and environmental considerations have been taken into account and incorporated into the feasibility designs and relevant cost estimates. In addition, the designs take into account the geological location of the Project. The following consultants were commissioned to complete the component reports for the purposes of the feasibility study:

- Wardrop – overall project management, property description and location, accessibility, climate and physiology, history, geological setting and mineralization, deposit types, exploration, mineral reserves, mining methods, economic analysis, operating costs pertaining to mining, and infrastructure
- Tetra Tech – environmental, recovery methods, infrastructure pertaining to HLF and water treatment facilities, and operating costs pertaining to processing and G&A
- SRK – drilling, sample preparation and security, data verification, and mineral resource estimates
- KCA – mineral processing and metallurgical testing
- Merit – capital cost estimate, and project execution plan
- BGC – geotechnical engineering for infrastructure, the WRSAs and the open pit
- Knight Piésold – water management

The following QPs visited the Project site:

- Mr. Allan Moran, R. Geol., CPG, visited the site from September 22 to 23, 2011 for two days.
- Mr. Bruce Marshall, CPG, visited the site from October 3 to 5, 2011 for three days.
- Mr. Corey Aurala, P.Eng., visited the site from June 7 to 9, 2011 for three days.
- Mr. Jay Collins, P.Eng., visited the site from August 22 to 23, 2011 for two days.
- Mr. Hassan Ghaffari, P.Eng., visited the site from July 11 to 13, 2011 for three days.

- Mr. Honorio Narciso, P.Eng., visited the site from August 22 to 24, 2011 for three days.
- Mr. Warren Newcomen, P.Eng., visited the site from July 7 to 8, 2011 for two days.

A summary of the QPs responsible for each section of this report is detailed in Table 2.1.

Table 2.1 Summary of Qualified Persons

Report Section			Company	QP
1.0	Summary		All	Clyde Smith, Ph.D., P.Eng.
2.0	Introduction		Wardrop	Hassan Ghaffari, P.Eng.
3.0	Reliance on Other Experts		All	Hassan Ghaffari, P.Eng.
4.0	Property Description and Location		Wardrop	Hassan Ghaffari, P.Eng.
5.0	Accessibility, Climate, Local Resources, Infrastructure, and Physiography		Wardrop	Hassan Ghaffari, P.Eng.
6.0	History		Wardrop	Hassan Ghaffari, P.Eng.
7.0	Geological Setting and Mineralization		Wardrop	Gregory Mosher, P.Geo.
8.0	Deposit Types		Wardrop	Gregory Mosher, P.Geo.
9.0	Exploration		Wardrop	Gregory Mosher, P.Geo.
10.0	Drilling		SRK	Allan Moran, R. Geol., CPG
11.0	Sample Preparation, Analyses, and Security		SRK	Allan Moran, R. Geol., CPG
12.0	Data Verification		SRK	Allan Moran, R.Geol., CPG
13.0	Mineral Processing and Metallurgical Testing		KCA	Dan Kappes, PE
14.0	Mineral Resource Estimates		SRK	Leah Mach, CPG
15.0	Mineral Reserve Estimates		Wardrop	Tysen Hantelmann, P.Eng., M.Eng.
16.0	Mining Methods		Wardrop	Tysen Hantelmann, P.Eng., M.Eng.
17.0	Recovery Methods		Tetra Tech	Randy Powell, PE
18.0	Project Infrastructure		-	-
	18.1	Overview	Wardrop	Hassan Ghaffari, P.Eng.
	18.2	Site Geotechnical	BGC	H. Warren Newcomen, P.Eng.
	18.3	Heap Leach Facility	Tetra Tech	Troy Meyer, PE, P.Eng.
	18.4	Heap Leach Facility Engineering Analysis	Tetra Tech	Troy Meyer, PE, P.Eng.
	18.5	Dublin Gulch Diversion Channel	Tetra Tech	Troy Meyer, PE, P.Eng.
	18.6	Events Ponds	Tetra Tech	Troy Meyer, PE, P.Eng.
	18.7	100 d Storage Pad	Wardrop	Hassan Ghaffari, P.Eng.
	18.8	Fresh Water Supply	Wardrop	Hassan Ghaffari, P.Eng.
	18.9	Water Management	Knight Piésold	Corey Aurala, P.Eng.
	18.10	Water Treatment Infrastructure	Tetra Tech	Sam Billin, PE
	18.11	Support Infrastructure	Wardrop	Hassan Ghaffari, P.Eng.
	18.12	Power Supply and Distribution	Wardrop	James Myers, P.Eng.
	18.13	Process Control and Instrumentation	Wardrop	Hassan Ghaffari, P.Eng.

table continues…

Report Section		Company	QP
	18.14 Communication	Wardrop	Hassan Ghaffari, P.Eng.
19.0	Market Studies and Contracts	Victoria Gold	Peter Guest, D.Eng., MBA, P.Eng.
20.0	Environmental	Tetra Tech	Bruce Marshall, CPG/ Corey Aurala, P.Eng.
21.0	Capital and Operating Costs	-	-
	21.1 Capital Cost Estimate	Merit	Jay Collins, P.Eng.
	21.2 Operating Cost Estimate	Tetra Tech/ Wardrop	Randy Powell, PE/ Honorio Narciso, P.Eng.
22.0	Economic Analysis	Wardrop	Peter Guest, D.Eng., MBA, P.Eng.
23.0	Adjacent Properties	Wardrop	Gregory Mosher, P.Geo.
24.0	Other Relevant Data and Information	-	-
	Project Execution Plan	Merit	Jay Collins, P.Eng.
25.0	Interpretation and Conclusions	Wardrop	Clyde Smith, Ph.D., P.Eng.
26.0	Recommendations	All	Clyde Smith, Ph.D., P.Eng.
27.0	References	All	Sign-off by Section

3.0 RELIANCE ON OTHER EXPERTS

Wardrop followed standard professional procedures in preparing the contents of this report. Data used in this report has been verified where possible and Wardrop has no reason to believe that the data was not collected in a professional manner.

Technical data provided by Victoria Gold for use by Wardrop in this feasibility study is the result of work conducted, supervised, and/or verified by Victoria Gold professional staff or their consultants.

Wardrop has not independently verified the legal status or title of the claims or exploration permits, and has not investigated the legality of any of the underlying agreement(s) that may exist concerning the Property.

The QPs who prepared this report relied on information provided by the following experts who are not QPs:

- Mr. Trevor Crozier, P.Eng. of BGC, for matters relating to hydrogeology and pit dewatering in Section 18.0
- Dr. Pete Quinn, P.Eng. of BGC, for matters relating to geotechnical infrastructure in Section 18.0
- Mr. Mike Padula, PMP, of Victoria Gold for matters relating to risk and mitigation in Section 25.0 and market studies and contracts in Section 19.0
- Dr. Stephen Wilbur, P.Geo. of Victoria Gold, for matters relating to environmental, permitting, and social and community impact, in Section 20.0.

3.1 SRK CONSULTING

The opinions provided by SRK in this report are based on information provided to SRK by StrataGold, a wholly owned subsidiary of Victoria Gold, throughout the course of the investigations. SRK has relied upon the work of other consultants in the project areas in support of this technical report. The sources of information include data and reports supplied by Victoria Gold personnel as well as documents referenced in Section 27.0.

SRK used its experience to determine if the information from previous reports was suitable for inclusion in this technical report and adjusted information that required amending. This report includes technical information, which required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the SRK does not consider them to be material.

3.1.1 Sources of Information and Extent of Reliance

Victoria Gold provided SRK with:

- 1 m accuracy topography in digital format
- drillhole database as Microsoft® Excel files for drillhole collars, downhole surveys, assays, and lithology
- previous Wardrop and Scott Wilson resource block models
- digital solids for granodiorite and overburden surface
- technical reports by previous consultants as listed in Section 27.0.

SRK reviewed the data and relied upon the drillhole database and the topography, after sufficient verification and comparison with previous work to validate the database for use in resource estimation.

SRK created an independent resource block model, resource estimate, and resource classification for the Eagle Gold deposit.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Property is located in central Yukon, approximately 400 km north of the capital Whitehorse and 85 km by road north-northeast of the Village of Mayo, the closest community with significant commercial services. The Property is located within the Mayo Mining District. The centre of the Property is coincident with the confluence of Haggart Creek and Dublin Gulch, at approximately 64°02'N latitude, and 135°50'W longitude Universal Transverse Mercator (UTM) Coordinates 7100950N/453750E, Zone 8, North American Datum (NAD) 83 Datum. The Property is located within portions of NTS sheets 105M/13, 105M/14, 106D/3, 106D/4, 115P/16 and 116A/1 (Figure 4.1).

The Dublin Gulch Property comprises a total area of 34,576 ha, and is a contiguous block of 1,912 quartz claims, 10 quartz leases, and 1 federal Crown grant. The claims are currently in good standing until their respective renewal dates, which will occur between 2012 to 2027. The Eagle Zone is the portion of Dublin Gulch that comprises the Project. The earliest expiry date of any claim that covers this zone is 2022 (see Appendix A).

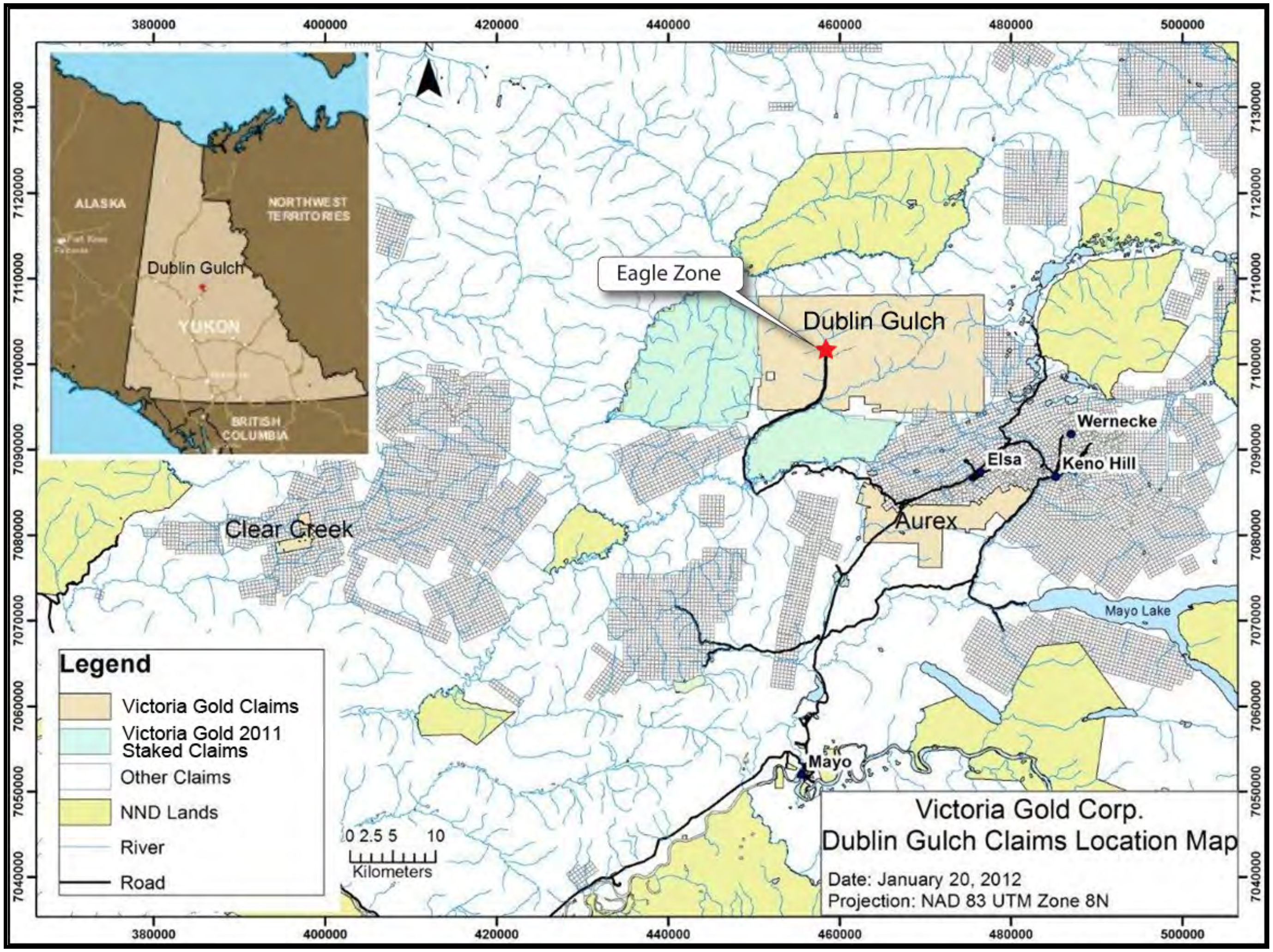
In late 2011, Victoria Gold completed a quartz claim-staking program which is currently being processed by the Yukon Government Department of Energy, Mines and Resources. The staking program, once finalized, will add an additional 1,494 quartz claims in two blocks which are contiguous to the west and south of the current property boundary. The additional claims are not material to the Eagle Zone.

Ownership of quartz claims in Yukon carries the right to surface access and use of the surface of the claims for exploitation of minerals contained within the claims. Victoria Gold also holds the rights to 125 placer claims on the Property, generally along Haggart Creek and Dublin Gulch.

Victoria Gold acquired ownership of the Property through the acquisition of StrataGold on June 4, 2009. Victoria Gold holds a 100% interest in all the claims and leases comprising the Eagle Zone, with the exception of the Olive Federal Crown Grant, one-eighth of which is owned by G. William Vivon. Victoria Gold holds a 100% interest in the remaining seven-eighths of the Crown grant.

The Property contains extensive placer workings, principally within the drainages of Dublin Gulch and Haggart Creek. The Eagle Zone is situated east of Haggart Creek, and south of Dublin Gulch. A number of other mineral occurrences and old prospects are located within the Property, but have not been considered for the purposes of this study.

Figure 4.1 Eagle Gold Project Property Location Map



By virtue of two underlying agreements, Victoria Gold makes option payments of $35,000 per year:

- With respect to a portion of the Property historically known as the Mar Gold Zone, Victoria Gold makes an annual royalty payment of either $20,000, or 2% of gross returns received from the sale of all metals produced from the claims, whichever is greater, to a maximum of $1,000,000, of which $420,000 has been paid to date, after which the royalty reverts to 1% of gross returns.
- With respect to 36 claims on the Lynx Zone, Victoria Gold makes a 1% net smelter return (NSR) royalty with an annual advance royalty payment of $15,000.
- The 63 claims and leases known as the Mar Tungsten Property and Mar Tungsten leases are subject to a 1% NSR royalty.

The Eagle Zone is located within claims that are subject only to the Mar Gold royalty.

Victoria Gold has established a Comprehensive Cooperation Benefits Agreement (CBA) with the First Nation of Na-Cho Nyak Dun (NND) for the Project and ongoing exploration within NND Traditional Territory. The key points and outcomes of the CBA are:

- to provide certainty for development of the Project and ongoing exploration
- to provide the NND with employment and economic development opportunities while respecting and promoting NND's desired environmental protection objectives
- to establish a process for ongoing communication between Victoria Gold and the NND so both parties can identify and pursue contracting and partnering opportunities
- to provide the NND with employment and training opportunities
- to provide financial support and profit sharing opportunities that may result from a successful project.

There are no other back-in rights, payments or other agreement or encumbrances to which the Property is subject.

Victoria Gold reports that there are no known environmental liabilities on the Property.

Exploration work is subject to the Quartz Mining Land Use Regulation of Yukon *Quartz Mining Act* and is carried out under a Class IV Mining Land Use Permit. Victoria Gold has been granted a permit (LQ00303) that is valid until May 10, 2021.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The Project has year-round road access, and is located approximately 45 km north-northeast of the Village of Mayo, Yukon. The Property can be accessed from Mayo by following Highway 2 for 35 km, then heading along the South McQuesten Road for 21 km. The last 25 km are public but user-maintained, which are generally in good repair and allow passage for cars, trucks, and heavy haul highway truck and trailer units. A network of four-wheel drive roads provides access to most parts of the Property.

5.2 CLIMATE

Central Yukon has a northern continental climate. The mean annual temperature for the area is approximately -3°C, with an annual range of 63.5°C. January is the coldest month, July the warmest. Annual precipitation ranges from 375 to 600 mm, about half of which falls as snow.

5.3 LOCAL RESOURCES

Mayo has a population of approximately 450 and offers accommodation, fuel, a nursing station, and earth-moving contractors. The Government of Yukon maintains a 1,400 m gravel airstrip, suitable for charter flights, about 3 km north of Mayo. There are no scheduled air services to Mayo. Most major services and supplies are available in Whitehorse.

Electrical transmission lines from a hydroelectric facility near Mayo extend to the villages of Elsa and Keno City, about 25 km southeast of the Property. The Property is currently served by on-site generators.

A broader range of services is available in Whitehorse, Yukon, located about six hours by road to the south of the Property. Whitehorse has a population of 25,690 (Yukon Bureau of Statistics) and has regularly scheduled air service to Vancouver, Edmonton, Calgary, and Fairbanks.

The Property is approximately 665 km by all-weather highway from the deep sea and barge port of Skagway, Alaska.

5.4 INFRASTRUCTURE

Victoria Gold maintains a 98-man, all-season exploration camp and related service infrastructure on the Property to facilitate year-round exploration activities. There is no other permanent infrastructure.

The Property has sufficient appropriate sites to accommodate mining and processing facilities including leach pad sites, as well as disposal of overburden and waste rock, and other infrastructure. Local water resources are adequate for the scale of mining that is proposed by the feasibility study.

5.5 PHYSIOGRAPHY

The topography of the Property area is characterized by rolling hills and plateaus ranging in elevation from approximately 800 masl to a local maximum of 1,650 masl at the summit of Potato Hills, and are drained by deeply-incised creeks and canyons. The ground surface is covered by residual soil and felsenmeer. Outcrops are rare, generally less than two percent of the surface area, and are limited to ridge tops and creek walls. Lower elevations are vegetated with black spruce, willow, alder and moss, and higher elevations by sub-alpine vegetation. Patchy permafrost occurs on north-facing slopes.

6.0 HISTORY

The Property has a lengthy history of exploration and placer mining dating from 1895.

Placer gold mining began in 1895, and tungsten was identified in placer concentrates in 1904. In 1916, the Geological Survey of Canada discovered bedrock sources of scheelite in Dublin Gulch. Since 1970, there has been essentially continuous exploration on the Property, first for tungsten and then for gold. Approximately 110,000 oz of placer gold has been recovered from the Dublin Gulch area since production documentation was first initiated in 1978.

The chain of tenure leading to the current ownership began in 1977, when Queenstake Resources Ltd. staked the Mar claims to cover tungsten-bearing skarns in the Ray Gulch area. Canada Tungsten Mining Corp. optioned the ground and carried out exploration for both tungsten and gold between 1977 and 1986. The Eagle Zone, the most significant of the known gold occurrences, is located approximately 3 km to the west-southwest of the tungsten occurrences and became the subject of significant exploration interest during this period.

In 1991, Ivanhoe Goldfields acquired the Dublin Gulch claims from Queenstake Resources Ltd. and commenced exploration for “Fort Knox Type” intrusive-hosted gold mineralization that continued until 1993.

In 1993, Ivanhoe Goldfields estimated “Inferred and Potential” Resources within the Eagle Zone of 98.6 Mt with an average grade of 1.19 g/t Au. This historic estimate is considered relevant, but not compliant with the strictures of NI 43-101 and is included here for purposes of historical reference only.

No fieldwork was conducted in 1994.

In 1995, First Dynasty acquired the Property through acquisition of Ivanhoe Goldfields. In 1996, First Dynasty transferred the Property to New Millennium Mining Ltd., a wholly owned subsidiary.

In 2002, First Dynasty changed its name to Sterlite Gold Ltd.

In 2004, StrataGold acquired the Property from Sterlite Gold Ltd. as part of a larger transaction that included the Clear Creek Property.

Victoria Gold acquired ownership of StrataGold in 2009.

The most extensive phase of exploration of the Eagle Zone took place between 1991 and 1996, during which time 48 core holes with an aggregate length of approximately

9,000 m, and 118 RC holes with an aggregate length of 21,300 m were drilled within the presently-defined Eagle Zone and surrounding area.

In 1997, Mineral Resources Development Inc. (MRDI) carried out a resource estimate of the Eagle Zone (historic in the context of NI 43-101, in support of a feasibility study) resulting in a Measured and Indicated Resource of 88.8 Mt at an average grade of 0.698 g/t Au, and an Inferred Resource of 106 Mt at an average grade of 0.345 g/t Au. On the basis of the Measured and Indicated Resource, MRDI calculated a Mineable Reserve of 50.4 Mt at an average grade of 0.93 g/t Au. This estimate is considered relevant, but not compliant with the guidelines established in NI 43-101, and is included here for purposes of historical reference only.

In 2004, Snowden Mining Industry Consultants (Snowden) reviewed the 1997 MRDI resource estimate and concluded that the estimation methodology of MRDI was in accordance with the guidelines of NI 43-101, with the exception of the classification of the resource. Snowden re-estimated the resource, using the MRDI data and parameters, and determined that at a cut-off grade of 0.5 g/t Au, the Eagle Zone contains an Indicated Resource of 55.2 Mt with an average grade of 0.934 g/t Au. Inferred Resources above the 0.5 g/t Au cut-off were estimated to amount to 17.3 Mt with an average grade of 0.743 g/t Au. This estimate is considered to be both relevant and compliant with NI 43-101.

In 2005, StrataGold drilled 34 HQ holes with an aggregate length of 8,105 m. The program had three main purposes:

- to test the west margin of the area for which a resource had been estimated, and an open pit had been designed by MRDI in 1997
- to provide fill-in data in several areas of the designed pit
- to extend the westerly strike of the Eagle Zone.

Holes were numbered starting with #276 (DG05-276C) to maintain the historic sequence. “DG05” refers to Dublin Gulch 2005; the “C” designation stands for core.

In February 2006, Wardrop completed a NI 43-101 compliant resource estimate on the basis of drill data acquired by StrataGold during 2005 that included an Indicated Resource of 66.5 Mt grading 0.92 g/t Au and an Inferred Resource of 14.4 Mt grading 0.80 g/t Au at a cut-off of 0.5 g/t.

During 2006, in addition to soil and silt sampling, StrataGold drilled 10 diamond drillholes (4,282 aggregate metres) and excavated 11 trenches from which 347 samples were collected.

Twenty HQ holes were drilled during 2007 (aggregate length 5,627 m) which, together with the 2006 drilling program, was designed to increase the confidence in the resource model, and to continue testing of the western extent of the resource model.

In 2008, 15 HQ holes (4,249 aggregate metres) were drilled to test the extents of the mineralized zone.

In 2009, Wardrop conducted a NI 43-101 compliant update of the 2006 mineral resource estimate on the basis of 39 additional holes (14,158 aggregate metres) completed since the previous estimate. At a cut-off grade of 0.5 g/t Au, the estimate comprised an Indicated Resource of 98.5 Mt with an average grade of 0.85 g/t Au and an Inferred Resource of 2 Mt with an average grade of 0.67 g/t Au.

During 2009, Victoria Gold drilled 14 core holes (5,122 aggregate metres) which included 7 exploration holes to test the western portion of the Eagle Zone, 4 geotechnical holes, and 3 metallurgical holes.

In April 2010, Scott Wilson completed a NI 43-101 compliant update to previous resource and reserve estimates as part of a prefeasibility study. The update included holes drilled by Victoria Gold during 2009 and the resource estimate was constrained by a pit shell based on a gold price of US$1,050. All resources were classified as Indicated. The pit shell effectively represented a cut-off grade of 0.21 g/t Au and the resource totalled 154 Mt at an average grade of 0.65 g/t Au.

Scott Wilson estimated a corresponding reserve of 66 Mt with an average grade of 0.82 g/t Au. All reserves were classified as Probable and were estimated at cut-off grades by pit phase and by material type, averaging 0.35 g/t Au, and an assumed gold price of US$900/oz.

In 2010, Victoria Gold drilled 25 diamond drillholes (4,938 aggregate metres). All holes were HQ in size and drilled with a triple-core barrel, in order to minimize disturbance of the core and to maintain its orientation. Seven of the holes were drilled to quantify alteration: four to verify the absence of mineralization (condemnation holes), nine for exploration, and five for geotechnical purposes.

Data from the 2010 drill program was incorporated into a May 2011 NI 43-101 compliant update to previous resource and reserve estimates in advance of a feasibility study. At a cut-off grade of 0.35 g/t Au, the estimate comprised an Indicated Resource of 222.2 Mt with an average grade of 0.68 g/t and an Inferred Resource of 77.9 Mt with an average grade of 0.60 g/t Au.

In 2011, 15 HQ holes (3,599 aggregate metres) were drilled to gain additional information on bulk density, alteration, and oxidation of the mineralized zone.

Wardrop considers all four resource estimates described above to be both relevant and reliable.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 GEOLOGICAL SETTING

7.1.1 REGIONAL GEOLOGY

The Property is located in the north-central part of the Selwyn Basin, which is a fault-controlled epicratonic basin. The stratigraphy of this basin is divisible into four predominantly clastic lithological units. From youngest to oldest they include, the Lower Schist, Keno Hill Quartzite, Upper Schist, and Hyland Group (formerly the Grit Unit). The Lower Schist is probably of Mesozoic age and the Upper Schist and Keno Hill Quartzite are of Paleozoic age (Devonian-Mississippian). The Hyland Group is of Proterozoic to Lower Cambrian age. These units have been juxtaposed by laterally-extensive, northward-directed thrusting that occurred in early Cretaceous time.

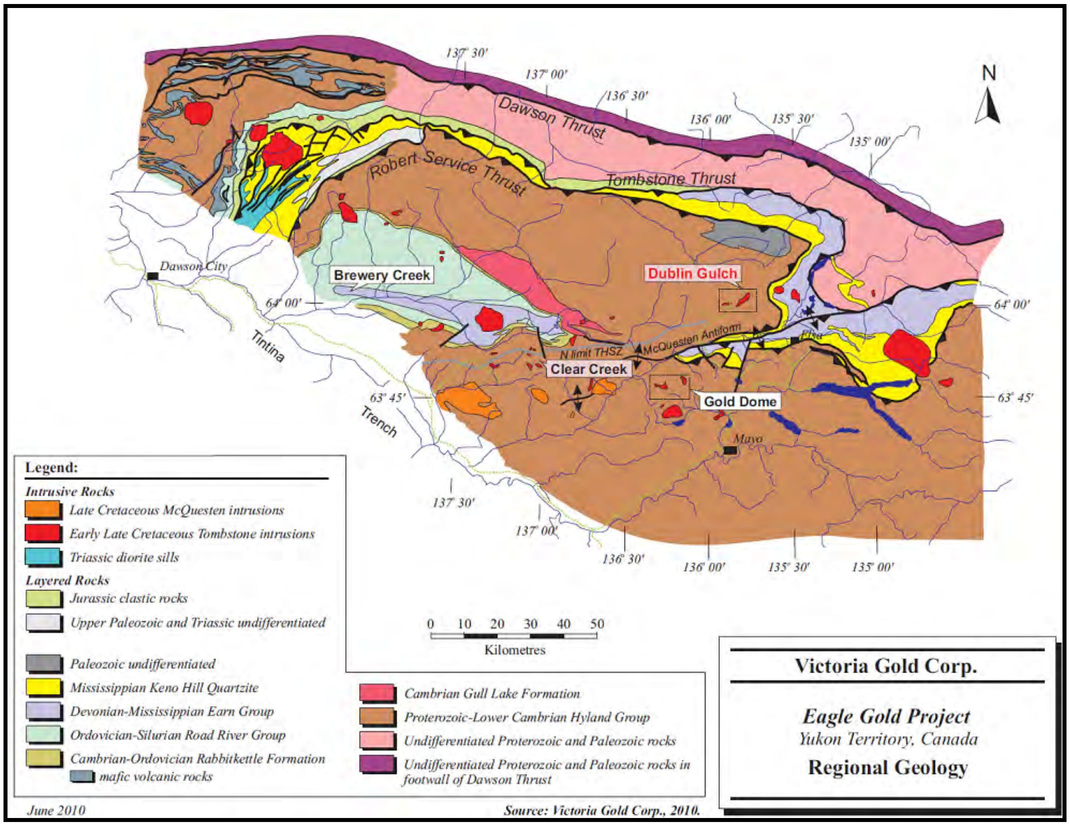
There are three principal thrust sheets known as the Dawson Thrust, the Tombstone Thrust, and the Robert Service Thrust. The Robert Service Thrust is proximal to the Property area and is inferred to have superimposed the Proterozoic–Cambrian age Hyland Group upon the Mississippian-age Keno Hill Quartzite (Figure 7.1).

Four phases of deformation have been documented. Only the first two resulted in the generation of penetrative structures. Thrusting during the first phase resulted in the widespread development of foliation that was subsequently deformed by gentle, regional-scale folding during the second phase of deformation. Several east-west trending, west-plunging anticlines in the Dublin Gulch area are attributed to this second deformational event.

During the mid-to-late Cretaceous period, there were three granitoid intrusion events: the Selwyn Suite (between 104 and 98 Ma), the Tombstone Suite (between 94 and 92 Ma), and the McQuesten Suite (64 Ma). The Selwyn and Tombstone intrusive events were probably synchronous with the second regional folding event. Intrusives are commonly emplaced within the Hyland Group, and less commonly within the Upper Schist.

Cretaceous-age deformation and intrusion are possibly related to north-northeast directed subduction and related arc-trench magmatism of the oceanic Farallon Plate beneath continental North America.

Figure 7.1 Dublin Gulch Property Regional Geology

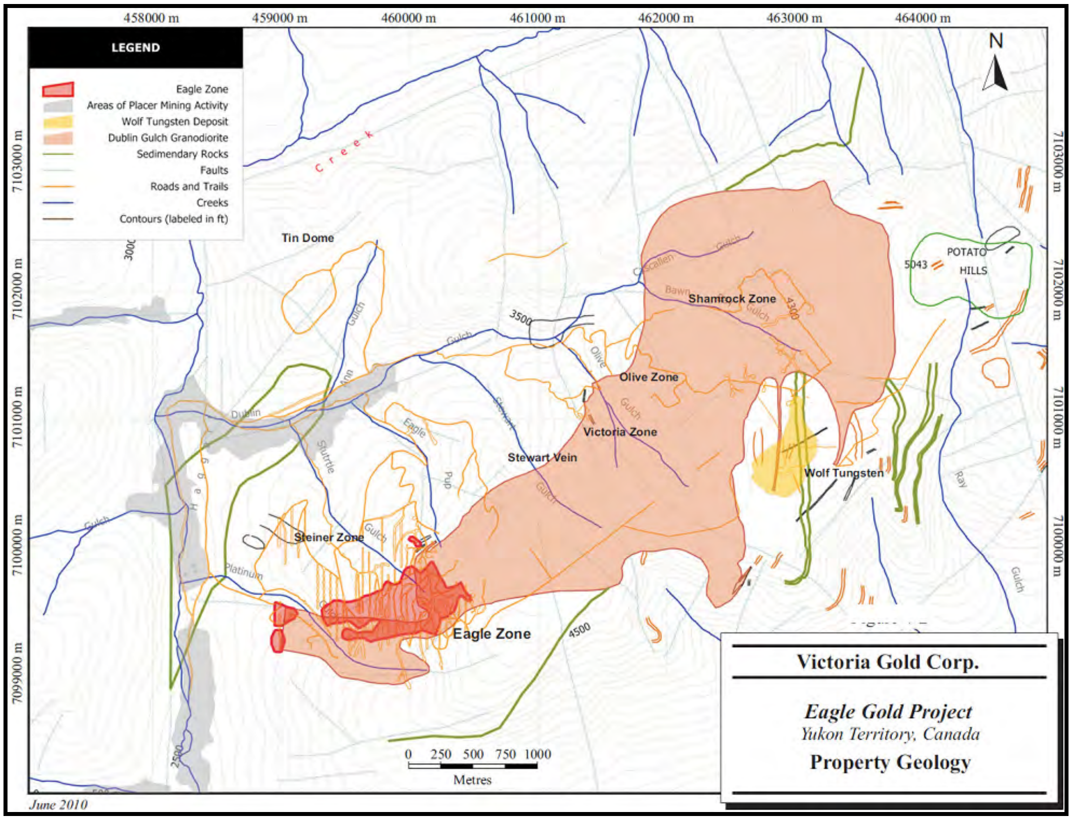


Numerous mineral deposits are associated with the Cretaceous-age intrusives and they are generally vein, shear, and skarn related. Gold, silver, lead, zinc and tungsten are the principal elements of economic interest. The Tombstone Suite forms part of the Tombstone Gold Belt, which is the eastern part of the Tintina Gold Province. The Tombstone Suite is the primary source of intrusion-hosted gold deposits in Yukon. The western portion of the Tintina Gold Province has been dextrally displaced approximately 450 km by the Tintina Fault and contains gold deposits that include Fort Knox, Pogo and Donlin Creek in Alaska. In Yukon, Brewery Creek and Dublin Gulch occur within the Tombstone Gold Belt.

7.1.2 PROPERTY GEOLOGY

The Property is located on the northern limb of the McQuesten Antiform and is underlain by Proterozoic to Lower Cambrian-age Hyland Group metasediments and the Dublin Gulch intrusion, a granodioritic stock. The stock has been dated at approximately 93 Ma, and is assigned to the Tombstone Plutonic Suite (Figure 7.2).

Figure 7.2 Dublin Gulch Property Geology



The Hyland Group is comprised of interbedded quartzite and phyllite. The quartzite is variably gritty, micaceous, and massive. The phyllite is composed of muscovite-sericite and chlorite. Limestone is a relatively minor constituent of this stratigraphic sequence.

The Dublin Gulch anticline, located midway between Dublin Gulch and Lynx Creek to the south, has folded the metasediments about an axis that trends at an azimuth of 070° and plunges gently to the west-southwest.

The metasediments are the product of greenschist-grade regional metamorphism. Proximal to the Dublin Gulch stock, they have undergone metasomatism and contact metamorphism. A hornfelsic thermal halo surrounds the stock and within the halo, the coarse clastic components of the Hyland Group have been altered to quartz-biotite; the argillaceous components to sericite-biotite-chlorite schist and the carbonates to marble, wollastonite-quartz skarn and pyroxenite skarn. The halo extends from 80 to 200 m outward from the intrusive.

The Dublin Gulch stock is comprised of four phases, the most significant of which is granodiorite. Quartz diorite, quartz monzonite, leucogranite and aplite comprise younger intrusive phases that occur predominantly as dikes and sills and cut both the granodiorite and surrounding country rocks. The stock has intruded the Hyland Group metasediments near their contact with the underlying Upper Schist.

The granodiorite stock is elongate, measuring approximately 5 km in length and trends 070°. It has a maximum width of approximately 2 km. The long axis of the stock is coincident with the axis of the interpreted Dublin Gulch anticline. Sheet-like sills of granodiorite extend from the stock and cut the metasedimentary strata at low angles.

The intrusive-metasediment contact dips shallowly to steeply to the north and northwest on the northern side of the intrusive, and steeply to the north or south along its southern margin. No chilled margin is apparent at the contact.

At least four periods of faulting have been documented in the Dublin Gulch area including low-angle thrusting and bedding-plane faults and normal faults with north, northeast, northwest, and easterly trends. North-trending faults are inferred to have displaced portions of the Dublin Gulch stock and one of these is interpreted to form the eastern boundary of the Eagle Zone.

Eagle Zone

The Eagle Zone gold occurrence is localized at the narrowest exposed portion of the stock, near its known western limit. The intrusive-metasediment contact is sharp but irregular and varies between steep attitudes that crosscut metasedimentary foliation, to shallow southwest dips parallel to foliation.

The Eagle Zone is comprised of sub-parallel extensional quartz veins that are best developed within the granodiorite proximal to both the hanging wall and footwall intrusive-metasediment contacts. Veining is apparently best developed on the hanging wall contact, but this may be more apparent than real as more drilling has taken place on the hanging wall side.

Veins are typically composed of white or grey quartz with subordinate potassium feldspar and strike at an azimuth of 060° to 085°. They typically dip 60° south to vertical, and range in width from 1 mm to more than 10 cm. Contacts are typically sharp. Vein densities range from less than one per metre to more than fifteen per metre, and average three to five per metre. The greatest concentration of veins appears to coincide with both the narrowest constriction as well as the local apex of the intrusion.

Sulphides account for less than five percent of vein material and occur in the center, on the margin, and disseminated throughout the veins. The most common sulphide minerals are pyrrhotite, pyrite, arsenopyrite, chalcopyrite, sphalerite, bismuthinite, molybdenite and galena.

Secondary potassium feldspar is the dominant mineral in alteration envelopes. Sericite-carbonate is generally restricted to narrow vein selvedges, although alteration zones of this type also occur with no obvious relation to veins.

Vein formation can be attributed to contrasts in cohesion and tensile strength between the intrusion and the enclosing metasediments. Embayments and narrow portions of the stock represent stress shadows that constitute favourable areas for rheological failure leading to the formation of extensional quartz veins.

Protrusions in the stock created favourable areas for the development of extensional shear-veining in the adjacent country rocks. Gold mineralization also occurs hosted within the metasedimentary rock package immediately adjacent to the granodiorite. This mineralization may be of potential economic importance, representing a significant resource.

7.2 MINERALIZATION

The Eagle Zone is the principal concentration of mineralization within the Property. Within the Eagle Zone, gold occurs in extensional quartz veins that are most abundant on the hanging and footwall contacts of the narrowest portion of the Dublin Gulch granodiorite near its known western limits. Subordinate quantities of gold mineralization occur in quartz veins within the adjacent metasediments. Veins strike at an azimuth of 060° to 85°, sub-parallel to the intrusive contact and are commonly fractured by repeated movement along the host fractures.

The Eagle Zone is irregular in plan and is approximately 1,600 m long (east-west) and 600 m wide north-south. The Eagle Zone is near-vertical and has been traced for about 500 m below surface. Current drilling indicates that the mineralization is relatively continuous along this length and is open in several directions, including at depth.

Mineralization occurs as elemental gold, both as isolated grains and most commonly in association with arsenopyrite, and less commonly with pyrite and chalcopyrite. The sulfide content in the veins is typically less than 5%; and, is less than 0.5% within the deposit overall, with 1 to 4% carbonate (calcite) present as a buffer, acid generation from the ore and waste rock is not expected to be an issue (Stantec 2011). In descending abundance, the principal sulphides present are pyrrhotite, pyrite, arsenopyrite and chalcopyrite. Minor sphalerite, galena and molybdenite are also present. Scorodite and limonite are common weathering products.

Several other showings occur within the Property. Most of these are related to the Dublin Gulch granodiorite and are in part characteristic of RIRGS deposits similar to the Eagle Gold deposit. Others are more characteristic of later structurally-hosted overprinting mineralization. The Wolf (formerly Mar) tungsten deposit is located approximately 3 km east-northeast of the Eagle Zone. Scheelite occurs in a calc-silicate skarn in metasedimentary rocks adjacent to the Dublin Gulch granodiorite.

A number of gold-bearing quartz-sulphide veins occur around the margins of the Dublin Gulch Stock. These veins are narrow (centimetre-scale), steeply dipping and generally strike at about 070°. Silver-quartz-sulphide veins also occur. These distal veins are infrequent relative to the sheeted vein system within the Dublin Gulch Stock and due to their small size, they are not a significant part of the mineral resource.

Placer gold mining in the Dublin Gulch area began in 1895 and approximately 110,000 oz have been recovered to date. This is what first drew attention to the area. Placer gold is still being actively mined, particularly in the Haggart Creek area. Current production is unknown.

8.0 DEPOSIT TYPES

The Dublin Gulch intrusion is part of the mid-Cretaceous Tombstone Suite of Alaska-Yukon granitoids, and the Eagle Zone belongs to the RIRGS class of mineral deposits. Gold mineralization in the Dublin Gulch intrusion shows strong similarities to the Fort Knox deposit in Alaska, including the presence of sheeted quartz veins and elevated levels of bismuth, arsenic, tellurium, and tungsten. The veins in the Eagle Zone consist of early quartz-sheelite with varied occurences of pyrrhotite, pyrite and arsenopyrite, and are associated with K-feldspar and minoralbite alteration envelopes. These grade out to and are overprinted by sericite-carbonate and occasional chlorite alteration (Maloof 2000). The metasediments marginal to the intrusion are mineralized as well, but the bulk of the gold is hosted within the intrusive. The Dublin Gulch stock is an elongate body trending 070°, with surface dimensions of approximately 6 x 2 km. Exploration for additional gold deposits is ongoing with good potential for further discoveries.

The Dublin Gulch intrusion is composed of mainly biotite hornblende granodiorite. Minor phases of diorite and granite occur within the intrusion. The overall low sulfide content of the rock, commonly less than 0.5%, and the presence of carbonate (Calcite 1 to 4%) make the rock non-acid generating. In a report prepared by SRK for Stantec in April 2011 (*Geological Characterization and Water Quality Predictions – Eagle Gold Project*), SRK states that acid rock drainage (ARD) is not anticipated for the Project.

RIRGS class of mineral deposits are deposits that are:

- metaluminous subalkalic intrusions of intermediate to felsic composition that lie near the boundary between ilmenite and magnetite series
- associated with carbonic hydrothermal fluids
- a metal assemblage that variably combines gold with elevated bismuth, tungsten, arsenic, molybdenum, tellurium, and antimony as well as low concentrations of base metals
- associated with commonly weak hydrothermal alteration that is areally restricted
- in a tectonic setting well inboard of inferred or recognized convergent plate boundaries
- located in magmatic provinces best or formerly known for tungsten and/or tin deposits.

Additionally:

- RIRGS deposits are best developed in intrusions that were emplaced into ancient continental margins behind accretionary or collisional orogens and subduction-related magmatic arcs. Preferred host strata include reducing basinal miogeoclinal sedimentary or metasedimentary rocks.
- Thermal gradients surrounding cooling plutons are steep and result in temperature-dependent concentric metal zones that develop outward from pluton margins for distances up to a few kilometres or just beyond the thermal halo.
- Skarns and replacements are generally pluton-proximal with an increase in structural control on more distal mineralization. There is also crustal-scale vertical zonation with epizonal occurrences forming at shallower levels.
- The most distinctive style of gold mineralization in RIRGS deposits is sheeted arrays of parallel, low-sulphide, single-stage quartz veins that are found over widths of 10s to 100s of metres and are preferentially located in the cupola of the pluton. These veins are unlike multidirectional, interconnected stockworks characteristic of porphyry systems or antithetic tensional vein arrays typical of orogenic deposits.
- Mineralized plutons have characteristics that indicate the likelihood of generation of hydrothermal fluids, high volatile contents, fluid exsolution, rapid fractionation and zonation, including the presence of porphyritic textures, aplite and pegmatite dikes, quartz and tourmaline veins, greisen alteration, miarolitic cavities and unidirectional solidification textures, preferably in pluton apices.
- RIRGS deposits are associated with felsic, ilmenite-series plutons that lack magnetite, have low magnetic susceptibilities and aeromagnetic response, and have ferric-ferrous ratios of less than 0.3. These types of plutons are uncommon in arc and fore-arc settings where orogenic gold deposits are most common.
- Intrusion-related deposits are coeval with their associated, causative pluton.

9.0 EXPLORATION

In 2009, Victoria Gold drilled 14 core holes within the Eagle Zone for exploratory, geotechnical, and metallurgical assessment. This program was described by Scott Wilson (2010). During 2010 and 2011, Victoria Gold carried out a program of drilling that is described in Section 10.0. Other work carried out on the Property by Victoria Gold in 2010 and 2011 included surface grab sampling, mapping, and other core drilling programs in areas outside of the Eagle Zone, which are not relevant to the resource estimate that follows.

10.0 DRILLING

Previous Project drilling has been accomplished by several different companies, from 1977 through 2010, as indicated in Table 10.1. A summary of drilling activity by drilling type is provided in Table 10.2. Discussions of the previous drilling are included in prior NI 43-101 technical reports issued by Victoria Gold (StrataGold) as listed in Section 27.0. Drilling by Victoria Gold in 2011 is discussed in this section, and was completed for in-fill exploration, metallurgical samples, and geotechnical information.

Table 10.1 Summary of Previous Exploration

Year	Company	Other Work Performed	Type	No. of Holes	Meterage (m)
1977	Canada Tungsten	• 100 trenches mapped and sampled	DDH[1]	65	11,315
1986	Queenstake Resources Ltd.	-	DDH	4	705
1989	Can Pro	-	DDH	4	653
1991	Ivanhoe Goldfields	• 5 trenches, 921 channel samples	DDH	16	2,410
1991	Amax Gold Inc.	-	DDH	13	1,943
1992	Amax Gold Inc.	• sampling, mapping, property evaluation	RC	56	7,729
1993	Amax Gold Inc.	• trenching, soil sampling	DDH	10	1,476
1993	Ivanhoe Goldfields	• geophysics, baseline environmental monitoring, mineralogical studies	RC	10	2,078
1994	Arum Geological	• metallurgical studies soil sampling	-	-	-
1995	First Dynasty Mines	-	RC	40	8,354
1995	First Dynasty Mines	-	DDH	25	4,946
1996	New Millennium Mining Ltd.	-	DDH	21	4,114
1996	New Millennium Mining Ltd.	-	RC	37	5,271
1996	New Millennium Mining Ltd.	-	Auger	19	189
1996	New Millennium Mining Ltd.	-	Water	33	797

table continues…

Year	Company	Other Work Performed	Type	No. of Holes	Meterage (m)
2004	StrataGold	• geophysics, lithological interpretations	-	-	-
2005	StrataGold	• 2,418 regional stream sediment, 534 rock samples • soil and silt samples to follow up geophysical anomalies and structures • 11 trenches dug and sampled (347) and historic core reclogged and resampled	DDH	34	8,105
2006	StrataGold	-	DDH	10	4,282
2007	StrataGold	-	DDH	20	5,627
2008	StrataGold	-	DDH	15	4,249
2009	StrataGold	• 10 trenches on Olive (5) and Shamrock (5)	DDH Geotech	10 4	5,122 1,321
2010	StrataGold	-	DDH Geotech	20 5	3,592 1,341
2011	StrataGold	-	Geotech	3	616

Source: Scott Wilson 2010, Wardrop 2011
Note: [1]DDH – diamond drillhole

Table 10.2 Drilling Summary

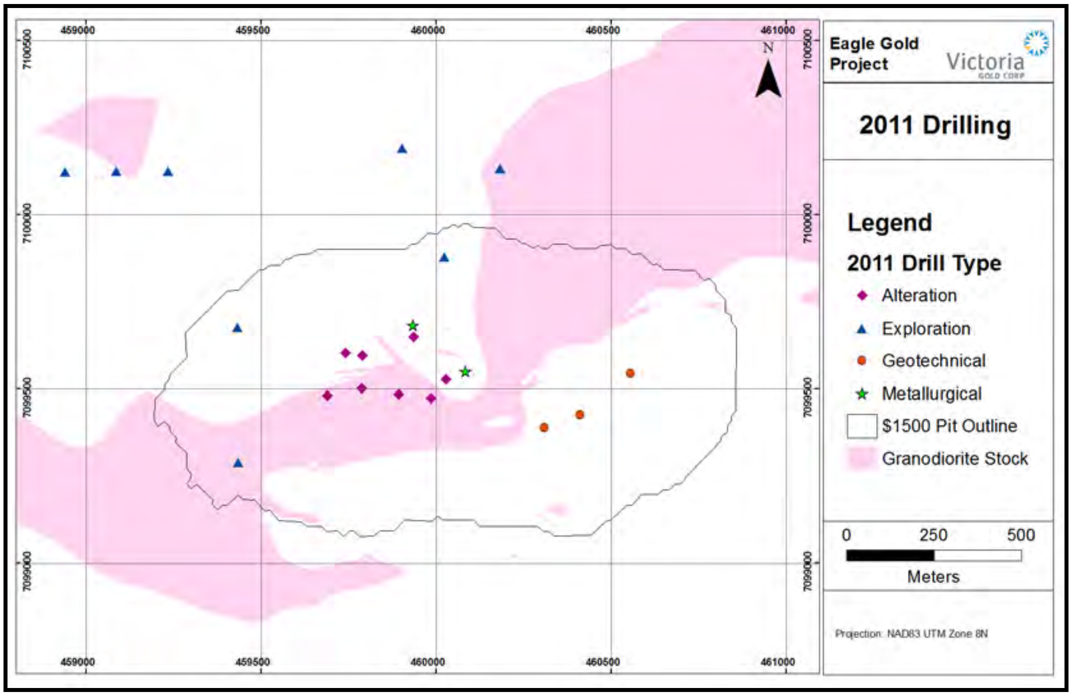
Hole Type	No. of Holes	Meterage (m)
DDH	267	58,539
RC	143	23,432
Auger	19	189
Water	33	797
Geotech	12	3,278
Total	**471**	**86,235**

In 2011, Victoria Gold drilled 22 diamond drillholes (5,144 aggregate metres). All holes (with the exception of metallurgical sample holes) were HQ in size and drilled with a triple core barrel to minimize disturbance of the core and to maintain its orientation. Sixteen of the holes were drilled for alteration and in-fill exploration information, three for geotechnical purposes, and two PQ size holes were drilled for metallurgical sampling. The holes are listed in Table 10.3 and their locations shown in Figure 10.1.

Table 10.3 Eagle Property Drilling 2011

Hole ID	North	East	Elevation	Length (m)	Zone	Type
11BGC-GTH-10	460410.70	7099425.00	1321.85	199.95	Eagle	Geotech
11BGC-GTH-11	460555.30	7099544.00	1336.03	195.38	Eagle	Geotech
11BGC-GTH-12	460309.20	7099389.00	1311.52	220.37	Eagle	Geotech
DG11-412C	459688.60	7099480.00	1064.52	199.03	Eagle	Exploration
DG11-413C	459740.10	7099603.00	1090.72	201.17	Eagle	Exploration
DG11-414C	459786.10	7099502.00	1107.21	204.12	Eagle	Exploration
DG11-415C	459787.70	7099595.00	1111.18	201.17	Eagle	Exploration
DG11-416C	459892.10	7099485.00	1152.98	201.17	Eagle	Exploration
DG11-417C	459935.10	7099650.00	1175.14	201.17	Eagle	Exploration
DG11-418C	459984.10	7099473.00	1197.67	201.17	Eagle	Exploration
DG11-419C	460027.40	7099527.00	1229.15	201.17	Eagle	Exploration
DG11-421C	460182.30	7100133.00	1090.66	267.31	Eagle	Exploration
DG11-422C	459903.90	7100193.00	1072.47	249.94	Eagle	Exploration
DG11-424C	459434.00	7099289.00	943.00	551.08	Platinum	Exploration
DG11-427C	460023.00	7099880.00	1151.96	373.99	Eagle	Exploration
DG11-429C	458940.20	7100123.00	886.37	343.51	Steiner	Exploration
DG11-432C	459234.10	7100125.00	957.66	224.64	Steiner	Exploration
DG11-435C	459432.10	7099677.00	988.67	477.62	Eagle	Exploration
DG11-441C	459085.30	7100126.00	924.82	276.45	Steiner	Exploration
DG11-PQ-04	460083.60	7099549.00	1250.29	80.77	Eagle	Metallurgy
DG11-PQ-05	459931.90	7099683.00	1162.84	73.15	Eagle	Metallurgy
			Total	**5,144.33**	-	-

Figure 10.1 Location of 2011 Drillholes



Source: Victoria Gold, 2012

Drilling was done by Lyncorp of Smithers, BC. Holes were surveyed by a downhole instrument from Reflex Instruments as soon as the hole was stable and with no interference from casing, at 75 m intervals thereafter, and at the bottom of the hole.

Core was transferred from the core tube into boxes by the drill crew who marked the end of each run with a wooden marker. Hole depth was measured in imperial units (feet) and subsequently converted into metric units (metres) on the depth markers. Core was transported by the drilling company from the drill site to the core logging facility that is located in the camp complex.

Core was laid out for logging inside the core shed and then measured for rock quality designation (RQD) and recovery and permanent (aluminum) labels were affixed to the core boxes. Core was then washed and marked for sampling. Most samples were 1.5 m in length but did not exceed 2 m in length and were shorter if lithological contacts or significant variations in sulphide content were present. In general, the entire length of the hole was sampled.

Core logging observations were recorded on paper and subsequently transferred to a computer database. Significant observations include rock type, weathering, alteration, foliation angle and intensity, fracture angle and intensity as well as descriptions of any veins present. Several types of alteration (oxidation, silicification, sericitization) were quantified from 0 to 5 with 0 equating to no alteration and 5 representing complete alteration. There is no unique convention with respect to fracture intensity although the attempt was made among those logging to apply the same criteria.

When logging was complete, sample tags were affixed to the core box at the start of each sample interval. Each sample tag was comprised of three pieces: one for the core box, one for the sample bag into which the sample was placed, and the third which remains in the sample book.

Given the variable orientation of mineralized quartz veins the relationship between sample length and thickness of mineralization is also variable. However, given that the sampling was continuous and the mineralization is a bulk target, the variability of this relationship is not considered to be detrimental to the objectives of the sampling program.

In addition to the procedures described above which pertain to all holes drilled in 2011, those holes drilled for geotechnical testing were logged by BGC, geotechnical specialists, for a range of parameters relating primarily to pit design.

Because the geology of the Eagle Zone has been investigated in reasonable detail, the results of these drill programs were consistent with expectations and did not materially alter the existing interpretation of the deposit.

Core was sawn in half by diamond saw; one-half was bagged for assaying and the other half was kept for reference. The sample to be analyzed was put in a plastic bag that contained another small zip-lock type bag with a sample tag and a piece of plastic flagging bearing the sample number. The sample number was also written on the outside of the bag. Each bag was then closed by cable ties and combined with others to fill woven plastic “rice bags” for shipping. Each rice bag was labelled with the numbers of the samples it contained. The rice bags were expedited by a contract shipper who picked up the samples in camp and delivered them to the assigned laboratory in Whitehorse and Vancouver. Standard chain-of-custody forms were used for the shipping process.

The boxes with the half-core are stored out of doors on covered racks. Due to limited rack space, older core is presently being transferred to storage pallets.

Holes were generally sampled in their entirety unless recovery was particularly poor in any single drilled interval, or the recovered material was considered highly unlikely to be significantly mineralized. Figure 10.1 shows the locations of 2011 drillholes.

SRK concludes the drilling methods used by Victoria Gold in 2011 are consistent with industry standard drilling procedures, and are sufficient to augment the previous drillhole database for the intended purposes of in-fill exploration, metallurgical samples and geotechnical information.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

The sample preparation, analyses and security procedures in use by Victoria Gold for 2011 are the same as used in previous drilling programs conducted in 2010, and are repeated here for the 2011 drilling that augmented the database that was used for this feasibility study.

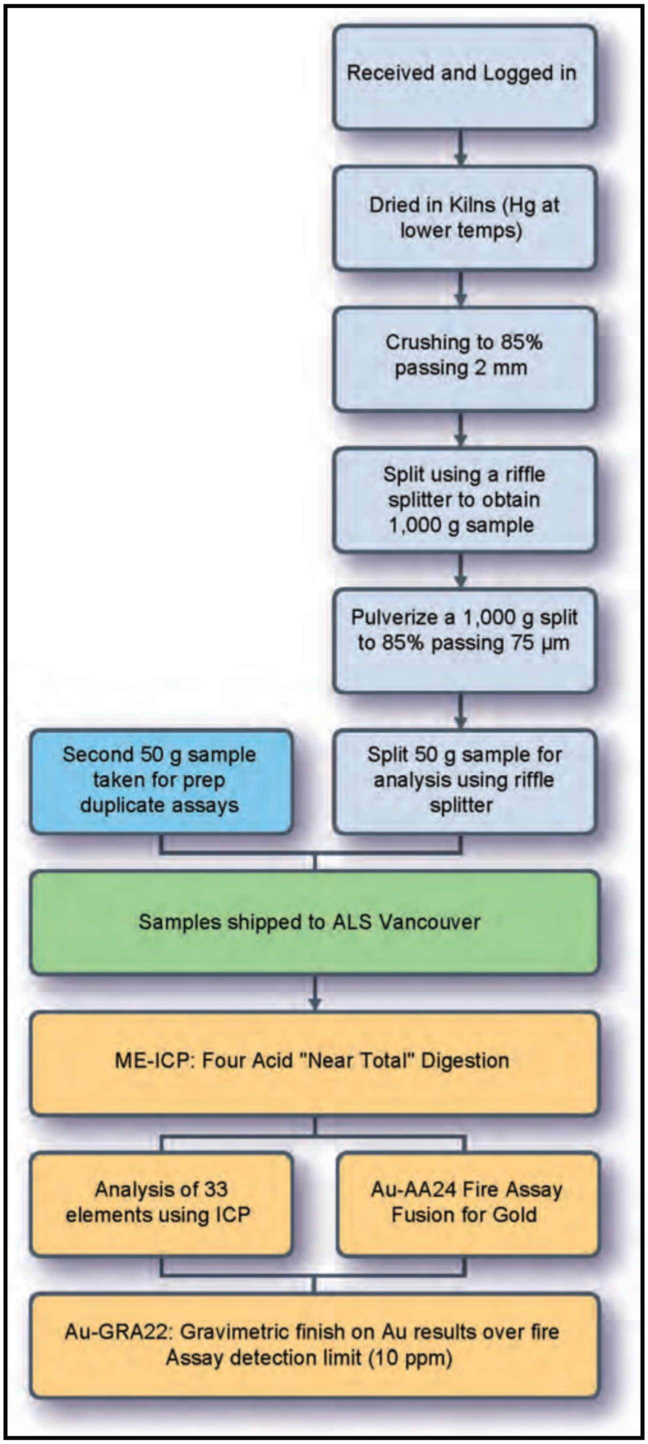
11.1 SAMPLE PREPARATION AND SECURITY

Samples were shipped from camp to the ALS Chemex laboratory in Whitehorse. The samples were dried, crushed, split and pulverized, and a 50 g split was sent to the ALS Chemex laboratory in North Vancouver for analysis.

The analytical procedure used by ALS Chemex is described in Section 11.2. The sample preparation and analytical procedure is summarized in Figure 11.1.

Chain-of-custody measures under Victoria Gold's control were followed with the shipping of samples from camp to Whitehorse and from Whitehorse to North Vancouver. Receipt of analytical results was restricted to key personnel.

Figure 11.1 Eagle Sample Preparation and Analytical Flowchart



11.2 ANALYTICAL PROCEDURES

The standard analytical procedure was carried out at ALS Chemex in North Vancouver as follows:

- A 50 g sub-sample was taken from the 150 g pulp sample by withdrawing two to three scoops of material from different places in the envelope.
- The 50 g sample was subjected to a gold fire assay with atomic absorption spectroscopy and a 27 to 33 element inductively coupled plasma (ICP) analysis consisting of a four-acid “near total” digestion by hydrofluoric acid (HF)-nitric acid (HNO_3)-perchloric acid ($HClO_4$) digestion, hydrochloric acid (HCl) leach and ICP-atomic emission spectroscopy (AES).
- All results with gold greater than 10 ppm were subjected to a fire assay with a gravimetric finish (Wardrop 2009).

Approximately 5% of assays were reassayed for gold alone by Inspectorate Exploration & Mining Services Ltd. (Inspectorate) laboratories in Richmond as the umpire (external check) laboratory.

The ALS Chemex laboratory in Vancouver, the primary assay lab in use for the Project, is accredited to International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17025-2005 standards under the Standards Council of Canada, which provides specific assessments of the laboratory’s analytical capabilities. ALS Chemex laboratories in North America are also ISO 9001:2008 registered through SAI Global, which provides evidence of a quality management system (QMS) in place. ISO registration and accreditation provides independent verification that a QMS is in operation at the analytical laboratory. ALS Chemex is a world-wide based analytical company that has been providing analytical services to the mining and exploration industry of North America for over 30 years. The ALS Chemex analytical laboratory is located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. ISO registration applies to the ALS Chemex preparation lab located at 78 Mt. Sima Road, Whitehorse, Yukon, Canada.

Inspectorate, 11620 Horseshoe Way, Richmond, BC, Canada is used as a secondary lab for check assays. Inspectorate has ISO 9001:2008 certification and is an internationally known and reputable analytical laboratory that provides assay services to the exploration and mining industry.

11.3 QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The 2011 drill programs employed blanks, duplicates and standards as part of the quality assurance/quality control (QA/QC) program. The following description of the materials, procedures and results has been adapted from a 2010 QA/QC document prepared by Victoria Gold.

Crushed dolomite, purchased from a garden-supply center, was used as blank material. Blanks were made by scooping roughly 200 g of crushed dolomite into a bag which was then added to the sample stream. Three blank controls were added for every 100 samples, usually where the sample numbers ended in 16, 56 and 96, although some were added in other locations according to local mineralizing conditions and at the discretion of the logging geologists.

Drill core duplicates were obtained by submitting both halves of the core for analysis; with one-half representing the original (normal) sample and the other half the duplicate. The gap thus left in the core box was marked by a piece of wood or polyvinyl chloride plastic pipe.

Preparation duplicates were collected at the sample-preparation stage by splitting a crushed portion of the sample, which was then pulverized. These samples were then issued to the assaying laboratory for analysis.

Standard Reference Material (standards) were obtained from Analytical Solutions Ltd., Toronto, who supplied six certified Ore Research & Exploration Assay Standards (OREAS). These are listed in Table 11.1, together with their mean values and lower and upper limits of two standard deviations.

Table 11.1 Standard Reference Material Statistics

OREAS Standard	Mean Value (Au ppm)	Low Threshold (Au ppm)	High Threshold (Au ppm)
152a	0.116	0.106	0.126
5Pb	0.098	0.092	0.105
52c	0.346	0.312	0.379
50c	0.836	0.78	0.891
15Pa	1.02	0.96	1.07
15Pb	1.06	1.00	1.12
6Pc	1.52	1.39	1.66
60b	2.57	2.35	2.78

11.4 2011 QA/QC RESULTS

SRK examined the resource database inclusive of 2011 drill results. The 2011 drill programs employed blanks, duplicates and standards as part of the QA/QC program, in a similar fashion to 2010 QA/QC procedures.

All 2011 blank samples retuned assays less than the upper limit of 0.025 g/t Au, and only one sample exceeded 0.010 g/t Au.

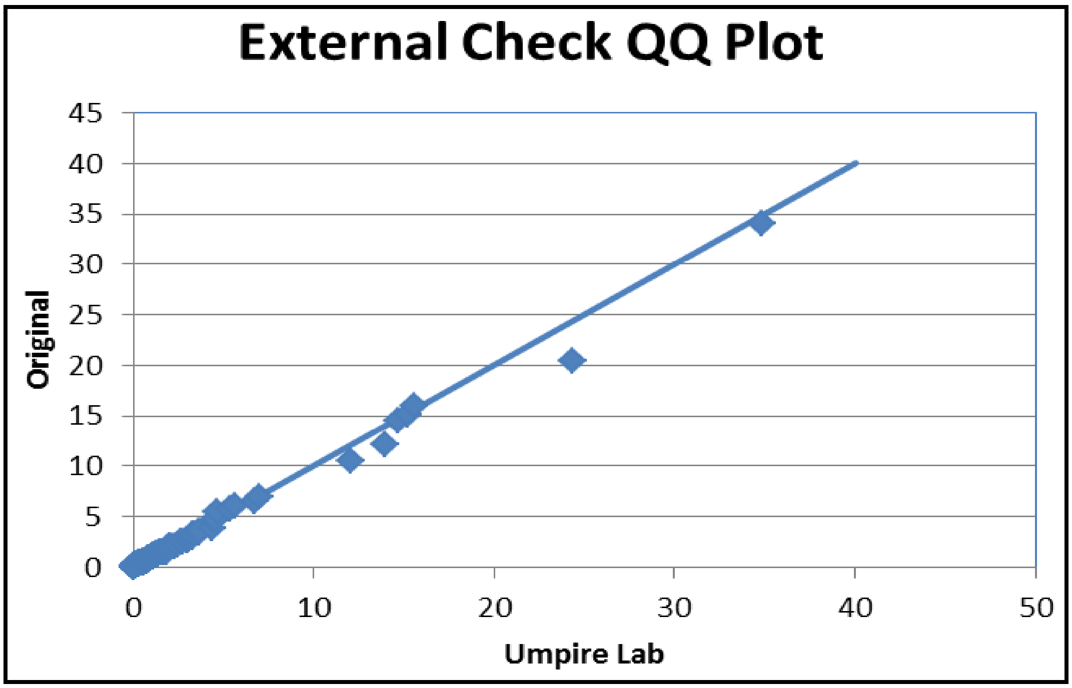
There were 187 standards submitted with drilling samples in 2011 and 3 were outside the two-standard deviation (2-SD) fail threshold, 1 was for samples in a non-mineralized zone and did not require re-assay. The other two standards that failed are: one 15Pa standard at below the three-standard deviation (3-SD) limit, and that sample batch is being re-assayed, and one 50Pb standard that fell above the 2-SD and inside the 3-SD limits and that batch is also being re-assayed.

Analyses of all other standards that accompanied drill core samples in 2011 fell within two standard deviations of the expected mean; therefore, did not necessitate the re-analysis of any other batches of sample materials.

Additional sample check procedures completed in 2011 included external analytical checks at another laboratory, field duplicate analyses, and sample preparation duplicate analyses. Quantile-Quantile (Q-Q) plots of these checks procedure results are shown in Figure 11.2, Figure 11.3, and Figure 11.4. The results indicate close correlation of original assays with check re-assays as well as for field duplicate and sample-preparation duplicate assays.

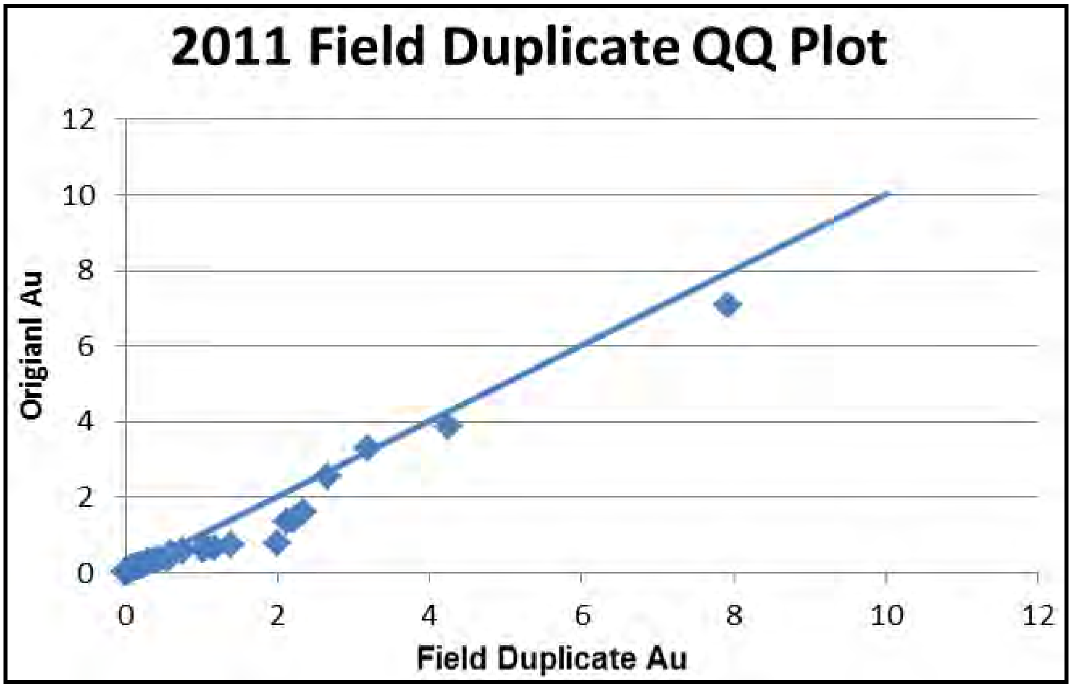
SRK considers the 2011 sampling, sample preparation, security, analytical procedures, and QA/QC procedures to be consistent with industry norms, and the results obtained verify the data as acceptable for use in resource estimation.

Figure 11.2 Q-Q Plot of Umpire and Original Assays – Check Assays



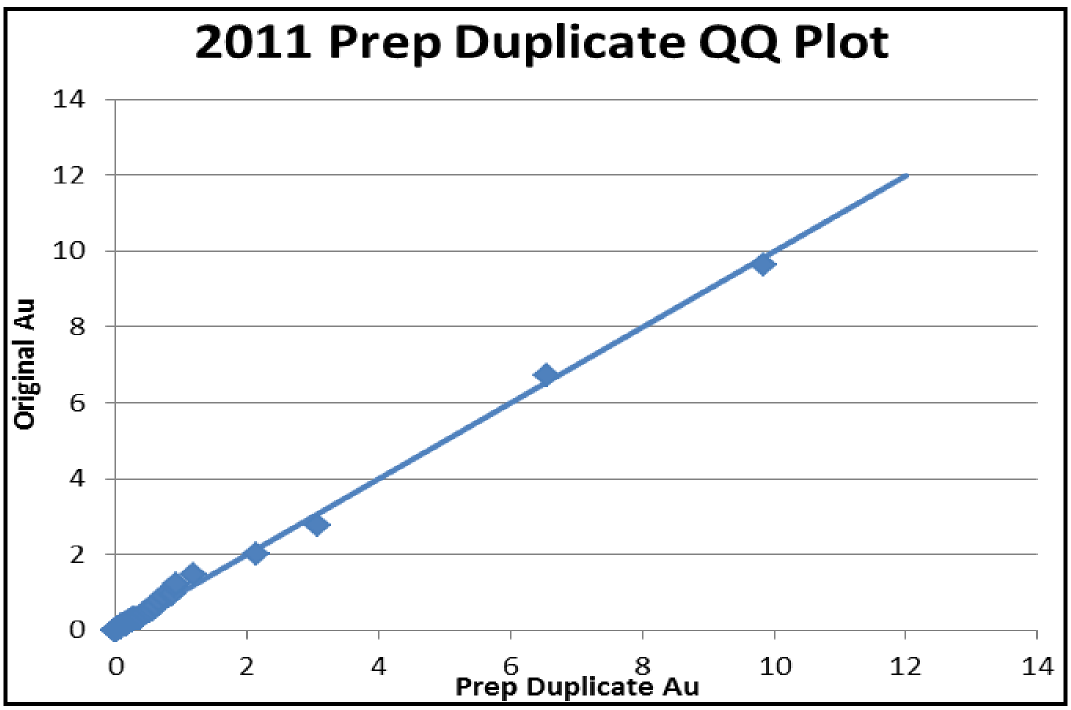
Source: Victoria Gold, 2012

Figure 11.3 Q-Q Plot of Original and Field Duplicate Core Samples



Source: Victoria Gold, 2012

Figure 11.4 Q-Q Plot of Original and Sample Preparation Duplicate Samples



Source: Victoria Gold, 2012

12.0 DATA VERIFICATION

Previous work by others has verified the database as sufficient for resource estimation. SRK notes the following paragraphs excerpted from Wardrop's report on resources dated February 2009 (underline added by SRK).

2006 Work

Wardrop completed an initial data validation check on 24 drillholes from the 1991, 1992, 1995, 1996 and 2005 drill programs from copies of original drill logs and assay certificates with the database. Validation was conducted on the assay information by checking the sample intervals and corresponding gold values and sample identification numbers. Survey depth information was compared to corresponding dip and azimuth with <u>no errors reported</u>.

The percentage of errors was larger than the 1% threshold required by Wardrop, so further database verification was necessary. In reviewing the errors, 60 of 154 were found to relate to two drillholes from the 1991 drill program. Wardrop decided to complete a 100% check on the 14 remaining drillholes from the 1991 drill program. Of the 1,266 records in the 14 drillholes, only six errors were identified.

2008 Work

Wardrop completed an initial data validation check on the 45 drillholes from the 2006-2007 and 2008 drill program. The database was manually compared to copies of original drill logs and assay certificates. Validation was conducted on the assay information by checking the sample intervals and corresponding gold values and sample identification numbers. Because data transfer was electronic, there seemed to be little chance for error in the nominal assay values, so checking was limited to samples that assayed above or below detection limits. This also filtered the data set down to near the 5% of data check level prescribed for this report. From the 2006-2007 drill programs, 361 of the 7,220 samples were checked, and there were four inconsistencies. The <u>inconsistencies appeared to be rounding errors</u> that occurred in the last two decimal places (typically .005 was imported as .01). Survey depth information was compared to corresponding dip and azimuth. Overall<u>, the percentage of errors was below the 1% threshold required by Wardrop</u>, so the database was accepted for resource estimation purposes.

SRK's responsibility for this feasibility study was limited to resource modelling and resource estimation of the Eagle Gold deposit. SRK's resource model and stated resources in Section 14.0 of this report have been incorporated into Wardrop's current pit optimization, mine planning, and reserves work. Data verification was conducted by SRK on a limited basis, for the purpose of a resource model update, as database verification has been previously done by others for previous resource statements.

12.1 PROCEDURES

SRK's data verification consisted of:

- a site visit to verify property location and access, drillhole collar locations, outcropping mineralization, and verification of mineralization and alteration in drill core
- comparison at site of half core for six representative drillholes with drillhole assays from the database, lithology, and alteration
- spot checking of drillhole assays in the database against copies of the original assay certificates
- simple statistical evaluation
- examination of the drillholes, assays, geology solids, and grade shells using Leapfrog® software for 3D visualization.

The results of this data verification are presented below.

12.1.1 SITE VISIT

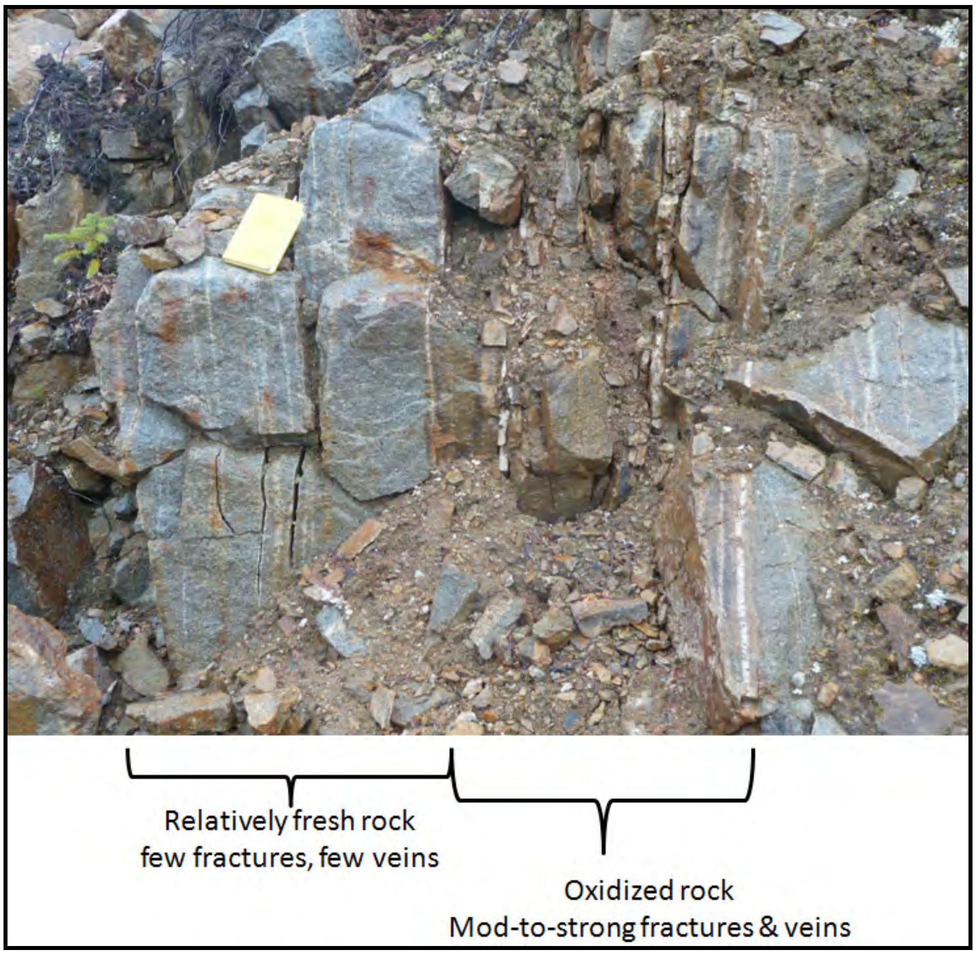
A site visit was conducted on September 22 and 23, 2011, by SRK geologist and QP Allan Moran, CPG, B.Sc. The location of two drillhole collars, DG10-406C and DG10-407C, were verified as to collar locations with a hand held global positioning system (GPS) to within 2 to 3 m in X-coordinates, and 0 to 9 m in Y-coordinates. Most of the drillhole collar Z-coordinates fit the 1 m accuracy topography to within ±1 to 2 m, as examined in modelling software. It was also noted that some drillhole collar Z-coordinates do not plot within 1 or 2 m on topography; several holes being both above and below topography. Site inspection noted that the collar location of some holes could in fact be higher or lower than topography by 3 to 5 m, depending upon when the drillhole pad was constructed relative to the time the 1 m topography was created. Some of the drill pads are either on dozer constructed fill or have been cut down from original topography, as the deposit is located on a hillside that is locally steep. Therefore, drill collar coordinates, which were surveyed, are accepted as the collar coordinates; and collar elevations were not adjusted to fit the 1 m topography.

Attention was paid on the site visit to the oxidation state of mineralization in outcrop and in core. This is important to the understanding and definition of an oxide surface in the geological model. The importance of the oxide surface is that drillhole oxide codes from drillhole logs in the shallow sub-surface are mixed, suggesting a substantial amount of fresh rock (oxide codes of 0, 1, or 2) mixed in with oxidized rock (oxide code of greater than or equal to 3). The oxide code has particular relevance to the recovery of gold from heap leaching. KCA test results indicated that

Type A oxide rock (oxide code greater than or equal to 3) has a metallurgical recovery of 79%, Type B (oxide code less than 3 and sericite less than 3) has a recovery of 68%; Type C rock (oxide code less than 3 and sericite greater than 3) has a recovery of 73%.

Observations at site of core and surface outcrops suggest that oxide codes in drillhole logs may have been defined based on the relative amount of oxidation noted in the host rocks, not necessarily the amount of oxidation present in gold bearing veins. That is to say, there is un-oxidized granodiorite next to oxidized quartz-sericite-gold bearing veins. This is an important distinction. If the vein density is low, yet the rock is still mineable grade, the core or RC cuttings may appear as a relatively low oxide code when the veins are indeed well oxidized. Figure 12.1 illustrates the problem.

Figure 12.1 Photograph of Outcrop - Oxidized Sheeted Quartz Veins in Relatively Fresh Granodiorite



Source: SRK, October 2011

A horizontal drillhole through the outcrop shown in Figure 12.1 would have a mix of oxide codes, yet all the veins and fractures containing quartz and sericite are all oxidized, and that is where the gold is located. At a proposed approximate 6 mm crush size intended for the heap leach pad, the oxidized veinlets containing gold will be exposed to leach fluids even if hosted in largely un-altered and un-oxidized granodiorite. The oxidation state of veins and veinlets is important; the oxidation state of granodiorite (without veins and veinlets) is generally not. Figure 12.2 is a photo of core showing totally oxidized veinlets hosted in fresh granodiorite. It is the depth of oxidation in veins and veinlets that should define the base of oxidation surface, and that definition is not entirely possible with the mix of historical and current drill logs and in particular the mix of RC and core hole logs. Therefore, SRK took the approach of determining the base of oxidation as the base of the preponderance of oxide code 3 or greater. A trace of the interpreted base of oxidation was digitized in cross-section and linked section to section to create a surface, which was modified in long section and to individual holes to create the surface used in the model. Figure 12.3 and Figure 12.4 indicate the drillhole codes for oxidation of 3 or greater (green) and the interpreted oxidation surface (orange) in cross-section and long section.

Figure 12.2 Photograph of Core with Strongly Oxidized Quartz Veins and Veinlets within Fresh Granodiorite Core

Source: SRK, October 2011

Figure 12.3 Cross-Section 460000E Showing Oxidation Codes of 3 or Greater (Green) and Interpreted Oxidation Surface (Orange)

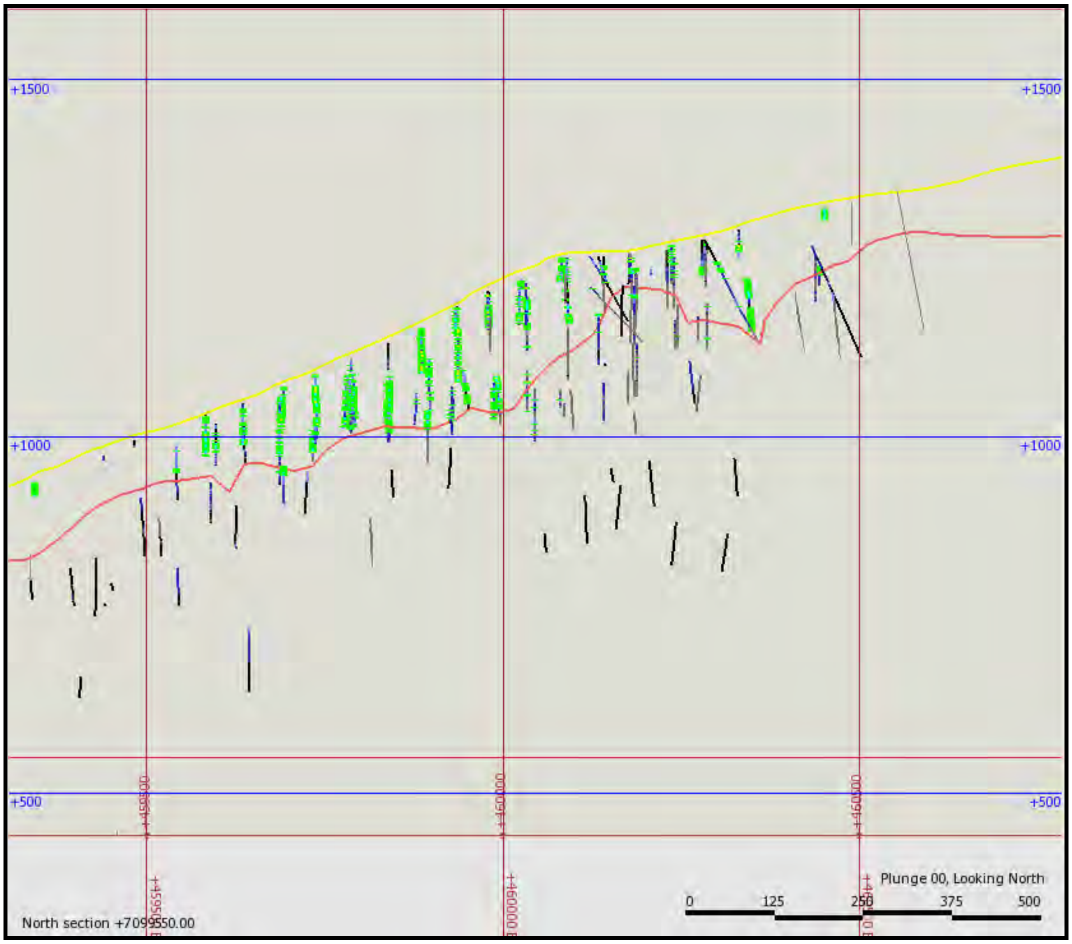
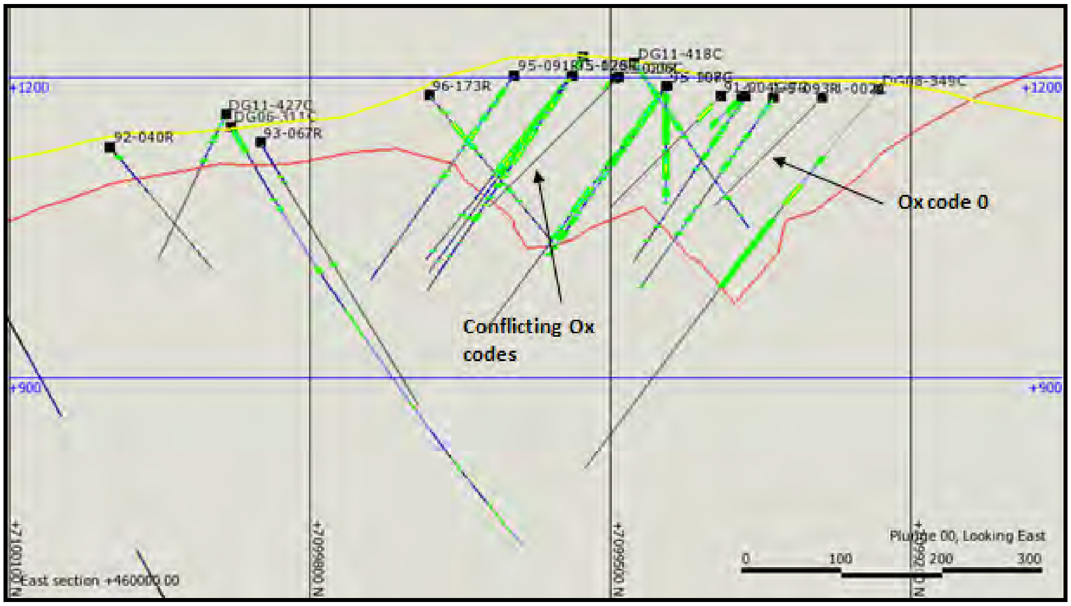


Figure 12.4 Long Section 7099550N Looking North, Showing Interpreted Oxide Surface (Orange Line) Relative to Topography (Yellow Line)



Source: SRK Leapfrog® software, October 2011

A general interpretative base-of-oxidation surface was generated by SRK for use in resource modelling. For the area above the interpreted oxide surface, some historical holes have no oxide code and/or low oxide codes (codes 0, 1, and 2) and are surrounded by holes with oxide code 3 or greater. These conflicting oxide codes are shown in Figure 12.3. For the reasons stated above, these low oxide codes (and no oxide codes) are considered non-representative of the oxidation state of the veins. Although it would have been better to historically have had more core holes, and coding of oxidation in veins rather than coding based on the overall general amount of oxidation in the RC cuttings or core, an overall base of oxidation can be defined. It is the oxidation in veins that is most important, not the oxidation state of un-altered granodiorite between the veins. SRK is of the opinion that sufficient information is available to define a base of oxidation surface that can be incorporated into the geological model for use in resource estimation.

The base of oxidation as shown in Figure 12.3 and Figure 12.4 roughly mimics topography, and generally dips downward where the mineralization is higher grade, corresponding to the structural vein control to mineralization and oxidation.

12.1.2 Spot Check of Six Representative Drillholes – Half Core Against Database

SRK examined core from the following six drillholes that represent the mineralization, alteration, and lithologies present at the Eagle Gold deposit:

- DG10-406C 0 to 200.25 m
- DG10-407C 0 to 171.20 m
- DG10-411C 0 to 153.00 m
- DG11-414C 0 to 204.12 m
- DG11-417C 0 to 201.17 m
- DG11-419C 0 to 199.88 m.

Half core was examined with respect to drillhole summary logs of lithology and alteration, and with respect to drillhole database assays for gold. The following observations were noted:

- Anomalous gold assays correspond to areas of quartz veining, with a general increase in the volume of quartz veining corresponding to a general increase in gold content.
- Most quartz veins are noted to be at angles of 40 to 80° to core axis; which would be equivalent in the angle core holes to steep-to-vertical dips of sheeted quartz veins in the angle core holes.
- Low percent total sulphides are present in un-oxidized core.
- Alluvial cover is relatively shallow.
- Most of the gold mineralization is hosted in intrusive rocks (granodiorite) with some gold-bearing quartz veining in overlying metamorphosed sedimentary rocks.

The observations noted confirm the geological model used for resource estimation of steeply dipping sheeted quartz veins dominantly hosted in granodiorite intrusive rocks.

12.1.3 Spot Check of Assay Certificates Against Drillhole Database

Previous work has verified the drillhole assay database against assay certificates, with minimal errors reported. SRK examined the Eagle Gold deposit database against assay certificates, as an additional random check of some assay certificates. The results can be summarized as follows:

- The database has a total of 46,691 rows of data; including 399 cells with no assay values, and 338 cells with no sample number.
- One thousand eight hundred and ninety-four cells containing assay data were checked against the assay certificates.
- Initial review indicated 111 errors of assay value differences of ≥ ±0.001 g/t Au were noted. This equals a 5.9% error rate, an unacceptable error rate for a feasibility level database.

- Seventy-eight of the one hundred and eleven errors are from only one assay certificate, COA_WH10075169_44413_12057263, all from DH DG10-366C; with a maximum difference of -0.26 to +0.19 g/t Au. A later review demonstrated that this entire batch of samples was re-run (re-assayed) and the correct assay certificate compares with the database assays for all 78 samples in question; these are not database errors, rather, re-assays.
- Therefore, the error rate is 1.7% (111 - 78 = 33 / 1894), a larger than desirable, yet acceptable error rate for a feasibility level database.
- Two other types of errors or inconsistencies were noted, which are not part of the errors listed above:
  - Data rounding: Bondar-Clegg assay certificates, from assays in the early 1990s, report assays to three decimal places, yet the database for all assays checked (723) are rounded to two decimal places for Au (g/t). Rounding is inconsistent as to rounding up or down for a sample value of 0.xx5; suggesting that rounding was not a function of data transfer (or export), rather a hard coding by someone inputting manually rounded data.
  - Less than detection limit values: For the data reviewed, several holes for which less than detection limit values of less than 0.005 or -0.005 g/t Au are present on the assay certificates, the data in the database are reported at 0.005. Common industry practice would be to input half the detection limit. This was the case for 60 assays checked in four DG holes from 2006 and 2007; and one hole from 1996 (96-269R) had eight values of less than 0.03 g/t Au on assay certificates input in the database as 0.03 g/t. It is not clear if all less than detection limit values were input at the detection limit for the entire database.

SRK concludes that there are a number of errors for the small sample population of assays examined against the assay certificates. The inconsistencies and errors are marginally acceptable for a feasibility level study. Data rounding errors and less than detection assay values used will have minimal effect of the resource estimate, but should be corrected. SRK recommends the entire database be double-entry verified against the certificates for additional possible errors, and all errors corrected. A discussion of the assay checking procedures used to document the noted errors is presented below.

ASSAY CHECKING PROCEDURE

SRK examined the drillhole file (20110805_gold_drillholeA_final) provided by Victoria Gold against copies of the assay certificates provided by Victoria Gold in hard copy and digital copy on CD. Approximately 4% of the data were checked. The assay certificates contain apparent standards and blanks in the sequence of sample numbers, as well as missing and skipped sample numbers; therefore, the process of checking was slow, and required double checking to verify that a sample number being verified was not out of sequence either in the database or on the certificates.

There are 46,691 rows of data in the Microsoft® Excel spreadsheet. There are 338 empty cells in the sample number column and 399 empty cells in the sample result column, making the cells that have data range from 46,353 to 46,292. A total of 1,894 assays from the certificates were randomly selected and checked against the digital database.

Rather than provide a list of the certificates checked against the database, a copy of the assay database was used to input additional columns; one of the assay certificate value, a column stating the difference, and a column providing notes. SRK prepared a Microsoft® Excel spreadsheet (SRK_Check) that provides the information checked, and submitted it to Victoria Gold for review and follow-up.

The process, in particular to the ALS Chemex assay certificates provided as .pdf files on CD, was to select every fifth assay certificate and enter the assay from the first page of the assays into the assay certificate column in the spreadsheet that corresponds to the sample number in the database. This was done for 33 assay certificates from ALS Chemex. Approximately 30 to 36 samples were thus checked per page for the 33 certificates; a total of 1,125 ALS Chemex assays were checked, out of a total of 1,848 checks, with the difference of 723 being Bondar-Clegg hard copy assay certificates from early drilling.

One certificate, COA_WH10075169_44413_12057263, was noted to contain 35 errors of the 36 gold assays on page 1 of the certificate. That certificate was re-checked and verified as to those 35 errors, and further checked for the entire certificate. The database refers only to this assay certificate and the sample numbers match. A total of 78 errors of 82 gold assays were noted. The maximum difference (assay certificate value minus the database value) is from -0.26 to +0.19 g/t Au, with the preponderance of data (75%) showing errors of ±15%. It was later determined that this assay certificate was a re-assay certificate and the correct assay data are in the database; therefore, these are not database errors.

All Bondar-Clegg assay lab results that were checked (723) against the database were noted to have been rounded up or down to two decimal places, whereas the assay certificates have a precision of three decimal places. The rounding appeared to be inconsistent with some samples rounding up or down based on the same criteria (i.e. 0.xx5 is rounded both up and down). This suggests that the rounding did not occur from software import/export of data to two decimal places, but was perhaps manually entered (inconsistently) as rounded data. The Bondar-Clegg assays account for a large part of the database and thus the database should be re-confirmed for this discrepancy and corrected.

Approximately 60 additional errors were noted where the value of less than detection, expressed as <0.005 g/t Au (or -0.005) are reported in the database as 0.005 (at the detection limit). It is not known if this practice of using the detection limit assay for all less than detection values was used for the entire database. Industry standard practice is to use half the detection limit or 0.0025. In addition, six values of less than 0.03 on certificates were reported in the database as 0.03 for Hole 96-269R.

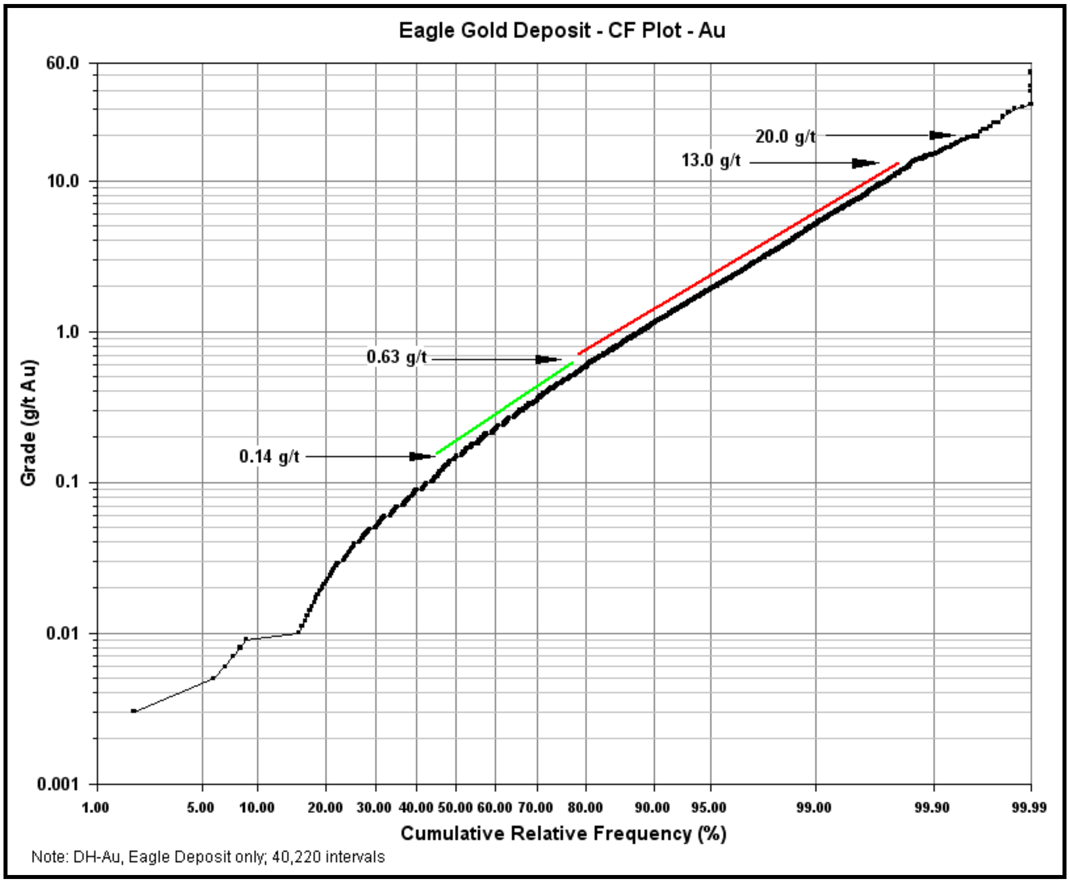
12.1.4 STATISTICAL EVALUATION

A cumulative relative frequency plot (CF Plot) of gold values was done to examine grade ranges/populations, and to verify grade capping levels that were used by previous resource estimators. Figure 12.5 is the CF Plot for the Eagle Gold deposit, and it shows three grade populations for 40,220 assays greater than 0.05 g/t Au:

- low-grade mineralization of 0.14 to 0.63 g/t Au accounting for approximately 35% of the assay database
- high-grade mineralization of 0.63 to 13.0 g/t Au accounting for nearly 20% of the assay database
- very high grades greater than 13.0 g/t Au accounting for 0.3% of the data.

Values below 0.14 g/t Au (approximately 45% of the database) are considered background values and not part of the main population of mineralization. Values greater than 13.0 g/t Au are considered outlier assays and should be capped at 13.0 g/t. This compares well with the previous resource estimation work where gold assays were capped at 12.65 (Wardrop 2009; Scott Wilson 2010) and 13.0 g/t Au (Wardrop 2011); the current resource estimate was capped at 13.0 g/t Au. It was noted that the 84 assays greater than 13.0 g/t Au are distributed throughout the deposit, do not exhibit data clustering, and therefore should be dealt with as outlier or nugget effect assays rather than a distinct grade population.

Figure 12.5 Cumulative Relative Frequency of Gold Assays



Source: SRK, October 2011

12.1.5 *3D Visualization*

The drillhole database was imported into Leapfrog® software for 3D visualization. This allowed for the following verifications:

- location of drillhole collars with respect to topography
- hole-to-hole continuity of mineralization
- orientation of mineralization trends
- spatial distribution of grades (grade populations, and clustering)
- spatial relationship of grades to lithology and alteration (oxidation)
- examination of previously developed geology solids against drillhole geology codes.

The 3D visualization generally confirmed the previous interpretations of geology and mineralization from the drillhole database. Statistical and spatial distribution of grades suggests a break in grade populations at about 0.6 g/t Au, and Leapfrog®

created grade shells at that grade, defines the core of higher grade mineralization as N70E trending mineralization with a generally steep dip, hosted primarily in intrusive rock lithologies (granodiorite), with a carapace of meta-sedimentary rocks that host less than 30% of the total mineralization. Hole-to-hole continuity of mineralization, but not necessarily grade, is confirmed in section and along strike. Hole-to-hole continuity is well demonstrated at 50 m drillhole spacing along the primary northeast strike of mineralization.

Examination of previous work to define a granodiorite lithology solid and an oxide and alluvium surface were also examined and compared to SRK created solids and surfaces using Leapfrog® software. A general comparison was noted. For the current resource, Leapfrog® created solids and surfaces for granodiorite, oxide, and alluvium, respectively, were modified in section to better fit individual drillhole data. The oxide surface was created taking into account the observations of quartz veining, mineralization, and oxidation noted in core and in outcrop.

To limit the outer boundary of mineralization, a 0.20 g/t Au grade shell was created in Leapfrog® and modified in section and plan to better fit the individual drillhole data and to keep the shell close-in to holes that ended in mineralization.

12.2 CONCLUSIONS

A site visit verified the geology and select drillhole collar coordinates. It also confirmed the geology model of steeply dipping quartz veins and veinlets dominantly hosted in granodiorite. A visual inspection of select drill core verified the presence and direct relationship of gold assays with quartz veins and veinlets in the granodiorite and meta-sedimentary host rocks. Spot checking of the drillhole assay database against the assay certificates noted approximately a 1.7% error rate. A statistical evaluation and visual examination of the data in 3D verify the prior and current use of 13.0 g/t Au as a capping grade for high-grade gold assays, and visually demonstrates hole-to-hole continuity of mineralization.

The database errors noted may not have a material effect on the resource estimate; however, it is recommended that a full database check be implemented to clear up these errors/deficiencies. In addition to assay checks for the entire database, SRK recommends Victoria Gold conduct an internal audit of the entire deposit database to include:

- collars that do not match topography
- down hole surveys that have odd looking doglegs such as DG05-298C, DG08-358C, DG07-320C, DG05-284C, DG05-286C, and DG05-288C
- geology codes compared to drill logs, as there are some overlapping intervals
- documentation of all errors and corrections.

12.3 LIMITATIONS

SRK did not verify the lithology codes from drill logs against the digital database as part of this exercise. SRK did not verify gold content by independently sampling and analysis; the multiple programs and checks conducted by previous workers suggest that this level of checking is not necessary for the advanced stage of the Project.

It is SRK's opinion that there are no identified limitations to the resource database that will have a material effect on the resource estimation process or stated mineral resources.

12.4 DATA ADEQUACY

SRK concludes that the Eagle Gold deposit database is sufficiently well defined, documented, and verified, to allow for use in resource estimation and for definition of reserves in a feasibility study.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 SUMMARY

An extensive metallurgical testing program, including column leach, bottle roll leach, gravity concentration and flotation tests, was conducted on various composites from the Project. KCA conducted most of the cyanidation tests between 1995 and 1997, and 2009 and 2010. KCA also conducted preliminary gravity tests with cyanide leaching of the middlings and tailings. Process Research Associates (PRA) conducted both gravity and flotation studies in 2006. The earlier test work was used in a feasibility study conducted by Rescan Engineering Ltd. (Rescan) in 1997.

Leach data on the composites crushed with a HPGR and with conventional cone crushers were compiled at several crush sizes. The results from the column leach test program indicate that gold recovery is sensitive to crush size and ore type, and, to a lesser extent crush type. Overall gold recoveries ranged from 40 to 45% at a P_{80} crush size of about 35 mm up to 80 to 85% at a P_{80} crush size of 2 mm. KCA does not believe that crushing down to a P_{80} size of 2 mm is a viable heap leach process option for the Project.

Wardrop carefully investigated and compared HPGR and conventional crushing methods for the tertiary stage. Although HPGR showed a very modest increase in gold recovery rates, conventional crushing methods provided the best overall project economics. A conventionally crushed 6.4 mm P_{80} crush size was therefore selected for the purpose of this feasibility study.

The column leach test results show that crushing to a P_{80} size of 6.4 mm with conventional crushers will lead to an overall average gold recovery of 72.9% based upon a distribution of 39.1% A, 42.5% B, 11.0% C, and 7.4% E ore types with a leach time of 150 d when stacked and leached in 10 m lifts. The E ore type represents a small portion of the resource and underwent limited testing. It was conservatively assumed to replicate type B recoveries. Sodium cyanide requirements were estimated to average 0.39 kg/t at a 6.4 mm crush size. Lime requirements were estimated to average 1.04 kg/t. To assure heap permeability, agglomeration with 2.5 to 3 kg/t of cement is recommended in the lower lifts of the multi-lift heap leach operation.

Column leach tests were conducted at freezing conditions, and the test results were compared to that of ambient temperature column leach tests. These tests yielded similar results.

Gravity and flotation tests were conducted on various ore types at several different grind sizes. The results of these tests indicated high gold recoveries, with minor reductions in recovery with increasing grind size. Gravity concentration with flotation of the gravity tailings resulted in overall average gold recoveries of 95%. Gold recovery in the gravity stage varied somewhat between the various ore types, and averaged about 52%. Gravity concentration with cyanidation of the gravity tailings resulted in gold recoveries ranging from 80 to 95%.

The results of the KCA's leach test work are presented in Table 13.1 and Table 13.2. Additional details are presented in Section 13.2. PRA's results are presented in Table 13.3 and Table 13.4, with additional details in Section 13.3. The results of KCA's gravity concentration work are presented in Table 13.5, with additional details in Section 13.3.2.

Phillips Enterprises, LLC conducted comminution testing on ore types A, B and C. The test results are provided in Table 13.6.

In 1996 and 1997, cyanide neutralization and solution detoxification tests, using hydrogen peroxide, were conducted on coarser crushed column leach tailings. Reagent consumptions were relatively low. The cyanide neutralized solutions were further treated to remove additional metals and other constituents. The final detoxified solutions passed fish toxicity testing. Additional cyanide neutralization and detoxification testing was conducted on finely crushed column leach tailings in 2009 and 2010. The detoxified tailings were submitted for humidity cell testing. The results of the cyanide neutralization, detoxification and humidity cell testing are presented in Section 13.5.

Testing to obtain additional leach results on ore type E, to confirm recoveries based on new ore type designations and to obtain additional data on heap rinsing and detoxification are currently in progress.

Table 13.1 KCA Column Leach Test Results

Test No.	Report Date	Ore Type	Percent of Each Type (%)	Crush Type	P_{80} Crush Size (mm)	Calculated Head (g/t Au)	Percent Au Recovery (%)	Test Run to Completion/ Adjustment (%)	Percent Au Recovery Adjusted (%)	Leach Time (d)	Sodium Cyanide (kg/t)	Lime (kg/t)	Cement (kg/t)	P_{20} Crush Size (mm)
22652	April 1996	A	100	Conventional	38.0	0.75	48.1	Yes	48.1	91	0.15	1.05	-	7.50
22685	April 1996	A	100	Conventional *	36.3	0.73	58.9	Yes	58.9	84	0.10	1.00	-	6.40
22687	April 1996	A	100	Conventional *	10.3	0.90	60.0	Yes	60.0	84	0.25	1.00	-	1.70
22660	April 1996	A	100	Conventional	9.9	0.94	62.8	No/1	63.8	88	0.40	1.00	-	1.70
23018	April 1997	A	100	Conventional	5.0	0.88	73.9	Yes	73.9	85	0.90	1.00	-	0.75
24619	April 1997	A,C	84/16	Barmac	5.0	0.97	85.6	Yes	85.6	60	0.84	0.10	3.75	0.30
23030	April 1997	A,C	60/40	Conventional	4.8	0.57	80.6	No/4.4	85.0	61	0.77	1.14	-	0.60
44289	2011	A, B, C	40/45/15	Conventional	48	0.74	77.0	Yes	77.0	253	1.36	1.00	-	5.70
44292	2011	A, B, C	40/45/15	Conventional	10.9	0.68	83.0	Yes	83.0	253	3.40	1.01	-	1.70
45130	2011	A, B, C	40/45/15	Conventional	6.3	0.67	85.0	Yes	85.0	184	2.28	1.01	-	0.84
23021	April 1997	A, B, C	37/40/23	Conventional	5.2	0.76	71.0	No/2	73.0	85	0.91	1.00	-	0.78
22666	April 1996	A, B, C, D	n/a	Conventional	9.9	1.21	66.1	Yes	66.1	115	0.53	1.03	-	1.80
22654	April 1996	B	100	Conventional	38.0	0.78	33.3	No/1	34.3	62	0.12	1.05	-	7.50
22662	April 1996	B	100	Conventional	10.2	0.81	58.0	No/1	59.0	115	0.48	1.03	-	1.60
23027	April 1997	B	100	Conventional	5.2	0.80	62.6	No/4.4	67.0	61	0.72	1.07	-	0.80
22656	April 1996	C	100	Conventional	29.0	0.66	42.5	No/1	43.5	62	0.16	1.05	-	4.80
22664	April 1996	C	100	Conventional	10.3	0.63	61.9	Yes	61.9	115	0.55	1.03	-	1.60
22650	April 1996	C, D	n/a	Conventional	33.0	0.65	43.1	Yes	43.1	62	0.17	1.05	-	3.00
48111**	In Progress	A, B, C	40/45/15	HPGR 1	6.5	n/a	n/a	Yes	n/a	94	0.45	0.00	3.00	n/a
48114**	In Progress	A, B, C	40/45/15	HPGR 1	6.5	n/a	n/a	Yes	n/a	94	0.38	0.00	3.00	n/a
43383	2011	A, B, C, D	50/28/17/5	HPGR 1	3.7	0.60	72.0	Yes	72.0	63	0.84	0.00	2.32	0.28

table continues…

Test No.	Report Date	Ore Type	Percent of Each Type (%)	Crush Type	P_{80} Crush Size (mm)	Calculated Head (g/t Au)	Percent Au Recovery (%)	Test Run to Completion/ Adjustment (%)	Percent Au Recovery Adjusted (%)	Leach Time (d)	Sodium Cyanide (kg/t)	Lime (kg/t)	Cement (kg/t)	P_{20} Crush Size (mm)
24604	April 1997	A	100	Cone-HPGR	2.2	1.80	89.4	Yes	89.4	76	0.92	0.15	3.75	0.22
23075	April 1997	A	100	Cone-HPGR	2.1	1.06	87.7	No/2	89.7	41	0.58	0.07	3.75	0.14
23078	April 1997	A	100	Cone-HPGR	2.1	1.08	78.7	No/5	83.7	23	0.40	0.07	3.75	0.14
24640	April 1997	A	100	Cone-HPGR	1.8	1.67	88.0	Yes	88.0	58	0.72	1.07	1.00	0.11
23036	April 1997	A	100	Cone-HPGR	1.7	0.87	88.5	No/2	90.5	34	0.70	0.08	3.75	0.60
24637	April 1997	A, B, C	25/50/25	Cone-HPGR	2.2	0.66	83.3	Yes	83.3	58	0.81	1.07	1.00	0.12
24610	April 1997	A, C	84/16	Cone-HPGR	2.0	0.85	85.9	Yes	85.9	76	1.07	0.15	3.75	0.11
24607	April 1997	B	100	Cone-HPGR	2.2	1.52	85.5	Yes	85.5	76	0.81	0.15	3.75	0.15
24601	April 1997	E	100	Cone-HPGR	2.6	0.76	84.3	Yes	84.3	76	0.99	0.15	3.75	0.21
23057	April 1997	A	100	Jaw-HPGR 1	9.5	1.03	76.7	Yes	76.7	27	0.34	1.08	-	0.12
24628	April 1997	A	100	Jaw-HPGR 1	9.5	1.69	58.6	No/4	62.6	31	0.61	1.07	1.00	0.48
24634	April 1997	A	100	Jaw-HPGR 1	9.5	1.73	64.1	No/1	65.1	72	0.79	1.08	1.00	0.40
24631	April 1997	A, B, C	25/50/25	Jaw-HPGR 1	9.6	0.60	66.6	Yes	66.6	58	0.59	1.08	1.00	0.62
24625	April 1997	A, B, C	25/50/25	Jaw-HPGR 1	9.5	0.69	65.2	No/4	69.2	31	0.57	1.07	1.00	0.50
43276	2012	A, B, C	45/27.5/27.5	Jaw-HPGR 1	3.6	0.61	79.0	Yes	79.0	75	0.40	2.00	2.00	0.20
23060	April 1997	A	100	Jaw-HPGR 2	4.8	1.00	79.0	No/1	80.0	27	0.43	0.10	3.75	0.19

Notes: n/a = not available
*Cold temperature column leach, approximately 0°C
**In Progress, Preliminary Results
1 signifies single pass, 2 double pass through an HPGR
Calculated Head is the sum of the recovered gold plus the grade of the tailings

Table 13.2 KCA Bottle Roll Leach Test Results

Test No.	Ore Type	Size	Calculated Head (g/t Au)	Percent Au Recovery (%)	Leach Time (d)	Sodium Cyanide (kg/t)	Lime (kg/t)
22670A	A	0.15	0.68	92.6	1	0.08	1.6
22626 A	A	Pulverized	0.45	80.0	2	0.04	1.6
22627 C	A	Pulverized	<0.10	00.0	2	0.15	1.6
22628 A	A	Pulverized	0.76	85.9	2	0.05	1.6
22628 C	A	Pulverized	0.85	85.9	2	0.05	1.6
22629 A	A	Pulverized	0.65	86.2	2	0.05	2.0
22629 D	A	Pulverized	0.49	89.8	2	0.05	1.6
22630 B	A	Pulverized	2.01	95.0	2	0.05	1.6
22626 A	A	Pulverized	0.45	80.0	4	0.04	1.6
22628 A	A	Pulverized	0.76	84.2	4	0.04	1.6
22628 C	A	Pulverized	0.85	85.9	4	0.05	1.6
22629 A	A	Pulverized	0.65	86.2	4	0.05	2.0
22629 D	A	Pulverized	0.49	89.8	4	0.05	1.6
22630 B	A	Pulverized	2.01	95.0	4	0.05	1.6
22669A	A	12.5	0.65	46.2	4	0.09	0.3
22668A	A	25	1.15	31.3	2	0.14	0.3
22648B	A	50	0.94	35.4	4	0.19	0.15
44287	A, B, C	P_{80} 0.075 mm	2.88	93.0	4	0.07	0.5
48105 B	A, B, C	7 mm HPGR 3.42 N/mm^2	0.911	64.0	1	0.11	0.5
48105 C	A, B, C	7 mm HPGR 3.85 N/mm^2	1.167	58.0	2	0.11	0.5
48105 A	A, B, C	8 mm HPGR 2.92 N/mm^2	1.207	43.0	2	0.14	0.5
22670D	A, B, C & D	0.15	1.59	96.9	2	0.08	2.0
22669D	A, B, C & D	12.5	1.32	42.4	2	0.19	0.25
22668D	A, B, C & D	25	1.06	43.4	2	0.14	0.25
22670B	B	0.15	0.52	90.4	4	0.08	1.0
22626 C	B	Pulverized	0.38	71.1	4	0.15	1.2
22627 A	B	Pulverized	0.33	66.7	4	0.15	1.4
22629 C	B	Pulverized	1.10	89.1	4	0.15	1.6
22630 C	B	Pulverized	0.59	84.7	4	0.15	1.6
22630 D	B	Pulverized	0.28	75.0	2	0.05	1.6
22669B	B	12.5	0.73	32.9	2	0.14	0.2
22668B	B	25	0.61	26.2	2	0.14	0.2
22648C	B	50	0.74	29.7	2	0.14	0.25
43733	B, C & D	-1.7 mm	0.40	45.0	1	0.30	0.5
43455	B, C & D	+1.7 mm	0.51	36.0	2	0.27	0.5
22670C	C	0.15	0.44	90.4	2	0.18	1.0
22630 A	C	Pulverized	0.60	85.0	2	0.05	1.0
22631 A	C	Pulverized	0.48	89.6	2	0.05	1.6

table continues…

Test No.	Ore Type	Size	Calculated Head (g/t Au)	Percent Au Recovery (%)	Leach Time (d)	Sodium Cyanide (kg/t)	Lime (kg/t)
22626 B	C1	Pulverized	0.52	80.7	2	<0.01	1.4
22626 D	C2	Pulverized	0.33	78.8	2	0.04	1.6
22669C	C	12.5	0.83	22.9	4	0.14	0.3
22668C	C	25	0.66	25.8	4	0.14	0.3
22649A	C	50	0.30	40.0	4	0.14	0.25
22648A	C & D	50	0.96	22.9	4	0.29	0.15
22629 B	D	Pulverized	0.68	76.5	2	0.05	1.6
22627 B	E	Pulverized	<0.10	00.0	2	0.15	1.6
22627 D	E	Pulverized	0.29	75.9	2	0.15	1.0
22628 B	E	Pulverized	0.60	88.3	2	0.15	1.6
22628 D	E	Pulverized	0.98	87.8	2	0.15	1.6

Table 13.3 Summary of PRAs Gravity Flotation Test Results

Ore Type	Grind Size P_{80} (µm)	Calculated Head* (g/t Au)	Gravity Concentrate (g/t Au)	Final Rougher Concentrate (g/t Au)	Mass Pull (%)	Percent Au Recovery in Gravity Concentrate (%)	Percent Au Recovery in Final Rougher Concentrate (%)	Overall Percent Au Recovery (%)
Altered	79	0.89	188.0	4.40	10.2	44.6	50.3	95.0
Altered	107	0.94	130.8	5.42	6.7	56.7	38.4	95.1
Altered	147	0.94	101.9	8.63	6.1	32.7	55.4	88.1
Oxidized	63	1.12	817.4	2.62	11.3	70.3	26.5	96.8
Oxidized	101	0.66	434.0	2.45	9.8	57.1	36.1	93.2
Oxidized	140	1.01	1,171.1	4.68	6.9	62.5	32.0	94.5
Silicified	70	2.85	1,561.2	9.08	10.8	62.1	34.4	96.6
Silicified	96	3.00	963.3	8.32	15.1	54.6	42.0	96.6
Silicified	142	2.59	852.6	16.66	8.3	40.8	53.5	94.3
Unaltered	67	0.68	200.9	3.16	9.0	54.2	41.8	96.0
Unaltered	100	0.61	313.4	2.84	7.6	59.7	35.8	95.4
Unaltered	140	0.71	240.2	1.82	13.7	58.5	35.4	93.9

Note: *Calculated Head is the sum of the grades of the concentrate products plus the grade of the tailings.

Table 13.4 Summary of PRAs Gravity-Cyanidation Test Results

Ore Type	Grind Size P_{80} (µm)	Calculated Head (g/t Au)	Gravity Concentrate (g/t Au)	Percent Au Recovery in Gravity Concentrate (%)	Percent Au Recovery in Cyanidation (%)	Overall Percent Au Recovery (%)
Altered	79	0.94	118.8	35.8	50.4	86.2
Altered	99	1.06	75.2	42.1	42.9	85.0
Altered	146	0.99	104.5	33.6	50.3	83.9
Oxidized	67	0.61	141.5	45.3	46.5	91.8
Oxidized	96	0.48	137.8	23.6	64.0	87.6
Oxidized	144	0.76	464.1	58.5	34.9	93.4
Silicified	70	3.15	672.9	51.4	42.9	94.3
Silicified	96	7.46	2,350.3	76.1	20.7	96.8
Silicified	142	6.21	1,603.9	71.5	25.0	96.5
Unaltered	71	1.38	303.7	41.6	49.0	90.6
Unaltered	104	1.06	391.5	62.3	29.2	91.6
Unaltered	147	0.99	321.7	50.3	39.6	89.9

Table 13.5 Bulk Gravity Concentration/Cyanidation Testing

Sample	Crush Size (P_{100})	Head Assay (g/t Au)	Gravity Concentrate (% Au)	Column Leach of Middle and Tailings Recovery (% Au)	Total Recovery (% Au)
A, B, C and D Composite	1.7	0.670	28	52	80

Table 13.6 Comminution Test Results

Ore Type	Crusher Work Index Values (kWh/t)	Ball Mill Work Index Values 0.150 mm (kWh/t)	Abrasion Index (A_i)
A	6.76	13.32	0.1850
B	8.30	15.55	0.2428
C	5.55	15.82	0.2266

13.2 KCA LEACH DATA REVIEW AND FIELD GOLD RECOVERY ESTIMATES

KCA's test program was conducted on the five ore types, and on composites of the five ore types. Samples for the tests were taken from core and bulk samples. In total, 20 t of material, 17 t of which was core, were made available for the test program. Three of the 37 test results are preliminary, as they are currently undergoing environmental tests and tail assays are not yet available.

Of the 37 tests, 17 were column tests on conventionally crushed samples, either on individual ore type or composites of multi-ore types. The column leach tests were conducted on these composites at conventional crush sizes ranging from approximately 5 to 50 mm. Figure 13.1 shows the location of metallurgical sample collections points. The ore types are described in Table 13.7.

Figure 13.1 Metallurgical Sample Collection Points

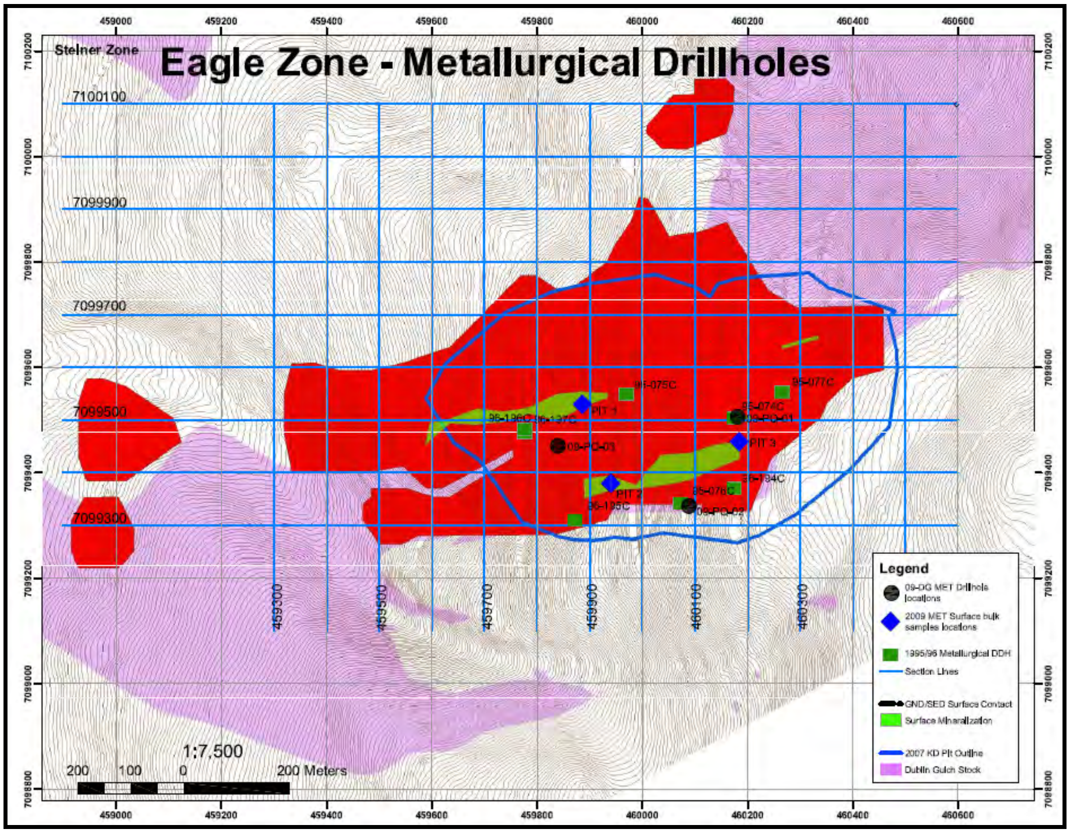
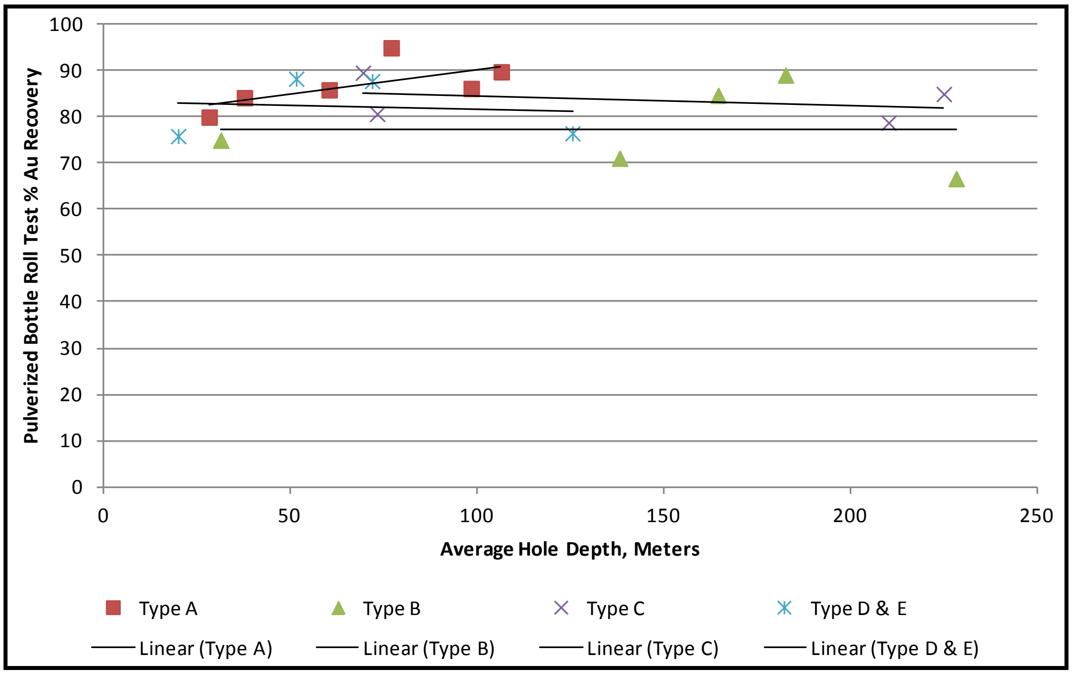


Table 13.7 Ore Type Description

Ore Type Designation	Rock Type Designation
A	Weathered granodiorite
B	Fresh to weakly altered granodiorite, <20% moderately or strongly altered
C	Sericite, chlorite, carbonate altered granodiorite
D	Fine grained granodiorite
E	Weathered sediments

Bottle roll tests on various drill core intervals and composites were completed. The samples tested show no obvious trends in recovery with depth. This is shown in Figure 13.2.

Figure 13.2 Bottle Roll Test Results on Drill Core Intervals and Variation in Recovery by Average Interval Depth



As shown in Table 13.2, the results from the bottle roll leach tests indicate that finer crushing/grinding generally leads to higher gold recoveries. They also indicate that tests on ore type A result in higher average gold recoveries than ore type C, which results in higher average gold recoveries than ore type B.

Ore type E is a relatively minor component of the ore body in comparison to the other three ore types and only a single test was conducted on this ore type. This test resulted in a gold recovery of approximately 84% at a 2.6 mm crush size. However, without additional test work data, KCA conservatively assumed a recovery rate identical to that of the lowest recovery rate of the ore types tested.

Samples tested were mostly from HQ core. The samples tested came from the central and southern sections of the ore body. There are some questions concerning the representativeness of the samples tested in 1995 and 1996, due to potential loss of coarse gold during core drilling. A statistical study conducted by Rescan in their 1997 feasibility study indicated that the grade of twinned core holes tended to be about 15% lower than reverse circulation holes, with an average grade difference of 0.16 g/t Au. New core and bulk surface samples were taken in the summer of 2009 using a triple tube core drill, which should reduce the problem of potentially washing out coarse gold. Column leach testing of composites including bulk surface samples taken in 2009 yielded generally higher gold extraction than previous tests.

Column leach tests were conducted on samples crushed to various sizes by several different types of crusher types. These crusher types tested were:

- conventional laboratory scale cone crushed material
- laboratory scale cone crushed, laboratory scale HPGR crushed material
- laboratory scale jaw crushed, pilot-scale HPGR – single pass – crushed material
- laboratory scale jaw crushed, pilot-scale HPGR – double pass – crushed material
- laboratory scale jaw crushed, pilot-scale Barmac crushed material
- laboratory scale cone crushed, pilot scale HPGR crushed material (2009) samples.

Average gold recoveries by ore type, crusher type and crush size based on the column leach test results conducted by KCA from 1995 to 1997 and in 2009 and 2010 are summarized in Table 13.8.

Several of the column leach tests were still leaching when they were ended, per instructions from the client at that time. The leach recovery curves were reviewed and additional time and gold recovery were estimated for the shortened tests. As shown in Table 13.1, 14 of the 37 column leach tests were not run to completion. An additional one to five percentage points were added to the 14 tests. Additional time to obtain the ultimate column leach recoveries was generally in the 15 to 50 d time range. The additional recoveries and leach times were conservatively estimated by extrapolating the leach curves until an estimated test completion time was obtained.

Table 13.8 Average Column Leach Test Results by Ore Type, Crush Type and Crush Size

			Column Test Recoveries Including Projections (% Au)				
P_{80} Crush Size (mm)	Crush Type	Ore Types with Available Test Data	Ore Type A (%)	Ore Type B (%)	Ore Type C (%)	Ore Type E (%)	Composite Test Results (%)
29 to 48	Conventional	A, B, C & Composites	54	34	43	n/a	75
9.9 to 10.9	Conventional	A, B, C & Composites	62	59	62	n/a	73
9.5 to 9.6	HPGR	A & Composites	68	n/a	n/a	n/a	68
4.8 to 7.0	Conventional	A, B & Composites	74	65	n/a	n/a	81
4.8 to 5.0	BARMAC	Composite	n/a	n/a	n/a	n/a	86
4.8 to 5.0	HPGR	A	80	n/a	n/a	n/a	n/a
1.7 to 3.6	HPGR	A, B, E & Composites	88	86	n/a	84	80

As shown in Table 13.8, there is a distinct correlation between increased gold recovery and decreasing crush size for all ore types. There is also an indication that HPGR crushing results in a relatively small increase in gold recovery, compared to conventional crushing at the same P_{80} crush size.

The HPGR crushing for tertiary duty was investigated by way of amenability lab testing, which was then compared and contrasted to metallurgical performance with conventional fine crushing apparatus. The test results required some interpretation, as there were no identical ore type (or blended ore) leach tests at equal crush size comparisons.

The gold recovery leach results indicated a net two percentage point recovery advantage for HPGR crushing. However, the economic analysis showed an increase in operating and capital cost, and a decrease in project economics for HPGR crushing compared to a conventional circuit.

Additionally, three other factors were considered in the decision to use conventional crushing.

- HPGR technology is not widely used in the preparation of ore for heap leaching.
- HPGR technology involves specialized maintenance requirements compared to conventional crushing.
- Increased structural foundation requirements associated with HPGR may be difficult to achieve with the ground identified at the tertiary crusher location.

Accordingly, it was decided to base this feasibility study on a conventional crushing circuit.

The results from the conventionally-crushed column leach test program, including the projected results, were used to estimate production heap leach recoveries at the Project. The calculated overall recovery of 72.9% is based the LOM production schedule of 34.9% type A, 45.7% type B, 12.0% type C, and 7.4% type E ore. The calculated overall recovery compares reasonably well with the recoveries from the column leach tests on composite samples as shown in Table 13.8.

Wardrop limited its review to mainly conventionally-crushed samples, in light of the metallurgical data from the 2009 samples, past testing results, and the expected 6.4 mm conventionally-crushed grind size. However, an analysis of the tests of all crush types generally led to the same conclusions.

The gold recovery results of 11 conventionally crushed column leach tests on individual ore types and two composites composed primarily of one ore type are plotted and presented in Figure 13.3. The two included composites were composed of 60% type A/40% type B and 84% type A/16% type B, respectfully. The composites shown in Figure 13.3 contained an average of 46% type A, 38% type B and 16% type C (one test had 3% type D which was added to the type C average).

Based on the formulas calculated from the data as shown, preliminary recoveries by ore type were calculated for a 6.4 mm crush size. These calculated recoveries were 75%, 65% and 70% for types A, B and C, respectively. However, these results do not take into account the results from the five conventionally-crushed column tests on composite samples comprised of types A, B, and C (and minor amount of type D, fine-grained granodiorite, in one test; type D is a very minor part of the mineralization). These results are presented in Figure 13.4.

Utilizing the formula presented in Figure 13.4, a calculated composite gold recovery of 77% is obtained at a 6.4 mm crush size. When adjusting the individual type recoveries to match the recovery achieved in the composites, and allowing for a 3% deduction for laboratory gold extraction to field recovery (a standard deduction based on KCA experience), type A is projected to recover 79%, type B is projected to recover 68% and type C is projected to recover 73%. Considering the most recent mine model, which contains the ore type distribution previously mentioned, and assuming that type E ore has a similar recovery to type B ore, the overall gold extraction is projected to be 72.9%. KCA's estimated gold recoveries are based on the assumption that the samples tested are representative of the ore body.

Field cyanide consumption was based on the test results of the samples conventional crushed to 4.8 to 6.4 mm. Average cyanide consumption was 1.12 kg/t. Field cyanide consumptions are generally 25 to 50% of the laboratory column leach consumptions, depending on ore type and other metal constituents, especially copper. For the purposes of this study, KCA used a 35% factor to obtain a field consumption of 0.39 kg/t.

Field lime requirements are generally very close to the laboratory column leach test results. A 1.04 kg/t lime addition rate was used in this study based upon samples conventionally crushed to 4.8 to 6.4 mm.

Figure 13.3 Gold Recovery on Conventionally Crushed Samples by Ore Type

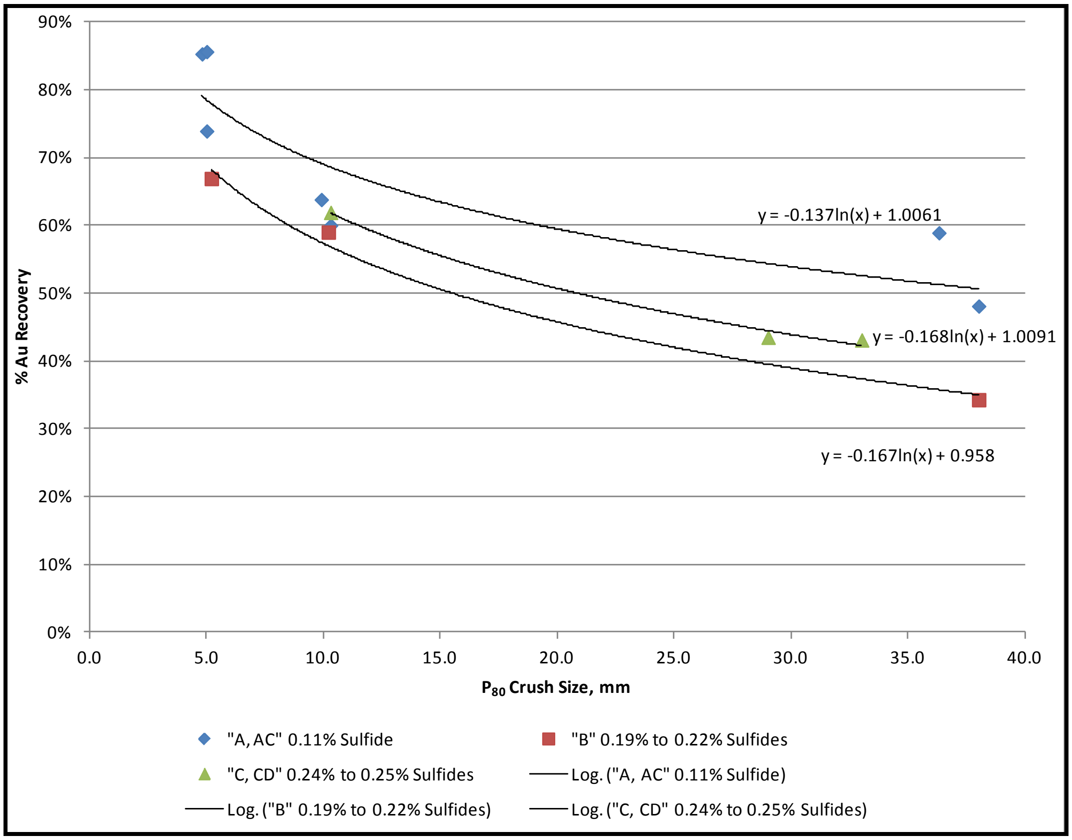
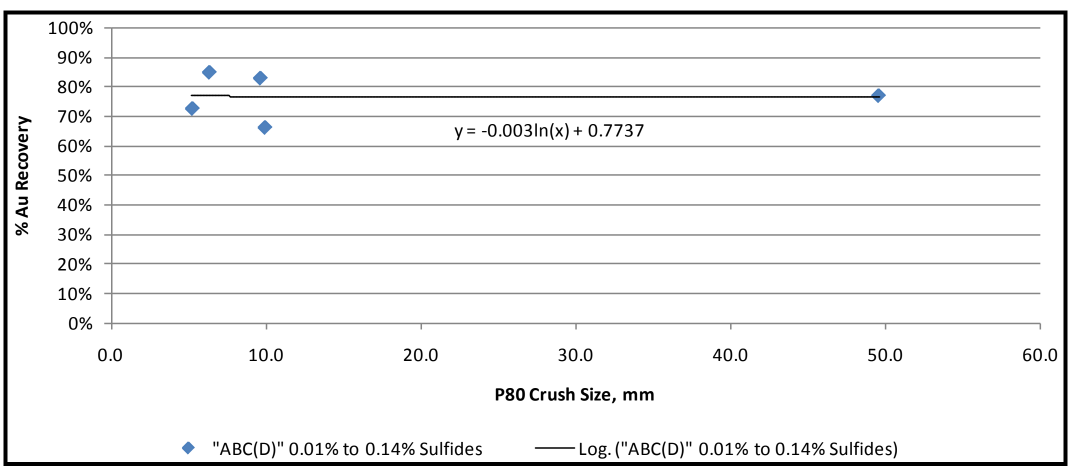


Figure 13.4 Gold Recovery of Multi-ore Type Composites on Conventionally Crushed Samples



A series of compacted permeability tests were conducted to determine heap permeability under various pressures. The tests simulated loads at various heap heights between 0 and 150 m. All of the conventionally crushed samples demonstrated good stability and low slump without cement agglomeration. The results are summarized in Table 13.9.

A heap design solution application rate of 10 to 12 L/h/m^2 of column surface was utilized. When examining results from compacted permeability tests, KCA considers a measured flow of ten times the heap design rate as a "Pass". In the compacted permeability tests, the percent slump examined was the Wet-Dry Slump. This represents the slump from the dry compacted ore height to that in the wet compacted ore height. KCA generally considers a slump of over 10% as high, and an indication of a potential "Fail". However, if the test results indicate high flow but slump was generally slightly over 10%, then the test typically is given a "Marginal" rating.

Additional compacted permeability tests at designed heap heights are planned. The coarser crushed samples passed the compacted tests at all heap heights tested. However, there were several tests where percent slump was high, which may lead to permeability issues in the field. KCA recommends allowing for ability to add 2.5 to 3 kg of cement per tonne of ore during the first few years of operation, to ensure that there will not be any permeability issues.

Table 13.9 Summary of Compacted Permeability Tests

Sample Description	Crush Type	Estimated P_{80} Crush Size (mm)	Cement (kg/t)	Simulated Heap Height (m)	Flow at the Simulated Height ($L/h/m^2$)	Initial Bulk Density (t/m^3)	Final Compacted Bulk Density (t/m^3)	Slump (%)	Pass/Fail
Type A Pit Comp -Surface 2009	Conventional	7.0*	2.50	150	128	2.2	2.20	0	Pass
Type A Pit Comp -Surface 2009	Conventional	7.0*	2.50	150	106	2.25	2.25	0	Pass
Type A Pit 1, Surface, 2009	Conventional	7.0	0.00	70	355	1.84	1.88	2	Pass
Type A Pit 2, Surface, 2009	Conventional	7.0	0.00	70	5,153	1.74	1.78	2	Pass
Type A Pit 3, Surface, 2009	Conventional	7.0	0.00	70	998	1.76	1.82	3	Pass
Type A Core Comp, 2009	Conventional	7.0	0.00	70	9,385	1.69	1.74	3	Pass
Type C1 Core, 2009	Conventional	7.0	0.00	70	4,144	1.78	1.86	4	Pass
Type C2 Core, 2009	Conventional	7.0	0.00	70	2,335	1.82	1.84	1	Pass
Type A, Core Comp, 1996	Conventional	12.5	0.00	30	15,400	1.56	1.59	2	Pass
Type A, Core Comp, 1996	Conventional	12.5	0.00	50	16,300	1.56	1.57	1	Pass
Type A, Core Comp, 1996	Conventional	12.5	0.00	100	10,700	1.65	1.68	2	Pass
2009 Comp, A, B, C	HPGR	7.0	0.00	60	89	1.94	1.96	1	Fail
2009 Comp, A, B, C	HPGR	7.0	0.00	90	89	2.19	2.21	1	Fail
2009 Comp, A, B, C	HPGR	7.0	12.00	60	3,004	1.86	1.86	0	Pass
2009 Comp, A, B, C	HPGR	7.0	2.50	60	597	2.06	2.08	1	Pass
2009 Comp, A, B, C	HPGR	7.0	2.50	90	231	2.14	2.16	1	Pass
Type A, Core Comp, 1997	HPGR	2.0	0.00	60	1,645	1.50	1.57	4	Pass
Type A, Core Comp, 1997	HPGR	2.0	0.00	100	987	1.57	1.64	4	Pass
Type A, Core Comp, 1997	HPGR	2.0	3.75	60	2,632	1.38	1.44	4	Pass
Type A, Core Comp, 1997	HPGR	2.0	3.75	100	1,645	1.38	1.57	12	Marginal
Type A, Core Comp, 1997	HPGR	12.5	0.00	60	263	1.85	2.07	11	Marginal
Type A, Core Comp, 1997	HPGR	12.5	0.00	100	263	1.85	2.07	11	Marginal

table continues…

Sample Description	Crush Type	Estimated P_{80} Crush Size (mm)	Cement (kg/t)	Simulated Heap Height (m)	Flow at the Simulated Height (L/h/m^2)	Initial Bulk Density (t/m^3)	Final Compacted Bulk Density (t/m^3)	Slump (%)	Pass/Fail
Type A, Core Comp, 1997	HPGR	12.5	3.75	0	3,355	1.85	1.99	7	Pass
Type A, Core Comp, 1997	HPGR	12.5	3.75	60	1,875	1.85	2.03	9	Pass
Type A, Core Comp, 1997	HPGR	12.5	3.75	100	987	1.85	2.07	11	Marginal
Type A, B, C Core, 1997	HPGR	12.5	0.00	60	165	1.92	1.92	0	Pass
Type A, B, C Core, 1997	HPGR	12.5	0.00	60	1,050	1.80	1.80	0	Pass
Type A, B, C Core, 1997	HPGR	12.5	0.00**	60	1,710	1.73	1.73	0	Pass
Type A, B, C Core, 1997	HPGR	12.5	2.00**	60	2,895	1.66	1.69	2	Pass
Type A, B, C Core, 1997	HPGR	12.5	3.00**	60	2,500	1.66	1.66	0	Pass
Type A, Core Comp, 1997	HPGR	12.5	0.00	80	658	1.92	1.92	0	Pass
Type A, Core Comp, 1997	HPGR	12.5	0.00**	80	1,150	1.80	1.80	0	Pass
Type A, Core Comp, 1997	HPGR	12.5	2.00**	80	1,315	1.73	1.73	0	Pass
Type A, Core Comp, 1997	HPGR	12.5	3.00**	80	1,120	1.76	1.76	0	Pass
Type A, Core Comp, 1997	HPGR	12.5	3.75	80	2,430	1.66	1.66	0	Pass
Type A High Grade, 1997	HPGR	12.5	1.00***	80	1,700	1.66	1.80	8	Pass
Type A, B, C Core, 1997	HPGR	12.5	1.00***	80	2,800	1.63	1.73	6	Pass

Notes: *Approximately P_{100} 9.5 mm

**Includes 2 kg/t hydrated lime in agglomeration step

***Includes 1 kg/t hydrated lime in agglomeration step

Production leach times were based on the 6.4 mm conventional test, as indicated in Table 13.1, Test No. 45130. Both tonnes of solution per tonne of ore and leach time data from the column leach test were used to estimate leach times. The tonnes of solution to tonnes of ore (T_s/T_o) ratio was estimated to be 1.2:1 from the applicable column leach test recovery curves. This ratio was calculated based on the quantity of solution applied to the column test just prior to when the recovery curve begins to flatten out. This ratio was then translated to leach times in the field to obtain a similar ratio (70 d). Additional leach time was then added to this calculated field time based on how much longer the column leach test ran to obtain the final recovery after reaching the selected T_s/T_o figure (approximately 80 d). Combining the time to achieve the T_s/T_o ratio of 1.2 (70 d) with the time required to reach the final recovery (an additional 80 d), a total of 150 d leach time was selected for this feasibility study.

The moisture data from the column tests are tabulated in Table 13.10. The drain down moisture is defined as the amount of solution that drains for a period of 96 h from the column after the termination of active leaching. Residual moisture is determined by dumping the column, weighing the wet material and then oven drying the ore for a period of 2 to 3 d and re-weighing the dried ore to calculate the residual moisture. The drain down and residual moisture data have been incorporated into the HLF and site water balance calculations. The moisture data is a function of crush size, cement agglomeration, and crushing method.

Table 13.10 Moisture Content of Column Leach Tests

Ore Type	96 Hour Draindown (L/dry t)	Residual Moisture (L/dry t)	Crush Size (mm)	Crush Type
A	42	59	12.5	Conventional
A	40	66	12.5	Conventional
B	39	82	12.5	Conventional
C	30	98	12.5	Conventional
A, B, C & D	36	74	12.5	Conventional
A	37	59	12.5	Conventional
A	38	66	5.0	Conventional
A, B, C & D	35	72	5.2	Conventional
B	33	80	5.2	Conventional
A, C	32	78	4.8	Conventional
A, C	42	92	5.0	Barmac
A, B, & C	27	86	9.5	Jaw-HPGR 1
A, B, & C	27	77	9.5	Jaw-HPGR 1
A	28	88	9.5	Jaw-HPGR 1
A	29	93	9.5	Jaw-HPGR 1
A, B & C	14	51	75.0	Conventional
A, B & C	29	82	19.0	Conventional
A, B & C	65	95	9.5	Conventional

13.3 GRAVITY TEST RESULTS

Gravity concentration testing followed by cyanidation was assessed by PRA and KCA. These tests are summarized in the following sections. However, gravity concentration has not been incorporated into the design due to the overall inapplicability of operating a gravity circuit year-round in Yukon.

13.3.1 PRA TEST RESULTS

PRA conducted a testing program in 2006 on four composites: oxidized, altered, unaltered and silicified. The silicified composite contained 2.47 g/t Au while the other three contained less than 0.7 g/t Au.

Tests utilizing gravity separation followed by panning on samples milled from 63 to 147 µm were conducted. These tests gave the following average gold recoveries for each composite:

- oxidized: 53%
- altered: 41%
- unaltered: 54%
- silicified: 59%.

The gravity tailings were treated by cyanidation and flotation. The gravity-cyanidation tests gave gold recoveries greater than 90% for all composites except the altered, which achieved an 85% overall gold recovery. Cyanide consumptions were low, and averaged approximately 0.27 kg/t. The grind size did not appear to affect gold extraction in the cyanidation tests. The gravity-flotation tests resulted in gold recoveries averaging 95%. Gold recoveries increased slightly with a finer grind size.

The results of these tests are presented in Table 13.3 and Table 13.4.

13.3.2 KCA GRAVITY TEST RESULTS

KCA conducted gravity test work on a composite of ore types A, B, C and D. The composite was HPGR crushed to P_{100} 1.7 mm. The material was run through an iCON generator, producing a concentrate and tailings product. The concentrate was hand-panned to produce a middling portion, which was then combined with the iCON tailings product. The combined middlings-tailings composite was run through a Falcon SB concentrator and the concentrate produced was combined with the iCON concentrate. The middlings and tailings were cyanided in a column leach test. Overall gold recovery was estimated to be 80%. The results are presented in Table 13.5.

13.4 GOLD RECOVERY CURVES

Field gold recovery curves were generated by lift based on the column leach test results on the conventionally crushed composite to approximately 6.4 mm. The field curves were generated based on a combination of laboratory T_s/T_o and leach time data, a 10 m lift height and a 10 L/h/m^2 leach solution application rate. Gold recovery will be delayed an incremental amount as the total heap height increases. Maximum heap height above the liner is approximately 150 m. For this study, field recovery curves at heap heights of 10, 50, 100 and 150 m for ore types A, B and C were estimated by comparing the 6.4 mm composite results with data from similar crush sizes as available on each ore type. These curves are shown in Figure 13.5, Figure 13.6 and Figure 13.7, and the data is presented in Table 13.11, Table 13.12, and Table 13.13.

Figure 13.5 Type A – Heap Recovery Curves

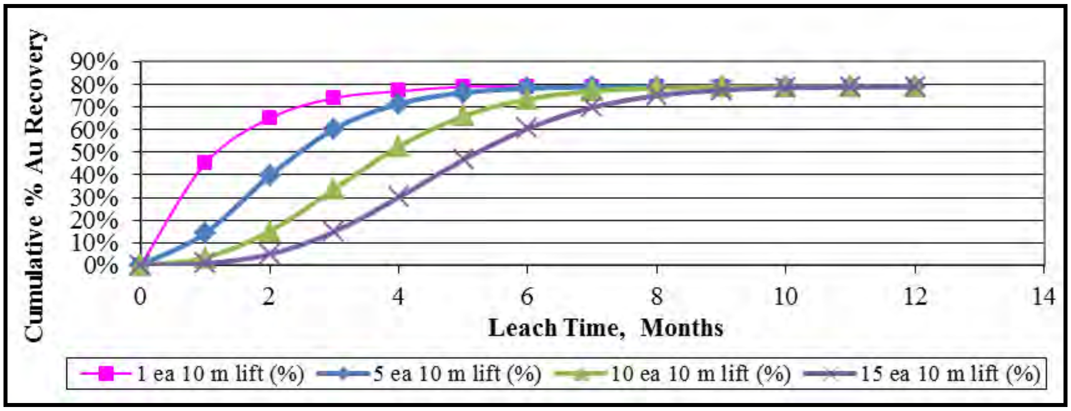


Figure 13.6 Types B and E – Heap Recovery Curves

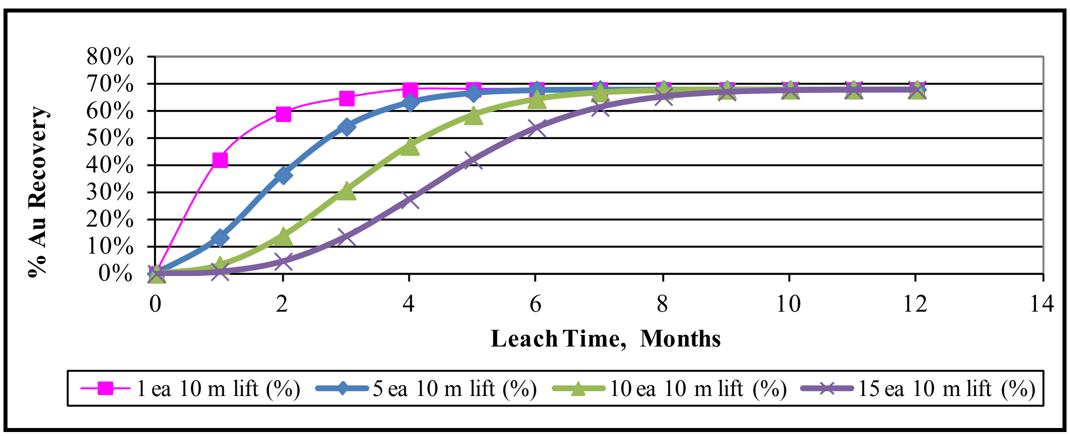


Figure 13.7 Type C – Heap Recovery Curves

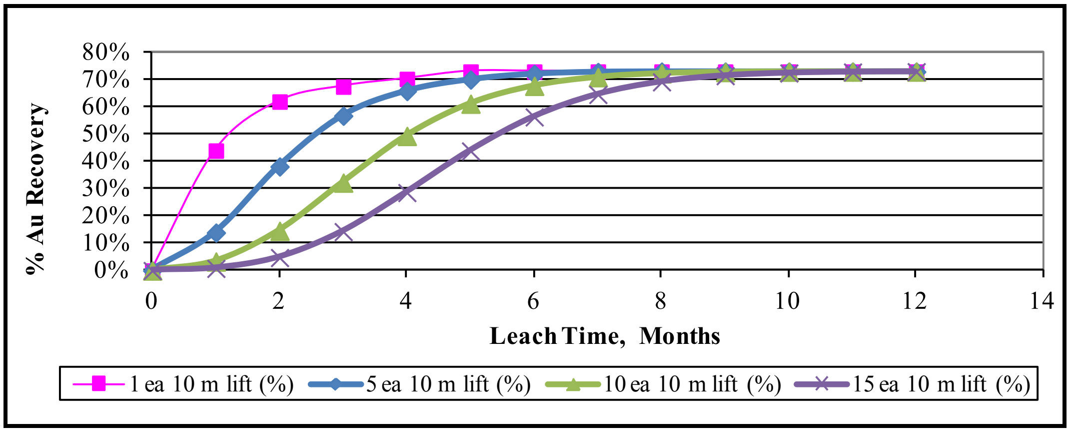


Table 13.11 Type A – Heap Recovery Curve

Leach Months	1 ea 10 m lift (%)	2 ea 10 m lift (%)	3 ea 10 m lift (%)	4 ea 10 m lift (%)	5 ea 10 m lift (%)	6 ea 10 m lift (%)	7 ea 10 m lift (%)	8 ea 10 m lift (%)	9 ea 10 m lift (%)	10 ea 10 m lift (%)	11 ea 10 m lift (%)	12 ea 10 m lift (%)	13 ea 10 m lift (%)	14 ea 10 m lift (%)	15 ea 10 m lift (%)
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	45	34	25	19	14	11	8	6	4.5	3.4	2.5	1.9	1.4	1.1	0.8
2	65	60	53	46	40	33	28	23	19	15	12	10	7.8	6.2	4.9
3	74	72	69	65	60	55	50	44	39	34	29	25	21	18	15
4	77	76	75	74	71	69	65	61	57	52	48	43	39	34	30
5	79	79	78	77	76	75	73	71	69	66	63	59	55	51	47
6	79	79	79	79	78	78	77	76	75	73	72	69	67	64	61
7	79	79	79	79	79	79	79	78	78	77	76	75	74	72	70
8	79	79	79	79	79	79	79	79	79	78	78	78	77	76	75
9	79	79	79	79	79	79	79	79	79	79	79	79	78	78	78
10	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
11	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
12	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79

Table 13.12 Type B and E – Heap Recovery Curve

Leach Months	1 ea 10 m Lift (%)	2 ea 10 m Lift (%)	3 ea 10 m Lift (%)	4 ea 10 m Lift (%)	5 ea 10 m Lift (%)	6 ea 10 m Lift (%)	7 ea 10 m Lift (%)	8 ea 10 m Lift (%)	9 ea 10 m Lift (%)	10 ea 10 m Lift (%)	11 ea 10 m Lift (%)	12 ea 10 m Lift (%)	13 ea 10 m Lift (%)	14 ea 10 m Lift (%)	15 ea 10 m Lift (%)
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	42	32	24	18	13	10	7.5	5.6	4.2	3.2	2.4	1.8	1.3	1.0	0.7
2	59	55	49	43	36	31	25	21	17	14	11	9.0	7.2	5.7	4.5
3	65	63	61	58	54	50	45	40	35	31	27	23	19	16	14
4	68	67	66	65	63	61	58	55	51	47	43	39	35	31	27
5	68	68	68	67	67	66	65	63	61	59	56	53	49	46	42
6	68	68	68	68	68	68	67	67	66	64	63	61	59	57	54
7	68	68	68	68	68	68	68	68	67	67	66	65	64	63	61
8	68	68	68	68	68	68	68	68	68	68	68	67	67	66	65
9	68	68	68	68	68	68	68	68	68	68	68	68	68	67	67
10	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
11	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
12	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68

Table 13.13 Type C – Heap Recovery Curve

Leach Months	1 ea 10 m Lift (%)	2 ea 10 m Lift (%)	3 ea 10 m Lift (%)	4 ea 10 m Lift (%)	5 ea 10 m Lift (%)	6 ea 10 m Lift (%)	7 ea 10 m Lift (%)	8 ea 10 m Lift (%)	9 ea 10 m Lift (%)	10 ea 10 m Lift (%)	11 ea 10 m Lift (%)	12 ea 10 m Lift (%)	13 ea 10 m Lift (%)	14 ea 10 m Lift (%)	15 ea 10 m Lift (%)
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	44	33	25	19	14	10	7.8	5.9	4.4	3.3	2.5	1.9	1.4	1.0	0.8
2	62	58	51	45	38	32	27	22	18	15	12	9.4	7.5	6.0	4.8
3	68	66	64	61	57	52	47	42	37	32	28	24	20	17	14
4	70	70	69	68	66	64	61	57	54	49	45	41	37	32	29
5	73	72	72	71	70	69	68	66	64	61	58	55	51	48	44
6	73	73	73	73	72	72	71	70	69	68	66	64	62	59	56
7	73	73	73	73	73	73	72	72	72	71	70	69	68	66	65
8	73	73	73	73	73	73	73	73	73	72	72	72	71	70	69
9	73	73	73	73	73	73	73	73	73	73	73	73	72	72	71
10	73	73	73	73	73	73	73	73	73	73	73	73	73	73	72
11	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
12	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73

13.5 Cyanide Neutralization

Cyanide neutralization and detoxification testing was completed on coarser crushed column leach tailings and barren solutions in 1996 and 1997. Additional neutralization and humidity cell tests were conducted in 2009 on material created from a new composite prepared from the 1996 core samples.

In 1996 and 1997, seven separate neutralization tests on six column tests conducted on individual ore types and on one column test conducted on a composite sample were conducted using a copper catalyzed hydrogen peroxide process. These results are presented in Table 13.14. Less than 1 t solution per tonne of ore was required to reach the cyanide levels shown in the table. In this series of tests, Weak Acid Dissociable (WAD) cyanide was utilized as the primary indicator upon which final detoxification was based.

The results indicate that from 0.3 to 0.4 kg hydrogen peroxide (30%) per tonne of ore, together with minor additions of lime and copper sulphate, will be required to treat HLF effluents to less than 1 ppm total cyanide.

Table 13.14 Summary of 1996-1997 Hydrogen Peroxide Detoxification Test Results

Ore Type	Crush Size (mm)	WAD Cyanide (ppm)*	Total Cyanide (ppm)*	Reagent Usages		
				30% H_2O_2 (kg/t)	Lime (kg/t)	Copper (kg/t)**
A	-50.0	<0.10	1.82	0.15	0.05	0.007
A	-12.5	<0.10	0.17	0.28	0.12	0.008
A	-50.0	0.03	0.08	0.15	0.09	0.009
A	-12.5	0.03	0.05	0.35	0.03	0.050
B	-12.5	<0.10	1.82	0.17	0.00	0.000
C	-12.5	<0.10	0.78	0.42	0.03	0.003
A, B, C, D	-12.5	<0.10	1.30	0.12	0.00	0.000

Notes: *Level in column effluent
**Copper added as copper sulfate pentahydrate
H_2O_2 – hydrogen peroxide

Fish toxicity testing was also completed on the cyanide neutralized barren solutions. The tests followed standard procedures as outlined by the American Public Health Association Standard Methods and Environment Canada's "Biological Test Methods: Acute Lethality Test Using Rainbow Trout" (Environment Canada, Report EPS 1/RM/9).

Various other metals and other constituents had to be removed for the solutions to pass the fish toxicity tests. Additional treatment included cyanate hydrolysis with dilute sulphuric acid, metal removal with iron chloride, pH adjustment with caustic and air stripping to remove ammonia. A total of three different solutions were tested, with the third solution resulting in a 100% fish survival rate after 96 h. These fish toxicity tests were conducted by EVS Environmental Consultants.

Full details on the 1996 to 1997 testing are presented in the KCA Dublin Gulch Project Laboratory Report of Metallurgical & Environmental Studies, prepared for First Dynasty Mines, April 1996, together with a letter outlining detoxification work for Dublin Gulch. The letter, titled "Treat and release effluent toxicity evaluations for the proposed Dublin Gulch project", is dated April 25, 1997, to Mr. Steve Stine of New Millennium Mining Ltd., from Mr. Terry Albert of KCA.

In 2009, a master composite was prepared from the stored core received in 1996. A description of the selected stored reject core intervals utilized to generate the master composite is presented in Table 13.15.

Table 13.15 Core Intervals Utilized to Generate the Master Composite

Core Hole	Interval		Description	Crush Size (mm)	Weight to Composite (kg)
	From (m)	To (m)			
74 C	47.3	99.1	Sericite altered granodiorite	50	41.25
74 C	99.1	177.2	Fresh to weakly altered granodiorite	50	41.25
76 C	22.9	190.0	Weathered granodiorite	50	67.50
-	-	-	**Master Composite**	-	**150.00**

A pulverized portion from each of the three separate core intervals was utilized for acid base accounting (ABA) test work. The ABA test results are presented in Table 13.16.

Table 13.16 ABA of Individual Components of the 2009 Master Composite

Description	Total Sulphur (%)	Sulphide Sulphur (%)	Sulphate Sulphur (%)	Paste pH	Neutralization Potential*	Acidification Potential*	Net Neutralization Potential*
Sericite altered granodiorite	0.21	0.11	0.10	7.6	51	7	44
Fresh to weakly altered granodiorite	0.22	0.07	0.15	8.2	50	7	43
Weathered granodiorite	0.05	<0.01	0.05	8.2	17	2	15

Note: *Units are in tonnes of calcium carbonate ($CaCO_3$) equivalent per 1,000 t of material

A portion of the master composite was then sent to SGS Lakefield Research Limited to be crushed by HPGR methods. The HPGR product was returned to KCA for metallurgical test work. The crushed master composite had a P_{80} 3.6 mm. Since the master composite crush size was considerably finer than that of the conventional crush size selected for the purposes this feasibility study (i.e. P_{80} 6.4 mm), the results are a conservative indication of final heap leach characteristics.

The master composite was agglomerated with 2 kg/t of Portland cement and then leached in a column for 33 d resulting in a gold extraction of over 90% of the estimated head assay. Following the leaching period, detoxification test work utilizing a hydrogen peroxide (copper catalyzed peroxide) detoxification method was conducted. The method requires neutralizing the leach solutions and recirculating the solutions through the ore column until the effluent from the columns contains less than 0.2 mg/L WAD cyanide. A summary of chemical additions required to achieve neutralization are presented in Table 13.17. The final barren solution and the solution at the end of detoxification for the column leach test were analyzed for a Profile II metals analysis, total cyanide and WAD cyanide. A total of 1.6 t of detoxified solution per tonne of ore was applied before a WAD cyanide content of less than 0.2 mg/L was achieved in the column effluent. The results of the analysis are presented in Table 13.18. After detoxification, the entire column was utilized for modified Humidity Cell Testing (HCT).

Table 13.17 Detoxification Test Work Summary of Chemical Additions

KCA Sample No.	KCA Test No.	Column Weight (kg)	35% H_2O_2 Applied (g)	10 gpL $CuSO_4 \cdot 5H_2O$ (mL)	100% H_2O_2 Applied (g/t)	Copper Added (g/t)
42979	43276	80	147.05	489	643	16

Note: $CuSO_4 \cdot 5H_2O$ – copper sulphate

Additional detoxification studies are planned to assure that the test work simulates the field conditions in respect to ore type and crush size.

Table 13.18 Summary of Barren and Detoxification Solution Chemistry

Parameters	Units	Barren Solution	Detoxification Solution (Typical)
		January 5, 2010	February 1, 2010
Cyanate	mg/L	27	210
Thiocyanate	mg/L	120	<100
Ammonia, as Nitrogen	mg/L	46	60
pH	Units	10.38 (10.3)	9.85
Bicarbonate (HCO_3^-)	mg/L	<1.0	<1.0
Carbonate (CO_3^{2-})	mg/L	190	49
Hydroxide (OH^-)	mg/L	84	6.0
Total Alkalinity	mg/L as $CaCO_3$	570	99
Chloride	mg/L	35	44
Fluoride	mg/L	<1.0	<0.50
Sulphate	mg/L	990	1,400

table continues…

Parameters	Units	Barren Solution January 5, 2010	Detoxification Solution (Typical) February 1, 2010
Nitrate Nitrogen	mg/L	<10	2.9
Nitrite Nitrogen	mg/L	0.43	1.7
Total Kjeldahl Nitrogen	mg/L	74	99
Total Nitrogen	mg/L	75	100
Total Cyanide	mg/L	380	0.33
Total Dissolved Solids	mg/L	2,500	2,600
WAD Cyanide	mg/L	280	0.11
Silica	mg/L	28	27
Aluminum	mg/L	0.090	0.047
Barium	mg/L	0.061	0.056
Beryllium	mg/L	<0.0010	<0.0010
Bismuth	mg/L	<0.10	<0.10
Boron	mg/L	<0.10	<0.10
Cadmium	mg/L	0.0055	<0.0010
Calcium	mg/L	180	170
Chromium	mg/L	0.014	0.0050
Cobalt	mg/L	0.86	0.96
Copper	mg/L	9.1	<0.050
Gallium	mg/L	<0.10	<0.10
Iron	mg/L	2.6	0.034
Lead	mg/L	<0.010	<0.010
Lithium	mg/L	<0.10	<0.10
Magnesium	mg/L	<0.50	<0.50
Manganese	mg/L	<0.0050	<0.0050
Molybdenum	mg/L	0.22	0.22
Nickel	mg/L	0.095	<0.010
Phosphorous	mg/L	<0.50	<0.50
Potassium	mg/L	34	27
Scandium	mg/L	<0.10	<0.10
Silver	mg/L	0.0085	<0.0050
Sodium	mg/L	780	710
Strontium	mg/L	6.1	5.1
Tin	mg/L	<0.10	<0.10
Titanium	mg/L	<0.10	<0.10
Vanadium	mg/L	0.094	0.061
Zinc	mg/L	8.2	0.024
Mercury	mg/L	0.086	0.079
Antimony	mg/L	0.095	0.27
Arsenic	mg/L	0.15	0.67
Selenium	mg/L	0.068	0.069

table continues…

Parameters	Units	Barren Solution January 5, 2010	Detoxification Solution (Typical) February 1, 2010
Thallium	mg/L	<0.0010	<0.0010
Uranium	mg/L	<0.0020	<0.010

Note: Increase in results shown in red.

For the humidity cell procedure, warm humidified air was pumped though the column effluent line continuously for 12 d. The sample in the column was then leached with 5 L of distilled water. The rinse effluent was collected and submitted for analysis. A cycle involving pumping humidified air through the column for four days then rinsing the ore sample and collecting the effluent for three days and submitting the effluent for analysis was repeated for 81 cycles over 567 d. The results of the end of test effluent analysis are provided in Table 13.19.

Table 13.19 End of Test Humidity Cell Rinse Solution Chemistry

	Guidelines for Canadian Drinking Water Quality	End of Test Humidity Cell Rinse Solution Chemistry
Constituent	mg/L	mg/L
Alkalinity, Total	NS	51
Sulfate	≤500	160
Chloride	≤250	<0.10
Fluoride	1.5	0.29
Aluminum	0.1/0.2	<0.045
Antimony	0.006	0.34
Arsenic	0.01	0.28
Barium	1	0.027
Beryllium	NS	<0.0010
Bismuth	NS	<0.10
Boron	5	<0.10
Cadmium	0.005	<0.0010
Calcium	NS	71
Chromium	0.05	<0.0050
Cobalt	NS	<0.010
Copper	≤1.0	<0.010
Iron	≤3.0	<0.050
Lead	0.01	0.083
Lithium	NS	<0.10
Magnesium	NS	3.2
Manganese	≤0.05	<0.0050
Mercury	0.001	<0.0005
Molybdenum	NS	0.16

table continues…

	Guidelines for Canadian Drinking Water Quality	End of Test Humidity Cell Rinse Solution Chemistry
Nickel	NS	<0.010
Phosphorus	NS	<0.50
Potassium	NS	8.6
Selenium	0.01	<0.0050
Silicon	NS	23
Silver	NS	<0.0050
Sodium	≤200	2.3
Strontium	NS	1.3
Thallium	NS	<0.0050
Tin	NS	<0.10
Titanium	NS	<0.10
Uranium	0.02	0.020
Vanadium	NS	<0.010
Zinc	≤5.0	0.038
Total Dissolved Solids	NS	320
Bicarbonate	NS	62
Carbonate	NS	<1.0
WAD Cyanide	0.2	0.014
Total Cyanide	0.2	0.027
Cyanate	NS	<0.10
Thiocyanate	NS	<0.10
Nitrate Nitrogen	45	0.51
Nitrite Nitrogen	NS	0.018
Ammonia as N	NS	<0.050
Total Nitrogen	NS	0.71
Gallium	NS	<0.10
Scandium	NS	<0.10

Note: NS = No Standard Found; constituents in red are in excess of Canadian Drinking Water Guidelines.

14.0 MINERAL RESOURCE ESTIMATES

The resource estimation was conducted by Leah Mach, CPG, MSc, SRK Principal Resource Geologist. Ms. Mach is responsible for the resource estimation methodology, mineral resource classification and resource statement. Ms. Mach is independent of the issuer as defined by Section 1.5 of Companion Policy NI 43-101CP.

The resource estimation is based on the drillhole database (current as of August 1, 2011), digitized topography, interpreted grade shell and geologic controls. The estimation of mineral resources was completed using Maptek's Vulcan® modelling software.

The resource estimation is focused on the area that is the subject of the feasibility study and does not address areas outside the proposed pit.

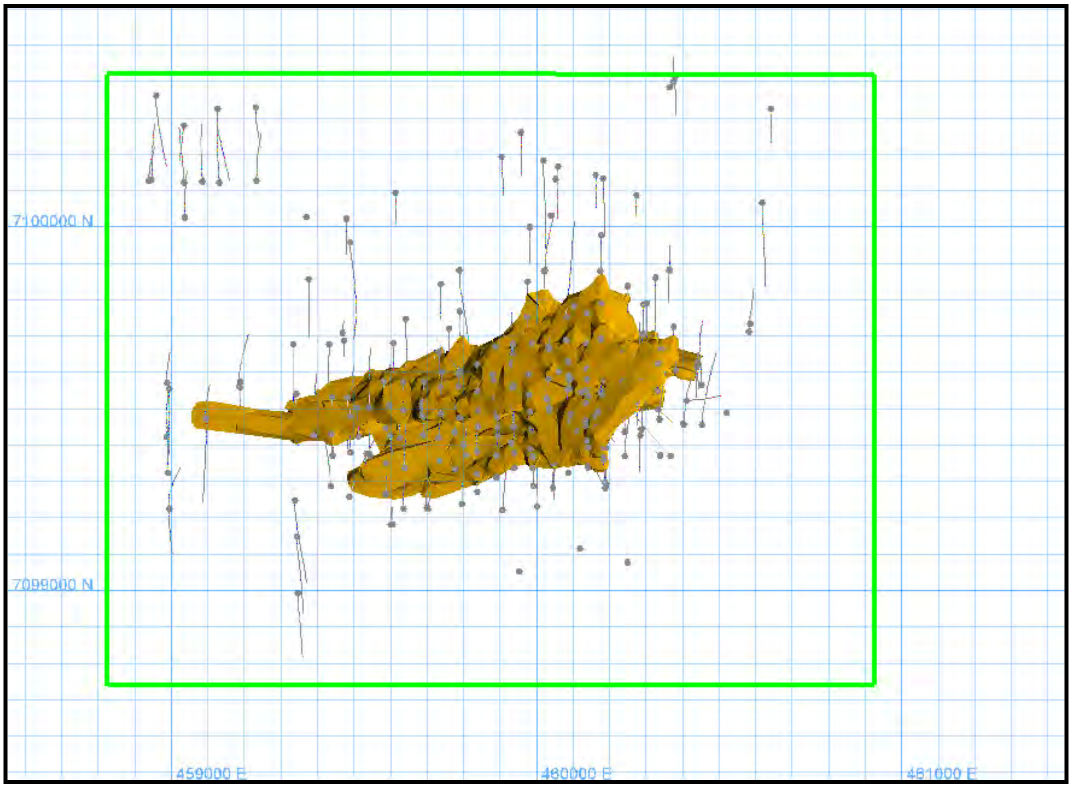
14.1 DRILLHOLE DATABASE

Victoria Gold provided SRK with the drillhole database as four comma-separated values (.csv) files with the following information:

- collar – drillhole name, easting, northing, elevation, total depth, type, purpose
- survey – drillhole name, depth of survey, azimuth, dip
- assays – drillhole name, from, to, sample ID, certificate number, gold, silver and other elements from the ICP analysis
- geology – drillhole name, from, to, sample ID, degree of oxidation, sericitization, chloritization and silicification, vein type and thickness
- lithology – drillhole name, from, to, rock type (overburden, granodiorite, altered granodiorite, hornfels, fault zone).

There are 247 drillholes with gold assays within the block model limits (Figure 14.1). The database as received by SRK had been edited by Wardrop in 2009 to exclude samples with low recovery or with drilling problems such as caving, high water inflow or contamination. A total of 1,750 samples from 41 core and 24 RC drillholes were removed from the database. SRK later saw the actual intervals that had been removed and did not see a bias as to gold grade in the excluded samples. However, SRK recommends that the database should be kept intact and the intervals to be excluded be coded as such. The database has been validated by SRK and meets the requirements for use in resource estimation.

Figure 14.1 Drillhole Location Map with Model Limit and Geological Model



14.2 GEOLOGIC MODEL

Victoria Gold geologists indicated that granodiorite and metasedimentary lithologic types are important controls on gold mineralization and that oxidation and sericitic alteration in granodiorite are also important controls. SRK defined lithologic/oxidation/alteration types as shown in Table 14.1.

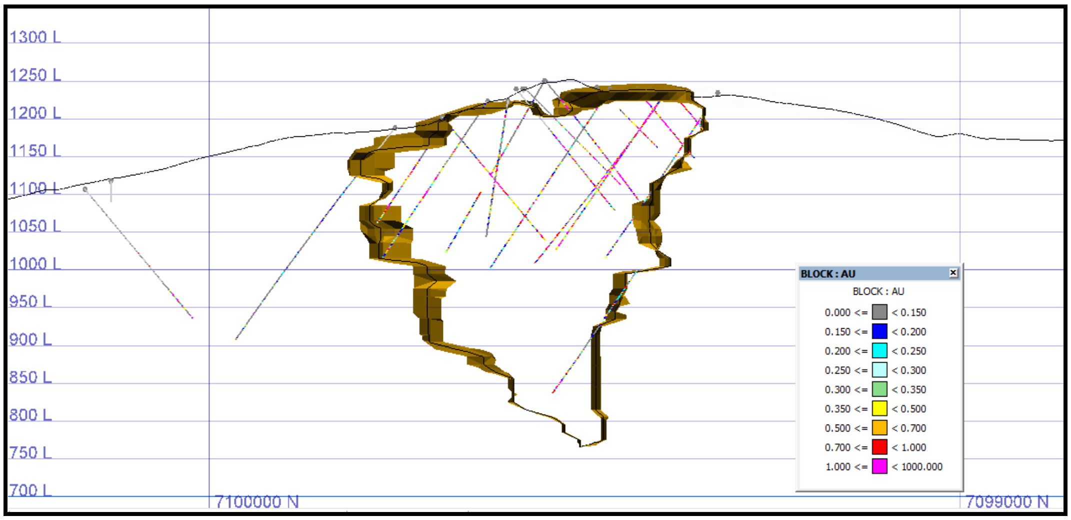
Table 14.1 Lithologic/Oxidation/Alteration Model Types

Code	Type
1	Oxide Granodiorite
2	Altered Granodiorite
3	Unaltered Granodiorite
4	Oxide Metasediments
6	Unaltered Metasediments
10	Overburden

The granodiorite, oxidation and overburden models were constructed by Allan Moran, CPG, B.Sc., SRK Principal Geologist, using Leapfrog® software. These models were modified slightly for use in the Vulcan® model.

The drillholes were used to define a grade shell at a cut-off of 0.2 g/t Au. Sections were constructed at 45 m intervals and polygons were digitized, snapping the points to the drillholes. Some intermediary sections were constructed where the drilling was more closely spaced. The polygons were connected to form a wireframe solid. The solid was then cut horizontally at 10 m intervals and the boundaries were adjusted to give a smoother outline. The wireframe is shown in plan view in Figure 14.1 and in cross-section in Figure 14.2.

Figure 14.2 Cross-section 460075E, Looking East, with Drillholes and Grade Shell



A total of 22,439 assay intervals with gold assays in 183 drillholes were used to define the wireframe. The assays were capped at 13.0 g/t Au as described in Section 12.1.4. The capping affected 13 samples and reduced the gold content (assay value multiplied by sample length) by 9%. Capped and uncapped assay statistics within the wireframe are provided in Table 14.2.

Table 14.2 Statistics of Capped and Uncapped Assays within the Grade Shell

Gold Assays	Statistic	Type				
		1	2	3	4	6
Uncapped	Mean	0.91	0.67	0.65	0.67	0.45
	Median	0.45	0.30	0.30	0.19	0.14
	Standard Deviation	1.60	1.31	1.22	2.25	1.17
	Minimum	0.00	0.00	0.00	0.00	0.00
	Maximum	42.20	18.21	24.28	52.36	14.00
	Coefficient of Variation	1.76	1.95	1.87	3.37	2.58
	Count	8,069	2,860	9,950	1,287	273

table continues…

Gold Assays	Statistic	Type				
		1	2	3	4	6
Capped	Mean	0.89	0.67	0.64	0.60	0.45
	Median	0.45	0.30	0.30	0.19	0.14
	Standard Deviation	1.41	1.25	1.12	1.27	1.13
	Minimum	0.00	0.00	0.00	0.00	0.00
	Maximum	13.00	13.00	13.00	13.00	13.00
	Coefficient of Variation	1.58	1.88	1.75	2.11	2.51
	Count	8,069	2,860	9,950	1,287	273

14.3 COMPOSITING

The capped gold assays were composited into 3 m intervals from the top of the drillhole with breaks at the wireframe boundary. Composite intervals less than 0.5 m in length were added to the composite immediately above. This would take place only at the point where the drillhole exits the wireframe. The statistics of the composites are shown in Table 14.3.

Table 14.3 Statistics of Gold Composites within the Grade Shell

Statistic (Au g/t)	Type				
	1	2	3	4	6
Mean	0.88	0.65	0.63	0.62	0.44
Median	0.56	0.38	0.38	0.27	0.21
Standard Deviation	1.02	0.91	0.79	1.04	0.82
Minimum	0.01	0.01	0.01	0.00	0.01
Maximum	9.88	9.65	8.43	9.94	7.25
Coefficient of Variation	1.16	1.40	1.26	1.67	1.87
Count	4,095	1,421	4,913	653	140

14.4 DENSITY

In 1995 and in 2010, Victoria Gold took a total of 647 bulk density measurements. The measurements are summarized by lithologic/oxidation/alteration code in Table 14.4. Forty-seven of the samples do not fall within the classification scheme.

Table 14.4 Average Density by Type

Statistic (Bulk Density SG)	Type				
	1	2	3	4	6
Average	2.58	2.63	2.65	2.62	2.70
Minimum	1.96	2.25	1.81	2.58	2.48
Maximum	2.73	3.25	4.55	2.71	2.95
Number	71	181	202	6	145

14.5 Variogram Analysis and Modelling

A variogram analysis was conducted on the 3 m composites within the wireframe. The downhole variogram was used to establish the nugget. The variograms that were obtained from the composites showed a short range on the order of about 50 m and a nugget equal to more than half of the total sill. The resultant variograms were predominantly of very poor quality regardless of orientation. For this reason, all grade estimations were made using an ID2 algorithm.

14.6 Grade Estimation

A block model with a cell size of 15 m x 15 m x 5 m (x, y, z, respectively) was used for the grade estimation. The block model parameters are shown in Table 14.5.

Table 14.5 Block Model Parameters

Coordinate	Minimum	Length (m)	Block size (m)
Easting	458885	1,980	15
Northing	7098800	1,560	15
Elevation	540	900	5

The block model was coded with the following variables:

- percentage of block below topography
- percentage of block within grade shell
- lithology
- oxidation
- alteration type
- gold
- density

- estimation variables – number of drillholes, number of composites, distance to the closest composite and average distance to composites used in estimation
- class.

The lithology code was assigned to the block by first labeling all blocks below topography as metasedimentary. The code was then overwritten with the granodiorite code for blocks with the centroid within the granodiorite wireframe solid. Finally, the code was overwritten with the overburden code for blocks with centroids above the overburden surface.

The blocks were coded as oxidized or fresh according to their position relative to the oxidation surface.

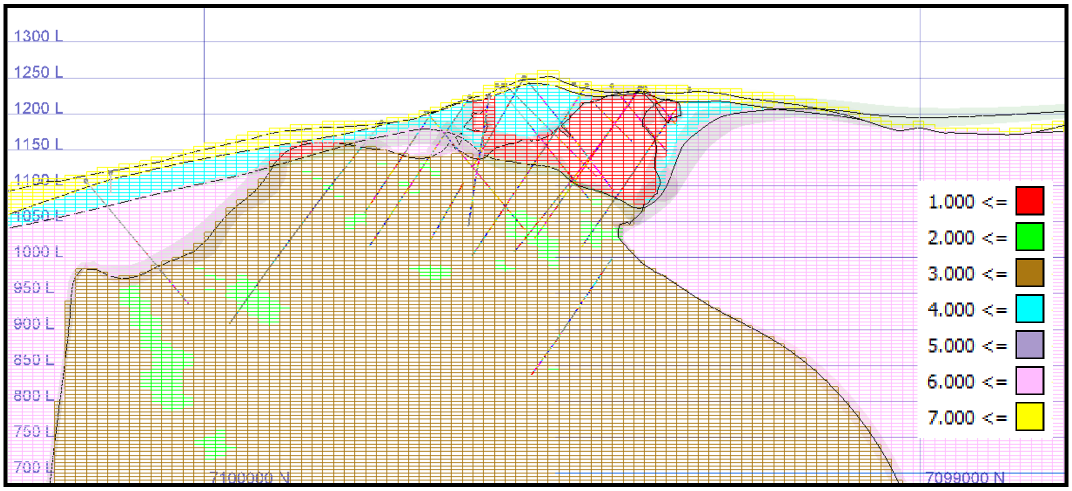
An indicator estimation was done to assign sericite alteration to the granodiorite blocks below the oxidation surface. Composites were coded as 0 if the sericite alteration was greater than or equal to 3, and 1 if the alteration was less than 3. The resulting indicator variable was then visually reviewed against the drillholes to determine the best value to use to assign sericite alteration to the blocks. In this case a value of 0.52 was deemed to have the best correlation with the drillholes.

The type was then assigned according to the following conditions:

- Type 1 – Oxidized Granodiorite – Granodiorite above the oxidation surface
- Type 2 – Altered Granodiorite – Granodiorite below the oxidation surface and sericite indicator greater than 0.52
- Type 3 – Unaltered Granodiorite – Granodiorite below the oxidation surface and sericite indicator less than or equal to 0.52
- Type 4 – Oxidized Metasediments – Metasediments above the oxidation surface
- Type 6 – Unaltered Metasediments – Metasediments below the oxidation surface
- Type 10 – Overburden – Above the overburden surface.

The type code was back-coded to the composites for use in estimation. Figure 14.3 is a cross-section showing the type codes.

Figure 14.3 **Cross-section 460745 E, Looking East, with Blocks Coded with Type**



Gold was estimated using ID2 with a search ellipsoid dipping 30° to the southwest (azimuth 240°). The estimation parameters for each pass are given in Table 14.6. The orientation of the search ellipsoid is based on the orientation of the veins which carry the gold values and the drillhole spacing. The search distance along strike and vertically is about twice the drillhole spacing.

Table 14.6 Estimation Parameters

	Search Range (m)	Number of Composites		
Pass	**Major, Semi-major, Minor**	**Minimum**	**Maximum**	**Maximum per Drillhole**
1	100, 50, 100	4	8	3
2	100, 50, 100	3	8	3

Types 1 and 4 were estimated together using composites with the same codes and Types 2, 3 and 6 were estimated together with composites with the same codes. Blocks with any percentage within the grade shell were estimated and only composites within the grade shell were used in the estimation. Figure 14.4 is a cross-section view of the gold block grades and Figure 14.5 is a plan view of the gold block grades.

Figure 14.4 Cross-section 460075E with Block Au Grades

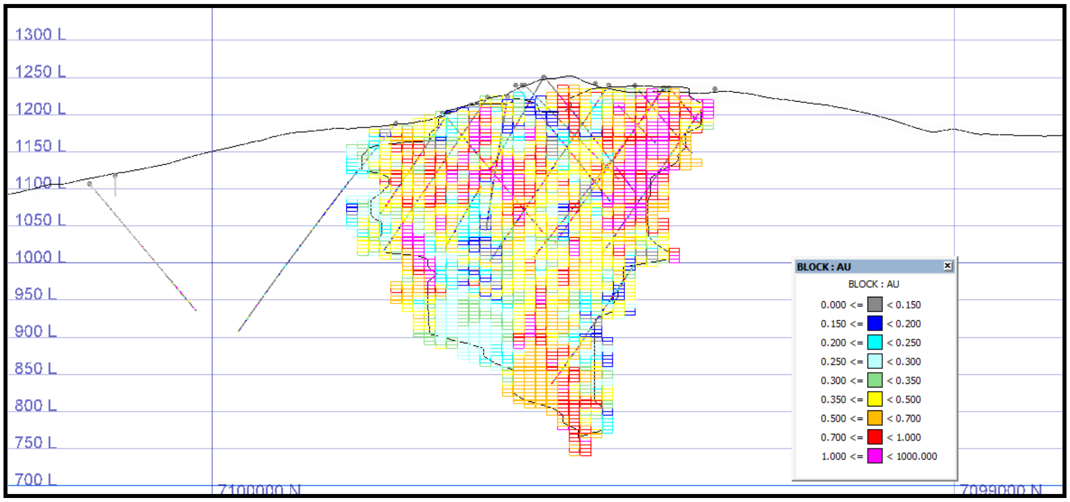
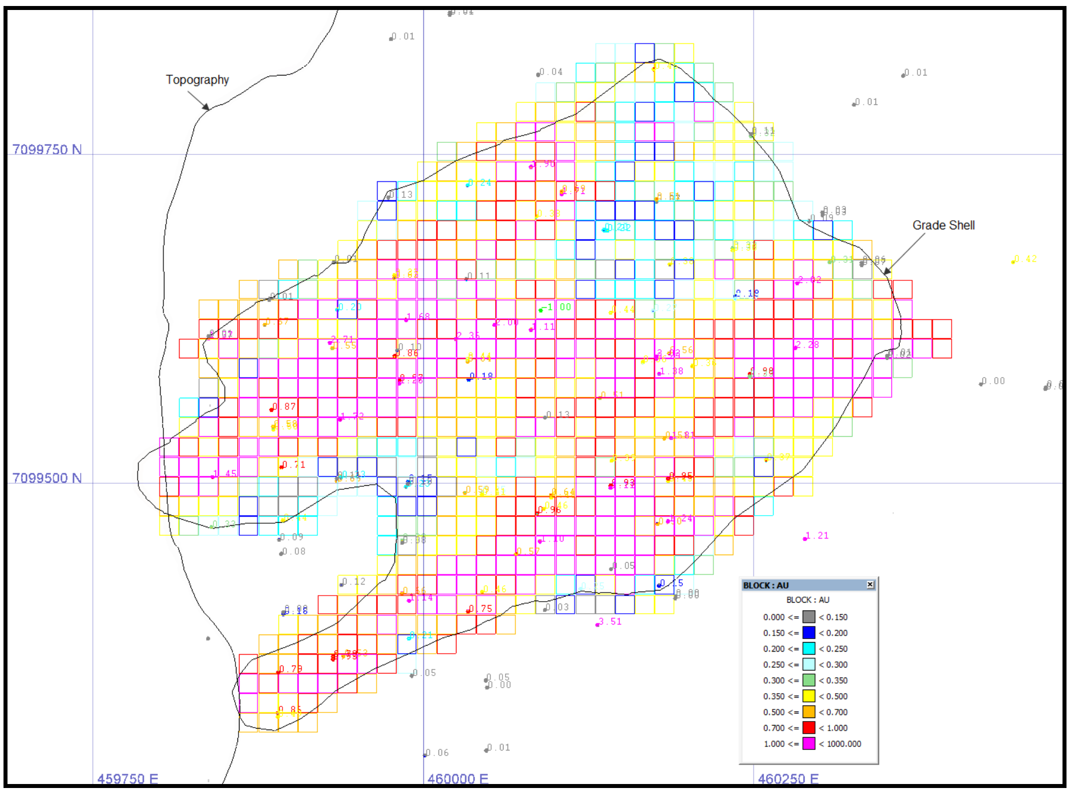


Figure 14.5 Plan View of Elevation 1,115 with Composite and Block Au Grades



14.7 Model Validation

Five techniques were used to evaluate the validity of the block model:

- During the ID2 grade estimation, the estimation pass, the number of samples used, the number of drillholes used and the average distance to samples were stored. This data was checked to evaluate the performance of the sample selection parameters discussed above. The results for each estimation are listed in Table 14.7.
- The interpolated block gold grades were visually checked on sections and bench plans for comparison to the composite grades.
- Statistical analyses were made comparing the estimated block grades in each domain to the composite sample data supporting the estimation. The results in Table 14.8 show average block grades to be slightly below the average sample grades, but the median of the block grades is above the median of the composites. This is a common feature in resource estimation.
- A nearest neighbor (NN) estimation was run using a single composite to estimate each block model within the same parameters used for the ID2 grade model. The gold ID2 average grade was compared to the gold NN grade on a global basis. The results are listed in Table 14.9 and show that the ID2 estimation is 2% and 5% higher than the NN estimation for oxide and sulphide, respectively. These show that in general, metal is not being over-estimated during the modeling process.
- Swath plots were generated comparing block and composite grades by 105 m bands by easting and 45 m bands by elevation. The results are shown in Figure 14.6. The composite grades are higher than the block grades as is expected.

All five model validation tests described above provided good confidence in the resource estimation.

Table 14.7 Grade Estimation Characteristics

Domain	Criteria	Result
Oxide	% Blocks Estimated in 1st Pass	99
	% Blocks Estimated in 2nd Pass	1
	Average Number of Samples Used per Block	5.8
	Average Number of Drillholes Used per Block	2.8
	Average Distance to Samples (m)	23
Fresh	% Blocks Estimated in 1st Pass	93
	% Blocks Estimated in 2nd Pass	7
	Average Number of Samples Used per Block	7.7
	Average Number of Drillholes Used per Block	2.9
	Average Distance to Samples (m)	47.5

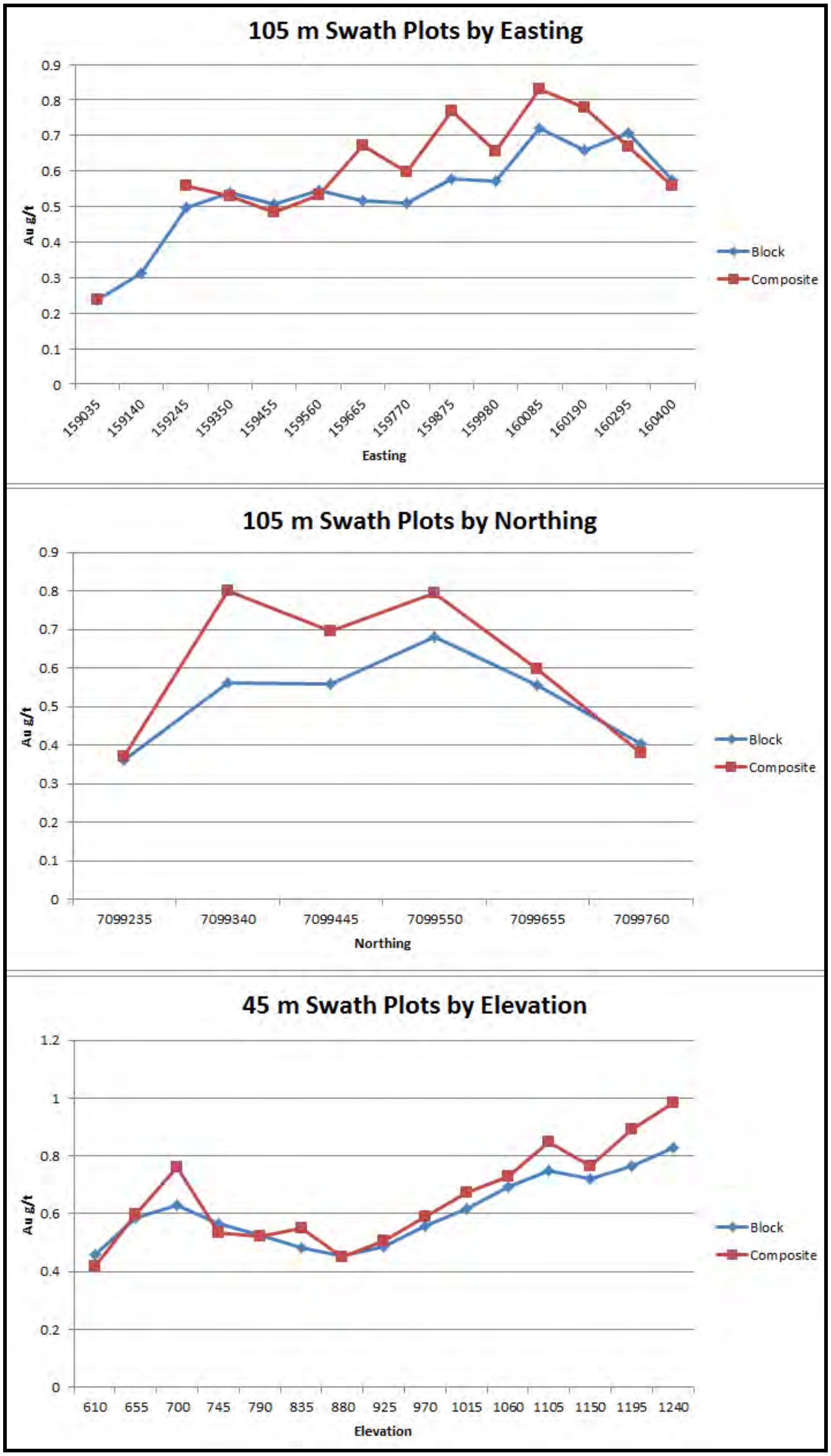
Table 14.8 Composite vs. Block Model Grades

Source	Statistic	Type 1	2	3	4	6
Composite	Mean	0.88	0.65	0.63	0.62	0.44
	Median	0.56	0.38	0.38	0.27	0.21
	Standard Deviation	1.02	0.91	0.79	1.04	0.82
	Minimum	0.01	0.01	0.01	0	0.01
	Maximum	9.88	9.65	8.43	9.94	7.25
	Coefficient of Variation	1.16	1.4	1.26	1.67	1.87
	Count	4,095	1,421	4,913	653	140
Block	Mean	0.77	0.58	0.55	0.58	0.43
	Median	0.61	0.47	0.45	0.43	0.33
	Standard Deviation	0.57	0.44	0.41	0.52	0.35
	Minimum	0.02	0.05	0.02	0.01	0.03
	Maximum	5.1	5.42	4.88	4.4	3.52
	Coefficient of Variation	0.74	0.76	0.75	0.90	0.81
	Count	13,661	10,687	48,126	3,332	1,239

Table 14.9 Nearest Neighbor Model Validation

Domain	Mean Au_ID2 (g/t Au)	Mean Au_NN (g/t Au)	ID2 as Percent of NN (%)
Oxide	0.556	0.547	102
Fresh	0.728	0.695	105

Figure 14.6 Swath Plots by Easting, Northing and Elevation



14.8 Resource Classification

Mineral resources are classified under the categories of Measured, Indicated and Inferred according to Canadian Institute of Mining (CIM) guidelines. Classification of the mineral resources reflects the relative confidence of the grade estimates and the continuity of the mineralization. This classification is based on several factors including sample spacing relative to geological and geo-statistical observations regarding the continuity of mineralization, data verification to original sources, specific gravity determinations, accuracy of drill collar locations, accuracy of topographic surface, quality of the assay data and many other factors, which influence the confidence of the mineral estimation. No single factor controls the mineral resource classification rather each factor influences the end result.

The blocks were classified according to the pass in which they were estimated, the number of drillholes used in the estimation, the average distance to the composites used in estimation and position relative to a surface related to the depth of drilling. The drillholes average about 215 m in depth with some deeper holes drilled on sections between 100 and 200 m apart. The depth of drilling surface was used to limit the Measured and Indicated Resources at depth. Figure 14.7 shows the depth of drilling surface relative to the drillholes. The classification follows the following steps, with each succeeding step over-riding the previous one:

- Step 1 – All blocks are classified as Inferred.
- Step 2 – Blocks estimated in Pass 1 with more than two drillholes and the average distance to composites less than 60 m were classified as Indicated.
- Step 3 – Blocks coded as Indicated below the drilling surface were reclassified as Inferred.

Figure 14.8 is a cross-section showing resource classification.

Figure 14.7 Oblique View of the Depth of Drilling Surface and Drillholes

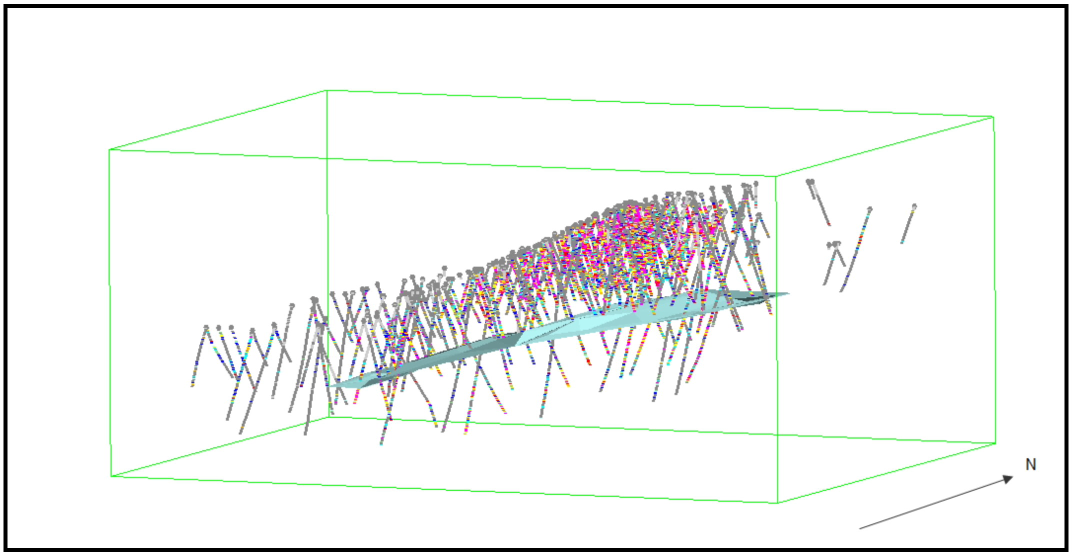
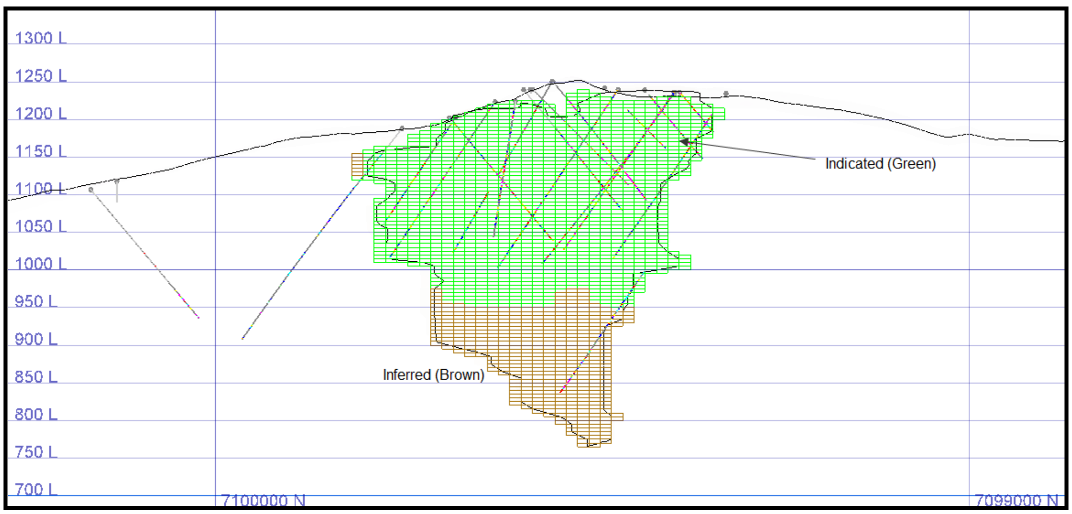


Figure 14.8 Cross-section 460075 with Resource Classification



14.9 Mineral Resource Statement

The Eagle Gold deposit mineral resources are reported at a cut-off grade of 0.2 g/t Au. The cut-off is supported by the following parameters supplied by Victoria Gold:

- mining cost: US$1.88/t
- processing cost: US$5.05/t
- gold recoveries of 79%, 68% and 73% for oxidized rock, unaltered rock, and sericitically altered granodiorite, respectively

- G&A cost of $1.05/t
- gold price of US$1,500/oz.

The mineral resources are confined within a conceptual Whittle® pit shell based on the same parameters used for the cut-off grade and varying pit slopes. Indicated and Inferred Resources were used in the pit optimization. Figure 14.9 is a cross-section showing the resource pit shell with blocks coded by resource classification. Table 14.10 presents the Indicated and Inferred Mineral Resources of the Eagle Gold deposit.

Figure 14.9 Cross-section 460075 with $1,500 Resource Pit and Blocks Coded by Resource Classification

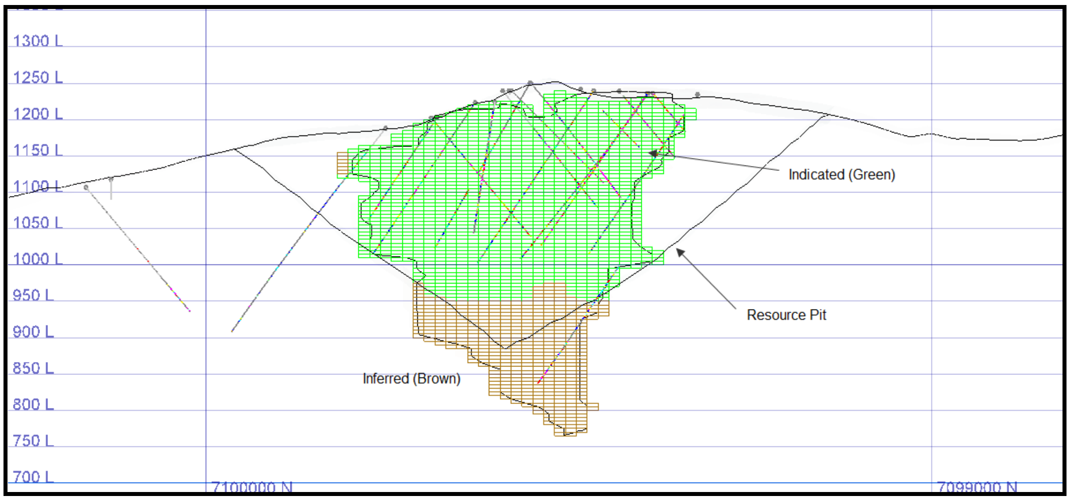


Table 14.10 Eagle Mineral Resources*

Cut-off (g/t Au)	Class	Tonnage (kt)	Au (g/t)	Au (oz)
0.2	Indicated	133,699	0.69	2,979,000
	Inferred	17,464	0.56	315,000

Note: *Resources are stated as of August 1, 2011, at a cut-off grade of 0.2 g/t Au and constrained within a $1,500 pit optimization shell.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Mineral resource estimates do not account for mineability, selectivity, mining loss and dilution. These mineral resource estimates include Inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. There is also no certainty that these Inferred Mineral Resources will be converted to Measured and Indicated categories through further drilling, or into mineral reserves, once economic considerations are applied.

14.10 MINERAL RESOURCE SENSITIVITY

The Indicated and Inferred Mineral Resources at cut-off grades between 0.1 and 1 g/t Au are shown in Table 14.11 and Table 14.12, respectively, and in graph format in Figure 14.10.

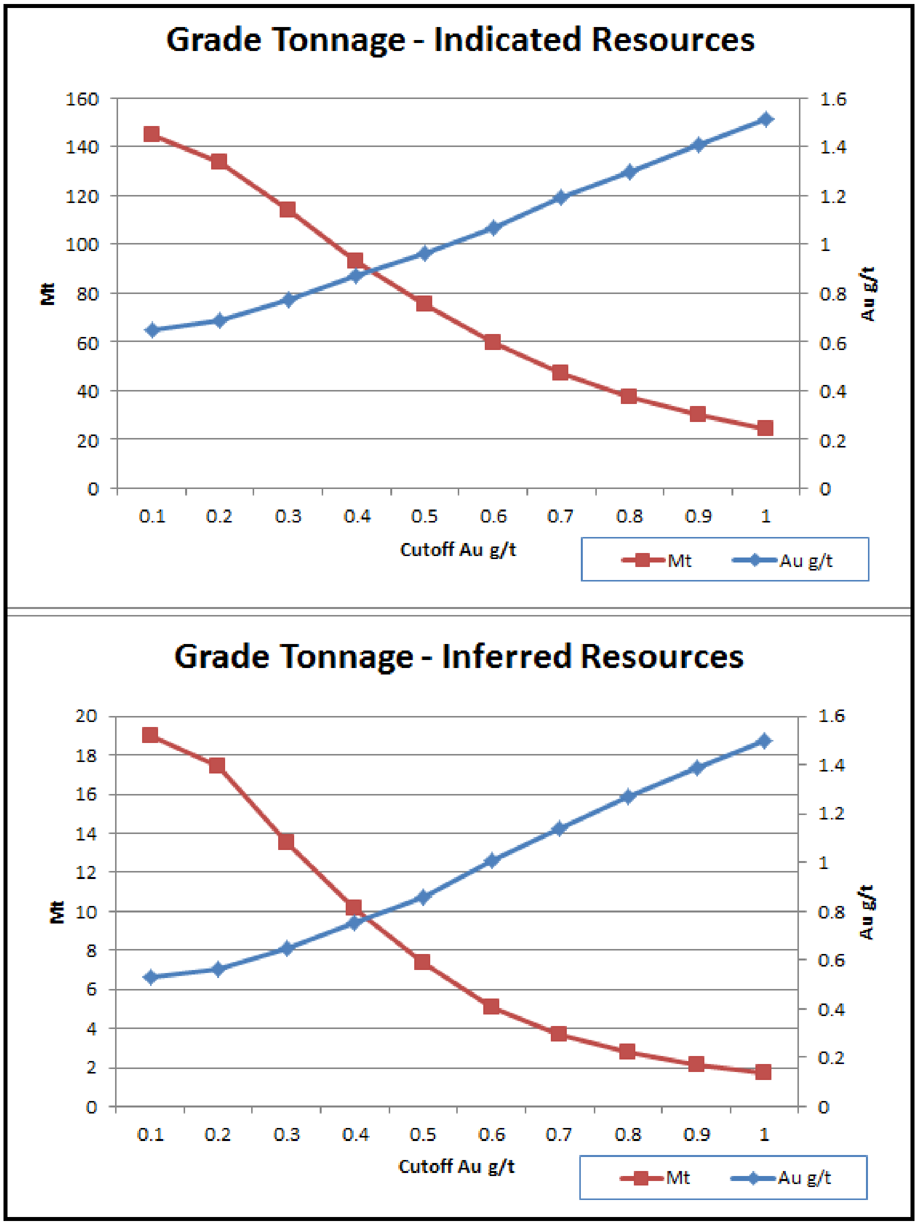
Table 14.11 Grade Tonnage Data for Indicated Resources

Cut-off (g/t Au)	Au (g/t)	Tonnage (Mt)
0.1	0.65	144.6
0.2	0.69	133.8
0.3	0.77	113.8
0.4	0.87	92.7
0.5	0.96	75.0
0.6	1.07	59.4
0.7	1.19	46.9
0.8	1.30	37.5
0.9	1.41	30.2
1.0	1.51	24.5

Table 14.12 Grade Tonnage Data for Inferred Resources

Cut-off (g/t Au)	Au (g/t)	Tonnage (Mt)
0.1	0.53	19.0
0.2	0.56	17.5
0.3	0.65	13.5
0.4	0.75	10.1
0.5	0.86	7.4
0.6	1.01	5.1
0.7	1.14	3.7
0.8	1.27	2.8
0.9	1.39	2.1
1.0	1.50	1.7

Figure 14.10 Grade Tonnage Curves for the Eagle Gold Deposit



15.0 MINERAL RESERVE ESTIMATES

15.1 SUMMARY

A Probable Mineral Reserve is by definition, "…the economically mineable part of an Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study (that)…must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified" (CIM 2005). Other sections of this feasibility study address mining, processing, metallurgical, economic and other relevant factors that allow the classification of the Probable Mineral Reserve figures shown in Table 15.1. These figures were estimated by selection of an optimum final pit based on the block model data provided by SRK. These figures represent that portion of the Indicated Mineral Resource that falls within the optimum final pit. Although the block model included some Inferred Mineral Resource, this portion of the model was not included in the Probable Mineral Reserve and remains classified as waste; Inferred Mineral Resources do not meet the standards required for inclusion in mineral reserves.

A total Probable Mineral Reserve of 91.6 Mt exists inside the final pit. Table 15.1 tabulates the reserve by class and ore type.

Table 15.1 Mineral Reserves

Resource Class	Reserve Class	Ore Type	Diluted Tonnes (Mt)	Diluted Grade (g/t)	Contained Ounces (oz)
Indicated	Probable	A	32.0	0.875	900,686
		B	41.8	0.727	977,692
		C	11.0	0.715	252,724
		E	6.8	0.780	169,667
		Total	**91.6**	**0.781**	**2,300,768**
Inferred	n/a	**Total**	**2.2**	**0.456**	**32,256**

15.2 Pit Optimization

Wardrop used Gemcom Whittle™ software with the Lerchs-Grossman optimization algorithm to evaluate the optimal pit shell for the deposit. Using the latest block model developed by SRK, and a set of basic economic input parameters, 66 pit shells were produced. An optimum pit was selected to maximize the value of the Project while minimizing potential risk.

15.2.1 Input Parameters

The input assumptions used for the pit optimization are summarized in Table 15.2.

Table 15.2 Gemcom Whittle™ Input Parameters

Parameter	Value
Mining Cost	$1.88/t mined
Process Cost (G&A included)	$6.55/t processed
Ore Extraction Recovery	98%
Mining Dilution	1%
Gold Recovery Ore Type A	79%
Gold Recovery Ore Type B	68%
Gold Recovery Ore Type C	73%
Gold Recovery Ore Type E	68%
Exchange Rate	Cdn$1:US$0.927
Metal Price (Au)	US$1,200/oz
Selling Price (Au)	US$5/oz
Royalty	1%

Due to the different recoveries by ore type, cut-off grades in Gemcom Whittle™ referred to the unit value ($/t) of each block, which was calculated using the following formula:

$$Unit\ Value\ (\$/t) = Au_{[g/t]} / 31.10352 * Rec_{Au} * [(1200-5)*(1-0.01)]$$

BGC provided feasibility level pit slope angles used in the optimization. The slope angles vary significantly around the pit, by azimuth as well as by rock type. It is not possible to exactly reproduce the provided geotechnical pit slopes in the optimization, because Gemcom Whittle™ requires a transition zone from one angle to the next; however, Wardrop was able to develop a reasonable estimate of BGC's designs.

Table 15.3 summarizes the slopes provided by BGC, and the data that was entered into Gemcom Whittle™.

Table 15.3 Geotechnical Pit Slopes

Domain	BGC			Gemcom Whittle™		
	Slope Azimuth		Slope Angle (°)	Slope Azimuth		Slope Angle (°)
	Start (°)	End (°)		Start (°)	End (°)	
Metased	0	32	41	0	32	43-31
	32	89	31	32	-	31
	89	120	32	-	120	32
	120	144	40	120	162	32-40
	144	175	40	162	175	40
	175	209	43	175	201	40-43
	209	269	42	201	332	43
	269	0	43	332	0	43-31
Intrusive	5	26	39	344	26	43-35
	26	86	35	26	86	35-34
	86	-	34	86	107	34
	-	134	34	107	135	34-31
Intrusive	134	205	31	135	205	31
	205	280	39	205	248	31-39
	280	310	43	248	280	39
	310	5	43	280	344	39-43

15.2.2 Optimization Results

Cone designs define what can be mined economically from the deposit; they identify those blocks which should be mined and those which should not. In an effort to identify the mineable blocks, an economic block model was created from the geologic grade model. Mining, processing, fixed costs and commodity prices, in current economic conditions, were used to determine economic block values. Employing economic block values, each positive block was further checked to determine whether its value can pay for the removal of overlying waste blocks. The analysis is based on a break-even calculation that checks if undiscounted profits obtained from a given ore block can pay for the undiscounted cost of mining the waste blocks. This analysis is performed with Gemcom Whittle™ optimization tools to create cone designs (i.e. nested pit shells).

Cone design (or pit shell) optimization is a static analysis, in that no attempt is made to determine when a block of material will be mined; it is therefore not possible to consider the fact that prices, costs, capacities and recoveries may change over time. These factors can only be considered during schedule optimization.

Using the input parameters above, a total of 66 pit shells were created for prices ranging from US$300/oz to US$2,000/oz. Table 15.4 shows the sensitivity of pit size to metal prices. Smaller pits at lower gold prices are typically higher grade and have a lower strip ratio. A selection of these pits was used as mining phases during production scheduling to maximize revenues early on while progressing toward the final pit. Pit 46, which contains approximately 113 Mt of ore at a strip ratio of 1.44:1, represents the maximum pit size assuming an average long-term gold price of US$1,200/oz.

Table 15.4 Gemcom Whittle™ Cones by Gold Price

Pit No.	Gold Price (US$/oz)	Material				Gold	
		Ore (kt)	Waste (kt)	Total (kt)	Strip Ratio (t:t)	Grade (g/t)	Contained (oz)
1	300	1,505	2,504	4,009	1.66	1.747	84,571
2	320	2,902	4,958	7,860	1.71	1.619	151,089
3	340	3,428	5,354	8,782	1.56	1.547	170,449
4	360	8,268	14,310	22,578	1.73	1.422	377,865
5	380	9,418	15,146	24,564	1.61	1.375	416,343
6	400	11,579	17,242	28,821	1.49	1.313	488,601
7	420	12,921	18,163	31,084	1.41	1.274	529,240
8	440	18,938	26,957	45,895	1.42	1.199	730,106
9	460	21,398	28,953	50,351	1.35	1.164	800,725
10	480	23,090	29,691	52,781	1.29	1.137	843,815
11	500	26,024	33,068	59,092	1.27	1.107	926,437
12	520	28,840	36,103	64,943	1.25	1.081	1,002,388
13	540	31,378	39,020	70,398	1.24	1.059	1,068,064
14	560	33,297	40,273	73,570	1.21	1.039	1,112,610
15	580	36,160	43,470	79,630	1.20	1.018	1,183,102
16	600	38,115	44,376	82,491	1.16	0.999	1,223,863
17	620	40,771	47,852	88,623	1.17	0.981	1,286,033
18	640	43,970	50,983	94,953	1.16	0.959	1,355,767
19	660	46,735	53,888	100,623	1.15	0.942	1,414,919
20	680	50,157	58,074	108,231	1.16	0.922	1,487,132
21	700	53,118	62,022	115,140	1.17	0.908	1,550,421
22	720	59,225	72,211	131,436	1.22	0.886	1,686,091
23	740	61,722	75,868	137,590	1.23	0.876	1,738,398
24	760	65,128	81,322	146,450	1.25	0.864	1,809,802
25	780	67,127	82,156	149,283	1.22	0.854	1,842,250
26	800	69,373	85,411	154,784	1.23	0.845	1,885,416
27	820	71,756	87,952	159,708	1.23	0.836	1,927,628
28	840	74,633	92,521	167,154	1.24	0.826	1,981,512
29	860	76,854	95,653	172,507	1.24	0.818	2,021,138
30	880	78,509	96,500	175,009	1.23	0.810	2,045,395
31	900	80,672	98,356	179,028	1.22	0.801	2,078,592
32	920	82,904	101,787	184,691	1.23	0.794	2,116,485

table continues…

Pit No.	Gold Price (US$/oz)	Material				Gold	
		Ore (kt)	Waste (kt)	Total (kt)	Strip Ratio (t:t)	Grade (g/t)	Contained (oz)
33	940	85,181	105,583	190,764	1.24	0.787	2,155,040
34	960	86,742	106,502	193,244	1.23	0.780	2,176,368
35	980	88,274	107,821	196,095	1.22	0.775	2,198,047
36	1,000	93,083	120,703	213,786	1.30	0.765	2,288,559
37	1,020	97,866	130,498	228,364	1.33	0.753	2,368,518
38	1,040	98,900	130,139	229,039	1.32	0.748	2,378,962
39	1,060	102,035	138,069	240,104	1.35	0.742	2,433,195
40	1,080	103,393	139,232	242,625	1.35	0.737	2,450,538
41	1,100	105,952	147,851	253,803	1.40	0.733	2,498,405
42	1,120	106,640	147,340	253,980	1.38	0.730	2,504,286
43	1,140	108,101	151,135	259,236	1.40	0.727	2,527,726
44	1,160	110,325	158,555	268,880	1.44	0.724	2,566,869
45	1,180	111,149	158,553	269,702	1.43	0.721	2,574,909
46	1,200	112,555	162,016	274,571	1.44	0.717	2,596,114
47	1,220	113,904	165,485	279,389	1.45	0.714	2,616,415
48	1,240	114,873	166,298	281,171	1.45	0.711	2,627,219
49	1,260	115,504	166,595	282,099	1.44	0.709	2,633,628
50	1,280	116,291	167,372	283,663	1.44	0.707	2,642,338
51	1,300	117,437	169,466	286,903	1.44	0.704	2,656,855
52	1,320	118,868	174,377	293,245	1.47	0.701	2,679,352
53	1,340	120,164	177,833	297,997	1.48	0.698	2,697,459
54	1,360	123,103	200,916	324,019	1.63	0.699	2,767,196
55	1,380	123,549	201,128	324,677	1.63	0.698	2,771,349
56	1,400	124,463	202,864	327,327	1.63	0.695	2,782,269
57	1,420	125,592	206,210	331,802	1.64	0.693	2,797,698
58	1,440	126,763	209,592	336,355	1.65	0.690	2,813,381
59	1,460	127,607	212,250	339,857	1.66	0.689	2,824,874
60	1,480	128,748	216,607	345,355	1.68	0.687	2,841,644
61	1,500	129,163	216,790	345,953	1.68	0.685	2,845,180
62	1,600	132,081	223,379	355,460	1.69	0.678	2,878,121
63	1,700	134,736	228,793	363,529	1.70	0.671	2,905,208
64	1,800	136,756	235,194	371,950	1.72	0.666	2,928,228
65	1,900	138,825	242,392	381,217	1.75	0.661	2,951,411
66	2,000	139,624	242,551	382,175	1.74	0.659	2,956,338

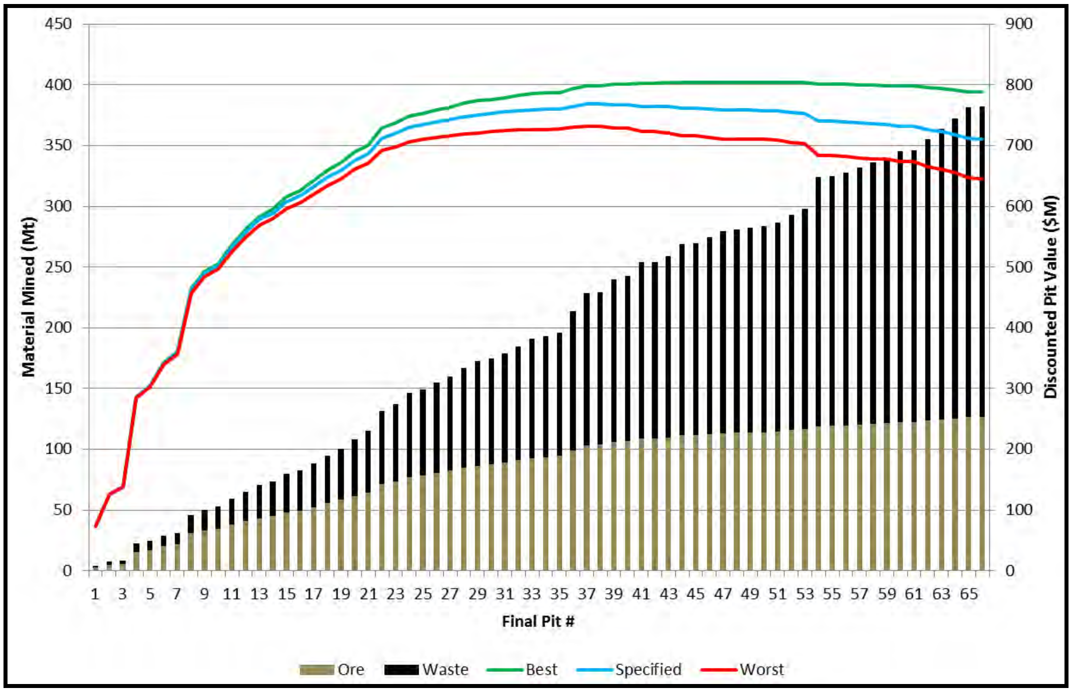
15.2.3 *FINAL PIT SELECTION*

In order to determine the optimum pit shell, discounted cash flow analyses were performed taking into account the sequence of mining for all the nested pit shells using the economic unit value cut-off of $6.55/t. Three different mining scenarios were used for the analyses: best case, specified case, and worst case.

The best case scenario assumes that it is possible to mine nested pit shells from the smallest pit to the largest pit without considering pushback width so it tends to be on the optimistic side. The realistic case assumes three mining phases (using pits 2, 6 and 20 for pushbacks); this case is intended to represent a more realistic mining sequence. The worst case scenario assumes that it will not be possible to access lower benches before pushing back the top bench to its final limit (i.e. all mining will be conducted from the top-down using only the final pit). This case is considered conservative.

The results of the optimization for the base case pricing scenario are summarized in Figure 15.1 and Table 15.1.

Figure 15.1 Discounted Value of Gemcom Whittle™ Pit Shells



In choosing an optimum pit, it is important to understand the level of risk the Project is willing to accept. By accepting more risk, the pit size can increase, thereby increasing reserves at the possibility that the Project NPV could suffer. Pit 38 was selected as the optimum pit, which is represented by the peak pit value for both the worst and specified cases, and contains enough ore to fill the projected capacity of the heap leach pad. Exceeding this pit size places the value of the pit at risk, since larger pits have limited increased value, even if the best mining scenario is achieved, and is more likely to decrease in value.

Table 15.5 Discounted Value of Gemcom Whittle™ Pit Shells

Final Pit No.	Discounted Cash Flow			Material Mined				Gold		Mine Life (a)
	Best ($000)	Specified ($000)	Worst ($000)	Ore (kt)	Waste (kt)	Total (kt)	Strip Ratio (t:t)	Grade (g/t)	Contained (oz)	
1	73,175	73,175	73,175	2,600	1,409	4,009	0.54	1.233	103,009	0.79
2	126,539	126,387	126,387	5,117	2,745	7,862	0.54	1.139	187,437	1.20
3	138,425	138,220	138,183	5,756	3,028	8,784	0.53	1.118	206,971	1.27
4	285,484	284,729	283,962	15,783	6,798	22,581	0.43	0.959	486,812	2.37
5	304,777	303,936	302,949	17,127	7,440	24,567	0.43	0.952	524,324	2.52
6	342,756	341,729	340,095	20,216	8,609	28,825	0.43	0.931	604,921	2.86
7	360,227	359,136	357,215	21,676	9,412	31,088	0.43	0.923	643,490	3.02
8	464,034	461,875	456,987	30,869	15,032	45,901	0.49	0.889	882,683	4.03
9	492,034	489,283	483,654	33,369	16,989	50,358	0.51	0.886	950,052	4.30
10	505,579	502,549	496,663	34,718	18,069	52,787	0.52	0.882	984,528	4.45
11	535,970	532,299	524,963	37,858	21,241	59,099	0.56	0.876	1,066,286	4.80
12	561,909	557,435	549,078	40,716	24,235	64,951	0.60	0.871	1,139,647	5.11
13	583,705	578,213	569,231	43,300	27,107	70,407	0.63	0.864	1,202,646	5.40
14	595,584	589,359	579,836	44,911	28,667	73,578	0.64	0.859	1,240,931	5.57
15	615,301	607,483	596,419	47,797	31,842	79,639	0.67	0.852	1,309,016	5.89
16	625,471	616,993	605,269	49,629	32,870	82,499	0.66	0.843	1,345,789	6.09
17	641,986	632,226	619,645	52,307	36,325	88,632	0.69	0.836	1,405,857	6.39
18	659,340	647,815	634,508	55,574	39,389	94,963	0.71	0.825	1,474,432	6.74
19	672,678	659,737	645,940	58,348	42,285	100,633	0.72	0.816	1,531,354	7.05
20	689,067	675,128	661,037	61,774	46,468	108,242	0.75	0.807	1,601,762	7.43
21	701,300	686,438	671,077	64,418	50,733	115,151	0.79	0.801	1,659,865	7.72
22	728,761	712,092	691,695	71,676	59,772	131,448	0.83	0.783	1,805,205	8.51
23	737,116	719,801	698,224	73,794	63,807	137,601	0.86	0.781	1,852,144	8.75

table continues…

Final Pit No.	Discounted Cash Flow			Material Mined				Gold		Mine Life (a)
	Best ($000)	Specified ($000)	Worst ($000)	Ore (kt)	Waste (kt)	Total (kt)	Strip Ratio (t:t)	Grade (g/t)	Contained (oz)	
24	748,559	730,281	706,751	77,231	69,231	146,462	0.90	0.774	1,922,153	9.12
25	752,679	734,157	710,220	78,719	70,576	149,295	0.90	0.770	1,948,256	9.29
26	758,242	738,738	713,655	80,448	74,349	154,797	0.92	0.768	1,985,380	9.48
27	763,394	743,047	716,592	82,485	77,235	159,720	0.94	0.763	2,023,145	9.70
28	769,511	747,736	719,307	84,862	82,305	167,167	0.97	0.759	2,071,218	9.96
29	773,617	750,722	721,093	86,460	86,060	172,520	1.00	0.757	2,104,254	10.14
30	775,773	752,587	722,551	87,598	87,425	175,023	1.00	0.754	2,123,077	10.26
31	778,786	755,264	724,957	89,304	89,738	179,042	1.00	0.749	2,151,527	10.45
32	782,014	757,240	725,939	90,970	93,734	184,704	1.03	0.747	2,183,819	10.63
33	785,080	758,866	726,218	92,781	97,997	190,778	1.06	0.743	2,217,727	10.83
34	786,293	759,644	726,662	93,694	99,565	193,259	1.06	0.741	2,233,064	10.93
35	787,505	760,414	727,046	94,574	101,535	196,109	1.07	0.740	2,248,851	11.03
36	793,730	764,594	729,789	99,041	114,760	213,801	1.16	0.734	2,336,142	11.52
37	798,294	767,836	732,392	103,429	124,950	228,379	1.21	0.726	2,412,455	12.00
38	798,520	767,957	732,413	103,691	125,364	229,055	1.21	0.725	2,416,391	12.03
39	801,016	767,512	729,348	106,291	133,829	240,120	1.26	0.722	2,466,187	12.32
40	801,546	767,420	728,746	107,018	135,624	242,642	1.27	0.720	2,478,371	12.40
41	803,174	764,963	723,038	108,918	144,902	253,820	1.33	0.720	2,520,967	12.61
42	803,203	764,965	723,033	109,006	144,991	253,997	1.33	0.720	2,522,095	12.62
43	803,652	763,680	720,460	109,860	149,394	259,254	1.36	0.719	2,540,839	12.71
44	804,281	761,240	715,947	111,456	157,442	268,898	1.41	0.719	2,575,230	12.89
45	804,322	761,054	715,584	111,692	158,028	269,720	1.41	0.718	2,578,871	12.91
46	804,434	760,017	713,833	112,558	162,031	274,589	1.44	0.717	2,596,114	13.01
47	804,512	758,433	711,074	113,350	166,058	279,408	1.47	0.717	2,612,384	13.09

table continues…

Final Pit No.	Discounted Cash Flow			Material Mined				Gold		Mine Life (a)
	Best ($000)	Specified ($000)	Worst ($000)	Ore (kt)	Waste (kt)	Total (kt)	Strip Ratio (t:t)	Grade (g/t)	Contained (oz)	
48	804,513	758,240	710,800	113,774	167,416	281,190	1.47	0.716	2,619,330	13.14
49	804,488	758,054	710,475	113,912	168,205	282,117	1.48	0.716	2,622,302	13.16
50	804,407	757,675	709,906	114,245	169,436	283,681	1.48	0.715	2,627,865	13.19
51	804,190	756,962	708,941	114,913	172,009	286,922	1.50	0.714	2,639,125	13.27
52	803,740	753,988	704,264	115,881	177,383	293,264	1.53	0.714	2,658,516	13.37
53	803,284	753,112	703,337	116,732	181,285	298,017	1.55	0.712	2,673,657	13.47
54	801,074	740,521	684,156	119,170	204,870	324,040	1.72	0.715	2,740,075	13.73
55	800,998	740,237	683,732	119,285	205,413	324,698	1.72	0.715	2,742,106	13.75
56	800,656	738,749	681,590	119,737	207,612	327,349	1.73	0.714	2,750,062	13.80
57	800,026	737,110	679,476	120,441	211,383	331,824	1.76	0.714	2,762,792	13.87
58	799,362	735,990	678,274	121,118	215,259	336,377	1.78	0.713	2,775,415	13.95
59	798,833	735,181	677,448	121,522	218,358	339,880	1.80	0.713	2,784,192	13.99
60	797,947	732,267	673,324	122,159	223,219	345,378	1.83	0.712	2,797,870	14.06
61	797,831	732,062	673,094	122,247	223,728	345,975	1.83	0.712	2,799,455	14.07
62	795,843	726,530	665,513	123,535	231,947	355,482	1.88	0.711	2,822,941	14.21
63	793,714	723,002	661,401	124,631	238,921	363,552	1.92	0.709	2,841,428	14.33
64	791,505	717,860	654,679	125,406	246,567	371,973	1.97	0.709	2,857,919	14.42
65	788,582	711,581	646,693	126,476	254,765	381,241	2.01	0.707	2,875,949	14.54
66	788,199	710,929	645,937	126,620	255,579	382,199	2.02	0.707	2,877,786	14.55

The optimum pit contains approximately 104 Mt of ore, at an average gold grade of 0.725 g/t, and a strip ratio of approximately 1.2:1. Figure 15.2, Figure 15.3, and Figure 15.4 show the optimal pit in orthogonal, plan and section view. The pit is approximately 1.5 km long, 0.8 km wide and has a maximum depth of 0.6 km.

Figure 15.2 Orthogonal View of Optimum Pit

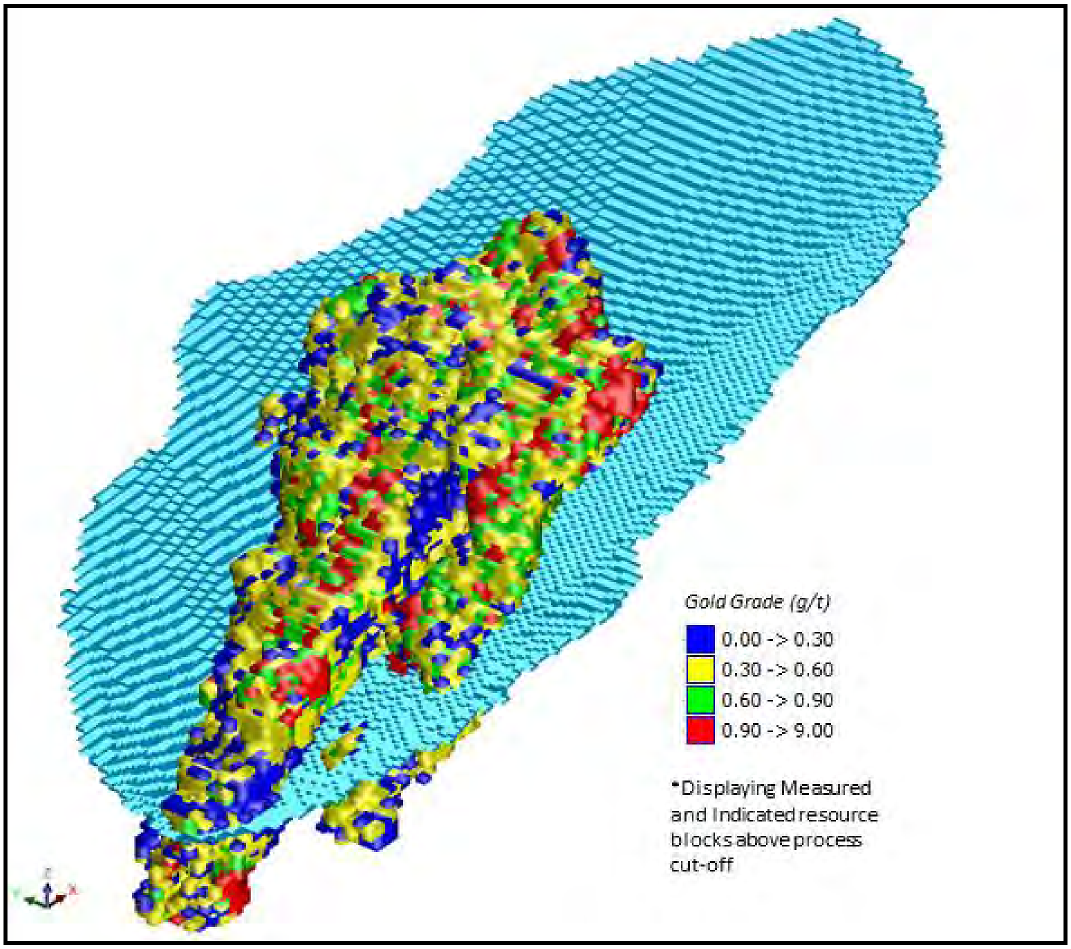


Figure 15.3 Plan View of Optimum Pit

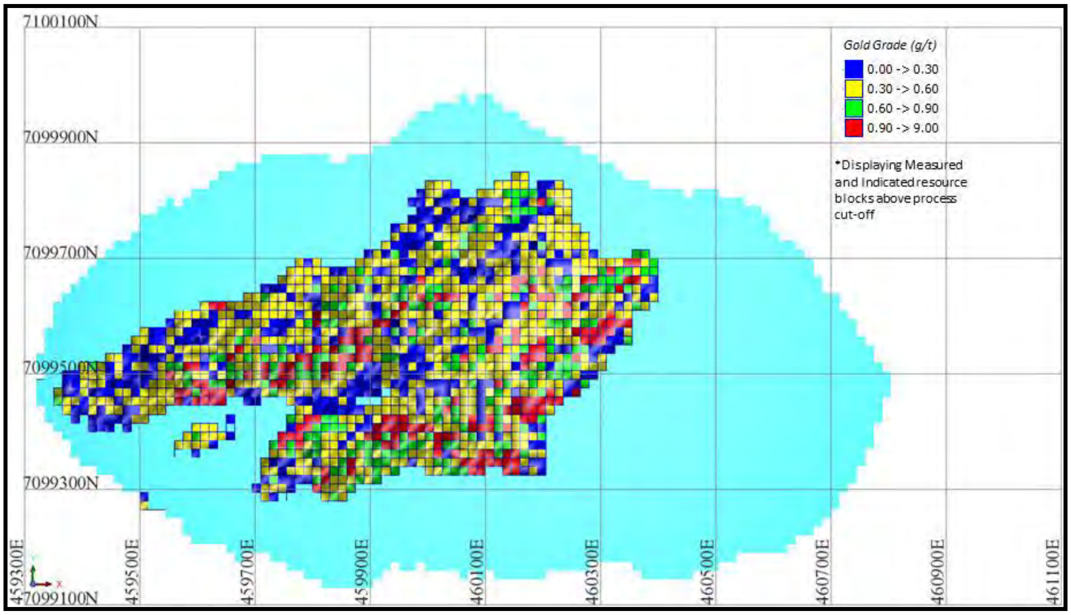
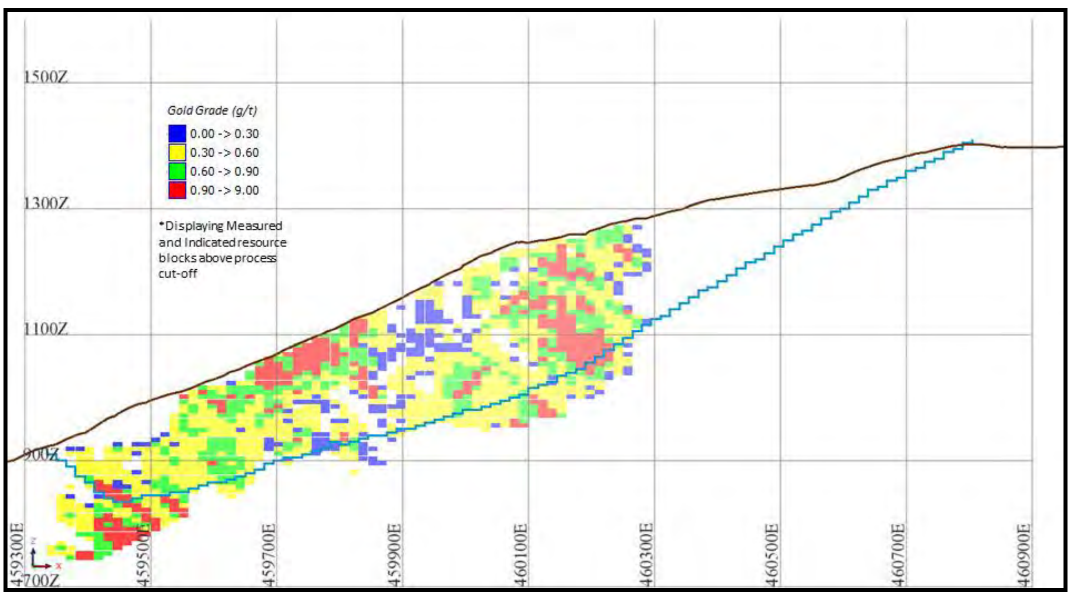


Figure 15.4 Section View of Optimum Pit



15.2.4 CUT-OFF OPTIMIZATION

To maximize NPV, Wardrop performed additional Gemcom Whittle™ optimizations on the cut-off grade. In general, by raising the cut-off grade, it is possible to increase revenues earlier in a project to recover the cost of capital sooner; however, this usually leads to increased stripping costs. This was an iterative process to find the balance between increased revenues and stripping costs to achieve the maximum NPV. Using the specified case described in the optimization process, the highest NPV was achieved by starting with a unit value cut-off of $12/t, and decreasing over time, down to the process cut-off of $6.55/t. It was estimated that through this process the NPV increased by approximately $20 million.

Low-grade resource (i.e. resource below raised cut-off but above the economic cut-off) was wasted (approximately 19 Mt) because there is currently no available stockpile storage space for this material. This wasted resource does not contain a significant value because it is just above the process cut-off and would be discounted to the end of mine life. There is, however, future potential to increase the Project value if a stockpile location can be identified allowing this material to be stored and processed at the end of mine life.

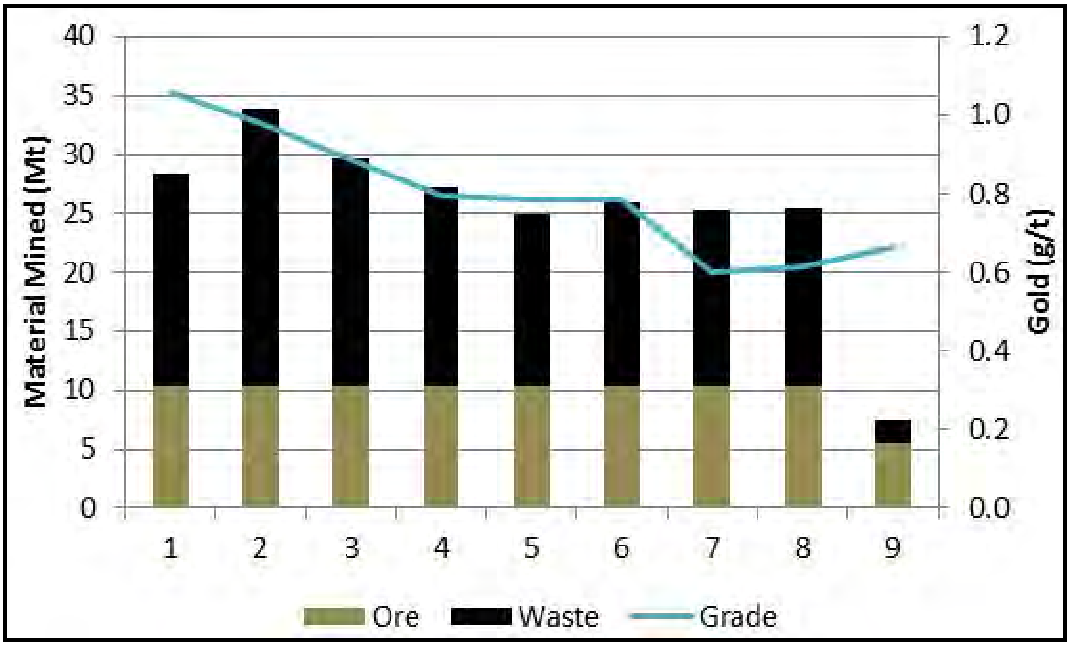
15.3 PRELIMINARY PRODUCTION SCHEDULE

Wardrop assumed an average mine production rate of 29,500 t/d of ore for 350 d/a (10.3 Mt/a) over the life of the Project. A cut-off optimized production schedule was produced in Gemcom Whittle™ using pit shells 2, 6, and 20 as pushbacks. The production schedule is provided in Figure 15.5.and Table 15.6.

Table 15.6 Preliminary Gemcom Whittle™ Production Schedule

Period Year	Material Mined				Gold				Cut-off ($/t)
	Ore (kt)	Waste (kt)	Total (kt)	SR (t:t)	Grade (g/t)	Contained (oz)	Recovered (oz)	Recovery (%)	
1	10,325	18,029	28,354	1.75	1.058	351,270	265,037	75.5	12.00
2	10,325	23,577	33,902	2.28	0.982	326,040	250,083	76.7	11.00
3	10,325	19,317	29,642	1.87	0.889	295,001	211,931	71.8	11.00
4	10,325	16,921	27,246	1.64	0.797	264,579	192,527	72.8	10.00
5	10,325	14,599	24,924	1.41	0.784	260,322	191,228	73.5	9.00
6	10,325	15,676	26,001	1.52	0.788	261,613	185,939	71.1	9.00
7	10,325	14,984	25,309	1.45	0.603	200,106	139,564	69.7	8.00
8	10,325	15,207	25,532	1.47	0.614	203,770	142,391	69.9	7.00
9	5,539	1,930	7,469	0.35	0.662	117,802	81,238	69.0	6.55
Total	**88,139**	**140,240**	**228,379**	**1.59**	**0.805**	**2,280,503**	**1,659,938**	**72.8**	**-**

Figure 15.5 Preliminary Gemcom Whittle™ Production Schedule



There will be sufficient ore at the surface of the pit that minimal pre-stripping will be required to expose the ore necessary for the first year of production; however, additional stripping was moved forward in order to smooth the stripping requirements over the LOM.

15.4 Mining Dilution and Mining Losses

Dilution was added to the block model to account for the mixing of waste into ore blocks due to blast mixing, mining selectivity, and/or truck box carry-back activities. Whole block grades and tonnes were adjusted and were calculated on a block-by-block basis.

The calculations included:

- tagging all blocks as ore or waste based on its unit value grade ($/t) using a cut-off of $6.55/t (process cost)
- searching all the surrounding block grades of a given block, and if any waste was encountered, an amount of the waste block was added to the ore block at the waste grade (minimum grade of 0.2 g/t). An equivalent amount of waste was removed from the waste block.

No internal dilution was calculated between ore blocks.

Overall, the dilution of the mineral reserve inside the final pit was determined to be 7.5%, by volume. However, since the cut-off grade was increased in the production schedule, the low-grade ore blocks at the outer-edge of the resource were treated as waste and therefore reduced the final dilution of the processed ore down to 3.2% by volume. In both cases, dilution caused the gold grades to decrease by 0.012 g/t.

The mining recovery was reduced by 2% to 98% to account for ore accidentally mined as waste, blast throw losses, loss of material at mining boundaries, misdirected loads, spillage during loading and/or hauling, and carry-back.

15.5 PROBABLE MINEABLE RESERVE

The block model contained only Indicated and Inferred Resources. Since Inferred Resources are considered to be too speculative in nature to be reliable, only the Indicated Resource counted toward the mineral reserve. Following the detailed design of the final pit and detailed production scheduling with the optimized cut-off grades, a total of 110.9 Mt of diluted ore exists inside the final pit, of which 19.3 Mt was wasted to increase the NPV of the Project. An additional 2.2 Mt of diluted Inferred Resource exists within the final pit. The details of how the final pit was designed and how the detailed production was developed are discussed in Section 16.0. Table 15.7 tabulates the reserves by ore type inside the final pit.

Table 15.7 Mineral Reserves Inside the Final Pit

Resource Class	Reserve Class	Ore Type	Diluted Tonnes (Mt)	Diluted Grade (g/t)	Contained Ounces (oz)
Indicated	Probable	A	32.0	0.875	900,686
		B	41.8	0.727	977,692
		C	11.0	0.715	252,724
		E	6.8	0.780	169,667
		Total	**91.6**	**0.781**	**2,300,768**
Inferred	-	**Total**	**2.2**	**0.456**	**32,256**

16.0 MINING METHODS

16.1 INTRODUCTION

This section outlines the parameters and procedures used by Wardrop to perform the feasibility level mine planning work for the Project.

16.2 SUMMARY

The Project includes the recovery of gold at the site by means of open pit mining at a proposed ore production rate of 29,500 t/d. The pit is situated between Platinum Gulch and Eagle Pup on the side of a hill, where a vein-hosted gold mineralization outcrops at the surface. Waste material will be primarily stored in Eagle Pup, and ore will be sent to the primary crusher.

Over the 10-year LOM, the pit will produce 92 Mt of ore, at an average diluted gold grade of 0.78 g/t, along with 132 Mt of waste.

16.3 OPEN PIT DESIGN

Following the completion of the pit optimization study as discussed in Section 15.0, the selected final pit shell (pit shell 38) and three mining phases (pit shells 2, 6, and 20) were modified to conform to practical engineering requirements incorporating access ramps and slope design details. The principal objectives of the pit design process were to:

- maximize the recovery of ore
- minimize waste stripping required
- minimize both ore and waste haulage costs.

16.3.1 PIT SLOPE DESIGN ANGLES

BGC provided open pit slope angle recommendations, based on the results of geotechnical site investigations and slope stability assessments (BGC 2012a). The recommended pit slope angles and required levels of ground water depressurization were used to develop the feasibility-level open pit, production schedule, and costs for the proposed Project.

Geotechnical site investigations to support the feasibility study slope designs include geotechnical mapping, geotechnical drilling, oriented core measurements, a borehole televiewer survey, hydrogeologic (packer) testing, installation of borehole instrumentation to measure groundwater pressures and laboratory testing of rock core samples. Thirteen geotechnical diamond drillholes were completed over three field seasons, and approximately 3,320 m of rock core was logged. All core logged by BGC was oriented using the Reflex ACE Core Orientation Tool. Historical geotechnical data, as well as outcrop mapping and geotechnical logging of exploration holes, were also used for the design.

Rock core samples were selected from geotechnical drillholes for geomechanical laboratory testing, including uniaxial compressive strength, Brazilian tensile strength, small scale direct shear, and index tests. Eight of the geotechnical drillholes were instrumented with grouted-in vibrating wire piezometers (VWPs) to measure groundwater elevations in the proposed open pit area. An additional six VWPs were installed in two instrument nests installed specifically for hydrogeological characterization of the rock mass.

BGC's geotechnical assessments for the Project pit included rock mass characterization, structural geology interpretations, and slope stability analyses. The rock mass of the Project pit area was divided into five geotechnical units, following the main geological units and weathering/alterations patterns, as follows:

- surface weathered intrusives
- clay altered intrusives
- intrusives
- surface weathered metasediments
- metasediments.

The unweathered/unaltered rocks, which make up the majority of the rock mass in the open pit, are medium strong to very strong; the quality of the rock mass varies from "fair" to "good". The surface weathered rocks are medium strong to very strong; the quality of the rock mass varies from "poor" to "good". The clay altered intrusive rocks are weak to very strong; the rock mass quality varies from "poor" to "fair". The metasedimentary rocks are strongly foliated with the foliation dipping on average approximately 30° to the west-southwest. For the purpose of design, the intrusive rocks have been grouped together and the metasedimentary rocks have been grouped together as the primary control on stability of the pit slopes is structural discontinuity orientation.

The proposed pit was divided into design sectors based on proposed slope heights and the potential for structurally controlled failures. The slope designs developed for each design sector include:

- bench height
- catch bench width
- bench face angle
- interberm/interramp angle
- interberm/interramp height
- geotechnical berm width
- overall angle.

Designs have been developed for each of the geotechnical units; maximum interberm/interramp angles range from 31 to 43° (Table 16.1).

As part of the design process, BGC checked the final pit design provided by Wardrop on November 15, 2011, to confirm that design parameters provided by BGC were properly applied. BGC's design criteria have been met and the overall stability of the proposed slopes is confirmed, based on the design factors of safety and assumed hydrogeologic conditions.

Achieving the open pit slope design parameters will require depressurization of the rock mass and controlled blasting. Potential risks to achieving the pit slope design angles for the east wall still exist due to uncertainties in the geological/geotechnical model. There is potential to undercut faulting parallel to foliation. Zones of intense faulting/alteration, possibly related to the intrusion, need to be delineated in the geologic model. Achieving the design angles for the east wall will require depressurization. Hydrogeologic assessments for wall depressurization are ongoing.

Table 16.1 Eagle Gold Feasibility Study Open Pit Slope Design Parameters

		Slope Azimuth		Recommended Catch Bench Geometry			Modified Catch Bench Geometry[3]			Interberm Geometry[4]		Overall Slope Geometry			
Domain[1]	Design Sector[2]	Start (°)	End (°)	Height (m)	Angle (°)	Width (m)	Height (m)	Angle (°)	Width (m)	Height (m)	Angle (°)	Height (m)	Angle (°)	Slope Design Control	Comments
M	M-016	0	32	15	65	10.1	15	60	8.4	150	41	90	44	Interberm (FB1-FF1)	-
	M-061	32	89	15	65	17.9	15	60	16.2	150	31	240	32	Interberm (FB1-FF1)	-
	M-105	89	120	15	65	16.9	15	60	15.3	150	32	270	33	Interberm (FB1)	-
	M-132	120	144	15	60	9.0	15	60	9.0	150	40	270	41	Interberm (bench geometry)	Bench face angle limited by dip of fault set FB2
	M-160	144	175	15	60	9.0	15	60	9.0	150	40	225	41	Interberm (bench geometry)	Bench face angle limited by dip of fault set FB2
	M-192	175	209	15	65	9.0	15	60	7.3	150	43	225	43	Interberm (bench geometry)	-
	M-239	209	269	15	63	9.0	15	60	8.0	150	42	75	45	Interberm (bench geometry)	Bench face angle limited by dip of fault set FC1
	M-315	269	0	15	65	9.0	15	60	7.3	150	43	75	47	Interberm (bench geometry)	No structural control
I	I-016	5	26	15	65	11.4	15	60	9.7	150	39	210	40	Interberm (FD1-FA2)	-
	I-056	26	86	15	65	14.3	15	60	12.7	150	35	210	36	Interberm (FD1-FA2)	-
	I-110	86	134	15	65	15.2	15	60	13.5	150	34	150	36	Interberm (FA1-FB1)	-
	I-170	134	205	15	65	17.9	15	60	16.2	150	31	285	32	Interberm (FB1-FC2)	-
	I-243	205	280	15	65	11.4	15	60	9.7	150	39	105	42	Interberm (FD2-FC2)	-
	I-295	280	310	15	65	9.0	15	60	7.3	150	43	75	47	Interberm (bench geometry)	-
	I-338	310	5	15	65	9.0	15	60	7.3	150	43	180	43	Interberm (bench geometry)	-

Notes: [1]Domain M refers to all metasedimentary rocks, Domain I refers to all intrusive rocks.

[2]Bench face angle in sector's M-132 and M-160 reduced to avoid undercutting FB2.

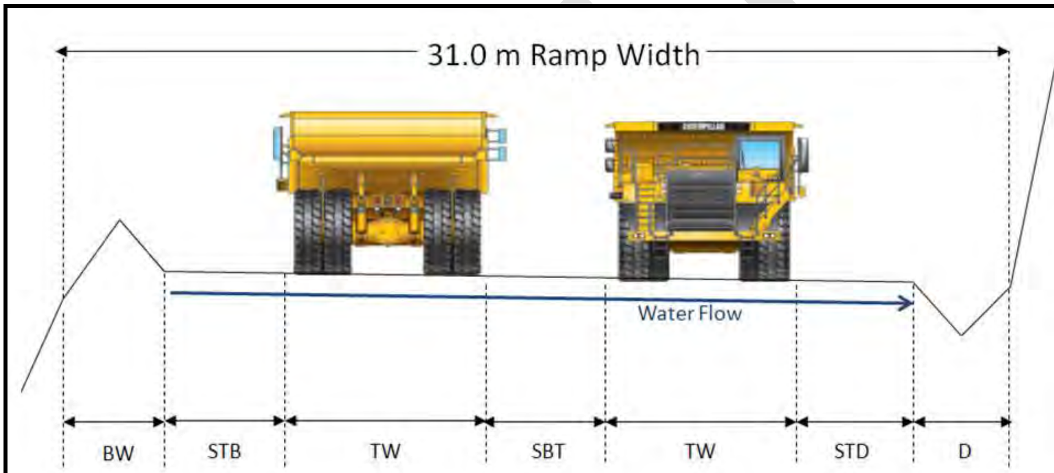
[3]In the modified case, all bench face angles have been reduced to 60º and bench widths adjusted to maintain the recommended interberm angle to accommodate the pit design software. Actual pit geometry shall resemble actual catch bench geometry.

[4]Geotechnical berms (minimum 16 m) must be added to the slopes every 150 m in sectors in which bench width is less than 16 m.

16.3.2 HAUL ROADS/MINIMUM MINING WIDTH

A minimum mining width of 60 m was adopted for the mining of each pit phase. Ramp widths used in the designs were 3.5 times the maximum truck width plus a berm and ditch. A width of 31 m was calculated for 136 t class haul trucks and designed at a maximum gradient of 10% with flat turning surfaces at switchback locations to reduce road maintenance and wear to the haulage trucks. Ramp widths were reduced to single carriageways and steepened to 12% at the base of the pits in order to minimize overall waste stripping volumes. The ramp profile and width calculations are shown in Figure 16.1.

Figure 16.1 Ramp Configuration for 136 t Class Haul Trucks



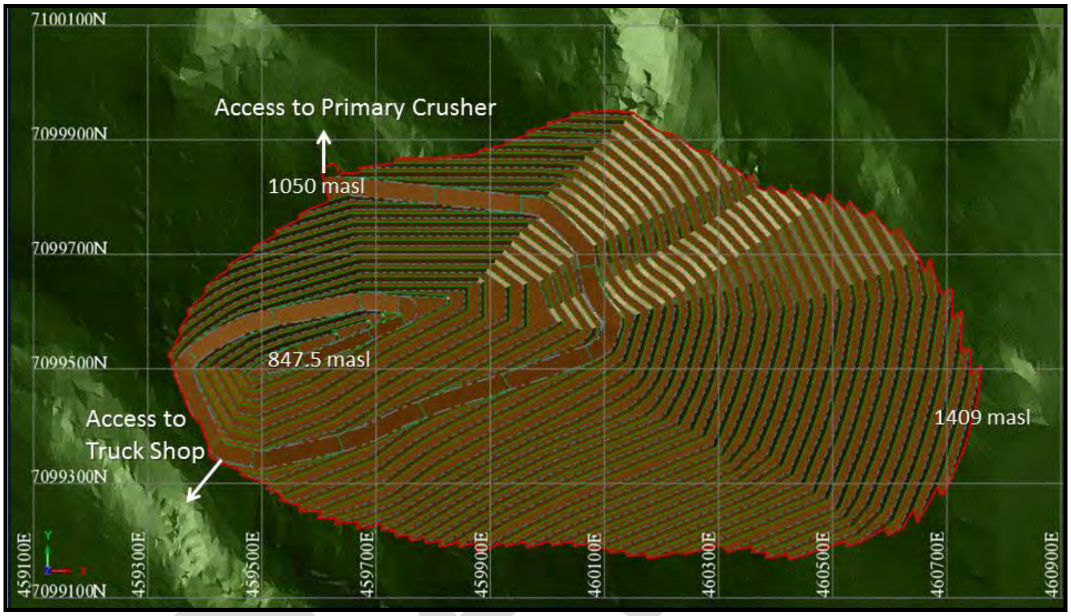
Berm Width (BW)	4.5 m
Space to Berm (STB)	3.5 m
Truck Width (TW)	7.1 m
Space Between Trucks (SBT)	3.5 m
Truck Width (TW)	7.1 m
Space to Ditch (STD)	3.5 m
Ditch Width (D)	1.8 m
Ramp Width (RW)	31.0 m

Switch-backs were strategically located every 90 vertical metres within the various phase designs to maintain constant access points to the surrounding WRSAs. From these access points, two dump lifts can be built by either ramping up or down.

16.3.3 ULTIMATE PIT DIMENSIONS

After applying all the design criteria, the final pit reached a minimum elevation of 847.5 masl. The maximum crest elevation is approximately 1,409 masl, giving the pit a depth of 562 m along the east highwall. To maintain access to the primary crusher (elevation 1,050 masl) a single ramp spirals down to the bottom of the pit. This ramp also connects to the external access road which leads to the truck shop. No ramps are maintained inside the final pit above the crusher elevation to minimize stripping requirements. The maximum extents of the final pit are 1,420 m long and 780 m wide. Figure 16.2 shows the final pit design.

Figure 16.2 Final Pit Design in Plan View



16.3.4 Development of Mining Phases

As part of the planning and scheduling process, the intermediate pits leading to ultimate pit limits were established to determine to see how the pit will evolve over time. Gemcom Whittle™ generated nested pits, which use varying commodity prices, from a low to high value. This generated a number of pits of increasing size and decreasing average unit value per tonne of ore contained within each pit. Since the smallest pit contains the highest value ore, the production is scheduled by mining the smallest pit first, followed by the production of larger sized pits. The incremental mining from the smallest pit to the largest pit is referred to as "pushback phased mining".

Pit shells 2, 6 and 20 were used as a reference in the design of three internal mining phases. The recommended pit slopes and minimum mining width were applied, and haul roads/access points were added. Once these phased (nested) pits were designed, they were used as pushbacks that underlie the practical mining plans from which the yearly schedules were generated. Figure 16.3, Figure 16.4, and Figure 16.5 show the three designed internal pushbacks.

Figure 16.3 Mining Pushback No. 1

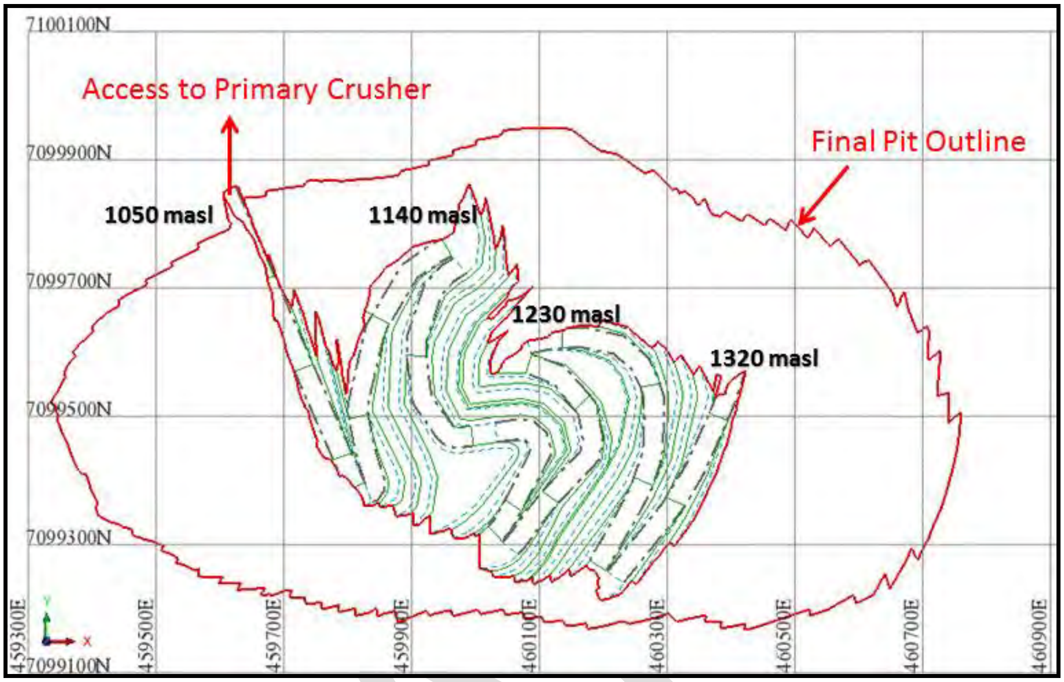


Figure 16.4 Mining Pushback No. 2

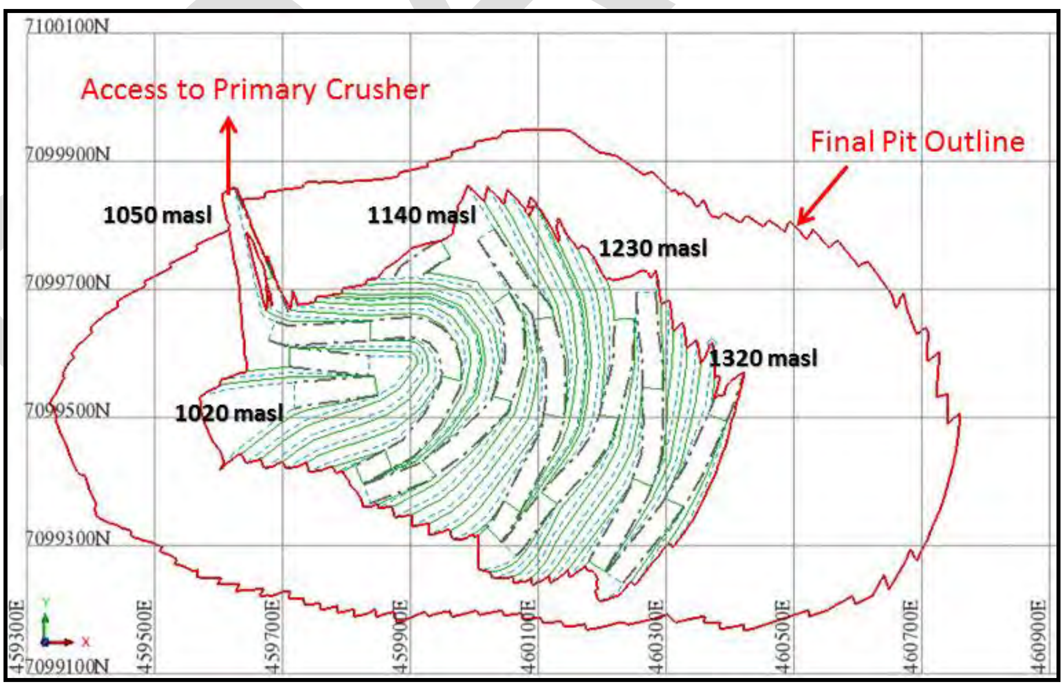
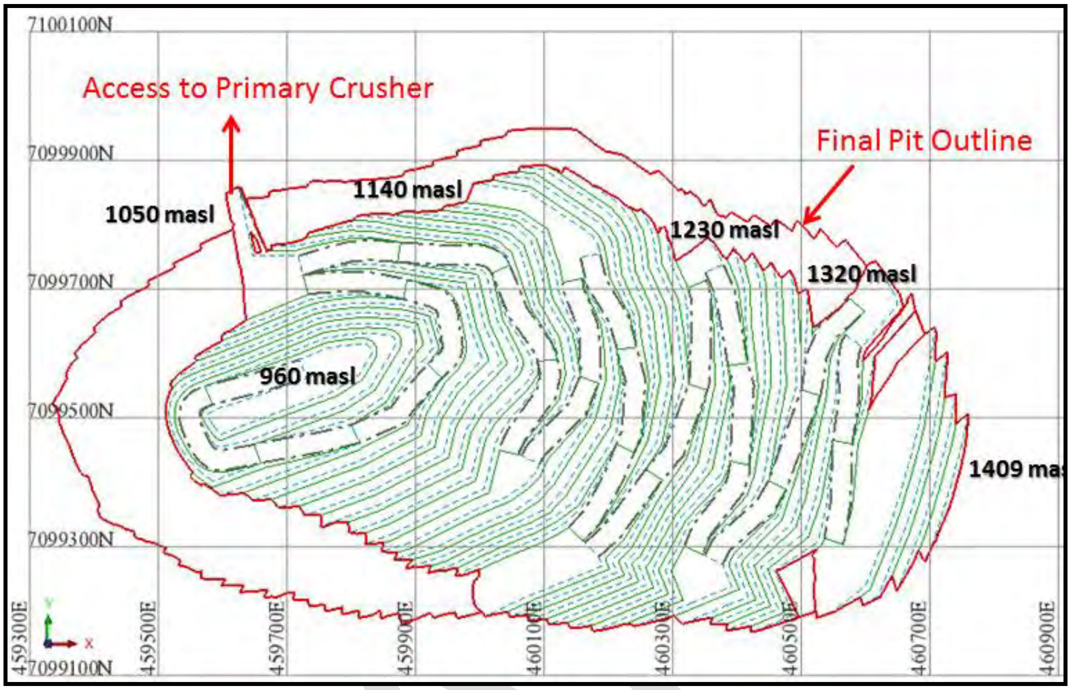


Figure 16.5 Mining Pushback No. 3



16.4 Mine Production Schedule

Using the designed phases and optimized cut-off grade strategy, Wardrop developed a detailed production schedule using Gemcom MineSched™ software. Operational constraints were added to ensure a realistic mining sequence. Scheduling was conducted quarterly for the first two years of production, and then annually.

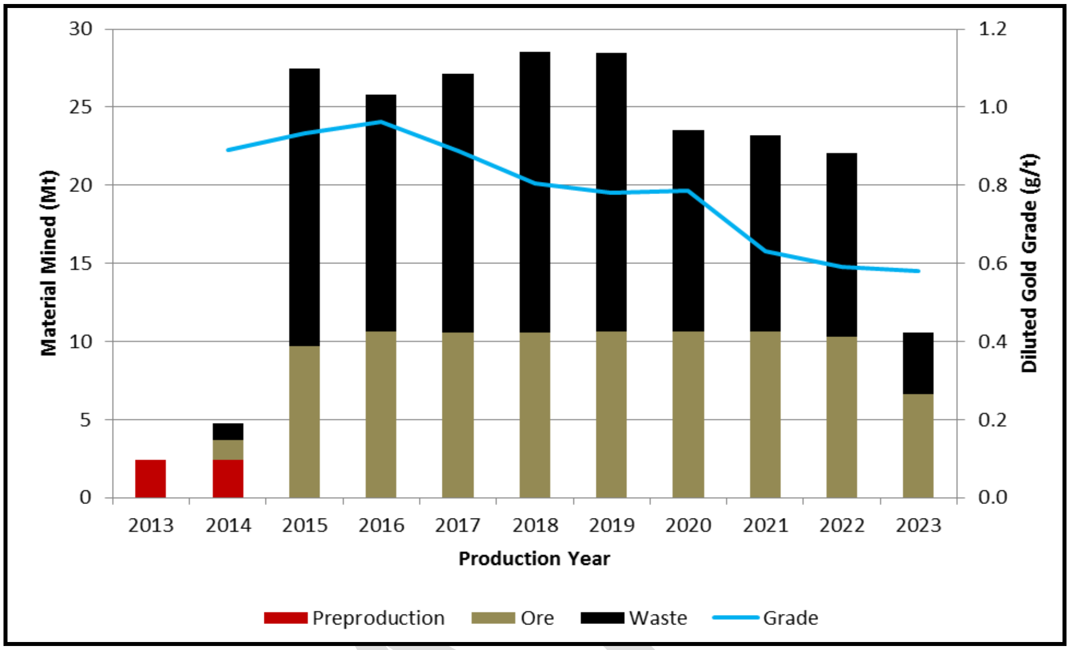
Higher grades and a larger amount of better recovery ore types near the beginning of the schedule allows the mine to produce over 200 koz of recovered gold for the first four years of mine life. Stripping requirements were balanced over the LOM to ensure equipment requirements were constant, and to prevent the need for unnecessary sustaining capital purchases.

Table 16.2 shows a summary of the mine production schedule and Figure 16.6 shows the schedule graphically.

Table 16.2 Mine Production Schedule Summary

	Year												Total
	Pre-production		Operation										
	2013	2014	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Diluted Ore Tonnes (t)	-	-	1,284,259	9,719,711	10,607,052	10,544,120	10,589,341	10,633,594	10,647,178	10,653,981	10,301,980	6,613,083	**91,594,300**
Type A (t)	-	-	945,604	6,071,911	7,935,881	4,356,685	4,369,145	4,076,686	1,627,538	1,495,481	987,967	145,153	**32,012,052**
Type B (t)	-	-	0	835,833	858,511	4,625,864	4,959,406	4,906,205	6,825,055	7,131,144	6,930,141	4,757,326	**41,829,486**
Type C (t)	-	-	0	124,669	102,861	1,192,892	1,084,608	1,327,625	1,938,006	1,775,194	2,076,785	1,365,576	**10,988,215**
Type E (t)	-	-	338,655	2,687,298	1,709,799	368,678	176,181	323,077	256,580	252,163	307,087	345,029	**6,764,547**
Diluted Ore Grade (g/t)	-	-	0.893	0.931	0.962	0.889	0.804	0.781	0.785	0.630	0.590	0.580	**0.781**
Type A (g/t)	-	-	0.848	0.947	0.988	0.960	0.806	0.781	0.765	0.613	0.532	0.303	**0.875**
Type B (g/t)	-	-	0.000	1.058	0.961	0.872	0.823	0.793	0.775	0.618	0.604	0.591	**0.727**
Type C (g/t)	-	-	0.000	0.863	1.118	0.724	0.740	0.763	0.857	0.701	0.589	0.609	**0.715**
Type E (g/t)	-	-	1.018	0.859	0.828	0.786	0.614	0.659	0.631	0.569	0.461	0.433	**0.780**
Contained (oz)	-	-	36,866	291,056	327,930	301,280	273,688	266,885	268,626	215,726	195,375	123,337	**2,300,768**
Type A (oz)	-	-	25,783	184,934	252,180	134,461	113,173	102,339	40,006	29,484	16,913	1,413	**900,686**
Type B (oz)	-	-	0	28,433	26,512	129,722	131,249	125,144	170,018	141,609	134,600	90,405	**977,692**
Type C (oz)	-	-	0	3,459	3,698	27,777	25,787	32,561	53,394	40,024	39,309	26,714	**252,724**
Type E (oz)	-	-	11,083	74,229	45,540	9,319	3,479	6,840	5,209	4,610	4,554	4,804	**169,667**
Expected Recovery (%)	-	-	75.7	74.9	76.4	73.3	73.0	72.8	70.6	70.4	69.9	69.1	**72.8**
Type A (%)	-	-	79	79	79	79	79	79	79	79	79	79	**79**
Type B (%)	-	-	68	68	68	68	68	68	68	68	68	68	**68**
Type C (%)	-	-	73	73	73	73	73	73	73	73	73	73	**73**
Type E (%)	-	-	68	68	68	68	68	68	68	68	68	68	**68**
Recovered (oz)	-	-	27,905	218,434	250,917	221,050	199,846	194,367	189,736	151,938	136,681	85,360	**1,676,234**
Type A (oz)	-	-	20,368	146,098	199,223	106,225	89,407	80,848	31,605	23,292	13,361	1,116	**711,542**
Type B (oz)	-	-	0	19,335	18,028	88,211	89,249	85,098	115,612	96,294	91,528	61,476	**664,830**
Type C (oz)	-	-	0	2,525	2,699	20,278	18,825	23,770	38,977	29,217	28,695	19,502	**184,488**
Type E (oz)	-	-	7,537	50,476	30,967	6,337	2,366	4,651	3,542	3,134	3,097	3,267	**115,373**
Ore Mined (t)	**-**	**-**	**1,284,259**	**9,719,711**	**10,607,052**	**10,544,120**	**10,589,341**	**10,633,594**	**10,647,178**	**10,653,981**	**10,301,980**	**6,613,083**	**91,594,300**
Waste Mined (t)	**2,405,000**	**2,400,000**	**1,088,773**	**17,734,956**	**15,214,053**	**16,621,673**	**17,921,101**	**17,840,984**	**12,907,789**	**12,569,698**	**11,767,473**	**3,938,359**	**132,409,858**
Total Mined (t)	**2,405,000**	**2,400,000**	**2,373,032**	**27,454,666**	**25,821,105**	**27,165,792**	**28,510,442**	**28,474,578**	**23,554,967**	**23,223,679**	**22,069,453**	**10,551,442**	**224,004,158**

Figure 16.6 Mine Production Schedule



16.4.1 General Mining Plan – Ore and Waste Annual Production

High-grade and low-strip ratio ore was targeted at the start of mine production to accelerate cash flow. Within Pushback No. 1, the high-grade ore exists near the surface, so only minimal pre-stripping will be required.

Following the 1.5-year pre-production period, ore production will increase to the nominal production rate of 29,500 t/d. Ore production will begin in October 2014 and continue for two months. During this period, the crushing and conveying system will be commissioned and ore will be sent to the heap leach pad. In December 2014, ore production will cease for 100 d because the storage pad will not be in place until 2015.

Stripping of waste material will continue through the 100 d period. Ore production will start again in March 2015, and ramp up to 33,000 t/d. In November 2015, ore production will continue at the nominal production rate of 29,500 t/d for the LOM.

Table 16.3 shows the ore ramp-up schedule.

Table 16.3 Primary Crusher Ramp-up Schedule

Month-Year	Primary Crusher Production Rate (t/d)	Comment
Sep-14	0	Pre-production
Oct-14	16,500	Start-up (commissioning)
Nov-14	23,100	Ramp-up (commissioning)
Dec-14	0	No ore mining – 100 d stockpile not ready
Jan-15	0	No ore mining – 100 d stockpile not ready
Feb-15	0	No ore mining – 100 d stockpile not ready
Mar-15	28,050	Ramp-up (commissioning)
Apr-15	31,350	Ramp-up (commissioning)
May-15	33,000	Full production
Jun-15	33,000	Full production
Jul-15	33,000	Full production
Aug-15	33,000	Full production
Sep-15	33,000	Full production
Oct-15	33,000	Full production
Nov-15	29,500	Adjust for 100 d storage availability (continue for remainder of schedule)

16.4.2 PRE-PRODUCTION

A total of 4.8 Mt of waste material will be mined in the pre-production period. This pre-production material will used to develop the haul roads and other construction materials.

16.4.3 ANNUAL MINING PLANS

Figure 16.7 to Figure 16.22 show the progression of mining and the WRSAs over the mine life.

Roads leading from the truck shop to the primary crusher and into the mine will be developed during the pre-production period. The mining fleet will help excavate in the primary crusher area and ensure that a roadway around the crusher is developed to give access to the lower lifts on the Eagle Pup WRSA. Ore pre-stripping will begins at about 1,275 masl elevation.

During production years, mining activities will target higher grade ore, and will balance the strip ratio by mining from several mining pushbacks in any given period. The use of the Platinum Gulch WRSA in the first three years will minimize haul distances.

Construction of the Eagle Pup WRSA will be dictated by geotechnical stability. The WRSA will be constructed from the bottom upwards in 45 m lifts to enhance WRSA stability.

The open pit will be mined initially in 7.5 m benches and then double-benched as mining proceeds towards the final highwall.

Figure 16.7 Mine Status: End of Pre-production

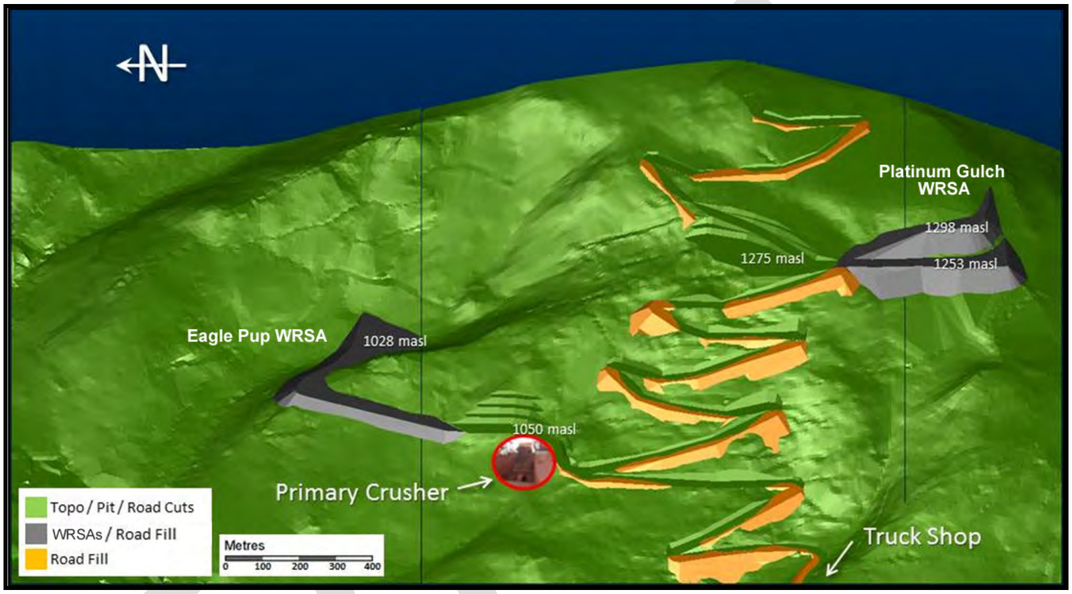


Figure 16.8 Mine Status: End of Year 1 Q1

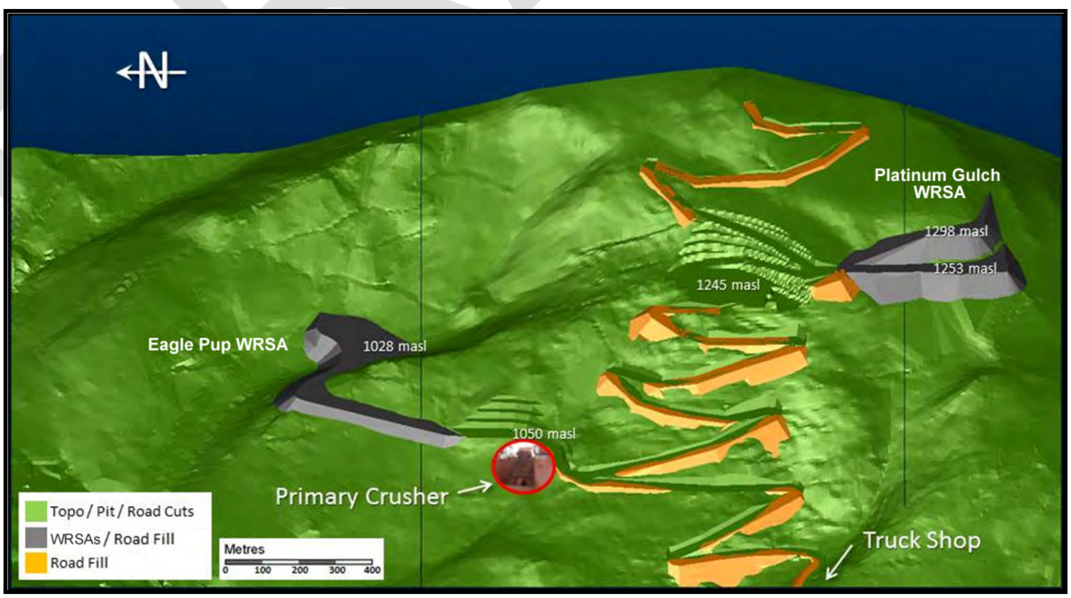


Figure 16.9 Mine Status: End of Year 1 Q2

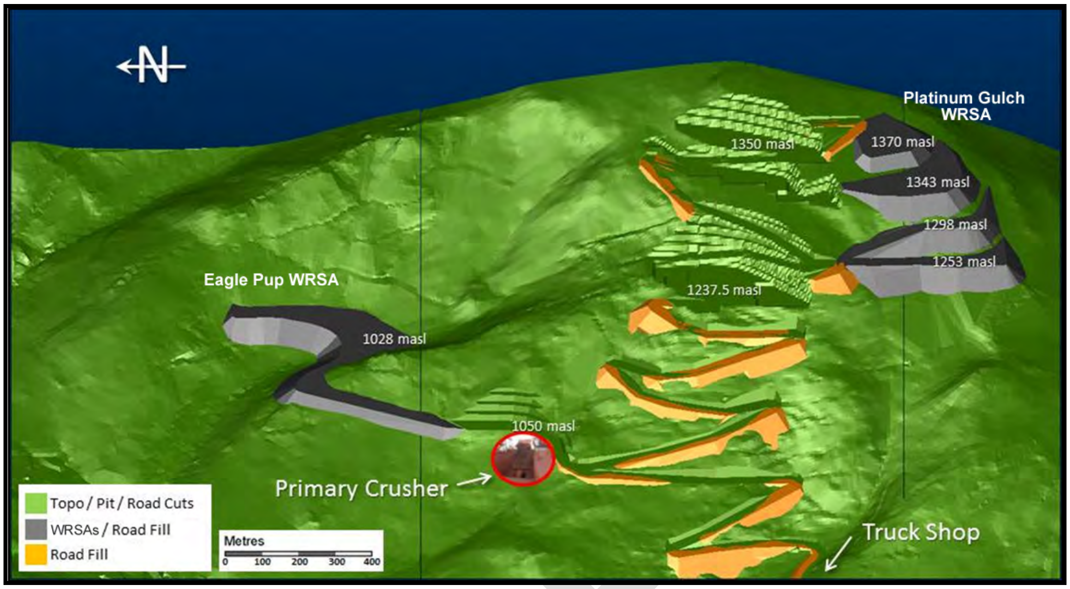


Figure 16.10 Mine Status: End of Year 1 Q3

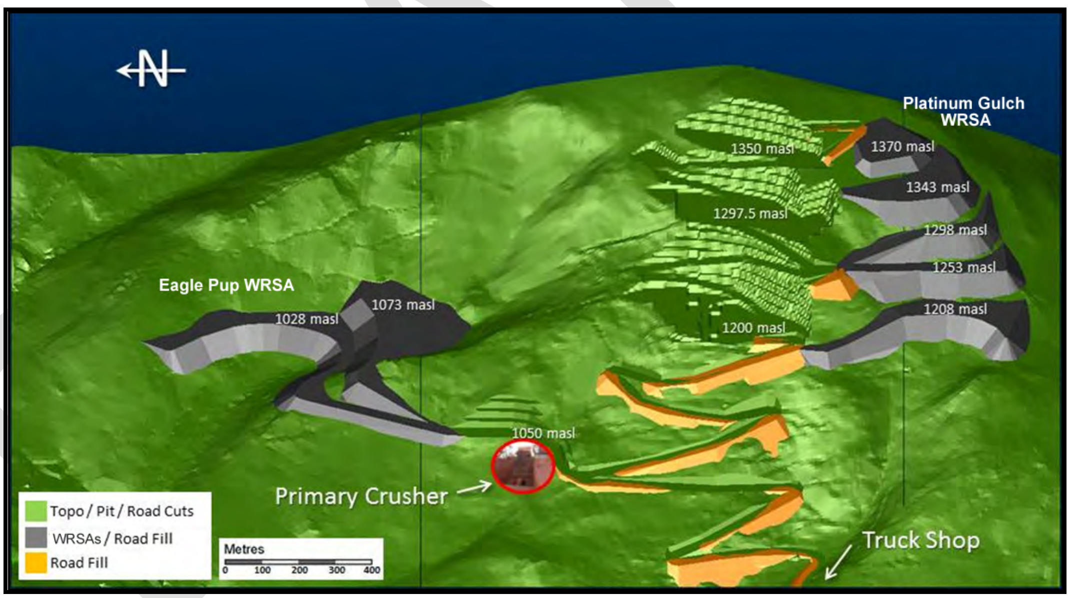


Figure 16.11 Mine Status: End of Year 1 Q4

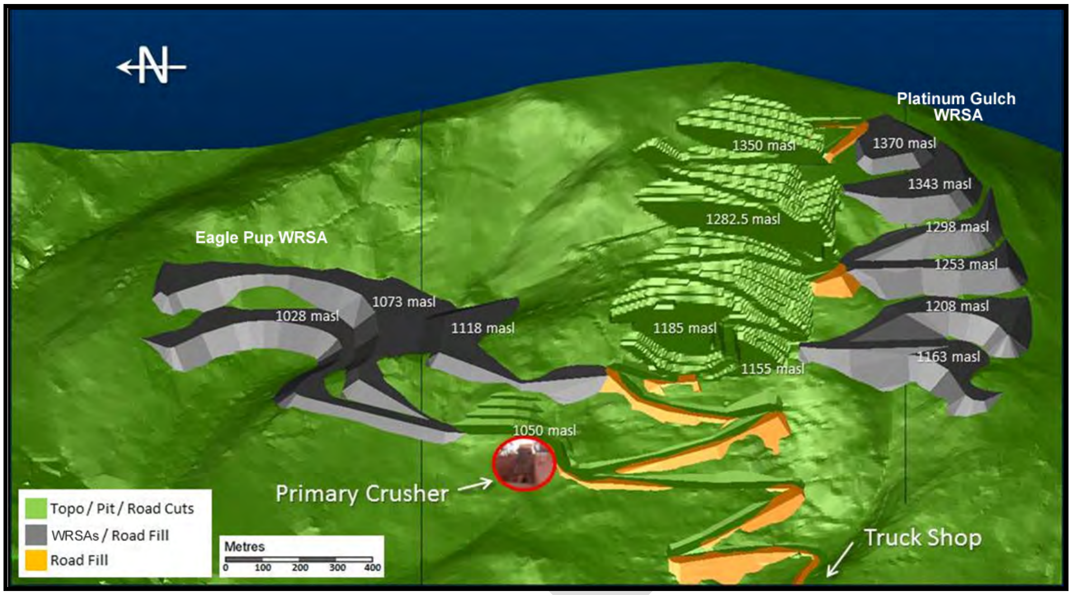


Figure 16.12 Mine Status: End of Year 2 Q1

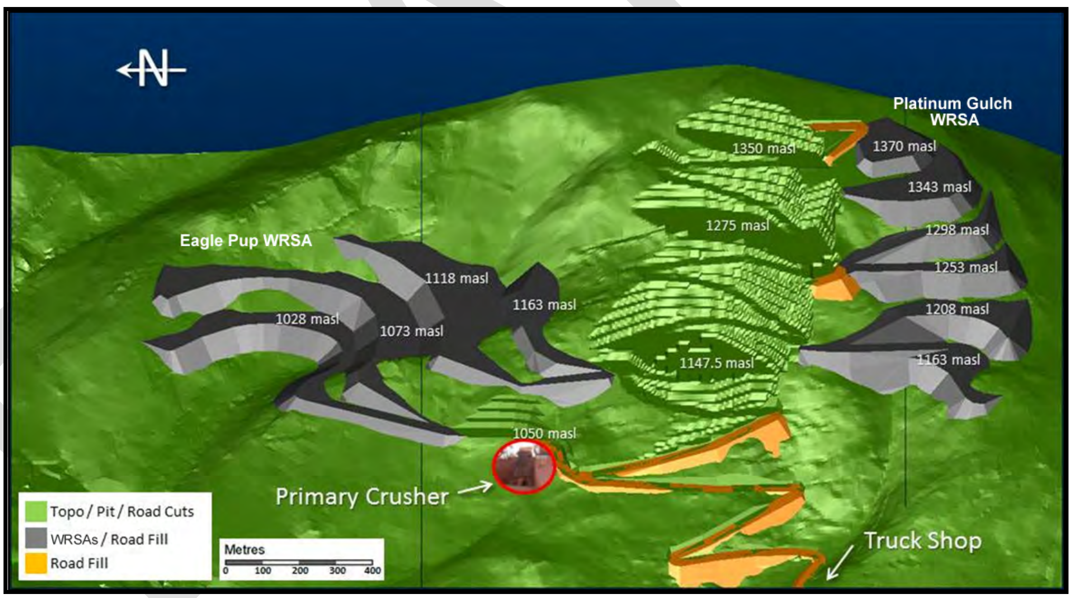


Figure 16.13 Mine Status: End of Year 2 Q2

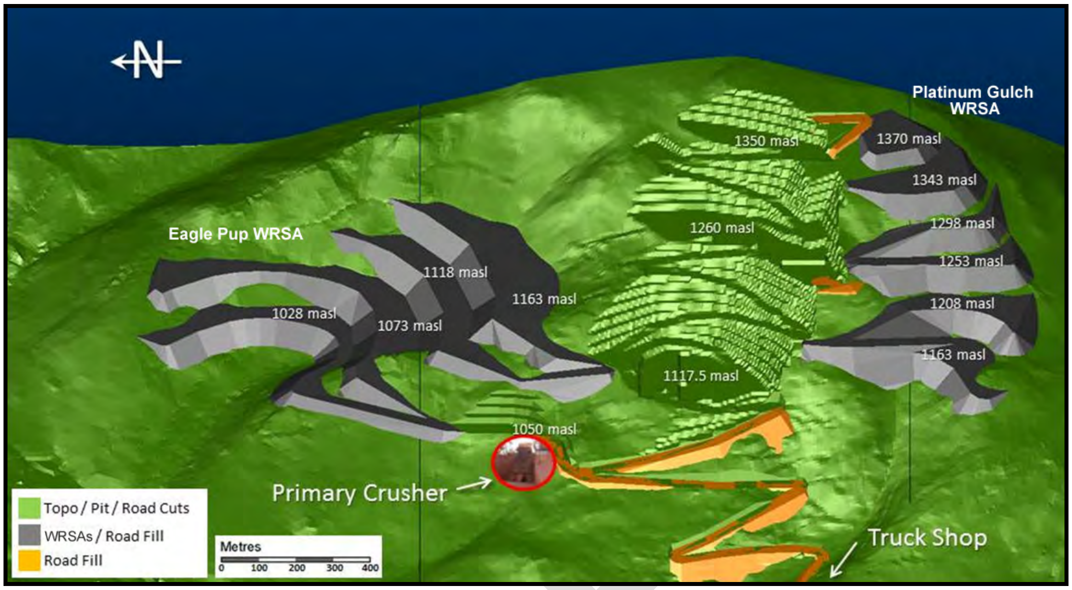


Figure 16.14 Mine Status: End of Year 2 Q3

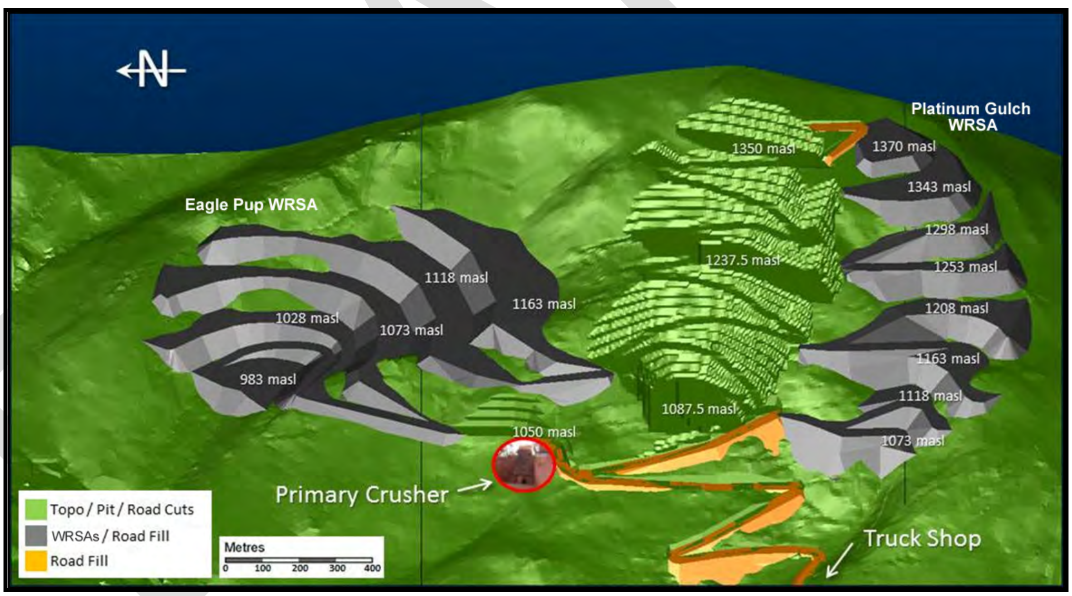


Figure 16.15 Mine Status: End of Year 2 Q4

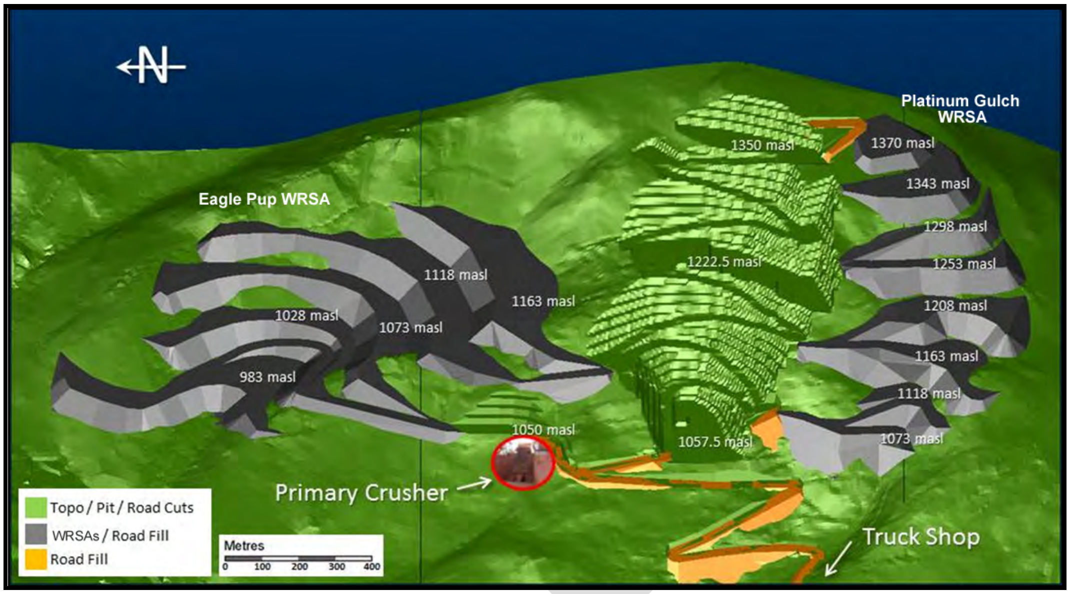


Figure 16.16 Mine Status: End of Year 3

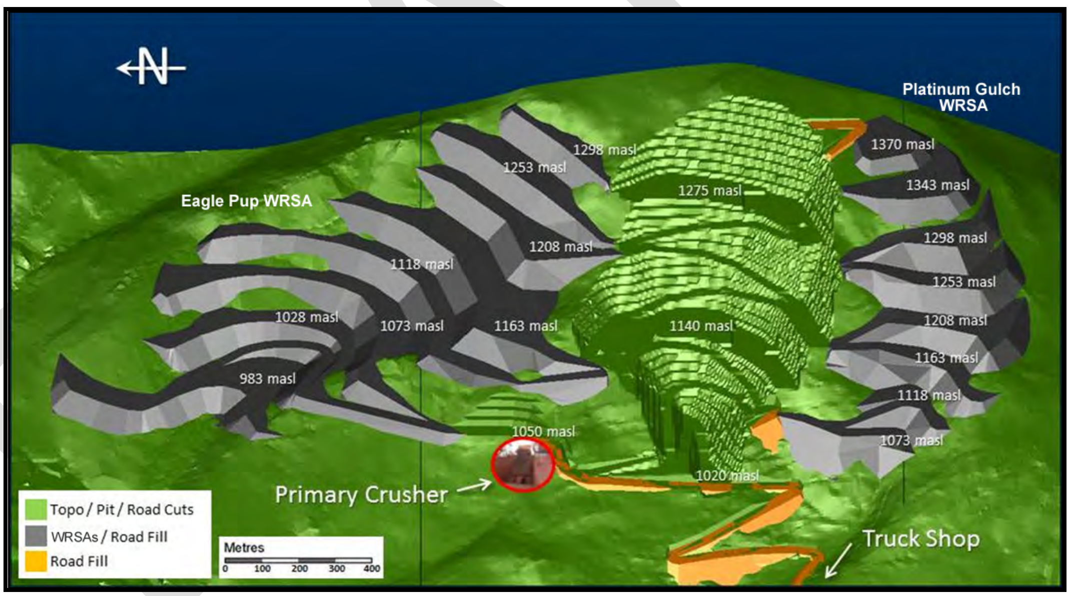


Figure 16.17 Mine Status: End of Year 4

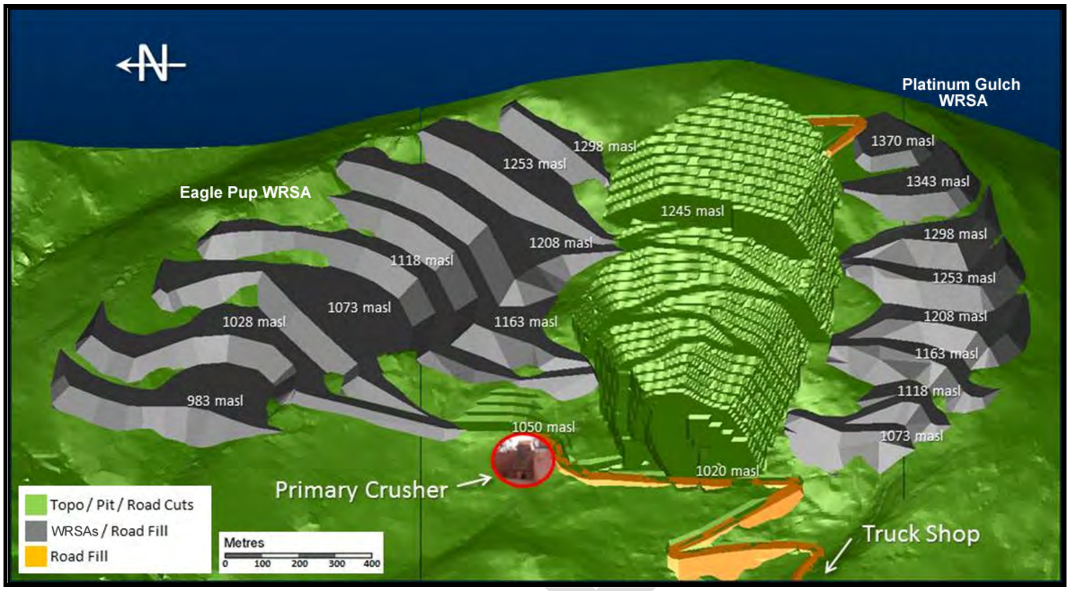


Figure 16.18 Mine Status: End of Year 5

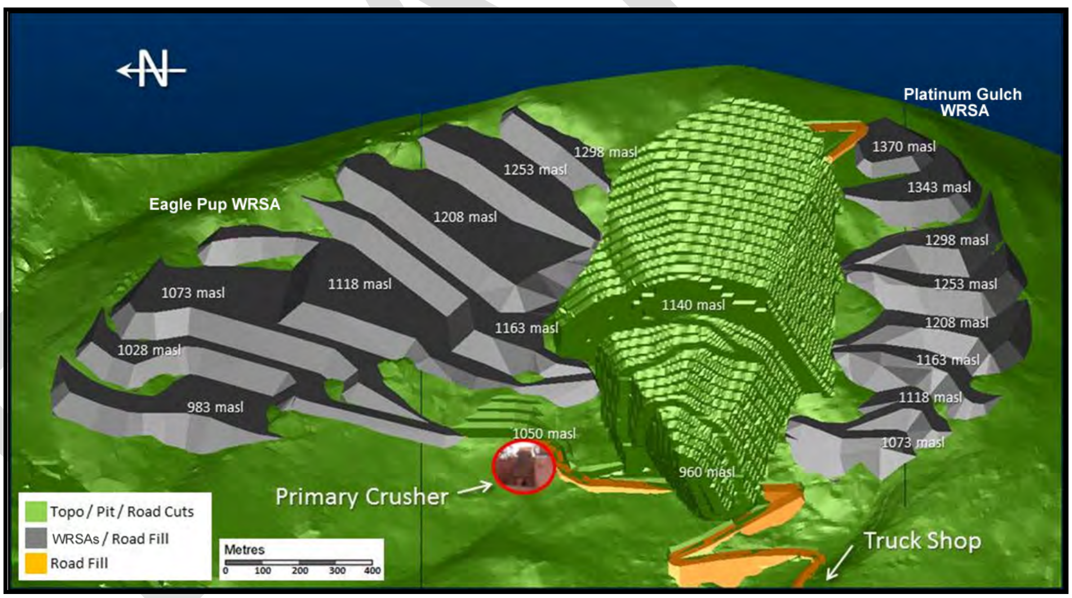


Figure 16.19 Mine Status: End of Year 6

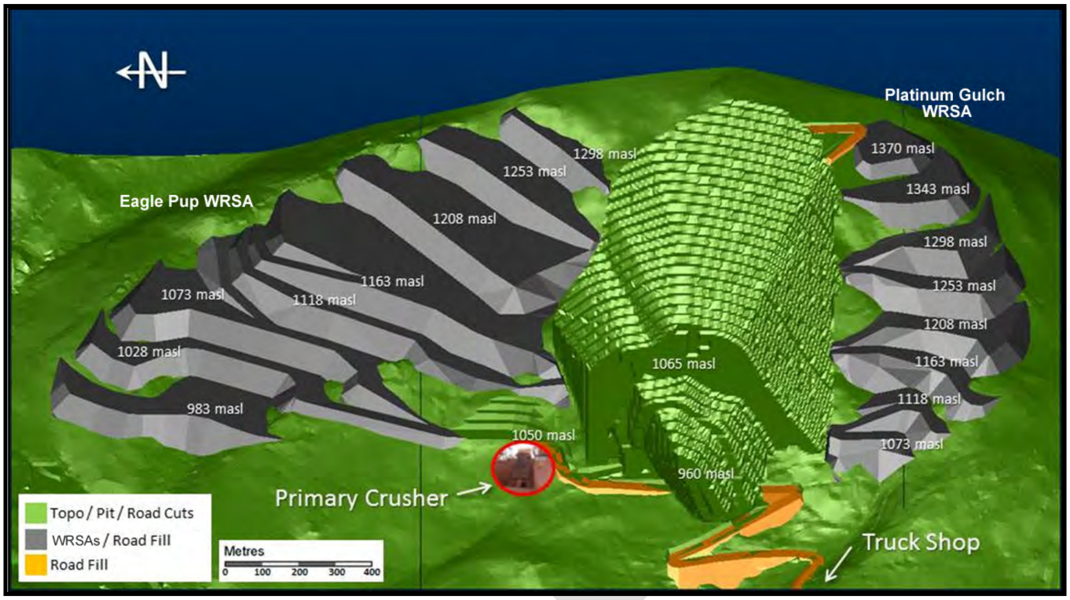


Figure 16.20 Mine Status: End of Year 7

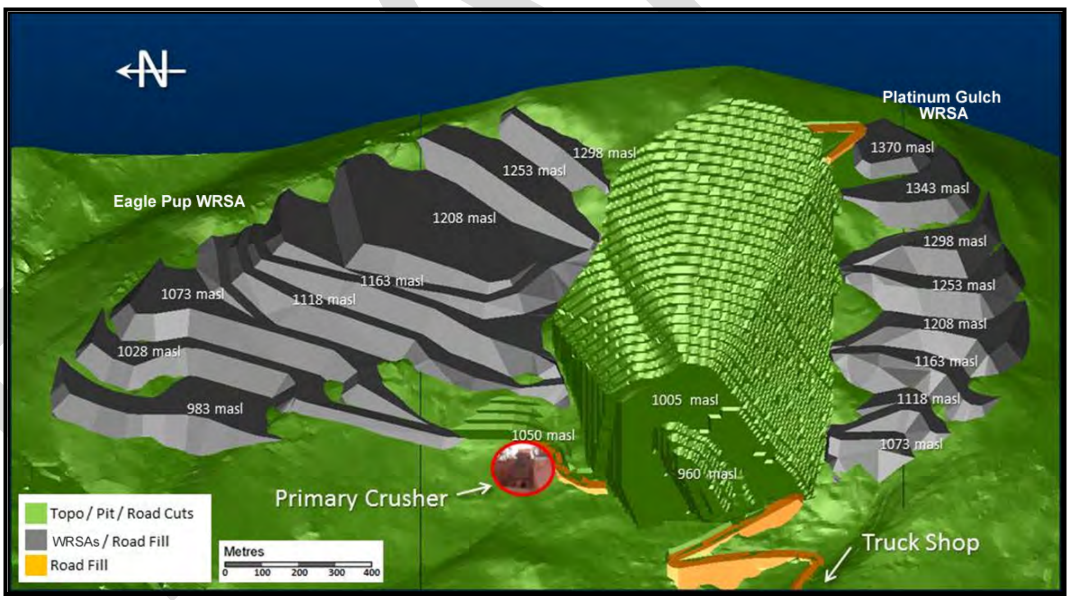


Figure 16.21 Mine Status: End of Year 8

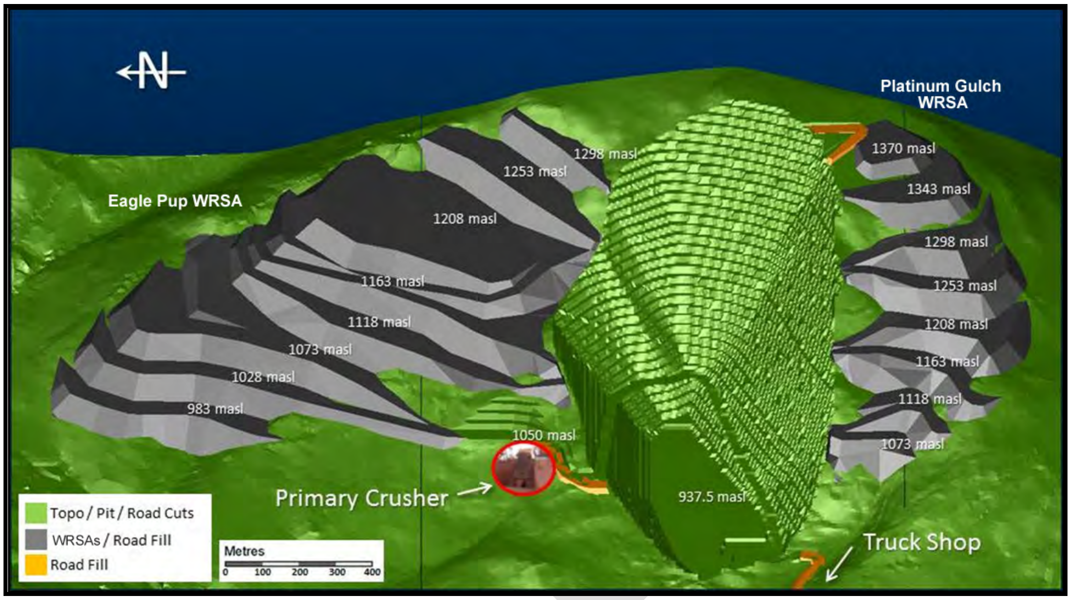
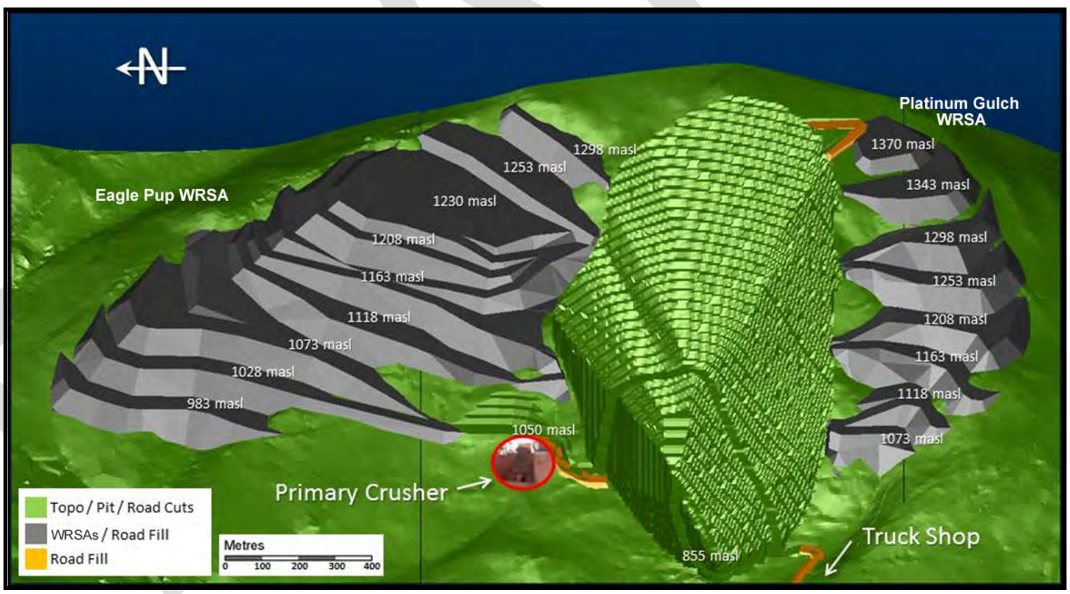


Figure 16.22 Mine Status: End of Year 9



16.4.4 LOW-GRADE STOCKPILE OPPORTUNITIES

A total of 19.3 Mt of low-grade material identified in the cut-off optimization was wasted in the interest of increasing revenues earlier in the Project life, to maximize the NPV. This ore material does not provide significant value by the end of mine life, because it is just above the process cut-off and would have been discounted many years.

There is a future opportunity to examine whether this material can placed separately inside the WRSAs or in a stand-alone stockpile for later processing.

16.5 Waste Rock Storage

16.5.1 *Waste Rock Storage Area Locations*

One WSRA will be located in Eagle Pup drainage, north of the open pit, and another in the Platinum Gulch drainage, south of the open pit. These areas are located within a short haul distance from the open pit, and will provide adequate capacity for LOM waste rock (as shown in Figure 16.22).

Waste will be hauled from the pit via strategically positioned egress points. As part of the mine plan, the upper internal pit ramp will ultimately be mined out and external ramps will be constructed to access the upper lifts of the WRSAs.

Platinum Gulch Waste Rock Storage Area

The Platinum Gulch WRSA will be filled to capacity within the first three years of production. It will have a starting elevation of 1,253 masl and a footprint of 41 ha.

Because this WRSA will be filled to capacity early in the mine life, there will be an opportunity for this WRSA to be reclaimed directly from material stripped at the Eagle Pup WRSA, which will help reduce the amount of re-handling of reclamation material.

Eagle Pup Waste Rock Storage Area

The Eagle Pup WRSA will contain approximately 113.9 Mt of waste rock over the LOM. It will have a starting elevation of 1,050 masl and a footprint of 103 ha.

16.5.2 *Waste Rock Storage Area Construction Sequencing Plan*

BGC provided geotechnical recommendations for the development of the WRSAs (BGC 2012d).

Both WRSAs will be constructed in areas that contain discontinuous permafrost, which may contain excess ice. Areas of permafrost with excess ice require treatment by stripping to encourage thawing and drainage, or excavation and removal to expose stable soils before covering with waste rock.

The Eagle Pup WRSA was designed from the bottom up, in 45 m lifts, with an overall slope angle of 2.5H:1V.

Figure 16.7 to Figure 16.22 show construction sequencing for both WRSAs. Table 16.4 provides the physical characterizations of the WRSA over the LOM.

Table 16.4 Eagle Pup and Platinum Gulch WRSAs Physical Characterizations

	WRSA	Lift (masl)	Footprint (ha)	Tonnage (t)
Year 0	Construction Material	-	-	1,885,000
	Platinum Gulch	1,370.0	0.0	0
	Eagle Pup	1,117.5	20.4	2,920,000
Year 1	Platinum Gulch	1,370.0	33.2	6,800,000
	Eagle Pup	1,117.5	37.6	7,569,132
Year 2	Platinum Gulch	1,370.0	41.2	2,300,000
	Eagle Pup	1,162.5	70.9	14,058,609
Year 3	Platinum Gulch	1,370.0	41.5	4,600,000
	Eagle Pup	1,297.5	89.7	10,974,437
Year 4	Platinum Gulch	1,370.0	41.5	-
	Eagle Pup	1,297.5	98.3	17,429,108
Year 5	Platinum Gulch	1,370.0	41.5	0
	Eagle Pup	1,297.5	100.8	19,897,081
Year 6	Platinum Gulch	1,370.0	41.5	-
	Eagle Pup	1,297.5	101.0	12,672,695
Year 7	Platinum Gulch	1,370.0	41.5	0
	Eagle Pup	1,297.5	101.1	11,113,069
Year 8	Platinum Gulch	1,370.0	41.5	-
	Eagle Pup	1,297.5	103.0	15,939,582
Year 9	Platinum Gulch	1,370.0	41.5	0
	Eagle Pup	1,297.5	103.5	4,251,145
Total	**Platinum Gulch**	**1,370.0**	**41.5**	**13,700,000**
	Eagle Pup	**1,297.5**	**103.5**	**116,824,858**
	Construction Material	**-**	**-**	**1,885,000**
	Total	**-**	**-**	**132,409,858**

The development of the WRSAs will require clearing and grubbing and drainage ditch construction, prior to loading of waste rock.

The Eagle Pup WRSA construction sequence was developed in accordance with two additional design requirements:

- build an initial lift with competent material around the 1,065 masl elevation which will act as a stability lift for the whole WRSA structure
- provide buttress lifts just below an ice-rich lobate feature in the upper area of the WRSA to improve the integrity of the lifts built above this feature.

16.5.3 *Waste Segregation*

Waste material was divided into four categories, as outlined in Table 16.5.

Table 16.5 Waste Material Segregation

Type	Definition
Metasedimentary	Rock which is highly weathered and foliated and generally shows poor mechanical properties.
Intrusive	Rock exhibiting a similar weathering pattern as the metasedimentary but has a noticeably higher inherent strength and a higher structural integrity.
Low-grade Ore	Material that is technically ore but in the interest of improving the Project economics is being treated as waste. If a suitable stockpile can be located in the future this material can be stored and later processed.
Miscellaneous	Includes topsoil (thickness from 0.2 to 0.5 m) and colluvium (thickness from 2 to 7 m).

The better-quality intrusive material was mainly scheduled for key stability lifts and support buttresses to enhance stability, as described in Section 16.5.2.

16.6 Pit Drainage and Dewatering, and Electrical Services

16.6.1 *Open Pit Dewatering System*

Dewatering inside the pit will be minimal for the first four years as the pit will daylight out of the hillside, so excess water will be collected in external ditching. Once a pit is developed that does not daylight, diesel-powered pumps with associated pipelines will be installed at the bottom of the pit for in-pit dewatering. Water will be pumped a short distance out of the pit area to local external ditching.

16.6.2 *Pit Electrics – Shovels, Drills, and Pumps*

There is no electric mining equipment planned inside the pit area.

16.7 Mining Equipment Fleet Productivities

16.7.1 *General*

The proposed mining method is based on traditional open pit drill/blast and load/haul system, using trucks and shovels. All mining operations are planned to be performed by the Owner.

The open pit will be accessed through two-lane, 31 m wide roads or ramps at 10% gradient that can accommodate both 91 and 136 t class haul trucks.

Equipment units were selected for their minimal operating space requirements during start-up, ore grade control, and maximizing waste removal. Off-highway rear-dump-haul trucks of 91 t capacity will be used initially to haul material to build the toe berm of the WRSA during pre-production stripping. Thereafter, the 91 t trucks will be used mainly to haul ore to the primary crusher. Off-highway rear-dump-haul trucks of 136 t capacity will mainly haul waste to the WRSAs. Ore and waste rock material will require drilling and blasting.

The selected major and support equipment for the mining operations are listed by year in Table 16.6 and Table 16.7, respectively.

Table 16.6 Major Mining Equipment by Year

Equipment	Size	Year									
		-1	1	2	3	4	5	6	7	8	9
Diesel Rotary Drill	203 mm	1	1	2	2	2	2	2	2	2	2
Secondary Drill	159 mm	1	1	1	1	1	1	1	1	1	1
Hydraulic Shovel (diesel)	11 m^3	1	1	2	2	2	2	2	2	2	2
Hydraulic Shovel (diesel)	15 m^3	0	0	1	1	1	1	1	1	1	1
Wheel Loader	12 m^3	1	1	1	1	1	1	1	1	1	1
Haul Truck	91 t	3	5	6	6	6	6	6	6	6	5
Haul Truck	136 t	0	2	7	7	7	7	7	7	7	4

Table 16.7 Mine Support Equipment by Year

Equipment	Size	Year									
		-1	1	2	3	4	5	6	7	8	9
Track Dozer	433 kW	1	1	2	2	2	2	2	2	2	1
Track Dozer	231 kW	1	1	1	1	1	1	1	1	1	1
Rubber Tire Dozer	372 kW	0	1	1	1	1	1	1	1	1	1
Motor Grader	221 kW	1	1	2	2	2	2	2	2	2	1
Water Truck	12,000 gal	1	1	1	1	1	1	1	1	1	1
ANFO Truck*	270 kg/min	1	1	1	1	1	1	1	1	1	1
Small Excavator	2.3 m^3	1	1	1	1	1	1	1	1	1	1

Note: *Contractor supplied

16.7.2 MAJOR MINE EQUIPMENT – NET PRODUCTIVE OPERATING TIMES

The mine is expected to operate 350 d/a using two 12 h shifts per day. For all major equipment, the net operating hours (NOH) were calculated using the following formula:

NOH = Calendar Hours x Availability (%) x [1 – Standby (%)] x Use of Availability (%)

Where:

- Availability is the percent of time that the unit is mechanically available (i.e. not at the truck shop).
- Standby is the percent of time the unit is available but waiting for work.
- Use of Availability is the percent of available time that the unit is doing productive work. Unproductive time includes all the various operating delays such as blasting, breaks, shift change, fuelling, shovel moves, and weather delays.

Table 16.8 shows a sample of the NOH calculations that were used for each piece of major equipment.

Table 16.8 Sample NOH Calculations

Parameter	Value
Calendar Days	365/a
Scheduled Outages	15 d/a
Work Days	350 d/a
Shifts per Day	2 shifts/d
Hours per Shift	12 h/shift
Total Hours	8,400 h/a
Availability	85%
Available Hours	7,140 h/a
Standby/Idle	2%
Gross Operating Hours	6,997 h/a
Blasting	0.25 h/shift
Breaks/Meals	1.00 h/shift
Shift Change	0.50 h/shift
Miscellaneous (moves, fuel, power, cleanup)	0.25 h/shift
Weather	10 d/a
	0.33 h/shift
Total Operating Delays (based on availability)	2.33 h/shift
	1,386 h/a
NOH	5,612 h/a

16.8 DRILLING

Blasthole drilling will be performed with up to two 203 mm diesel rotary drills as the primary drilling equipment. Blastholes will be drilled with 1.7 m of sub-grade giving a total blasthole length of 9.2 m. Trim and buffer drill patterns will also be used to minimize wall damage from blasting. A multipurpose crawler drill capable of drilling 159 mm holes will provide highwall slope works and secondary drilling.

Blasting will be performed using bulk ammonium nitrate fuel oil (ANFO) as the main explosive, with plastic hole liners in wet conditions.

16.8.1 Blasthole Drill Productivity

The primary drilling pattern for both ore and waste will use a burden of 5.5 m and a spacing of 6.6 m. Drill productivity was estimated by calculating the total time to drill one hole and move to the next one. The drill penetration rate was estimated at 58 cm/min. Time was added for sampling, collaring and moving. The total required drilling hours was then determined by dividing the number of required holes by the drill cycle time per hole. Table 16.9 shows a sample of the productivity calculations for the drills.

Table 16.9 Sample Drill Productivity Calculations

Parameter	Value
Ore Production	10,796,825 t
Bench Height	7.5 m
Hole Diameter	203 mm
Burden	5.5 m
Spacing	6.6 m
Sub-grade Drilling	1.65 m
Hole Length	9.15 m
Stemming Length	3.85 m
Yield per Hole	272.25 bcm
SG of Ore	2.66 t/bcm
Yield per Hole	724.2 t
Number of Holes Drilled	14,909
Annual Drilling Requirement	136,417 m
Penetration Rate	58 cm/min
Moving, Align Time	2.1 min
Collaring	1.0 min
Grade Control Sampling Time	1.5 min
Total Cycle Time per Hole	20.3 min
Availability	85%
Use of Availability	79%
Maximum NOH per Unit	5,852
Required NOH	5,041
Number of Units Required	0.86

16.9 BLASTING

16.9.1 GENERAL BLASTING CONDITIONS FOR PRODUCTION HOLES

Mine explosives will be supplied by an explosives supplier and stored in a separate area close to the open pit. The supplier's office and service shop, the ammonium nitrate silos, and the emulsion tank will be fenced and located in accordance with Natural Resources Canada's (NRCan) Explosives Regulatory Division (ERD) requirements.

An explosives magazine will house all detonators and the primers. The magazine will be bullet-proof, fire-resistant, and well ventilated, and will conform to standards set by NRCan ERD.

The Owner will contract an explosives supplier to provide the facilities. Bulk explosives will be delivered on a down-the-hole basis. The average powder factor for the holes is expected to be 0.57 kg/m^3.

16.9.2 ON-SITE STORAGE AND EXPLOSIVES PLANT

On-site explosives storage and an explosive manufacturing plant, as well as management and maintenance facilities for the blasting contractor, will be required. The location of the plant and the magazines will follow the table of distances as specified in the Canadian Federal *Explosives Act,* and will be identified on the mine site plan with reference to the delivered areas.

The Owner's explosives contractor will provide all the specialty necessary equipment, including all bulk loading trucks, to provide complete in-the-hole service. The capital and operating costs of mobilizing and maintaining these facilities and equipment will be included as part of direct annualized blasting operating costs.

16.9.3 PRESPLITTING AND HIGHWALL CONTROLS

Controlled blasting is designed to protect the highwall from blast damage, thereby achieving the geotechnical recommendations for drained steep slopes. Drill control methods will be used to reduce the amount of powder in holes and hold stemming in to control the blast.

Blasting methods that reduce highwall over-break and associated rockfall hazards will be conducted. Along the final highwall planned for the Eagle Gold deposit, blast control techniques will minimize the effects of blast vibrations and the potential loss of shear strength along structure in the highwalls. Different blast-trim pattern designs should be highlighted which isolate the effects from production shots on the highwall.

16.10 LOADING

16.10.1 GENERAL LOADING CONDITIONS

Primary loading equipment will include up to two 11 m^3 diesel hydraulic shovels and one 15 m^3 diesel hydraulic shovel. The smaller shovel will initially be employed in tight working areas during pre-production stripping, and then subsequently assigned to mine ore during production to provide ore grade control capability. This shovel will mainly load the 91 t haul trucks. The larger shovel will provide extra capacity for stripping to ensure continuous availability of exposed ore. This shovel will mainly load the 136 t haul trucks for accelerated stripping. A wheeled front-end loader (FEL) (with 12.2 m^3 bucket capacity) will be used as a back-up loading system in the event a primary shovel is taken out of service.

16.10.2 LOADING PRODUCTIVITY

The maximum loading productivity was calculated based on the total loading time per truck, then de-rated to account for additional loading unit waiting time. Mining production is truck-limited. Table 16.10 shows the productivity calculations for the loading equipment.

Table 16.10 Loading Productivity Calculations

Parameter	Shovel (15m$_3$)	Shovel (11m^3)	Front-end Loader
Bucket Capacity (heaped)	15.0 m^3	11.0 m^3	12.2 m^3
Material Weight	2.66 dmt/bcm	2.66 dmt/bcm	2.66 dmt/bcm
Bulk Factor	1.5	1.5	1.5
Material Weight	1.77 dmt/lcm	1.77 dmt/lcm	1.77 dmt/lcm
Moisture	3%	3%	3%
Material Weight	1.83wmt/lcm	1.83wmt/lcm	1.83 wmt/lcm
Fill Factor	95%	95%	90%
Effective Bucket Capacity	14.2 m^3	10.5 m^3	11.0 m^3
Tonnes/Pass	26.0 wmt	19.1 wmt	20.1 wmt
Truck Size Capacity	136.1 wmt	90.7 wmt	136.1 wmt
Average Number of Passes	5.2	4.7	6.8
Truck Spot Time	30 s	30 s	30 s
First Bucket Cycle Time	10 s	10 s	12 s
Subsequent Bucket Cycle Time	35 s	35 s	45 s
Load Time per Truck	3.1 min	2.9 min	5.0 min
Maximum Productivity	19.1 trucks/h	21.0 trucks/h	12.0 trucks/h
	2,606 wmt/h	1,909 wmt/h	1,626 wmt/h
Truck Availability to Shovel	90%	90%	90%
Effective Productivity	2,345 wmt/NOH	1,718 wmt/NOH	1,464 wmt/NOH

16.11 HAULAGE

16.11.1 GENERAL HAULING CONDITIONS

Primary hauling equipment will consist of two sizes of haul trucks. During pre-production, smaller 91 t haul trucks will be used. Once ore production begins, the 91 t haul trucks will be assigned mainly to deliver ore to the primary crusher while larger 136 t haul trucks will be used mainly for the delivery of waste materials to the WRSAs. At peak production, the 91 t truck fleet will have six units while the 136 t truck fleet will be contain a maximum of seven units.

All ore will be hauled to the primary crusher located at 1,050 masl. For the first three years the average ore haul will be downhill. After this time more of the ore will be developed below the crusher elevation creating an increasing amount of uphill hauling.

The waste material will be hauled to the two surrounding WRSAs and will exit the pit at strategically positioned exit points. From each of these exit points, two 45 m lifts of the WRSA can be built. Overall, the WRSAs are to be built bottom-up and much of the initial waste is required at lower elevations on the Eagle Pup WRSA to develop the initial stabilizing lifts. Whenever possible, the elevation difference between source and destination was minimized to shorten the haulage distance. About 10% of the waste will be stored in the Platinum Gulch WRSA with the remaining 90% stored in the Eagle Pup WRSA.

16.11.2 HAUL TRUCK PRODUCTIVITY

The haul truck fleet requirements are determined based on the development of detailed haul truck productivity calculations and the final mine plan.

To determine haul truck productivity, haul profiles were digitized for all possible source-destination combinations and cycle times were estimated. Haulage cycle times were calculated using the MineSight™ MS Haulage tool. Once the production schedule was finalized and amount of material for each source-destination combination was known, average cycle times per period were calculated.

Cycle times in minutes for the full round trip were estimated based on an equipment set that consisted of a 15 m^3 hydraulic shovel and 136 t payload haul truck. Rimpull curves and speed bins were generated using the Caterpillar's Fleet Production and Cost haul truck simulation tool. Rolling resistances used were 3, 4 and 5% for the ramp routes, shovel area and WRSAs, respectively. Loading, dumping and spotting, and waiting times were estimated at 2.85, 1.0 and 1.0 min, respectively. Wardrop assumed that the rimpull curves and speed for the 91 t trucks correspond to that the 136 t trucks, to facilitate the cycle time calculations.

16.12 Mine Capital Cost

Mine capital costs were obtained from suppliers' quotations for the major, support and ancillary mining equipment. A limited number of the equipment costs were obtained from previous Wardrop mining projects and from Infomine Cost Estimate databases. The estimated initial capital costs include the major, support, and ancillary equipment.

The estimated mine equipment capital costs, include basic equipment capital that were calculated in Q1 2012 Canadian dollars with accuracy of ±15%. The estimated initial mine capital costs for mining equipment will be $35 million.

16.12.1 Initial Mine Equipment Fleet

Table 16.11 specifies all the mine equipment required as initial capital.

Table 16.11 Initial Mine Equipment Fleet

Mining Capital Equipment	Initial Equipment Cost		
	Unit Cost ($)	No. of Units	Total Cost ($)
Drills (Primary, 203 mm)	1,399,529	1	1,399,529
Drills (Secondary, 127 mm)	988,387	1	988,387
Shovels (Hydraulic, 11 m^3)	3,624,516	1	3,624,516
FELs (12 m^3)	3,179,174	1	3,179,174
Haul Trucks (91 t)	1,907,365	5	9,536,825
Haul Trucks (136 t)	2,977,724	2	5,955,449
Track Dozers (433 kW)	1,479,962	1	1,479,962
Track Dozers (231 kW)	809,729	1	809,729
Wheel Dozers (372 kW)	1,175,949	1	1,175,949
Graders (221 kW)	854,187	1	854,187
Vibratory Compactor (120 kW)	212,391	1	212,391
Stemming Loader (60 kW, 1.1 m^3)	126,627	1	126,627
Integrated Tool Carriers (70 kW)	175,000	1	175,000
Small Excavator (302 kW, 4 m^3)	336,771	1	336,771
Water Truck	1,091,445	1	1,091,445
Flatbed Truck (complete with 9 t Hiab Crane)	145,000	1	145,000
Fuel/Lube Truck (3,000 gal Fuel Tank)	580,000	1	580,000
Mechanic Service Truck (F250, 4 x 4)	106,000	1	106,000
Welding Truck (F250, 4 x 4)	80,000	1	80,000
Tire Service Truck with Tire Manipulator	396,000	1	396,000
Snow and Sand Truck	424,000	1	424,000
Pick-up Trucks (3/4 ton, 4 x 4, diesel)	49,000	11	539,000
Rough Terrain Hydraulic Crane, 60 t	540,000	1	540,000
Rough Terrain Forklift	132,000	1	132,000

table continues…

Mining Capital Equipment	Initial Equipment Cost		
	Unit Cost ($)	No. of Units	Total Cost ($)
Shop Forklift	72,000	1	72,000
Mine Management System	802,581	1	802,581
Light Plant/Tower with 6,000 W Generator	14,000	2	28,000
Mobile Radios	1,000	35	35,000
Safety Equipment	80,000	1	80,000
Engineering/Geology Equipment	162,000	1	162,000
Maintenance Management System	5,500	1	5,500
Total Initial Equipment	**-**	**-**	**35,073,020**

16.12.2 Sustaining and Replacement Capital for Mining Fleet

Additional primary equipment units were added in Year 2015 to prepare for increased ore delivery and increased stripping. The additional equipment will include one 203 mm drill, one each of 11 m^3 and 15 m^3 hydraulic shovels, one 91 t and five 136 t haul trucks plus additional support equipment.

The total costs for the additional equipment and other sustaining capital will be approximately $32 million.

16.13 Pre-production Mine Development Cost

A total of 4.8 Mt of waste material will be removed during pre-production development of the open pit. To move the material, a fleet of primary equipment consisting of one 203 mm drill, one 11 m^3 hydraulic shovel, one 12 m^3 FEL, five 91 t haul and two 136 t haul trucks will be required.

Pre-production stripping to move 4.8 Mt will cost approximately $16.9 million.

Table 16.12 Sustaining and Replacement Mining Fleet

Mining Equipment	Unit Cost ($)	2015 Units	2015 Total Cost ($)	2016 Units	2016 Total Cost ($)	2017 Units	2017 Total Cost ($)	2019 Units	2019 Total Cost ($)	2020 Units	2020 Total Cost ($)	2021 Units	2021 Total Cost ($)	2022 Units	2022 Total Cost ($)
Drills (Primary, 203 mmm)	1,399,529	1	1,399,529	-	-	-	-	-	-	-	-	-	-	-	-
Drills (Secondary, 127 mmm)	988,387	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shovels (Hydraulic, 11 m^3)	3,624,516	1	3,624,516	-	-	-	-	-	-	-	-	-	-	-	-
Shovels (Hydraulic, 15 m^3)	5,493,055	1	5,493,055	-	-	-	-	-	-	-	-	-	-	-	-
FELs (12 m^3)	3,179,174	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haul Trucks (91 t)	1,907,365	1	1,907,365	-	-	-	-	-	-	-	-	-	-	-	-
Haul Trucks (136 t)	2,977,724	5	14,888,622	-	-	-	-	-	-	-	-	-	-	-	-
Track Dozers (433 kW)	1,479,962	1	1,479,962	-	-	-	-	-	-	-	-	-	-	-	-
Track Dozers (231 kW)	809,729	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheel Dozers (372 kW)	1,175,949	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Graders (221 kW)	854,187	1	854,187	-	-	-	-	-	-	-	-	-	-	-	-
Vibratory Compactor (120 kW)	212,391	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stemming Loader (60 kW, 1.1 m^3)	126,627	-	-	-	-	-	-	1	126,627	-	-	-	-	-	-
Integrated Tool Carriers (70 kW)	175,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small Excavator (302 kW, 4 m^3)	336,771	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Truck	1,091,445	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANFO Truck	57,032	(1)	(57,032)	1	57,032	-	-	-	-	-	-	-	-	-	-
Flatbed Truck (complete with 9 t Hiab crane)	145,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel/Lube Truck (3,000 gal fuel rank)	580,000	-	-	-	-	-	-	-	-	1	580,000	-	-	-	-

table continues…

Mining Equipment	Unit Cost ($)	2015		2016		2017		2019		2020		2021		2022	
		Units	Total Cost ($)	Units	Total Cost ($)	Units	Total Cost ($)	Units	Total Cost ($)	Units	Total Cost ($)	Units	Total Cost ($)	Units	Total Cost ($)
Mechanic Service Truck (F250, 4 x 4)	106,000	-	-	-	-	-	-	-	-	-	-	-	-	1	106,000
Welding Truck (F250, 4 x 4)	80,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tire Service Truck with Tire Manipulator	396,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Snow and Sand Truck	424,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pick-up Trucks (3/4 ton, 4 x 4, diesel)	49,000	4	196,000	-	-	-	-	2	98,000	4	196,000	4	196,000	-	-
Crew Cab Trucks (F250 chassis, 4 x 4, diesel)	53,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rough Terrain Hydraulic Crane, 60 t	540,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rough Terrain Forklift	132,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shop Forklift	72,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mine Management System	802,581	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Light Plant/Tower with 6,000 W Generator	14,000	4	56,000	-	-	-	-	2	28,000	3	42,000	2	28,000	-	-
Mobile Radios	1,000	10	10,000	-	-	-	-	-	-	-	-	-	-	-	-
Safety Equipment	80,000	-	-	-	-	-	-	-	-	-	-	-	-	4	4,000
Engineering/Geology Equipment	162,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance Management System	5,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horizontal Drill	600,000	1	600,000	-	-	-	-	-	-	-	-	-	-	-	-
Total Initial Equipment	**-**	**-**	**30,452,204**	**-**	**57,032**	**-**	**-**	**-**	**252,627**	**-**	**818,000**	**-**	**224,000**	**-**	**110,000**

17.0 RECOVERY METHODS

17.1 CRUSHER AND CONVEYOR SYSTEM OVERVIEW

Ore will be mined and delivered to the primary crusher at a rate of 29,500 t/d (10.3 Mt/a). The remaining crusher units, conveyor and portable stacking system are designed to crush and place ore at a rate of 41,300 t/d.

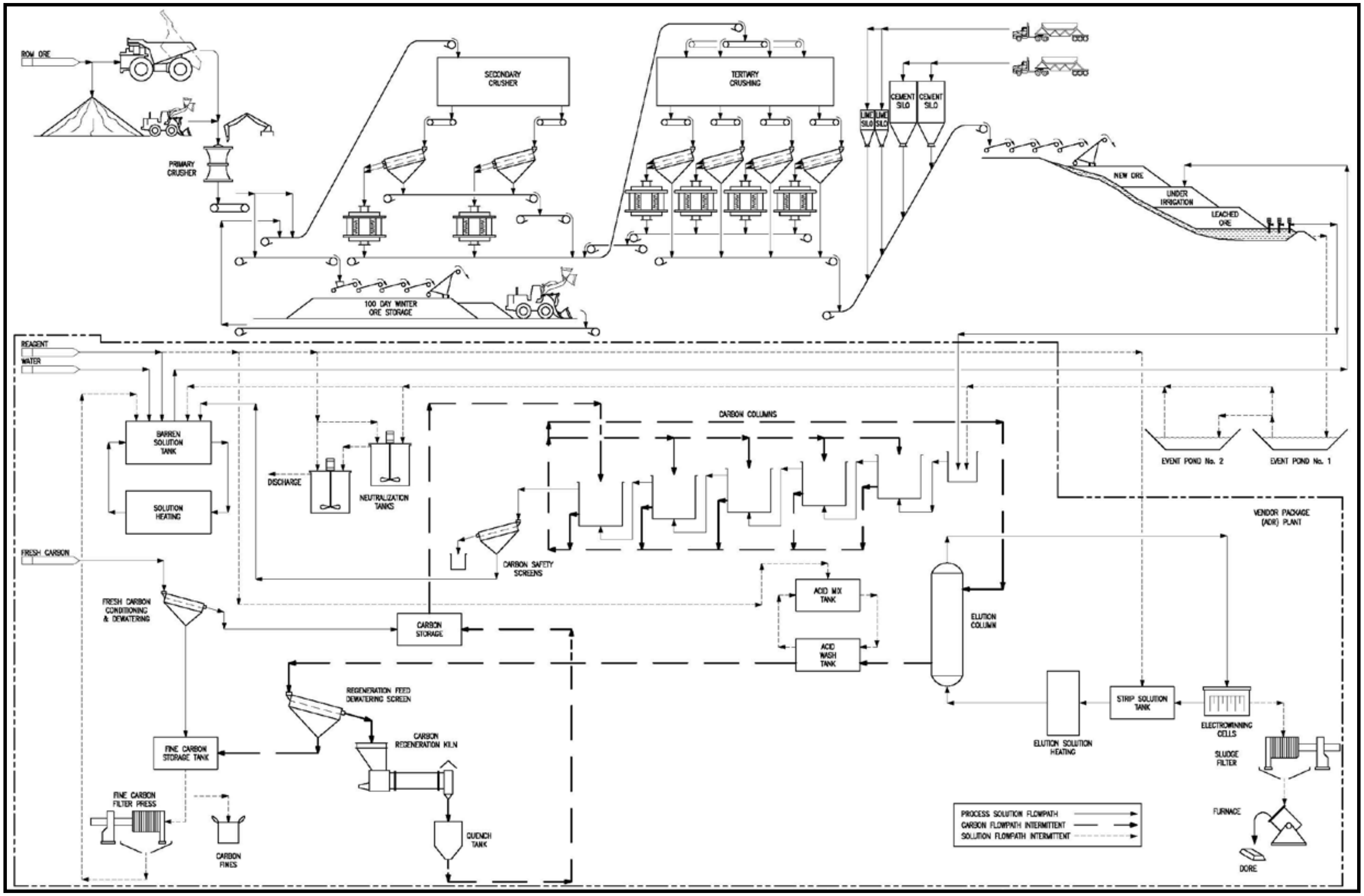
The HLF will operate year-round. During non-winter months (250 d/a) ore will be crushed, agglomerated, stacked and leached using a 1,219 mm wide conveyor stacking system. Primary crushed ore will be stockpiled on the 100 d ore storage pad during the coldest 100 d each winter while leaching continues on the HLF.

Ore will first be delivered by haul truck to the first of three crushing plants, located north of the open pit. During regular operations (250 d/a), the ore will be transported overland by covered conveyor from the primary crusher to the secondary crushers and following crushing onto the tertiary crushers. During winter months (100 d/a), the primary crushed ore will be conveyed to the 100 d ore storage pad. Once climatic conditions return to operational criteria for heap leach pad stacking the ore stockpiled on the 100 d storage pad will be reclaimed and fed back into the crushing system at the secondary crushing plant. The crushing system will produce an average particle size P_{80} 6.4 mm.

The crushed ore will then be transported by covered conveyor to the heap leach pad for stacking. Belt agglomeration will occur during the first three years using lime and cement. After which only lime will be added to the ore before it is stacked on the heap leach pad. Belt agglomeration will be achieved with cement and lime additions to the ore following tertiary crushing while the ore is traveling down the overland conveyor system. Mixing of the agglomerate will be achieved via the tumbling action as the ore is transferred from one belt conveyor to another. Ore will be stacked on a composite liner system in 10 m lifts using a stacking conveyor system.

Figure 17.1 illustrates the entire gold recovery process.

Figure 17.1 Process Flow Sheet



17.2 Heap Leach Facility Overview

The HLF consists of an in-valley composite liner system, in-heap solution pond, mobile conveyor system and associated piping network for solution collection and distribution.

The heap leach pad will consist of an engineered liner system. The composite liner system in the upper portion of the pad (above the in-heap solution storage area) will comprise a LLDPE liner over a GCL system. The composite liner system in the lower portion of the pad (forming the in-heap solution storage area) will comprise of two discrete layers of LLDPE liner, separated by a layer of geonet material, over a GCL system. The in-heap solution storage area will act as an in-heap leach pond for the primary storage of PLS. The in-heap pond (essentially a saturated zone within the lower extent of the HLF) will be able to contain up to 459,349 m^3 of solution, but will typically operate at approximately 60,000 m^3, which is less than 15% of the total capacity. Storage of PLS in the in-heap leach pond is a cold-weather mitigation and has the added benefit that liquid cyanide solution will not be exposed during normal operations.

Process solution containing cyanide will be applied to the ore via a buried drip irrigation system. The resultant PLS will be captured in the solution collection system and flow to the in-heap solution pond. The PLS will be recovered via well system using pumps and standpipes. The PLS will be transferred to the ADR plant for gold recovery.

17.3 Process Plant Overview

Gold will be recovered from the PLS by activated carbon adsorption and pressurized cyanide/caustic desorption, followed by electrowinning onto stainless steel cathodes, and the subsequent on-site smelting to gold doré. This process is referred to as the ADR process. The gold-barren leach solution that remains after passing the PLS through the carbon columns will be replenished with reagents for cyanide and pH control and re-circulated back to the HLF as barren solution. If leach feed/barren solution cannot be recycled back to the HLF due to water balance constraints, the barren solution will be stored within the events ponds.

The process plant will be located at the toe of the HLF. The process plant will include a cyanide detoxification circuit, which will treat solution by removing cyanide in the event that solution discharge from the operation is required.

17.3.1 Primary Crushing and Conveying

The primary crusher dump pocket will be located at 1,065 masl, just over 100 m north of the final open pit rim. During regular operations, run-of-mine (ROM) ore will be direct-dumped into the dump pocket, or a small temporary ROM stockpile, if the primary crusher is not available for direct dumping. ROM ore will be delivered by haul trucks from the open pit to the primary gyratory crusher, located to the north of the open pit. The ore will be direct-dumped into the dump hopper situated above the 1,372 x 1,651 mm (50 x 65 in) gyratory crusher, and will be discharged to the crusher with a discharge setting of 150 mm. The primary crushed ore will be collected in the discharge pocket below the primary crusher. A belt feeder will regulate the discharge rate of the primary crushed ore, nominally at 1,444 t/h onto the 1,524 mm wide primary crushing discharge conveyor. This crushed product will report to a 250 t bin by a system of conveyors. On the initial conveyor, there will be a mechanical diversion gate on the discharge conveyor belt that will allow the secondary and tertiary crushers to be by-passed during the winter months (100 d) when the ore will be treated by the primary crusher only. The conveyors will be fitted with covers along their entire length.

17.3.2 SECONDARY CRUSHING AND CONVEYING

The primary crushing discharge conveyor will deliver the primary crushed ore to a 250 t surge bin. Two belt feeders will regulate the ore feed rate from the surge bins to a nominal rate of 1,012 t/h each, to two 2,438 x 6,100 mm (8 x 20 ft) double deck vibrating screens (secondary screens) with apertures of 89 and 38 mm, respectively. The two separation decks produce a coarse and a fine product.

The coarse product material will discharge to two Metso MP1000 (or equivalent) standard head cone crushers (secondary crushers), each with a closed side setting of 19 mm.

The undersize material from the secondary screens will be combined with crushed material and conveyed to the tertiary crusher surge bin and will be ready for further processing.

The combined secondary crusher discharge product and screen undersize will be transported by a 2,133 mm secondary crushing discharge conveyor at a nominal rate of 4,231 t/h to the tertiary crusher feed bins. The discharge conveyor will be equipped with a magnet to remove any tramp steel that may be mixed in with the ore that may damage the conveyor belts and crushers. The conveyors will be fitted with covers along their entire lengths.

17.3.3 TERTIARY CRUSHING AND CONVEYING

Ore from the secondary crushing circuit will be conveyed to a 250 t feed bin prior to the last crushing stage. Material from the feed bin will be fed, in parallel, to four 4,300 x 8,500 mm inclined vibrating screens. The screen oversize material from the four screens will be fed to four Metso MP1000 (or equivalent) tertiary crushers operating in a closed circuit.

Screen undersize material will be conveyed directly to a series of conveyors and then to the heap leach pad. The tertiary crusher discharge will be fed back to the vibratory screens thereby completing the closed circuit.

Various ancillary equipment will include a dust collection system, overhead cranes, weightometers, samplers, maintenance hoists, and lubrication units for the crushers.

17.4 HEAP LEACHING

17.4.1 HEAP LEACHING DESIGN CRITERIA

The HLF was designed based on the following criteria:

- leach cycle: 150 d
- heap solution application rate: 10 L/m^2/h
- particle size: P_{80} 6.4 mm
- belt agglomeration: 1 kg/t lime addition, 2 kg/t cement addition
- ore placement: fixed and mobile conveyer systems and stackers
- lift height: 10 m
- cyanide consumption: 0.39 kg/t
- gold recovery: varies by ore type and time.

17.4.2 AGGLOMERATION AND PAD LOADING

The HLF conveyor system will be operated during the non-winter months (250 d/a) using a 1,219 mm wide conveyor stacking system. As the crushed ore (final product material) is conveyed from the tertiary crushing area, lime and Portland cement will be added to the material on the conveyor at a controlled rate by screw conveyor or rotary valve, together with barren solution to facilitate agglomeration (moisture control) of the heap leach feed material. As the crushed ore leach feed material passes from one conveyor to another en route to the HLF, the particles will be mixed with the these reagents for agglomeration.

The 100 d primary crushed ore stockpile will be fed to the secondary and tertiary crushing-conveyor stacking system by a FEL once stacking operations resume during the 250 d warmer weather period. The heap stacking system will include:

- a series of overland conveyors
- up to 20 grasshopper-type portable transfer conveyors, each approximately 38 m in length

- a 43 m long horizontal mobile bridge conveyor mounted on a dozer crawler carriage
- a 37 m long radial stacking conveyor, capable of powered luffing, slewing and stacking to a height of 10 m and fitted with a 6.1 m stinger.

The HLF feed conveyors will be installed adjacent to the heap leach pad, and then extended as needed around the western circumference pad, from the crusher area. The grasshopper conveyors will transport the ore from the overland conveyors to the bridge conveyor. The ore will be placed in 10 m lifts using the radial stacker. The leach lifts will be constructed from east to west, retreating up the slope of the pad. As the stacker retreats, the grasshopper conveyors will be removed from the transfer train and relocated in an adjacent area so that the heap will be constructed from the toe upwards in a series of 60 m wide by 500 m long lifts.

The in-heap pond area will be the first area filled with ore. The maximum depth of ore in this area will be approximately 26 m. As stacking operations advance, ore will be stacked on top of the heap leach pad in 10 m lifts. Ramps will be established to allow conveyor access to the top of the heap for construction of additional lifts.

For areas of the heap that will be under leach in the winter months, the ore will be placed initially in 10 m lifts. To insulate the drip emitter system, the leach lines will be “ripped in” to the ore and covered to a depth of approximately 3 m. To insulate larger piping, an additional insulation cover and crushed ore will be placed in stockpiles on the heap and spread by low ground pressure dozers to facilitate rapid placement and spreading of the ore.

17.4.3 *Ore Stacking Plan*

Tetra Tech designed a detailed heap leach stacking plan in coordination with the mining plan to efficiently schedule ore stacking and leaching over the 10-year LOM. The stacking plan is based on a loading rate of 41,300 t/d for 250 loading days.

The stacking plan is based on:

- pad surface area
- conveyor utilization integrated with the crushing plant
- conveyor repositioning (mobile sections are moved every 1 to 2 d)
- coordination of mobile equipment for moving the portable conveyors
- coordination of piping to follow the ore placement as quickly as practical.

Figure 17.2 through Figure 17.4 illustrates the leach pad development progression plan throughout the LOM.

Figure 17.2 shows the status of leach pad at the end of Phase 1 (Year 3, in 2016).

Figure 17.2 Leach Pad at End of Phase 1 (Year 3, 2016)

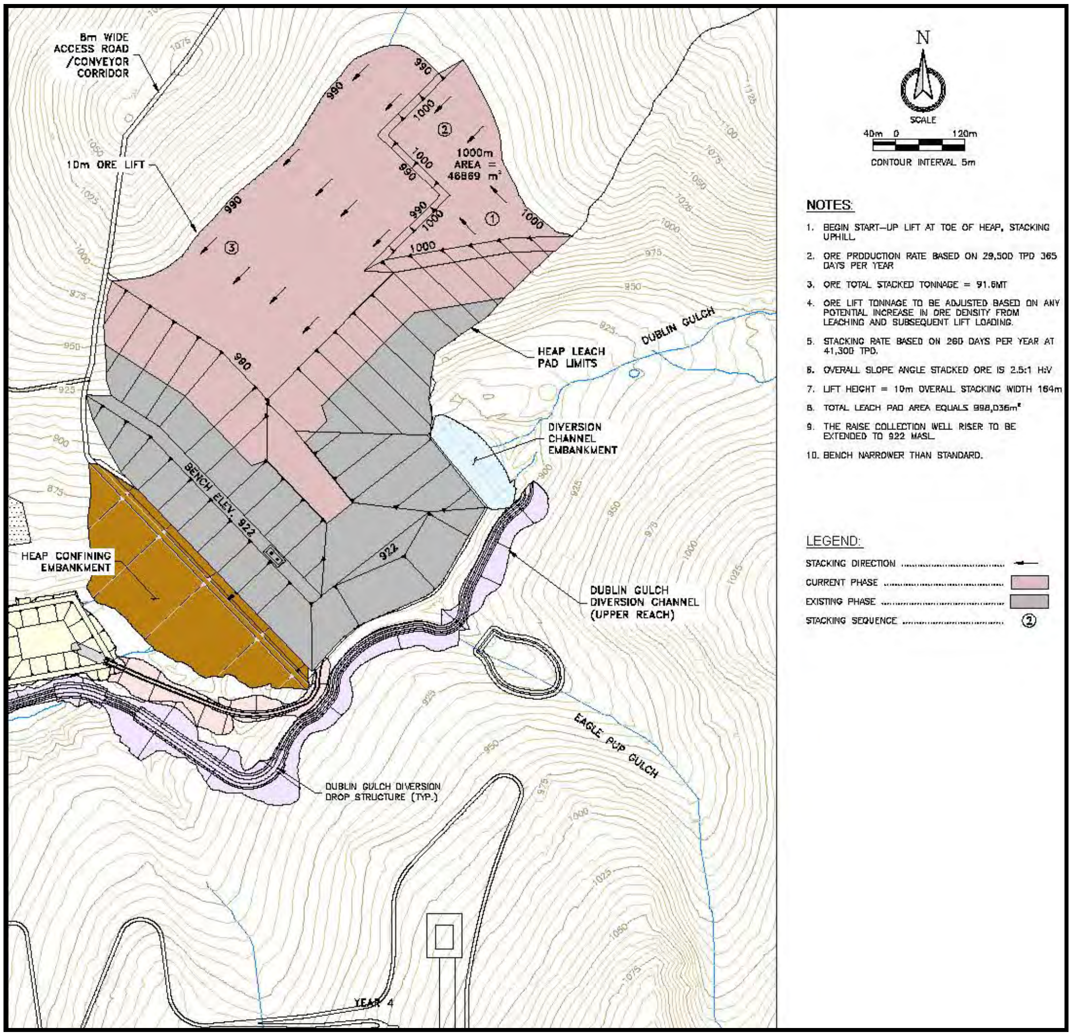
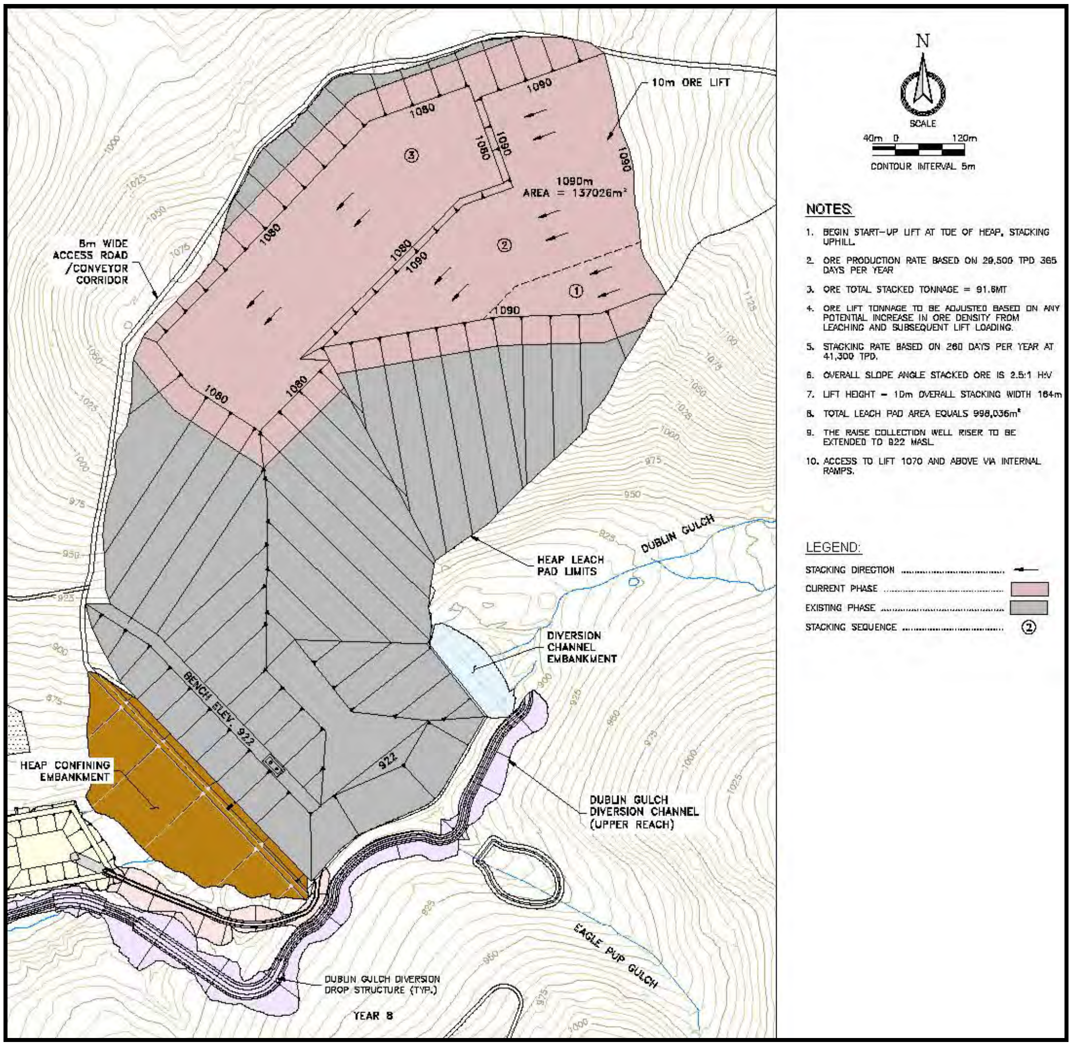


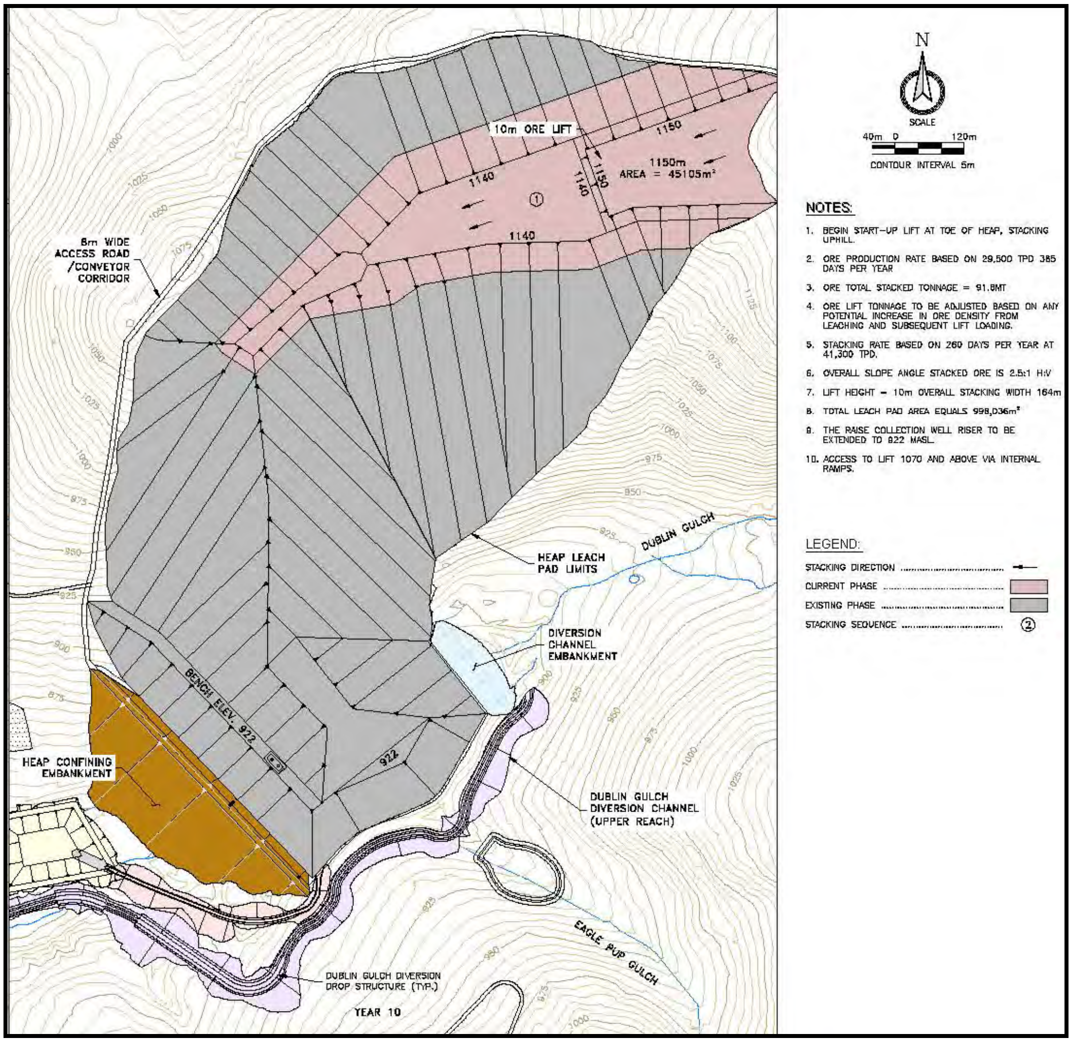
Figure 17.3 shows the status of leach pad at the end of Phase 2 (Year 7, in 2020).

Figure 17.3 Leach Pad at End of Phase 2 (Year 7, 2020)



Finally, Figure 17.4 shows the status of leach pad at the end of the LOM (Year 10, in 2023).

Figure 17.4 Leach Pad at End of LOM (Year 10, 2023)



The stacking plan generated some leaching constraints, whereby some leach blocks will have additional ore placed on them before they achieve the full 150 d leach cycle. Table 17.1 and Table 17.2 highlight the summary stacking plan.

Table 17.1 Leach Pad Stacking

Pad	Pad Stacking (d)	Cumulative Pad Stacking (d)	Pad Stacking Remaining (d)	Percent Area Sacked Year End (%)	Pad Area Stacked (m^2)	Pad Area Remaining (m^2)	Leach Pad Stacked	Stack (a)	Year Pad Leach Cycle Starts (a)	Year Pad Leach Cycle Ends (a)
860	23.33	23.33	37.67	-	53,597	-	860	1	1	2
870	50.85	74.18	(13.18)	59	51,311	36,306	870	1	1	2
880	47.16	121.34	204.40	-	163,435	-	870, 880	2	2	2
890	62.09	183.43	142.31	-	163,164	-	890	2	2	2
900	68.48	251.91	73.83	-	161,291	-	900	2	2	2
910	67.99	319.90	5.84	-	160,047	-	910	2	2	3
920	67.36	387.27	(61.52)	7	11,088	146,231	920	2	2	3
930	58.82	446.08	144.03	-	286,990	-	920, 930	3	2	3
940	57.23	503.31	86.81	-	146,193	-	940	3	3	3
950	58.40	561.71	28.41	-	155,955	-	950	3	3	3
960	60.61	622.32	(32.20)	39	63,644	98,000	960	3	3	4
970	64.63	686.95	162.71	-	261,992	-	960, 970	4	3	4
980	68.19	755.14	94.52	-	179,184	-	980	4	3	4
990	73.53	828.67	20.99	-	179,184	-	990	4	4	4
1000	79.28	907.95	(58.29)	22	47,284	164,516	1000	4	4	4
1010	87.87	995.82	112.88	-	400,588	-	1000, 1010	5	4	5
1020	96.77	1,092.59	16.11	-	258,226	-	1020	5	4	5
1030	104.73	1,197.32	(88.62)	13	37,449	245,422	1030	5	4	5
1040	116.85	1,314.17	53.27	-	560,621	-	1030, 1040	6	5	5
1050	126.83	1,441.00	(73.56)	36	122,433	213,069	1050	7	5	6
1060	131.05	1,572.05	54.91	-	550,498	-	1050, 1060	7	5	6
1070	128.74	1,700.79	(73.83)	37	118,845	201,523	1070	8	5	6
1080	119.52	1,820.31	66.76	-	492,876	-	1070, 1080	8	6	6

table continues…

Pad	Pad Stacking (d)	Cumulative Pad Stacking (d)	Pad Stacking Remaining (d)	Percent Area Sacked Year End (%)	Pad Area Stacked (m^2)	Pad Area Remaining (m^2)	Leach Pad Stacked	Stack (a)	Year Pad Leach Cycle Starts (a)	Year Pad Leach Cycle Ends (a)
1090	107.11	1,927.42	(40.35)	53	138,297	120,322	1090	8	6	7
1100	97.36	2,024.78	122.29	-	345,630	-	1090, 1100	9	6	7
1110	85.07	2,109.85	37.22	-	291,352	-	1110	9	7	7
1120	71.78	2,181.63	(34.56)	42	67,771	92,116	1120	9	7	8
1130	58.89	2,240.51	75.74	-	125,841	-	1120, 1130	10	7	8
1140	46.87	2,287.39	28.87	-	102,182	-	1140	10	8	8
1150	36.55	2,323.94	(7.68)	63	44,969	26,412	1150	10	8	9
-	-	-	-	-	-	-	-	-	8	9
-	2,288.00	2,316.26	-	-	-	-	-	-	9	9
-	-	-	-	-	-	-	-	-	9	9
-	-	-	-	-	-	-	-	-	9	10
-	-	-	-	-	-	-	-	-	9	10
-	-	-	-	-	-	-	-	-	10	10
-	-	-	-	-	-	-	-	-	10	10
-	-	-	-	-	-	-	-	-	10	10
-	-	-	-	-	-	-	-	-	10	11

Table 17.2 Leaching Plan

Pad ID	Ore Stack Start Date	Ore Stack End Date	Leaching Start Date	Leaching End Date	No. Days Impaired	No. Days Unimpaired	Ore (t)	Impairment (%)
860	10/1/14	10/24/14	10/25/14	3/24/15	0	150	447,438	-
870	10/25/14	12/2/14	12/3/14	5/2/15	0	150	661,591	0.00
870	3/12/15	3/25/15	3/26/15	8/23/15	102	48	468,115	-
880	3/26/15	5/12/15	5/13/15	10/10/15	87	63	1,717,970	-
890	5/13/15	7/14/15	7/15/15	12/12/15	81	69	2,322,349	-
900	7/15/15	9/21/15	9/22/15	2/19/16	81	69	2,595,640	-
910	9/22/15	11/29/15	11/30/15	4/28/16	0	150	2,570,704	-
920	11/30/15	12/6/15	12/7/15	5/5/16	0	150	178,949	2.24
920	3/15/16	5/16/16	5/17/16	10/14/16	32	118	2,359,982	-
930	5/17/16	7/15/16	7/16/16	12/13/16	92	58	2,384,627	-
940	7/16/16	9/11/16	9/12/16	2/9/17	81	69	2,295,616	-
950	9/12/16	11/9/16	11/10/16	4/9/17	0	150	2,417,181	-
960	11/20/16	12/19/16	12/20/16	5/19/17	0	150	1,000,377	1.54
960	3/29/17	4/30/17	5/1/17	9/28/17	84	66	1,540,410	-
970	5/1/17	7/4/17	7/5/17	12/2/17	81	69	2,605,082	-
980	7/5/17	9/12/17	9/13/17	2/10/18	75	75	2,745,402	-
990	9/13/17	11/25/17	11/26/17	4/25/18	0	150	2,984,381	-
1000	11/26/17	12/17/17	12/18/17	5/17/18	0	150	724,513	1.61
1000	3/27/18	5/24/18	5/25/18	10/22/18	61	89	2,520,795	-
1010	5/25/18	8/21/18	8/22/18	1/19/19	52	98	3,582,973	-
1020	8/22/18	11/27/18	11/28/18	4/27/19	0	150	3,954,381	-
1030	11/28/18	12/14/18	12/15/18	5/14/19	0	150	573,078	0.51
1030	3/24/19	6/21/19	6/22/19	11/19/19	0	150	3,755,695	-
1040	6/22/19	10/17/19	10/18/19	3/16/20	0	150	4,784,560	-

table continues…

Pad ID	Ore Stack Start Date	Ore Stack End Date	Leaching Start Date	Leaching End Date	No. Days Impaired	No. Days Unimpaired	Ore (t)	Impairment (%)
1050	10/18/19	12/10/19	12/11/19	5/9/20	0	150	1,899,660	0.00
1050	3/19/20	5/31/20	6/1/20	10/29/20	18	132	3,305,954	-
1060	6/1/20	10/11/20	10/12/20	3/11/21	0	150	5,383,453	-
1070	10/12/20	12/5/20	12/6/20	5/5/21	0	150	1,952,148	0.01
1070	3/15/21	5/28/21	5/29/21	10/26/21	29	121	3,310,230	-
1080	5/29/21	9/26/21	9/27/21	2/24/22	0	150	4,893,766	-
1090	9/27/21	12/3/21	11/30/21	4/29/22	0	150	2,352,782	0.01
1090	3/13/22	4/22/22	4/23/22	9/20/22	52	98	2,046,985	-
1100	4/23/22	7/29/22	7/30/22	12/27/22	0	150	3,871,413	-
1110	7/30/22	10/23/22	10/24/22	3/23/23	0	150	3,347,680	-
1120	10/24/22	12/1/22	11/28/22	4/27/23	0	150	1,197,129	0.09
1120	3/11/23	4/14/23	4/15/23	9/12/23	90	60	1,627,177	-
1130	4/15/23	6/13/23	6/14/23	11/11/23	102	48	2,285,818	-
1140	6/14/23	7/31/23	8/1/23	12/29/23	0	150	1,824,179	-
1150	8/1/23	8/30/23	8/31/23	1/28/24	0	150	1,388,504	2.01

For this stacking plan, 22 of 39 leach lifts will be leached for the design leaching cycle (150 d). The remaining 17 leach lifts will experience a reduced leach cycle time, as additional lifts are progressively stacked on top before the full leaching cycle is complete. These 17 leach lifts will have leaching cycle times ranging from 48 to 132 d and consequently have some impairment in gold recovery.

The shortened leaching cycle for these lifts will result in some leachable gold remaining in the ore. An estimated 80% of the impaired leachable gold will simply take longer to leach out of the heap. The remaining 20% is assumed to not be recovered until the heap leach is rinsed. During rinsing operations it is estimated 75% of the remaining impaired gold will be recovered. A total of 21,664 oz Au is delayed until the rinsing stage and 3,742 oz Au is assumed to be entirely impaired and not recovered through the leaching operations (Table 17.3).

Table 17.3 LOM Heap Leach Metal Balance

Leaching Phase	Recovered/ Balance (oz)
Design Leach (150 d)	1,676,234
Primary Leaching	1,650,828
Rinsing	21,664
Impairment	(3,742)

The impaired leaching times, and the plans for secondary and end-of-mine-life recovery, were accurately applied to the metal production schedule in the economic analysis.

Section 13.0 provides more information with reference to leach kinetics used for this study.

17.4.4 Leaching and Solution Delivery

Barren solution containing cyanide will be applied to the ore stacked on the HLF to extract the gold. After passing through the ore, this solution will be collected by the solution recovery system.

A series of barren solution pumps located at the ADR facility will pump solution to the heap leach pad and the tertiary crusher discharge conveyor. Pressure piping will be dual contained at all times. A series of pipe headers will distribute the solution to secondary and tertiary headers, and ultimately to 81 x 81 cm drip emitters placed under the surface of the agglomerated ore. Fresh sodium cyanide solution will be added as needed to the barren solution tank at the ADR plant. The primary supply line will track along the west side of the HLF and has been located a safe distance from the service roads and conveyors.

A leach cycle of 150 d serves as the design leach cycle with the application rate as mentioned above.

The PLS recovery pumps are located in the HLF in-heap pond. The in-heap pond, designed to be a saturated zone within the lower extent of the HLF, will contain up to 459,349 m^3 of solution storage capacity. Actual operational storage volume has been calculated at approximately 60,000 m^3, less than 15% of the total storage capacity. Up to four vertical turbine pumps will be used to advance the PLS to the ADR plant at 2,770 m^3/h. Additional illustrations are provided in Section 17.4.7.

The process pumping system includes pumps, pipelines, valves, and associated controls to move solution between the ADR plant and the HLF.

The process pumping and solution delivery systems include the following provisions for year-round operation:

- ability to heat barren solutions
- buried emitters (ripped in by dozer) and covered to 3 m depth
- heat traced and insulated barren solution tank
- heat traced and insulated (or buried) pipelines as needed
- backup power supply to pumps via emergency generators
- provision for pipeline drain down upon shutdown.

17.4.5 *Cold Weather Considerations*

A review and comparison of heap leaching operations in cold climates indicates year-round leaching operations at the Eagle Gold site is feasible. Design provisions are incorporated to add and maintain heat in the process solutions applied to the heap.

Since ore particle size, ambient temperatures, delivered ore moisture, agglomeration requirements, and snowfall may play a role in the ability to stack in winter, the Project has adopted the following mitigation measures:

- selected an in-valley heap configuration to create a heat sink
- selected a south facing valley
- use of an in-heap solution pond for PLS storage
- sizing of the fine ore crushing operation to allow increased production rate during warm months
- incorporation of 100 d ore storage pad
- sizing of the starter heap leach pad to accommodate more than one year of ore production to allow advanced stacking for at least the first winter season

- provision for a D9 track dozer equiped with a ripper assembly to rip frozen ore prior to resuming leaching in the spring
- heating of barren solution
- in-heap temperature monitoring
- burying drip emitter lines with 3 m of ore
- heat-tracing and insulating the barren tank
- heat-tracing and insulating (or burying) pipelines
- generators for backup power supply to pumps and emergency process equipment.

17.4.6 *Events Ponds*

Two lined events ponds external to the HLF will be constructed to temporarily store excess process solution that may occur during upset conditions, freshet, and excess precipitation events. The solution contained in these ponds will be recycled back into the heap leach circuit when normal operation resumes. The ponds have been sized to contain peak intensity storm events as well as repetitive wet years and/or periods. The ponds will be constructed to include a leak detection and recovery system underneath the main liner system.

If leach solution cannot be recycled back to the HLF due to water balance constraints, the leach solution will be stored within the events ponds. In the unlikely event storage volume within the events ponds is at capacity, then the solution will be treated through the cyanide detoxification plant and the MWTP prior to discharge into Haggart Creek.

17.4.7 *Leachate Solution Collection System*

The heap leach pad will consist of an engineered liner system in the HLF. The lower section of the heap leach pad acts as an in-heap pond for the primary storage of PLS.

Located above this liner system is a 1 m layer of drainage rock (all passing 38 mm) which has been designed to transmit the PLS to a collection system. This drainage blanket serves to efficiently transmit the PLS and protect the primary liner from damage by rocks and/or equipment which might come in contact with the liner.

The leachate collection piping system consists of 450, 375, 250, and 100 mm diameter corrugated, dual-wall, perforated ADS N-12 pipes embedded within the drain rock. The collection pipe network consists of a series of 100 mm secondary drain pipes, spaced approximately 50 m on centre and arranged in a “herringbone” pattern around the larger pipes that will convey the collected fluid (i.e. PLS and storm water flows). The larger pipes consist of 250 mm collector pipes reporting to the 375 mm primary pipes, which ultimately reports to the 450 mm process lines.

Within the PLS in-heap pond there are four vertical turbine pumps operating and one spare. Pregnant pumps are 300 x 250 mm, and 186 kW each. Each well has an outer casing connected to the 450 mm collection lines, mechanical pump, and related electrical and control components. These wells and pumps serve to convey the pregnant solution to the process plant.

Because of the efficient capture and conveyance of fluids, the primary liner has very limited hydrostatic head exerted as a result of the process fluid. Figure 17.5 and Figure 17.6 provide an overview of the system. The design criteria calls for a hydraulic head less than 2 m.

Figure 17.5 HLF Cross Section

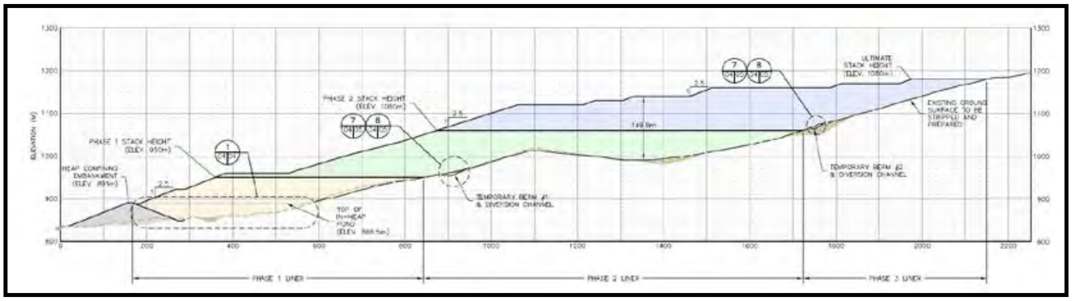
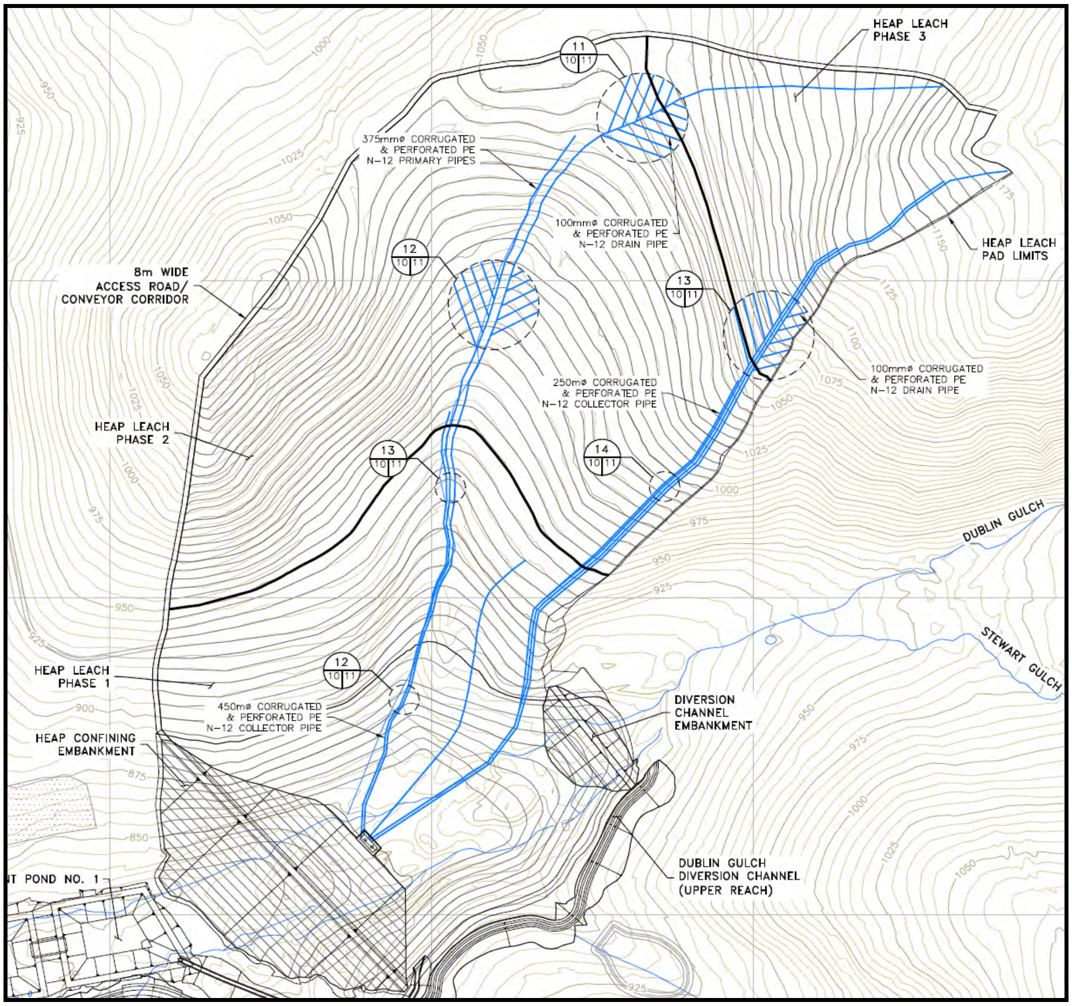


Figure 17.6 Leachate Solution Collection System



17.4.8 LEAK DETECTION AND RECOVERY SYSTEM

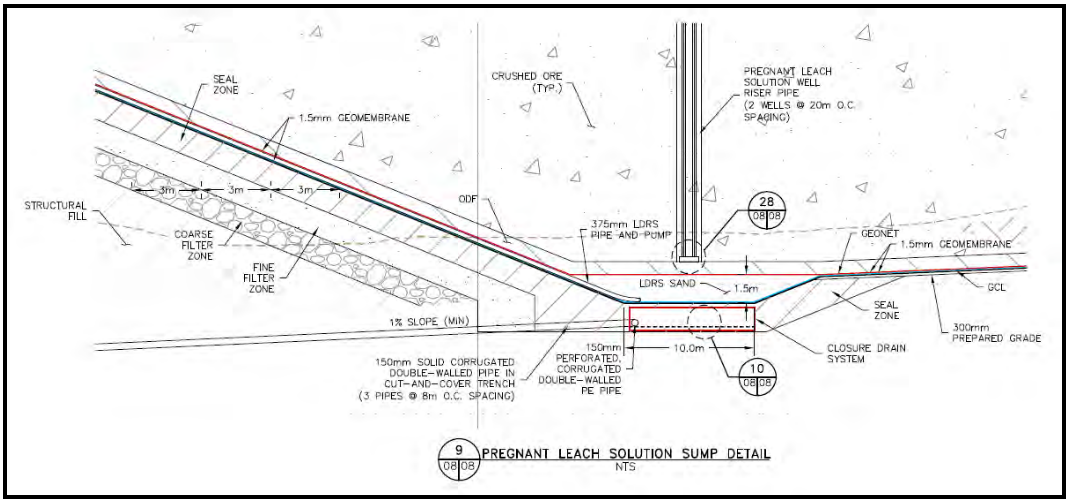
There are two safety systems designed to detect, contain and pump back any leakage resulting from a possible liner failure before any contamination can reach the groundwater.

A leak detection and recovery system (LDRS) will be installed between the upper and lower geomembrane liners, in the area of the heap pond, where the hydrostatic head is greatest (Figure 17.7). If a leak occurs, the drain system will collect the PLS via drainpipes, connected to a collection monitoring sump, located in the HLF. The sump will be installed with monitoring instruments to provide early alerts to the presence of flow. Collected solution will then be pumped back to the ADR plant or the HLF.

There will be a secondary drainage system below the liner system throughout the entire pad area. A leak will trigger an early alert via monitoring instruments; the drain system will collect the PLS, direct it to an external collection monitoring sump located downstream of the events ponds, and then pump it back to the ADR plant or the HLF.

Further information regarding the HLF liner system is provided in Section 18.0.

Figure 17.7 LDRS Detail



17.5 PROCESS PLANT

17.5.1 *DESIGN CRITERIA*

The process plant will provide a safe, environmentally secure, and efficient process using industry proven recovery techniques:

- five stage carbon adsorption, three trains
- solution velocity to fluidize carbon bed (9.8 lpm/m^2)
- heating of barren solution during winter months as needed
- zero discharge of fluids
- recovery to carbon, 95% or higher
- metal recovery by pressure elution stripping followed by electrowinning
- nominal flow rate of 2,770 m^3/h.

17.5.2 *CARBON ABSORPTION CIRCUIT*

PLS will be pumped from the heap to the gold recovery plant. Gold will be recovered by adsorption onto activated carbon. The barren leach solution that remains after passing through the carbon columns will be re-circulated back to the HLF.

The proposed ADR plant will contain the following systems for adsorbing gold from cyanide solutions from the HLF:

- three carbon-in-column (C-I-C) trains operating in parallel (each sized for 927 m^3/h design flow of PLS) with five carbon adsorption columns, cascade type; column diameter 4.6 m with a height of 5.2 m
- carbon capacity of 8 t for the elution column
- a carbon transfer system including a transfer pump, valves and associated piping
- process solution pumps to provide barren solution transfer from the pump boxes to the barren solution tank, and carbon transfer solution
- a barren leach solution heating circuit to provide supplemental heat to the barren solution during the winter months.

Each of the three trains will be equipped with:

- a vibrating safety discharge carbon screen with 100 mesh openings (110 µm)
- a feed box
- samplers for pregnant and barren solutions.

Solution will be pumped from the in-heap pond to each of the three solution feed boxes ahead of each train. The solution feed box will discharge the PLS flow to the first column in each adsorption train. The PLS will flow by gravity from column to column. Within each column, the PLS will flow upwards, suspending the activated carbon particles in a fluidized bed; gold will be adsorbed onto the carbon particles. At daily intervals, the loaded carbon in each tank will be advanced by pumping a mixture of water and carbon counter-current to the pregnant solution flow. Carbon will be advanced from column to column by a screw-type pump with open impeller to minimize carbon degradation. This action will advance the carbon so as to have the freshest carbon exposure to the weakest tenor of PLS thereby maximizing gold recoveries and minimizing residual gold values in the barren solution.

For operational flexibility, the circuit design includes the ability to bypass any column at any time. The barren solution leaving the final column will discharge over an inclined vibratory carbon safety screen with 100 mesh (110 µm) openings to remove any carbon which may have been carried over into the barren solution. The barren solution will then flow by gravity to the barren solution tank.

Cyanide and pH concentration of the barren leach solution will be adjusted to the operational strength in the barren solution tank and be pumped back to the HLF. During winter operations the barren solution will be heated.

17.5.3 LEACH SOLUTION HEATING

During periods of extremely low temperatures, barren solution from the barren solution tank will be re-circulated through the cold side of three operating shell and tube heat exchangers. The hot side of the heat exchanger will be heated by a 5,300 kW shell and tube fuel oil fired hot water heater. The hot solution will be re-circulated from the heat exchangers back to the hot water heater in a closed loop. The barren solution will be circulated at a flow rate of 150 m^3/h through the three heat exchangers and then on to the barren solution tank. The solution temperature will increase by approximately 27°C as it passes through the heat exchanger. The heated solution returned to the barren solution tank will raise the temperature of the barren solution flowing to the heap leach pads by approximately 1.7°C.

17.5.4 ACID WASHING

Loaded carbon will be pumped from the first column of each of the three C-I-C trains to either the acid wash tank, or to the elution/desorption column, depending on operational requirements. Under normal operating conditions, the loaded carbon will first be acid treated, then neutralized with caustic solution, followed by the subsequent elution stage. The acid wash is designed to manage scaling on the carbon, thereby maintaining its ability to adsorb gold.

The acid wash tank will be a fibre-reinforced-plastic lined steel vessel sized to contain 8 t of loaded carbon. A 3% (w/w) hydrochloric acid solution will be re-circulated through the bed of carbon in the acid wash tank. This acid washing treatment will remove scale build-up and other inorganic contaminants that will inhibit gold adsorption onto the carbon. After the wash solution discharging from the acid wash vessel has stabilized at a pH value of 1.0 to 2.0, the spent acid wash solution, which is only slightly acidic, will be pumped back to the acid mixing tank. After acid washing, the carbon will be neutralized by pumping alkaline barren solution through the carbon bed. Caustic solution will be added to the wash solution to ensure complete acid neutralization. Periodically, the acid solution will be pumped into the barren solution tank in order to help reduce the build-up of contaminants in the circuit.

17.5.5 ELUTION/DESORPTION

After the acid washing step, the loaded carbon will be pumped to the elution column. The elution/stripping of gold from the loaded carbon will be accomplished with a hot caustic and cyanide solution at a temperature of 135°C at a pressure of 345 to 414 kPa. The elution solution will be heated using a combination of plate and frame heat exchangers and a diesel-fired hot water heater. After reaching the elution/stripping temperature, the solution will flow upward through the elution column. The elution column/strip vessel will be designed to treat an 8 t batch of loaded carbon. The gold-bearing solution will exit the elution vessel, and then flow through the two cool-down heat exchangers and then onwards by gravity to the electrowinning circuit.

17.5.6 *Electrowinning*

The electrowinning circuit will consist of two 2.0 m^3 electrolytic cells operating in parallel. The gold will be electro-plated onto stainless steel cathodes. Barren electrolyte solution exiting the electrolytic cells will flow by gravity back to the electrowinning solution discharge tank, then to the barren/strip solution tank for making up to strength with caustic and cyanide (if needed) and return to the elution/stripping vessel. At regular intervals concentrate will be washed from the cathodes, dewatered by filter, dried, fluxed, and smelted prior to shipment for off-site refining.

When the elution/stripping cycle has been completed, the eluted/stripped carbon will be transferred to either the thermal regeneration circuit or to the carbon storage tank. From the carbon storage tank, the carbon will be secured with carbon fines removed and the coarser fraction pumped back to the adsorption circuit.

The elution/strip solution temperature will be controlled by the hot water heater. Solution temperature control will be accomplished by hot water heater modulation and a control valve. A programmable controller will provide temperature sensing and output control. The hot water heater control system will be interlocked with the main control circuit to prevent operation during the carbon transfer cycle, or the solution drain down cycle. The elution solution transfer will be pressure controlled through the circuit by an air actuated pressure valve and sensor. Solution flow through the elution/strip column will be by manual system control and will be monitored by a magnetic flow meter.

17.5.7 *Cyanide and Caustic Solution*

Sodium cyanide briquettes will be added to the system via a 1 t super sack. The sodium cyanide will be mixed to a concentration of 20 to 25% (w/w) strength and then transferred to the cyanide mix storage tank. This concentrated cyanide solution will be metered into the barren solution tank, to the carbon columns, and to the strip solution tank, as required.

Sodium hydroxide, or caustic solution, will be used in the system for acid neutralization and for preparing the fresh elution solution. The sodium hydroxide will be received in bulk bags and will be made up to 10% solution strength. The bags containing caustic will be loaded to a combination bag breaker plus funnel and will discharge into the mix tank where barren solution will be added. The caustic solution preparation tank will be an agitated tank. The tank will be equipped with four operating pumps and with one spare pump. The pumps will be piped together to serve the seven points of use. Each caustic solution line will be a one-way delivery system rather than a circulating loop. Caustic will be added at the points of addition to the system via a metering pump and a flow meter.

17.5.8 Cathodes and Smelting

Gold laden stainless steel cathodes will be removed after elution/stripping and electrowinning. The cathodes will be washed internally in the cathode wash box using a high-pressure spray and using raw water. The resulting gold sludge will be separated from the wash solution by a plate and frame filter press. The sludge will be periodically collected from the press and dried in the drying oven.

Smelting will take place in a diesel-fired tilting crucible furnace. The furnace will be equipped with hydraulic control of the tilt mechanism for the pouring of the molten gold melt product. The filtered precipitate will be mixed with fluxes, typically a combination of borax, niter and possibly silica sand. A cascading mould system will be included. Off gases from the melting furnace will be extracted with a fan and then discharged into a bag house to remove particulate matter. The bars of doré will be stored in a safe until they are despatched off the Property. Refining slags will be recycled first to re-melt and then sent to the HLF.

17.5.9 Carbon Handling Circuit

The carbon handling circuit will include all the components necessary to move, store, add, and remove carbon in the ADR system. Carbon will be transferred between the various unit operations in the ADR plant by a screw type pump (high clearance low degradation) and by pressurization in the elution column. Carbon transfer in the adsorption circuit will be by air operated valves and a high clearance pump. The valves will be operated locally or remotely from the programmable logic controller in the control room. Carbon regeneration will be conducted in a diesel fired rotary kiln at a temperature of 750°C. A carbon conditioning circuit will also be included in the circuit which will prepare the fresh carbon for use in the adsorption process and remove undersize carbon from the carbon circuit.

17.5.10 Water Treatment/Cyanide Detoxification

A MWTP will be constructed to treat contaminated surface and process water to a quality sufficient for discharge to Haggart Creek without an adverse effect on local water quality. The cyanide detoxification process will use hydrogen peroxide and copper sulfate. The detoxification will be carried out in two tanks sized for a 0.3 h treatment time.

The cyanide detoxification equipment will be constructed near the process plant area. The facility will be surrounded by concrete berms to collect process solutions and to prevent the release of solution to the environment.

The site water balance has identified that there will not be the need for a cyanide detoxification plant until Year 8 of operations.

The ADR solution neutralization tanks will have a dual functionality:

- Generally, these two tanks will neutralize acid washing effluent. At the end of the acid wash cycle, there is a weak (dilute acid) waste stream to discard. During normal operations and no discharge to the MWTP, this fluid will report to the solution neutralization tank; the pH will be adjusted, and fluids will return to the heap leach duty (recycled) via the barren solution tank.
- Water discharged from the HLF or ADR facility will require cyanide detoxification. If the water balance requires some discharge, hydrogen peroxide along with copper sulfate will be added along with the barren solution to be treated to the solution neutralization tank. In this case, the tank duty is detox by hydrogen peroxide with discharge to the MWTP for further treatment.

Once the final lift has been fully leached, the HLF rinse will begin. Water will be circulated within the HLF for two years between the heap and the cyanide detoxification process. During this phase, no water from the HLF will be sent to the MWTP. The goal of this phase is to remove the majority of the residual cyanide and gold from the HLF. During this time, however, metal concentrations in the water will continue to rise as water is recirculated through the heap.

After the HLF rinse, heap draindown will occur. The HLF water will be routed through the cyanide detoxification process, and then to the MWTP. This water will have very low concentrations of cyanide, but may have relatively high concentrations of certain metals.

The hydrogen peroxide cyanide detoxification technology is widely used in the gold industry to reduce cyanide-bearing solutions to environmentally acceptable cyanide concentrations suitable for discharging to the environment. Given that the detoxification process is not required for several years after the start-up of leaching, it is recommended additional testing be conducted to further optimize detoxification.

Detoxification test work is discussed in Section 13.0.

18.0 INFRASTRUCTURE

18.1 OVERVIEW

The Project will require the development of a number of infrastructure items. The locations of project facilities and other infrastructure items were selected to take advantage of local topography, accommodate environmental considerations, and ensure efficient and convenient operation of the mine haul fleet for minimum haulage times.

Project facilities and infrastructure will include:

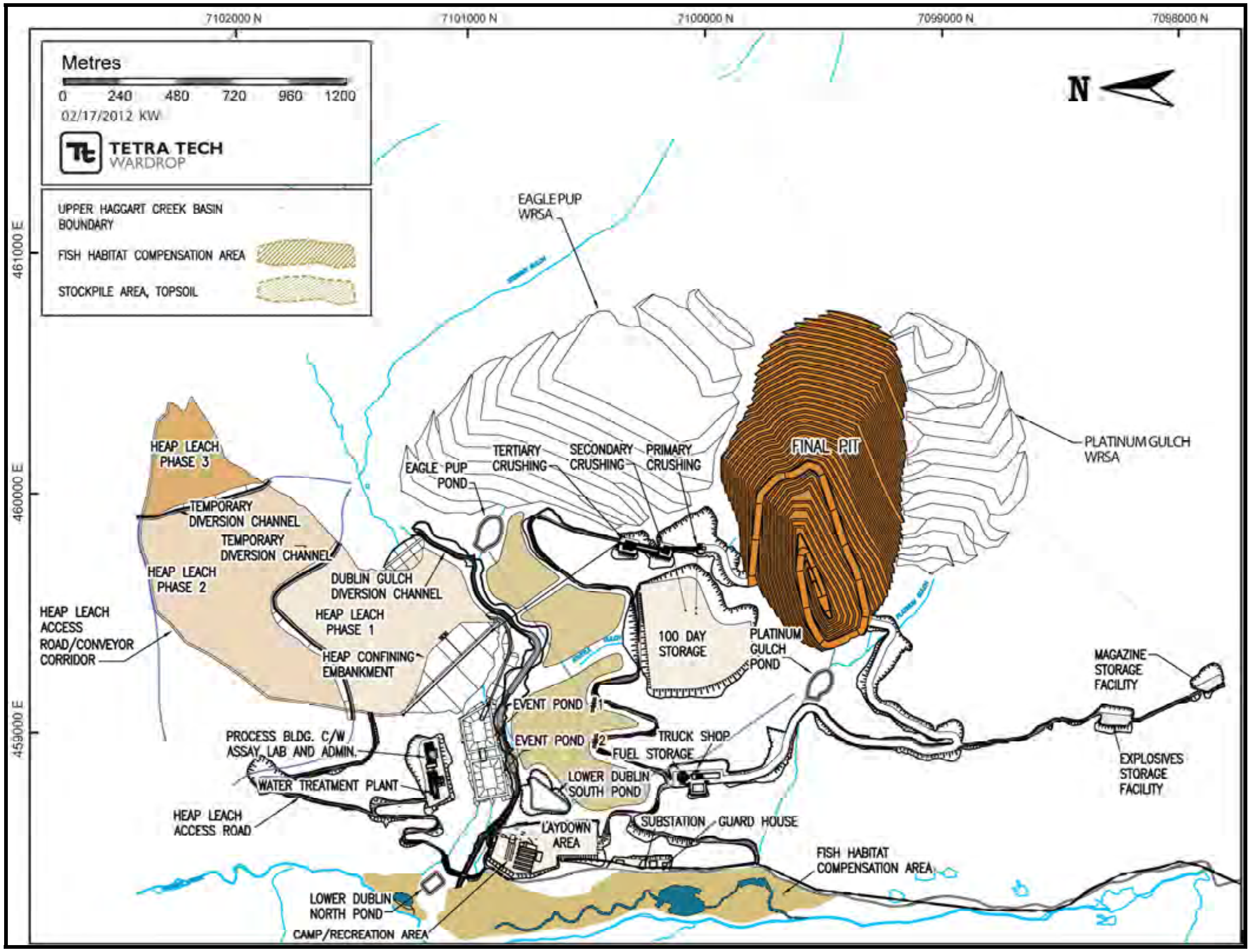
- a HLF, comprising a rock-filled embankment, a lined storage area, an in-heap storage pond, pumping wells, events ponds, diversion ditches, and leak detection, recovery and monitoring systems
- a Dublin Gulch Diversion Channel, which is a major structure designed to relocate the Dublin Gulch waterway around the HLF
- fresh water supply systems to treat and distribute process water, fire water, and potable water
- access and site roads, including the upgrading of the existing 23 km Haggart Creek access road
- water management infrastructure, including an extensive series of diversion ditches for both contact and non-contact water, two interceptor ditches, and a series of water storage ponds and pumps
- water treatment infrastructure, including a MWTP, detoxification facility, and potable and sewage treatment infrastructure
- waste management systems, including sewage disposal and domestic waste disposal
- ancillary facilities, including:
  - warehouse/truck shop/mine dry/first aid
  - cold storage/laydown
  - administration building
  - on-site fuel storage
  - on-site explosive storage
  - detonator magazine storage
  - assay laboratory

  - temporary and permanent camp accommodations with recreation area, commissary and laundry facilities

- power supply and distribution, including:
  - a 45 km long, 69 kV power supply line from the Yukon Energy Corporation power grid where a tap in point is available, approximately 25 km southeast of the Property
  - power distribution from the mine site substation to all the facilities
  - process control and instrumentation
  - communication systems.

The location of the main project facilities is shown in Figure 18.1.

Figure 18.1 Site Layout



18.2 SITE GEOTECHNICAL

18.2.1 FOUNDATIONS

Buildings will be founded on horizontal conventional spread footings or other mass concrete foundations, covering a layer (minimum 150 mm thick) of compacted free-draining sand and gravel above subgrades. Foundations will be constructed below the maximum estimated 3 m depth for frost protection, or be insulated by sufficient Styrofoam or polystyrene insulation, between two layers of bedding sand. Buildings should be set back a minimum of 10 m from the crest of fill slopes. Conveyor foundations will be constructed on concrete-filled steel pipe piles socketed into rock (BGC, 2012c).

The primary crusher will be located on a 12 x 18 m mat on Type 1 rock subgrade, with an allowable bearing pressure of 1,000 kPa. The secondary and tertiary crushers will be located on mats of 16 x 16 m and 9 x 14 m, respectively, and on Type 2 rock subgrade with allowable bearing pressures of 400 kPa. Conveyors from the tertiary crusher to the HLF will be placed on bents on 1.5 x 6 m footings. Rock type definitions and allowable bearing pressures for ancillary facilities is provided in Table 18.1 and Table 18.2, respectively.

Table 18.1 Rock Type Definitions

Rock Type	Weathering Grade	Intact Rock Strength	GSI - RMR_{76} - RQD*	Core Recovery	Comments
3	W4 or better for all rock types 1, 2 or 3	> R0, ie. UCS ≥ 1 MPa for all rock types 1, 2 or 3	N/A	N/A	It is expected that Type 3 rock can be excavated with normal excavating equipment.
2			GSI or RMR_{76} ≥ 30; OR RQD ≥ 10	≥ 50% for rock types 1 or 2	It is expected that Type 2 rock will require ripping.
1			GSI or RMR_{76} ≥ 40; OR RQD ≥ 40		It is expected that Type 1 rock may require blasting.

Note: (*) RQD criterion can be used on the absence of Geological Strength Index (GSI) or Rock Mass Rating 1976 (RMR_{76}).

Table 18.2 Allowable Bearing Pressures for Ancillary Facilities

Bearing Stratum	Allowable Bearing Capacity (kPa) Up to 2 m x 2 m Pad Footing	Up to 2 m x 20 m Strip Footing
Structural Fill[1]	250	150
Highly to Completely Weathered Rock	250	150
Type 3 Rock	500	300
Type 2 Rock	1,000	600
Type 1 Rock	1,500	1,000

Notes: [1]Footings founded on structural fill require a minimum of 1.5 m of embedment I(depth of bottom of footing below surrounding grade) to obtain the indicated allowance bearing capacity. Separate consideration of frost protection may be necessary.

18.2.2 SITE GRADING CUTS

Recommended slope geometry for cut slopes are provided in Table 18.3 and Table 18.4.

Table 18.3 Recommended Permanent Cut Slope Angles – Area Specific

Area	Overburden		Slope Below Overburden		Notes
	Thickness (m)	Steepest Cut Angle	Material	Steepest Cut Angle[1]	
Primary Crusher	2 - 4	2.5H:1V	Type 1, 2, 3 Rock	1.75H:1V	Design FS = 1.5; maximum slope height ~107 m; slope angle controlled by dip of foliation at about 30 to 32 degrees; benched slope design recommended; 8 m maximum bench height; 13 m minimum bench width; 0.25H:1V bench face angle.
100 d Storage	3 - 4	2.5H:1V	Type 2, 3 rock	1.75H:1V	[2]Design FS = 1.5; slope angle controlled by dip of foliation at about 30 to 32 degrees; minimum distance of 80 to 100 m required between slope crest and toe of haul road/crusher platform fill slopes. Benched slope design is recommended as detailed above for primary crusher.
Truck Shop	5 - 8	2.5H:1V	Type 3 rock	1.75H:1V	Design FS = 1.5; maximum slope height = ~22 m; slope angle controlled by dip of foliation. Recommend 5 m wide bench at rock-overburden contact to contain potential slumping of ice-rich overburden and slope maintenance.

table continues…

Area	Overburden		Slope Below Overburden		Notes
	Thickness (m)	Steepest Cut Angle	Material	Steepest Cut Angle[1]	
Plant Site	3 - 7	2.5H:1V	Highly to completely weathered rock	2H:1V	Design FS = 1.5; maximum slope height ~35 m; Recommend 5 m wide bench at rock-overburden contact to contain potential slumping of ice-rich overburden and slope maintenance.
Dublin Gulch Diversion	2 - 5	2.5H:1V	Till	2H:1V[3]	Design FS = 1.5; maximum slope height ~28 m; maximum cut angle assumes that the cut slope is dry.

Notes: [1]Maximum overall slope angle in the slope materials below the overburden depth. Overall slope angle defined by the line that connects the toe of the slope with the slope crest at the rock-overburden contact.

[2]Recommended FS for the 100 d storage cut is 1.5 due to proximity to crushers and potential to undermine them in case of failure. FS = 1.3 could be considered when the cut is moved 80 to 100 m further from the crushers, however, the overall slope angle will still be controlled by the dip of the foliation and cannot be steepened significantly.

[3]Assumed groundwater level is greater than 6 m below existing ground surface, which is inferred but not confirmed and requires further investigation.

Table 18.4 Recommended Permanent Cut Slope Angles – General

Slope Material	Maximum Cut Slope Angle[1]	Maximum Cut Slope Height	Notes
Colluvium	2.5H:1V	10 m	-
Till	2H:1V	10 m	-
Highly to completely weathered rock (excavatable)	2H:1V	10 m	-
Type 3 rock (generally excavatable)	1.5H:1V	10 m	May have to decrease to as flat as 1.75H:1V to avoid undercutting adverse geologic structure, if it is encountered
Type 2 rock (generally rippable)	1H:1V	10 m	May have to decrease to as flat as 1.75H:1V to avoid undercutting adverse geologic structure, if it is encountered
Type 1 rock (may require blasting)	0.5H:1V	10 m	May have to decrease to as flat as 1.75H:1V to avoid undercutting adverse geologic structure, if it is encountered

Note: [1]Maximum cut slope angles assume the slope is < 10 m high, unsaturated, and without adverse geologic structure.

18.3 HEAP LEACH FACILITY

18.3.1 OVERVIEW

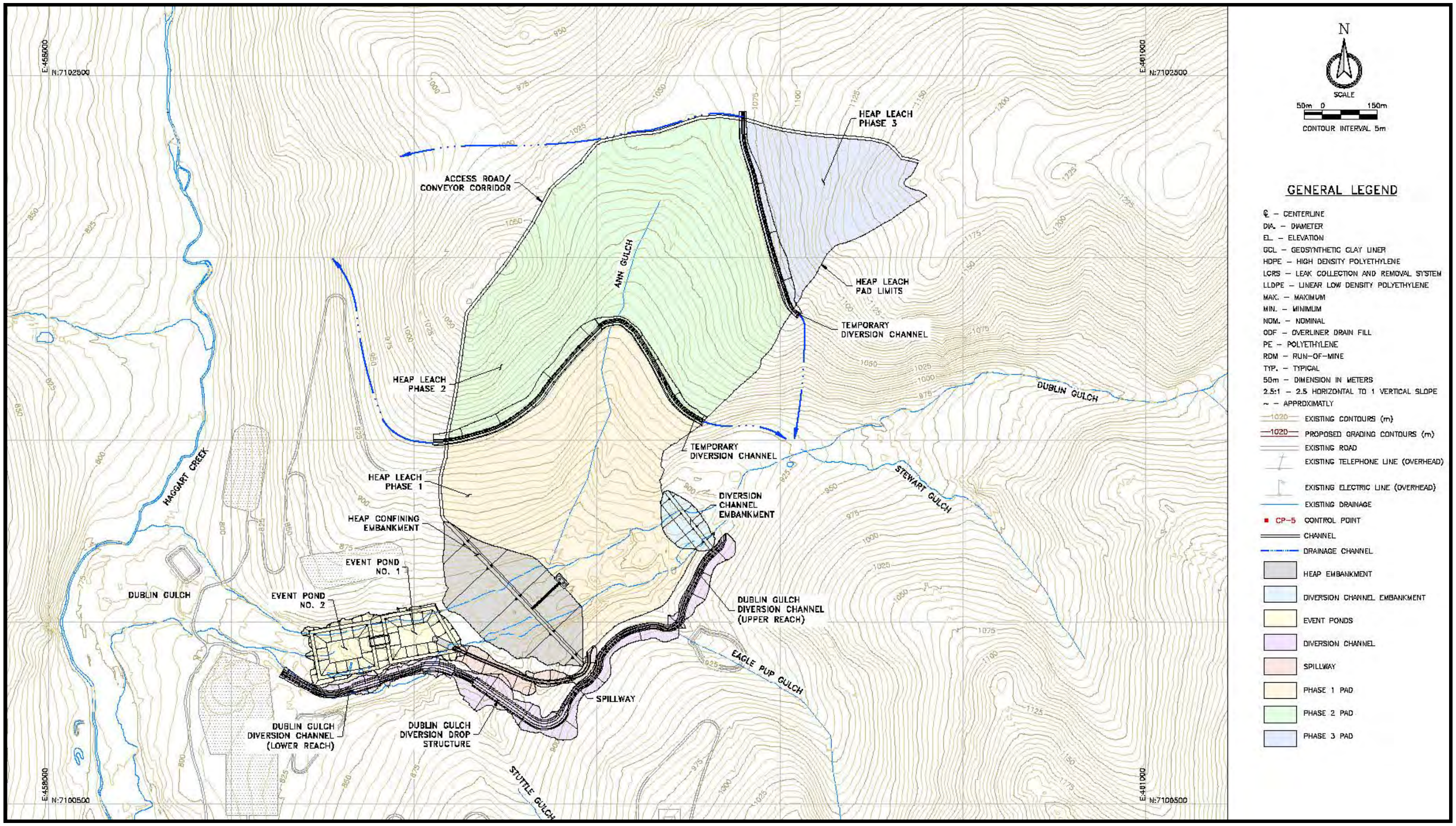
The HLF will be located approximately 1.2 km north of the Eagle Zone orebody. The majority of the HLF will be located in the Ann Gulch catchment, a tributary to Dublin Gulch. The base of the HLF will be located in the valley floor of Dublin Gulch, at an elevation of 840 masl. At full height, the HLF will extend up Ann Gulch to an elevation of 1,080 masl.

The HLF comprises a number of elements:

- an earth/rock-filled embankment, to provide stability to the base of the HLF
- a lined storage area for the ore to be leached
- PLS solution collection system
- an in-heap storage pond to contain the PLS
- pumping wells for the extraction of PLS
- events ponds to contain excess solution in extreme events
- a diversion channel to re-route Dublin Gulch
- leak detection recovery and monitoring systems to ensure the containment of PLS.

The HLF will be progressively developed in three phases—one phase during construction, and two phases during operations. Ore will be progressively stacked on the HLF throughout the LOM, where a diluted cyanide solution will be delivered to the ore via a system of buried drip emitters. At the end of Phase 1 (end of Year 3), the HLF will be 40 ha. At the end of Phase 2 (end of Year 7), the HLF will be 91 ha. At the end of the LOM, the HLF will be 105 ha. The HLF is illustrated in Figure 18.2.

Figure 18.2 Heap Leach Facility



18.3.2 DESIGN CRITERIA AND APPROACH

PERMITTING CONSIDERATIONS

Yukon has historically relied on regulations from other regions and on precedence established from other successful projects. Design of the HLF is based on the State of Nevada guidelines and associated permitting limitations along with best engineering practice.

DESIGN REQUIREMENTS

Table 18.5 summarizes the main technical and permitting requirements for the key elements of the HLF design.

Table 18.5 Summary of Design Requirements

Heap Leach Feature	Description
Leach Pad	System must have containment capability equal to or greater than that of a composite liner consisting of a synthetic liner over one foot of compacted soil at a permeability of 1 x 10^{-6} cm/s or 1 x 10^{-5} cm/s if a leak detection system is used beneath portions of the liner with the greatest potential for leakage.
	Synthetic liners must be rated as having resistance to fluid passage equal to a permeability of less than or equal to 1 x 10^{-11} cm/s.
Solution Ponds	System must have a primary synthetic liner and a secondary liner that meet the above-described liner specifications. The synthetic liners must be separated by a fluid transmission layer which is capable of transmitting leaked fluids at a rate that will ensure that excessive head will not develop on the secondary liner.
Solution Management and Containment	Process components must be demonstrated to have the capacity to “withstand” the runoff from a 100-year, 24 h precipitation event. In addition, facility fluid management systems must demonstrate the capability of remaining fully functional and fully contain all process fluids including all accumulation resulting from a 25-year, 24 h precipitation event. The foregoing standards are minimal and additional containment capacity may be required if surface water bodies or human populations are in close proximity to the facility, or if groundwater is shallow.
Foundations	Consider static/dynamic loads and differential movement or shifting.

table continues…

Heap Leach Feature	Description
Construction QA/QC	A QA/QC program will be developed and implemented for liner construction. A summary of the QA/QC program must be submitted with as-built drawings after construction has been completed.
Neutralization/Detoxification of Spent Ore	Spent ore must be rinsed until it can be demonstrated either the remaining solid material, when representatively sampled does not contain levels of contaminants that are likely to become mobile and degrade the receiving waters under the conditions that will exist at the site, or, the spent ore is stabilized in such a manner as to inhibit meteoric waters from migrating through the material and transporting contaminants that have the potential to degrade the receiving waters.

DESIGN BASIS

The Yukon Water Board Licensing Guidelines for Type A Quartz Mining Undertakings provide specific guidance for selected mine site earthworks facilities, as follows:

> "General: Type A quartz mining undertakings may vary significantly in their magnitude and in the potential environmental effects associated with them. The guidelines contained in this document assume the development of a mine with significant potential environmental impacts such as those resulting from acid rock drainage or the failure of a large tailings impoundment. Projects such as this are considered to fall into the Very High Consequence of Failure category described in the Canadian Dam Safety Guidelines (January 1999). In situations where this category is not appropriate for some reason, the Board is prepared to consider well developed and documented justification for the use of alternative consequences of failure criteria developed in accordance with the Canadian Dam Safety Guidelines."

Further, specific design guidance is included as follows:

- The design, construction, operation, maintenance and surveillance of dams and associated water management structures should be carried out in a manner which is consistent with the recommendations contained in the Canadian Dam Association (CDA) Dam Safety Guidelines (January 1999) for the Very High Consequence Category, unless compelling reasons consistent with the CDA Dam Safety Guidelines for a lower consequence category are provided.
- Long-term dams and associated water management structures should be designed to withstand the maximum credible earthquake (MCE) and pass the probable maximum flood (PMF). Shorter-term structures may be built to lesser standards but a compelling rationale for the selected criteria must be provided.

- HLF should be designed to have a minimum factor of safety under static loading of 1.3 for short-term cases (i.e. within the mine life) and 1.5 for long-term cases (i.e. abandonment) as described in the Investigation and Design of Mine Dumps (British Columbia Mine Dump Committee, 1991). The factor of safety for dams should be as recommended in the CDA Dam Safety Guidelines (January 1999).
- Designs for dams and associated water management structures, WRSAs, and the HLF should recognize the probable presence of permafrost and should include appropriate measures to manage permafrost and maximize the stability of the structures consistent with recommendations contained in the CDA Dam Safety Guidelines (January 1999).

The Government of Yukon's Licensing Guidelines refer to CDA's 1999 guidelines; however, Tetra Tech used CDA's updated 2007 guidelines for the purposes of the HLF design.

Based on Tetra Tech's judgment, and application of the CDA dam classification guidelines, the HLF dam has been classified as "Significant" because:

- The dam is not located above infrastructure.
- There is low potential for loss of life.
- Downstream inundation area is typically not developed.
- The primary consequence of failure is the loss of process and damage to the environment; however loss or significant deterioration of regional important fisheries habitat, wildlife habitat, rare and endangered species, unique landscapes or sites of cultural significance is not expected.

However, the standards for "Very High" classification, as required by CDA 2007 guidelines, have been applied in the design of the HLF dam.

ENGINEERING DESIGN CRITERIA

The parameters and criteria provided in Table 18.6 form the basis of design for the HLF. Geotechnical design criteria have been developed by Tetra Tech

Table 18.6 Engineering Design Criteria

Item	Quantity/Criteria
Mine Life	10 years
LOM Ore Quantity to be Stacked on Heap Leach Pad	Up to 99 Mt
Crushing Rate Stages	Delivery to primary crusher 29,500 t/d (10.3 Mt/a) Primary, secondary and tertiary crusher
Reclaim from 100 d Storage to Secondary Crusher	11,800 t/d

table continues…

Item	Quantity/Criteria
Final Ore Crush Size	6.4 mm (P_{80})
Leach Pad Type	Permanent, multiple lift
Initial Stacking Capacity	Minimum of two years for Phase 1 pad
Stacking Schedule	250 d/a
Stacking Rate	41,300 t/d
Agglomeration	Belt type, first two years of operation or as needed.
Stacking Method	Conveyor-stacker
Stacked Dry Density of Ore	Initial – 1.60 t/m^3
Stack/Lift Height	Nominal 10 m lifts
Overall Slope Angle of Stacked Ore	2.5:1 (H:V), 22°
Ore Solution Storage	0.137 m^3 of solution per cubic metre of ore
Ore Moisture Contents	Initial 5.0%, leaching 13.3%
Leach Schedule	350 d/a
Solution Application Method	Drip emitters (buried during cold weather operations)
Solution Application Rate	10 L/h/m^2
Leach Cycle Time	150 d
Solution Application Flow (Years 1-5)	2,770 m^3/h
Solution Application Flow (Years 6-10)	3,690 m^3/h
Geotechnical Stability	
Minimum Embankment Factor of Safety	Static Loading – 1.5 (impounding),1.3 (non-impounding), Seismic Loading – 1.0 (pseudo-static)
Permafrost	Permafrost encountered in the pad or pond foundations, if thaw unstable, will be removed
Containment Dyke	
General	To provide stable confinement of the ore and in-heap storage of solution
Standards	Designed to 2007 CDA Standards
In-heap Storage	To attenuate variation in flows into the heap to allow a constant flow to the process plant and minimize treatment and release: • minimum storage volume (to ensure supply to process plant) equivalent to 48 h supply • maximum storage volume to allow for 1:100-year, 24 h storm event • maximum storage volume to allow for draindown of water stored in voids above in-heap pond level
Overflow Spillway	Sized to pass 100-year return period peak flow assuming heap storage is at capacity at the start of the event

table continues…

Item	Quantity/Criteria
Groundwater	
General	A drainage system is required beneath the liner system to control groundwater pressures. The system is to collect groundwater in a controlled manner before discharge downslope of the containment embankment. Note: unforeseen seepage may be encountered during construction, for which additional measures may be required.
Pad Liner System	
Overliner	To protect the lining system from damage by ore placement while not impacting the conveyance of solution to the recovery wells.
Geosynthetic Liner	Suitable liner material to provide required puncture resistance, elastic strain range and resistance to solution attack along with good temperature performance (+40°C to -40°C)
Soil Liner	Compacted fine grained soil below the geosynthetic liner to provide a composite liner to minimize leakage. Objective maximum permeability 1×10^{-5} cm/s or 1×10^{-6} cm/s in the absence of a leachate detection and removal system.
LDRS	A system to collect leakage through the composite liner and convey it to monitoring points. The system to comprise drainage gravel and a network of drainage pipes to collect and convey any leaked solution.
LDRS Monitoring	Monitoring of the flow into the LDRS to ensure that allowable rates (determined by permitting authorities) are not exceeded.
Frost Protection	Liner to be protected from seasonal frost penetration by maintaining a minimum of 3 m of ore above the cushion layer.
Solution Recovery Wells	
General	Solution is to be recovered from the heap through vertical pumped wells installed in the in-heap solution storage area.
Events Ponds	
General	Events ponds to be constructed downstream of the pad to store excess solution and natural inflow that cannot be stored in the in-heap storage.
Standards	Confining structure to be designed to same standards as the ore containment embankment.
Overflow spillway (from HLF)	Sized for 100-year return period peak flow assuming heap storage is at capacity at the start of the event. No spillway to be provided in the events pond (all flows to be pumped).
Storage Capacity	Sized to store 48 h draindown volume, the design hydrological inflow and the operating solution volume less the storage volume provided in-heap.
Liner System	Lining to comprise a single composite geosynthetic liner system (HDPE over GCL)

18.3.3 SUBSURFACE CONDITIONS

Current geologic conditions at the Project site have been strongly influenced by the geotectonic forces that produced the Eagle Gold deposit. The folding, faulting and plutonic activities have resulted in relatively weak rock mass with relatively poor mechanical properties. The latitude of the Property has complicated matters further with frost fracturing and permafrost.

Overburden soils encountered on the sloping ground at the mine site typically consist of a veneer of organic soils overlying a blanket of colluvium, which overlies weathered bedrock.

Glacial till is generally only encountered on the lower flanks of the north and west-facing slopes located north and west of the proposed open pit, above Dublin Gulch and Haggart Creek. The till is often overlain by colluvium. Placer tailings (fill) cover most of the valley bottom of Dublin Gulch and Haggart Creek. Alluvial soils are occasionally encountered along undisturbed valley-bottom areas.

OVERBURDEN

Overburden soil conditions are distinctly different in the Dublin Gulch valley bottom from those encountered above the valley bottom in Ann Gulch and south of Dublin Gulch along the southern edge of the proposed heap. In the uplands above the valley bottom, the upper soil unit consists of a thin horizon of organic soil, rootlets, woody debris and plant matter ranging from 0.1 to 2.7 m in thickness and averaging approximately 0.3 m. The organic cover above the valley bottom overlies colluvium ranging in thickness from 0.2 to 15.2 m, and averaging approximately 2.9 m. The colluvium consists of loose to compact angular gravel with occasional cobbles in a silt and sand matrix, derived from transported weathered metasedimentary bedrock. The colluvium may also include variable amounts of organics, which are often observed in distinct layers within the colluvium.

The overburden soils in the valley bottom have been reworked by historical placer mining activities. Placer tailings (fill) are observed from the ground surface to bedrock, with thicknesses ranging between 2.4 and 16.5 m, and an average thickness of approximately 6.6 m. The material encountered is generally a well graded, loose to dense, silty sand and gravel, ranging to sand and gravel with some silt and occasional cobbles and boulders. Loose and moist zones have been encountered within the placer tailings. There is little to no vegetative cover on the placer tailings.

The overburden at the southern edge of the proposed HLF includes 4.4 m of placer tailings, and a variable thickness of till ranging between 1.5 to 16.4 m. The till is a compact to dense sandy silt to silty sand with some gravel.

BEDROCK

Bedrock is found in the uplands above Dublin Gulch immediately below colluvium at depths ranging between 0.0 and 16.8 m below existing grade (average depth to bedrock at 3.5 m where observed). Bedrock is found in the valley bottom at depths ranging between 1.5 and 16.5 m below existing grade, with an average depth to bedrock at 6.2 m where observed. The very limited amount of data at the southern edge of the HLF suggests that bedrock is relatively deep (i.e. greater than 8 m).

GROUNDWATER

The observed groundwater depths on the open slopes in the upper Ann Gulch valley range from 4.1 m below grade close to the middle of Ann Gulch to 15.4 m in the headwaters of Ann Gulch. Water levels are typically about 2.5 m below ground surface in the Dublin Gulch valley bottom, but can be expected to be closer to ground surface near streams and deeper below piles of tailings. It is anticipated that these levels will vary seasonally.

For design purposes, it was assumed that the natural groundwater table is at approximately 10 to 15 m depth below grade in the uplands, and at close to the elevation of existing drainage courses in the valley bottom. However, groundwater can be expected to be encountered locally at shallower depths, specifically when approaching the main drainages.

PERMAFROST

Frozen ground was encountered in the upper part of the HLF footprint (i.e. upland area) in various test pits. When observed in a plan view, many of the test pits are located on the eastern slope of Ann Gulch, and generally align in a northeast trend, covering the entire HLF footprint, from its most eastern edge to its western end at the heap leach containment dike.

Frozen ground was not encountered in the valley bottom nor on the southern edge of the proposed heap leach pad, but localized pockets of frozen ground may be present in these areas.

GEOLOGICAL HAZARDS

Around the HLF site area, geological hazards as determined by Stantec (2010) mainly include permafrost processes in the west-facing slopes at the upper part of the valley and surface seepage at the bottom of the valley between the rockfill diversion berm and rockfill embankment. Some of the south-facing lower and steeper slopes above Dublin Gulch are affected by rockfall and rockslide hazards.

HYDROGEOLOGY

Surface seeps have been noted at the site; they are typically seasonal and appear to be structurally controlled by geologic contacts. Some of the larger springs have caused surface depressions by destabilizing the soils locally.

SEISMICITY

Tetra Tech performed a seismic hazard analysis (SHA) for the Project site. The SHA establishes results from both deterministic and probabilistic methods. Deterministic analyses were performed using five equally weighted attenuation relationships to evaluate seismic hazards for the Property resulting from a MCE. A MCE, by definition, has no specific recurrence interval and is the largest reasonably conceivable earthquake that appears possible along a recognized fault or within a geographically defined tectonic province, under the presently known or presumed tectonic framework. Theoretically, no ground motion should occur which exceeds that of the MCE. A deterministic analysis therefore allows for a more conservative approach to the determination of risks associated with identified seismic hazards. Data published by NRCan were used in the probabilistic analysis to estimate the probability of exceedance of peak ground accelerations (PGA) at the site for various return periods.

Considering the level of conservatism inherent in a deterministic analysis, and the added conservatism discussed in the SHA, Tetra Tech recommends a design PGA of 0.27 g for high hazard facilities, based on an MCE of moment magnitude 7.0 generated in the Ogilvie Mountains area. This PGA is anticipated to reflect the current tectonic environment with greater accuracy than a low probability value based on the very short historic seismic record available, such as a 5,000-year event would produce. For facilities requiring a PGA based on a return period of 1,000 years or less, the mean National Building Code of Canada (NBCC) values provided in Table 18.7 may be used.

Table 18.7 Probabilistic Ground Motions for Dublin Gulch*

Probability of Exceedance in 50 Years (%)	Approximate Equivalent Return Period (a)	Median Peak Ground Acceleration (g)	Mean Peak Ground Acceleration (g)
10	475	0.14	0.19
5	975	0.18	0.25
2	2,475	0.25	0.35

Note: *NRCan 2005 NBCC Seismic Hazard Interpolation

18.4 HEAP LEACH FACILITY ENGINEERING ANALYSIS

18.4.1 HEAP LEACH PAD AND CONFINING EMBANKMENT DESIGN

Tetra Tech based its HLF design in accordance with the following standards:

- Yukon and Canadian regulations
- the Yukon Water Board Licensing Guidelines (2009)

- Guidelines from the Canadian Dam Association (2007)
- permitting requirements of the State of Nevada (not required, but best practice).

The HLF confining embankment will confine and stabilize the entire HLF, and create an in-heap pond leaching configuration that provides storage of PLS within the pore spaces of the ore. The embankment location, geometry, and height determine the ore storage capacity and solution storage capacity of the HLF.

The HLF confining embankment will be constructed during the initial construction period. It will provide heap stability and containment of process solutions in the in-heap pond. The embankment dam will be an earthfill/rockfill structure with a geomembrane-lined upstream dam face and appropriate filter and transition zones to ensure containment integrity.

The embankment section will include a 10 m crest width at elevation 891 masl for road and pipeline access, and 2.5H:1V upstream and downstream slopes. The in-heap pond will store volume created within the pore space of the ore, directly upstream of the confining embankment. The in-heap pond volume requirements (Table 18.8) were determined assuming a combination of events were to occur simultaneously.

Table 18.8 In-heap Pond Volume Requirements Summary

Volume Requirement	Volume (m^3)
Minimum Operational Volume	132,960
Snowmelt Runoff Volume	65,469
Heap Draindown Volume	199,440
Total	**397,869**

Although the in-heap pond is designed to capture the maximum design flood, a spillway is required in order to provide controlled release of water in the unlikely event the design capacity is exceeded. The spillway is located on the southeastern side of the embankment and will discharge to the heap facility events ponds.

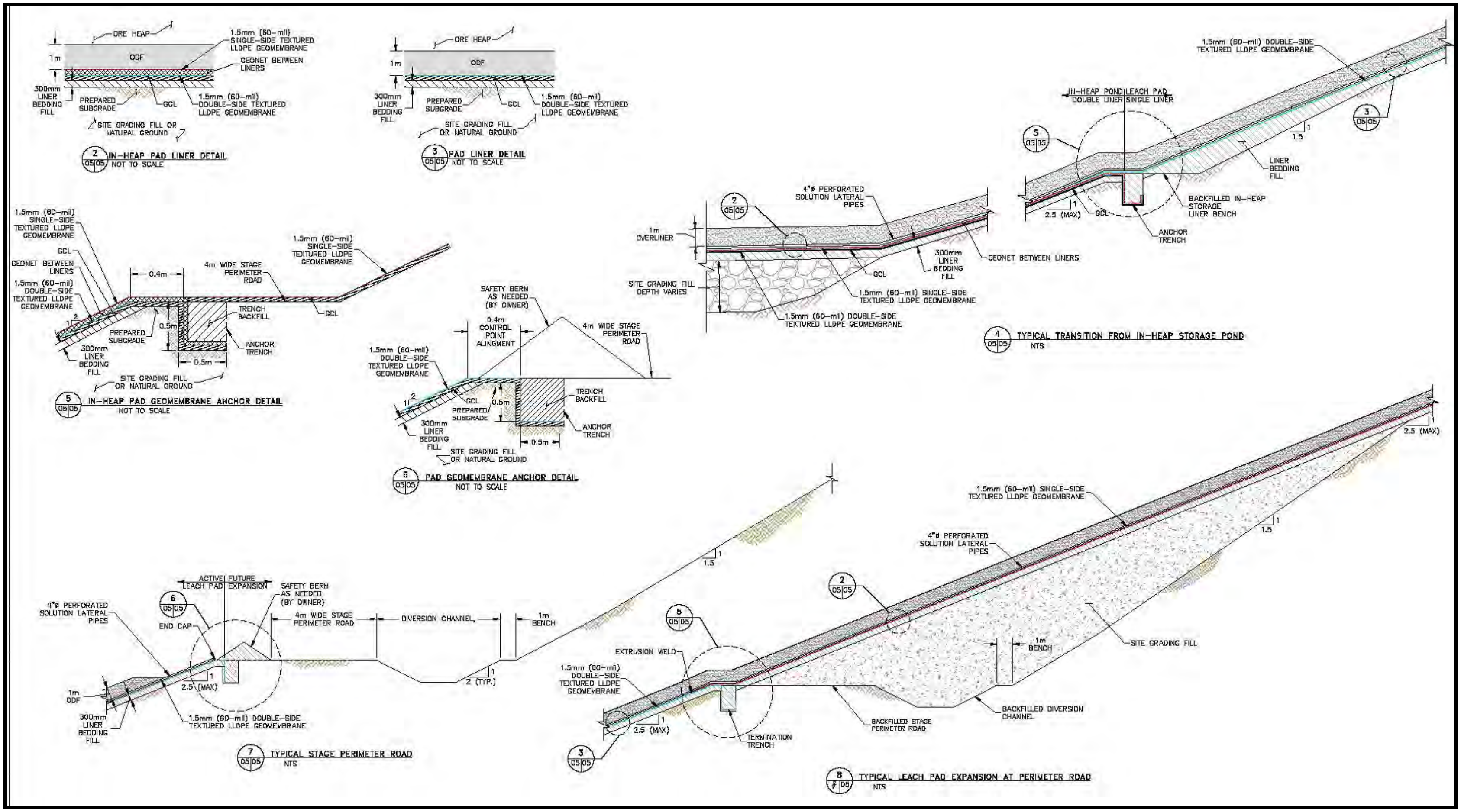
18.4.2 LINER SYSTEM DESIGN

The leach pad will consist of an in-heap pond liner system and an up-gradient liner system.

In the design, double-side textured 60 mL (1.5 mm thick) LLDPE liner will be used on the pad. A GCL will be used in lieu of a 300 mm thick layer of compacted low-permeability material. A GCL will be placed underneath the geomembrane and will provide equal or greater protection than 300 mm material having a saturated hydraulic conductivity of no greater than 10^{-6} cm/s.

Beneath the in-heap storage pond, a double liner system with an LDRS between the liners will be used. Figure 18.3 provides a typical section for the liner system beneath the in-heap storage pond, a section through the LDRS sump, and a typical liner section for the HLF up-gradient to the in-heap pond area.

Figure 18.3 Heap Leach Pad Design Details



In the sump area, a 2 m thick prepared sub-base with a permeability of less than 1×10^{-5} cm/s will be overlain by GCL and LLDPE geomembrane. This will be overlain by an LDRS consisting of a geocomposite on the steeper slopes and an LDRS sand layer within the sump itself, above which the primary geomembrane 60 mL (1.5 mm) LLDPE will be installed. The primary LLDPE liner will be textured on the bottom side, and the secondary LLDPE liner will be textured on both sides. Any drainage captured by the LDRS will report to a sump at the upstream toe of the in-heap storage embankment where it will be pumped out and returned to the in-heap storage pond.

18.4.3 Overliner Drain Fill

A minimum 1 m thick layer of overliner material will be placed over the LLDPE geomembrane in a single lift. The overliner drain fill will be placed in bulk onto the liner using suitable haulage equipment or conveyors and spread by dozers in a uniform layer.

Solution collection pipes will be placed within the overliner drain fill to convey PLS and storm flows to the in-heap pond which is defined by the confining embankment.

18.4.4 Solution Collection Sump and Vertical Riser

The collection pipe network in the overliner drain fill will direct the solution to the sump at the toe of the embankment for pumping through a vertical riser pipe to the process plant. The entire facility will be graded towards a collection sump at the toe of the confining embankment.

The base of the sump will be constructed approximately 1.5 m below the elevation of the surrounding liner, and will have approximate dimensions of 15 x 30 m. The liner system and LDRS will extend under the sump, and a 2 m thick layer of low permeability soil will be placed under the sump as part of the composite liner system. Solution will be pumped from the sump through one of two vertical risers to either the process plant.

The vertical riser arrangement will consist of five thick-walled, stainless steel pipes, each approximately 750 mm in diameter to allow for raising and lowering of the individual discharge pumps. The base of the risers will have a flat base plate and will be located within the overliner material, not on the liner, to provide a buffer zone above the liner system to resist the riser pipes pushing down into the liner. The risers will also be wrapped with smooth geosynthetic sleeves to reduce friction and down-drag caused by settlement of crushed ore around the riser.

The riser pipes will be surrounded with a zone of fine gravel material, which will act as a protective cushioning layer. A zone of coarse, high-permeability ore will be placed around the riser and cushion material in order to promote flow of solution toward the riser. Beyond the zone of coarse ore, the regular crushed ore will be placed.

18.4.5 Closure Outlet System

During closure of the HLF, the spent ore will be rinsed and detoxified. Once acceptable water quality is verified, the liner system below the in-heap pond will be punctured by drilling to allow complete drainage of water through a pre-installed outlet system. The outlet system will consist of a gravel blanket drain installed below the in-heap pond in the PLS sump area, and polyethylene outlet pipes to safely convey water beneath the heap confining embankment and events ponds for release directly into Dublin Gulch (or through a treatment process prior to release, as needed). The liner system will be punctured by drilling through the ore pile into the blanket drain and “dry wells” will be installed to promote long-term free gravity drainage from the in-heap pond.

18.4.6 Slope Stability

The HLF was evaluated for both static and pseudo-static (earthquake) conditions using a Maximum Design Earthquake (MDE) and a 50% horizontal ground acceleration factor for the analyses. The engineering design criteria is based on CDA (2007) guidelines and provides for an operational minimum static factor of safety of 1.3 for the ore heap (non-impounding areas) and 1.5 for the confining embankment (impounding areas). The minimum factor of safety for pseudo-static conditions is 1.0.

The confining embankment foundation preparation includes excavation stripping and removal of the poorly consolidated placer tailings in the valley and excavation of soils on the abutment slopes. The loose placer tailings may be susceptible to liquefaction during intense earthquake events, and will be removed to strengthen the dam foundation with compacted backfill. Geotechnical borings along with seismic refraction survey results were used to estimate the thickness of unsuitable foundation materials.

18.4.7 Settlement Assessment

A one-dimensional settlement assessment was performed for the HLF. The assessment has been conducted using data collected from geotechnical site investigations and site information obtained from various field and laboratory testing programs. Based on conservative estimates of strength parameters, the settlement calculations show that significant settlement may be expected in areas with deep fill (placer tailings) and colluvium, therefore these materials should be removed. Settlement within the slightly weathered bedrock was considered negligible, and within geomembrane tolerances.

The following conclusions were provided:

- Surficial organics should be removed from all foundation subgrades.
- Frozen materials containing excess ice should be removed from all foundation and replaced with structural fill as required to build the grades up to design elevations.
- Shallow colluvium should be removed to expose type 3 (or better) rock. Where colluvium is exposed as HLF subgrade, it should be proof-rolled to identify weak zones for removal and replacement with structural or rock fill.
- All placer tailings should be removed from all foundation subgrades to expose type 3 (or better) rock. Structural or rock fill can be used to build the grade up to design foundation elevations.

18.4.8 Heap Leach Facility Water Balance

A water balance was developed specifically for the HLF. The water balance model will determine the amount of water available for recycle and the fresh make-up water required in order to reach optimal leaching water content. The water balance model accounts for the fully-constructed heap leach pad (all three phases) and a 100 d stockpile.

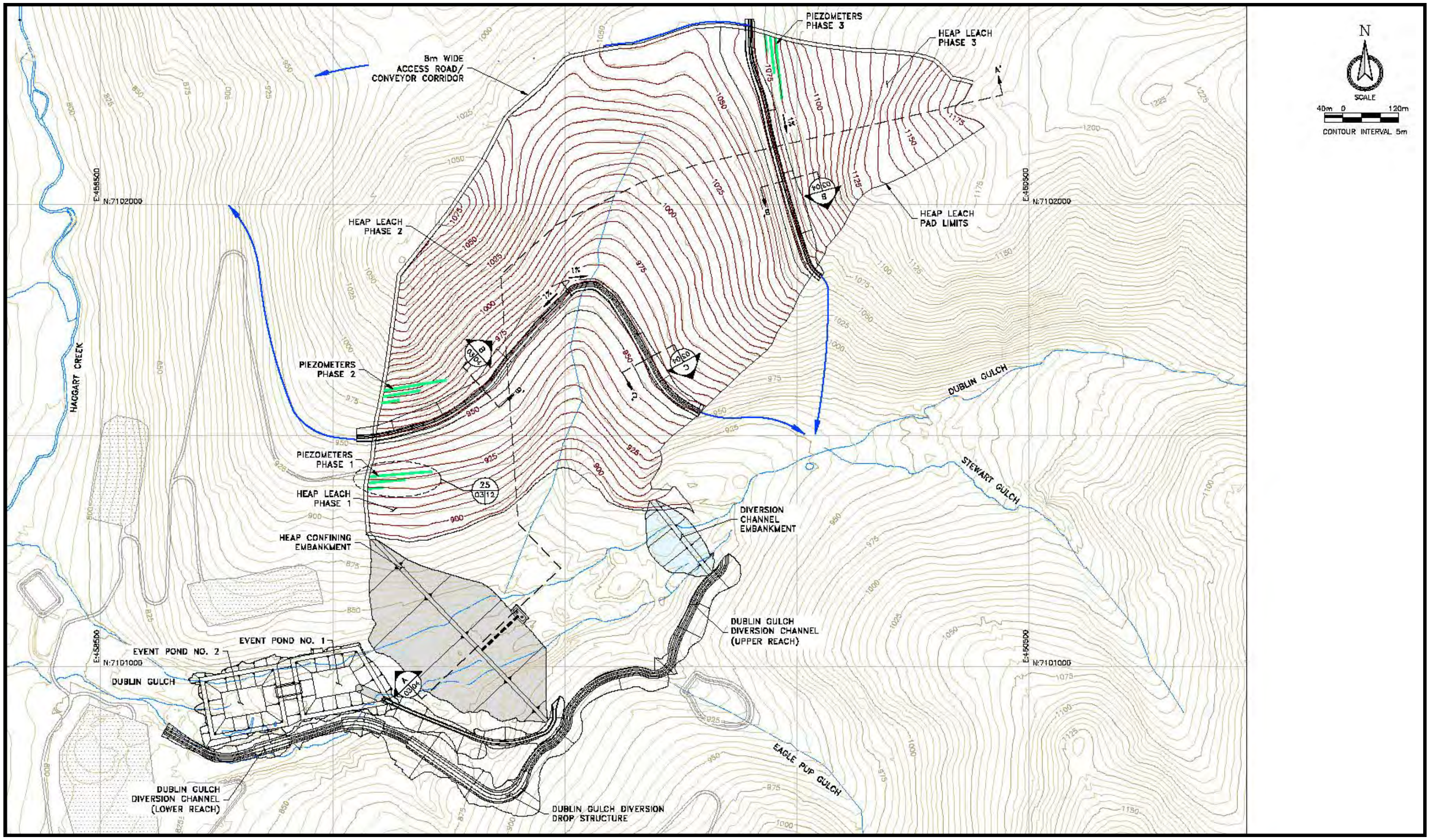
18.4.9 Surface Water Management of Heap Leach Pad

Temporary diversion channels will be constructed for each phase of the heap leach pad in order to divert stormwater flows from entering the heap. The diversion channels will have to be constructed and in place before construction of each pad phase. The temporary diversion channels are the limits of each phase of the heap leach pad as the pad liner will tie into the access road adjacent to the channels. Once the heap leach pad is ready for the next phase the temporary diversion channel will be filled and regraded for placement of the liner for the next phase. As the diversion channels are only temporary and will be backfilled, they are only sized for the 100-year, 24 h event and will be unarmoured. See Figure 18.3 and Figure 18.4 the layout of the temporary diversion channels and liner tie and phase transition details.

WARDROP
A TETRA TECH COMPANY

Victoria GOLD CORP

Figure 18.4 Heap Leach Pad Grading and Temporary Diversion Channels



18.5 DUBLIN GULCH DIVERSION CHANNEL

The HLF will encroach on the natural drainage of Dublin Gulch. A gulch diversion channel has been designed to divert this waterway around the heap leach pad, confining embankment, and events ponds.

In general, the channel will redirect flow in Dublin Gulch to the south of the proposed HLF and will rejoin with Dublin Gulch prior to the existing natural junction with Haggart Creek. The diversion channel is a large structure, and will consist of the following major components:

- a turf reinforced armoured “upper channel reach” with a slope of 1.0%
- a series of concrete armoured stepped “drop structures”; a drop structure consists of:
    - an approach inlet channel (1.0% slope)
    - a drop chute channel (50.0% slope)
    - an energy dissipation pool (0.0% slope)
    - an outlet channel (1.0% slope)
- a turf reinforced armoured “lower channel reach” with a slope of 1.0% with intermediate drop structures.

The diversion channel will receive the majority of its flow at the inlet (flow from Dublin Gulch), in addition it will also intercept overland flow and run-on from Eagle Pup and Stuttle Gulch. The diversion channel will direct flow around the south side of the event ponds, westward through a culvert under the access road, and to a transition structure before entering the fish compensation area.

The diversion channel capacity and armouring is sized primarily for the 100-year, 24 h storm event with 0.3 m of freeboard. Additionally, the channel will have the capacity to convey the 500-year, 24 h event without freeboard. Armouring will not be sized to accommodate the 500-year event.

WARDROP
A TETRA TECH COMPANY

Victoria GOLD CORP

Figure 18.5 Heap Leach Facility Diversion Channel Plan (1 of 2)

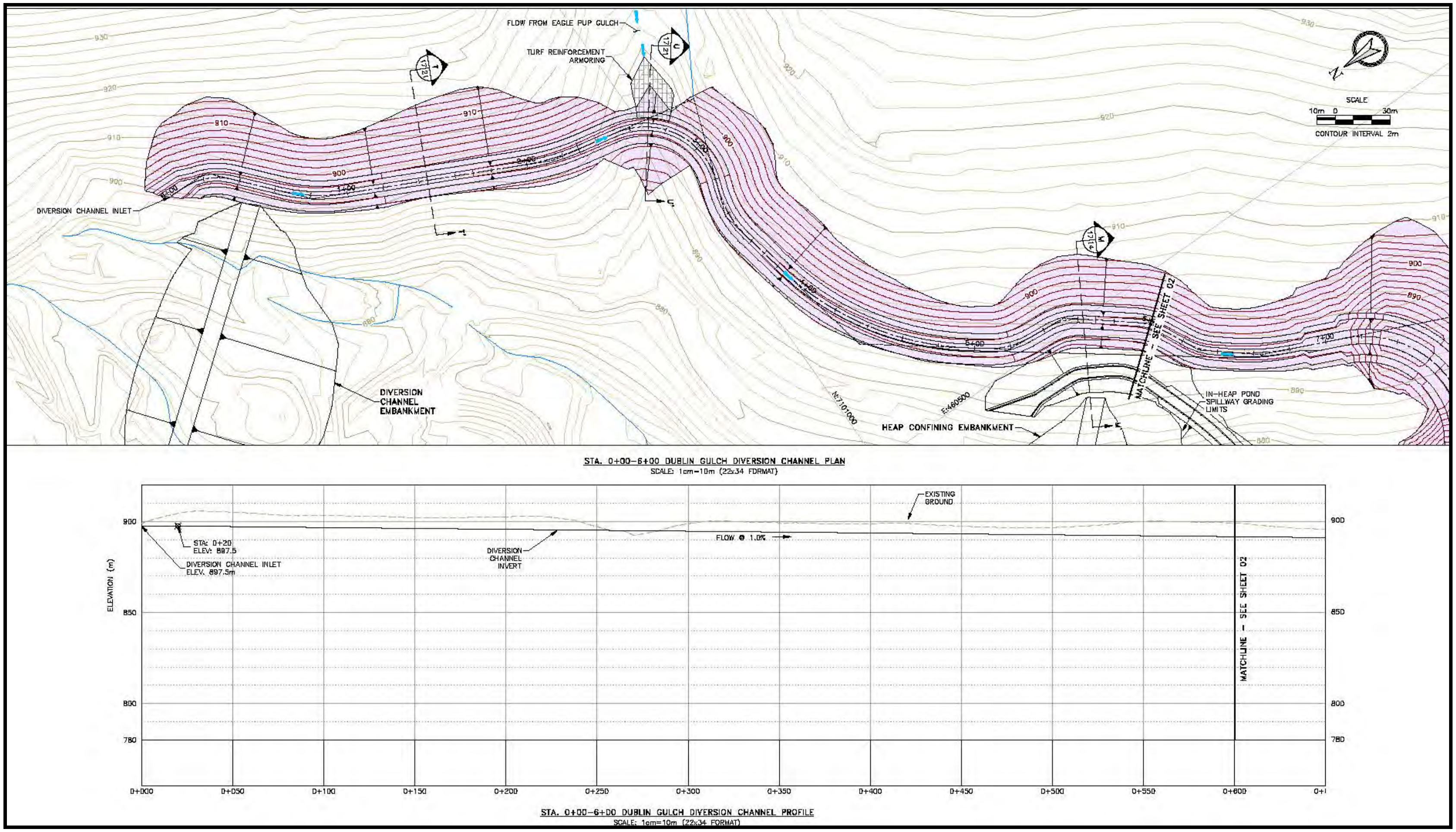
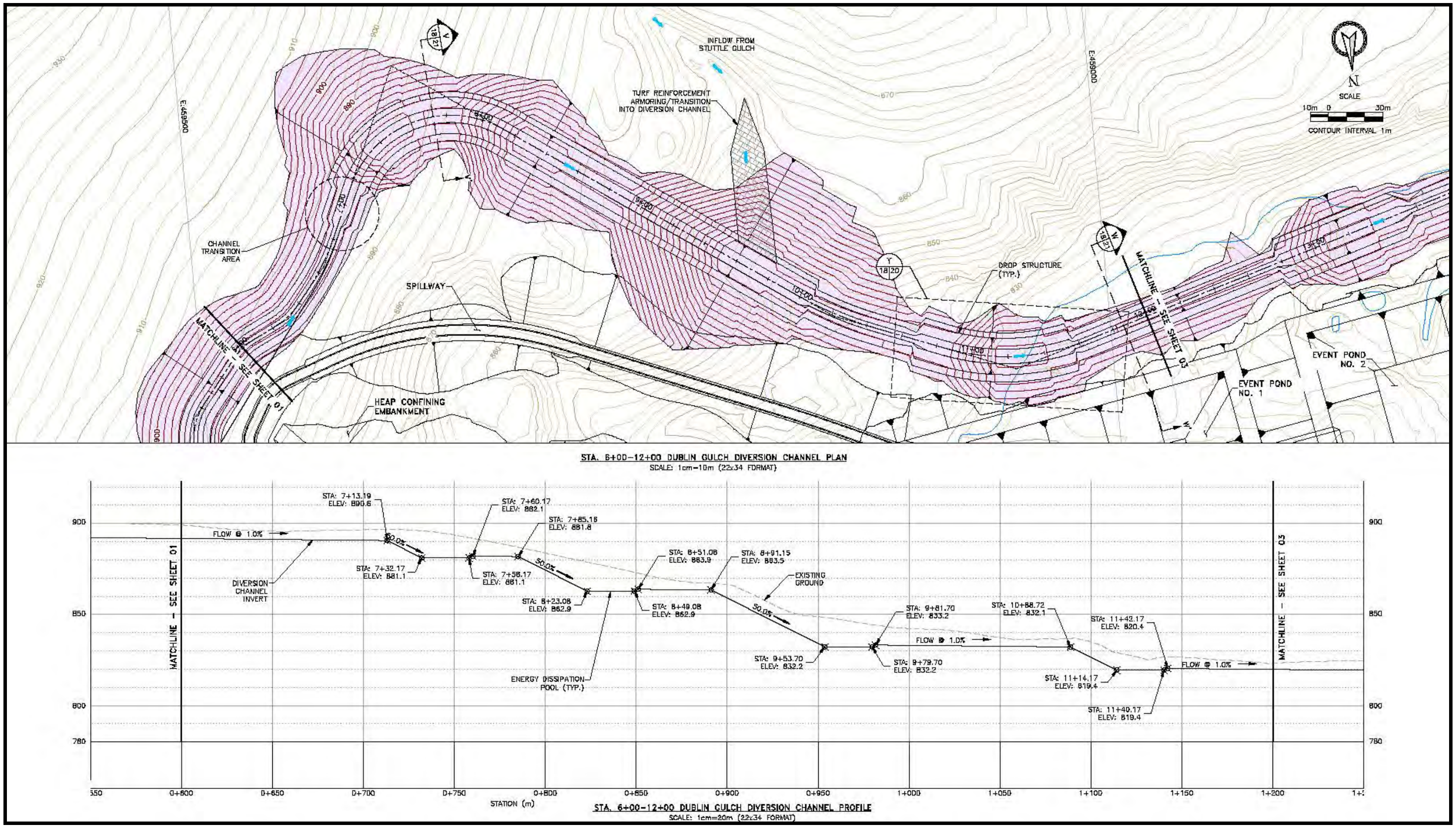


Figure 18.6 Heap Leach Facility Diversion Plan (2 of 2)



18.5.1 *Hydrologic Design Flows*

Hydrologic peak flows for the 100-year, 24 h and 500-year, 24 h events were calculated by Knight Piésold (2011) and are summarized in Table 18.9. The total design flow was used to size the entire length of the channel.

Table 18.9 Dublin Gulch Diversion Channel Design Flows

Contributing Basin/Gulch	100-year, 24 h Design Flow (m^3/s)	500-year, 24 h Design Flow (m^3/s)
Dublin Gulch	8.5	10.3
Eagle Pup Gulch	1.5	4.9
Stuttle Gulch	0.6	2.6
Total Design Flow	**10.6**	**17.8**

18.5.2 *Diversion Channel Armouring*

Pyramat® armouring was selected to armour the 1.0% slopes of the channel. Pyramat® by Propex Geosynthetics is a 3D, woven polypropylene geotextile turf reinforcement mat. When seeded properly, it allows vegetation to grow through the mat, which increases its stability.

Armorflex® Articulated Concrete Block was selected to armour the 50.0% slopes and energy dissipation pools of the drop structure. Armorflex® by Armortech/Contech is a flexible matrix of concrete blocks that are laced longitudinally with steel revetment cables. The Armorflex® is an open cell concrete block that also allows for vegetation to be established. More specifically, the 70-T block class by Armortech was selected as the armament material.

The diversion channel will be most vulnerable to erosion at the completion of construction as vegetation has not been fully established. It is recommended that some vegetation be established in the diversion channel before it is put into use.

18.5.3 *Diversion Channel Dimensions*

The calculated flow depths and channel dimensions are summarized in Table 18.10. The flow depths shown are for a vegetated condition which gives the deepest flow depth. In general, the channel bottom width ranges from 4 to 8 m and the depths along the channel range from 1.5 to 3.0 m deep.

Table 18.10 Dublin Gulch Diversion Channel Summary

Diversion Channel Segment		Armouring	Channel Slope (%)	Bottom Width (m)	Side Slope (H:V)	100-year Flow Depth (m)	500-year Flow Depth (m)	Channel Design Depth (m)
Upper Channel Reach		Pyramat®	1.0	4.0	2:1	1.02	1.30	1.5
Drop Structure	Inlet Channel	Pyramat®	1.0	4.0 to 8.0[1]	2:1 to 3:1[2]	1.02 to 0.74[1]	1.3 to 0.94[1]	1.5 to 2.0[3]
	Drop Chute	Armorflex®	50.0	8.0	3:1	0.59	0.86	2.0
	Energy Dissipation Pool	Armorflex®	0.0	8.0	3:1	2.4[4]	2.7[4]	3.0
	Outlet Channel	Pyramat®	1.0	4.0 to 8.0[1]	2:1 to 3:1[2]	1.02 to 0.74[1]	1.3 to 0.94[1]	1.5 to 2.0[3]
Lower Channel Reach[4]		Pyramat®	1.0	4.0	2:1	1.02	1.30	1.5

Notes: [1]Channel transitions between a 4.0 and 8.0 m bottom width.
[2]Channel side-slope transitions between 2H:1V and 3H:1V.
[3]Channel depth transition from 1.5 to 2.0 m.
[4]Flow depth in Energy Dissipation pool is estimated by adding the hydraulic jump depth to an assumed full pool depth of 1 m.

The final diversion channel design depth shows that the diversion channel depth accommodates the required flow depths for the 100-year and 500-year events. The final diversion channel design depths were selected based on the 100-year, 24 h flow depth in addition to a freeboard of 0.3 m and an estimated super elevation effect of water of 0.1 m. The diversion channel depths for the drop chute and energy dissipation pools were increased to account for increases in flow depth cause by possible air entrainment and wave action effects. These effects were only estimated for this level of design.

18.5.4 Construction Considerations

Except for small fill areas along the diversion channel, the majority of the diversion channel was designed to be in cut in order to minimize construction complications. Final design of the diversion channel will include finalizing and verifying with the suppliers the selection of the proposed artificial armoring materials. This is highly dependent on soil conditions along the channel alignment.

18.6 Events Ponds

The HLF in-heap pond is designed to accommodate flood events. However, in the unlikely event that the capacity of the pond is exceeded, a spillway will be constructed on the southeastern side of the embankment. Excess water will discharge to two events ponds.

The events ponds are sized to provide containment storage for the 100-year, 24 h event after the in-heap pond has reached its maximum capacity. Assuming fully saturated conditions (no rainfall losses) upstream of the embankment, the estimated rainfall volume reporting to the events ponds will be 132,200 m^3.

The events ponds will have a combined operational storage capacity of approximately 182,846 m^3 with 1 m of freeboard. Event Pond 1 (closest to the embankment) has a storage capacity of 92,153 m^3 and Event Pond 2 (farthest from the embankment) has a storage capacity of 90,693 m^3. The combined storage capacity of the events ponds (without freeboard) will be 216,713 m^3.

18.7 100 d Storage Pad

The 100 d storage pad will be located west of the primary crusher. The pad will have a footprint of 157,000 m^2 and a storage capacity of 2,950,000 t of ore, stacked up to approximately 13 m in height. Ore from the primary crusher will be diverted to this storage pad instead the secondary and tertiary crushers during the annual 100 d winter period. Fixed conveyors, a series of grasshopper conveyors, and a radial stacker, will transport the ore to this pad.

18.8 Fresh Water Supply

18.8.1 Water Supply Infrastructure

The fresh water system will supply fresh water to the ADR facility area, the truck shop area, and crushing area.

Fresh water will be pumped from an aquifer via ground wells located in the Dublin Gulch valley, to a common fire water tank located. Water will then be pumped to a fire water main at each facility throughout the site, providing required flow and pressure for the fire protection system.

Fresh water will be pumped from the well to a common fresh water/fire water holding tank located at the ADR facility area. Fresh water will be pumped from the upper portion of the tank to a potable water treatment system. Treated water stored in a tank supplies the heating solution boiler, elution solution boiler, and shower and eyewash stations in the facility plant. Distribution of potable water to other facilities is done by a water truck. Fresh water not requiring treatment is piped from the holding tank by gravity to the ADR facility for distribution.

18.8.2 ADR Facility Area

The ADR facility fresh water system consists of a fresh water tank and two fresh water pumps. The fresh water tank, located in the ADR facility area, is shared with the ADR facility firewater system to save space and cost. Fresh water will be pumped from the fresh water well close by to the fresh water tank and then is delivered by the fresh water pumps to the potable water treatment system, ADR facility and other fresh water consumption points in the ADR facility area.

18.8.3 Crushing Area

A process water tank will be provided in each crushing area, to supply water for cooling systems, washdown, and other operational requirements.

18.8.4 Truck Shop Area

The fresh water will be pumped from fresh water well close by to the fresh water/fire water tank. The fresh water will be delivered and distributed by gravity due to its arranged at the highest location in this area.

18.8.5 Potable Water

Potable water will be drawn from groundwater wells, disinfected with chlorine solution and pumped to the potable water treatment system at the permanent camp. The potable water will be pumped to each consumption point, except for the crushing and truck shop areas. Because of the distance of these areas from the treatment system, potable water will trucked to potable water tanks close to these areas, and then distributed by the local potable water network.

18.9 Water Management

Water management infrastructure includes all structures related to the collection, diversion, conveyance and storage of surface water passing through the Project footprint. The baseline conditions, classification of various water sources and overall strategy for the water handling and treatment may be found in Section 20.4.

The water management infrastructure items are listed in the following sections, followed by water management performance objectives, functional requirements, and design basis.

18.9.1 Non-contact Water Diversion Structures

It is critical that sources of water that have not been influenced by mining activities (non-contact water) be diverted around mining disturbances. Separation of contact and non-contact waters reduces the downstream impact of mining activities. Dilution of contact water with non-contact waters can result in lower concentrations of mine contaminants in the blended stream; however, it is preferable and more economical to minimize the quantity of water that requires treatment by physical, chemical, or biological means (i.e. passing through the MWTP).

The network of diversion structures includes significant structures (the Dublin Gulch Diversion Channel), long-term fixed diversion ditches, and temporary diversion ditches. Each of these structures is described below.

NON-CONTACT WATER DIVERSION DITCHES

A number of lesser diversion ditches will be established during the initial construction phase to divert non-contact runoff generated in catchment that are less than 1 ha in area. These channels are typically V-shaped or trapezoidal in cross-section with rock or vegetated channel lining to prevent erosion. Additional erosion protection will be required at slope breaks and channel bends.

These channels are designed to convey runoff from storms up to the 1 in 10-year event.

TEMPORARY NON-CONTACT WATER DIVERSION DITCHES

During construction and though expansion phases of mine operations, temporary (generally consisting of six months to a year) diversions will be required. Construction and maintenance of these structures should be consistent with that of permanent diversion structures.

18.9.2 CONTACT WATER INTERCEPTION STRUCTURES

Contact water will be intercepted downstream of areas that have been disturbed by mining activities. These facilities are optimally located at converging topographic low points to facilitate drainage by gravity. However, they may consist of side-hill ditches that intercept overland sheet flow. These channels are typically V-shaped or trapezoidal in cross-section with rock or geosynthetic channel lining to prevent erosion. Additional erosion protection will be required at slope breaks and channel bends.

Similar to diversion ditches, both permanent and temporary interceptor ditches will be required.

CONTACT WATER INTERCEPTOR DITCHES

Typical interceptor ditches include roadside swales that intercept sediment-laden water from heavily trafficked areas. Runoff collected by these interceptor ditches is generally routed to one of the permanent pond facilities located at topographic low points that facilitate gravity drainage. The function of these ponds is described in Section 18.9.3.

TEMPORARY CONTACT WATER INTERCEPTOR DITCHES

During construction and though expansion phases of mine operations, temporary (generally consisting of six months to a year) interceptor ditches will be required. Construction and maintenance of these structures should be consistent with that of permanent interceptor structures.

18.9.3 WATER STORAGE

The permanent ponds for the Project are designed to:

- accumulate all contact runoff and seepage generated in the areas disturbed by mining activities
- provide quiescent storage to promote sedimentation
- harvest contact water for re-use in the heap leach process circuit.

The ponds located immediately downstream of the WRSAs are equipped with concrete sumps to redirect accumulated contact water to the heap leach circuit via the Lower Dublin South Pond. This routing scheme allows WRSA-sourced contact waters to be directed to the MWTP as required.

Each pond is equipped with a primary riser-pipe outlet to decant sediment-laden water, prior to discharge to the environment. Manually operated slide gates allow the mine operators to hold back collected runoff when poor water quality prohibits discharge to the environment, or when additional site water is required for process make-up. Secondary discharge capability is provided by riprap-armoured, broad-crested weirs and spillways notched into each pond. The outlet works provide the capability to safely discharge pond water that accumulates during extreme runoff events or emergency events.

This approach is consistent with general industry standard practices for mine water management.

Descriptions of each of the major site ponds and their functionality are provided below.

EAGLE PUP POND

The Eagle Pup Pond is located immediately downstream from the Eagle Pup WRSA. The pond accumulates seepage and runoff generated within the Eagle Pup sub-catchment. Surface runoff is delivered to the pond by an interceptor ditch that runs along the northeast toe of the WRSA and by direct surface runoff that collects at the base of the Eagle Pup catchment. Seepage generated from within the WRSA is intercepted by a rock drain which discharges immediately upstream of the pond.

The pond is designed to function as a sediment control pond; however, its primary function will be to route contact water flows to the Lower Dublin Gulch South Pond. The primary outlet and secondary spillway discharge into the upper reach of the Dublin Gulch Diversion Channel.

The Eagle Pup Pond has a total storage capacity of 30,000 m^3.

PLATINUM GULCH POND

The Platinum Gulch Pond is located immediately downstream from the Platinum Gulch WRSA. The pond accumulates seepage and runoff generated within the Upper Platinum Gulch sub-catchment. In addition, seepage and runoff accumulation within the open pit may be routed through the Platinum Gulch Pond as needed. Additional capacity is provided for this purpose.

Surface runoff is directed to the pond by the natural Platinum Gulch creek bed running from the WRSA downstream to the pond. Seepage generated from within the WRSA is intercepted by a rock drain which discharges at the head of the creek bed immediately upstream of the pond. Water from the open pit may be pumped to the Platinum Gulch Pond as dictated by operational needs.

The pond has been designed to function as a sediment control pond; however, its primarily function will be to route contact water flows to the Lower Dublin Gulch South Pond. The primary outlet and secondary spillway will discharge into a non-contact water channel that follows the remainder of the Platinum Gulch creek bed to a discharge location along the Eagle Creek fish habitat compensation area.

The Platinum Gulch Pond has a total storage capacity of 45,000 m^3.

LOWER DUBLIN SOUTH POND

The Lower Dublin South Pond is located immediately to the east of the camp and laydown area. The pond accumulates mine runoff water from the Upper Stuttle Gulch area, which includes the 100 d storage facility, the three stage crushing circuit, the truck shop, and the camp. Water from Eagle Pup and Platinum Gulch may also be pumped to the Lower Dublin South Pond as required for mine operations or water treatment.

The Lower Dublin South Pond is primarily a holding pond that allows the mine operators to dispatch reclaimed contact waters to the heap leach circuit or to the MWTP, as operational requirements dictate. When water is not required for operational needs, the pond can function as a sediment control pond that discharges sediment-free water to the lower reach of the Dublin Gulch Diversion Channel.

The Lower Dublin South Pond has a total storage capacity of 40,000 m^3.

LOWER DUBLIN NORTH POND

The Lower Dublin North Pond is located to the west of the events ponds and process facilities on the north side of the Dublin Gulch Diversion Channel. This pond's sole function is to remove sediment from mine runoff generated within the sub-catchment defined by the western limit of the HLF and the northern side of the lower Dublin Gulch Diversion Channel.

The Lower Dublin North Pond discharges treated water directly into Haggart Creek.

The Lower Dublin South Pond has a total storage capacity of 12,000 m^3.

18.9.4 PUMPING AND CONVEYANCE

Floating submersible pumps or sumps for gravity feed are provided at each of the major site collection ponds. The pumps allow the mine operators to dispatch contact water from the south side of the mine operation to the events ponds for integration into the heap leach process circuit or to be treated at the MWTP.

Table 18.11 Design Storm Events

Return Period (a)	Annual Probability of Exceedance	24 h Duration Precipitation Depth (mm)	General Comments
2	0.5	31	-
10	0.1	50	-
100 (mean) 100 (95th)	0.01	71 103	The 95th percentile (see Note 1) is used for the design of all permanent or critical water management infrastructure, with the exception of the HLF spillway and events ponds.
200	0.005	79	-
500	0.002	89	-
PMP	<0.0004	200 (Spring), 256 (Summer)	Refer to Note 2.

Notes: [1]The 95th percentile rainfall event refers to an event whose precipitation is greater than or equal to 95% of all 24 h events on an annual basis.

[2]The Probable Maximum Precipitation (PMP) was derived using (standard World Meteorological Organization procedures (1986) / Hershfield Method). The PMP is effectively the largest conceivable storm event that could possibly impact the site. In general it is seen to have a return period of approximately 1 in 10,000 years.
The PMP value of 256 mm is valid for the months of June through September as this is the period that experiences the majority of extreme rainfall events. It is possible that more extreme runoff may be generated by a rain on snow event occurring in the spring. In this scenario, the PMP is estimated to be 200 mm. This value should be combined with a maximum snowpack value for estimating the PMF.

18.9.5 *HEAP LEACH FACILITY WATER BALANCE MODEL*

A water balance was developed for the HLF, accounting for a three-phase heap leach pad and a 100 d stockpile. The water balance model determines the amount of water available for recycle and the fresh make-up water that will be required to reach optimal leaching water content.

TOTAL FRESH WATER MAKE-UP REQUIRED

Overall, water available for reuse increases every year, resulting in a decreasing need for freshwater make-up. Year 2014 requires the greatest amount of water, at nearly 673,000 m^3 for the year. This decreases to only 254,000 m^3 in year 2021. Table 18.12 shows the total fresh water make-up requirements for each year.

Table 18.12 Total Fresh Water Volume Requirements

Year	Total Make-up Moisture (m^3)
2013	511,346
2014	672,682
2015	395,599
2016	449,032
2017	465,523
2018	476,259
2019	334,876
2020	306,084
2021	254,118

Each phase exhibits similar trends in the demand for freshwater make-up requirements. All phases require the most make-up water in March of every year, when stacking on the heap leach pad begins and before most of the winter precipitation melts and is available for recycle. The maximum in March is about the same for each phase, around 88,000 m^3. Phase 2 and Phase 3 both have zero minimum water requirements during the stacking season due to the larger areas that catch greater quantities precipitation, which in turn increase the amount of water available for recycle (Table 18.13).

Table 18.13 Fresh Water Make-up Requirements by Phase

Maximum Fresh Water Make-up Requirement		Secondary Peak Maximum Fresh Water Make-up Requirement		Minimum Fresh Water Make-up Requirement		Yearly Minimum Fresh Water Make-up Requirement	
m^3	occurrence	m^3	occurrence	m^3	occurrence	m^3	occurrence
Year 1							
69,521	August 2013	-	-	28,188	May 2013	0	December 2013
Phase 1							
88,169	March 2014	-	-	28,188	May 2013	0	December 2013 and 2014 and January and February 2014 and 2015
Phase 2							
87,585	March 2015 through 2019	62,708	October 2018	0	May 2015 through 2018 and June 2015	0	December 2015 through 2016 and January and February 2016 through 2019
Phase 3							
87,371	March 2020 and 2021	57,178	October 2019	0	May through July 2019 through 2021 and August 2021	0	December 2019 through 2020 and January and February 2020 and 2021

Make-up water requirements are greatest in 2014, or Year 1 of operations, calling for nearly 673,000 m^3 for the entire year. After Year 1, however, make-up water requirements generally decrease every year as water available for recycle increases. This is due to the excess of recycle water that accumulates in the Phase 2 and Phase 3 increasingly larger watersheds from rainfall and snowmelt during stacking months. By the end of Phase 3, water requirements are just over 254,000 m^3 for the last year, with the need for make-up water only spanning 5 to 6 mo/a.

18.10 WATER TREATMENT INFRASTRUCTURE

Active (mechanical and chemical) water treatment facilities to be provided as a part of the Project include:

- potable water treatment plant (PWTP)

- septic system with leach field for sanitary sewage
- cyanide detoxification plant (CDP) to treat excess water discharged from the HLF
- MWTP to treat site drainage collected at the Lower Dublin South Pond and to further treat HLF discharge after it is processed through the CDP.

The CDP and MWTP will operate until the water quality of site and HLF drainage is suitable for discharge through passive treatment facilities while maintaining compliance with in-stream water quality guidelines. Water management practices will be used along with the CDP and MWTP to provide for compliance with water quality guidelines by controlling discharge flow to provide for minimum 10:1 dilution in Haggart Creek as well as other optimization practices as required.

18.10.1 *Mine Water Treatment Plant*

General

To meet throughput needs and to provide redundancy, the MWTP will be constructed as two essentially independent trains each capable of treating up to 300 m^3/h. It is scheduled to be constructed in Year 2 of the mine life so that it can be available to treat flows in Year 3, which is the first year in which excess water may be released under the median scenario of the water balance model. The MWTP is primarily a metals removal plant and is intended to treat the site drainage collected at Lower Dublin South Pond as well as to provide additional treatment for excess water from the HLF after it has been pre-treated by the CDP. Treated effluent from the MWTP will drain by gravity to an outfall at Haggart Gulch.

The MWTP is intended to operate until heap rinsing, closure, and capping produces water quality at the HLF and Lower Dublin South Pond that will allow discharge either directly or through passive treatment while maintaining compliance with water quality guidelines. For purposes of this study, it has been estimated that the operations phase of the mine life will cease at the end of Year 9 and that the MWTP will be operated through Year 18.

Treatment goals for the MWTP are based on achieving compliance with the metal mining effluent regulations (MMER) criteria for end of pipe concentrations as well as the water quality guidelines in Haggart Creek.

The treatment at the MWTP will consist of several processes: oxidation, high pH precipitation (lime softening using lime), low pH coagulation (using ferric), pH adjustment, and dechlorination. Filter presses will dewater the solids produced by the high pH precipitation step and the low pH coagulation step.

OXIDATION

Hypochlorite will be added at MWTP Mix Tanks 1 and 2 to oxidize redox active metals such as iron and manganese to improve their removal in the lime softening process. It will also oxidize reduced arsenic species to optimize arsenic removal in the ferric process. Any ammonia present will be converted through the breakpoint chlorination mechanism. The hypochlorite storage tank and three metering pumps (one spare) are provided for this purpose.

HIGH pH PRECIPITATION

MWTP Mix Tanks 3 and 4 are used for lime addition to achieve a pH high enough to effectively precipitate calcium carbonate and with it, many metal hydroxides. Facilities for storing and feeding hydrated lime include a lime silo, a super-sack unloader, and lime mixing and holding tanks. A pair of 12.5 m diameter clarifiers are provided for solids precipitation. Solids from the clarifiers are pumped to the high pH sludge storage tank and dewatered using one of three filter presses (one for high pH solids, one for low pH solids, and a spare). Dewatered lime sludge solids will be stockpiled on a storage pad and then transferred to the heap during closure capping activities for permanent disposal. The high pH precipitation step will remove silver, aluminum, ammonia, cadmium, chromium, copper, iron, lead, nickel, uranium, and zinc by precipitating them as their corresponding metal hydroxides. Some sulfate may also be removed as gypsum.

LOW pH COAGULATION

From the clarifiers the flow passes to Mix Tanks 5 and 6 where ferric chloride is added to coagulate the remaining metals to remove arsenic, mercury, molybdenum, antimony and further remove lead, uranium and some sulphate. Hydrochloric acid will be added as needed to attain the pH for optimal ferric flow formation. Barium chloride will be available to feed at Mix Tanks 5 and 6 as needed to remove radium 226, but is not expected to be used routinely. A pair of 12.5 m diameter low pH clarifiers is provided to remove the settled solids. The solids will be pumped from the clarifier to the low pH sludge storage tank and then to one of the three filter presses for dewatering. Dewatered ferric sludge solids will be transferred to an interim storage pad under impermeable cover before being periodically encapsulated for closure.

TREATED WATER HANDLING

Following low pH settling the water flows to Mix Tanks 7 and 8 where caustic is added to raise pH to the level required for discharge (greater than 6.5) and then to the treated water holding tank where sodium thiosulfate may be added to remove any remaining chlorine before discharge. Pumps can deliver the treated water to either the plant water system or to the outfall.

MWTP SUMMARY

Compounds removed through the MWTP processes and the expected effluent concentrations were estimated using chemical precipitation model PhreeqC and are shown along with other MWTP design criteria in Table 18.14.

Table 18.14 Design Criteria for Mine Water Treatment Plant

Parameter	Design Value
Construction Year	2
Maximum Flow Rate	600 m^3/hr
Effluent Sulfate	1,620 mg/L
Effluent Aluminum	0.02 mg/L
Effluent Arsenic	0.028 mg/L
Effluent Chromium	0.0002 mg/L
Effluent Cadmium	0.0002 mg/L
Effluent Copper	0.001 mg/L
Effluent Iron	0.16 mg/L
Effluent Lead	0.000 mg/L
Effluent Molybdenum	0.002 mg/L
Effluent Mercury	0.0002 mg/L
Effluent Nickel	0.18 mg/L
Effluent Silver	0.0002 mg/L
Effluent Antimony	0.07 mg/L
Effluent Uranium	0.009 mg/L
Effluent Zinc	0.10 mg/L
Effluent Total Suspended Solids	15 mg/L
Effluent Cyanide WAD	0.05 mg/L
Effluent Ammonia -N	<1 mg/L

The major MWTP processes and location/equipment for each are summarized in Table 18.15.

Table 18.15 MWTP Process and Location/Equipment Summary

Process	Location/Equipment
Oxidation/Breakpoint Chlorination	Mix Tanks 1 and 2
High pH Adjustment (Lime)	Mix Tanks 3 and 4
Solids Precipitation	High pH Clarifiers 1 and 2
Low pH Adjustment (Ferric)	Mix Tanks 5 and 6
Solids Coagulation	Low pH Clarifiers 1 and 2
Final pH Adjustment	Mix Tanks 7 and 8
Dechlorination	Treated Water Holding Tank
Solids Dewatering	Filter Presses 1, 2, 3

The MWTP equipment will be housed in a metal building to be constructed with space to add the CDP equipment during a later phase of construction. Building footprint will be approximately 35 x 117 m. Clarifiers and stripper towers will be located outside the building.

18.10.2 DETOXIFICATION FACILITY

GENERAL

Water will be removed from the HLF when it is overfull due to climatic conditions, or when it is being drained for closure. Water removed from the HLF must be detoxified before being further treated through the MWTP and discharged to Haggart Creek. To accomplish this, a CDP will be constructed alongside the MWTP. In the first treatment step the cyanide is oxidized to cyanate. In the second step the cyanate is hydrolyzed to ammonia. Finally, air stripping will be used to remove the ammonia generated from cyanide destruction. The detoxified water will then be blended with any excess site water from the Lower Dublin South Pond and further treated through the MWTP for metals removal. The initial process at the MWTP is a chlorine oxidation step which will remove any remaining ammonia by the breakpoint chlorination mechanism.

The CDP is to be constructed in Year 8 to be available to treat the excess HLF water that is generated in Year 9. Based on the HLF discharge flows projected in the water balance model the CDP is designed at a capacity of 420 m^3/h. This design capacity is at greater than the 99th percentile of all monthly flows but still less than the 514 m^3/h that is modelled for the initial month of draindown. Optimization of the initial draindown period will be required to manage the flow during that short period rather than increasing the capacity and expense associated with the CDP. The average flow rate through the CDP when it is operating is estimated at 81 m^3/h. Table 18.16 summarizes the design criteria for the CDP and effluent criteria to be achieved before the flow enters the high pH precipitation process at the MWTP.

Table 18.16 Design Criteria for Cyanide Detoxification Plant

Parameter	Design Value
Construction Year	8
Maximum Flow Rate	420 m^3/h
Average Flow Rate	81 m^3/h
Effluent Cyanide (WAD)	<0.2 mg/L
Effluent Cyanate	<1.0 mg/L
Effluent Ammonia-N	<1.0 mg/L*

Note: *Includes removal through breakpoint chlorination at MWTP

Cyanide Oxidation

Hydrogen peroxide will be used at approximately 2 to 8 g hydrogen peroxide per gram cyanide oxidized. To increase reaction rate copper sulphate will be added as a catalyst to a concentration of 10 to 50 mg/L. The pH will be controlled to 9.0 to 9.5 and will typically leave the HLF at this pH. In the alkaline solution, the WAD metal cyanide complexes are oxidized to cyanate and metal hydroxides.

Equipment provided for the treatment of effluent (cyanide oxidation) and for pH neutralization includes two mixed reaction tanks that will be located at the ADR facility during the operations phase. Hydrogen peroxide and copper sulfate will be fed from totes with tote mounted metering pumps. Prior to closure the reaction tanks will be relocated to the MWTP building where additional tanks and metering pumps will be provided to store and deliver the larger quantities of chemical necessary for cyanide oxidation during rinsing and draindown.

Cyanate Hydrolysis

Hydrochloric acid addition is used to reduce the pH to speed the hydrolysis of cyanate to ammonia as needed depending on flow rate. CDP Mix Tanks 3 and 4 are 62 m^3 each to provide 18 min reaction at design flow and greater time at average flow. For efficiency, hydrochloric is fed from the same storage and feed system that provides acid for MWTP processes using a pair of metering pumps dedicated to the CDP operation.

Ammonia Stripping

From the cyanate hydrolysis process tanks the water will enter CDP Mix Tanks 5 and 6 where caustic solution will be introduced to increase pH to as high as 11.5 SU thereby driving more of the ammonium to the strippable free ammonia form. Caustic will be supplied from the caustic storage and feed system at the MWTP with a pair of metering pumps dedicated to the CDP. At high pH calcium carbonate precipitation will occur and the precipitate must be removed before the water can be introduced to the stripper towers consequently a pair of clarifiers follow the caustic addition step (pH Adjustment Clarifiers 1 and 2). Each clarifier is 10 m in diameter for an overflow rate of 2.7 m/h at max rate and 1.0 m/h at average rate with only a single unit in service. Settled solids are pumped to the high pH sludge storage tank at the MWTP and then dewatered by filter press.

From the clarifiers the water enters a pair of clarifier effluent transfer tanks to be pumped through heat exchangers to pre-heat the water by recovering remaining heat from the water exiting the strippers. This functions to both cool the water prior to discharge and to reduce the quantity of heat that is supplied using diesel-fueled boilers. The preheated water enters the CDP air stripper feed tanks where it is heated to the target temperature with heat provided from a set of four diesel-fueled boilers operating at up to 1,600 kW each. The high temperature/high pH water is pumped to the top of one of four countercurrent ammonia air stripper towers and with air supplied to the bottom of each tower via a 37.3 kW blower the ammonia is stripped to the atmosphere. Each stripper tower is 4 m diameter by 13 m tall. Although the pumps and blowers will be installed in the MWTP building for weather protection, the towers will be installed outside with insulation to maintain temperature.

At low flow rates the strippers may be operated in series. That allows effective ammonia removal at a lower stripping efficiency per tower so they can be operated at a lower pH and lower water temperature to improve operating economy. At high flows when more than two of the four stripping trains are required, effective stripping must be accomplished in a single tower so heating and pH adjustment are required until ammonia feed concentrations drop as a result of heap rinsing. Once rinsing reduces cyanide concentration sufficiently, the ammonia feed concentration will be correspondingly decreased allowing the target effluent ammonia concentration to be achieved even at low to moderate stripping efficiency. At that point heating and pH adjustment can be reduced or eliminated even for high flows.

Scale on the stripper will be removed by periodic hydraulic flushing. On a less frequent basis, acid treatment may be used for scale removal as needed to maintain process efficiency.

The treated water from the CDP will be discharged to the MWTP oxidation tanks where it will blend with any water from Lower Dublin South Pond and be chlorinated. The chlorine will react with any remaining ammonia in a “breakpoint reaction to remove the remaining ammonia to less than 1 mg N/L.

Cyanide Detoxification Plant Summary

CDP clarifiers and strippers towers will be located outside but other CDP equipment will be installed within the MWTP building. The major processes of the CDP and location/equipment for each are summarized in Table 18.17.

Table 18.17 CDP Process and Location/Equipment Summary

Process	Location/Equipment
Cyanide Oxidation	Mix Tanks 1 and 2
Cyanate Hydrolysis	Mix Tanks 3 and 4
pH Adjustment	Mix Tanks 5 and 6
Solids Precipitation	Clarifiers 1 and 2
Clarifier Effluent Transfer	Tanks 12 and 13
Pre-heating	Heat Exchangers 1 and 2
Air Stripper Feed	Tanks 7 and 8
Heating	Boilers 1, 2, 3, 4
Ammonia Stripping	Strippers 1, 2, 3, 4

18.10.3 POTABLE WATER TREATMENT

Based on an average usage rate of 300 L/d per person and a camp population of up to 400, the camp water requirements will be approximately 120 m^3/d during construction and less during operation. The potable water system is not intended to provide process water or as a source of water for firewater.

For redundancy two potable water wells will be constructed to provide water for the potable uses of the camp and other buildings. A hypochlorite solution storage and feed system will be provided to dose chlorine into the water pipeline as water is pumped from the groundwells to the storage tank. A flow meter on the influent line to the tank will be used to pace the chlorine application rate as needed to maintain a 2 mg/L chlorine residual in the storage tank. The storage tank will be sized at 120 m^3 to provide up to 24 h water storage. A packaged booster pumping system will be provided to supply water from the storage tank to the camp water system at a minimum pressure of 70 psi. A small metal building will be constructed to house the hypochlorite solution system and booster pumps.

18.10.4 SEWAGE TREATMENT

The camp population will generate sanitary sewage at a flow rate less than the potable water supply rate. The current in-situ septic field located at the 100-man camp will be expanded as needed to accommodate the increase to up to 400 personnel during construction.

18.11 SUPPORT INFRASTRUCTURE

18.11.1 FUEL STORAGE AND DISTRIBUTION

DIESEL

Diesel fuel primarily for haul trucks will be stored in two 750,000 L tanks within a bermed containment area located near the truck shop.

Adjacent to the ADR plant, a 100,000 L diesel storage tank will be located in a concrete bermed area. The fuelling station will include a receiving pump, strainer and delivery pumps, and filters for the recovery area equipment solution heating boiler.

A 10,000 L storage tank will store waste lubricating oil that has been gathered from mine equipment. This waste lubricating oil will be burned along with diesel fuel in the solution heating boiler

PROPANE

Three 5,000 gal propane tanks will be located adjacent to the permanent camp facilities.

18.11.2 EXPLOSIVES STORAGE

ON-SITE EXPLOSIVES MANUFACTURE AND STORAGE

The explosives manufacture plant will be a pre-engineered building provided by the explosives supply contractor. The plant will be located 1 km southwest of the mine pit, and 600 m from the main access road to the plant. Access to the plant will be controlled by a locked gate to prevent unauthorized access.

DETONATOR MAGAZINE STORAGE

The detonator magazine will be a pre-fabricated Sea Can-type structure provided by the explosives supply contractor. This facility will be located 300 m south the explosive manufacturing facility, and 600 m from the main access road to the plant. Like the explosives manufacture plant, access to the detonator magazine will be controlled by a locked gate.

18.11.3 ARCHITECTURAL DESIGN BASIS – ANCILLARY FACILITIES

The architectural design criteria outlines cost estimation parameters of structures and facilities for the Project. The ancillary facilities have been designed using pre-engineered and modular construction where possible to minimize cost and site construction. Local climate and site conditions have been considered in the preliminary design of the buildings.

PRE-ENGINEERED BUILDINGS

Pre-engineered buildings are used for the following facilities:

- process plant shop/warehouse building (42.3 m long x 17.9 m wide)
- truck shop (126 m long x 21 m wide)
- recovery plant (101.5 m long x 35 m wide)
- secondary crushing building (30 m long x 21 m wide)
- tertiary crushing building (42 m long x 24 m wide).

The budget prices received were for the building envelopes only. These buildings will be constructed with a structural steel frame, steel girts and purlins and intermediate structural members. Walls will be constructed of insulated metal wall panels and the roof will be a metal standing seam roof system. The envelope package comes complete with doors and all other envelope-related items. High bay lighting will also be included where applicable.

MODULAR BUILDINGS

Modular buildings are used for the following facilities:

- administration facility (inside mill building)
- assay lab modules (inside mill building)
- gatehouse (6.1 m long x 3.7 m wide)

Each building includes heating, ventilation, and air conditioning (HVAC), electrical, piping, fire detection and suppression systems ready to be connected to the site utilities. The modules are to be constructed of wood framing with insulated metal clad walls and ethylene propylene diene monomer roofing on plywood substrate. Once the modules are in place and connected together the complex will be weather tight.

INTERNAL ARCHITECTURAL ITEMS

Many of the pre-engineered buildings and buildings that are constructed with post and beam design will have certain amounts of architectural materials within the structure and these items were quantified and priced separately on a building by building basis.

18.11.4 BUILDING DESCRIPTIONS

TEMPORARY (CONSTRUCTION PHASE) AND PERMANENT (OPERATING PHASE) CAMPS

The current exploration camp, which accommodates 100 people, will be expanded to accommodate an additional 300 by Q1 2013. The expanded camp will include an additional kitchen, recreation and exercise facilities. Once construction is complete, the temporary camp modules will be removed and the remaining accommodations will be refurbished for use during operations.

PRIMARY CRUSHING BUILDING

The primary crushing structure will be of concrete construction with multiple levels housing the gyratory (primary) crusher, the primary apron feeder and the secondary feed conveyor.

The structure will be earth-retaining on three sides. ROM ore will be discharged into the dump pocket at the top level. Interior steel platforms will be provided to support equipment for ongoing operation and maintenance need. The control room adjacent to the dump pocket will be a modular prefabricated unit.

SECONDARY CRUSHING BUILDING

The secondary crushing building will be a pre-engineered steel structure with insulated steel roof and walls. The building foundation will comprise concrete spread footings, grade walls along the building perimeters, and slab-on-grade.

Secondary crushers will be supported on elevated concrete slabs and piers over a heavy concrete mat foundation. Interior steel platforms on multiple levels will be provided for ongoing operation and maintenance needs. The secondary crushing feed bin and the secondary crusher feed conveyors will be located externally adjacent to the building. Exterior structural steel components are to meet cold temperature steel requirement.

TERTIARY CRUSHING BUILDING

The tertiary crushing building will be a pre-engineered steel structure with insulated steel roof and walls. The building will be supported on concrete spread footings with concrete grade walls along the building perimeters.

The building floor will be composed of concrete slab-on-grade sloping toward sumps for cleanup operation. Tertiary crushers will be supported on elevated concrete slabs and piers over heavy concrete mat foundation.

Interior steel platforms on multiple levels will be provided for ongoing operation and maintenance need. The tertiary crushing feed bin and the tertiary crusher feed conveyors will be located externally adjacent to the building.

Exterior structural steel components will meet cold temperature steel requirements.

The crushing building will be a pre-engineered steel structure with insulated metal roof and walls. Each building will be serviced by one 25 t/5 t auxiliary overhead crane.

ADR FACILITY

The ADR facility will be a pre-engineered steel building with insulated roof and walls. It will house carbon adsorption, carbon desorption regeneration, refinery and reagent process areas. The building will be supported on concrete spread footings with concrete grade walls along its perimeters. The building floor will be concrete slab-on-grade. The floor surface will be sloped toward sumps for cleanup operation.

Heavy equipment with dynamic loads will be supported on concrete foundation isolated from other building components. Interior steel platforms on multiple levels will be provided to support process equipment and to meet ongoing operation and maintenance need. Elevated concrete floors will be provided to house mill dry area, change rooms, offices and control rooms.

CONVEYING

Conveyors will be vendor-supplied systems, and will include all structural support frames, trusses, bents and take-up structures. Overland conveyors will be supported on concrete precast strip panels/sleepers spaced at regular intervals. Elevated conveyor systems will be supported on vendor supplied steel trusses spanning between steel bents on concrete spread footings.

TRUCK SHOP AND MINE DRY

The truck shop and mine dry will be a pre-engineered steel building with insulated roof and walls. The building will be supported on concrete spread footings with concrete grade walls along its perimeters. Sumps and trenches will be constructed to collect waste water during maintenance operation. Floor hardener will be applied to concrete surface on high traffic area.

The building will house a wash bay complete with pressure washer, three repair bays, warehouse area, parts storage, mine dry for 210 people, an emergency vehicle bay complete with a first aid room, electrical room, mechanical room, compressor room and a lube storage room. The warehouse and repair bays will be serviced by a 20 t overhead crane.

PROCESS SHOP WAREHOUSE FACILITY

The process shop warehouse will be a prefabricated modular structure located inside the ADR facility. The building will house a mill shop, electrical and instrumentation shop, mechanical room, electrical room, an office and washrooms. The building is 65% open warehouse area. The mill shop will be serviced by a 2 t crane.

ASSAY LAB FACILITY

The assay lab will be a will be a prefabricated modular structure located inside the ADR facility. This facility will house all necessary laboratory equipment for metallurgical grade testing and control. The lab will be equipped with all appropriate HVAC and chemical disposal equipment as needed. The facility floor will be reinforced as needed to accommodate specialized equipment.

SUBSTATIONS

Substations will be vendor-supplied units, supported on conventional concrete foundation. Electrical rooms will be supported on concrete slab-on-grade with thickened portions to suit loading requirement. Transformers will be supported on concrete mat footings with containment areas and divider walls.

ADMINISTRATION BUILDING

The administration building will be a single-storey modular unit, also located inside the ADR facility. The building foundation will be composed of concrete slab-on-grade with localized thickened areas for higher imposed loads.

GATEHOUSE

The gatehouse will be a modular building with a waiting area, computer workstation and a washroom. The gatehouse will be situated near the entrance to the mine site.

18.11.5 FISH HABITAT COMPENSATION AREA

A fish habitat compensation area will be required for the Project in order to compensate for the impacts to fish habitats related to the development of the Project, especially the Dublin Gulch Diversion Channel. To facilitate the creation of a compensation area in Eagle Creek, all flows from the Dublin Gulch Diversion Channel will be diverted into an enlarged and enhanced channel created within the existing floodplain. Runoff from the mine site (i.e. open pit and WRSAs) that currently flows from Eagle Pup and Stuttle Gulch into Eagle Creek will be captured for use in mine site processes and then recycled during the operations phase of the Project.

Design of the compensation channel includes features required to achieve the habitat quality and predicted increase in habitat unit values. Key elements of the design include:

- an increase in channel width and capacity to convey the diverted Dublin Gulch flows
- accommodations for flows up to the 1:200 year flood event
- creation of a stable channel with 2H:1V or gentler banks
- excavation and enlargement of an existing placer settling pond
- inclusion of spawning and rearing habitat characteristics throughout the channel
- pool-riffle-run sequences spaced approximately at six times the channel width

- cover features (e.g. root wads, boulder clusters) spaced every 15 to 30 m.

18.11.6 *Soil Stockpile Areas*

Soil stockpiles will be required for the storage of organic material for the purposes of progressive reclamation during operations, and final reclamation of the entire Project site at closure. There are three stockpiles: a west stockpile, an east stockpile, and a middle stockpile. The three stockpiles are located between the 100 d storage facility and the HLF. The stockpiles will be accessed via the site access road that connects the truck shop/fuel storage facility to the crushing facilities.

Table 18.18 shows the area footprint of each soil stockpile.

Table 18.18 Stockpile Footprint

Area	Material (m^2)
North Stockpile	58,141
Middle Stockpile	81,654
West Stockpile	187,893
Total Area	**327,688**

18.11.7 *Ice-rich Material Storage Area*

The site design has been optimized to minimize the amount of ice-rich soils that will be disturbed during construction. In addition, ice-rich soil will be re-used as much as possible. However, soil requiring long-term storage will be placed in existing excavated containment areas within the placer tailings along Haggart Creek, several kilometres south of the Eagle Creek area. New storage areas located close to the existing excavated containment areas may be required if ice-rich material in excess of the available storage is encountered.

18.11.8 *Access Road*

An existing 85 km series of paved and gravels roads—including the Silver Trail Highway (Highway 11), the South McQuesten Road and the Haggart Creek Road (HCR) currently provide access to the Project site (Figure 18.7).

Of these, only the 23 km HCR will require upgrading to accommodate equipment, supplies and materials during the Project construction and operational periods. The HCR will be:

- widened to two lanes in certain areas, and to two-way single lane, radio-controlled in others

- surfaced with crushed granular material
- provided with pull-outs every 500 m, or as required
- provided with side ditches for positive water drainage
- provided with a minimum 2% crossfall to facilitate water shedding from road surface, to improve drainage
- provided with new or replaced culverts as necessary, to further improve drainage
- realigned and/or re-graded for specific sections, to improve trafficability and safety

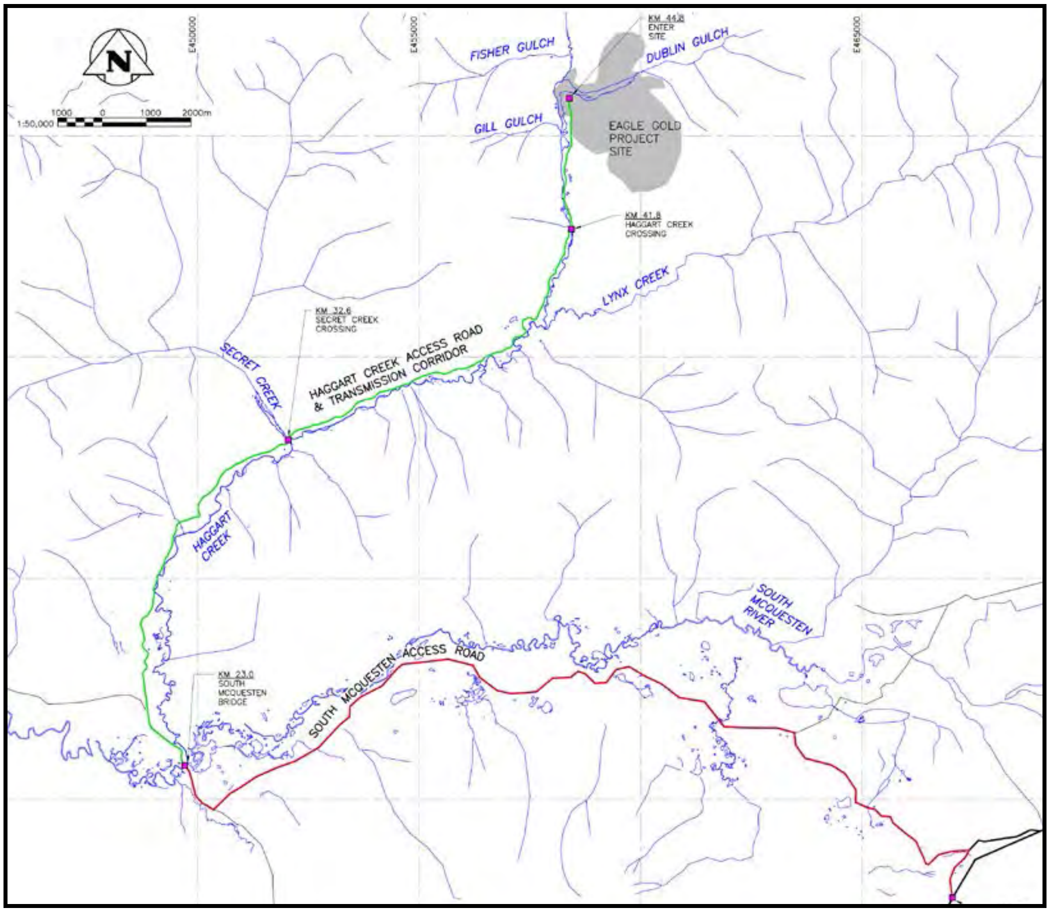
The road has been designed to the meet the following standards:

- Geometric Design Standards for Canadian Roads and Streets, Transportation Association of Canada
- BC Supplement to Transportation Association of Canada Geometric Design Standards.

Appropriate speed/hazard signage will be provided in areas where horizontal and vertical improvements to these standards will prove too costly or impractical.

Victoria Gold will assume responsibility for maintenance of the HCR during construction, throughout the LOM, and during closure.

Figure 18.7 Access and Site Roads



18.11.9 *SITE ROADS*

A network of site roads will be constructed throughout the mine site. Major site roads will include mine haul roads from the open pit to the primary crusher, and roads to and from the truck shop and WRSAs. These major roads will be approximately 31 m wide and gravel-surfaced. The road sub-base and base requirements will be governed by the quality of the subgrade; overall road thickness is expected to be approximately 1 m. Maximum road grade will be 10%.

Other site service roads will interconnect the following facilities and areas:

- open pit
- process plant
- main substation
- primary, secondary and tertiary crushers
- truck shop and warehouse facilities

- permanent operation and construction camp and recreation area
- fresh/fire water tanks
- explosives and magazine storage
- HLF
- laydown area
- water treatment plant.

These site service roads will also connect to the mine fleet haul roads, providing explosive supply trucks direct access to the pit. These roads will generally be 6 to 8 m wide, gravel-surfaced roads. The roads will be constructed with a maximum road grade of 10%.

Roadside swales will be designed with the capacity to convey the 1 in 10-year storm of 24 h duration. As a general guideline, these swales will achieve a minimum sustained grade of -0.5% to ensure drainage and to prevent standing water accumulation. Culverts will be designed to convey the peak flow generated by the 1 in 100-year storm over a 24 h duration.

All road construction materials will utilize local sources; where possible cut-and-fill operations will be undertaken so as to provide an economical and balanced operation. Constructed cuts and fills will be sloped in accordance with geotechnical recommendations, to provide low maintenance, stable earthworks. Typical cut slopes are expected to range from 2.5H:1V in colluvium materials to 1.75H:1V in rock; engineered fills will likely approximate 2H:1V.

18.12 POWER SUPPLY AND DISTRIBUTION

18.12.1 69 KV UTILITY POWER SUPPLY AND 69 KV SITE SUBSTATION

Power will be provided from a new tap point on the existing Yukon Energy 69 kV transmission line between Mayo and Keno. From the new tap point, approximately 44 km of a 69 kV wooden pole overhead line will be constructed parallel to the access road, to the on-site 69 kV substation. The design of the transmission line meets Alberta design standards.

The fenced site 69 kV substation will contain an incoming structure and isolation switches, a main circuit breaker, provision for utility metering, and bus work to deliver 69 kV power to two-step down transformers, each with a primary circuit breaker and isolating switches. The transformers will deliver power to a secondary substation, which will provide 25 kV power via overhead lines to the pit, crushing, processing plant and other local facilities. A filtered capacitor bank connected to the 25 kV bus will provide power factor correction. Three 1.5 MW emergency generators connected to the 25 kV bus will provide back-up power.

18.12.2 Site Power Distribution

General

Large-capacity power loads will be serviced by pad-mounted transformers and dedicated electrical buildings housing switchgear, motor control centres (MCCs) and control systems equipment. Small-capacity power loads will be serviced by pole-mounted transformers and electrical and control equipment installed in rooms within the administration, camp and other buildings, or in outdoor-rated enclosures.

25 kV

Power will be distributed through the site at 25 kV via two overhead power lines. One power line will run towards the camp and processing facilities, the other will run to the truck shop, pit and crushers. Step-down transformers will be provided near major loads to step the voltage down to the utilization level required.

4160 V

Large motors such as crushers, barren and pregnant solution pumps and large conveyors will be fed from 4,160 V. This voltage will also be used for distribution to local 600 V MCCs via transformers.

600 V

Low voltage motor control centres, switchboards and panels will be provided as appropriate. Process loads are powered via 600 V MCCs which are located close as reasonable to the associated equipment.

18.12.3 Back Up Power

Three 1,500 kW, 4,160 V, standby rated diesel generator sets will be provided at the 25 kV outdoor substation. Voltage is stepped up to 25 kV for distribution throughout the facilities by a step up transformer. Generators perform two functions; they:

- provide voltage support during large motor starting
- provide standby power to the following critical loads:
  - heat tracing
  - barren solution pumping
  - pregnant solution pumping
  - carbon regeneration kiln motor
  - acid area sump pump
  - fresh water distribution pumping

- buildings such as the administration complex and camp.

18.12.4 Annual Site-wide Power Demand

The power supply infrastructure is designed to operate at full capacity, year-round. A number of processing-related equipment items will not operate during the 100 d winter period (approximately December 1 to March 10). Accordingly, power consumption will vary seasonally.

Power consumption will also increase over the LOM, as the size of the HLF increases over its two expansion phases, requiring greater pumping and conveying capacity.

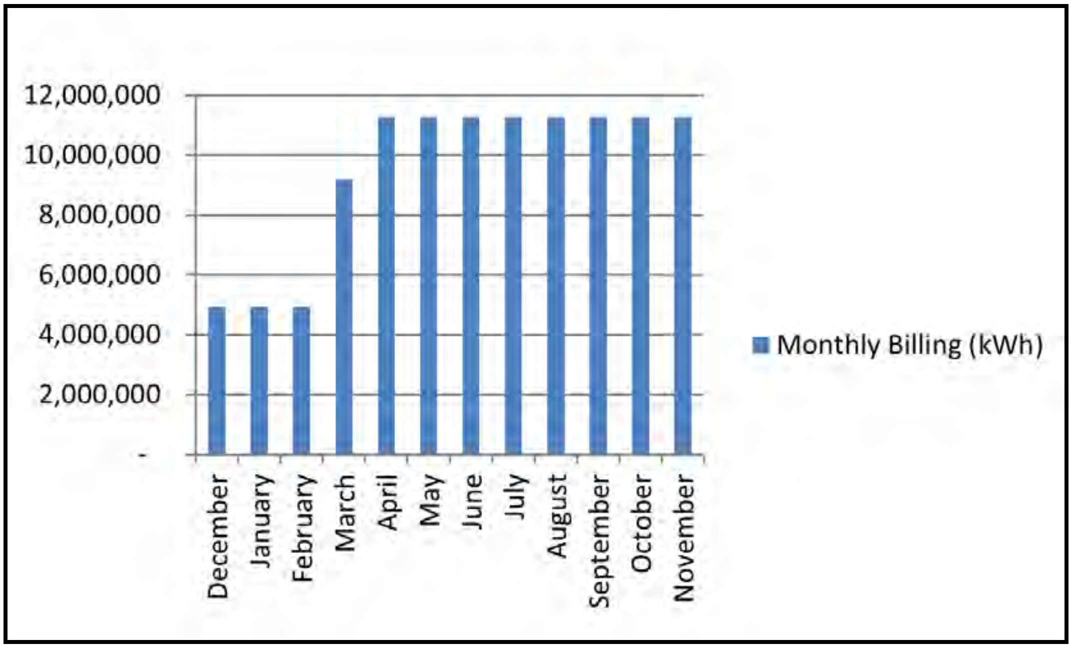
Table 18.19 outlines the estimated summer and winter energy demand through the various phases.

Table 18.19 Estimated Energy Consumption

Phase	Summer Consumption (kWh)	Winter Consumption (kWh)	Annual Consumption (kWh)
Construction	291,197	291,197	3,504,000
Years 1 to 4	11,273,634	4,932,342	114,751,166
Years 5 to 6	12,697,902	6,356,611	131,889,535
Years 7	12,832,581	6,491,290	133,510,135
Years 8+	13,383,403	7,042,111	140,138,227

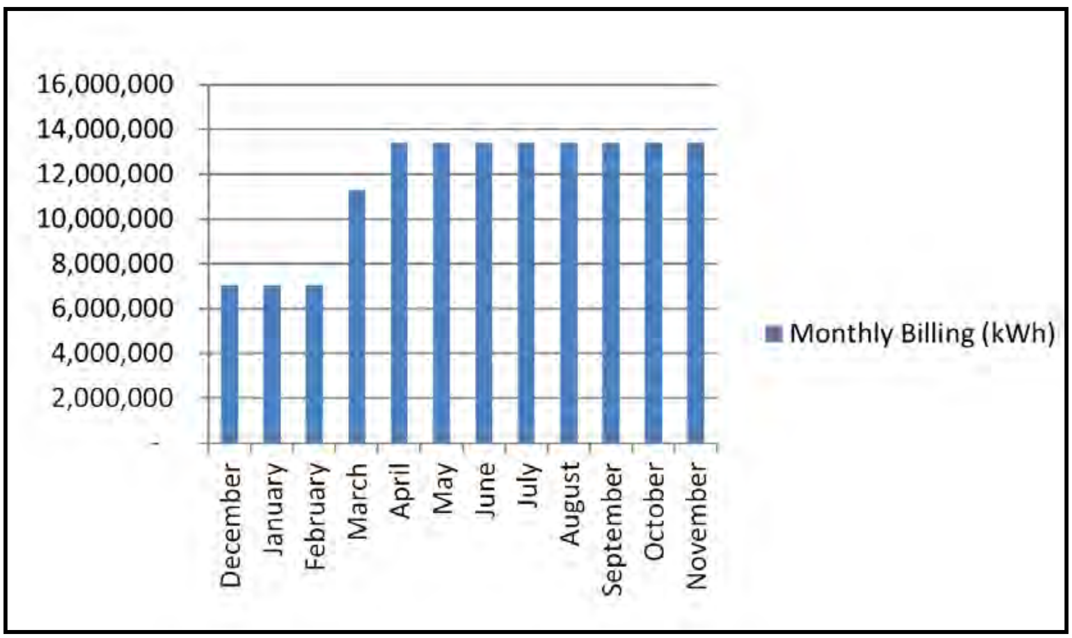
The estimated annual load profile for Years 1 through 4 is provided in Figure 18.8.

Figure 18.8 Load Profile Years 1 to 4



The estimated annual load profile for Year 8 to the end of LOM is provided in Figure 18.9.

Figure 18.9 Load Profile Year 8 to End of LOM



18.13 Process Control and Instrumentation

18.13.1 Overview

The plant control system will consist of a Distributed Control System (DCS) with PC based Operator Interface Stations (OIS) located in three separate control rooms:

- primary crusher control room
- tertiary crusher control room
- central control room (process building)

The DCS, in conjunction with the OIS, will perform all equipment and process interlocking, control, alarming, trending, event logging, and report generation. DCS Input/Output (I/O) cabinets will be located in electrical rooms throughout the plant and interconnected via a plant wide fibre optic network.

Field instrumentation will consist of microprocessor based "smart" type devices. Instruments will be grouped into process areas and wired to local field instrument junction boxes located within those areas. Signal trunk cables will connect the field instrument junction boxes to DCS I/O cabinets.

Intelligent type MCCs will be located in the electrical rooms throughout the plant. MCC remote operation and monitoring will be via Profibus (or other approved industrial communications protocol) interface to the DCS.

Programmable logic controllers or other third-party control systems supplied as part of mechanical packages will be interfaced to the plant control system via Ethernet network interfaces.

18.13.2 Primary Crushing Facility

A control room in the primary crushing building will be provided with a single OIS. Control and monitoring of all primary crushing and conveying operations (including discharging onto the 100 d storage area and secondary crusher in feed) will be conducted from this location. Control and monitoring functions will include the following:

- plugged chute detection at all transfer points
- zero speed switches, side travel switches, emergency pull cords, and belt rip detection of all conveyors
- weightometers on selected conveyors to monitor feed rates and quantities
- equipment bearing temperatures and lubrication system status
- vendors' instrumentation packages.

18.13.3 Tertiary Crushing Facility

A control room in the tertiary crushing building will be provided with a single OIS. Control and monitoring of all tertiary crushing and conveying operations (including discharging onto the heap leach pads) will be conducted from this location. Control and monitoring functions will include:

- plugged chute detection at all transfer points
- zero speed switches, side travel switches, emergency pull cords, and belt rip detection of all conveyors
- weightometers on selected conveyors to monitor feed rates and quantities
- equipment bearing temperatures and lubrication system status
- vendors' instrumentation packages.

18.13.4 Process Plant

A central control room in the process building will be provided with three OIS. Control and monitoring of all processes within the remote ancillary areas will be conducted from this location.

Control and monitoring functions will include:

- pregnant solution pumps
- entire ADR facility
- barren solution tank and pumps
- fresh fire and potable water systems
- variable speed pumps
- instrument and plant air systems
- dust collection systems
- water treatment plant.

18.14 Communication

A number of integrated systems will be provided for on- and off-site communication at the Eagle Gold site.

A trunked radio system consisting of hand held, mobile and base radios will provide wide area coverage for on-site communication by operations. The trunked radio system will be interfaced to the on-site voice over internet protocol (VoIP) telephone system.

The VoIP telephone system will feature four-digit dialing within the mine site, access code-based long distance calling, and voice mail services. For connectivity the telephone system will utilize the site local area network (LAN).

A site LAN will be provided to consolidate services into a single network infrastructure. Computers, cameras, telephones and any Internet protocol (IP) device requiring connection to the corporate network will utilize the LAN. Further to the hardwired portion of the LAN, wireless access points will be placed in common areas such as the recreation hall, administration area, dining area and construction office.

Voice and data communications to the mine site will be established via a microwave radio link. A tower mounted microwave antenna and radio equipment at the site along with a repeater station that is proposed to be installed at Mount Haldane, will be utilized to establish a voice and data link to Mayo where total north has an established communication network.

19.0 MARKET STUDIES AND CONTRACTS

Gold production from the Eagle Gold Project is likely to be sold on the spot market through marketing experts retained by Victoria Gold. Gold can be readily sold on numerous markets throughout the world and its market price at any particular time is easily and reliably ascertained. The large numbers of available gold purchasers, both domestically and internationally, allow for gold production to be sold on a regular and predictable basis, and on a competitive basis with respect to the spot price.

Victoria Gold expects that terms contained within any sales contract that could be entered into would be typical of, and consistent with, standard industry practices, and be similar to contracts for the supply of gold elsewhere in the world.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 OVERVIEW

The Project involves the design, construction, operation, closure, and reclamation of a gold mine in central Yukon. The economic opportunities stemming from the Project will benefit the citizens of Yukon and the NND. The Project will be completed in an environmentally and socially responsible manner while meeting Victoria Gold's corporate objectives.

From 2007 onwards, Victoria Gold and its predecessor, StrataGold (now a wholly-owned subsidiary of Victoria Gold) has prepared (and now maintains) a comprehensive set of baseline studies for climate, hydrology, soils, surficial geology, vegetation, wildlife, groundwater, water quality, aquatic ecology, socio-economic conditions, historical, and paleontology resources. Additional water and climate data is currently being collected. The baseline characterization included historical data sets collected from 1993 to 1996 and was supported by regional analyses.

In December 2010, after a few years of baseline data collection, and with a completed prefeasibility study (Scott Wilson 2010) (conforming to NI 43-101 Standards of Disclosure for Mineral Projects), Victoria Gold submitted a project proposal to the YESAB to begin the environmental assessment process. Since this proposal was submitted, the following key regulatory milestones within the *Yukon Environmental and Socio-economic Assessment Act* (YESAA) process have been achieved:

- January 21, 2011 – The YESAB Executive Committee determined that Victoria Gold met the statutory requirement under s. 50(3) of YESAA relating to consultation.
- July 18, 2011 – The adequacy review was completed and YESAB published a notice of screening.
- December 16, 2011 – The YESAB Executive Committee determined that the additional supplementary information provided in response to the first public comment period was adequate, and that there was sufficient information to enable YESAB to begin preparation of the draft screening report.

YESAB is currently preparing the draft screening report which Victoria Gold expects to be completed in 2012. Once the draft screening report is complete, one more round of information requests and responses will likely be required before the report is finalized.

Victoria Gold is preparing Quartz Mining License (QML) and Water Use Licence (WUL) applications, and expects to file these applications to the Government of Yukon Energy, Mines and Resources and to the Yukon Water Board beginning in late 2012. Victoria Gold anticipates receipt of a QML Part I in time for initial construction activities to begin at the end of 2012. Victoria Gold expects to obtain the QML Part II and the WUL in 2013.

The Project will also trigger requirements for an authorization under s. 35(2) of the *Fisheries Act*. The Fish Habitat Compensation Plan (FHCP) is the key mitigation measure to prevent significant effects to fish and fish habitat. A conceptual FHCP has been submitted and received approval from Fisheries and Oceans Canada (DFO). A detailed FHCP is currently being prepared.

Avoiding or mitigating adverse environmental effects has been a primary concern driving project designs. An environmental effects analysis evaluated valued environmental and socio-economic components, including air quality; water quality, aquatic biota, fish and fish habitat; vegetation resources; wildlife resources; heritage resources; employment and economic opportunities; traditional activities and culture; community vitality; human health and well-being; and infrastructure and services. In all cases the adverse effects that could not be avoided could be mitigated to the point that the residual effects were not significant. Consequently, the Project produces no significant effects. The Project's closure and reclamation plan—a major mitigation achieving this end—will return the site to a landscape comparable to the surrounding area and that supports ecological functions equivalent to or greater than that at the site prior to the Project.

One of the most important issues was water quality. Extensive design work and mitigations have been planned to assure that potential mine discharges, sediment load, and metal leaching are either avoided or treated so that water quality is maintained. Acid rock drainage (ARD) is not predicted to occur.

Extensive planning has also gone into ensuring that the Project does not negatively affect the local communities and lives of area citizens. The Project will not adversely effect area infrastructure and roads, medical, fire, police, electrical power, educational services, or community vitality. The Project will positively effect employment and contracting opportunities, and royalty and tax revenue. Victoria Gold is committed to ensuring that the local community shares in the opportunities the Project provides, and the Project will benefit both local and regional economies.

Since 2008, the Project has benefited from consultations with the NND and the Village of Mayo, and from the guidance of Government of Yukon agencies. The ongoing availability and responsiveness of agency representatives facilitated the development of the proposal and an understanding of what was required for producing a complete and sound assessment.

In October 2011, Victoria Gold and the NND announced the completion of a CBA for the Project and ongoing exploration within NND Traditional Territory. The CBA replaces the earlier Exploration Cooperation Agreement, and sets out support for mine development and ongoing exploration within NND's Traditional Territory south of the Werneke Mountains, which includes all of Victoria Gold's existing mineral exploration properties in Yukon.

20.2 Regulatory Requirements

The regulatory approval process for major hard rock mines in Yukon occurs in two stages:

- assessment under YESAA
- territorial license and permit approvals including, but not limited to, the *Quartz Mining Act* (administered by the Government of Yukon) and the Yukon *Waters Act* (administered by the Yukon Water Board).

In the first stage, YESAA provides a broadly scoped planning process whereby affected governments (territorial, federal or First Nations) use an assessment report prepared by an arms-length assessment body (YESAB) to evaluate whether a project can proceed to the regulatory approvals process (permits, authorizations and licences). Government agencies make the final YESAA assessment decisions by issuing a “decision document” and continue to manage their respective permitting and licensing processes.

The second stage involves acquiring the following major approvals:

- QML – required under the Yukon *Quartz Mining Act* and administered by the Government of Yukon Department of Energy, Mines and Resources
- WUL – required under the Yukon *Waters Act* and administered by the Yukon Water Board and Secretariat
- authorization for the harmful alteration, disruption or destruction (HADD) of fish habitat – required under s. 35(2) of the *Fisheries Act* and administered by the DFO
- authorization for work in navigable waters – required under the *Navigable Waters Protection Act* and administered by Transport Canada
- Explosives Factory and Storage License – required under the *Explosives Act* and administered by NRCan.

The assessment and permit approval processes can occur concurrently, however, permits and licences cannot be issued until after the YESAA assessment is complete, and a positive assessment decision issued. YESAA includes regulated timelines and assuming information requirements are met, and a concurrent assessment and permitting approach is used, WULs and QMLs will follow.

The Project currently has an approved Class 4 Operating Plan under the Yukon *Quartz Mining Act* for its advanced exploration activities at the site, including the camp operations. The current operating plan is in effect until 2021.

20.2.1 CURRENT STATUS OF ENVIRONMENTAL ASSESSMENT

The Project is currently undergoing assessment under the YESAA administered by the YESAB, and is in the second phase of the screening stage. The YESAB is currently preparing a draft screening report expected to be completed in 2012.

Once a decision document that either accepts or varies the YESAB recommendation is complete, the regulatory approvals may be granted.

20.2.2 ADDITIONAL FEDERAL AND TERRITORIAL PERMITS, LICENCES AND AUTHORIZATIONS

There are a number of additional territorial and federal approvals, permits and authorizations which will be required for the access road, mine infrastructure and mine operations, which are considered to be predominantly technical in nature. Table 20.1 provides a list of all anticipated permits, licences and authorizations required for the Project which have been identified based on the Project description to date.

Table 20.1 Federal and Territorial Permits

Authorization	Regulation	Authority	Description
QML	*Quartz Mining Act*	Energy Mines and Resources, Government of Yukon	Mine construction, operation, decommissioning and closure
WUL – Type A	Yukon *Waters Act*, Waters Regulation	Yukon Water Board	Water use and deposit of waste
Section 35(2) Authorization	*Fisheries Act*	DFO	Stream works and works related to water and fish habitat
Section 5(2) Approval	*Navigable Water Protection Act*	Transport Canada	Working in relation to navigable water crossings
Work in Highway Right of Way Permit, Access Permit	*Highways Act*, Highways Regulation	Highways and Public Works, Government of Yukon	Potential work on the access road or in the road right of way; may also require signage permits
Land Use Permit Quarry Permit or Quarry Lease	*Territorial Lands (Yukon) Act*, Land Use Regulations	Energy Mines and Resources, Government of Yukon	Land use related works not covered by the QML (such as access road work or to utilize borrow pit resources

table continues…

Authorization	Regulation	Authority	Description
Commercial Timber Permit	*Territorial Lands (Yukon) Act*, Timber Regulations	Energy Mines and Resources, Government of Yukon	Cutting timber - clearing and grubbing
Air Emissions Permit	*Environment Act*, Air Emission Regulations	Environment Yukon, Government of Yukon	Potential emissions (diesel generator, fuel use, or quarry use over 4 ha)
Burning Permit	*Forest Protection Act*, Forest Protection Regulation	Department of Community Services, Government of Yukon	Burning (waste from clearing and grubbing; may be seasonal requirements)
Highways Hauling	*Highways Act*, Bulk Commodity Haul Regulations, Highways Regulation	Highways and Public Works, Government of Yukon	Hauling of equipment and supplies, including for overweight loads
Archaeological Sites Permit	*Yukon Historic Resources Act*	Department of Tourism and Culture, Government of Yukon	Search for and research at archaeological/ paleontological sites
Storage Tank Systems Permit	*Environment Act*, Storage Tank Regulation	Department of Community Services, Government of Yukon	Storage and handling of petroleum products (fuel); may be covered in the QML
Solid Waste Disposal Permit	*Environment Act*, Solid Waste Regulation	Environment Yukon, Government of Yukon	Waste disposal for construction and for site facilities
Special Waste Permit	*Environment Act*, Special Waste Regulations	Environment Yukon, Environmental Programs, Government of Yukon	Special waste handling, disposal, and storage, generation
Permit/Certificate for Transport of Dangerous Goods	*Dangerous Goods Transport Act*	Highways and Public Works, Government of Yukon	For waste storage, may also need permit for Bill of Lading, driver training, placarding; federal transport legislation may also apply
Temporary Magazine License, Factory License, ANFO permit	*Explosives Act*	NRCan, Explosives Regulatory Division and Minerals and Metals Sector	Manufacture and storage of explosives
Blasters Permit	*Occupational Health and Safety Act*, Blasting Regulations	Workers' Compensation Health and Safety Board	Use of explosives to move material
Registered or Certified Aerodrome/Helidrome	*Aeronautics Act*, Canadian Aviation Regulations	Transport Canada, Civil Aviation, Regulatory Affairs	Airstrip use or helipad, may be needed for use of established airstrips
Permit to Install a Sewage Disposal System	*Public Health and Safety Act*, Sewage Disposal System Regulation	Department of Health and Social Services, Government of Yukon	On-site sewage disposal system

table continues…

Authorization	Regulation	Authority	Description
Building Permit, Plumbing Permit	*Building Standards Act, Electrical Protection Act*	Department of Community Services, Government of Yukon	Building outside of a municipality, plumbing, electrical work
Gas Installation Permit, Gas Burning Devices Permit	*Gas Burning Devices Act*	Department of Community Services, Government of Yukon	Gas piping and burning (infrastructure)
Pressure Vessel Boiler Permit	*Boiler and Pressure Vessel Act*	Department of Community Services, Government of Yukon	Boilers (infrastructure)
Compliance with Public Health Regulations	*Yukon Public Health and Safety Act*, Regulations Respecting Public Health	Department of Health and Social Services, Government of Yukon	Public health, sanitation, facilities, will also need a permit to operate a food premise
Registration with the Yukon Workers' Compensation Health and Safety Board	*Workers' Compensation Act,* Occupational Health and Safety Act and Regulations	Yukon Workers' Compensation Health and Safety Board	Work site and employees

Note: The table also includes a number of non-environmental authorizations, such as building permits for reference purposes

20.3 Environmental Baseline Study Results

A large amount of environmental baseline information was collected throughout the Project area during the 1990s by First Dynasty Mines Ltd. Data gaps in this information were identified by StrataGold in 2007 and baseline studies began again during summer 2007. After the acquisition of StrataGold, Victoria Gold completed the baseline studies, including data collected up through December 2010, to support the submission of a project proposal under the YESAA in December 2010. Past studies combined with work recently completed through December 2011 has produced a comprehensive environmental baseline database that is being used to assess the existing environmental resources and conditions potentially affected by the Project, as well as providing important data requirements for the design of various facilities.

The baseline reports, and the topics they address, are:

- climate
- surficial geology, terrain, and soils
- hydrology
- hydrogeology
- water quality and aquatic ecology
- fisheries

- wildlife
- vegetation
- historical resources
- paleontological resources
- socio-economic.

20.4 WATER MANAGEMENT PLAN

20.4.1 OVERVIEW

CLASSIFICATION OF WATER

The classification of water based on origin, use, process, or quality is essential to ensure that each stream of water is managed appropriately. The generic classifications of the various water streams that may be impacted or generated through mining activities are listed in Table 20.2.

Table 20.2 Classification of Site Water

Water Classification	Sources	Potential Contaminants	Treatment Requirements
Non-contact Waters	Rain water, snowmelt, permafrost, groundwater seepage	-	-
Potable Water	Treated groundwater	None	None
Contact Waters also referred to as Mine-influenced Waters (MIW)	See below	See below	See below
Clean Mine Water	Undisturbed areas within the Project footprint	None	None
Sediment-laden Water	Surface runoff from disturbed areas (i.e. roads, laydown areas, stockpiles, etc.)	Suspended solids	Sediment removal
Neutral Mine Drainage (NMD)	Metal-bearing leachate that is generated at neutral pH as water flows through waste rock piles and ore stockpiles	Metals, hardness	Active or passive water treatment
ARD	Acidic leachate that is generated by the oxidation of metals contained in disturbed rock. ARD is not anticipated at the Project site and is presented here for completeness.	Not applicable	Not applicable

table continues…

Water Classification	Sources	Potential Contaminants	Treatment Requirements
Process Water	Pregnant/barren solution used in the heap leach gold recovery operations; wash water from the 100 d storage facility and the conveyor alignment	Cyanide complexes, metals and metalloids; salinity; suspended solids	Full detoxification and metal removal
Wash Down Water	Vehicle and workshop wash down	Suspended sediment; hydrocarbons	Sediment removal (settling pond); oil-water separation
"Grey" Water	Camp facilities (showers, wash basins, laundries, kitchens)	Solids; biological agents	Septic system
Domestic Effluent (sewage)	Camp sanitary facilities	Fecal coliforms, biological agents	Solids removal; disinfection
Industrial Effluent	Work shop facilities	Industrial agents – hydrocarbons, metals, etc.	Varies depending on source

Notes: Shaded cells depict mine-influenced/contact water sources.

WATER MANAGEMENT STRATEGY

For the purposes of the Water Management Plan (WMP), the Project area has been subdivided into a number of hydrologic catchment units. Each unit is assessed individually and systematically managed to achieve the objectives described below.

The catchments may be undisturbed areas (i.e. Upper Dublin Gulch) or areas containing mine infrastructure (heap leach area, WRSAs, open pit, etc.) or material storage (reclamation materials and overburden stockpiles). In general, these areas are hydrologically divided such that any runoff generated in a given catchment remains in that catchment until it is collected and transferred into a separate catchment located downstream via controlled drainage outlet, pumping system or conveyance channel.

The development of the primary mine infrastructure will have a large effect on the control of surface water drainage. Runoff generated in these areas must be captured and diverted to ensure safe operations. Water, as a resource, is essential for the operation of the mine; therefore, some water must be harvested or sequestered to provide make up water to sustain mining and metallurgical processes. The performance objectives and functional requirements of the WMP were discussed in Section 18.6.1.

While closely linked to the WMP, measures for treating contact streams including metal-laden waters, domestic and industrial waste waters, process water, or any other mine-influenced water (with the exception of sediment-laden waters) are the domain of specialized water treatment processes summarized in section 20.6, below. The contact water streams are identified in this plan and each stream will be directed to an appropriate treatment process that is tailored to treat the constituent contaminants.

20.4.2 Water Management Schedule

The WMP for the Project is subdivided into six discrete stages of development starting with construction, progressing through three operational phases, ending with an active closure stage that will effectively end the LOM in the post-closure condition. The following sections describe the key features of the WMP as it evolves throughout the LOM.

Construction Phase

During the Construction Phase Victoria Gold will establish key mining infrastructure, including site access roads, drainage, and fixed infrastructure (crushing facilities, conveyor system, heap leach pad, process facilities, etc.). Erosion and sediment control will be of paramount concern during this phase; correspondingly, water management infrastructure that intercepts sediment-laden runoff and routes it to sediment control ponds will be essential. In general, much of the water management infrastructure constructed during this phase will be temporary as larger, more permanent water management features are being constructed. The effective water management strategy for Year -2 and Year -1 of the Construction Phase are shown on Figure 20.1 and Figure 20.2, respectively.

Operational Water Management Phases I, II, and III

Water management will be expanded in three phases during operation which coincide with the three construction phases of the HLF. In general, all fixed support infrastructure, including permanent water management facilities, will be in place at the outset of Phase I (Figure 20.3). The expansion of the open pit, WRSAs, and the HLF will expand each year of operations through the end of Phase III of operations (Figure 20.4 and Figure 20.5).

It is anticipated that progressive reclamation will commence in select areas of the mine site following Phase I operations. Although this has not been accounted for in the WMP, it is expected to have a net beneficial effect on the overall water management regime.

Following the cessation of mining, supplemental gold recovery will continue at the HLF until such time that it is no longer economically-feasible to continue the leaching process. Following that point, the mine will transition into the Closure Phase.

Figure 20.1 WMP – Construction Phase Year -2

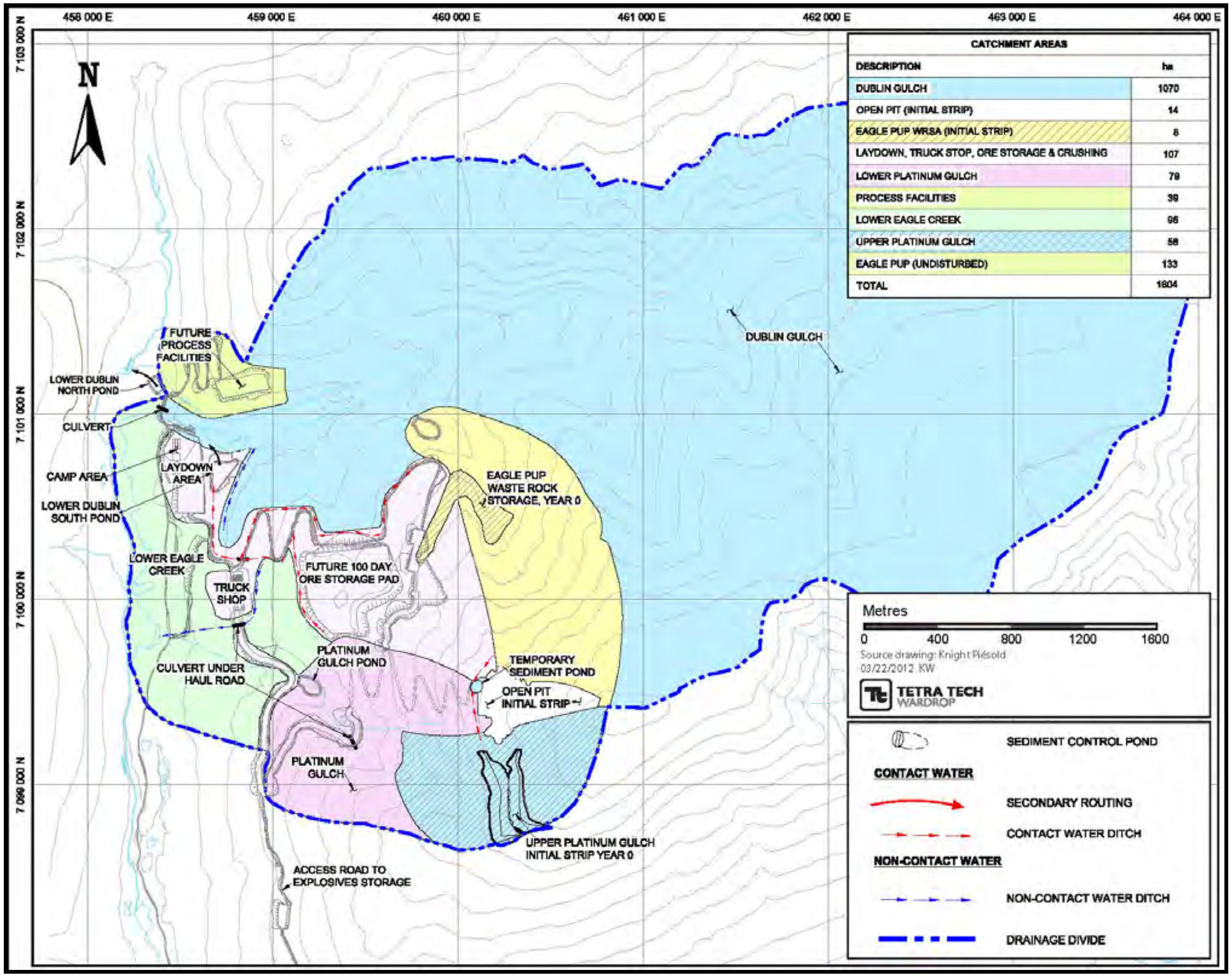


Figure 20.2 WMP – Construction Phase Year -1

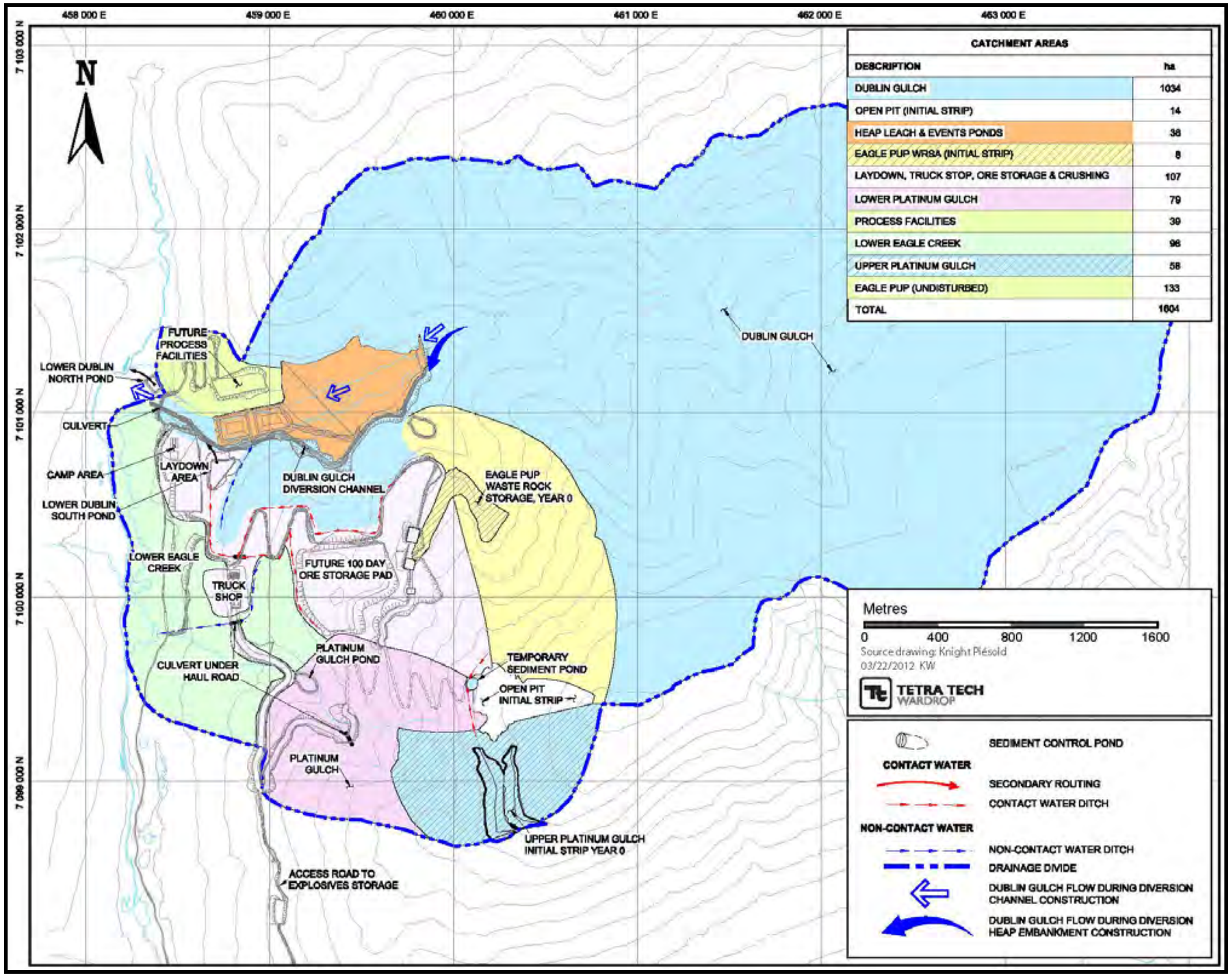


Figure 20.3 WMP – Operations Phase I

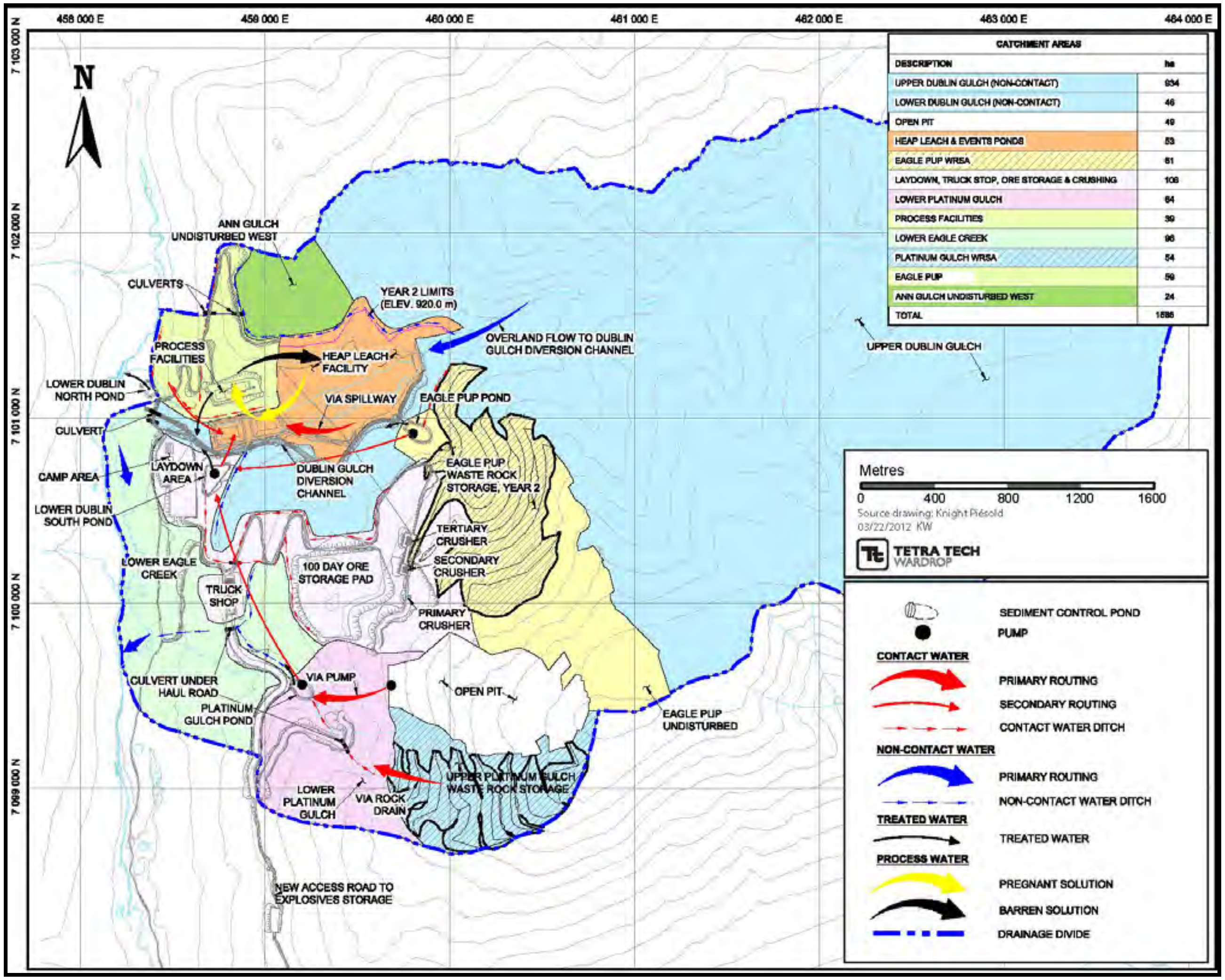


Figure 20.4 WMP – Operations Phase II

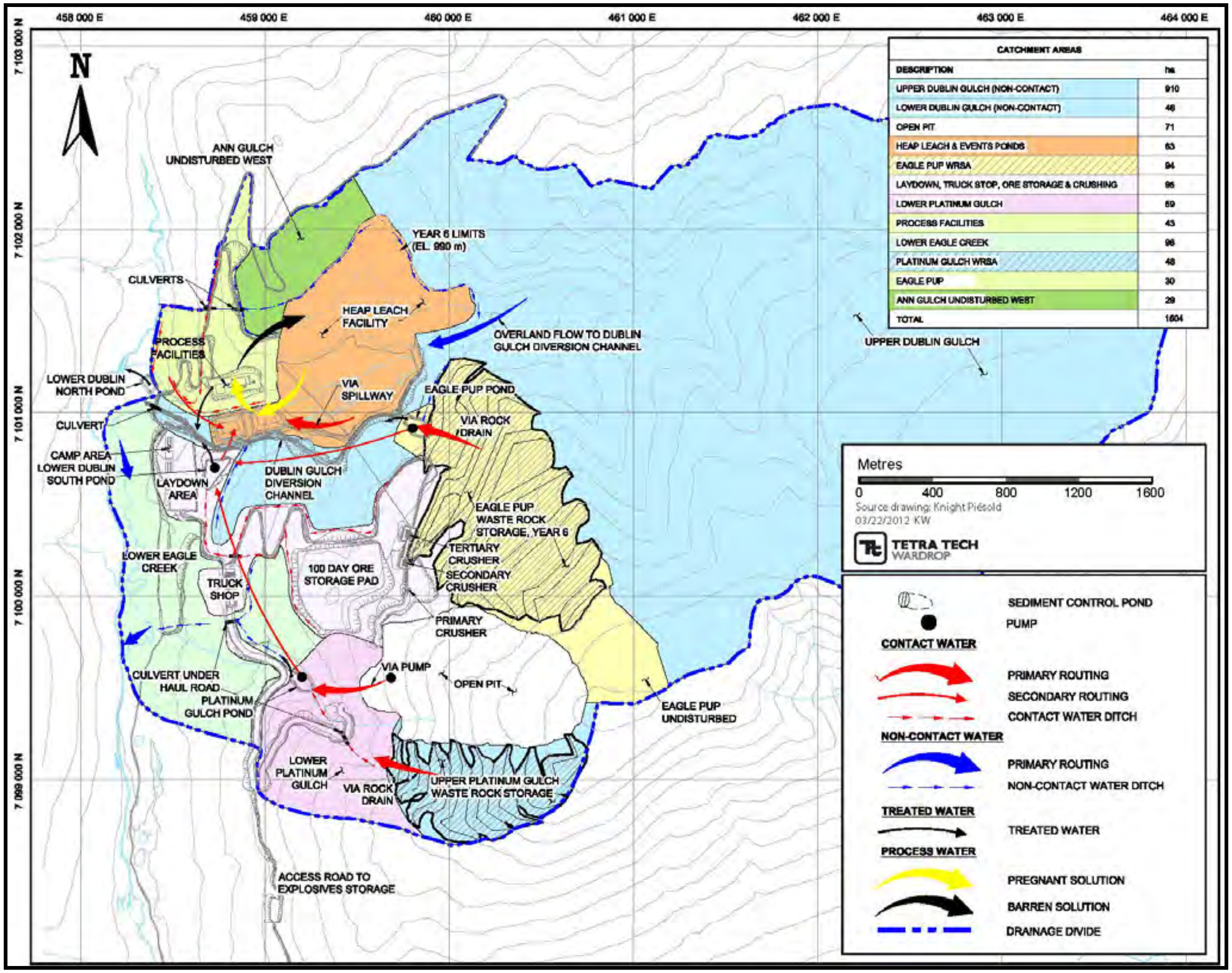
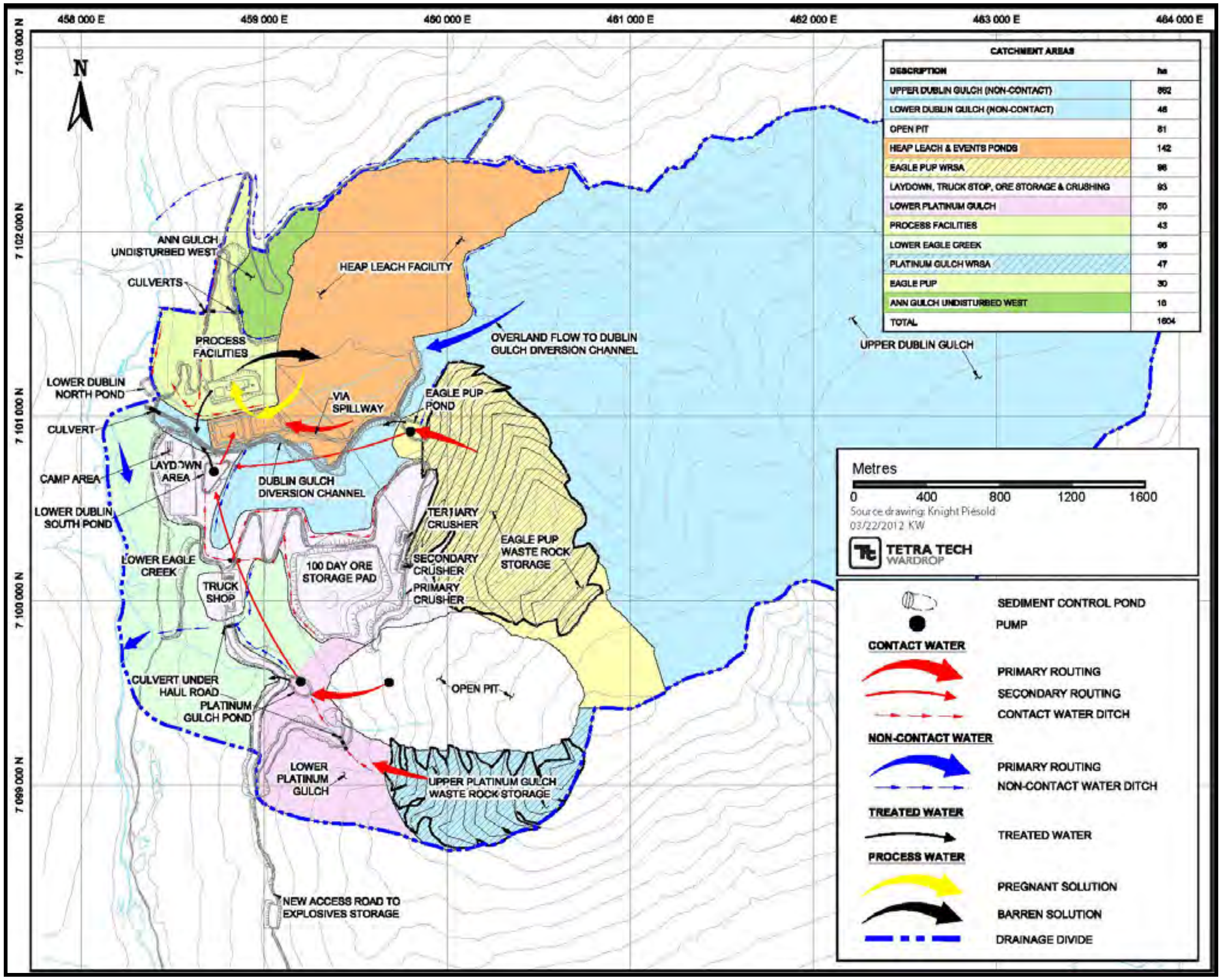


Figure 20.5 WMP – Operations Phase III



CLOSURE

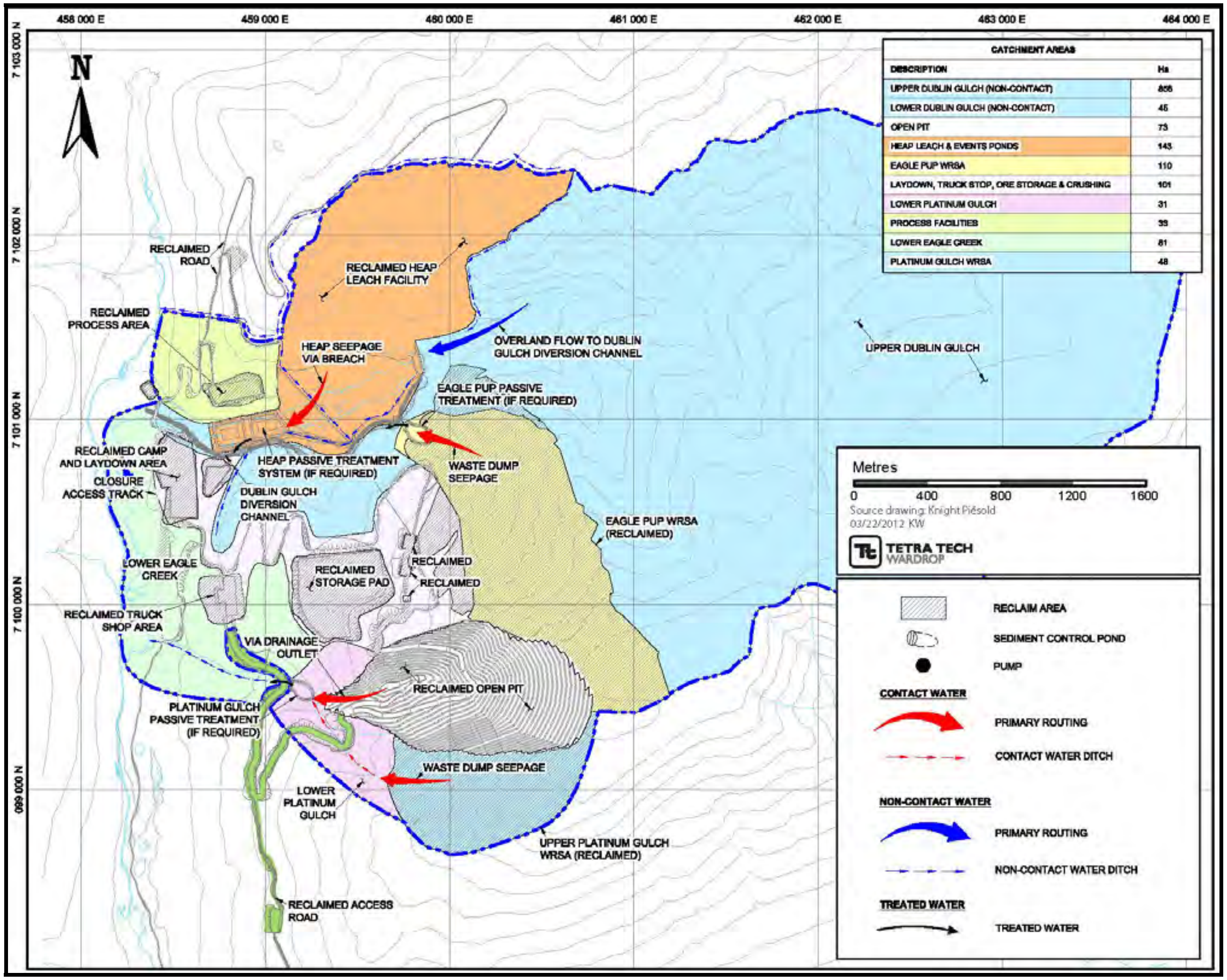
Site-wide reclamation will commence at the outset of the Closure Phase in all areas with the exception of the HLF, events ponds and water treatment/detoxification facilities. The heap will undergo a rinse stage in which most by-products of the leach process are removed or destroyed using physical, chemical and/or biological processes. The rinse stage will continue until such time that the heap effluent quality is suitable for environmental discharge or passive treatment measures, if required.

Following rinsing, draindown will commence and then after one or two years a cover system will be installed on the surface of the HLF. Drain down is the effective dewatering of the in-heap storage such that the heap no longer retains the large volume of water as it did through operations. This is required to improve the long-term stability of the closed HLF. The cover system will be designed to shed surface runoff away from the heap leach pad while reducing the quantity of surface water that is allowed to infiltrate into the closed heap. Once the cover is stabilized and vegetated, the runoff from the cover could be allowed to discharge out into the Dublin Gulch Diversion Channel or towards Haggart Creek, depending on site specific closure objectives (Figure 20.6).

WARDROP
A TETRA TECH COMPANY

Victoria GOLD CORP

Figure 20.6 WMP Post-Closure Phase



20.4.3 WATER BALANCE

WATER SUPPLY

Aquifer tests were completed in 2010 and 2011 on the lower Dublin Gulch valley aquifers to evaluate the yield and quality of groundwater, and test the feasibility of groundwater as a source of potable and process water. Testing concluded the aquifers were adequate to meet potable and process water demands.

WATER DEMAND

The Project includes up to a 400-person camp during the Construction Phase and decrease to a maximum 250-person camp for operations. The potable water will be drawn from groundwater wells, disinfected with chlorine solution and pumped to a potable water storage tank. Based on an average usage rate of 300 L/d per person, the camp water requirements will be at a maximum of approximately 120 m^3/d during the construction phase and approximately half that rate during operations.

HEAP WATER BALANCE MODEL

A spreadsheet-based water balance model was developed that accounts for a three phase heap leach pad and a 100 d stockpile, with an ore production rate of 29,500 t/d for 350 d/a (Tetra Tech 2012). The model is shown conceptually in Figure 20.7. The water balance model incorporates all inflows and outflows to this system described above and determines the amount of water available for recycle. The recycle water is assumed to be available for application to the ore in order to reach optimal leaching water content. The remaining water requirements will be fulfilled using freshwater, with monthly and yearly quantities summarized.

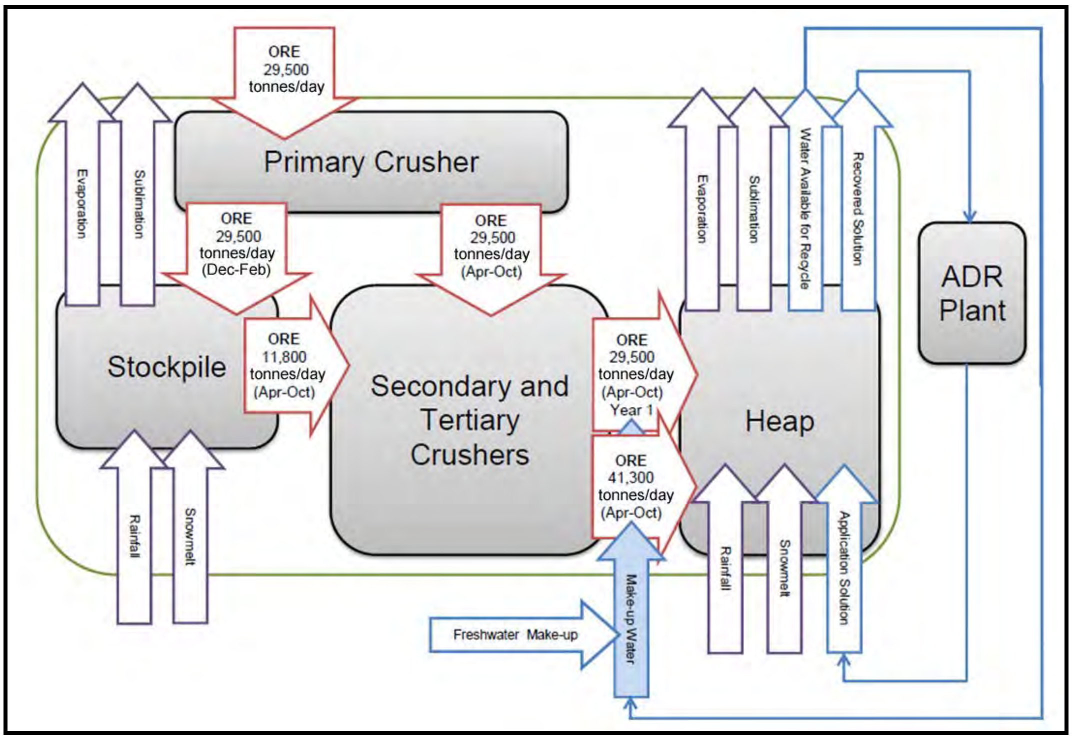
The water balance model inflows include:

- Ore Water – Water that naturally occurs in the processed ore (assumed to be 5%).
- Rainfall – Rainfall that is collected within each contributing area. The watersheds are bound by the diversion channels and natural topography.
- Snowmelt – Snow accumulates over the winter, but is not released into the system as water until it melts during the warmer months. Snowfall within the contributing areas is considered input into the water balance.
- Leaching Application Solution – The solution applied to the heap to leach the ore.
- Make-up Water – The water that will be applied to the ore to raise the water content of the ore to the optimal leaching water content (13.3%). It consists of a mix of recycle water from the heap and fresh water.

The water balance model outflows are:

- Evaporation (from precipitation) – Precipitation that vaporizes on the top surface area of the ore due to high temperatures.
- Evaporation (from leaching solution) – Percent of leaching solution that vaporizes upon application.
- Sublimation – Water that vaporizes from the winter snowpack, reducing snowpack available for snowmelt.
- Recovered Leachate Solution – Solution that contains minerals extracted from the ore after the leaching process.

Figure 20.7 HLF Water Balance Model Schematic



The total amount of water available after the leachate has been recovered is assumed to be available for recycle in the make-up water. This also assumes that ore being leached at any given time does not retain water from environmental contributions. Lastly, any water not completely used in a given month is assumed to be available for use in the following month. This excess water may possibly be stored in the event ponds or as determined by Victoria Gold.

The heap leach pad will be constructed and stacked in three phases. The model assumes that temporary diversion channels will be placed upstream of each lined pad phase area. These diversion channels serve as a boundary to identify the contributing watershed areas. Since each area down gradient of the diversion channels is lined, all precipitation that falls within that area is assumed to add to the water balance.

Phase I Results

Phase I exhibits roughly the same pattern in freshwater demand each year. In the first year, the water demand appears smaller than the subsequent years due to not having a contributing stockpile from the previous winter.

Year 1 monthly water demand extremes are:

- maximum freshwater make-up requirement of 69,521 m^3
- minimum freshwater make-up requirement of 28,188 m^3
- yearly minimum freshwater make-up requirement of 0 m^3.

Phase I monthly water demand extremes:

- maximum freshwater make-up requirement of 88,169 m^3
- minimum freshwater make-up requirement of 28,188 m^3
- yearly minimum freshwater make-up requirement of 0 m^3 (years 1-2).

Phase II Results

Freshwater demand shows the same pattern year to year during Phase II.

Phase II monthly water demand extremes:

- maximum freshwater make-up requirement of 87,585 m^3
- secondary peak maximum freshwater make-up requirement of 62,708 m^3
- minimum freshwater make-up requirement of 0 m^3
- yearly minimum freshwater make-up requirement of 0 m^3.

Phase III Results

Freshwater demand exhibits the same pattern again year to year during Phase III.

Phase III monthly water demand extremes:

- maximum freshwater make-up requirement of 87,371
- secondary peak maximum freshwater make-up requirement of 57,178 m^3
- minimum freshwater make-up requirement of 0 m^3
- yearly minimum freshwater make-up requirement of 0 m^3.

Total Freshwater Required

Overall, water available for reuse increases every year, resulting in a decreasing need for freshwater make-up. Year 2014 requires the greatest amount of make-up water, at nearly 673,000 m^3 for the year. This decreases to only 254,000 m^3 in Year 2021. Table 20.3 shows the total freshwater make-up requirements for each year.

Table 20.3 Total Freshwater Volume Requirements

Year	Total Make-up Moisture (m^3)
2013	511,346
2014	672,682
2015	395,599
2016	449,032
2017	465,523
2018	476,259
2019	334,876
2020	306,084
2021	254,118

SITE-WIDE WATER BALANCE MODEL

Baseline environmental data (precipitation, snowfall, temperature, evaporation, etc.), collected at the Project site (2007 to 2010) were used, in conjunction with long-term regional data to characterize climatic conditions for the Project site. The potential variability of climatic conditions was addressed by using a stochastic version of the water balance model. The WBM utilizes a Monte Carlo type simulation to model monthly climate parameters as probability distributions rather than simply as mean values.

The WBM operates on a monthly time step from construction through closure. The model yields volumetric discharges at various points within the model. These output values define the design requirements (capacity and timing) for water management and treatment facilities. The proposed mine plan (production schedule, stacking plans, etc.), the HLF process requirements, and the spatial reconciliation of the various mine infrastructure features provide the fundamental structure of the model.

For the HLF and MWTP, the model utilizes an optimized water management scenario to simulate the recycling of excess discharge from the HLF back to the HLF or events ponds in the event that:

- the inflow in any month exceeds the design capacity of the MWTP

- the potential discharge from the MWTP into Haggart Creek is less than 10:1 (i.e.10 parts Haggart Creek flow to 1 part MWTP discharge).

The dilution ratio of 10:1 was selected as a minimum ratio needed to provide sufficient dilution to meet WQGs in Haggart Creek. Victoria Gold is committed to meeting the WQGs in this creek during operations and through closure.

The results of the water balance model indicate that the system (including mine site runoff collected in the Lower Dublin South Pond) is able to supply enough water to satisfy the process water requirements for the heap leach process throughout operations; however, there is an indication that the water balance may be at a deficit in the months presented in Table 20.4. During these months additional make-up water will be required from an external source (i.e. groundwater supply wells).

Table 20.4 Water Balance Model – Median HLF Process Water Requirements

Mine Life Phase	Mine Life (Year)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Additional HLF make-up water required (m^3)	1	0	0	0	59,460	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	0	65,065	39,349	57,768	67,867	71,612	61,563	62,804	35,989	0
Make-up water from mine site water (m^3)		0	0	0	5,605	39,341	57,327	66,590	68,134	56,221	58,921	32,881	0
Additional HLF make-up water required (m^3)	2	0	0	0	72,561	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	84,679	59,339	75,650	83,511	90,170	80,770	82,092	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	8,750	59,197	74,868	82,333	89,333	79,020	80,122	45,440	0
Additional HLF makeup water required (m^3)	3	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	78,130	0	16,134	35,087	54,648	51,102	73,089	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	75,206	0	16,134	35,087	54,364	50,117	70,697	45,962	0
Additional HLF make-up water required (m^3)	4	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	78,470	0	17,740	41,247	59,303	51,310	73,031	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	77,437	0	17,740	41,247	59,216	51,002	71,650	45,965	0
Additional HLF make-up water required (m^3)	5	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	78,694	0	22,145	44,555	63,976	54,098	73,121	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	78,632	0	22,145	44,555	63,447	52,834	70,960	45,958	0
Additional HLF make-up water required (m^3)	6	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	79,104	0	26,891	49,892	65,615	54,379	73,391	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	78,122	0	26,891	49,873	65,455	53,924	72,153	45,965	0
Additional HLF make-up water required (m^3)	7	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	79,078	0	0	30,830	48,188	41,012	70,405	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	78,988	0	0	30,830	47,977	40,430	68,264	45,965	0

table continues…

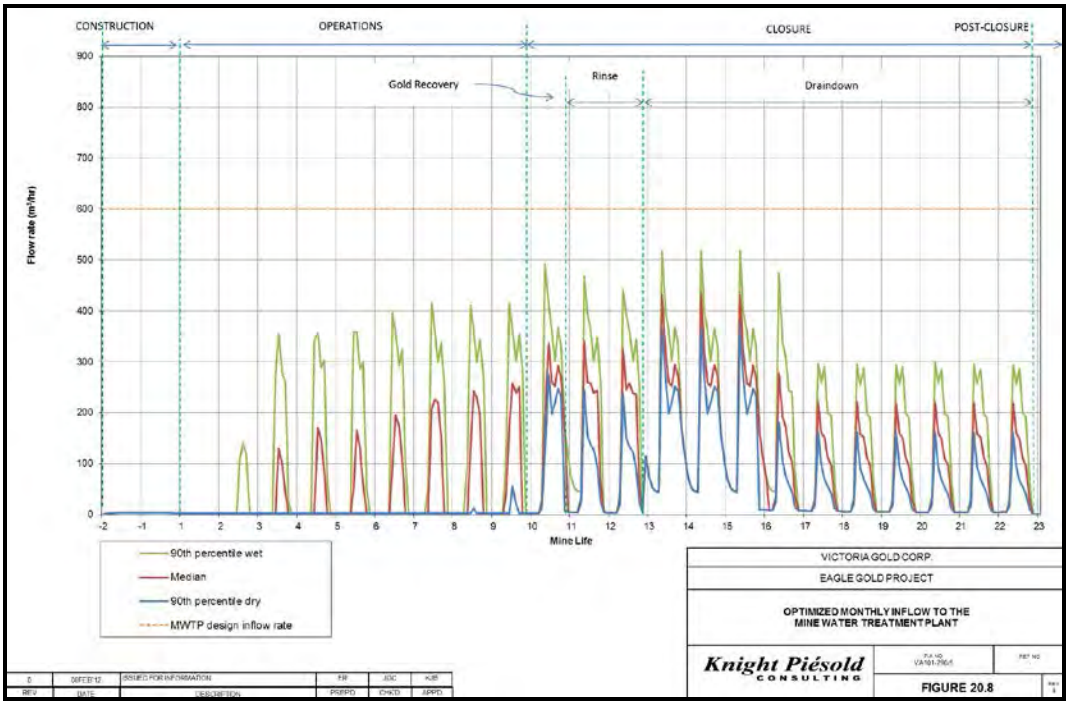
Mine Life Phase	Mine Life (Year)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Additional HLF make-up water required (m^3)	8	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	76,270	0	0	21,194	42,821	39,007	69,852	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	75,026	0	0	21,194	42,811	38,648	67,794	45,966	0
Additional HLF make-up water required (m^3)	9	0	0	0	0	0	0	0	0	0	0	0	0
HLF deficit (m^3)		0	0	88,965	75,638	0	0	3,240	31,418	34,767	69,683	45,965	0
Make-up water from mine site water (m^3)		0	0	88,965	74,485	0	0	3,240	31,418	34,654	68,187	45,966	0

Notes: Mine operations assumed to begin March of Year 1.
HLF stacking ceases November of Year 9.

There are likely to be periods of time when the site water balance is in a surplus, such as those described above for the HLF operation, meaning that there is a quantity of water in the system that is in excess of the process water demands. The quality of this water will be assessed to determine the handling requirements (i.e. satisfactory for discharge to the environment or requiring further treatment prior to discharge). If treatment is required, this excess water will be routed to the MWTP.

The range of possible monthly inflow volumes that are likely to report to the MWTP during operations and closure for the managed and optimized scenario, is presented in Figure 20.8. The results are based upon the median, 10th percentile (90th percentile dry), and 90th percentile precipitation inputs.

Figure 20.8 WBM – MWTP Inflow for Optimized Scenario



In the event that the cumulative inflows (HLF infiltration and other possible sources) to the MWTP exceed the design capacity of the MWTP or result in a dilution ratio in Haggart Creek that falls below the minimum dilution threshold, the model triggers operational rules that recirculates excess solution discharge back through the HLF and events ponds circuit. The excess water is held temporarily until there is sufficient capacity in the MWTP to treat it and/or sufficient flow in Haggart Creek to provide the required dilution. Figure 20.8 illustrates the MWTP inflow/discharge with these constraints under the 90th percentile and median precipitation conditions.

The model results suggest that the treatment requirements during managed condition under very wet conditions are unlikely to exceed the design capacity of the MWTP while achieving a suitable dilution ratio upon discharge to the environment at Haggart Creek.

20.4.4 STORM WATER MANAGEMENT

Storm water management infrastructure includes all ditches (diversions—for non-contact water runoff and interceptors—for contact water runoff), ponds, outlet works, and pumping facilities associated with these facilities. This infrastructure is further classified as either permanent (facilities that remain in place throughout the LOM) or temporary (facilities that are installed with the express purpose of facilitating short term water management such as construction-stage sediment and erosion control ponds).

Details of the water management infrastructure specific to storm water management are described in detail in section 18.6.

20.4.5 EROSION AND SEDIMENT CONTROL MEASURES

Erosion management and sediment control at the project site during the initial construction phase will entail a process of isolating disturbed areas and establishing contact water collection ditches, constructing sediment ponds, stabilizing disturbed land surfaces to minimize erosion and re-establishing temporary vegetation covers. All contact water will be diverted to sediment ponds or exfiltration basins.

Sediment mobilization and erosion will be minimized by:

- reducing exposure by isolating areas of land disturbance
- installing water management and sediment controls prior to land disturbance
- limiting the extent of the disturbance to the practical minimum
- reducing water velocity across the ground, particularly on exposed surfaces and in areas where water concentrates
- progressively rehabilitating disturbed land and constructing drainage controls to improve stability of rehabilitated land
- protecting natural drainages and watercourses by constructing appropriate sediment control measures such as interceptor and diversion ditches, holding ponds, sediment traps and sediment basins
- installing riprap, rock channel lining, sediment filters or other suitable measures on steep gradients, as required
- restricting access to rehabilitated areas
- constructing surface drainage controls (e.g. collection ditches) to intercept surface runoff
- constructing silt fences downslope of disturbed sites (where more permanent sediment control measures are not appropriate, or in combination with more permanent measures).

The installation of temporary structural features or "Industry Standard Practices" (ISPs) will provide erosion and sediment control during construction. Typical sediment and erosion design elements and ISPs are described below.

Typical ISPs that will be used at the Project are identified below:

- runoff interceptor ditches (contact water)
- diversion ditches (non-contact water)
- temporary sediment traps and sediment basins
- surface roughening
- silt fencing
- temporary seeding
- mulching
- vegetative buffer zones.

20.5 MINE WATER TREATMENT

20.5.1 WATER QUALITY GUIDELINES

Water Quality Guidelines (WQG) for the Project are not to be exceeded downstream of the outfall location where the MWTP effluent has blended with the out flow of Haggart Creek.

To mitigate the need for advanced treatment the WMP has been developed to maintain the dilution ratio ([Haggart flow + MWTP flow]/MWTP flow) at or above 10:1. This "optimized" water management plan provides the necessary flexibility to allow discharge at lower dilution ratios during periods when effluent concentrations are lower than predicted and to provide greater dilution ratios when in-stream flows are higher.

20.5.2 MWTP TREATMENT GOALS

Treatment goals for the MWTP are based on achieving compliance with the MMER criteria for end of pipe concentrations as well as the WQG in Haggart Creek. The MMER discharge criteria are presented in Table 20.5.

Table 20.5 MMER End of Pipe Discharge Criteria

Parameter	WQG (mg/L)
pH	6.0-9.5
Total Suspended Solids (TSS)	15
Arsenic, T	0.5
Copper, T	0.3
Lead, T	0.2
Nickel, T	0.5
Zinc, T	0.5
Radium 226	0.37 Bq/L
Cyanide	1.0

Maximum allowable end of pipe concentrations that are consistent with WQG compliance can be calculated for the 10:1 dilution. A set of monthly median in-stream concentration values were used to calculate the maximum end of pipe concentrations that would allow WQG compliance at a 10:1 dilution.

20.5.3 *WASTE MANAGEMENT*

Waste generated during most phases of the Project will fall into five key categories including solid waste, construction/demolition waste, lubricants, special/hazardous waste and sewage/treated effluent. Estimated waste generation is summarized in Table 20.6. Waste will be managed in accordance with applicable regulations and requirements.

Table 20.6 Estimated Waste Generation

Waste Type	Updated Data
Solid Waste Generation Rate	2.2 kg/person/d
Solid Waste – Construction (24 m)	320 t/a
Solid Waste – Operation (12 a)	160/a
Solid Waste – Closure & Reclamation	100 t/a
Solid Waste (Total Construction and Operation)	2,570 t
Construction/Demolition Waste (Construction)	680 t
Construction/Demolition Waste (Operations)	80 t
Construction/Demolition Waste (Closure & Reclamation)	630 t
Construction/Demolition Waste (Total)	1,390 t
Oil (Total)	407,657 L
Antifreeze (Total)	14,640 L
Hydraulic Fluids (Total)	26,840 L
Treated Sewage Effluent (Total)	308,000 m^3

Note: Data modified from September 1, 2011 Victoria Gold letter to YESAB assuming approximate 12-year construction and operation period.

20.5.4 WASTE ROCK MANAGEMENT

METAL LEACHING AND ACID ROCK DRAINAGE POTENTIAL

Geochemical characterization studies to identify and quantify the potential for metal leaching and acid rock drainage (ML/ARD) for waste and ore associated with the Project were included in the feasibility studies conducted in 1995/1996 by New Millennium Mining Ltd.; in 2007 baseline studies by StrataGold; and in a more comprehensive program completed in 2010 and summarized in Appendix 8 of Stantec 2011. Additional metallurgical and environmental column testing is ongoing. The focus for these studies has been to characterize the two primary lithological units (the granodiorite intrusive and the metasedimentary host rock), associated alteration phases and the effects of its use in the heap or in the WRSAs. Results have been consistent between the various studies performed to date.

The results of the characterization program indicated that low pH seepage, or ARD, is not anticipated to occur at the Project. In the samples tested, the amount of carbonate minerals, predominantly calcite, were generally well in excess of sulphides. Acid base accounting (ABA) results indicated a strong propensity towards non-acid generating conditions with the vast majority of material tested (82% of samples) having a neutralization potential to acid potential ratio above four, the guideline for which material is typically considered to have no potential for acid generation (Price 1997). Statistical summaries demonstrate that there are no major differences in the ARD potential of the different rock types.

The potential for the waste rock to leach as a result of weathering of the various rock types was assessed in the kinetic testing program detailed in Appendix 8 of Stantec's 2011 report. In all cases, calculations of depletion times indicated that neutralization potential would outlast sulphur supporting the classification of non-acid generating potential for these materials. Humidity cell leachate quality from the standard cells typically reflected buffered pH values (7 to 8), generally low to moderately low concentrations of sulphate (typically less than 50 mg/L), and variable concentrations of parameters of interest for the Project.

Both the column and the humidity cell results reported buffered pH and in general higher concentrations in the larger column leachate by approximately an order of magnitude (more for arsenic) than was measured in the humidity cell. When release rates from both tests were calculated, variations were less. Most parameters showed similar release rates between the cell and the column.

IMPLICATIONS FOR WASTE ROCK MANAGEMENT

Evaluations as summarized above have indicated that the waste and ore associated with the Project are likely to be non-acid generating. Minor proportions may have some propensity, albeit likely low, to generate localized acidity. Samples in this category do not tend to group systematically whereby any identifiably different ARD characteristics by litho-alteration type can be discerned. Nor does any one parameter such as sulphide content definitively identify a sample as potentially acid generating. It is therefore not likely feasible, nor necessarily of any significant benefit, to sort the small proportion of waste that may have a low potential to generate acid from the vast majority that is anticipated to be non-acid generating. Therefore, waste rock will be placed in the waste rock storage facilities without regard to chemical composition.

The results of the predictions indicate that contact water associated with the waste rock and open pit walls would be near neutral with respect to pH but with somewhat elevated concentrations of sulphate, arsenic, cadmium, manganese, antimony, selenium and uranium, and possibly fluoride, copper, iron, mercury, molybdenum, thallium and zinc.

Water quality associated with the HLF during operations and detoxification/rinsing of the heap were approximated using the results of the metallurgical test work. It is expected that cyanide and soluble metal cyanide complexes in water drainage from the HLF would be at concentrations that would be unacceptable for direct discharge to the environment, and any excess water would likely require detoxification and active water treatment. Following detoxification and rinsing of the facility, elevated levels of nitrogen species, sodium and residual cyanide complexes (cadmium, copper, nickel, silver, zinc, etc.) would be expected, but would likely decrease relatively quickly with replacement of pore volumes in the HLF. Active water treatment would also be anticipated during this period. Concentrations of other trace elements that would be leached from the rock over time such as arsenic, antimony, selenium, etc., would be expected to diminish more gradually, i.e., for several decades, with a gradual improvement occurring as the more reactive minerals are depleted from the processed ore. Over the long term in closure, the HLF drainage would be expected to be similar to that predicted for waste rock.

20.6 CLOSURE PLANS AND COSTS

The closure and reclamation phase of the Project will focus on fostering the return of the site to appropriate, functional, and sustainable ecosystems, similar to pre-development conditions.

A conceptual closure and reclamation plan has been developed as part of the information requirements and regulatory expectations for assessment under YESAA. The plan was completed with due consideration of key elements required under the Yukon Mine Reclamation and Closure Policy and related Technical Guidelines.

After construction and operations phases have been completed, the Project plan includes a ten-year closure and reclamation phase, followed by a post-closure monitoring phase of approximately five years. The conceptual closure and reclamation plan as outlined is subject to refinement on the basis of ongoing test work, advances in knowledge and technology, and reclamation research scheduled to commence with site operations. Reclamation test plots, cover trial systems, passive treatment pilot studies, and reclamation trials should commence early in the operations phase.

20.6.1 *Performance Objectives and Functional Requirements*

The overall strategy for the conceptual closure and reclamation plan is to provide for an eventual walk-away closure condition, with mine features decommissioned, landform reclaimed, and monitoring conducted until it is demonstrated that mitigation measures have achieved closure objectives.

The closure and reclamation performance objectives and functional requirements are defined shown in Table 20.7.

Table 20.7 Closure and Reclamation Functional Requirements

Performance Objective	Functional Requirement
Public Safety	• limit public exposure to safety hazards (i.e. steep pit walls, ponds, contaminants) • barricade approaches and stabilize closed access roads • slope stabilization
Landform Stability	• slope stabilization (flatten slopes, provide suitable drainage) • pattern landforms after natural analogs • design landscape with multiple lines of defense against failure modes • design robustness into the landscape in which the system becomes more stable with time • designing conservatively using proven technology where available • limiting the use of man-made materials such as pipes, gabions, and concrete • remove all culverts and bridges
Biochemical Stability	• allowing release of contaminants slowly, at acceptable levels over time as opposed to attempting to contain them forever • provide cover systems to reduce infiltration, thus reducing quantity of leachate production • control releases of contaminants to surface water and groundwater
Land Use Issues	• improve biological productivity • improve visual impact of the site (i.e. contour blend with natural topography, re-vegetate disturbed areas, backfill pit where practical) • transfer land use to new owners (i.e. government, First Nations) where applicable

20.6.2 *Reclamation Schedule*

The reclamation phase of the Project is assumed to occur over a ten-year period following the end of operations. The ten-year length of time is primarily a function of the time required to close the HLF. Most of the other facilities are less constrained and will be closed and reclaimed in a shorter period of time. This will be followed up by post-closure monitoring.

20.6.3 Reclamation Practices

A number of reclamation practices may be carried out during the life of the Project to promote the return of self-sustaining vegetation communities and specific habitat features to the reclaimed mine site. Specific reclamation practices will be developed for each facility including the HLF, WRSAs, mine process plant and treatment facilities, events ponds, solution and sediment control ponds, and mine support infrastructure (roads, transmission lines, fuel and explosives facilities).

20.6.4 Closure Water Management

The objective of the WMP for the closure and reclamation phase will be to safely convey and/or store as necessary, all freshet and rainfall runoff through the Project site, while maintaining water quality at background levels, site-specific water quality objectives or CCME) standards (as applicable) in receiving water bodies. This objective includes minimizing total suspended sediment levels and actively and then passively treating contact water, as necessary, to achieve water quality standards.

20.6.5 Closure Costs

The closure and reclamation costs are primarily a function of the need to detoxify and rinse the HLF and the need to stabilize the post-mining landscape while minimizing long term environmental and socio-economic liabilities.

It is assumed that closure activities will be carried out by the operator's equipment and labour force wherever practicable and supplemented by contractor support as required.

The detailed reclamation and closure costs are (net of salvage value) $64.2 million. It is assumed this is a conservative estimate and further optimization will significantly reduce this cost prior to commencing closure activities.

20.7 Environmental Effects Conclusion

The effects assessment process was done with consultation and guidance from a variety of sources including the NND, YESAB, and Government of Yukon. Avoiding or mitigating adverse effects from the outset was a primary concern driving Project design. In all cases adverse effects that could not be avoided could be mitigated to the point that the residual effect was not significant. Consequently, for bio-physical conditions the Project produces no significant adverse effects.

20.8 COMMUNITIES AND FIRST NATIONS CONSULTATION

Victoria Gold has engaged in a wide range of consultation activities. In May 2008, an Exploration Cooperation Agreement with the NND was signed for the Dublin Gulch project which hosts the Project. In June 2009, Victoria Gold began a broad and proactive consultation and engagement program for the Project including the NND, the Village of Mayo, stakeholders, and regulatory agencies.

In October 2011, Victoria Gold and the NND announced the completion of a CBA for the Project and ongoing exploration within NND Traditional Territory. The CBA replaces the earlier Exploration Cooperation Agreement, and sets out support for mine development and ongoing exploration within NND Traditional Territory south of the Werneke mountains, which includes all of Victoria Gold's existing mineral exploration properties in Yukon.

21.0 CAPITAL AND OPERATING COSTS

21.1 CAPITAL COST ESTIMATE

21.1.1 INTRODUCTION

The CAPEX for the Project has been prepared in accordance with standard industry practices for this level of study, and to a level of definition accuracy of ±15%. All figures are expressed in Canadian dollars unless otherwise noted.

21.1.2 SUMMARY

The CAPEX consists of four main parts: direct costs, indirect costs, contingency, and Owner's costs. Owner's costs were estimated separately by Victoria Gold.

The basis for the CAPEX was developed by a team of engineers, procurement specialists, and cost estimators from:

- Merit (ADR facility, HLF, crushing, infrastructure and site utilities/services)
- Wardrop/Tetra Tech (mine, crushing and process equipment, high voltage power supply and site distribution, infrastructure, heap leach pad, and water treatment)
- Knight Piésold (water management)
- Victoria Gold (Owner's costs).

The CAPEX for the Project is $399,741,091 as of Q1 2012, subject to the qualifications discussed in this estimate.

The capital cost summary and distribution is provided in Table 21.1.

Table 21.1 Summary of Project Capital Costs

Area	Cost ($000)
Direct Costs	
Mining and Preproduction Development	53,207
Site General	33,522
Process and Material Handling	96,399
Ancillaries	3,284

table continues…

Area	Cost ($000)
Plant Site Infrastructure including Truck Shop	17,873
Power Supply and Distribution	11,113
Heap Leaching	63,833
Water Storage/Distribution/Treatment	5,085
Total Direct Costs	**284,313**
Indirect Costs	
Owner's Costs	8,912
Indirects	68,277
Total Indirect Costs	**77,189**
Subtotal	**361,502**
Contingency (11%)	38,239
Total Project	**399,741**

21.1.3 BASIS OF ESTIMATE

The costs are based on:

- process flow diagrams, site layout and general arrangement drawings, equipment list, electrical single line diagram, piping and instrumentation diagrams and applicable drawings from similar projects
- budget submissions for the design/supply of new major and secondary equipment provided by vendors in accordance with specifications and/or datasheets developed by the engineering groups involved
- prices for permanent materials based on supplier quotations and in-house data and current market prices
- material quantity take-offs developed by each engineering discipline
- labour and equipment rates provided by local and regional experienced union construction contractors affiliated with the Construction Labour Relations Association (CLRA) and alternative union contractors affiliated with the Christian Labour Alliance of Canada (CLAC) (a blended hourly labour rate of $90 was developed and used throughout the estimate)
- productivities for installing equipment and materials, provided by local and regional construction contractors who are familiar with the Project location and conditions (productivities were compared and verified against actual results from other projects, as well as with in-house data)
- supply and installation prices from experienced vendors of pre-engineered and modular buildings
- freight costs for all major components, especially those from offshore and for those extra large pieces of equipment that require multiple handling to get to

site, have been determined using experienced freight forwarders (allowances have been made for vendor packaging)

- topographic data and geotechnical information/recommendations provided by BGC
- the engineering, procurement and construction management (EPCM) project execution strategy and project schedule
- camp catering prices from quotations received from multiple companies (camp catering costs are carried in indirect costs)
- engineering and procurement
- construction management

DIRECT COSTS

Direct costs include for all new equipment, new materials and installation for all permanent facilities required for the Project.

INDIRECT COSTS

Indirect costs include the following:

- temporary construction facilities including worker's camp, secure lay down areas, warehouses, etc.
- temporary construction services including some construction equipment
- freight
- vendor representatives
- first fills and capital spares
- EPCM services (including travel expenses)
- third party engineering
- quality assurance/quality control (QA/QC)
- surveying
- vendor representatives
- Owner's costs
- start-up and commissioning allowance.

CONTINGENCY

The overall Project contingency allowance has been calculated to be 11% of direct and indirect costs.

QUALIFICATIONS AND ASSUMPTIONS

The following qualifications and assumptions were made in the preparation of the CAPEX.

- Construction work is based on unit and fixed price contracts (no cost-plus or time-and-material arrangements).
- Budget quotes from vendors for equipment and materials are valid to within ±5% of the purchase price.
- Concrete aggregate and suitable backfill material will be available locally and suitable sources were identified by geotechnical consultants.
- Soil conditions will be adequate for foundation-bearing pressures.
- Other than for the construction of the heap leach pad and main embankment, where weather will play an important role, construction activities will be carried out in a continuous program.
- Bulk materials such as cement, rebar, structural steel and plate, cable, cable tray, and piping are all readily available in the scheduled timeframe.
- Capital equipment will be available on schedule, as verified by suppliers.
- Project is executed, especially the construction phase, according to the project schedule (see Section 24.0).

Pricing

None of the pricing for commodities or the design/supply of equipment is based on binding quotations. Budgetary quotations were obtained from vendors and contractors for major equipment and unit rates. “Budgetary quotations” generally means that indicative pricing has been provided for specified equipment, materials and productivity, but no commitment has been made to provide the equipment or materials at this price at a future date.

Project Currency, Estimate Base Date and Foreign Exchange

All Project capital costs are expressed in Canadian dollars with the following provisions:

- Costs are based on Q1 2012 market conditions with no provision for escalation beyond this date.
- Costs submitted in other currencies have been converted to Canadian dollars. Foreign currency exchange rates applied to the CAPEX relative to the Canadian dollar are set out in Table 21.2.
- No provision has been made for variations in the currency exchange rates from those indicated in Table 21.2.

- No provision has been made for any taxes or fees applicable to currency exchanges.

Table 21.2 Exchange Rates

Exchange	Cdn$
Cnd to US	0.920
Cdn to EUR	1.565
Cdn to AUD	0.919

Accuracy

The CAPEX, including contingency, has been prepared to a level of ±15%.

Project Execution

The CAPEX is based on following the project execution plan described in Section 24.1. Any deviation from this plan may have an impact on both project schedule and costs.

EXCLUSIONS

The CAPEX does not include allowances for:

- escalation
- scope changes
- duties and taxes
- interest and financing charges
- schedule delays and associated costs such as those caused by:
  - scope changes
  - unidentified ground conditions
  - extraordinary climatic events
  - labour disputes
  - permit applications/delays
  - delay of receipt of information beyond the control of EPCM contractors
- property taxes
- sunk costs
- research and exploration drilling
- corporate and mining taxes

- sustaining capital
- permitting costs
- working capital
- closure costs
- salvage values.

21.1.4 *PROJECT DIRECT COSTS*

QUANTITIES AND UNIT PRICING

Engineering material take-offs were based on quantities derived by the engineering groups from project drawings, sketches, and similar projects.

Earthworks

Quantities were based on topographic drawings at 1 m contour intervals.

Unit prices were solicited from civil contractors who have knowledge of the conditions in the area.

Where earthmoving unit rates were calculated, data was obtained from local contractors, and from Merit's historical information from similar projects. The rates include the earthmoving equipment rental pricing, as well as costs associated with operators, fuel, and mobilization/demobilization costs.

Concrete aggregates, structural backfill, granular base, road base, and sub-base will be supplied from local borrow pits and from the open pit. The unit costs associated with these materials include borrow pit development (crushing and screening) and transport costs.

Concrete, Formwork and Reinforcing Steel

Concrete quantities were determined from feasibility stage drawings and experience from previous projects of a similar nature. The unit rates for concrete placement and finishing have been derived from Merit's in-house data from similar projects, and cross-checked against unit rates provided by regional industrial contractors. Aggregate will be sourced from the open pit for use with an on-site batch plant to be located near the primary crusher location.

Formwork was estimated for each type of concrete classification, and includes local supply, form oil, accessories and shoring, and stripping. Prices include 2.5 uses of the form material before it must be replaced.

Reinforcing steel pricing was calculated by estimating the weight per cubic metre of concrete for each type of classification, based on similar projects. The unit price includes the local supply of material, cutting, accessories and installation.

The unit price includes supply and installation of domestically available carbon steel material, including sleeves and anchors.

Structural Steel

Quantities were determined using feasibility-stage drawings and experience from previous projects of a similar nature. The unit rates have been provided by regional industrial contractors and where required, have been developed based on in-house historical data with current supply/erection rates. The weights shown include allowances for connections and base plates.

The unit costs include:

- material supply, fabrication and surface treatment where required
- erection at site based on estimated installation man-hours and unit labour costs and includes final touch-up of surface coating
- connection steel, weldments, and bolts.

Mechanical Equipment

Large capital equipment was identified on the equipment list and flow sheets. Budget quotations were obtained for all major items based on preliminary specifications. Installation hours were estimated from similar North American project experience. Vendor representatives will be engaged to oversee the installation of the larger equipment. Equipment items that did not receive budget quotations were estimated from similar projects.

Mechanical (Plate Work and Tanks)

Plate work weights were calculated with allowances made for any necessary stiffeners, weirs, launders, etc. The unit prices include domestically available plate purchase, detailing, fabrication and installation.

Piping, Valves and Fittings

Piping material, valves, and fittings quantities were provided by Wardrop. Pricing excludes freight. Installation rates and productivities were sourced from Merit's in-house data and other similar projects.

Electrical

Major electrical equipment and electrical material prices were based on budget quotations. Quantities for all required electrical materials were described in detail and not calculated based on area percentage. Merit developed installation productivities for in-plant electrical systems, which include material supply (excluding freight) and installation. Lengths for overhead lines and high-voltage cable were estimated from the overall site plan.

Instrumentation

Wardrop provided instrumentation equipment and material pricing. Installation rates and productivities were sourced from Merit's in-house data and other similar projects.

DIRECT FIELD LABOUR

There is an estimated 836,376 man-hours of direct construction labour associated with the Project construction.

Labour rates were studied in some depth, and were calculated based on rates provided by union contractors affiliated with the CLRA and alternative union contractors affiliated with the CLAC information. A blended hourly rate of $90, based on a 3 week in and 1 week out, 70 h/week basis, was developed and used throughout the estimate.

The labour rate includes:

- base labour wage rate
- overtime premiums
- benefits and burdens
- workers' compensation premiums
- travel allowances
- transportation to and from accommodations
- appropriate crew mixes
- small tools and consumables allowance
- field office overheads
- home office overheads
- contractors' profit.

DIRECT FIELD MATERIALS

Bulk material components constitute domestically available and imported quantities priced as free on board (FOB) manufacturer. Freight costs to transport materials to site are included in the indirect costs. Pricing was based on quantities derived by the engineering groups associated with the study.

OFF-SITE INFRASTRUCTURE

Off-site infrastructure includes the main South McQuesten and Haggart Creek access road improvements and the new 69 kV power line construction.

ARCHITECTURAL FINISHES

Estimates for the architectural finishes were based on the floor area of the finished space. Pricing was sourced from Merit's in-house data.

21.1.5 PROJECT INDIRECT COSTS

TEMPORARY CONSTRUCTION FACILITIES AND SERVICES

All indirect costs for contractors are included in the direct costs in the form of "all-in" unit rates for labour, construction equipment, productivities, and material costs including but not limited to:

- contractors' mobilization and demobilization
- miscellaneous construction equipment
- construction field offices, furnishings, equipment
- contractor travel and accommodations
- temporary power supply
- temporary water supply
- temporary heating and hoarding
- warehouse and laydown costs
- temporary toilets
- temporary communications
- on-going and final clean-up
- yard maintenance
- janitorial services
- site safety personnel and training.

Indirect costs included in the CAPEX provide for the following:

- engineering, procurement and construction management
- construction camp, accommodations and catering
- start up and commissioning
- first fills and warehouse inventory
- freight
- Owner's costs.

CONSTRUCTION EQUIPMENT

Where appropriate, costs for fully maintained major construction equipment have been based on quotations received from construction equipment fleet providers, otherwise, and with the exception of major earthwork packages, unit prices have been used throughout based on current industry standard rates for construction equipment.

CONSTRUCTION CAMP AND CATERING

An average catering cost of $55 per camp man-day is based on prices provided by experienced national catering contractors. The average cost was calculated based on the construction manpower schedule and the pricing scale provided by the catering contractors.

Power line and access road subcontractors will provide their own camps along the construction route; associated camp costs are included in their rates. Mining personnel will be housed in the camp.

SPARE PARTS AND FIRST FILL

Costs for spares were based on vendor recommendations, when available; otherwise, an allowance of 2% of the equipment purchase value was included.

Industry standard allowances were included for first fills for items such as start-up carbon, cyanide, reagents and fuel.

START UP AND COMMISSIONING

Vendors' performance warranty requirements to supervise the installation of equipment or to check equipment prior to start up have been calculated and included in the estimate.

An allowance was made for vendor representatives to be available on site during start up, as well as for a team of six, comprised of contractors' crews and construction management staff to be available for a period of three months.

FREIGHT

The freight costs for materials and equipment for the Project have been studied in some detail, in consultation with major international forwarders. Freight costs to site were obtained from the vendors where possible, especially for large or heavy equipment. Where actual freight costs have not been obtained, an allowance of 8% of the purchase price has been included in the estimate for freight FOB point-to-site. All pricing includes packing and crating.

ENGINEERING, PROCUREMENT, AND CONSTRUCTION MANAGEMENT

Engineering and procurement costs are based on information from Wardrop, and the other project engineering contractors, whom developed costs from the estimated number of required drawings and specifications.

Construction management costs were calculated based on the development of an organization chart, estimating the number of personnel required and including extended work weeks, transportation, supplies, and communications. Charge-out rates are similar to other projects with a similar schedule.

21.1.6 OWNER'S COSTS

Owner's costs were developed by Victoria Gold. They include items such as:

- Owners' project management staff
- training programs for operations staff
- insurances
- corporate office staff assigned to the Project
- sustainability commitments
- environmental testing and monitoring
- Owner's allowances for field operations offices and supplies
- Owner's travel costs during construction
- housing allowance.

The CAPEX does not include an allowance for working capital.

21.1.7 CONTINGENCY

Contingency has been estimated on a discipline-by-discipline basis, taking into account items that have been quoted, estimated or factored. The contingency allowance for each discipline is based on the degree of confidence that study contributors feel should be applied to this work. The contingency covers items which are included in the scope of work, but which cannot yet be adequately defined.

The contingency amount is 11% of the total direct and indirect costs.

Table 21.3 sets out the assigned contingencies by discipline to CAPEX costs.

Table 21.3 Contingency

CAPEX Cost Centre	Allocated Contingency (%)
Mining Preproduction Development	10
Mining Equipment	5
Bulk Earthworks	25
Roads	15
Civil	15
Concrete	15
Structural Steel	10
Architectural	10
Mechanical	5
Platework	10
Building Services	15
Plant Mobile Equipment	5
Piping	15
Electrical	15
Instrumentation and Controls	10
Construction Indirects	10
Initial Fills	3
Spares	3
Freight and Logistics	10
Commissioning and Start-up	10
EPCM	5
Vendors Assistance	6
Owner’s Costs	10

The contingency is not intended to be used for scope changes or project exclusions that would otherwise be added or subtracted from the budget. It is also not intended to cover such items as labour disputes, currency fluctuations, escalation, force majeure or other project uncontrollable risk factors. It should be assumed that the entire contingency allowance will be spent.

Earthworks presents the greatest risk to project costs and scheduling. Accordingly, a contingency allowance of 25% of estimate earthworks costs were assigned. Merit believes this contingency amount is more than sufficient given the quality of historical and recent geotechnical information which provides a good degree of confidence in what will be encountered during the execution of the work.

21.1.8 SUSTAINING CAPITAL

The sustaining capital costs for the Project are estimated at $132.90 million as of Q1 2012. The same basis of estimate used to determine the CAPEX was used to determine the sustaining capital costs, which are summarized in Table 21.4. Contingency throughout the period of sustaining development has not been included in the sustaining capital cost estimate.

Table 21.4 Sustaining Capital ($000,000)

	Years												
	-3	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Mine Equipment (does not include allowance for indirects)	-	-	-	30.45	0.06	-	-	0.25	0.82	0.22	0.11	-	-
Phase I Heap Leach Conveyors	-	-	-	1.96	-	-	-		-	-	-	-	-
ADR Facility Upgrade	-	-	-		-	-	2.52	0.86	-	-	-	-	-
100 d Storage Pad	-	-	-	17.25	-	-	-		-	-	-	-	-
Permanent Camp Refurbishment	-	-	-	0.63	-	-	-		-	-	-	-	-
Pit Dewatering	-	-	-	0.33	0.33	0.33	0.33	0.33	-	-	-	-	-
Mine Water Treatment Plant	-	-	-	-	19.32	-	-		-	-	8.05	-	-
Heap Leach Pad – Phase 2	-	-	-	-	36.15	-	-		-	-	-	-	-
Heap Leach Pad – Phase 3	-	-	-	-	-	-	-	12.60	-	-	-	-	-
Total (direct costs)	**-**	**-**	**-**	**50.62**	**55.86**	**0.33**	**2.85**	**14.04**	**0.82**	**0.22**	**8.16**	**0.00**	**0.00**
Accumulative Total	**-**	**-**	**-**	**50.62**	**106.48**	**106.82**	**109.67**	**123.71**	**124.53**	**124.75**	**132.91**	**132.91**	**132.91**

Note: Indirects (25% allowance) included in sustaining capital, unless noted otherwise

21.2 OPERATING COST ESTIMATE

21.2.1 SUMMARY

The operating cost estimate for the Project consists of mining, processing, G&A, and water treatment costs. Table 21.5 summarizes the operating cost estimate.

Table 21.5 Operating Cost Summary

Function	Operating Cost ($/t leached)
Mining	4.77
Processing, Water Treatment, and Rinsing	6.33
G&A	1.11
Total Cost	**12.21**

Note: The cost of $4.77/t leached is equivalent to $1.95/t mined.

21.2.2 BASIS OF ESTIMATE

The labour rates and burdens estimates are current to Q1 2012 rates in Yukon and similar jurisdictions. The material and supply costs were generally obtained from supplier quotations, and to a limited degree, from InfoMine USA.

21.2.3 MINING

SUMMARY

The LOM operating costs were estimated from equipment productivity calculations, and generally from mining fleet suppliers' hourly equipment cost estimates. Annual equipment utilization hours were derived from calculated available hours, less estimated operating delays and then used with the hourly equipment cost to derive the direct mining operating costs. Minor support functions were estimated based on unit per mined tonne values, and then added to the overall costs to produce a mine operating cost.

Table 21.6 summarizes the mine operating costs for over the LOM, including the pre-production period.

Table 21.6 Projected LOM Average Operating Costs

Function	Mine Operating Cost	
	$/t mined	$/t milled
Drilling	0.10	0.23
Blasting	0.24	0.59
Loading	0.16	0.39
Hauling	0.48	1.19
Support Equipment	0.20	0.48
Labour	0.77	1.89
Total Mining Cost	**1.95**	**4.77**

General Estimation Approach

Approximate productivity and operating hours were calculated for all major equipment. The operating hours were multiplied by the hourly labour, maintenance, major component repairs, fuel, and consumable costs to arrive at the total operating costs.

All mining operating costs are expressed in Canadian dollars, unless otherwise specified. The operating cost includes the labour, maintenance, major component repairs, fuel, and consumables costs.

Fuel

All mining and support equipment are equipped with diesel engines. The equipment fuel consumption amount was obtained from either suppliers' quotations or equipment handbooks. Fuel costs were calculated for each of the major and support equipment, based on a fuel price of $0.93/L. The total fuel cost over the LOM is estimated to be $80 million, which corresponds to a unit cost of $0.36/t mined.

Mine Consumable Supplies and Materials

Estimated costs for consumables such as tires, explosives, and drill accessories were primarily obtained from supplier quotations, as well as Wardrop's in-house database.

The total consumable supplies and materials over the LOM is estimated to be $95 million, which corresponds to a unit cost of $0.42/t mined.

MAINTENANCE

Maintenance, major component, and wear item repairs were obtained from supplier estimates, based on major component replacement costs over the projected life of the equipment.

The total maintenance cost over the LOM is estimated to be $88 million, which corresponds to a unit cost of $0.39/t mined.

SALARY AND HOURLY LABOUR

Labour requirements were determined for each labour category. In the case of operators, labour requirements were estimated based on the number of on-duty equipment items. The maintenance labour estimate is based on historical ratio between equipment operators and maintenance mechanics and electricians. All other labour and staff were estimated from experience with existing mines and anticipated operating conditions for the Project.

Staff and hourly operating rates are based on the base rates and burden as referenced in Section 21.2.2. A benefit package of 30% was applied to salaried staff rates, and 50% was applied to the hourly labour base rates. The labour burden consisted of vacation, statutory holidays, medical and health insurance, employment insurance, long-term disability insurance, Canada Pension Plan, Worker's Compensation Board premiums, overtime, shift differential and safety bonus.

The total combined labour cost for salaried staff and hourly labour over the LOM is estimated at $173 million, or $0.77/t mined.

The rates for salaried staff and hourly labour are shown in Table 21.7.

Table 21.7 Salaried and Hourly Wage Rates

Description	Hourly Base Rate ($/h)	Salary Base Rate ($/a)	Burden ($/a)	Annual Cost ($/a)
Technical Services				
Technical Services Manager	-	156,000	46,800	202,800
Senior Mining Engineer	-	144,000	43,200	187,200
Junior Mining Engineer	-	78,000	23,400	101,400
Drill and Blast Engineer	-	120,000	36,000	156,000
Senior Geotechnical Engineer	-	120,000	36,000	156,000
Junior Geotechnical Engineer	-	78,000	23,400	101,400
Senior Geologist	-	120,000	36,000	156,000
Junior Geologist	-	78,000	23,400	101,400
Grade Control Technician	-	48,000	14,400	62,400
Dispatch Engineer	-	120,000	36,000	156,000

table continues…

Description	Hourly Base Rate ($/h)	Salary Base Rate ($/a)	Burden ($/a)	Annual Cost ($/a)
Senior Surveyor	-	78,000	23,400	101,400
Junior Surveyor	-	48,000	14,400	62,400
Administration Assistant	-	42,000	12,600	54,600
Operations Staff				
Mine Superintendent	-	156,000	46,800	202,800
Mine General Foreman	-	144,000	43,200	187,200
Mine Shift Foreman	-	132,000	39,600	171,600
Drill and Blast Foreman	-	132,000	39,600	171,600
Blaster	-	48,654	14,597	63,251
Blaster Helper	-	39,387	11,816	51,203
Training Foreman	-	108,000	32,400	140,400
Maintenance Staff				
Maintenance Superintendent	-	168,000	50,400	218,400
Maintenance General Foreman	-	144,000	43,200	187,200
Maintenance Shift Foreman	-	120,000	36,000	156,000
Maintenance Planner	-	90,000	27,000	117,000
Mechanical Foreman	-	90,000	27,000	117,000
Electrical Foreman	-	90,000	27,000	117,000
Administrative Assistant	-	42,000	12,600	54,600
Mine Operations				
Shovel Operator	26.50	49,581	24,791	74,372
Loader Operator	26.50	49,581	24,791	74,372
Truck Operator	21.00	39,387	19,693	59,080
Drill Operator	26.00	48,654	24,328	72,982
Dozer/Grader Operator	24.50	45,874	22,937	68,811
Water/Sand Truck Operator	21.00	45,874	22,937	68,811
Service Crew	24.50	45,874	22,937	68,811
Dispatch Operator	24.50	45,874	22,937	68,811
Blaster	26.00	48,654	24,328	72,982
Blaster Helper	21.00	39,387	19,693	59,080
Equipment Trainee	24.50	45,874	22,937	68,811
Mine General Labour	18.00	33,826	16,914	50,740
Maintenance Labour				
HD Mechanic Apprentice	27.00	50,508	25,254	75,762
Maintenance HD Mechanic	31.00	57,922	28,961	86,883
LD Mechanic Apprentice	27.00	50,508	25,254	75,762
Maintenance LD Mechanic	31.00	57,922	28,961	86,883
HD Electrician	31.00	57,922	28,961	86,883
Electrician Apprentice	27.00	50,508	25,254	75,762
Instrumentation Tech	31.00	57,922	28,961	86,883
Maintenance Welder	31.00	57,922	28,961	86,883

table continues…

Description	Hourly Base Rate ($/h)	Salary Base Rate ($/a)	Burden ($/a)	Annual Cost ($/a)
Welder Apprentice	27.00	50,508	25,254	75,762
Fuel and Lube Man	25.00	46,801	23,400	70,201
Maintenance Trainee	27.00	50,508	25,254	75,762
Crane/Equipment Operator	24.50	45,874	22,937	68,811
Tire Man	25.00	45,874	22,937	68,811
Millwright	31.00	57,922	28,961	86,883
Mine General Labour	18.00	33,826	16,914	50,740

Notes: Burden Factor – Salaried Staff 1.30
Burden Factor – Hourly Labour 1.50

MINE PERSONNEL

Table 21.8 shows the expected mine personnel requirements over the LOM.

Table 21.8 Yearly Mine Personnel Requirements

Category	Production									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mine Technical Services										
Technical Services Manager	1	1	1	1	1	1	1	1	1	1
Mining Engineer (Senior)	1	1	1	1	1	1	1	1	1	1
Mining Engineer (Junior)	-	1	1	1	1	1	1	1	1	-
Drill & Blast Engineer	1	1	1	1	1	1	1	1	1	1
Geotech Engineer (Senior)	1	1	1	1	1	1	1	1	1	1
Geologist (Senior)	1	1	1	1	1	1	1	1	1	1
Geologist (Junior)	-	1	1	1	1	1	1	1	1	-
Grade Control Technician	4	4	4	4	4	4	4	4	4	4
Surveyor (Senior)	1	2	2	2	2	2	2	2	1	1
Surveyor (Junior)	1	2	2	2	2	2	2	2	1	1
Engineering Clerk	1	1	1	1	1	1	1	1	1	1
Subtotal	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**12**
Mine Production										
Mine Superintendent	1	1	1	1	1	1	1	1	1	1
Mine General Foreman	1	1	1	1	1	1	1	1	1	1
Mine Shift Foreman	4	4	4	4	4	4	4	4	4	4
Mine Trainer	2	2	2	2	2	2	2	2	2	1
Dispatch Engineer	1	1	1	1	1	1	1	1	1	1
Administration Assistant	1	1	1	1	1	1	1	1	1	1
Subtotal	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**9**

table continues…

Category	Production									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mining Equipment Operators										
Drill Operator	8	14	13	15	15	15	11	11	11	8
Shovel/Excavator Operator	4	12	13	13	13	13	13	13	11	8
Loader Operator	4	4	4	4	4	4	4	4	4	4
Truck Operator	25	56	50	53	53	50	48	55	48	38
Equipment Operator	21	34	29	30	32	32	29	29	25	21
Blaster	2	2	2	2	2	2	2	2	2	2
Blaster Helper	2	2	2	2	2	2	2	2	2	2
Labourer	3	6	5	5	6	6	5	5	5	4
Subtotal	**69**	**130**	**118**	**124**	**127**	**124**	**114**	**121**	**108**	**87**
Mine Maintenance Staff										
Maintenance General Foreman	1	1	1	1	1	1	1	1	1	1
Maintenance Shift Foreman	4	4	4	4	4	4	4	4	4	4
Electrical Engineer	1	1	1	1	1	1	1	1	1	1
Mechanical Engineer	1	1	1	1	1	1	1	1	1	1
Maintenance Planner	1	1	1	1	1	1	1	1	1	1
Maintenance Clerk	1	1	1	1	1	1	1	1	1	1
Subtotal	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**
Mine Maintenance Hourly										
Mechanic (Senior)	13	24	22	23	23	23	21	23	20	16
Mechanic (Junior)	13	24	22	23	23	23	21	23	20	16
Electrician (Senior)	1	1	1	2	3	3	2	3	3	2
Electrician (Junior)	1	1	1	2	3	3	2	3	3	2
Welder (Senior)	1	1	1	2	3	3	2	3	3	2

table continues…

Category	Production									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Welder (Junior)	1	1	1	2	3	3	2	3	3	2
Machinist	1	1	1	1	1	1	1	1	1	1
Tireman	1	1	1	1	1	1	1	1	1	1
Apprentice	3	5	5	5	6	6	5	6	5	4
Lube Operator	1	1	1	1	1	1	1	1	1	1
Labourer	2	3	3	3	3	3	3	3	3	2
Subtotal	**38**	**63**	**59**	**65**	**70**	**70**	**61**	**70**	**63**	**49**
Total	**138**	**228**	**212**	**224**	**232**	**229**	**210**	**226**	**206**	**166**

21.2.4 PROCESSING

CRUSHER AND CONVEYOR SYSTEM OVERVIEW

Three crushing plants, located north of the rim of the open pit, will process 10.3 Mt/a (29,500 t/d) of ore. As with any operating mine, this processing rate may be adjusted in accordance with production optimization and LOM planning.

HEAP LEACH FACILITY AND GOLD RECOVERY OVERVIEW

The HLF will operate 365 d/a. Stacking of ore will occur for 250 d/a (based on climatic conditions favourable for ore stacking) using a 1,219 mm wide conveyor stacking system.

OPERATING COSTS

The process operating costs estimate for the 29,500 t/d includes primary crushing, secondary crushing, tertiary crushing, agglomeration, stacking, leaching, and metal recovery to produce a gold doré product. Process plant, water treatment, G&A, and infrastructure operating costs have also been estimated, and are included in the operating cost estimate. All cost values are in Q1 2012 Canadian dollars.

Table 21.9 provides the overall estimated operating cost summary, based on a 29,500 t/d, 365 d/a processing facility, plus G&A costs for operating Year 1. It should be noted that the figures below differ slightly when compared to Table 21.5 due to operating cost variances depicted below (Table 21.10) over the ten year life cycle.

The initial annual operating cost for the processing facility has been calculated to be $66 million, or $6.36/t of ore. Annual water treatment, G&A, and infrastructure operating costs will incrementally increase the annual operating cost by an additional $12 million, equivalent to $1.26/t of ore, for a total operating cost of $7.63/t of ore.

Table 21.9 Process Operating Cost Summary Year 1

Description	Manpower	Annual Cost ($)	Unit Cost ($/t leached)
Human Power			
Operations Staff	10	1,249,734	0.12
Operations Labour	78	6,749,122	0.65
Maintenance Labour	31	2,977,155	0.29
Laboratories and Quality Control	9	561,735	0.05
Subtotal Staff	**128**	**11,537,746**	**1.12**

table continues…

Description	Manpower	Annual Cost ($)	Unit Cost ($/t leached)
Plant Supplies			
Operating Supplies	-	36,943,161	3.58
Maintenance Supplies	-	2,738,963	0.27
Power Supply	-	14,402,451	1.39
Subtotal Supplies	**-**	**54,084,574**	**5.24**
Total Process Operating Costs	**128**	**65,622,320**	**6.36**
G&A			
G&A Staff	41	3,646,027	0.35
G&A Expenses	-	7,852,369	0.76
Total G&A Costs	**41**	**11,498,396**	**1.11**
All Water Treatment			
Labour, Operations, Maintenance & Power (mine water treatment, potable, no detox, cost is first full five year average)	6	461,264	0.04
Total Water Treatment Costs	**6**	**461,264**	**0.04**
Grand Total Operating Costs Less Mining	**175**	**77,581,980**	**7.51**

The estimate includes:

- staffing and maintenance manpower complements and base salaries, including a two-tiered burden of 30% for salaried staff and 50% for hourly labour, respectively
- power consumption, based on the estimated power drawn with the cost of power of $0.107/kWh as per Yukon Electric Rates consumption plus demand costs
- reagent consumption values, and the cost of reagents, has been based on recent prices received from reagent suppliers (Q1 2012 prices)
- an estimate for maintenance costs.

Table 21.10 outlines operating costs that will vary as the mine operation matures. The key component is a slight increase in electrical and maintenance costs as the barren solution flow rate increases in Year 5, and the cessation of the use of cement during agglomeration in Year 3.

Table 21.10 Variable Operating Cost

Description	Annual Cost ($)	Unit Cost ($/t leached)
Year 5 Incremental Electrical (Supply)	1,566,212	0.15
Year 5 Incremental Maintenance Supplies	34,872	0.00
Year 5 Incremental Operating Supplies	935,506	0.09
Year 3 to 10 Incremental Savings (No Cement)	(9,189,250)	(0.89)

Manpower Estimate Assumptions

The manpower complement for the plant facilities and for G&A requirements was assumed to be two crews working two 12 h shifts per day, which equals 2,190 h/a for shift workers, and 2,080 h/a for salaried staff (Table 21.11).

A burden was used—30% for salaried personnel and 50% for hourly personnel. The burden includes:

- vacation time
- medical and dental contributions
- Registered Retirement Savings Plans, Canada Pension Plan, and Employment Insurance contributions
- Workers' Compensation Board Premiums
- bonus payments
- tool allowances
- life insurance
- professional and/or union dues.

The cost required to maintain and service the camp site, open pit mine, and the respective facilities is included in the G&A cost estimate.

Table 21.11 Manpower

Description	Manpower	Hourly Base Rate ($/h)	Base Salary ($)	Burden ($)	Loaded Salary ($)	Annual Cost ($)	Unit Cost ($/t ore)
Staff (Burden Rate 30%)							
Metallurgical Superintendent	1	-	138,000	41,400	179,400	179,400	0.017
Maintenance Superintendent	1	-	138,000	41,400	179,400	179,400	0.017
Metallurgist	2	-	100,000	30,000	130,000	260,000	0.025
Process General Foreman	2	-	98,901	29,670	128,571	257,143	0.025
Stacking Planner	2	-	90,000	27,000	117,000	234,000	0.023
Mill Clerk	2	-	53,766	16,130	69,896	139,792	0.014
Shift Foremen	4	-	91,200	27,360	118,560	474,240	0.046
Subtotal	**14**	**-**	**-**	**-**	**-**	**1,723,974**	**0.167**
Operations (Burden Rate 50%)							
Crusher Feed Loader Operator	4	28.90	63,291	31,646	94,937	379,746	0.037
Primary Crusher Operators	4	28.90	63,291	31,646	94,937	379,746	0.037
Secondary Crusher Operators	4	28.90	63,291	31,646	94,937	379,746	0.037
Crusher Day Labourers	4	20.00	43,800	21,900	65,700	262,800	0.025
Heap Leach Operators	4	28.90	63,291	31,646	94,937	379,746	0.037
Stacking Operators(stack-stinger)	6	28.90	63,291	31,646	94,937	569,619	0.055
Conveyor Operators	6	28.90	63,291	31,646	94,937	569,619	0.055
Piping Crew	8	20.00	43,800	21,900	65,700	525,600	0.051
Heap Dozer Operator	4	28.90	63,291	31,646	94,937	379,746	0.037
Reclaim FEL Operator	4	26.50	58,035	29,018	87,053	348,210	0.034
Reagent Preparation	6	25.50	55,845	27,923	83,768	502,605	0.049
Heap Leach Day Labourers	8	20.00	43,800	21,900	65,700	525,600	0.051
Subtotal	**62**	**-**	**-**	**-**	**-**	**5,202,783**	**0.504**

table continues…

Description	Manpower	Hourly Base Rate ($/h)	Base Salary ($)	Burden ($)	Loaded Salary ($)	Annual Cost ($)	Unit Cost ($/t ore)
Recovery Plant							
Operators	5	28.90	63,291	31,646	94,937	474,683	0.046
Refinery Operators	3	-	85,799	25,740	111,539	334,616	0.032
Day Labourers	4	20.00	43,800	21,900	65,700	262,800	0.025
Subtotal	**12**	**-**	**-**	**-**	**-**	**1,072,099**	**0.104**
Metallurgical Lab and Quality Control							
Chief Chemist/Lab Supervisor	1	-	87,912	26,374	114,286	114,286	0.011
Met Technicians(Fire Assay/AA Operator)	2	25.50	55,845	27,923	83,768	167,535	0.016
Sampling & Preparation	6	20.00	43,800	21,900	65,700	394,200	0.038
Subtotal	**9**	**-**	**-**	**-**	**-**	**561,735**	**0.054**
Leaching Maintenance Manpower							
Shift Foremen-Supervisors	3	-	144,000	43,200	187,200	561,600	0.054
Planner	3	n/a	90,000	45,000	135,000	405,000	0.039
Mechanics	17	31.00	67,890	33,945	101,835	1,731,195	0.168
Electrician	6	32.00	70,080	35,040	105,120	630,720	0.061
Instrument Technicians	2	32.00	70,080	35,040	105,120	210,240	0.020
Subtotal	**31**	**-**	**-**	**-**	**-**	**2,977,155**	**0.288**
G&A Manpower							
General Manager	1	-	192,000	57,600	249,600	249,600	0.024
Secretary	1	-	60,049	18,015	78,064	78,064	0.008
Human Resources Manager	0	-	125,000	37,500	162,500	0	0.000
Human Resources Clerk	1	-	53,766	16,130	69,896	69,896	0.007
Janitorial	4	20.00	43,800	13,140	56,940	227,760	0.022
Environmental Manager	1	-	110,000	33,000	143,000	143,000	0.014
Environmental Technician	2	-	62,000	18,600	80,600	161,200	0.016

table continues…

Description	Manpower	Hourly Base Rate ($/h)	Base Salary ($)	Burden ($)	Loaded Salary ($)	Annual Cost ($)	Unit Cost ($/t ore)
Chief Purchaser	1	-	93,627	28,088	121,715	121,715	0.012
Assistant Purchaser	2	-	70,000	21,000	91,000	182,000	0.018
Warehouseman	4	-	64,787	19,436	84,223	336,892	0.033
Warehouseman	2	-	48,000	14,400	62,400	124,800	0.012
Safety and Training Officer	2	-	75,000	22,500	97,500	195,000	0.019
First Aid	2	-	72,000	21,600	93,600	187,200	0.018
Gate Security	8	-	65,000	19,500	84,500	676,000	0.065
Bus Drivers	4	-	65,000	19,500	84,500	338,000	0.033
Chief Accountant	1	-	90,846	27,254	118,100	118,100	0.011
Payroll Clerk	2	-	62,000	18,600	80,600	161,200	0.016
Accounting Clerk	1	-	62,000	18,600	80,600	80,600	0.008
IT Services	2	-	75,000	22,500	97,500	195,000	0.019
Subtotal	**41**	**-**	**-**	**-**	**-**	**3,646,027**	**0.353**

Power and Supplies

Table 21.12 through to Table 21.15 show the operating and maintenance cost details relating to power and the entire project site, camp, water treatment and process operating and maintenance supplies, as well as the G&A expenses.

Table 21.12 Power Supply – Load

Power Supply	Connected	Running
Plant Power, Load in kW	20,382	15,129

Table 21.13 Power Supply – Consumption

Area	kWh	Unit Cost ($/kWh)	Total Cost ($/a)	Unit Cost ($/t ore)
Plant, annualized	134,476,666	0.107	14,402,451	1.39

Table 21.14 Plant Maintenance Supplies

Area		Total Cost ($/a)	Unit Cost ($/t ore)
Crushing	allowance	1,882,883	0.18
Heap Leach	allowance	490,036	0.05
ADR and Reagents	allowance	207,856	0.02
Mobile Equipment	allowance	158,188	0.02
Total Maintenance Supplies		**2,738,963**	**0.27**

Table 21.15 Plant Operating Supplies

Supplies	Consumption (kg/t ore)	Source	Unit Cost ($/kg)	Source	Unit Cost FOB point	Total Cost ($/a)	Unit Cost ($/t ore)
Crushing and Heap Leaching							
Gyratory Crusher Liners	0.010	Industry	3.030	Supplier	Minesite	326,696	0.032
Cone Crusher Liners	0.010	Industry	3.030	Supplier	Minesite	1,960,178	0.190
Screen Panels (sets/a)	12	Estimate	$2000/set	Supplier	Minesite	24,000	0.002
Piping/Drip Emitters (Ore Max)	lot	Estimate	-	-	Minesite	859,950	0.083
Subtotal	**-**	**-**	**-**	**-**	**-**	**3,170,824**	**0.307**
Reagents (Heap Leach)							
Lime	1.000	Process Design Criteria	0.315	Lhoist	Minesite	3,247,471	0.315
Cement	2.000	Process Design Criteria	0.445	LaFarge	Minesite	9,189,250	0.890
Sodium Cyanide - Leach	0.34	Process Design Criteria	4.200	Univar	Minesite	14,744,100	1.428
Sodium Cyanide - Strip (kg/t carbon)	8.33	Process Design Criteria/KCA	4.200	Univar	Minesite	97,961	0.01
Activated Carbon (t/a)	84	Process Design Criteria/KCA	4.180	Quadra	Minesite	351,120	0.03
Hydrochloric Acid (L/a)	420,000	Process Design Criteria/KCA	0.550	Quadra	Minesite	231,000	0.02
Sodium Hydroxide kg/t carbon	17	Process Design Criteria/KCA	1.097	Quadra	Minesite	50,693	0.005
Anti-scalant ppm	6	Process Design Criteria/KCA	5.060	Ashland Ch.	Minesite	723,394	0.070
Fluxes kg/oz	0.15	Process Design Criteria/KCA	1.575	-	-	47,250	0.005
Hydrogen Peroxide, mt/a	12.00	Process Design Criteria	105.33	Supplier	Vancouver	18,900	0.002
Diesel l/month	258,349	Calculation	0.934	Shell/PetroCan	Minesite	2,895,572	0.280
Subtotal	**-**	**-**	**-**	**-**	**-**	**31,596,711**	**3.060**
Assay and Quality Control							
Laboratory Supplies	Allowance	Industry	-	-	-	565,963	0.055
Subtotal	**-**	**-**	**-**	**-**	**-**	**565,963**	**0.055**

table continues…

Supplies	Consumption (kg/t ore)	Source	Unit Cost ($/kg)	Source	Unit Cost FOB point	Total Cost ($/a)	Unit Cost ($/t ore)
Others							
Mobile Equipment; D-9, FE Loaders, IT 28, Support Vehicles	Allowance	Industry	-	-	-	1,609,663	0.156
Subtotal	**-**	**-**	**-**	**-**	**-**	**1,609,663**	**0.156**
Total Plant Operating Supplies	**-**	**-**	**-**	**-**	**-**	**36,943,161**	**3.578**

Power and Supplies Requirements Assumptions

The estimated power requirements for the process plant are provided as total values in Table 21.13. The power value records the anticipated annual operating power usage, not the installed power for the equipment. The unit electrical cost was calculated according to the latest Yukon Electric Company Ltd. schedules.

During the winter season, when the secondary and tertiary crushers and conveyors are idle, the consumption will diminish; details regarding this reduced power demand is discussed in greater detail in Sections 17.1 and 18.12.

Plant operating supplies costs include reagent costs at the consumption rates provided in the process design criteria, and which were based on the test work results. Reagent costs were provided by the respective suppliers. Crushing media costs were based on the calculated consumptions values, recommendations from vendors, and vendor cost estimates. Consumables quoted without transportation costs to the site were adjusted with an estimated transportation cost.

The estimated cost of maintenance supplies are based on the purchased cost of the equipment.

The bases of the estimates for each cost item are defined in Table 21.14 and Table 21.15, respectively.

Generally, cyanide detoxification will occur during mine closure; associated costs are captured in the MWTP operating cost.

Table 21.16 Major Commodity Pricing – Reagents (Heap Leach/Crushing/ADR)

	Rank	Unit Cost ($/kg)	Reference	Annual Cost ($ millions)
NaCN	1	4.200	Univar	14.7
Cement	2	0.445	LaFarge	9.2
Diesel Fuel	3	0.934	Shell/PetroCan	3.5
Lime	4	0.315	Lhoist	3.2
Anti-scalant	5	5.060	Ashland Ch.	1.2

21.2.5 General and Administrative

G&A costs were estimated using the same approach production and maintenance costs. In general, G&A costs are related to general operations support. G&A costs comprise labour and non-production-related expenses, such as:

- administration expenses, fees, insurances, and consumables
- road and camp maintenance

- commuting by air charter and bus
- camp operation including contractor
- health, safety and environmental support
- operation of site services (camp).

Table 21.17 indicates the first year of operations; over the LOM, mining employee counts—and their associated camp and commuting costs—will change annually.

The total operating G&A costs are $7,852,369 per annum as illustrated in the summary Table 21.17.

Table 21.17 G&A Costs

G&A Expenses	Total Cost ($/a)	Unit Cost ($/t ore)
Administration		
Purchasing and Logistics	62,500	0.006
Office Supplies	31,250	0.003
Communications (Telephone, Fax, Internet)	100,000	0.010
Janitorial Supplies	93,750	0.009
First Nations Consultations	150,000	0.015
Business Permits, Licences, Meetings	40,000	0.004
Insurances	375,000	0.036
Legal Services	62,500	0.006
Consultants	125,000	0.012
Travel and Expenses	100,000	0.010
Payroll Administration	62,500	0.006
Audit	62,500	0.006
Property Tax	75,000	0.007
Dues and Subscriptions	15,000	0.001
Health and Safety		
Safety Incentives	10,000	0.001
Safety and Training Supplies	62,500	0.006
Medical Supplies (First Aid)	62,500	0.006
Security Supplies	37,500	0.004
Transportation		
Air Transport	1,666,000	0.161
Helicopter Medical Evacuation	15,000	0.001
Bus	246,285	0.024
Freight, Small Parcel	5,000	0.000
Human Relations-Public Relations		
Public Relations and Donations	62,500	0.006
Benefit Administration	62,500	0.006

table continues…

G&A Expenses	Total Cost ($/a)	Unit Cost ($/t ore)
Recruitment and Relocation	62,500	0.006
Apprentice Training	93,750	0.009
Advertising	10,000	0.000
Environmental		
External Assays/Testings	50,000	0.005
Regulatory Compliance (Water, Yukon)	87,500	0.008
Helicopter Monitoring/Sampling	15,000	0.001
Site Services		
Road Maintenance	390,000	0.038
Camp Operation ($55/d/ea)	3,051,400	0.296
Power (400 kW load, 8,760 h)	344,934	0.033
Miscellaneous, Operating & Maintenance Supplies	62,500	0.006
Miscellaneous Van & Admin Vehicles Operating Cost	100,000	0.010
Subtotal G&A Expenses	**7,852,369**	**0.760**
Total G&A (not including manpower)	**7,852,369**	**0.760**

It is assumed the labour force will commute from Whitehorse to site via company-supplied charter aircraft and buses; crews will operate on a two-week-in/two-week-out basis. The operational crews in each area will consist of two teams working 12 h each day, 7 d each week. There will be four round-trip air charter flights from Mayo to Whitehorse, and contract bus service from Mayo to site.

HEAP LEACH RINSING

During rinsing of the heap at the end of the production cycle, approximately $17.9 million/a will be required for operation and maintenance of the ADR facility, which includes pumps to rinse the HLF. The cost summary for this activity is illustrated in Table 21.18. The anticipated two-year rinsing activity will produce some gold which is included in the metal schedule.

Table 21.18 Rinsing Cost Summary

Description	Manpower	Annual Cost ($)	Unit Cost ($/t solution)
Human Power			
Operations Staff	1	130,000	0.00
Operations Labour (e.g. rinsing)	14	1,106,208	0.04
Maintenance Labour	10	926,370	0.03
Laboratories and Quality Control	2	149,468	0.01
Subtotal	**27**	**2,312,046**	**0.08**

table continues…

Description	Manpower	Annual Cost ($)	Unit Cost ($/t solution)
Plant Supplies			
Operating Supplies	-	3,900,331	0.13
Maintenance Supplies	-	250,000	0.01
Power Supply	-	5,760,980	0.20
Subtotal	**-**	**9,911,311**	**0.34**
Total Process Operating Costs	**27**	**12,223,357**	**0.42**
G&A Costs			
G&A Staff	16	1,566,562	0.05
G&A Expenses	-	4,131,151	0.14
Subtotal	**16**	**5,697,714**	**0.20**
Total Rinsing Costs	**43**	**17,921,071**	**0.62**

Similarly, during reclamation of WRSAs and the HLF, the installed crushing circuit will be used for producing cap and cover material from nearby waste rock. The cost estimate for this is based on processing 2.7 Mm^3 over a one-year period and is shown in Table 21.19. This will occur during HLF rinsing.

Table 21.19 Operating Cost for Crushing Reclamation Cover Material Summary

Description	Manpower	Annual Cost ($)	Unit Cost ($/t crushed)
Human Power			
Operations Staff	1	179,400	0.04
Operations Labour (e.g. rinsing)	40	3,775,008	0.78
Maintenance Labour	15	1,366,875	0.28
Subtotal	56	5,321,283	1.09
Plant Supplies			
Operating Supplies	-	2,499,281	0.51
Maintenance Supplies	-	1,055,343	0.22
Power Supply	-	577,340	0.12
Subtotal	-	4,131,965	0.85
Total Process Operating Costs	-	9,453,248	1.95
G&A Costs			
G&A Staff	26	2,439,332	0.50
G&A Expenses	-	4,131,151	0.85
Subtotal	**-**	**6,570,483**	**1.35**
Grand Total Crushing	**-**	**16,023,731**	**3.30**

22.0 ECONOMIC ANALYSIS

22.1 INTRODUCTION

Wardrop prepared an economic evaluation of the Project based on a pre-tax financial model.

Wardrop's long-term consensus metal prices and exchange rate (as of January 27, 2012) used in the base case were as follows:

- price of gold – US$1,325/oz
- currency exchange – Cdn$1.00 = US$0.92.

The pre-tax financial results were as follows:

- 24.1% IRR
- 3.1-year payback
- $273 million NPV at an 8% discount rate.

Wardrop conducted sensitivity analyses to establish the sensitivity of the Project merit measures (NPV, IRR and payback periods) to the main inputs.

22.2 PRE-TAX MODEL

22.2.1 *MINE/METAL PRODUCTION IN FINANCIAL MODEL*

The LOM average ore tonnages, grades, and metal production are provided in Table 22.1.

Table 22.1 Metal Production from the Eagle Gold Project

Output Variable	Value
Total Tonnes to Mill ('000 t)	91,594
Annual Tonnes to Mill ('000 t)	10,325
Average Gold Grades (g/t)	0.781
Total Gold Production ('000 oz)	1,672
Average Annualized Gold Production ('000 oz)	192

Note: Annualized gold production is calculated by dividing the total gold production by the active time of mining operations.

22.2.2 BASIS OF FINANCIAL EVALUATIONS

To evaluate the financial performance of the Project, the production schedule was incorporated into the 100% equity pre-tax financial model to develop annual recovered metal production from the relationships of tonnage processed, head grades, and recoveries.

All costs and revenues were assumed to occur at the end of each year in which they were scheduled to occur.

Gold payable values were calculated based on base case metal price and exchange rate. Revenues were calculated each year by subtracting the applicable refining charges from the payable metal value. At-mine revenues were then estimated by subtracting transportation and insurance costs. Unit operating costs for mining, leaching, power, fuel, and G&A were applied to annual mined/leached tonnages, to determine the overall operating cost, which was deducted from the revenues to derive annual operating cash flow.

Initial and sustaining capital costs, as well as working capital, were incorporated on a year-by-year basis over the LOM. Mine reclamation costs were applied to the capital expenditure on a yearly basis, as applicable. Capital expenditures were then deducted from the operating cash flow to determine the net cash flow before taxes.

Initial capital expenditures include costs accumulated prior to first production of gold doré. Sustaining capital includes expenditures for mining and processing additions, equipment replacement, and HLF expansion. The pre-production period is estimated to be 24 months in duration.

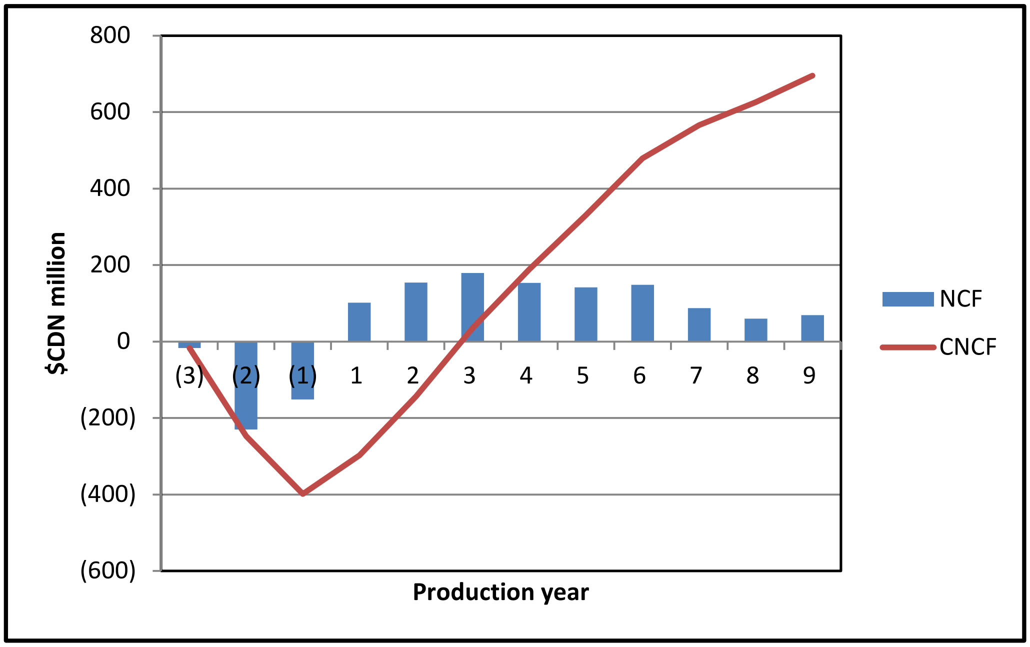
Working capital is set to be three months of the annual operating cost and fluctuates from year to year based on the annual cost. Initial working capital required to start production is $16.2 million. The working capital is recovered at the end of the mine life.

The salvage value of facilities and equipment at the end of mine life is estimated to be $20.0 million.

Mine closure and reclamation including water treatment is estimated at $84.2 million.

The undiscounted annual net cash flow (NCF) and cumulative net cash flow (CNCF) are illustrated in Figure 22.1.

Figure 22.1 Undiscounted Annual and Cumulative Net Cash Flow



22.3 Summary of Financial Results

Wardrop evaluated the base case using consensus gold price of US$1,325/oz and exchange rate of 0.92 US$/Cdn$. The metal price and exchange rates were derived from Consensus Economics Inc. Energy Metals Consensus Forecasts Minerals Monitor. It is based on the average of the long-term (5 to 10 year/2017 to 2021) forecasts of long-term metal predictions among 20 international financial institutions in nominal 2012 dollar terms.

Three other cases were evaluated, using the spot gold price and exchange rate as of February 10, 2012, and alternate gold prices of US$1,162/oz and US$1,900/oz and exchange rate of 0.92 US$/Cdn$.

The pre-tax financial model was established on a 100% equity basis, excluding debt financing and loan interest charges. The financial results of the base case and the two alternative cases are presented in Table 22.2.

Table 22.2 Summary of Pre-tax Financial Results

Item	Base Case	Spot Price	Alternative Case 1	Alternative Case 2
Gold Price (US$/oz)	1,325	1,723	1,162	1,900
Exchange Rate (US$/Cdn$)	0.92	0.99	0.92	0.92
Payable Gold Value ($000)	2,396,714	2,896,265	2,101,873	3,436,798
Refining Charges ($000)	18,088	16,809	18,088	18,088
Revenue (NIV) ($000)	2,378,626	2,879,456	2,083,785	3,418,710
At-mine Revenue ($000)	2,378,626	2,879,456	2,083,785	3,418,710
Operating Costs ($000)	1,118,772	1,118,772	1,118,772	1,118,772
Operating Cash Flow ($000)	1,236,067	1,731,889	944,175	2,265,750
Total Capital Expenditure ($000)	596,867	596,867	596,867	596,867
DCF NPV @ 0.0% ($000)	639,200	1,135,022	347,308	1,668,883
DCF NPV @ 5.0% ($000)	380,755	727,909	176,384	1,101,698
DCF NPV @ 8.0% ($000)	273,113	557,578	105,647	863,868
DCF NPV @ 10.0% ($000)	215,611	466,103	68,145	735,812
Payback (a)	3.1	2.3	4.0	1.8
IRR (%)	24.1	37.0	14.9	49.0

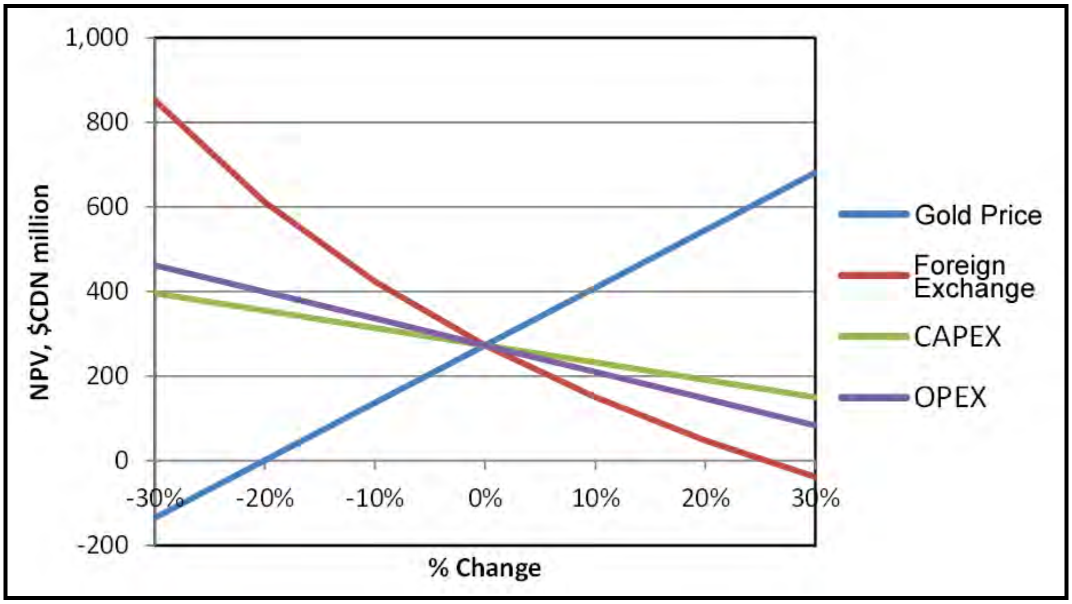
Notes: DCF – discounted cash flow
NIV – net invoice value

22.4 SENSITIVITY ANALYSIS

Wardrop investigated the sensitivity of the Project's NPV, IRR and payback period to the Project key variables. Using the base case as a reference, each of the key variables—price of gold, exchange rate, capital costs, and operating costs—were modified between -30% to 30%, at 10% intervals, while holding the other variables constant.

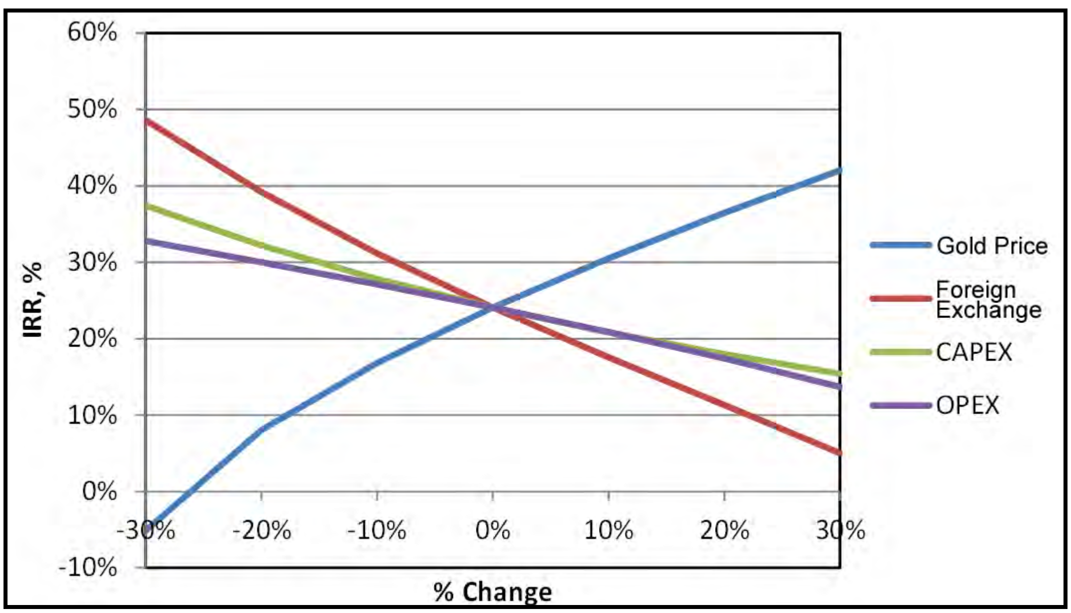
As shown in Figure 22.2, the Project NPV, calculated at an 8% discount, is most sensitive to the exchange rate and, in decreasing order, price of gold, operating costs and capital costs.

Figure 22.2 NPV Sensitivity Analysis



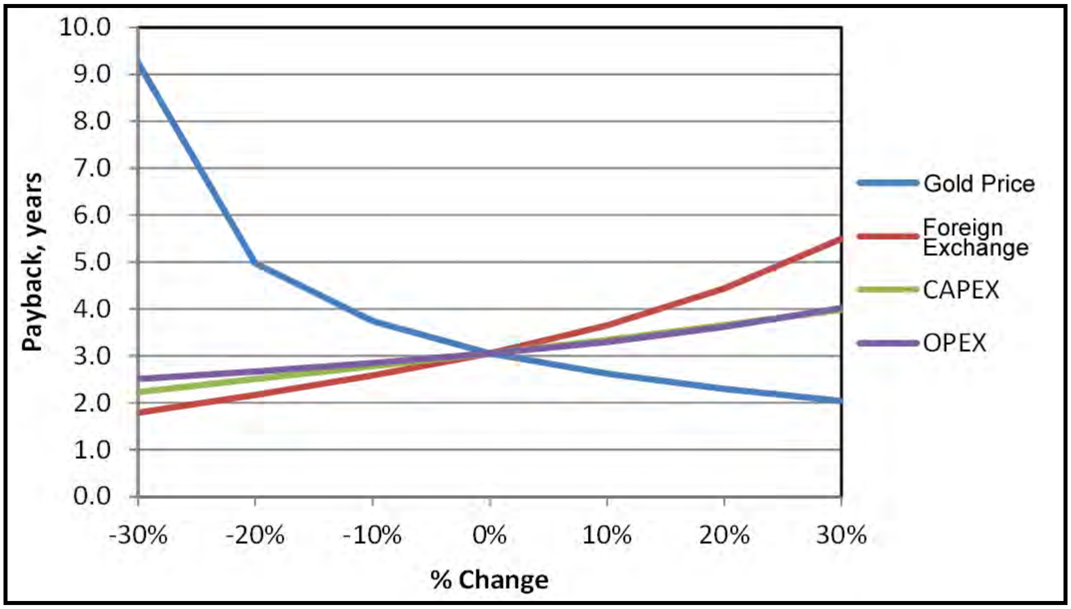
As shown in Figure 22.3, the Project IRR is most sensitive to the price of gold and the exchange rate, followed by capital costs and operating costs.

Figure 22.3 IRR Sensitivity Analysis



As shown in Figure 22.4, the payback period is also most sensitive to the price of gold, followed by the exchange rate, operating costs and capital costs.

Figure 22.4 Payback Period Sensitivity Analysis



22.5 ROYALTIES

Royalties of 1% on the annual at-the-mine revenues were considered in the financial analysis.

22.6 SMELTER TERMS

In the absence of letters of interest or letters of intent from potential smelters or buyers of gold doré, smelter terms for similar projects were applied.

- Gold: pay 99.5% on the gold less a refining charge of US$10.00/accountable troy oz from the London Metal Exchange price.

22.7 TRANSPORTATION LOGISTICS

As advised by Victoria Gold, gold doré buyers will accept delivery on-site, and assume responsibility for additional transportation and insurance, Owner's representation, and losses.

23.0 ADJACENT PROPERTIES

There are no mineral properties adjacent to the Property.

24.0 OTHER RELEVANT DATA AND INFORMATION

24.1 PROJECT EXECUTION PLAN

24.1.1 INTRODUCTION

This project execution plan describes how the Project will advance towards engineering, procurement, construction and environmental activities.

24.1.2 HEALTH, SAFETY, ENVIRONMENTAL AND SECURITY

Health, safety and environmental (HSE) programs and initiatives are essential to project success. A fully-integrated program will be implemented to help achieve a "zero-harm" goal. To achieve this, key project stakeholders will be asked to share in this responsibility by providing the leadership and commitment to attain the highest standards and values.

A high level of communication, motivation, and involvement will be required in the development of HSE practices, including alignment with site contractors on topics such as safety training, occupational health and hygiene, hazard and risk awareness, safe systems of work, and job safety analysis. Tools will be implemented for performance tracking and accountability, including procedures for incident management. The Project will incorporate HSE as a key criteria in the design, constructability, and operability of each facility and major area.

All design and engineering stages incorporate criteria for responsible management of process flows, effluent and waste products to meet established capture and containment guidelines. The design also incorporates basic clean plant design standards, including operational safety and maintenance access requirements. A hazard and operability analysis (HAZOP) will be conducted by the Project design team during the detailed design stage for each area of the plant. This analysis will strive to eliminate identified hazards. This systematic team approach will identify hazards associated with operability that requires attention in order to eliminate undesirable consequences. Environmental protection will be incorporated in both the design of the main processes of the plant, as well as in the transportation, storage and disposal of materials within and outside the boundaries of the plant.

24.1.3 EXECUTION STRATEGY

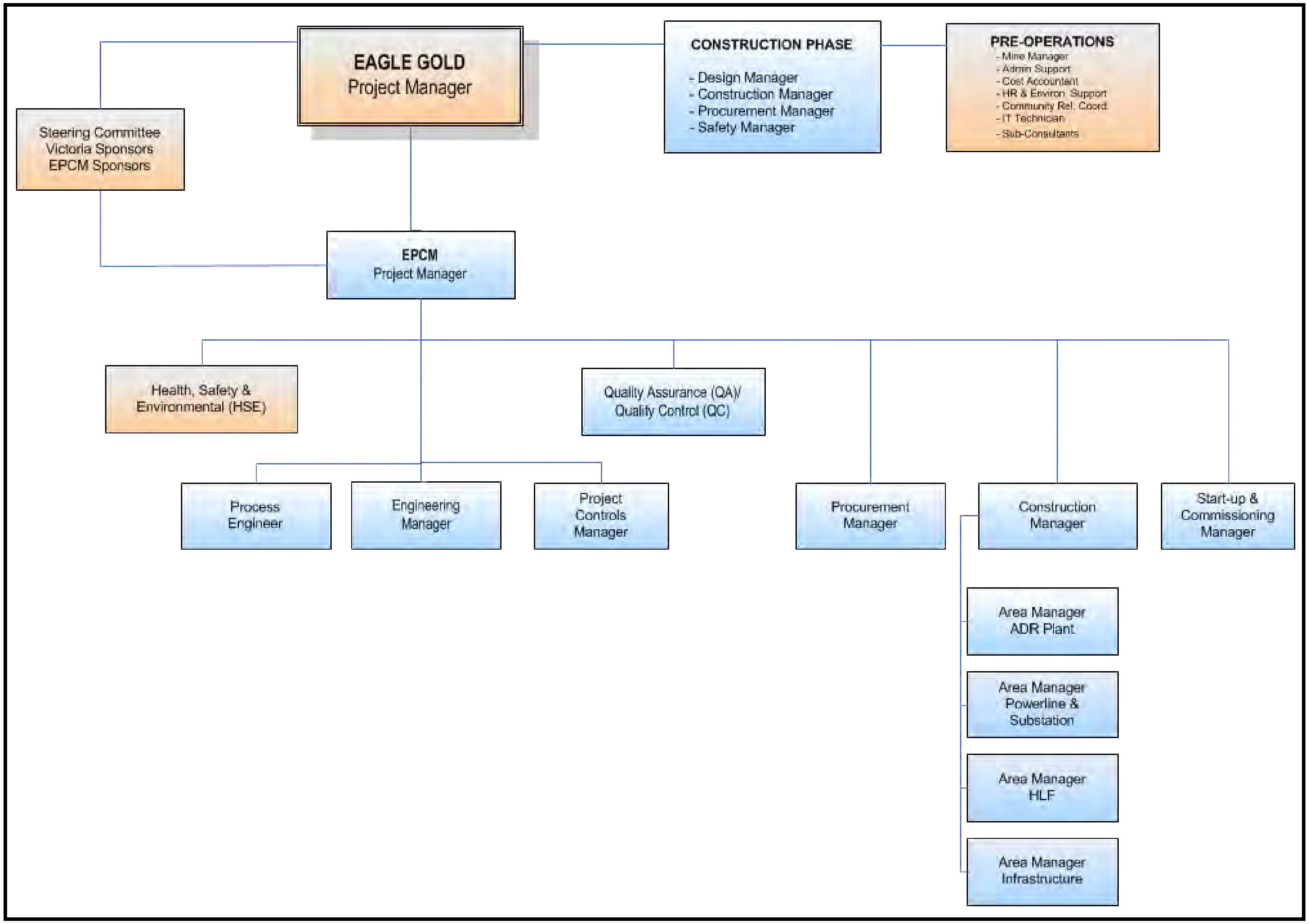
The Project Team (the Team) will combine the skills of the Owner, and engineer and construction managers who assume responsibility for completing the Project successfully, using the following strategies.

Figure 24.1 sets out the Project Management Organization Chart.

The execution strategy for the successful monitoring and control of the Project reflects a traditional EPCM approach to project execution, with field construction contractors, under the direction of a construction management team, commencing work after engineering and procurement tasks are well advanced.

The following establishes the framework for the execution of the Project during the engineering, procurement and construction phases into operations.

Figure 24.1 Project Management Organization Chart



MANAGEMENT PROCEDURES

Although EPCM consultants are referred to as a single entity, Victoria Gold may issue separate contracts for engineering and procurement services, and construction management services.

A comprehensive project procedures manual, developed by the EPCM group, in conjunction with the Owner, will outline the procedures and requirements for the execution of the administrative activities, as well as Owner and EPCM contractor's rights, authorities, and obligations of the Project.

The procedures will include:

- project organization, key names, and communication procedures
- reporting requirements, including project systems, project meetings, minutes and a communications matrix
- identification of the division of responsibilities between the Project stakeholders using a responsibility matrix format
- risk management procedures
- project data management, format and distribution/filing requirements of project correspondence and documentation
- cost management and accounting procedures
- drawing and specification preparation, including numbering, levels of issue and transmittal procedures
- document control procedures
- equipment and materials procurement procedures
- project scheduling requirements, tools, formats and issue times
- project accounting methods including the cost reporting and forecasting systems
- construction contract procedures including bidding and awarding the work
- site administration procedures, including camp administration rules
- site security
- field engineering
- safety procedures
- quality assurance expectations
- site and office personnel rules and regulations
- emergency site procedures and contact information
- construction temporary facilities (power, water, offices and camp)

- site housekeeping and hazardous waste management
- mechanical completion expectations including lock-out procedures
- commissioning procedures
- project close-out and hand-over procedures
- other administrative matters and issues specific to the Project for use by the Team.

PROJECT SCHEDULING AND PROGRESS REPORTING

The overall project schedule (the Schedule) identifies the preferred critical sequences and target milestone dates that need to be managed for the Project to be executed successfully. While executive-level reports will provide an overview of project status and forecasts, the detailed schedules will track the planned and actual progress throughout the duration of the Project using information provided by the engineering groups, contractors, vendors, the field management staff, and the Owner.

The 24-month project construction duration assumes commencement of field activity in October 2012 to mechanical completion in September 2014, as detailed in Table 24.1.

Table 24.1 Activity Milestone Completion Dates to Mechanical Completion

Year	Month	Activity
2012	September	100-person Construction Camp
2012	November	Haggart Creek Access Road Upgrade
2013	May	Dublin Gulch Diversion Channel
2013	June	Water Management and Events Ponds
2013	September	69 kv Overhead Power Lines Mayo to Site
2013	September	Main Substation
2013	September	Permanent Power Available
2013	October	Fuel Storage Facility
2013	October	Truck Shop Facility
2013	October	Fresh/Fire Water Distribution
2013	November	Refinery
2013	December	Electrowinning
2014	January	Reagents
2014	January	Lime and Cement Silos
2014	January	Primary Crusher
2014	February	Secondary Crushers
2014	February	Carbon Adsorption and Recovery
2014	March	Carbon Desorption and Regeneration

table continues…

Year	Month	Activity
2014	April	Tertiary Crushers
2014	May	Electrical Room and Offices
2014	June	HLF Main Embankment
2014	August	Barren Solution Tank
2014	September	Explosives and Magazine Storage Areas
2014	September	HLF Conveyor and Grasshoppers
2014	September	Phase 1 HLF
2014	November	Phase 1 Overall Commissioning Complete

The construction summary schedule is provided in Figure 24.2.

WARDROP
A TETRA TECH COMPANY

Victoria GOLD CORP

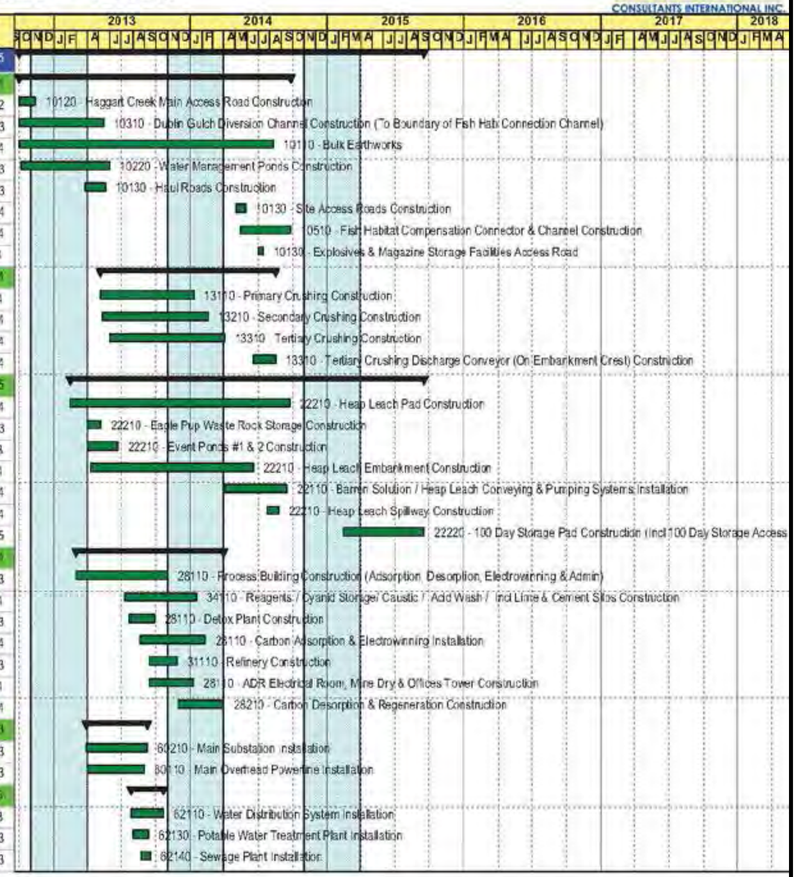
Figure 24.2 Construction Summary Schedule

Victoria GOLD CORP

VICTORIA GOLD CORP
EAGLE GOLD PROJECT - YUKON

MERIT CONSULTANTS INTERNATIONAL INC.

Activity ID	Activity Name	Dur	Start	Finish
	CONSTRUCTION SUMMARY	1080d	02-Oct-12	16-Sep-15
	CONSTRUCTION SUMMARY - SYSTEM 10 - SITE GENERAL	724d	02-Oct-12	25-Sep-14
SUM-110	10120 - Haggart Creek Main Access Road Construction	42d	02-Oct-12	12-Nov-12
SUM-120	10310 - Dublin Gulch Diversion Channel Construction (To Boundary of Fish Hab Connection Channel)	226d	02-Oct-12	15-May-13
SUM-370	10110 - Bulk Earthworks	678d	02-Oct-12	10-Aug-14
SUM-135	10220 - Water Management Ponds Construction	236d	06-Oct-12	29-May-13
SUM-210	10130 - Haul Roads Construction	55d	26-Mar-13	20-May-13
SUM-125	10130 - Site Access Roads Construction	28d	01-May-14	29-May-14
SUM-320	10510 - Fish Habitat Compensation Connector & Channel Construction	132d	16-May-14	25-Sep-14
SUM-360	10130 - Explosives & Magazine Storage Facilities Access Road	13d	01-Jul-14	14-Jul-14
	CONSTRUCTION SUMMARY - SYSTEM 13 - CRUSHING (PRIMARY, SECONDARY & TI	468d	05-May-13	16-Aug-14
SUM-155	13110 - Primary Crushing Construction	251d	05-May-13	11-Jan-14
SUM-195	13210 - Secondary Crushing Construction	282d	12-May-13	18-Feb-14
SUM-200	13310 - Tertiary Crushing Construction	306d	30-May-13	01-Apr-14
SUM-365	13310 - Tertiary Crushing Discharge Conveyor (On Embankment Crest) Construction	60d	17-Jun-14	16-Aug-14
	CONSTRUCTION SUMMARY - SYSTEM 22 - HEAP LEACHING	944d	14-Feb-13	16-Sep-15
SUM-140	22210 - Heap Leach Pad Construction	587d	14-Feb-13	24-Sep-14
SUM-185	22210 - Eagle Pup Waste Rock Storage Construction	35d	01-Apr-13	06-May-13
SUM-170	22210 - Event Ponds #1 & 2 Construction	80d	01-Apr-13	20-Jun-13
SUM-205	22210 - Heap Leach Embankment Construction	434d	09-Apr-13	17-Jun-14
SUM-315	22110 - Barren Solution / Heap Leach Conveying & Pumping Systems Installation	168d	01-Apr-14	16-Sep-14
SUM-340	22210 - Heap Leach Spillway Construction	30d	26-Jul-14	25-Aug-14
SUM-310	22220 - 100 Day Storage Pad Construction (incl 100 Day Storage Access Road & Conveyors)	214d	15-Feb-15	16-Sep-15
	CONSTRUCTION SUMMARY - SYSTEM 28 / 31 / 34 - PROCESSING (ADR PLANT)	395d	01-Mar-13	31-Mar-14
SUM-150	28110 - Process Building Construction (Adsorption, Desorption, Electrowinning & Admin)	246d	01-Mar-13	02-Nov-13
SUM-235	34110 - Reagents / Cyanid Storage/ Caustic / Acid Wash / incl Lime & Cement Silos Construction	189d	11-Jul-13	15-Jan-14
SUM-245	28110 - Detox Plant Construction	68d	22-Jul-13	28-Sep-13
SUM-260	28110 - Carbon Adsorption & Electrowinning Installation	172d	21-Aug-13	09-Feb-14
SUM-275	31110 - Refinery Construction	75d	12-Sep-13	26-Nov-13
SUM-285	28110 - ADR Electrical Room, Mine Dry & Offices Tower Construction	119d	12-Sep-13	09-Jan-14
SUM-305	28210 - Carbon Desorption & Regeneration Construction	122d	29-Nov-13	31-Mar-14
	CONSTRUCTION SUMMARY - SYSTEM 60 - POWER SUPPLY (SUBSTATION & OVERH	162d	30-Mar-13	07-Sep-13
SUM-180	60210 - Main Substation Installation	162d	30-Mar-13	07-Sep-13
SUM-145	60110 - Main Overhead Powerline Installation	153d	01-Apr-13	31-Aug-13
	CONSTRUCTION SUMMARY - SYSTEM 62 - WATER SUPPLY & DISTRIBUTION	88d	26-Jul-13	22-Oct-13
SUM-250	62110 - Water Distribution System Installation	88d	26-Jul-13	22-Oct-13
SUM-255	62130 - Potable Water Treatment Plant Installation	42d	01-Aug-13	11-Sep-13
SUM-265	62140 - Sewage Plant Installation	28d	22-Aug-13	18-Sep-13



Start Date: 15-Dec-11
Finish Date: 16-Sep-15
Data Date: 15-Oct-11
Run Date: 19-Dec-11

Summary | Actual Work | Activity Baseline
Milestone | Remaining Work | Activities Summary
Baseline Milestone | Critical Work | Activities Summary Baseline

VICTORIA GOLD CORP
EAGLE GOLD PROJECT - YUKON
CONSTRUCTION SUMMARY SCHEDULE (FIGURE 24-2)

Baseline: Rev 1.06 / 08-Sep-11

Revision 1.08 / 19-Dec-11

Page: 1 of 2

WARDROP
A TETRA TECH COMPANY

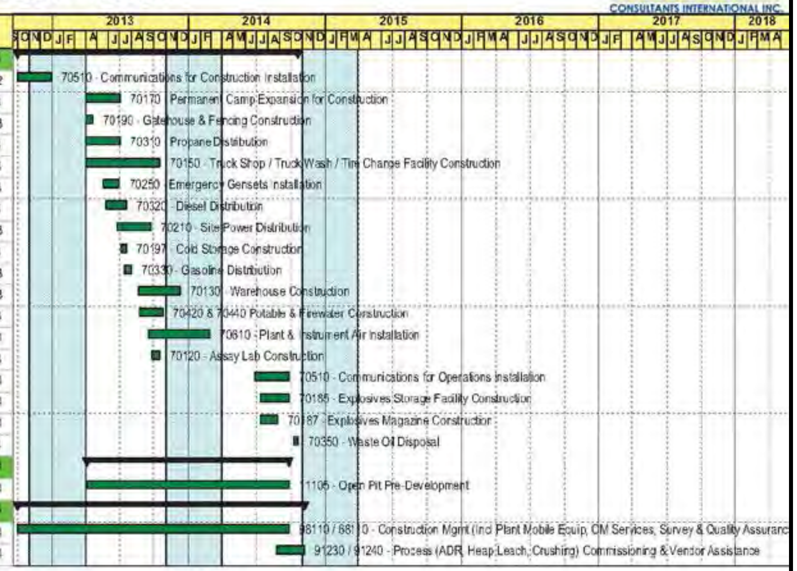
Victoria GOLD CORP

Victoria GOLD CORP

VICTORIA GOLD CORP
EAGLE GOLD PROJECT - YUKON

MERIT CONSULTANTS INTERNATIONAL INC.

Activity ID	Activity Name	Dur	Start	Finish
CONSTRUCTION SUMMARY - SYSTEM 70 - INFRASTRUCTURE		748d	02-Oct-12	20-Oct-14
SUM-133	70510 - Communications for Construction Installation	90d	02-Oct-12	30-Dec-12
SUM-105	70170 - Permanent Camp Expansion for Construction	92d	01-Apr-13	01-Jul-13
SUM-175	70190 - Gatehouse & Fencing Construction	19d	01-Apr-13	19-Apr-13
SUM-183	70310 - Propane Distribution	92d	01-Apr-13	01-Jul-13
SUM-190	70150 - Truck Shop / Truck Wash / Tire Change Facility Construction	197d	01-Apr-13	15-Oct-13
SUM-215	70250 - Emergency Gensets Installation	46d	16-May-13	30-Jun-13
SUM-223	70320 - Diesel Distribution	55d	25-May-13	18-Jul-13
SUM-225	70210 - Site Power Distribution	90d	24-Jun-13	21-Sep-13
SUM-233	70197 - Cold Storage Construction	14d	05-Jul-13	19-Jul-13
SUM-240	70330 - Gasoline Distribution	19d	14-Jul-13	01-Aug-13
SUM-100	70130 - Warehouse Construction	112d	19-Aug-13	09-Dec-13
SUM-270	70420 & 70440 Potable & Firewater Construction	63d	22-Aug-13	23-Oct-13
SUM-290	70610 - Plant & Instrument Air Installation	165d	15-Sep-13	27-Feb-14
SUM-295	70120 - Assay Lab Construction	21d	24-Sep-13	15-Oct-13
SUM-335	70510 - Communications for Operations Installation	90d	27-Jun-14	25-Sep-14
SUM-325	70185 - Explosives Storage Facility Construction	76d	12-Jul-14	25-Sep-14
SUM-330	70187 - Explosives Magazine Construction	46d	13-Jul-14	28-Aug-14
SUM-345	70350 - Waste Oil Disposal	10d	10-Oct-14	20-Oct-14
CONSTRUCTION SUMMARY - SYSTEM 11 - MINING		540d	03-Apr-13	25-Sep-14
SUM-185	11105 - Open Pit Pre-Development	540d	03-Apr-13	25-Sep-14
CONSTRUCTION SUMMARY - CONSTRUCTION MANAGEMENT & COMMISSIONING		766d	02-Oct-12	06-Nov-14
SUM-355	98110 / 68110 - Construction Mgmt (incl Plant Mobile Equip, CM Services, Survey & Quality Assurance)	724d	02-Oct-12	25-Sep-14
SUM-350	91230 / 91240 - Process (ADR, Heap Leach, Crushing) Commissioning & Vendor Assistance	74d	24-Aug-14	06-Nov-14



Start Date: 15-Dec-11
Finish Date: 16-Sep-15
Data Date: 15-Oct-11
Run Date: 19-Dec-11

Summary | Actual Work | Activity Baseline
Milestone | Remaining Work | Activities Summary
Baseline Milestone | Critical Work | Activities Summary Baseline

VICTORIA GOLD CORP
EAGLE GOLD PROJECT - YUKON
CONSTRUCTION SUMMARY SCHEDULE (FIGURE 24-2)

Baseline: Rev 1.06 / 08-Sep-11

Revision 1.08 / 19-Dec-11
Page: 2 of 2

For engineering deliverables, activities will be incorporated into the construction schedule from information derived by the engineers from their internal work plans. The information pertaining to only the “Issued for Tender” and “Issued for Construction” drawings will be transferred to the construction schedule. These elements constitute the basic needs for the development of the various contract scopes and forms of tender.

Procurement activities related to the need for the capital equipment will be derived from the engineer’s equipment list (i.e. all items that have an equipment number) as well as bulk materials, such as piping, electrical cable, cable tray, hi-bay lighting, structural steel, that may be purchased by the Owner. Equipment and bulk materials expediting will be undertaken by the construction management personnel, while the engineers will expedite the capital equipment shop drawings needed to complete the design work.

The construction contracting plan, including the assignment of work scopes to contract packages, will be based on the timing of the engineering deliverables and the stated deliveries of the capital equipment and bulk materials. Ongoing project scheduling will involve input from all project groups, such as the Owner’s operating personnel, as the Project progresses towards start-up. Individual contractor schedules will be based on the overall schedule, and each contractor is expected to provide a two or three-week look-ahead schedule that will provide a smaller window of activities to be accomplished.

Once the Project has been approved to proceed, the following basic project tasks must be completed as early as possible in order to guarantee planning certainty and maintain a proper monitoring program for all long lead items and engineering deliverables.

- select the general EPCM group(s)
- selecting the engineering and procurement consultant for the final design of the HLF
- select the engineering and procurement consultant for the final design of the high voltage power line
- order long delivery and early engineering information for capital equipment
- establish the cost reporting system based on the approved CAPEX
- verify the Schedule to account for when the Project will actually start
- establish project procedures
- establish the standard formats for purchasing and contracts.

24.1.4 ENGINEERING

The engineering groups will establish their list of drawings and specifications, for both capital equipment and construction. These represent the “engineering deliverables" that are needed to construct the facilities, order the capital equipment and bulk materials and to control and commission the new plant.

The engineering groups are responsible for identifying and scheduling their deliverables in accordance with the overall Schedule. Progress for engineering will be based on budget versus actual man hours combined with the knowledge, based on experience, of the design team leaders.

24.1.5 Procurement and Contracts

Purchasing and Expediting Strategy

During the initial stages of project establishment the standards for purchasing will be established. It is expected that any party placing purchase orders will do so on behalf of the Owner but ordered on the Owner's purchase order.

The EPCM purchasing group will provide capital equipment procurement, vendor drawing expediting and, when required, equipment inspection. The procurement department will package the technical and commercial documentation and manage the bidding cycle for equipment and materials to be supplied by Victoria Gold to the contractors. Standard procurement terms and conditions approved for the Project will be utilized for all equipment and materials purchase orders. Suppliers will be selected based on locations, quality, price, delivery and support service.

Capital equipment to be purchased for the Project (all equipment that is shown on the Project flow sheets with an equipment number and included on the equipment list) will be managed by the engineer-of-record for that package of work. The engineer will develop the equipment specification, solicit prices, prepare the technical and commercial analysis and provide the Owner with the recommendation for purchase. Once approved for purchase, the engineer will issue the purchase order on behalf of the Owner and then continue to follow up with the expediting of the vendor drawings in order that he may complete the design drawings to an "issued for construction" level. If needed, the engineer will perform any shop inspections necessary.

Bulk materials such as piping, electrical cable, cable tray and hi-bay lighting will be purchased by the construction management group on behalf of the Owner based on the bills of quantities provided by the engineer. The remaining materials will be purchased through the contract packages by the contractors.

The construction management group will assemble contract tendering documents, establish qualified bid lists, tender the work, analyze and recommend contractors to the Owner, and prepare the executed contracts for issue.

A field procurement manager will be responsible for supporting the ongoing construction needs for miscellaneous materials and services to be provided by the Owner as well as provide expediting services. They will also be responsible for the receipt, storage and disbursement of purchased materials and equipment at the job site.

A plan for expediting equipment purchase orders will be prepared based on the Schedule and equipment list. Expediting will be coordinated by the construction group. Third-party resources may be used to inspect equipment being manufactured in various parts of the world. The extent with which purchase orders will be expedited will be based on complexity, manufacturing cycle time and schedule criticality. For purchase orders requiring the highest level of expedition, a resident expediter will be placed at the supplier's facility. Expediting reports will be entered into the material control reporting system after each contact with suppliers.

Purchase orders will be used for the receipt of the equipment at site and provide the support for vendor invoices. All invoices will be processed through the site based project team where they will be matched against goods received, cost coded, and processed for payment by the Owner.

CONSTRUCTION CONTRACT STRATEGY

Much of the construction work may be issued to a single general contractor or it may be split into a number of construction contracts determined by the availability of detailed engineered information, resources, cost advantages, scheduling issues, permits and approvals and cash flow. In any event, separate construction contracts are expected to be awarded for the camp supply and installation, HLF and associated events ponds and diversion channel, Haggart Creek access road upgrade and realignment, microwave/satellite communication system, electrical substation and high voltage power line work using specialized contractors.

Table 24.2 indicates the currently anticipated contract packaging strategy. There are going to be other contracts and options available during the execution phase.

Table 24.2 Project Contract Packages

Contract Description	Type	Comments
Plant Site Preparation and Bulk Earthworks	Unit Price	-
HLF, Diversion Channel and Events Ponds	Unit Price	-
69 and 25 kV Power Line Design/Build	Lump Sum	Power Line Contractor
Truck Fuel Station Design/Build	Lump Sum	-
Process Plant Building	Lump Sum	Pre-engineered
Crushing Facilities and Conveyors	Lump Sum	-
Truck Shop and Warehouse Design/Build	Lump Sum	Pre-engineered
ADR Process Facility	Lump Sum	-
Administration Complex Design/Build	Lump Sum	Modular
Concrete Supply	Unit Price	-
Concrete Installation	Unit Price	-

table continues…

Contract Description	Type	Comments
Structural Steel Installation	Unit Price	-
Cladding and Roofing	Unit Price	-
Mechanical and Piping	Fixed Price	-
Insulation	Fixed Price	-
Electrical and Instrumentation	Unit Price	-
Process Control	Fixed Price	-
Architectural Finishes	Unit Price	-

24.1.6 CONSTRUCTION LABOUR REQUIREMENT

The construction contracting strategy and feasibility study costs are based on a "managed open shop" construction program, which is not preferentially union or non-union. This approach takes advantage of the vast pool of skills available from all types of unions and non-union shops. Using this method, the Project will take advantage of local labour sources, as well as contractors from anywhere in Yukon or Canada. The Schedule is based on a 70 h work week, with some double shifts as required. Crew rotations are planned to be three weeks on-site and one week off-site.

It is anticipated that there are about 836,376 man-hours of total construction labour associated with the Project construction, excluding mine pre-development and engineering with construction manpower peaking at about 300 total construction workers on-site.

In addition to the total construction labour, it is anticipated there will be about 100,675 man-hours of indirect labour associated with construction management, construction camp expansion, site survey, quality assurance, geotechnical support, start-up and commissioning (including vendor assistance). Owner's hours are not included in this total.

24.1.7 CONSTRUCTION CAMP

Development of a full-service modular, single storey, propane heated camp for construction contractors will be scheduled to support the initial construction force for the commencement of bulk earthworks in October 2012 as well as the Owner's personnel including the Owner's construction management team. The growth of the camp will continue in phases as requirements demand to accommodate up to 400 persons overall during peak construction activities including Owner's representatives and visitors.

The camp will be single occupancy, and will be provided with recreational facilities and a commissary. The camp will be designated as a firearm free and dry camp (i.e. no alcohol or non-prescription drugs) area.

The camp will eventually accommodate the Owner's operating personnel (including mining pre-stripping operators). The construction crews working on the high voltage power to site line and the Haggart Creek access road upgrades may opt to provide their own mobile camps to be located where convenient along the route of their work, and their manpower levels are not included in the construction camp sizing.

The construction management team will manage the camp and catering contractor to ensure that quality service is provided including hygiene, food storage and handling, menus and nutritional value, and staff qualifications.

24.1.8 HOUSEKEEPING AND HAZARDOUS WASTE MANAGEMENT

Specific procedures for waste management and spill response will be implemented for the construction period. These procedures will be defined in the Project procedures and cover compliance, auditing and reporting requirements. Procedures regarding ongoing cleanup and rubbish removal, as well as safe handling, storage and disposal of batteries, fuels, oil and hazardous materials, will be established and observed for the duration of the construction phase. Waste will be recycled to the extent feasible. Ongoing dust suppression and rainwater management programs will also be established and observed for the duration of the construction phase. Specific procedures and storage areas will be designated for construction waste prior to recycling or removal from the site. Solid waste will be recycled or disposed of at the Mayo landfill.

24.1.9 CONSTRUCTION EQUIPMENT

Construction equipment will generally be the responsibility of individual contractors. No mobile equipment is permitted to operate on site unless it complies with the mining regulations, and no cranes are allowed to operate without recent inspections. Any modifications to equipment have to be certified fit for operation, especially where welding is concerned.

The Owner may choose to supply the large construction cranes to be managed by the construction management team.

24.1.10 COMMUNICATION

The Owner will determine the appropriate temporary (for construction) and permanent microwave telecommunications technologies for the Project, with input by the EPCM team where needed. Requirements will include voice and data link technologies to support growth in both construction and plant operation needs.

The communications framework for management offices will be installed early in the construction period. The system will be supplemented with the installation of telephones in common areas, and for individual room internet access.

24.1.11 CONSTRUCTION POWER

Approximately 1 to 2 MW of construction power will be required together with a similar sized unit for the construction camp. This power will be supplied by low noise, low emission, and temporary generator sets. Permanent power will be available by September 2013 and will supply power for all mine equipment and peak construction power loads for the balance of the construction phase. The temporary units will be kept on-site until at least the end of the construction period and maintained as emergency power units or operated in some of the more remote environments to replace the contractor's construction units.

24.1.12 MECHANICAL COMPLETION

Mechanical completion is a term used with contractors, and often defined in contracts, to designate that point when the contractor is considered to have completed his work such that the Owner may operate the facility in a safe manner. It may not be completely finished at that time, and it could be just systems within the overall project (a building or fresh water system, etc.). Mechanical completion is often descriptive of substantial completion at which time a full punch list of deficiencies remaining is developed by the contractor, the construction management team and the Owner and used to measure the progress to final completion.

Each process system or ancillary facility will be checked for compliance with drawings and specifications, vendor data, and lubrication requirements. Mechanical and electrical capital equipment will be checked for proper installation, alignment, and rotation. Conveyors will be run without load to verify belt alignment. Tanks and piping will be water/air tested. Electrical equipment and circuits will be checked for proper installation. Instrumentation circuits will be checked and instruments will be zero-calibrated. When all installations have been verified, each system will be run under no-load conditions. Permanent records will be maintained for each piece of equipment.

Mechanical completion of systems and facilities is a prelude to the commissioning of the overall plant. By this time the Owner's operating personnel have punch listed the system, and the construction management team has worked with the contractors to finish things up to the state needed. Critical utility features will have been completed before mechanical completion such that water is available for hydro testing of piping and tanks, air is available to test the pneumatics, and permanent power is available to "bump" the motors.

24.1.13 COMMISSIONING

The sequence of system commissioning is vital to shifting the construction schedule from general area completion to more specific system completion to suit the commissioning and start-up of the entire facility. System identification and prioritization must be expedited to allow for the construction schedule adjustments and the completion of the work, in order to satisfy the established commissioning sequence.

The commissioning sequence and plan will be developed at the start of the Project. During the latter part of construction the Team will execute the plan. The systems will be identified and scheduled for delivery by priority. Packages will be assembled to include all sign off and test documentation, drawings and vendor information, for each system that will be commissioned.

The various systems will be transferred to the Owner's operations team once they are completed and determined by the construction management team to be free of deficiencies that would prevent safe operation. The Owner's team will consist of plant operators and maintenance staff who will enlist the help of vendors, contractors and construction management personnel as needed to dry run and then wet run the systems until they are finally accepted by the Owner's operations management. The transfer of systems will be formally documented and include all mechanical/electrical testing documents and vendor's information.

24.1.14 CONSTRUCTION METHODS

CONSTRUCTION MANAGEMENT KEY OBJECTIVES

- Conduct HSE policy training and enforcement for all site and contractor staff. Site hazard management tools and programs will be employed to achieve the no harm/zero accident objective.
- Implement the contracting and construction infrastructure strategies to support the project execution plan.
- Develop and implement a construction-sensitive and cost-effective master project schedule.
- Establish a project cost control system to ensure effective cost reporting, monitoring and forecasting as well as schedule reporting and control. A cost trending program will be instigated whereby the EPCM contractors will be responsible for evaluating costs on an ongoing basis, and provide comparisons to budget and actual project trending for the cost report on monthly basis.
- Establish a field contract administration system to effectively manage, control and coordinate the work performed by the contractors.
- Manage the catering contractor (by contract) to ensure quality service is up to expected standards for the facilities, staff qualifications, hygiene standards, food handling, storage and provision of meals.
- Apply effective field constructability program, as a continuation of the constructability reviews performed in the design office.

- Organize purchases of bulk materials. In addition, they will assemble contract tendering documents, establish qualified bid lists, tender the work, analyze and make recommendations to the Owner for the most suitably qualified contractors, and prepare the executed contracts for issue.
- The Site Materials Management group will receive, inspect, and log all incoming materials, assign storage locations, and maintain a database of the status of all materials received and dispensed to the contractors. Ongoing reconciliation with the procurement system, including reconciliation to the freight consolidation point, will confirm that the materials ordered for the Project were correctly received, and that the suppliers were paid. An allowance for lease or purchase of offloading equipment, forklifts, storage racks or other equipment required during construction has been included in the construction budget.
- Develop a detailed field logistics and material control plan to maintain the necessary flow and control of material and equipment to support construction operations.

Construction Management Responsibilities

The construction management group will be responsible for the management of all field operations. The construction manager will be responsible to the Owner to effectively plan, organize, and manage construction quality, safety, budget, and schedule objectives.

The construction management field engineering team will employ independent quality assurance specialists to ensure the implementation and success of the contractor's quality control.

Detailed construction management responsibilities include, but are not limited to:

Project Management

- camp management (by contract)
- camp catering (by contract)
- camp installation – supported by Owner
- insurance, Workers' Compensation Board (WCB), general liability, third party and auto
- labour relations plan and site work rules – supported by Owner
- freight logistics and deliveries – assist Owner
- overall project cost system
- scheduling
- site offices – assist Owner

- site topographical survey – assist Owner, and engineering and procurement
- site utilities for field offices – assist Owner.

Design

- concrete mix design – with assistance from engineering and procurement
- camp – assist engineering and procurement, and Owner
- commissioning – assist engineering and procurement, and Owner
- communications system for construction – assist Owner
- document control – general project and construction
- constructability reviews – with support from engineering and procurement, and Owner.

Purchasing and Expediting

- spare parts – start-up and commissioning – assist Owner
- vendor representatives (erection support and commissioning) – with assistance from engineering and procurement, and Owner vendor representatives – coordination.

Construction

- HSE policy implementation and enforcement
- site construction management
- warehouse and laydown area
- security personnel – assist Owner
- contracting plan
- contract bid documents
- contract tendering – post tender meetings and recommendations
- contract execution and administration
- earthworks and civil site supervision
- mechanical and piping site supervision
- structural site supervision
- electrical and instrumentation site supervision
- commissioning – assist Owner, and engineering and procurement
- on-site monitoring of construction equipment condition and safe operating capability

- survey and layout (by contract) – assist Owner
- site quality control (by contract)
- cost reporting and controls – with engineering and procurement, and Owner support
- as-built drawings (by contractors).

CRITICAL PATH AND INSTALLATION METHODOLOGY

The Schedule has been presented in association with the cost management system subsection in Section 24.1.3. There is only one critical path where there is zero float. It currently runs through the construction of the HLF main embankment completion of which is required to enable the construction of the tertiary crushing discharge conveyor and grasshoppers to the heap leach pad.

However, there are other items associated with the overall Schedule that need to be carefully managed; the impact of failing to complete this items could have serious consequences on the Schedule.

A number of the most important elements of the construction phase of the Project were examined in detail during the feasibility study. The reviews were performed by a joint team representing the Owner, engineering team, construction management team, and (as required) contractors and vendors.

Heap Leach Facility Earthworks

Construction activities are constrained by work that restricts the placement of certain general and rock fills during the warm and dry months of the year. The phased completion of the heap leach pad and main embankment has been scheduled accordingly, governed in part by the engineer's quality specifications that determine "no-build" restrictions during the winter.

Activities critical to the construction of the heap leach pad and main embankment include construction and completion of the Dublin Gulch Diversion Channel, Upper Velocity Reduction Pond and Diversion Embankment and the Lower Dublin Gulch (North) Sediment Control Pond.

The diversion channel has three main components: upper, middle (velocity reduction) and lower. To enable completion of the diversion channel in early 2013, work will proceed in each of these sections concurrently.

Construction Aggregates and Fill Materials

Current on-site estimates indicate there would be quality materials available at the pit which would be hauled to and stockpiled at the crushing/screening plant to be located near the concrete batch plant pad which would be in the general vicinity of the primary crusher. The contractor operated facility will be tasked with producing crushed and screened materials suitable for concrete aggregates.

In addition, the following materials will be sourced and processed from the on-site placer tailings suitable for various fills such as:

- HLF embankment
- clean topping for substation
- engineered backfill for retaining walls
- site road dressing
- piping, electric conduit and cable trench protective backfill layers.

Permanent Power

Installation of 69 kV permanent power to the main substation at site and 25 kV site distribution will be available September 2013. Pre-commissioning and commissioning of electrical distribution power lines and equipment will commence thereafter.

General Contractors and Subcontractors

The general contractors and subcontractors will be responsible for:

- provision of all construction labour
- provision of all construction equipment
- transportation of their workers
- site offices and temporary services
- site management
- contractor surveying
- quality control program – in accordance with the construction technical specifications and the applicable codes and standards
- contract scheduling
- safety
- environmental safeguarding
- security for their tools and equipment
- supplying permanent materials as required by contract
- meaningful project procedures
- commissioning assistance.

The Owner will provide site accommodations as described in Section 24.1.7.

Construction Equipment Supply Philosophy

Generally, the construction contractors will be responsible for the supply of all equipment required for construction. However, there may be cost savings if the Owner provides cranes and manages their use among the contractors. While there are some equipment items included in the budgeted Owner's mobile fleet, these are intended for use by the Owner during construction for miscellaneous purposes, such as road grading, ditching, etc. This fleet will not be available to the construction contractors.

Project Team Responsibilities

Understanding the relationship and responsibilities of the various groups that comprise the Team during the engineering and construction phase of the Project is fundamental to the Project's success. Complimentary methods of establishing inter-relationships include communications matrices, organization charts for communications and reporting, etc.; but the two fundamental pieces of the management structure are the overall responsibility matrix and the Project organization chart.

It will be the Owner's responsibility to the EPCM service providers to establish an Owner's team to oversee the Project execution. Project management, engineering, and construction management activities are summarized in Table 24.3.

Table 24.3 Responsibility Matrix

Item	Owner	Engineering/ Procurement Engineer	Construction Management
Project Management			
Engineering Controls	-	x	-
Geology	x	-	-
Geotechnical – Mine and Waste Dumps	x	-	-
Geotechnical – Plant Site, Infrastructure	o	x	-
Hydrological Investigations	x	-	-
Interface with Government	x	-	-
Insurance – Workers' Compensation, General Liability, Third Party and Automobile	x	-	o
Labour Relations Plan and Site Work Rules	x	-	o
Legal Surveys	x	-	
Freight Logistics And Deliveries – To Site	-	o	x
Maintenance and Operating Manuals	-	x	-
Material Balance	-	x	-

table continues…

Item	Owner	Engineering/ Procurement Engineer	Construction Management
Metallurgical Design	-	x	-
Metallurgical Test Work	o	x	-
Overall Project Cost System	o	-	x
Permits and Approvals (operation and construction)	x	-	-
Plant Mobile Equipment Specification and Supply	x	-	-
Process, Plant Site and Utilities Design Interface Coordination	o	x	-
Mine Equipment Specification and Supply	x	o	-
Reclamation	x	-	-
Schedule Engineering and Procurement	-	x	-
Scheduling – Overall Project	-	-	x
Site Offices for Construction Management Team	x	-	o
Site Topographical Survey	x	o	o
Site Utilities for Construction Management Offices (telephone, fax, email, lighting, heating, water, etc.)	o	-	x
Site Vehicles for Construction Management Team	x	-	-
Coordination with Underwriters	x	o	-
Environmental Monitoring	x	-	-
CAPEX	o	x	-
OPEX	o	x	-
Financial Analysis	o	x	-
Project Management Plan	-	-	x
Design			
Trade-off Studies	o	x	o
Engineering Management	x	-	-
Overall Site Layout	-	x	-
Mine Planning	x	-	-
Process Design	-	x	-
Mine Services	x	-	-
Rough Excavation	-	x	-
Detailed Site Layouts and Design Including Roads	-	x	-
Earthworks Design (plant, crushing, leach pad, truck shop, site roads, etc.)	-	x	-
Flowsheets	-	x	-
Piping and Instrumentation Diagrams	-	x	-
Piping Specifications and Line Lists	-	x	-
Valve Commodity Codes and Specifications	-	x	-
HVAC System Including Balancing Requirements	-	x	-
Noise and Vibration Control	-	x	-
Engineered Pipe Supports and Non-engineered Standards	-	x	-

table continues…

Item	Owner	Engineering/ Procurement Engineer	Construction Management
Mechanical Equipment List	-	x	-
Electrical and Instrumentation	-	x	-
Electrical Equipment List	-	x	-
Electrical Cable Cut List	-	x	-
Site Grounding	-	x	-
Civil Works	-	x	-
Site Drainage and Yard Services	-	x	-
Foundations	-	x	-
Concrete Mix Design	-	o	x
Concrete Aggregate Suitability	-	x	-
Structural	-	x	-
Structural Steelwork	-	x	-
Structural Steelwork Fabrication Drawings Review	-	x	-
Architectural Finishes and Painting Specs and Colours	-	x	-
Heat Tracing	-	x	-
Thermal and Stress Analysis	-	x	-
Insulation and Fireproofing Specifications and Details	-	x	-
Admin, Dry, Warehouse	-	x	-
Capital Equipment Specifications	-	x	-
Vendor Drawing Review	-	x	-
Shop Inspections As Needed	-	x	o
Crushing and Conveying Systems	-	x	-
Ore Processing Facilities	-	x	-
Laboratory Building	-	x	-
Laboratory Equipment and Internal Fixtures	-	x	-
HLF, Events Ponds and Diversions	-	x	-
Heap Leach Delivery Pipeline and Reclaim Systems	-	x	-
Project Building Utilities	-	x	-
Electrical Sub-station	-	x	-
Power Distribution	-	x	-
Water and Waste Management	-	x	-
Local Power Generation Facilities	-	x	-
Vendor Manuals	-	x	-
Project Control Philosophy and System	o	x	-
Plant Automation	o	x	-
Loop Drawings	-	x	-
Instrument Lists and Specifications	-	x	-
Protection and Metering Design (if needed)	-	x	-
Programming	-	x	-
Piping Specifications	-	x	-
Commissioning	x	o	o

table continues…

Item	Owner	Engineering/ Procurement Engineer	Construction Management
Fire Protection	-	x	-
Site Communications System	-	x	-
Water Supply System (process, fire and domestic)	-	x	-
Septic System	-	x	-
Diesel Fuel Storage and Dispensing Facility	-	x	-
Explosives Storage Layout, Development and Services	o	x	-
Collection Pond(s)	-	x	-
Communications System (for construction)	x	-	o
Document Control – Design Documents	-	x	-
Document Control – General Project and Construction	-	-	x
Water Balance	o	x	-
Constructability Reviews	o	o	x
Permit Support Information	-	x	-
Bills of Materials	-	x	-
Trend Forecasting for Quantities, Changes in Design, and Engineering and Procurement Costs	-	x	-
Purchasing and Expediting			
Capital Equipment Specifications/Purchasing/Drawing Expediting Plan	-	x	-
Vendor Drawing Expediting	-	x	-
Bulk Materials Quantity Take-offs	-	x	-
Purchase Orders Including Terms and Conditions for Bulk Materials And Field Purchases	-	-	x
Bulk Materials Purchase and Deliveries	-	-	x
Freight – Capital Equipment – To Site	-	o	x
Mine Equipment	x	-	-
Expediting Capital Equipment – To Site	-	o	x
Equipment Inspection - Vendor Shops	-	x	o
Spare Parts Selections and Ordering	x	o	-
Spare Parts - Start-Up and Commissioning	x	-	o
Vendor Reps (erection support and commissioning)	-	o	x
Vendor Reps – Coordination	-	-	x
Quality Assurance	-	x	-
Construction			
Construction Manager	-	-	x
Site Construction Management	-	-	x
Preproduction Mining	x	-	-
Field Engineering Liaison	-	-	x
Warehouse and Laydown Area	-	-	x
Security Personnel (if required)	x	-	-
Safety Personnel	x	-	x

table continues…

Item	Owner	Engineering/ Procurement Engineer	Construction Management
Safety Management	x	-	o
Construction Technical Specifications	-	x	-
Contracting Plan	-	-	x
Contract Bid Documents	-	-	x
Contract Tendering, Post Tender Meetings and Recommendations	-	-	x
Contract Execution and Administration	-	-	x
Earthworks and Civil Site Supervision	-	-	x
Mechanical and Piping Site Supervision	-	-	x
Structural Site Supervision	-	-	x
Electrical and Instrumentation Site Supervision	-	-	x
Commissioning (as required)	x	-	o
On-site Monitoring of Construction Equipment Condition and Safe Operating Capability	-	-	x
Survey and Layout (contract)	-	-	x
Site Quality Control (contract)	-	-	x
Environmental Monitoring	x	-	-
Cost Reporting and Controls	-	-	x
"As-built Drawings" (by Contractors)	-	-	x

Note: X = Primary Role; O = Support Role

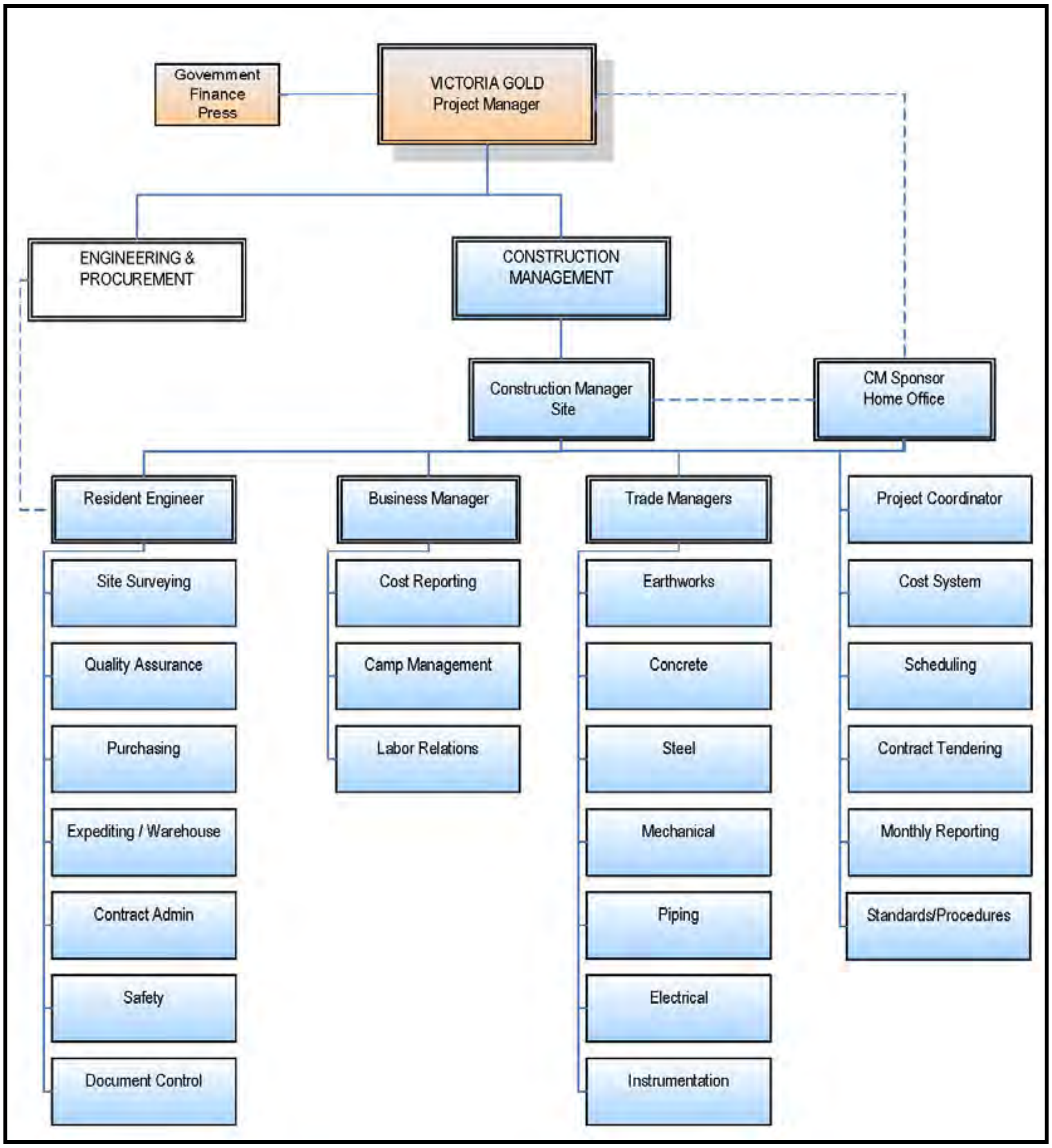
Plant operation and performance testing—which includes operating the facility through the full range of design sizes and capacities specified in the design criteria—will be the responsibility of the plant operations group. Equipment suppliers and process design engineers may be required to provide support to ensure that the optimal performance is achieved for all equipment.

Suppliers will oversee and assist the Owner with performance tests, which will be managed and carried out by the Owner's operational personnel.

Selected members of the Project commissioning team may be re-mobilized to assist as required.

Figure 24.3 sets out the construction management organization chart. The Owner has accepted responsibility for project management, and accordingly will be responsible for directly managing the various groups contributing to the project execution.

Figure 24.3 Construction Management Organization Chart



25.0 INTERPRETATIONS AND CONCLUSIONS

25.1 PROPERTY

Wardrop concludes the following regarding the Project:

- The 34,576 ha area of the Property includes a contiguous block of 1,912 quartz claims, 10 quartz leases, and 1 federal Crown grant that are in good standing with renewal dates of 2012 to 2027.
- A satisfactory agreement has been concluded with the appropriate First Nations in the Project area.
- There are no known environmental liabilities.
- The Property is of sufficient size to cover the Eagle Gold mineral resource, areas of future resource potential, development of an open pit mine, waste disposal, and all facilities required for successful heap leach operation and production of gold doré.
- Good road access to the Property is available by 81 km of highway and well-maintained road from Mayo in central Yukon. A network of four-wheel drive roads provide access to most parts of the Property.
- Although winter climate and surface conditions may be severe in central Yukon, sufficient metallurgical test work, mine, heap leach, infrastructure, and environmental planning have been conducted to indicate that successful gold production can be anticipated.
- A plan is in place whereby Yukon Energy Corporation will provide electrical power to the Project prior to initiation of production.
- Sufficient local water resources are available for the anticipated scale of production.

25.2 GEOLOGY

Native gold mineralization occurs in association with sulfides in the Eagle Zone, a 600 x 1,600 m zone of northeast-striking, steeply-dipping, narrow, sub-parallel, extensional quartz veins, spaced with an average density of 3 to 5 veins per metre, hosted in the northeast-elongate, Cretaceous-age, Dublin Gulch granodiorite stock. The Eagle Gold deposit is a member of the RIRGS gold deposits of the Tintina Gold Province. This province stretches northwest to southeast for several hundred kilometres from central Yukon to western Alaska and includes the Fort Knox, Pogo, Donlin Creek and Brewery Creek gold deposits. Successful production from other RIRGS gold deposits, particularly at Fort Knox, is a good indication that successful production can be anticipated on the Project.

25.3 MINERAL RESOURCE

Allan Moran, R. Geol., CPG and Leah Mach, CPG of SRK have acted as QPs on drilling; sample preparation, analyses, and security; data verification; and the mineral resource estimate. The Eagle Gold deposit has a history of exploration drilling by several companies beginning in 1972. To date, 493 holes have been drilled totalling 89,447 m. Of these, 293 holes totalling 63,683 m are diamond drill core holes, including 22 diamond drill core holes totalling 5,144 m drilled by Victoria Gold in 2011. SRK has concluded the following concerning the 2011 holes:

- They are consistent with industry standard drilling procedure.
- They augment the previous drillhole database.
- Industry standard sampling, sample preparation, security and appropriate QA/QC practices have been employed at analytical laboratories.
- The data used in the Eagle Gold mineral resource calculation has been adequately verified.

SRK employed an ID2 statistical evaluation of a total of 22,439 drill intervals with gold assays in 183 drill holes within a grade shell using a cut-off grade of 0.2 g/t Au. The statistical model distinguished four lithologic/oxidation/alteration gold mineralized types in 15 x 15 x 5 m cells with a search ellipsoid dipping 30° to the southwest on an azimuth of 240°. Five separate model validation tests confirmed good confidence in the resource estimation. SRK reported an Indicated Mineral Resource of 133,699,000 t grading 0.69 g/t Au containing 2,979,000 oz Au.

Potential risks or uncertainties in accepting the mineral resource calculated by SRK include:

- The accuracy of the assay, rock density, and logged lithologic database should be thoroughly checked for errors, omissions and consistency. Victoria Gold has reported that database review is ongoing.
- SRK has noted that degree of oxidation in veins is the basis on which they have created an interpreted base of oxidation for purposes of resource modeling. SRK has further noted, "…that definition (of the base of oxidation) is not entirely possible with the mix of historical and current drill logs and in particular the mix of reverse circulation (RC) and core hole logs…" and that, "…conflicting oxide codes…" from previous logging have been used. Wardrop noted that while the SRK interpreted base of oxidation is a valid means of arriving at a resource estimation, variations in degree of oxidation of veins above or below this interpreted base could result in variations in

heap leach results. Selected core from numerous diamond drill holes should be re-evaluated in an effort to more accurately characterize degree of oxidation in veins. Included in this re-evaluation should be assaying for sulfide sulfur, a good potential indicator of refractory characteristics.

25.4 MINERAL RESERVE

Wardrop applied Gemcom Whittle™ software with the Lerchs-Grossman optimization algorithm to evaluate the optimal open pit shell cone designs within the referenced SRK mineral resource. Assumptions used in pit optimization were prevailing mining, process, and G&A costs, percent recoveries for the four types of gold mineralization established by metallurgical test work, a gold price of US$1,200/oz Au and feasibility level pit slope angles provide by BGC. Wardrop assumed an average mine production rate of 29,500 t/d for 350 d/a with an average production of 10,325,000 t/a.

A mineral reserve is defined as that part of a mineral resource that is economically mineable as indicated by at least a prefeasibility study that includes mining, processing, metallurgical, economic, and other relevant factors that demonstrate that economic extraction can be achieved (CIM 2005). Based on these criteria, the Eagle Zone Indicated Resource calculated by SRK was converted by Wardrop to a diluted Probable Mineral Reserve within a final open pit of 91,600,000 t of gold mineralized rock grading 0.781 g/t Au, with 132,409,858 t of waste, a stripping ratio of 1.45:1.0, and a total contained 2,300,768 oz Au.

25.5 MINING

Following completion of the open pit optimization study, and in order to maximize recovery of ore and minimize waste stripping and haulage costs, Wardrop designed a pit with final dimensions of 780 x 1,420 m to a depth of 562 m. This pit incorporates pit slope recommendations derived from geotechnical investigations conducted by BGC. BGC performed geotechnical mapping, oriented core drilling, and geo-mechanical laboratory testing on five selected granodiorite and metasediment rock unit types, and recommended bench height, width, and angle designs for each of the units. Achieving overall slope stability will require reducing pore pressures in the rock mass and controlled blasting.

Wardrop developed a detailed production schedule incorporating three pushback phased mining stages from smaller to larger pits. This plan includes 1.5 years of pre-production stripping, followed in the first year by two months of production, based on a October 2014 start date, during which time primary, secondary, and tertiary crushers will be commissioned and ore sent to a heap leach pad.

Based on starting in December 2014, ore production will cease and waste stripping will be carried out for a 100 d period. From March 2015 until the end of the LOM

(2015 to 2023), production will consist of mining and heap leach stacking for 250 d "summer" periods (March to November) followed by 100 d "winter" periods (December to February) of mining, primary crushing, and stockpiling only. Although mining will continue throughout the year, heap leach stacking will not be carried out during winter months. Over the 10-year LOM it is estimated that production will average 10,325,000 t/a of ore, with a design capacity of approximately 29,500 t/d of ore.

During the first three years of production, 13,700,000 t of waste rock will be stored at the Platinum Gulch WRSA (approximately 41 ha) located adjacent to the south side of the pit. Subsequent storage of approximately 118,700,000 t of waste will be at the Eagle Pup WRSA (approximately 103 ha) located adjacent to the north side of the pit. Because of discontinuous permafrost at the WRSAs, BGC has recommended staged, bottom-up construction in 45 m lifts with an average overall slope of 2.5H:1V.

Mining will be by conventional open pit drill/blast and load/haul using trucks and shovels. Initial benches will be 7.5 m and double-benched to 15 m in later years, and two-lane mine roads will be a minimum of 31 m wide. All ore will be transported to a primary crusher in 91 t rear-dump haul trucks and waste will be transported in 136 t rear-dump haul trucks. Primary ore loading will be by two 11 m^3 diesel hydraulic shovels, primary waste loading by one 15 m^3 diesel hydraulic shovel, and a 12 m^3 front-end loader will provide back-up loading capacity.

25.6 HEAP LEACH RECOVERY

Column and bottle roll cyanide leach tests were conducted on composite samples derived from approximately 20 t of drill core by KCA in 1995, 1997, 2009, and 2010. KCA demonstrated that gold recovery is sensitive to crush size and type of mineralization. KCA recommended a conventional crushed size of P_{80} 6.4 mm. KCA concluded that overall gold recoveries at both ambient and freezing temperatures based on estimated percentages of four gold mineralized types should average 72.9% with a leach time of 150 d when stacked and leached in 10 m lifts.

Wardrop selected to treat ROM ore with a 1,372 x 1,651 mm primary gyratory crusher with a discharge setting of 150 mm. The crusher will be located near the north rim of the final open pit. During winter operation, primary crushed ore will be conveyed to a 100 d storage site. During summer operations both primary crushed ore and winter primary crushed stockpiled ore will be transported to two standard head secondary cone crushers by a system of covered conveyors across two double deck vibrating screens with apertures of 89 and 38 mm; oversized ore will be delivered to the secondary crushers, each with a closed side setting of 19 mm. The secondary crusher product and undersized ore will then be transported by covered conveyors to four cone crushers for closed circuit tertiary crushing with final discharge sized material at a P_{80} 6.4 mm.

Final crushed ore will be agglomerated with lime and Portland cement on a 1,219 mm wide conveyor system, and then transported for stacking via portable conveyors to a stacking conveyor on the heap leach pad. The ore will be stacked in 10 m lifts on the leach pad. The pad will be lined with LLDPE over a GCL. The lower section of the pad will act as an in-heap pond with a capacity of up to 459,349 m^3 for primary storage of PLS, and will contain a double LLDPE layer separated by a GCL. A synthetic drainage network (geonet material over a GCL system) will lie between the upper LLDPE and the GCL, allowing for free flow of PLS to a collection and pump-back system.

The stacking system will employ a series of overland conveyors, up to 20 grasshopper-type portable transfer conveyors (38 m in length), a horizontal mobile bridge conveyor (43 m) on a dozer crawler, and a radial stacking conveyor (37 m) all installed adjacent to the pad. The radial stacker will place crushed ore in 10 m lifts in a series of 60 m wide x 500 m long ribbons.

Wardrop designed a detailed three-phase heap leach stacking plan based on an average loading rate of 41,300 t/d for 250 loading days per year over the LOM. The final heap will have an in-valley slope of approximately 17 degrees, a length of approximately 1,980 m, an average width of 520 m, an average vertical thickness of 103 m, and a maximum thickness of 150 m. Of 39 cells to be leached, 22 will be leached for the full 150 d cycle, but 17 will experience up to 20% impairment of gold recovery due to shorter leaching cycles of 48 to 132 d; final rinsing is expected to eventually recover 75% of the 20% impaired recovery.

Barren solution containing cyanide (heated in winter) will be distributed to the stacked ore through pumps, pipe headers, and ultimately 81 x 81 cm drip emitters buried at a 3 m depth below the surface of the agglomerated ore. Burial channels will be created by ripping. PLS that has percolated down through the heap will be collected in a piping system placed within a 1 m thick layer of 38 mm drainage rock in the in-heap pond and pumped the ADR facility.

The HLF will operate year-round. The following mitigations have been incorporated in the HLF design to allow for cold-climate operation.

- The south-facing, in-valley location will create a heat sink.
- Storing the PLS in the heap will protect it against freezing.
- Ore will be stacked on the heap leach pad only during the 250 d “summer” period.
- Drip emitter lines will be “ripped in” and covered with 3 m of ore.
- The HLF design includes heating of barren solution, in-heap temperature monitoring, and heat-tracing and insulating of barren solution tank and pipelines.

Gold will be recovered in the ADR facility by adsorption onto activated carbon particles within three parallel trains of five 4.6 x 5.2 m columns. Carbon loaded with gold will be pumped to an elution/desorption column where pressurized hot caustic and cyanide solution will strip off the gold. The resultant high-grade pregnant solution will then be delivered to electrowinning cells where the gold will be recovered on stainless steel cathodes. The carbon will be regularly subjected to acid washing and heat treatment in a kiln to control scaling and to regenerate carbon adsorption activity. Gold sludge recovered from washed cathodes will be smelted in a diesel-fired tilting crucible furnace and poured into doré bars prior to being dispatched off the Property.

Based on an average production of 29,500 t/d, 10,325,000 t/a, 91,594,000 t over the LOM, average diluted grade of 0.781 g/t Au, total contained 2,300,768 oz Au, and average 72.9% expected gold recovery, the estimated total production over the LOM is 1,676,234 oz Au.

Although successful year-round heap leaching has been achieved at other mines located in extreme winter weather sites in Yukon and Alaska, Wardrop has identified the following potential risks and uncertainties in heap leaching that could have an adverse impact on gold recovery rates on the Project:

- The confined area available at the heap leach pad site does not readily allow for variations in stacking area or thickness. Careful monitoring of recoveries and consideration of different types of radial stackers could mitigate this effect.
- Poor quality of agglomeration could lead to variations in heap permeability and channeling of barren cyanide leach solution. Regular testing of agglomerated ore and adjustments in procedures could control this potential problem.
- Increases in final crushed particle size from the optimum P_{80} 6.4 mm. Regular screen testing and adjustment of crushers and maintenance of screens will be required to mitigate this effect.
- Development of ice lenses in winter months causing non-uniform barren cyanide leach solution flow through the heap. Appropriate placement of buried emitters and minimum 3 m thick insulation ore layers, and appropriate heating of barren solution should overcome this potential problem.

25.7 Capital, Sustaining and Operating Costs

A CAPEX of $399,741,091 has been calculated by Merit using standard industry practices based on consultations with engineers, procurement specialists, and cost estimators, and with input from Wardrop, Knight Piésold, and Victoria Gold (Owner's costs). Direct costs include mining fleet, pre-production stripping, crushers, heap leach and processing facilities, power and water management systems, infrastructure, communications, and temporary construction camp. Indirect costs include initial fills, spares, commissioning and start-up, engineering and procurement, construction management, and freight and logistics. Merit has included an overall contingency of 11% of direct and indirect costs. Contingency was estimated for each activity and 11% is the sum of all risks for each activity. The CAPEX does not include escalation of costs, interest payments or exchange rates during project development, scope changes, schedule or permit delays, lack of availability of labour resources, or taxes.

Sustaining capital totalling $132,900,000 in the years 2015 to 2022 has been estimated by Merit using the same criteria.

Wardrop estimates a total OPEX $12.21/t ore leached, and includes:

- mining costs of $4.77/t ore mined based on estimations of equipment productivity, operating hours, labour, maintenance, repairs, fuel, and consumables
- processing costs of $6.33/t ore leached based on estimations of costs of crushing, agglomeration, stacking, leaching, and gold recovery to produce gold doré
- G&A costs of $1.11/t ore leached including G&A, water treatment, and infrastructure operating costs.

25.8 ENVIRONMENTAL

A comprehensive set of base line environmental studies on climate, hydrology, soils, surficial geology, vegetation, wildlife, groundwater, water quality, air quality, aquatic ecology, socio-economic conditions, and historical and paleontological resources have been carried out by Stantec, Knight Piésold, and Wardrop from 2007 to 2011. In all cases, studies have indicated that possible adverse effects can be satisfactorily mitigated, that the resulting mine site will be returned to a landscape comparable to the surrounding area, and that it will support ecological functions at least equivalent to those that existed prior to initiation of the Project.

Water treatment facilities include a PWTP, a septic system, a CDP to treat water discharged from the HLF and at closure, and a MWTP to treat site drainage and CDP effluent.

It is expected that the CDP and MWTP will produce water suitable for discharge into the local Haggart Creek drainage system, assuming a 10:1 dilution. Additional column testing should be conducted to determine that sulphate, selenium, and mercury levels, in particular, meet required licensing standards.

25.9 ECONOMIC ANALYSIS

Wardrop QPs have performed a base case, 100% equity, pre-tax, economic analysis of the Project based on the following:

- gold price of US$1,325/oz
- currency exchange of Cdn$1.00 = US$0.92
- production of 91,594,000 t of ore to the HLF over the LOM and nominally 9,159,000 t of ore to the HLF per year.
- average grade of 0.781 g/t Au and average recovery of 72.9% Au
- total of 1,672,000 oz Au recovered over the LOM and 181,000 oz Au recovered per year
- LOM at-mine revenue of $2,378,626,000 with a total OPEX of $1,118,772,000 and a total CAPEX of $596,867,000.

The resulting discounted cash flow NPV at 8% is $273,113,000; the IRR is 24.1% and the payback period is 3.1 years.

In addition to the possible impact on overall economics that could result from variations in heap leach gold recovery or ore grades, sensitivity analyses show that the project economics are particularly sensitive to changes in gold price and exchange rate with lesser influence from operating and capital costs. It is apparent that increases in gold price would have a very significant positive impact on profitability of the Project.

25.10 PROJECT EXECUTION

Merit has presented comprehensive recommendations for a project execution strategy that includes engineering, procurement, construction management (EPCM), environmental evaluations, and adherence to a set of core elements. \

Core elements include the following commitments:

- to uphold fundamental human rights in dealing with communities, employees, and others affected by the project
- to remaining informed of political, economic, social, technical, and environmental characteristics in the project area
- to provide long-lasting economic, environmental, educational, training, and social benefits to local communities, including First Nations
- to manage construction, operation, and closure compatible with environmental protection standards regarding, run-off water, topsoil, and waste materials

Merit recommended a traditional approach to project execution under the direction of a construction management team that will commence work soon after engineering tasks are well advanced and long lead times for major equipment have been established. The recommended construction period is from October 2012 to start of production in October 2014

26.0 RECOMMENDATIONS

26.1 ECONOMIC ANALYSIS

The base case, 100% equity, pre-tax, economic analysis of the Project performed by Wardrop was based on a set of well-documented data derived from detailed investigation of the key project variables. The results of the analysis clearly indicate that at the planned rate of production, the Project has the potential for production of 200,000 oz of gold in the early years, a 10-year mine life, a NPV of $273 million, an IRR of 24.1%, and a payback period of 3.1 years. Wardrop recommends that Victoria Gold seek financing for the Project and advance it towards EPCM.

26.2 PROJECT EXECUTION PLAN

Wardrop endorses the comprehensive project execution plan based on a traditional ECPM approach that has been detailed by Merit (Section 24.0). This plan recommends a 24-month construction period starting in September 2012 to be followed by initial production in October 2014.

26.3 RESOURCE EXPANSION AND VERIFICATION

SRK has calculated an Indicated Mineral Resource of 133,699,000 t grading 0.69 g/t Au and an Inferred Mineral Resource of 17,464,000 t grading 0.56 g/t Au that lies below the Indicated Resource. The Inferred Resource has received only limited drilling and may be open at depth. It is recommended that additional drilling be conducted in order to raise the Inferred tonnage to the Indicated category and that selected holes be drilled to depth in order to test potential additional tonnage at depth.

In addition, significant potential tonnages currently regarded as of marginal grade should be subjected to further economic analysis, particularly considering a range of higher gold prices. It is possible that the resource could be significantly expanded by such a review.

SRK recommends:

- the database be thoroughly checked for errors or omissions
- additional specific gravity determinations on selected core and on core from future drillholes

- re-logging of selected holes in an effort to more accurately define oxide-sulfide boundaries.

26.4 Mineral Processing and Metallurgical Testing

KCA recommends the following in order to optimize heap leach recoveries:

- evaluation and maintenance of detailed stacking and leaching schedules.
- varying lift heights to maximize leaching efficiency. Design leach time on a single lift should be reached prior to stacking an overlying lift. In particular consideration should be given to lifts of greater than 10 m. This would assist in allowing optimum design leach times for underlying lifts.
- considering "top stackers" in order to construct higher lifts.

26.5 Mining Methods

Wardrop recommends that Victoria Gold:

- Optimize drilling and blasting based on the relationship of fragmentation and the geological/lithological zones in the mining area. A detailed examination of the different trim and buffer blast patterns along the final highwall is required combined with establishing specification for the geotechnical drill required for this.
- Conduct a detailed trade-off study to determine the optimal selective mining unit required to address mining selectivity, ore-loss and dilution and associated shovel versus backhoe application.
- Commence basic engineering to evaluate:
  - economics of contractor versus owner mining
  - maintenance and repair contract (MARC) option versus owner maintenance
  - contract blasting.

26.5.1 Pit Slope

- A 3D geological model of the open pit area should be developed that includes:
  - the spatial extent of the clay-altered intrusive zone
  - major faults cross cutting the pit area
  - the limits of surface weathering should be interpreted as a 3D surface for the area of the proposed pit
  - potential fold structures

- Additional geotechnical investigations may be warranted at the detailed design stage to update the character and extent of faults dipping into the pit in the east wall to:
  - further define the spatial extent of the faults/fault zone
  - determine if the fault(s) are continuous through the intrusive unit
  - improve the definition of the strength properties of the fault infilling.
- Pit slope depressurization requirements need to be finalized, pending the completion of hydrogeologic modeling simulations. The east pit wall is of particular importance due to the presence of faults dipping into the pit in this wall.

26.5.2 *Waste Rock Storage Areas*

- Waste rock placement should be sequenced such that the ice-rich lobate landform identified in the Eagle Pup drainage is buttressed with waste rock prior to advancing the WRSA upslope.
- Additional geotechnical investigations should be undertaken to delineate and characterize soils containing excess ice in areas where final and interim toes of the WRSAs could be located.
- The suitability of metasedimentary rocks from the primary crusher area as rock drain materials requires evaluation. The susceptibility of these materials to mechanical degradation should be determined.
- The particle size distribution of the various waste rock sources should be better defined to confirm assumptions regarding proposed materials for rock drain construction.
- Details on the interaction between the toe of the rock drains and the sediment control ponds should be considered at the next stage of design.
- The resistance of the foundation and the waste rock materials to liquefaction should be assessed at detailed design. This may require additional site investigations including geophysics.

26.6 Recovery Methods

The metallurgical testing and process engineering for the Project needs additional effort in the following areas:

- detoxification of cyanide
  - perform further testing using Caro's Acid and the Inco process
  - evaluate how to use an underutilized carbon train (at closure) for detox
- leaching

  - evaluate all inefficiencies of excess leach height, sensitivity, 25% rather than 15%
  - evaluate stacking when placing leach blocks at 20 m lifts, prepare a plan and evaluate

- detail design of the barren solution (application) piping – create a functional design integrated with leach blocks and stacking
- during operation is suggested a real time water balance model be developed to monitor total solution inventory.

26.7 ENVIRONMENTAL

It is recommended that the water balance model be applied as an iterative tool to consider modifications to the water management plan as needed to further optimize the water treatment facilities for the project. In addition, a water quality model should be integrated into the water balance model or developed for each iteration of the water balance model. Using these tools the water treatment needs should be explored more completely to confirm the flow conditions under which the proposed 10:1 dilution ratio and the combined capabilities of the CDP and MWTP will assure compliance with water quality guidelines. Of particular interest are the water quality guidelines for sulphate, selenium, and mercury for which flow management techniques are currently being applied in lieu of advanced treatment processes.

Also important will be modeling of HLF dilution during the rinsing period and the resulting decline in concentration of compounds in the water leaving the HLF during and after draindown. Additional water balance modeling will also allow flow management to be better balanced so that the single maximum month of flow under the 90th percentile scenario can be better matched to median flow to allow optimization of treatment facility capacity.

It is recommended that in situ biological treatment be considered for cyanide and metals remediation for HLF draindown and closure. Ex-situ biological nitrification and denitrification should also be considered as an alternative to the CDP processes that currently envisions cyanate hydrolysis and ammonia stripping.

26.7.1 WATER MANAGEMENT

Opportunities to optimize the water management plan (i.e. grey water re-use, sediment capture techniques, etc.) will be explored throughout the mine's development. Other potential refinements include the possibility of using natural materials and geomorphic design procedures in terms of the ultimate Dublin Gulch Diversion Channel configuration.

26.7.2 CLOSURE AND RECLAMATION

Closure and reclamation is a dynamic field of new developments and experience-based adaptive management. Opportunities to further reduce closure liabilities will be assessed continuously as the Project unfolds. Key areas for future development and refinement include improved long-term geochemical characterization of mine wastes, optimized material handling (quantity and quality of material), and progressive reclamation activities.

27.0 REFERENCES

Amortec Erosion Control Solutions (2002). ArmorFlex Design Manual Abridged Version 2002.

BGC Engineering Inc. (2012a). Eagle Gold Project Dublin Gulch, Yukon – Feasibility Study Open Pit Slope Design – Final Report. Prepared for Victoria Gold Corporation. January 20, 2012.

BGC Engineering Inc. (2012b). 2011 Mine Site Infrastructure Geotechnical Investigations Data Report – FINAL. Prepared for Victoria Gold Corporation. January 20, 2012.

BGC Engineering Inc. (2012c). 2011 Mine Site Infrastructure Foundation Report – FINAL". Prepared for Victoria Gold Corporation. January 31, 2012.

BGC Engineering Inc. (2012d). Eagle Gold Project Feasibility Study, Dublin Gulch, Yukon – Geotechnical Assessment and Design of the Waste Rock Storage Areas – Final Report. Prepared for Victoria Gold Corporation. February 23, 2012.

British Columbia Mine Waste Rock Pile Research Committee (1991), Mined Rock and Overburden Piles Investigation and Design Manual.

Canadian Dam Association (2007), Dam Safety Guidelines. Edmonton, Alberta, Canada.

CIM (2005). CIM Definition Standards – For Mineral Resources and Mineral Reserves. Prepared by the CIM Standing Committee on Reserve Definitions. December 11, 2005.

Dublin Gulch Project Laboratory Report of Metallurgical & Environmental Studies, prepared for First Dynasty Mines, April 1996, KCA.

Dublin Gulch Project Phase II Metallurgical Test Report prepared for First Dynasty Mines, April 1997, KCA.

Eagle Gold Heap Leach Project Agglomeration Testwork Summary October 13, 2011 KCA.

Eagle Gold Heap Leach Project Overall Metallurgy Summary June 30, 2011 KCA.

Eagle Gold HPGR vs. Conventional Crushing Trade-Off Study Wardrop, April 2011.

Eagle Gold Project Gravity Testing Report of Metallurgical Test Work October 2011 KCA.

Eagle Gold Project Interim Report of Metallurgical Test Work November 2010 KCA.

Eagle Gold Project Master Composite, 2009 Metallurgical Testwork June 2011.

Eagle Gold Project Metallurgical Review July 12, 2011 John O. Marsden, LLC to Mr. Mark Ayranto.

GEO-SLOPE International, Ltd. (2004), User's Guide – Slope\W for Slope Stability Analysis – Version 4, Calgary, Alberta, Canada.

High Pressure Grinding Tests on the Gold Ore for the Eagle Gold Project in Canada for KCA carried out at the Polysius Research Centre February 9, 2011 (draft).

Knight Piésold Ltd., Aurala, C. (2011). Email Correspondence Subject: Eagle Gold Design Precipitation Events. Email dated July 4, 2011.

LaGatta, M. D., Boardman, B. T., Cooley, B. H. and Daniel, D. E. (1997), Geosynthetic Clay Liners Subjected to Differential Settlement. J. Geotech. Geoenv. Eng. 123(5), pp 402-411.

Leps, T. M. (1970), Review of Shearing Strength of Rockfill. J. Soil Mechanics and Foundation Division Proceedings of the American Society of Civil Engineers.

Letter "Review of Marsden Report" Carl Defilippi to Mark Ayranto Victoria Gold. September 2, 2011.

Letter "Treat and release effluent toxicity evaluations for the proposed Dublin Gulch project", dated April 25, 1997 and addressed to Mr. Steve Stine – New Millennium Mining Ltd. from Mr. Terry Albert – KCA.

May, Larry W. (2005). Water Resources Engineering, 2005 Edition, John Wiley & Sons, Inc., 2005, pgs. 85-139, 596-599.

Memorandum: John Goode to Kevin Pipegrass, January 26, 2009.

Metallurgical Testwork on Four Gold-containing Samples Dublin Gulch Project, Yukon Territory Canada, Process Research Associates, Ltd. January 23,2007.

Mineral Resources and Development Inc. (1997). Assaying, Resource Model, and Mining for the Dublin Gulch Project, Volume I, for New Millennium Mining Ltd., dated March 1997, p. 201.

Mining Association of Canada (1998), A Guide to the Management of Tailings Facilities. Ottawa, Ontario, Canada.

National Research Council Institute for Research in Construction (2005), National Building Code of Canada.

Phillips Enterprises, LLC Communition Test, Eagle Gold Project March 11, 2010.

Review of Gold Assays by Screen Metallics and Fire Assay, Dublin Gulch Project, Yukon, Analytical Solutions Ltd. July 2007.

Scott Wilson Mining (2010). Pre-Feasibility Study on the Eagle Gold Project – Yukon Territory, Canada July 16, 2010.

Scott Wilson Mining (2010). Technical Report on the Dublin Gulch Property, Yukon Territory, Canada NI 43-101 Report April 23, 2010.

Scott Wilson Roscoe Postle Associates Inc. (2010). Prepared for Victoria Gold Corp., Technical Report on the Eagle Gold Project, Yukon Territory, Canada, NI 43-101 Technical Report dated April 23, 2010, p, 242.

Spencer, E. (1967), A Method of Analysis of the Stability of Embankments Assuming Parallel Inter-Slice Forces. Geotechnique, Vol. 17, No. 1, pp. 11-26.

Stantec (2010), Eagle Gold Project, Environmental Baseline Report: Climate, prepared for Victoria Gold Corp., February 2010.

Tetra Tech (2012). Heap Leach Facility Feasibility Design Eagle Gold Project. Prepared for Victoria Gold Corp.

Wardrop Engineering Inc. (2006). Technical Report on the Dublin Gulch Property, Yukon Territory, Canada. Prepared for StrataGold Corp.

Wardrop Engineering Inc. (2009). Prepared for StrataGold Corporation, Technical Report on the Dublin Gulch Property, Yukon Territory, Canada, NI 43-101 Technical Report dated February 04, 2009, 70 p.

Wardrop Engineering Inc. (2009). Technical Report on the Dublin Gulch Property, Yukon Territory, Canada 0851960200-REP-R0001-01 January 2009.

Wardrop Engineering Inc. (2011). Eagle Resource Parameters Update, PowerPoint Presentation, 22 slides, dated August 23, 2011.

Wardrop Engineering Inc. (2011). Prepared for Victoria Gold Corp., Technical Report on the Eagle Zone, Dublin Gulch Property, Yukon Territory, Canada, NI 43-101 Technical Report dated May 04, 2011, p. 52.

Yukon Water Board (2009), Licensing Guidelines for Type A Quartz Mining Undertakings.

28.0 CERTIFICATES OF QUALIFIED PERSONS

TYSEN HANTELMANN, P.ENG., M.ENG.

I, Tysen Hantelmann, P.Eng., M.Eng., of Edmonton, Alberta, do hereby certify:

- I am a Senior Mining Engineer with Tetra Tech WEI Inc. with a business address at 14940-123 Avenue, Edmonton, Alberta, T5V 1B4.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the “Technical Report”).
- I am a graduate of the University of Alberta (B.Sc. Mining Engineering, 2001; M.Eng. Mining Engineering, 2003). I am a member in good standing of the Association of Professional Engineers and Geoscientists of Alberta (#M71697). My relevant experience includes 11 years of mine engineering and mine operations experience including financial analysis, operating and capital cost estimation, long-range and short-range production scheduling and operational support for various truck/shovel mining activities. I am a “Qualified Person” for purposes of National Instrument 43-101 (the “Instrument”).
- I have not completed a personal inspection of the Property.
- I am responsible for Sections 15, 16, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report that I am responsible for has been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Edmonton, Alberta

“Original document signed and sealed by Tysen Hantelmann, P.Eng., M.Eng.”

Tysen Hantelmann, P.Eng., M.Eng.
Senior Mining Engineer
Tetra Tech WEI Inc.

HASSAN GHAFFARI, P.ENG.

I, Hassan Ghaffari, P.Eng., of Vancouver, British Columbia, do hereby certify:

- I am a Manager of Metallurgy with Tetra Tech WEI Inc. with a business address at 800-555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of the University of Tehran (M.A.Sc., Mining Engineering, 1998) and the University of British Columbia (M.A.Sc., Mineral Process Engineering, 2004). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#30408). My relevant experience with respect to mineral process engineering includes 22 years of experience in mining and plant operation, project studies, management, and engineering. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Sections 2, 3, 4, 5, 6, 18.1, 18.7, 18.8, 18.11, 18.13, 18.14, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report that I am responsible for has been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia

"Original document signed and sealed by Hassan Ghaffari, P.Eng."

Hassan Ghaffari, P.Eng.
Manager of Metallurgy
Tetra Tech WEI Inc.

CLYDE SMITH, PH.D., P.ENG.

I, Clyde Smith, Ph.D., P.Eng., of Vancouver, British Columbia, do hereby certify:

- I am a Project Manager with Tetra Tech WEI Inc. with a business address at 800-555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the “Technical Report”).
- I am a graduate of the University of British Columbia (M.Sc., Geology, 1962) and the University of Idaho (Ph.D., 1966). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#7243). My relevant experience with respect to mineral process engineering includes 22 years of experience in mining and plant operation, project studies, management, and engineering. I am a “Qualified Person” for purposes of National Instrument 43-101 (the “Instrument”).
- I have not completed a personal inspection of the Property.
- I am responsible for Sections 1, 25 and 26 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report that I am responsible for has been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia

*“Original document signed and sealed by
Clyde Smith, Ph.D., P.Eng.*

Clyde Smith, Ph.D., P.Eng.
Project Manager
Tetra Tech Inc.

BRUCE MARSHALL, CPG

I, Bruce Marshall, CPG, of the State of Wyoming and the Commonwealth of Virginia, USA, do hereby certify:

- I am a Senior Project Manager with Tetra Tech Inc. with a business address at 100-1576 Sherman Street, Denver, Colorado, 80203.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of The University of Maryland, (B.S. Geology, 1980) and The University of Virginia (M.S. Environmental Sciences, 1985). I am a member in good standing of the Wyoming Board of Registration for Professional Geologists (State of Wyoming, PG-161) and the Virginia Board of Geology (Commonwealth of Virginia, CPG No. 762). My relevant experience is 27 years of environmental consulting; including the assessment of environmental impacts associated with active mines and abandoned mine sites. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- My most recent personal inspection of the Property was October 3 to 5, 2011 for three days.
- I am responsible for Section 20 (except 20.4), and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Denver, Colorado

"Original document signed and sealed by Bruce Marshall, CPG"

Bruce Marshall, CPG
Senior Project Manager
Tetra Tech Inc.

COREY AURALA, B.A.SC., P.ENG.

I, Corey Aurala, B.A.Sc., P.Eng. of Coquitlam, British Columba, do hereby certify:

- I am a Project Engineer with Knight Piésold Ltd. with a business address at 1400-750 West Pender Street, Vancouver, British Columbia, V6C 2T8.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of the University of British Columbia, (Bachelor of Applied Science – Civil Engineering, Environmental Option, 2003). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#32251). My relevant experience includes having practiced as a civil engineer continuously since 2003, providing specialized consulting in mine water management, hydrologic assessment and the design of hydraulic structures. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- My most recent personal inspection of the Property was June 7 to 9, 2011 for three days.
- I am responsible for Section 18.9, 20.4 and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia.

"Original document signed and sealed by Corey Aurala, B.A.Sc., P.Eng."

Corey Aurala, B.A.Sc., P.Eng.
Project Engineer
Knight Piésold Ltd.

DAN KAPPES, PE

I, Dan Kappes, PE, of Reno, Nevada, do hereby certify:

- I am a President of Kappes, Cassiday & Associates Inc. with a business address at 7950 Security Circle, Reno, NV, 89506.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of The Colorado School of Mines, (E.M., 1966) and The University of Nevada Reno (M.S. Mining Engineering, 1972). I am a Registered Professional Mining and Metallurgical Engineer in Nevada (#3223). My relevant experience includes managing the design and construction of multiple gold and silver processing plants throughout the world. I am president of Kappes, Cassiday & Associates which employs over 70 people including 22 engineers who are actively engaged in process metallurgy of precious metals ores. I have given many professional papers on the technology of gold/silver processing. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Section 13 and parts of Sections 27 and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Reno, Nevada

"Original document signed and sealed by Dan Kappes, PE"

Dan Kappes, PE
President
Kappes, Cassiday & Associates Inc.

GREGORY MOSHER, P.GEO.

I, Gregory Mosher, P.Geo., of North Vancouver, British Columbia, do hereby certify:

- I am a Senior Geologist with Tetra Tech WEI Inc. with a business address at 800-555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of Dalhousie University (B.Sc. Hons., 1970) and McGill University (M.Sc. Applied, 1973). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#19267). My relevant experience with respect to porphyry deposits includes over 20 years of exploration for and evaluation of such deposits in a wide variety of geological setting. Additionally, I have conducted several resource estimates of porphyry (copper, copper-gold, molybdenum) deposits over the past six years. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Sections 7, 8, 9, 23, 27, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report that I am responsible for has been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia

"Original document signed and sealed by Gregory Mosher, P.Geo."

Gregory Mosher, P.Geo.
Senior Geologist
Tetra Tech WEI Inc.

H. Warren Newcomen, P.Eng.

I, H. Warren Newcomen, P.Eng., of Kamloops, British Columbia, do hereby certify:

- I am a Senior Geological Engineer with BGC Engineering Inc. with a business address at 234 St. Paul Street, Kamloops, British Columbia, V2C 6G4.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of the University of British Columbia, (B. A. Sc., 1985) and the University of California at Berkeley (M.S., 1990). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#16123). My relevant experience includes the Cortez Hills Project, Nevada; Donlin Creek Project, Alaska; Galore Creek Project, BC; New Afton Project, BC; KSM Project, BC; Spanish Mountain Gold Project, BC; Eagle Gold Project, Yukon; Ajax Project, BC. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- My most recent personal inspection of the Property was July 7 and 8, 2011 for two days.
- I am responsible for Section 18.2, 27, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I was previously involved with the Property for the prefeasibility study of the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report that I am responsible for have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Kamloops, British Columbia

"Original document signed and sealed by
H. Warren Newcomen, P.Eng."

H. Warren Newcomen, P.Eng.
Senior Geological Engineer
BGC Engineering Inc.

HONORIO NARCISO, P.ENG.

I, Honorio Narciso, P.Eng., of Vancouver, BC, do hereby certify:

- I am a Senior Mining Speciality with Tetra Tech WEI Inc. with a business address at 800-555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of the University of Philippines, (BSEM, 1963). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#32946). My relevant experience includes project management in an engineering company and overseas mines, various engineering and mine operations positions in Canadian and US mines, as well as various senior positions in corporate offices for both mining and consulting companies. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- My most recent personal inspection of the Property was August 22 to 24, 2011 for three days.
- I am responsible for Sections 21.2 (mining), and 28 (my certificate only) of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia

"Original document signed and sealed by Honorio Narciso, P.Eng."

Honorio Narciso, P.Eng.
Senior Mining Specialist
Tetra Tech WEI Inc.

JAMES MYERS, P.ENG.

I, James Myers, P.Eng., of Vancouver, British Columbia, do hereby certify:

- I am a Senior Electrical Engineer with Tetra Tech WEI Inc. with a business address at 800-555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of University of Saskatchewan (B.Eng., 1997) and the Colorado School of Mines (M.Sc., 2008). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#160292). My relevant experience is15 years as an electrical engineer serving in oil and gas, water and waste water treatment, and mining industries. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Sections 18.12, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia

"Original document signed and sealed by James Myers, P.Eng."

James Myers, P.Eng.
Senior Electrical Engineer
Tetra Tech WEI Inc.

JAY COLLINS, P.ENG.

I, Jay Collins, P.Eng., of Vancouver, British Columbia, do hereby certify:

- I am the President of Merit Consultants International Inc. with a business address at 401-750 West Pender Street, Vancouver, BC, V6C 2T8.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of Portsmouth University, (Civil/Structural, 1974). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (12741). My relevant experience is associated with the project and construction management of mining projects around the world. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- My most recent personal inspection of the Property was August 22 to 23, 2011 for two days.
- I am responsible for Section 21.1, 24, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, BC.

"Original document signed and sealed by Jay Collins, P.Eng."

Jay Collins, P.Eng.
President
Merit Consultants International Inc.

PETER GUEST, D.ENG., MBA, P.ENG.

I, Peter Guest, D.Eng., MBA, P.Eng., of Vancouver, British Columbia, do hereby certify:

- I am a Director, Engineering with Tetra Tech WEI Inc. with a business address at 800-555 West Hastings Street, Vancouver, British Columbia, V6B 1M1.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the “Technical Report”).
- I am a graduate of University of California at Berkeley (D.Eng., 1969). I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#36254). My relevant experience includes Vice President and General Manager, Fluor Engineering and Constructors, Mining and Metals Division 1980 to 1990; CEO of TSX and TSX-V Public Companies 1990 to 2011; Director of Engineering, Tetra Tech, 2011 to Present. I am a “Qualified Person” for purposes of National Instrument 43-101 (the “Instrument”).
- I have not completed a personal inspection of the Property.
- I am responsible for Section 19, 22, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Vancouver, British Columbia

“Original document signed and sealed by Peter Guest, D.Eng., MBA, P.Eng.”

Peter Guest, D.Eng., MBA, P.Eng.
Director, Engineering
Tetra Tech WEI Inc.

RANDY POWELL, PE

I, Randy Powell, PE, of Elko, Nevada, do hereby certify:

- I am a Metallurgical Engineer with Tetra Tech Inc. with a business address at 101-720 Ruby Vista, Elko, NV, 89801.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of South Dakota School of Mines & Technology, Bachelor of Science – Metallurgical Engineering, 1975. I am a member in good standing of the Society of Mining Metallurgy and Exploration Inc. (SME) of Denver, Colorado, USA (#2585450). In addition, I am licensed to practice engineering in the State of Nevada and a member in good standing of the Society of Mining Engineers of Nevada (#006184). My relevant experience includes 15 years in the production and extraction of gold from gold ores in addition to 15 years of extractive metallurgical experience with elemental mercury, uranium and molybdenum di-sulfide. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Section 17, 21.2 (process and G&A), and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Elko, Nevada.

"Original document signed and sealed by Randy Powell, PE"

Randy Powell, PE
Metallurgical Engineer
Tetra Tech Inc.

SAM BILLIN, PE

I, Sam Billin, PE, of Spring Creek, Nevada, do hereby certify:

- I am a Vice President with Tetra Tech Inc. with a business address at 101-2720 Ruby Vista Drive, Elko, Nevada, 89801
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of Brigham Young University, (Civil Engineering, 1991). I am a member in good standing as a Registered Professional Engineer in the State of Nevada (#14618). My relevant experience includes 22 years designing and operating water treatment facilities for the mining industry. I presently serve as the Tetra Tech's Global Practice Leader for Mine Water Treatment. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Section 18.10, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Elko, Nevada

"Original document signed and sealed by
Sam Billin, PE

Sam Billin, PE
Vice President
Tetra Tech Inc.

TROY MEYER, PE, P.ENG.

I, Troy Meyer, PE, P,Eng., of Edmonton, Alberta, do hereby certify:

- I am a Principal Geotechnical Engineer with Tetra Tech Inc. with a business address at 204-120 West Park Drive, Grand Junction, Colorado, 81507.
- This certificate applies to the technical report entitled Technical Report – Feasibility Study Eagle Gold Project, Yukon, dated April 5, 2012 (the "Technical Report").
- I am a graduate of the University of Colorado (B.A., Civil Engineering, 1993). I am registered as a professional engineer in Colorado (#33892) and various other States and am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of Saskatchewan (#20434). My relevant experience with respect to mineral process engineering includes 17 years of experience in mining and geotechnical engineering. I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").
- I have not completed a personal inspection of the Property.
- I am responsible for Sections 18.3, 18.4, 18.5, 18.6, 27, and 28 of the Technical Report.
- I am independent of Victoria Gold Corp. as defined by Section 1.5 of the Instrument.
- I have no prior involvement with the Property that is the subject of the Technical Report.
- I have read the Instrument and the sections of the Technical Report that I am responsible for has been prepared in compliance with the Instrument.
- As of the date of this certificate, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5th day of April, 2012 at Grand Junction, Colorado

"Original document signed and sealed by Troy Meyer, PE, P.Eng."

Troy Meyer, PE, P.Eng.
Principal Geotechnical Engineer
Tetra Tech Inc.

SRK Consulting (US) Inc.
Suite 240, 3275 West Ina Road
Tucson, AZ 85741

T: 520 544 3688
F: 520 544 9853

tucson@srk.com
www.srk.com

CERTIFICATE of AUTHOR

Allan V. Moran
Principal Consultant (Geology)

SRK Consulting (U.S.) Inc.

Email: **amoran@srk.com**

I, Allan V. Moran, a Registered Geologist and a Certified Professional Geologist, do hereby certify that:

1. I am currently employed as a consulting geologist to the mining and mineral exploration industry, as Principal Geologist with SRK Consulting (U.S.) Inc, with an office address of 3275 W. Ina Rd., Tucson, Arizona, USA, 85741.
2. I graduated with a Bachelors of Science Degree in Geological Engineering from the Colorado School of Mines, Golden, Colorado, USA; May 1970.
3. I am a Certified Professional Geologist through membership in the American Institute of Professional Geologists, CPG - 09565, and have been since 1995; and I am a Registered Geologist in the State of Oregon, USA, # G-313, and have been since 1978.
4. I have been employed as a geologist in the mining and mineral exploration business, continuously, for the past 41 years.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. The Technical Report is based upon my personal review of the information provided by the issuer. My relevant experience for the purpose of the Technical Report is:
   - Manager, Exploration North America for Cameco Gold Inc., 1998-2002:
   - Vice President and U.S. Exploration Manager for Independence Mining Company, Reno, Nevada, 1990-1993;
   - Exploration Geologist for Freeport McMoRan Gold, 1980-1990;
   - Gold exploration experience, as an exploration geologist, from 1980 through 2002; and work with gold deposits since 2002 as a consultant with SRK Consulting (U.S.) Inc;

srk consulting

SRK Consulting (US) Inc.
Suite 240, 3275 West Ina Road
Tucson, AZ 85741

T: 520 544 3688
F: 520 544 9853

tucson@srk.com
www.srk.com

- Experience in the above positions working with and reviewing resource estimation methods and models, in concert with resource estimation geologists and engineers.

- As a consultant, I have completed several NI 43-101 Technical reports, 2003-2011.

6. I am responsible for Sections 10, 11, and 12, and 28 of the NI 43-101 Technical Report titled *"Technical Report – Feasibility Study Eagle Gold Project, Yukon"*, and dated April 5, 2012 (the "Technical Report") relating to Victoria Gold Corporations' Eagle Gold Project. I have personally visited the Project on September 22 and 23, 2011, for two days.
7. I have not had prior involvement with the property that is the subject of this Technical Report.
8. As of April 5, 2012, the effective date of this report, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, for which the omission to disclose would make the Technical Report misleading.
10. I am independent of the issuer applying all of the tests in Item 1.5 of National Instrument 43-101.
11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated in Tucson, Arizona, April 5, 2012.

"Original document signed and sealed by
Allan V. Moran, R. Geol., CPG"

Allan V. Moran, R. Geol., CPG

AIPG CPG – 09565

SRK Consulting (US) Inc.
Suite 240, 3275 West Ina Road
Tucson, AZ 85741

T: 520 544 3688
F: 520 544 9853

tucson@srk.com
www.srk.com

CERTIFICATE OF AUTHOR

I, Leah Mach, M.Sc. Geology, CPG do hereby certify that:

1. I am a Principal Resource Geologist of:

   SRK Consulting (U.S.), Inc.
   7175 W. Jefferson Ave, Suite 3000
   Denver, CO, USA, 80235

2. I graduated with a Master of Science degree in Geology from the University of Idaho in 1986.

3. I am a member of the American Institute of Professional Geologists.

4. I have worked as a Geologist for a total of 24 years since my graduation from University of Idaho. My relevant experience includes domestic and international mining experience and management of gold and base metal projects, project feasibility, resource estimation, and mine geology. I am skilled in developing all aspects of projects, including drilling, resource estimation, assay protocol and quality control, geotechnical study, mine planning and engineering. I am proficient in use of Vulcan mine software and am a qualified person in terms of Canadian NI 43-101.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of Sections 14, and 28 of the technical report titled Technical Report – Feasibility Study Eagle Gold Project, Yukon, and dated April 5, 2012 (the "Technical Report") relating to the Dublin Gulch property. I did not visit the property.

7. I have not had prior involvement with the property that is the subject of the Technical Report.

8. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

SRK Consulting (US) Inc.
Suite 240, 3275 West Ina Road
Tucson, AZ 85741

T: 520 544 3688
F: 520 544 9853

tucson@srk.com
www.srk.com

9. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

10. As of April 5, 2012, to the best of my knowledge, information and belief, the sections of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 5th day of April, 2012

"Original document signed and sealed by
Leah Mach, M.Sc. Geology, CPG"

Leah Mach, M.Sc. Geology, CPG

CPG#10940

APPENDIX A

Claims List

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YA17729	Quartz	Bob	1	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17730	Quartz	Bob	2	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17731	Quartz	Bob	3	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17732	Quartz	Bob	4	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17733	Quartz	Bob	5	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17734	Quartz	Bob	6	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17735	Quartz	Bob	7	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17780	Quartz	Bob	52	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA43014	Quartz	Bob	86	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA17802	Quartz	Dave	1	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17803	Quartz	Dave	2	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17804	Quartz	Dave	3	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17805	Quartz	Dave	4	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17806	Quartz	Dave	5	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17807	Quartz	Dave	6	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17808	Quartz	Dave	7	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17809	Quartz	Dave	8	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17814	Quartz	Dave	13	STRATAGOLD CORPORATION - 100%	24/04/1978	31/01/2015	3458	106D04
YA17815	Quartz	Dave	14	STRATAGOLD CORPORATION - 100%	24/04/1978	31/01/2015	3459	106D04
YA17816	Quartz	Dave	15	STRATAGOLD CORPORATION - 100%	24/04/1978	31/01/2015	3460	106D04
YA17817	Quartz	Dave	16	STRATAGOLD CORPORATION - 100%	24/04/1978	31/01/2015	3461	106D04
YA17818	Quartz	Dave	17	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17819	Quartz	Dave	18	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA42970	Quartz	Dave	25	STRATAGOLD CORPORATION - 100%	29/09/1980	31/01/2015	3455	106D04
YA42971	Quartz	Dave	26	STRATAGOLD CORPORATION - 100%	29/09/1980	01/10/2020		106D04
YA42972	Quartz	Dave	27	STRATAGOLD CORPORATION - 100%	29/09/1980	31/01/2015	3456	106D04
YA42973	Quartz	Dave	28	STRATAGOLD CORPORATION - 100%	29/09/1980	31/01/2015	3457	106D04
YA42974	Quartz	Dave	29	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YA42975	Quartz	Dave	30	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YA43015	Quartz	Dave	31	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA14986	Quartz	DG	43	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14987	Quartz	DG	44	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14988	Quartz	DG	45	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14989	Quartz	DG	46	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14990	Quartz	DG	47	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14991	Quartz	DG	48	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14992	Quartz	DG	49	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14993	Quartz	DG	50	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14994	Quartz	DG	51	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14995	Quartz	DG	52	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14996	Quartz	DG	53	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14997	Quartz	DG	54	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA14998	Quartz	DG	55	STRATAGOLD CORPORATION - 100%	12/04/1977	01/03/2022		106D04
YA43044	Quartz	DG	82	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43045	Quartz	DG	83	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43046	Quartz	DG	85	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43061	Quartz	DG	100	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43062	Quartz	DG	101	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43063	Quartz	DG	102	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43064	Quartz	DG	103	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YC11075	Quartz	Dub	1	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11076	Quartz	Dub	2	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11077	Quartz	Dub	3	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11078	Quartz	Dub	4	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11079	Quartz	Dub	5	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11080	Quartz	Dub	6	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11081	Quartz	Dub	7	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11082	Quartz	Dub	8	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11083	Quartz	Dub	9	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11084	Quartz	Dub	10	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11085	Quartz	Dub	11	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11086	Quartz	Dub	12	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11087	Quartz	Dub	13	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11088	Quartz	Dub	14	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11089	Quartz	Dub	15	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11090	Quartz	Dub	16	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11091	Quartz	Dub	17	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11092	Quartz	Dub	18	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11093	Quartz	Dub	19	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11094	Quartz	Dub	20	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11095	Quartz	Dub	21	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11096	Quartz	Dub	22	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11097	Quartz	Dub	23	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11098	Quartz	Dub	24	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11099	Quartz	Dub	25	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11100	Quartz	Dub	26	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11101	Quartz	Dub	27	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11102	Quartz	Dub	28	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11103	Quartz	Dub	29	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11104	Quartz	Dub	30	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11105	Quartz	Dub	31	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11106	Quartz	Dub	32	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11107	Quartz	Dub	33	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11108	Quartz	Dub	34	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11109	Quartz	Dub	35	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11110	Quartz	Dub	36	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11111	Quartz	Dub	37	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11112	Quartz	Dub	38	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11113	Quartz	Dub	39	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11114	Quartz	Dub	40	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11115	Quartz	Dub	41	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11116	Quartz	Dub	42	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11117	Quartz	Dub	43	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11118	Quartz	Dub	44	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11119	Quartz	Dub	45	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11120	Quartz	Dub	46	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11121	Quartz	Dub	47	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11122	Quartz	Dub	48	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11123	Quartz	Dub	49	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11124	Quartz	Dub	50	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11125	Quartz	Dub	51	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11126	Quartz	Dub	52	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11127	Quartz	Dub	53	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11128	Quartz	Dub	54	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11129	Quartz	Dub	55	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11130	Quartz	Dub	56	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11131	Quartz	Dub	57	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11132	Quartz	Dub	58	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11133	Quartz	Dub	59	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11134	Quartz	Dub	60	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11135	Quartz	Dub	61	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11136	Quartz	Dub	62	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11137	Quartz	Dub	63	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11138	Quartz	Dub	64	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11139	Quartz	Dub	65	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11140	Quartz	Dub	66	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11141	Quartz	Dub	67	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11142	Quartz	Dub	68	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11143	Quartz	Dub	69	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11144	Quartz	Dub	70	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11145	Quartz	Dub	71	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11146	Quartz	Dub	72	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11147	Quartz	Dub	73	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11148	Quartz	Dub	74	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11149	Quartz	Dub	75	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11150	Quartz	Dub	76	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11151	Quartz	Dub	77	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11152	Quartz	Dub	78	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11153	Quartz	Dub	79	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11154	Quartz	Dub	80	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11155	Quartz	Dub	81	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11156	Quartz	Dub	82	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11157	Quartz	Dub	83	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11158	Quartz	Dub	84	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11159	Quartz	Dub	85	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11160	Quartz	Dub	86	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11161	Quartz	Dub	87	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11162	Quartz	Dub	88	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11163	Quartz	Dub	89	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11164	Quartz	Dub	90	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11165	Quartz	Dub	91	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11166	Quartz	Dub	92	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11167	Quartz	Dub	93	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11168	Quartz	Dub	94	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11169	Quartz	Dub	95	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11170	Quartz	Dub	96	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11171	Quartz	Dub	97	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11172	Quartz	Dub	98	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11173	Quartz	Dub	99	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11174	Quartz	Dub	100	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11175	Quartz	Dub	101	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11176	Quartz	Dub	102	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11177	Quartz	Dub	103	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11178	Quartz	Dub	104	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11179	Quartz	Dub	105	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11180	Quartz	Dub	106	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11181	Quartz	Dub	107	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11182	Quartz	Dub	108	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11183	Quartz	Dub	109	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11184	Quartz	Dub	110	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11185	Quartz	Dub	111	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11186	Quartz	Dub	112	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11187	Quartz	Dub	113	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11188	Quartz	Dub	114	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11189	Quartz	Dub	115	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11190	Quartz	Dub	116	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11191	Quartz	Dub	117	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11192	Quartz	Dub	118	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11193	Quartz	Dub	119	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11194	Quartz	Dub	120	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11195	Quartz	Dub	121	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11196	Quartz	Dub	122	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11197	Quartz	Dub	123	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11198	Quartz	Dub	124	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11199	Quartz	Dub	125	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11200	Quartz	Dub	126	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11201	Quartz	Dub	127	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11202	Quartz	Dub	128	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11203	Quartz	Dub	129	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11204	Quartz	Dub	130	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11205	Quartz	Dub	131	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11206	Quartz	Dub	132	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11207	Quartz	Dub	133	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11208	Quartz	Dub	134	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11209	Quartz	Dub	135	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11210	Quartz	Dub	136	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11211	Quartz	Dub	137	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11212	Quartz	Dub	138	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11213	Quartz	Dub	139	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04

Grant Number	Reg Type	Claim Name	Claim Number	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11214	Quartz	Dub	140	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11215	Quartz	Dub	141	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11216	Quartz	Dub	142	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11217	Quartz	Dub	143	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11218	Quartz	Dub	144	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11219	Quartz	Dub	145	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11220	Quartz	Dub	146	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11221	Quartz	Dub	147	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11222	Quartz	Dub	148	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11223	Quartz	Dub	149	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11224	Quartz	Dub	150	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11225	Quartz	Dub	151	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11226	Quartz	Dub	152	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11227	Quartz	Dub	153	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11228	Quartz	Dub	154	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11229	Quartz	Dub	155	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11230	Quartz	Dub	156	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11231	Quartz	Dub	157	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11232	Quartz	Dub	158	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11233	Quartz	Dub	159	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11234	Quartz	Dub	160	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11235	Quartz	Dub	161	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11236	Quartz	Dub	162	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11237	Quartz	Dub	163	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11238	Quartz	Dub	164	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11239	Quartz	Dub	165	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11240	Quartz	Dub	166	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		105M13
YC11241	Quartz	Dub	167	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		105M13
YC11242	Quartz	Dub	168	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		105M13
YC11243	Quartz	Dub	169	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		105M13
YC11244	Quartz	Dub	170	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		105M13
YC11245	Quartz	Dub	171	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11246	Quartz	Dub	172	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11247	Quartz	Dub	173	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11248	Quartz	Dub	174	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11249	Quartz	Dub	175	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11250	Quartz	Dub	176	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11251	Quartz	Dub	177	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11252	Quartz	Dub	178	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11253	Quartz	Dub	179	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11254	Quartz	Dub	180	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11255	Quartz	Dub	181	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11256	Quartz	Dub	182	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11257	Quartz	Dub	183	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11258	Quartz	Dub	184	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11259	Quartz	Dub	185	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11260	Quartz	Dub	186	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11261	Quartz	Dub	187	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11262	Quartz	Dub	188	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11263	Quartz	Dub	189	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11264	Quartz	Dub	190	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11265	Quartz	Dub	191	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11266	Quartz	Dub	192	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		105M13
YC11267	Quartz	Dub	193	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11268	Quartz	Dub	194	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11269	Quartz	Dub	195	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11270	Quartz	Dub	196	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11271	Quartz	Dub	197	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11272	Quartz	Dub	198	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		105M13
YC11273	Quartz	Dub	199	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11274	Quartz	Dub	200	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11275	Quartz	Dub	201	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11276	Quartz	Dub	202	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11277	Quartz	Dub	203	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11278	Quartz	Dub	204	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		105M13
YC11279	Quartz	Dub	205	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11280	Quartz	Dub	206	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11281	Quartz	Dub	207	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11282	Quartz	Dub	208	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11283	Quartz	Dub	209	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11284	Quartz	Dub	210	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11285	Quartz	Dub	211	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11286	Quartz	Dub	212	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11287	Quartz	Dub	213	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11288	Quartz	Dub	214	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11289	Quartz	Dub	215	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11290	Quartz	Dub	216	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11291	Quartz	Dub	217	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11292	Quartz	Dub	218	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11293	Quartz	Dub	219	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11294	Quartz	Dub	220	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11295	Quartz	Dub	221	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11296	Quartz	Dub	222	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11297	Quartz	Dub	223	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11298	Quartz	Dub	224	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11299	Quartz	Dub	225	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11300	Quartz	Dub	226	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11301	Quartz	Dub	227	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11302	Quartz	Dub	228	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11303	Quartz	Dub	229	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11304	Quartz	Dub	230	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11305	Quartz	Dub	231	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11306	Quartz	Dub	232	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11307	Quartz	Dub	233	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11308	Quartz	Dub	234	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11309	Quartz	Dub	235	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11310	Quartz	Dub	236	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11311	Quartz	Dub	237	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11312	Quartz	Dub	238	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11313	Quartz	Dub	239	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11314	Quartz	Dub	240	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11315	Quartz	Dub	241	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11316	Quartz	Dub	242	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11317	Quartz	Dub	243	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11318	Quartz	Dub	244	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11319	Quartz	Dub	245	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11320	Quartz	Dub	246	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11321	Quartz	Dub	247	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11322	Quartz	Dub	248	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11323	Quartz	Dub	249	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11324	Quartz	Dub	250	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11325	Quartz	Dub	251	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11326	Quartz	Dub	252	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11327	Quartz	Dub	253	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11328	Quartz	Dub	254	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11329	Quartz	Dub	255	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11330	Quartz	Dub	256	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11331	Quartz	Dub	257	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11332	Quartz	Dub	258	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11333	Quartz	Dub	259	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11334	Quartz	Dub	260	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11335	Quartz	Dub	261	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11336	Quartz	Dub	262	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11337	Quartz	Dub	263	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11338	Quartz	Dub	264	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11339	Quartz	Dub	265	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11340	Quartz	Dub	266	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11341	Quartz	Dub	267	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11342	Quartz	Dub	268	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11343	Quartz	Dub	269	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11344	Quartz	Dub	270	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11345	Quartz	Dub	271	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11346	Quartz	Dub	272	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11347	Quartz	Dub	273	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11348	Quartz	Dub	274	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11349	Quartz	Dub	275	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11350	Quartz	Dub	276	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11351	Quartz	Dub	277	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11352	Quartz	Dub	278	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11353	Quartz	Dub	279	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11354	Quartz	Dub	280	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11355	Quartz	Dub	281	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11356	Quartz	Dub	282	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11357	Quartz	Dub	283	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11358	Quartz	Dub	284	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11359	Quartz	Dub	285	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11360	Quartz	Dub	286	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11361	Quartz	Dub	287	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11362	Quartz	Dub	288	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11363	Quartz	Dub	289	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11364	Quartz	Dub	290	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11365	Quartz	Dub	291	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11366	Quartz	Dub	292	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11367	Quartz	Dub	293	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11368	Quartz	Dub	294	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11369	Quartz	Dub	295	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11370	Quartz	Dub	296	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11371	Quartz	Dub	297	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11372	Quartz	Dub	298	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11373	Quartz	Dub	299	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11374	Quartz	Dub	300	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11375	Quartz	Dub	301	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11376	Quartz	Dub	302	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11377	Quartz	Dub	303	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11378	Quartz	Dub	304	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11379	Quartz	Dub	305	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11380	Quartz	Dub	306	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11381	Quartz	Dub	307	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11382	Quartz	Dub	308	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11383	Quartz	Dub	309	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11384	Quartz	Dub	310	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11385	Quartz	Dub	311	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11386	Quartz	Dub	312	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11387	Quartz	Dub	313	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11388	Quartz	Dub	314	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11389	Quartz	Dub	315	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11390	Quartz	Dub	316	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11391	Quartz	Dub	317	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11392	Quartz	Dub	318	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11393	Quartz	Dub	319	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11394	Quartz	Dub	320	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11395	Quartz	Dub	321	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11396	Quartz	Dub	322	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11397	Quartz	Dub	323	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11398	Quartz	Dub	324	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11399	Quartz	Dub	325	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11400	Quartz	Dub	326	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11401	Quartz	Dub	327	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11402	Quartz	Dub	328	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11403	Quartz	Dub	329	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11404	Quartz	Dub	330	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11405	Quartz	Dub	331	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11406	Quartz	Dub	332	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11407	Quartz	Dub	333	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11408	Quartz	Dub	334	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11409	Quartz	Dub	335	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11410	Quartz	Dub	336	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11411	Quartz	Dub	337	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11412	Quartz	Dub	338	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11413	Quartz	Dub	339	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11414	Quartz	Dub	340	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11415	Quartz	Dub	341	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11416	Quartz	Dub	342	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11417	Quartz	Dub	343	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11418	Quartz	Dub	344	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11419	Quartz	Dub	345	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11420	Quartz	Dub	346	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11421	Quartz	Dub	347	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11422	Quartz	Dub	348	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11423	Quartz	Dub	349	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11424	Quartz	Dub	350	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11425	Quartz	Dub	351	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11426	Quartz	Dub	352	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11427	Quartz	Dub	353	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11428	Quartz	Dub	354	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11429	Quartz	Dub	355	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11430	Quartz	Dub	356	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11431	Quartz	Dub	357	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11432	Quartz	Dub	358	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11433	Quartz	Dub	359	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11434	Quartz	Dub	360	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11435	Quartz	Dub	361	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11436	Quartz	Dub	362	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11437	Quartz	Dub	363	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11438	Quartz	Dub	364	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11439	Quartz	Dub	365	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11440	Quartz	Dub	366	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11441	Quartz	Dub	367	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11442	Quartz	Dub	368	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11443	Quartz	Dub	369	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11444	Quartz	Dub	370	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11445	Quartz	Dub	371	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11446	Quartz	Dub	372	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11447	Quartz	Dub	373	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11448	Quartz	Dub	374	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11449	Quartz	Dub	375	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11450	Quartz	Dub	376	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11451	Quartz	Dub	377	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11452	Quartz	Dub	378	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11453	Quartz	Dub	379	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11454	Quartz	Dub	380	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11455	Quartz	Dub	381	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11456	Quartz	Dub	382	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11457	Quartz	Dub	383	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11458	Quartz	Dub	384	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11459	Quartz	Dub	385	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11460	Quartz	Dub	386	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11461	Quartz	Dub	387	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11462	Quartz	Dub	388	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11463	Quartz	Dub	389	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11464	Quartz	Dub	390	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11465	Quartz	Dub	391	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11466	Quartz	Dub	392	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11467	Quartz	Dub	393	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11468	Quartz	Dub	394	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11469	Quartz	Dub	395	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11470	Quartz	Dub	396	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11471	Quartz	Dub	397	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11472	Quartz	Dub	398	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11473	Quartz	Dub	399	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11474	Quartz	Dub	400	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11475	Quartz	Dub	401	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11476	Quartz	Dub	402	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11477	Quartz	Dub	403	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11478	Quartz	Dub	404	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11479	Quartz	Dub	405	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11480	Quartz	Dub	406	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11481	Quartz	Dub	407	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11482	Quartz	Dub	408	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11483	Quartz	Dub	409	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11484	Quartz	Dub	410	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11485	Quartz	Dub	411	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11486	Quartz	Dub	412	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11487	Quartz	Dub	413	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11488	Quartz	Dub	414	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11489	Quartz	Dub	415	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11490	Quartz	Dub	416	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11491	Quartz	Dub	417	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11492	Quartz	Dub	418	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11493	Quartz	Dub	419	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11494	Quartz	Dub	420	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11495	Quartz	Dub	421	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11496	Quartz	Dub	422	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2021		106D04
YC11497	Quartz	Dub	423	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11498	Quartz	Dub	424	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2025		106D04
YC11499	Quartz	Dub	425	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11500	Quartz	Dub	426	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11501	Quartz	Dub	427	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11502	Quartz	Dub	428	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11503	Quartz	Dub	429	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11504	Quartz	Dub	430	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11505	Quartz	Dub	431	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11506	Quartz	Dub	432	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11507	Quartz	Dub	433	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11508	Quartz	Dub	434	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11509	Quartz	Dub	435	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11510	Quartz	Dub	436	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11511	Quartz	Dub	437	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11512	Quartz	Dub	438	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11513	Quartz	Dub	439	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11514	Quartz	Dub	440	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11515	Quartz	Dub	441	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11516	Quartz	Dub	442	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11517	Quartz	Dub	443	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11518	Quartz	Dub	444	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11519	Quartz	Dub	445	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11520	Quartz	Dub	446	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11521	Quartz	Dub	447	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11522	Quartz	Dub	448	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11523	Quartz	Dub	449	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11524	Quartz	Dub	450	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11525	Quartz	Dub	451	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC11526	Quartz	Dub	452	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11527	Quartz	Dub	453	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11528	Quartz	Dub	454	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC11529	Quartz	Dub	455	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2023		106D04
YC11530	Quartz	Dub	456	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2024		106D04
YC11531	Quartz	Dub	457	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11532	Quartz	Dub	458	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11533	Quartz	Dub	459	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11534	Quartz	Dub	460	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11535	Quartz	Dub	461	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11536	Quartz	Dub	462	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11537	Quartz	Dub	463	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11538	Quartz	Dub	464	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11539	Quartz	Dub	465	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11540	Quartz	Dub	466	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11541	Quartz	Dub	467	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11542	Quartz	Dub	468	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11543	Quartz	Dub	469	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11544	Quartz	Dub	470	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11545	Quartz	Dub	471	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11546	Quartz	Dub	472	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11547	Quartz	Dub	473	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11548	Quartz	Dub	474	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11549	Quartz	Dub	475	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11550	Quartz	Dub	476	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11551	Quartz	Dub	477	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11552	Quartz	Dub	478	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11553	Quartz	Dub	479	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04
YC11554	Quartz	Dub	480	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2022		106D04
YC32478	Quartz	Dub	481	STRATAGOLD CORPORATION - 100%	06/10/2004	01/03/2022		106D04
YC32479	Quartz	Dub	482	STRATAGOLD CORPORATION - 100%	06/10/2004	01/03/2022		106D04
YC32480	Quartz	Dub	483	STRATAGOLD CORPORATION - 100%	06/10/2004	01/03/2022		106D04
YC32481	Quartz	Dub	484	STRATAGOLD CORPORATION - 100%	06/10/2004	01/03/2022		106D04
YC32482	Quartz	Dub	485	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32483	Quartz	Dub	486	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32484	Quartz	Dub	487	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32485	Quartz	Dub	488	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32486	Quartz	Dub	489	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32487	Quartz	Dub	490	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32488	Quartz	Dub	491	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32489	Quartz	Dub	492	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32490	Quartz	Dub	493	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		105M13
YC32491	Quartz	Dub	494	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32492	Quartz	Dub	495	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32493	Quartz	Dub	496	STRATAGOLD CORPORATION - 100%	02/11/2004	01/03/2020		105M13
YC32494	Quartz	Dub	497	STRATAGOLD CORPORATION - 100%	02/11/2004	01/03/2022		105M13
YC32495	Quartz	Dub	498	STRATAGOLD CORPORATION - 100%	02/11/2004	01/03/2022		105M13
YC32496	Quartz	Dub	499	STRATAGOLD CORPORATION - 100%	02/11/2004	01/03/2022		105M13
YC32497	Quartz	Dub	500	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32498	Quartz	Dub	501	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32499	Quartz	Dub	502	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32500	Quartz	Dub	503	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32501	Quartz	Dub	504	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32502	Quartz	Dub	505	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32503	Quartz	Dub	506	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32504	Quartz	Dub	507	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32505	Quartz	Dub	508	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32506	Quartz	Dub	509	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32507	Quartz	Dub	510	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32508	Quartz	Dub	511	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32509	Quartz	Dub	512	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32510	Quartz	Dub	513	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32511	Quartz	Dub	514	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32512	Quartz	Dub	515	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32513	Quartz	Dub	516	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32514	Quartz	Dub	517	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		105M13

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC32515	Quartz	Dub	518	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32516	Quartz	Dub	519	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32517	Quartz	Dub	520	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32518	Quartz	Dub	521	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32519	Quartz	Dub	522	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32520	Quartz	Dub	523	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32521	Quartz	Dub	524	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32522	Quartz	Dub	525	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32523	Quartz	Dub	526	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32524	Quartz	Dub	527	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32525	Quartz	Dub	528	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32536	Quartz	Dub	539	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32537	Quartz	Dub	540	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32538	Quartz	Dub	541	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32539	Quartz	Dub	542	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32540	Quartz	Dub	543	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32541	Quartz	Dub	544	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32542	Quartz	Dub	545	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32543	Quartz	Dub	546	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32544	Quartz	Dub	547	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32545	Quartz	Dub	548	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32564	Quartz	Dub	567	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32565	Quartz	Dub	568	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32566	Quartz	Dub	569	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32567	Quartz	Dub	570	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32568	Quartz	Dub	571	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32569	Quartz	Dub	572	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32570	Quartz	Dub	573	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32571	Quartz	Dub	574	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32572	Quartz	Dub	575	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32573	Quartz	Dub	576	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32574	Quartz	Dub	577	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32575	Quartz	Dub	578	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32576	Quartz	Dub	579	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32577	Quartz	Dub	580	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32578	Quartz	Dub	581	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2022		105M13
YC32579	Quartz	Dub	582	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32580	Quartz	Dub	583	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32581	Quartz	Dub	584	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32582	Quartz	Dub	585	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32583	Quartz	Dub	586	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32584	Quartz	Dub	587	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32585	Quartz	Dub	588	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32586	Quartz	Dub	589	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32587	Quartz	Dub	590	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32588	Quartz	Dub	591	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32589	Quartz	Dub	592	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32590	Quartz	Dub	593	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32591	Quartz	Dub	594	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32592	Quartz	Dub	595	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32593	Quartz	Dub	596	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32594	Quartz	Dub	597	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32595	Quartz	Dub	598	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32596	Quartz	Dub	599	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32597	Quartz	Dub	600	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32598	Quartz	Dub	601	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32599	Quartz	Dub	602	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32600	Quartz	Dub	603	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC32601	Quartz	Dub	604	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC32602	Quartz	Dub	605	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC32603	Quartz	Dub	606	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC32604	Quartz	Dub	607	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC32605	Quartz	Dub	608	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC32606	Quartz	Dub	609	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32607	Quartz	Dub	610	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32608	Quartz	Dub	611	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32609	Quartz	Dub	612	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32610	Quartz	Dub	613	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32611	Quartz	Dub	614	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32612	Quartz	Dub	615	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32613	Quartz	Dub	616	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32614	Quartz	Dub	617	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32615	Quartz	Dub	618	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32616	Quartz	Dub	619	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32617	Quartz	Dub	620	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32618	Quartz	Dub	621	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32619	Quartz	Dub	622	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32620	Quartz	Dub	623	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32621	Quartz	Dub	624	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32622	Quartz	Dub	625	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32623	Quartz	Dub	626	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32624	Quartz	Dub	627	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32625	Quartz	Dub	628	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32626	Quartz	Dub	629	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32627	Quartz	Dub	630	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32628	Quartz	Dub	631	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32629	Quartz	Dub	632	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32630	Quartz	Dub	633	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32631	Quartz	Dub	634	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32632	Quartz	Dub	635	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32633	Quartz	Dub	636	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32634	Quartz	Dub	637	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32635	Quartz	Dub	638	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32636	Quartz	Dub	639	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32637	Quartz	Dub	640	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32638	Quartz	Dub	641	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32639	Quartz	Dub	642	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32640	Quartz	Dub	643	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32641	Quartz	Dub	644	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32642	Quartz	Dub	645	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32643	Quartz	Dub	646	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32644	Quartz	Dub	647	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32645	Quartz	Dub	648	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32646	Quartz	Dub	649	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32647	Quartz	Dub	650	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32648	Quartz	Dub	651	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		105M13
YC32649	Quartz	Dub	652	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32650	Quartz	Dub	653	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32651	Quartz	Dub	654	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32652	Quartz	Dub	655	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32653	Quartz	Dub	656	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		105M13
YC32654	Quartz	Dub	657	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		105M13
YC32655	Quartz	Dub	658	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2019		105M13
YC32656	Quartz	Dub	659	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		105M13
YC32657	Quartz	Dub	660	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		105M13
YC32658	Quartz	Dub	661	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		105M13
YC32659	Quartz	Dub	662	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		105M13
YC32660	Quartz	Dub	663	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32661	Quartz	Dub	664	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32662	Quartz	Dub	665	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32663	Quartz	Dub	666	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32664	Quartz	Dub	667	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32665	Quartz	Dub	668	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32666	Quartz	Dub	669	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32667	Quartz	Dub	670	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32668	Quartz	Dub	671	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC32669	Quartz	Dub	672	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32670	Quartz	Dub	673	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32671	Quartz	Dub	674	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32672	Quartz	Dub	675	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32673	Quartz	Dub	676	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32674	Quartz	Dub	677	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32675	Quartz	Dub	678	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32676	Quartz	Dub	679	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32677	Quartz	Dub	680	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		105M13
YC32678	Quartz	Dub	681	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32679	Quartz	Dub	682	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		105M13
YC32680	Quartz	Dub	683	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32681	Quartz	Dub	684	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32682	Quartz	Dub	685	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32683	Quartz	Dub	686	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32684	Quartz	Dub	687	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32685	Quartz	Dub	688	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC32686	Quartz	Dub	689	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32687	Quartz	Dub	690	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32688	Quartz	Dub	691	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32689	Quartz	Dub	692	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32690	Quartz	Dub	693	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32691	Quartz	Dub	694	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32692	Quartz	Dub	695	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32693	Quartz	Dub	696	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32694	Quartz	Dub	697	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32695	Quartz	Dub	698	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32696	Quartz	Dub	699	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32697	Quartz	Dub	700	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32698	Quartz	Dub	701	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32699	Quartz	Dub	702	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC32700	Quartz	Dub	703	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC38001	Quartz	Dub	704	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC38002	Quartz	Dub	705	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC38003	Quartz	Dub	706	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC38004	Quartz	Dub	707	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC38005	Quartz	Dub	708	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M14
YC38006	Quartz	Dub	709	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38007	Quartz	Dub	710	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38008	Quartz	Dub	711	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38009	Quartz	Dub	712	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38010	Quartz	Dub	713	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38011	Quartz	Dub	714	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38012	Quartz	Dub	715	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38013	Quartz	Dub	716	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38014	Quartz	Dub	717	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38015	Quartz	Dub	718	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38016	Quartz	Dub	719	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38017	Quartz	Dub	720	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38018	Quartz	Dub	721	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38019	Quartz	Dub	722	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		105M13
YC38020	Quartz	Dub	723	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38021	Quartz	Dub	724	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38022	Quartz	Dub	725	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38023	Quartz	Dub	726	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38024	Quartz	Dub	727	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38025	Quartz	Dub	728	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38026	Quartz	Dub	729	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38027	Quartz	Dub	730	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38028	Quartz	Dub	731	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38029	Quartz	Dub	732	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38030	Quartz	Dub	733	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38031	Quartz	Dub	734	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38032	Quartz	Dub	735	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38033	Quartz	Dub	736	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38034	Quartz	Dub	737	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38035	Quartz	Dub	738	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38036	Quartz	Dub	739	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38037	Quartz	Dub	740	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38038	Quartz	Dub	741	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38039	Quartz	Dub	742	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38040	Quartz	Dub	743	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38041	Quartz	Dub	744	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38042	Quartz	Dub	745	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38043	Quartz	Dub	746	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38044	Quartz	Dub	747	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38045	Quartz	Dub	748	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38046	Quartz	Dub	749	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38047	Quartz	Dub	750	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38048	Quartz	Dub	751	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38049	Quartz	Dub	752	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38050	Quartz	Dub	753	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38051	Quartz	Dub	754	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38052	Quartz	Dub	755	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38053	Quartz	Dub	756	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38054	Quartz	Dub	757	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38055	Quartz	Dub	758	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38056	Quartz	Dub	759	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38057	Quartz	Dub	760	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38058	Quartz	Dub	761	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38059	Quartz	Dub	762	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38060	Quartz	Dub	763	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38061	Quartz	Dub	764	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38062	Quartz	Dub	765	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38063	Quartz	Dub	766	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38064	Quartz	Dub	767	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38065	Quartz	Dub	768	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38066	Quartz	Dub	769	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38067	Quartz	Dub	770	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38068	Quartz	Dub	771	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38069	Quartz	Dub	772	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38070	Quartz	Dub	773	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38071	Quartz	Dub	774	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38072	Quartz	Dub	775	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38073	Quartz	Dub	776	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38074	Quartz	Dub	777	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38075	Quartz	Dub	778	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38076	Quartz	Dub	779	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38077	Quartz	Dub	780	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38078	Quartz	Dub	781	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38079	Quartz	Dub	782	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38080	Quartz	Dub	783	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38081	Quartz	Dub	784	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38082	Quartz	Dub	785	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D03
YC38083	Quartz	Dub	786	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D03
YC38084	Quartz	Dub	787	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D03
YC38085	Quartz	Dub	788	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D03
YC38086	Quartz	Dub	789	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38087	Quartz	Dub	790	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38088	Quartz	Dub	791	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38089	Quartz	Dub	792	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38090	Quartz	Dub	793	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38091	Quartz	Dub	794	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38092	Quartz	Dub	795	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38093	Quartz	Dub	796	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38094	Quartz	Dub	797	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38095	Quartz	Dub	798	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38096	Quartz	Dub	799	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38097	Quartz	Dub	800	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38098	Quartz	Dub	801	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38099	Quartz	Dub	802	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38100	Quartz	Dub	803	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38101	Quartz	Dub	804	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38102	Quartz	Dub	805	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38103	Quartz	Dub	806	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38104	Quartz	Dub	807	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38105	Quartz	Dub	808	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38106	Quartz	Dub	809	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38107	Quartz	Dub	810	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38108	Quartz	Dub	811	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38109	Quartz	Dub	812	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38110	Quartz	Dub	813	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38111	Quartz	Dub	814	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38112	Quartz	Dub	815	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38113	Quartz	Dub	816	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38114	Quartz	Dub	817	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38115	Quartz	Dub	818	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38116	Quartz	Dub	819	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38117	Quartz	Dub	820	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38118	Quartz	Dub	821	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38119	Quartz	Dub	822	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38120	Quartz	Dub	823	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38121	Quartz	Dub	824	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38122	Quartz	Dub	825	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38123	Quartz	Dub	826	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38124	Quartz	Dub	827	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38125	Quartz	Dub	828	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38126	Quartz	Dub	829	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38127	Quartz	Dub	830	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38128	Quartz	Dub	831	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38129	Quartz	Dub	832	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38130	Quartz	Dub	833	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38131	Quartz	Dub	834	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38132	Quartz	Dub	835	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38133	Quartz	Dub	836	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38134	Quartz	Dub	837	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38135	Quartz	Dub	838	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38136	Quartz	Dub	839	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38137	Quartz	Dub	840	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38138	Quartz	Dub	841	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38139	Quartz	Dub	842	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38140	Quartz	Dub	843	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38141	Quartz	Dub	844	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38142	Quartz	Dub	845	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38143	Quartz	Dub	846	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38144	Quartz	Dub	847	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38145	Quartz	Dub	848	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38146	Quartz	Dub	849	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38147	Quartz	Dub	850	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38148	Quartz	Dub	851	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38149	Quartz	Dub	852	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38150	Quartz	Dub	853	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38151	Quartz	Dub	854	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38152	Quartz	Dub	855	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38153	Quartz	Dub	856	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38154	Quartz	Dub	857	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38155	Quartz	Dub	858	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38156	Quartz	Dub	859	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38157	Quartz	Dub	860	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38158	Quartz	Dub	861	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38159	Quartz	Dub	862	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38160	Quartz	Dub	863	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38161	Quartz	Dub	864	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38162	Quartz	Dub	865	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38163	Quartz	Dub	866	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38164	Quartz	Dub	867	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38165	Quartz	Dub	868	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38166	Quartz	Dub	869	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38167	Quartz	Dub	870	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38168	Quartz	Dub	871	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38169	Quartz	Dub	872	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38170	Quartz	Dub	873	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38171	Quartz	Dub	874	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38172	Quartz	Dub	875	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38173	Quartz	Dub	876	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38174	Quartz	Dub	877	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38175	Quartz	Dub	878	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38176	Quartz	Dub	879	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38177	Quartz	Dub	880	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38178	Quartz	Dub	881	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38179	Quartz	Dub	882	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38180	Quartz	Dub	883	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38181	Quartz	Dub	884	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38182	Quartz	Dub	885	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38183	Quartz	Dub	886	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38184	Quartz	Dub	887	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38185	Quartz	Dub	888	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38186	Quartz	Dub	889	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38187	Quartz	Dub	890	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38188	Quartz	Dub	891	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38189	Quartz	Dub	892	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38190	Quartz	Dub	893	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38191	Quartz	Dub	894	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38192	Quartz	Dub	895	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38193	Quartz	Dub	896	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38194	Quartz	Dub	897	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38195	Quartz	Dub	898	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38196	Quartz	Dub	899	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38197	Quartz	Dub	900	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38198	Quartz	Dub	901	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38199	Quartz	Dub	902	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38200	Quartz	Dub	903	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38201	Quartz	Dub	904	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38202	Quartz	Dub	905	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38203	Quartz	Dub	906	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38204	Quartz	Dub	907	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38205	Quartz	Dub	908	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38206	Quartz	Dub	909	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38207	Quartz	Dub	910	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38208	Quartz	Dub	911	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38209	Quartz	Dub	912	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38210	Quartz	Dub	913	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38211	Quartz	Dub	914	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38212	Quartz	Dub	915	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38213	Quartz	Dub	916	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38214	Quartz	Dub	917	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38215	Quartz	Dub	918	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38216	Quartz	Dub	919	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38217	Quartz	Dub	920	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38218	Quartz	Dub	921	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38219	Quartz	Dub	922	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38220	Quartz	Dub	923	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38221	Quartz	Dub	924	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38222	Quartz	Dub	925	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38223	Quartz	Dub	926	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38224	Quartz	Dub	927	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38225	Quartz	Dub	928	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38226	Quartz	Dub	929	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38227	Quartz	Dub	930	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38228	Quartz	Dub	931	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38229	Quartz	Dub	932	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38230	Quartz	Dub	933	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38231	Quartz	Dub	934	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38232	Quartz	Dub	935	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38233	Quartz	Dub	936	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38234	Quartz	Dub	937	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38235	Quartz	Dub	938	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38236	Quartz	Dub	939	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38237	Quartz	Dub	940	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38238	Quartz	Dub	941	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38239	Quartz	Dub	942	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38240	Quartz	Dub	943	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38241	Quartz	Dub	944	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38242	Quartz	Dub	945	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38243	Quartz	Dub	946	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38244	Quartz	Dub	947	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38245	Quartz	Dub	948	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38246	Quartz	Dub	949	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38247	Quartz	Dub	950	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38248	Quartz	Dub	951	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38249	Quartz	Dub	952	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38250	Quartz	Dub	953	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D03
YC38251	Quartz	Dub	954	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38252	Quartz	Dub	955	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38253	Quartz	Dub	956	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38254	Quartz	Dub	957	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38255	Quartz	Dub	958	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38256	Quartz	Dub	959	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38257	Quartz	Dub	960	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38258	Quartz	Dub	961	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38259	Quartz	Dub	962	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38260	Quartz	Dub	963	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38261	Quartz	Dub	964	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38262	Quartz	Dub	965	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38263	Quartz	Dub	966	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38264	Quartz	Dub	967	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38265	Quartz	Dub	968	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38266	Quartz	Dub	969	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38267	Quartz	Dub	970	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38268	Quartz	Dub	971	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38269	Quartz	Dub	972	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38270	Quartz	Dub	973	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38271	Quartz	Dub	974	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38272	Quartz	Dub	975	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38273	Quartz	Dub	976	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38274	Quartz	Dub	977	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38275	Quartz	Dub	978	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38276	Quartz	Dub	979	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38277	Quartz	Dub	980	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38278	Quartz	Dub	981	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38279	Quartz	Dub	982	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38280	Quartz	Dub	983	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38281	Quartz	Dub	984	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38282	Quartz	Dub	985	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38283	Quartz	Dub	986	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38284	Quartz	Dub	987	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38285	Quartz	Dub	988	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2019		106D04
YC38286	Quartz	Dub	989	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38287	Quartz	Dub	990	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38288	Quartz	Dub	991	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38289	Quartz	Dub	992	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38290	Quartz	Dub	993	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38291	Quartz	Dub	994	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38292	Quartz	Dub	995	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38293	Quartz	Dub	996	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38294	Quartz	Dub	997	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38295	Quartz	Dub	998	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38296	Quartz	Dub	999	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38297	Quartz	Dub	1000	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38298	Quartz	Dub	1001	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38299	Quartz	Dub	1002	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38300	Quartz	Dub	1003	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38301	Quartz	Dub	1004	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38302	Quartz	Dub	1005	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38303	Quartz	Dub	1006	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38304	Quartz	Dub	1007	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38305	Quartz	Dub	1008	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38306	Quartz	Dub	1009	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38307	Quartz	Dub	1010	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38308	Quartz	Dub	1011	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38309	Quartz	Dub	1012	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38310	Quartz	Dub	1013	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38311	Quartz	Dub	1014	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38312	Quartz	Dub	1015	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38313	Quartz	Dub	1016	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38314	Quartz	Dub	1017	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38315	Quartz	Dub	1018	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38316	Quartz	Dub	1019	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38317	Quartz	Dub	1020	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38318	Quartz	Dub	1021	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38319	Quartz	Dub	1022	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38320	Quartz	Dub	1023	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38321	Quartz	Dub	1024	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38322	Quartz	Dub	1025	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38323	Quartz	Dub	1026	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38324	Quartz	Dub	1027	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38325	Quartz	Dub	1028	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38326	Quartz	Dub	1029	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38327	Quartz	Dub	1030	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38328	Quartz	Dub	1031	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38329	Quartz	Dub	1032	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38330	Quartz	Dub	1033	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38331	Quartz	Dub	1034	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38332	Quartz	Dub	1035	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38333	Quartz	Dub	1036	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38334	Quartz	Dub	1037	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38335	Quartz	Dub	1038	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38336	Quartz	Dub	1039	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38337	Quartz	Dub	1040	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38338	Quartz	Dub	1041	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38339	Quartz	Dub	1042	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38340	Quartz	Dub	1043	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38341	Quartz	Dub	1044	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38342	Quartz	Dub	1045	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38343	Quartz	Dub	1046	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38344	Quartz	Dub	1047	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38345	Quartz	Dub	1048	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38346	Quartz	Dub	1049	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38347	Quartz	Dub	1050	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38348	Quartz	Dub	1051	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38349	Quartz	Dub	1052	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38350	Quartz	Dub	1053	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38351	Quartz	Dub	1054	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38352	Quartz	Dub	1055	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38353	Quartz	Dub	1056	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38354	Quartz	Dub	1057	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38355	Quartz	Dub	1058	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38356	Quartz	Dub	1059	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38357	Quartz	Dub	1060	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38358	Quartz	Dub	1061	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38359	Quartz	Dub	1062	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38360	Quartz	Dub	1063	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38361	Quartz	Dub	1064	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38362	Quartz	Dub	1065	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38363	Quartz	Dub	1066	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38364	Quartz	Dub	1067	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38365	Quartz	Dub	1068	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38366	Quartz	Dub	1069	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38367	Quartz	Dub	1070	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38368	Quartz	Dub	1071	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38369	Quartz	Dub	1072	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38370	Quartz	Dub	1073	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38371	Quartz	Dub	1074	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38372	Quartz	Dub	1075	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38373	Quartz	Dub	1076	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38374	Quartz	Dub	1077	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38375	Quartz	Dub	1078	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38376	Quartz	Dub	1079	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38377	Quartz	Dub	1080	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38378	Quartz	Dub	1081	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38379	Quartz	Dub	1082	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38380	Quartz	Dub	1083	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38381	Quartz	Dub	1084	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38382	Quartz	Dub	1085	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38383	Quartz	Dub	1086	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38384	Quartz	Dub	1087	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38385	Quartz	Dub	1088	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38386	Quartz	Dub	1089	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38387	Quartz	Dub	1090	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38388	Quartz	Dub	1091	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38389	Quartz	Dub	1092	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38390	Quartz	Dub	1093	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38391	Quartz	Dub	1094	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38392	Quartz	Dub	1095	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38393	Quartz	Dub	1096	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38394	Quartz	Dub	1097	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38395	Quartz	Dub	1098	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38396	Quartz	Dub	1099	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38397	Quartz	Dub	1100	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38398	Quartz	Dub	1101	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38399	Quartz	Dub	1102	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38400	Quartz	Dub	1103	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38401	Quartz	Dub	1104	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38402	Quartz	Dub	1105	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38403	Quartz	Dub	1106	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38404	Quartz	Dub	1107	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38405	Quartz	Dub	1108	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38406	Quartz	Dub	1109	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38407	Quartz	Dub	1110	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38408	Quartz	Dub	1111	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38409	Quartz	Dub	1112	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38410	Quartz	Dub	1113	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38411	Quartz	Dub	1114	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38412	Quartz	Dub	1115	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38413	Quartz	Dub	1116	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38414	Quartz	Dub	1117	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38415	Quartz	Dub	1118	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38416	Quartz	Dub	1119	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38417	Quartz	Dub	1120	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38418	Quartz	Dub	1121	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38419	Quartz	Dub	1122	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38420	Quartz	Dub	1123	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38421	Quartz	Dub	1124	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38422	Quartz	Dub	1125	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38423	Quartz	Dub	1126	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38424	Quartz	Dub	1127	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38425	Quartz	Dub	1128	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38426	Quartz	Dub	1129	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38427	Quartz	Dub	1130	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38428	Quartz	Dub	1131	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38429	Quartz	Dub	1132	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38430	Quartz	Dub	1133	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38431	Quartz	Dub	1134	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38432	Quartz	Dub	1135	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38433	Quartz	Dub	1136	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38434	Quartz	Dub	1137	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38435	Quartz	Dub	1138	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38436	Quartz	Dub	1139	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38437	Quartz	Dub	1140	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38438	Quartz	Dub	1141	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38439	Quartz	Dub	1142	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38440	Quartz	Dub	1143	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38441	Quartz	Dub	1144	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38442	Quartz	Dub	1145	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38443	Quartz	Dub	1146	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38444	Quartz	Dub	1147	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38445	Quartz	Dub	1148	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38446	Quartz	Dub	1149	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38447	Quartz	Dub	1150	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38448	Quartz	Dub	1151	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38449	Quartz	Dub	1152	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38450	Quartz	Dub	1153	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38451	Quartz	Dub	1154	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38452	Quartz	Dub	1155	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38453	Quartz	Dub	1156	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38454	Quartz	Dub	1157	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38455	Quartz	Dub	1158	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38456	Quartz	Dub	1159	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38457	Quartz	Dub	1160	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38458	Quartz	Dub	1161	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38459	Quartz	Dub	1162	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38460	Quartz	Dub	1163	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38461	Quartz	Dub	1164	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38462	Quartz	Dub	1165	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38463	Quartz	Dub	1166	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38464	Quartz	Dub	1167	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38465	Quartz	Dub	1168	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38466	Quartz	Dub	1169	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38467	Quartz	Dub	1170	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38468	Quartz	Dub	1171	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38469	Quartz	Dub	1172	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38470	Quartz	Dub	1173	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38471	Quartz	Dub	1174	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38472	Quartz	Dub	1175	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38473	Quartz	Dub	1176	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38474	Quartz	Dub	1177	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38475	Quartz	Dub	1178	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38476	Quartz	Dub	1179	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38477	Quartz	Dub	1180	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38478	Quartz	Dub	1181	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38479	Quartz	Dub	1182	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38480	Quartz	Dub	1183	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38481	Quartz	Dub	1184	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38482	Quartz	Dub	1185	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38483	Quartz	Dub	1186	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38484	Quartz	Dub	1187	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38485	Quartz	Dub	1188	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38486	Quartz	Dub	1189	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38487	Quartz	Dub	1190	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38488	Quartz	Dub	1191	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38489	Quartz	Dub	1192	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38490	Quartz	Dub	1193	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38491	Quartz	Dub	1194	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38492	Quartz	Dub	1195	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2021		106D04
YC38493	Quartz	Dub	1196	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38494	Quartz	Dub	1197	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38495	Quartz	Dub	1198	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38496	Quartz	Dub	1199	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38497	Quartz	Dub	1200	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38498	Quartz	Dub	1201	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38499	Quartz	Dub	1202	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38500	Quartz	Dub	1203	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38501	Quartz	Dub	1204	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38502	Quartz	Dub	1205	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38503	Quartz	Dub	1206	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38504	Quartz	Dub	1207	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38505	Quartz	Dub	1208	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38506	Quartz	Dub	1209	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38507	Quartz	Dub	1210	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38508	Quartz	Dub	1211	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38509	Quartz	Dub	1212	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38510	Quartz	Dub	1213	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38511	Quartz	Dub	1214	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D03
YC38512	Quartz	Dub	1215	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38513	Quartz	Dub	1216	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38514	Quartz	Dub	1217	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38515	Quartz	Dub	1218	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38516	Quartz	Dub	1219	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38517	Quartz	Dub	1220	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38518	Quartz	Dub	1221	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38519	Quartz	Dub	1222	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38520	Quartz	Dub	1223	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38521	Quartz	Dub	1224	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38522	Quartz	Dub	1225	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38523	Quartz	Dub	1226	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38524	Quartz	Dub	1227	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38525	Quartz	Dub	1228	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38526	Quartz	Dub	1229	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2015		106D04
YC38527	Quartz	Dub	1230	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38528	Quartz	Dub	1231	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38529	Quartz	Dub	1232	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38530	Quartz	Dub	1233	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38531	Quartz	Dub	1234	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38532	Quartz	Dub	1235	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38533	Quartz	Dub	1236	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38534	Quartz	Dub	1237	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38535	Quartz	Dub	1238	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38536	Quartz	Dub	1239	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38537	Quartz	Dub	1240	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38538	Quartz	Dub	1241	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38539	Quartz	Dub	1242	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38540	Quartz	Dub	1243	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38541	Quartz	Dub	1244	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38542	Quartz	Dub	1245	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38543	Quartz	Dub	1246	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38544	Quartz	Dub	1247	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38545	Quartz	Dub	1248	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38546	Quartz	Dub	1249	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38547	Quartz	Dub	1250	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38548	Quartz	Dub	1251	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38549	Quartz	Dub	1252	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38550	Quartz	Dub	1253	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38551	Quartz	Dub	1254	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38552	Quartz	Dub	1255	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38553	Quartz	Dub	1256	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2016		106D04
YC38554	Quartz	Dub	1257	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38555	Quartz	Dub	1258	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2017		106D04
YC38556	Quartz	Dub	1259	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38557	Quartz	Dub	1260	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2017		106D04
YC38558	Quartz	Dub	1261	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38559	Quartz	Dub	1262	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2018		106D04
YC38560	Quartz	Dub	1263	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38561	Quartz	Dub	1264	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2017		106D04
YC38562	Quartz	Dub	1265	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38563	Quartz	Dub	1266	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38564	Quartz	Dub	1267	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38565	Quartz	Dub	1268	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38566	Quartz	Dub	1269	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38567	Quartz	Dub	1270	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38568	Quartz	Dub	1271	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38569	Quartz	Dub	1272	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38570	Quartz	Dub	1273	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38571	Quartz	Dub	1274	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38572	Quartz	Dub	1275	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38573	Quartz	Dub	1276	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38574	Quartz	Dub	1277	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38575	Quartz	Dub	1278	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38576	Quartz	Dub	1279	STRATAGOLD CORPORATION - 100%	03/11/2004	01/03/2020		106D04
YC38577	Quartz	Dub	1280	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38578	Quartz	Dub	1281	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38579	Quartz	Dub	1282	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38580	Quartz	Dub	1283	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38581	Quartz	Dub	1284	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2016		106D04
YC38582	Quartz	Dub	1285	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38583	Quartz	Dub	1286	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38584	Quartz	Dub	1287	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38585	Quartz	Dub	1288	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38586	Quartz	Dub	1289	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38587	Quartz	Dub	1290	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38588	Quartz	Dub	1291	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38589	Quartz	Dub	1292	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38590	Quartz	Dub	1293	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38591	Quartz	Dub	1294	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38592	Quartz	Dub	1295	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38593	Quartz	Dub	1296	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38594	Quartz	Dub	1297	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38595	Quartz	Dub	1298	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38596	Quartz	Dub	1299	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38597	Quartz	Dub	1300	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38598	Quartz	Dub	1301	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38599	Quartz	Dub	1302	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38600	Quartz	Dub	1303	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38601	Quartz	Dub	1304	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38602	Quartz	Dub	1305	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38603	Quartz	Dub	1306	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38604	Quartz	Dub	1307	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38605	Quartz	Dub	1308	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38606	Quartz	Dub	1309	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38607	Quartz	Dub	1310	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38608	Quartz	Dub	1311	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38609	Quartz	Dub	1312	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38610	Quartz	Dub	1313	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38611	Quartz	Dub	1314	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38612	Quartz	Dub	1315	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38613	Quartz	Dub	1316	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38614	Quartz	Dub	1317	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38615	Quartz	Dub	1318	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38616	Quartz	Dub	1319	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38617	Quartz	Dub	1320	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38618	Quartz	Dub	1321	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2016		106D04
YC38619	Quartz	Dub	1322	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38620	Quartz	Dub	1323	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38621	Quartz	Dub	1324	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		106D04
YC38622	Quartz	Dub	1325	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		106D04
YC38623	Quartz	Dub	1326	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2018		116A01
YC38624	Quartz	Dub	1327	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		116A01
YC38625	Quartz	Dub	1328	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38626	Quartz	Dub	1329	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38627	Quartz	Dub	1330	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38628	Quartz	Dub	1331	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38629	Quartz	Dub	1332	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38630	Quartz	Dub	1333	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38631	Quartz	Dub	1334	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38632	Quartz	Dub	1335	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38633	Quartz	Dub	1336	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38634	Quartz	Dub	1337	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38635	Quartz	Dub	1338	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38636	Quartz	Dub	1339	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38637	Quartz	Dub	1340	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38638	Quartz	Dub	1341	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38639	Quartz	Dub	1342	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38640	Quartz	Dub	1343	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38641	Quartz	Dub	1344	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC39876	Quartz	Dub	1345	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		106D04
YC38642	Quartz	Dub	1346	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38643	Quartz	Dub	1347	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38644	Quartz	Dub	1348	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38645	Quartz	Dub	1349	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38646	Quartz	Dub	1350	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38647	Quartz	Dub	1351	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38648	Quartz	Dub	1352	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38649	Quartz	Dub	1353	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38650	Quartz	Dub	1354	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38651	Quartz	Dub	1355	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38652	Quartz	Dub	1356	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2019		106D04
YC38653	Quartz	Dub	1357	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		106D04
YC38654	Quartz	Dub	1358	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2018		106D04
YC38655	Quartz	Dub	1359	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		106D04
YC38656	Quartz	Dub	1360	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		106D04
YC38657	Quartz	Dub	1361	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		106D04
YC38658	Quartz	Dub	1362	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		116A01
YC38659	Quartz	Dub	1363	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		116A01
YC38660	Quartz	Dub	1364	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38661	Quartz	Dub	1365	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38662	Quartz	Dub	1366	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38663	Quartz	Dub	1367	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2021		106D04
YC38664	Quartz	Dub	1368	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38665	Quartz	Dub	1369	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38666	Quartz	Dub	1370	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38667	Quartz	Dub	1371	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38668	Quartz	Dub	1372	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38669	Quartz	Dub	1373	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38670	Quartz	Dub	1374	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38671	Quartz	Dub	1375	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38672	Quartz	Dub	1376	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38673	Quartz	Dub	1377	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38674	Quartz	Dub	1378	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38675	Quartz	Dub	1379	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38676	Quartz	Dub	1380	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38677	Quartz	Dub	1381	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38678	Quartz	Dub	1382	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38679	Quartz	Dub	1383	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38680	Quartz	Dub	1384	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38681	Quartz	Dub	1385	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38682	Quartz	Dub	1386	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38683	Quartz	Dub	1387	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38684	Quartz	Dub	1388	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38685	Quartz	Dub	1389	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38686	Quartz	Dub	1390	STRATAGOLD CORPORATION - 100%	17/11/2004	01/03/2020		106D04
YC38687	Quartz	Dub	1391	STRATAGOLD CORPORATION - 100%	17/11/2004	01/03/2020		106D04
YC38688	Quartz	Dub	1392	STRATAGOLD CORPORATION - 100%	17/11/2004	01/03/2020		106D04
YC38689	Quartz	Dub	1393	STRATAGOLD CORPORATION - 100%	17/11/2004	01/03/2020		106D04
YC38690	Quartz	Dub	1394	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		106D04
YC38691	Quartz	Dub	1395	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2020		106D04
YC38692	Quartz	Dub	1396	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		106D04
YC38693	Quartz	Dub	1397	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		106D04
YC38694	Quartz	Dub	1398	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		116A01
YC38695	Quartz	Dub	1399	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2015		116A01
YC38696	Quartz	Dub	1400	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38697	Quartz	Dub	1401	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38698	Quartz	Dub	1402	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38699	Quartz	Dub	1403	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38700	Quartz	Dub	1404	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38701	Quartz	Dub	1405	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38702	Quartz	Dub	1406	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38703	Quartz	Dub	1407	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38704	Quartz	Dub	1408	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38705	Quartz	Dub	1409	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38706	Quartz	Dub	1410	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38707	Quartz	Dub	1411	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38708	Quartz	Dub	1412	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38709	Quartz	Dub	1413	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38710	Quartz	Dub	1414	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38711	Quartz	Dub	1415	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38712	Quartz	Dub	1416	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38713	Quartz	Dub	1417	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38714	Quartz	Dub	1418	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38715	Quartz	Dub	1419	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38716	Quartz	Dub	1420	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38717	Quartz	Dub	1421	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38718	Quartz	Dub	1422	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38719	Quartz	Dub	1423	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38720	Quartz	Dub	1424	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38721	Quartz	Dub	1425	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38722	Quartz	Dub	1426	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38723	Quartz	Dub	1427	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38724	Quartz	Dub	1428	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38725	Quartz	Dub	1429	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38726	Quartz	Dub	1430	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38727	Quartz	Dub	1431	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38728	Quartz	Dub	1432	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38729	Quartz	Dub	1433	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38730	Quartz	Dub	1434	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38731	Quartz	Dub	1435	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38732	Quartz	Dub	1436	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38733	Quartz	Dub	1437	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38734	Quartz	Dub	1438	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38735	Quartz	Dub	1439	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38736	Quartz	Dub	1440	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38737	Quartz	Dub	1441	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38738	Quartz	Dub	1442	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38739	Quartz	Dub	1443	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38740	Quartz	Dub	1444	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38741	Quartz	Dub	1445	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38742	Quartz	Dub	1446	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38743	Quartz	Dub	1447	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38744	Quartz	Dub	1448	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38745	Quartz	Dub	1449	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38746	Quartz	Dub	1450	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38747	Quartz	Dub	1451	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38748	Quartz	Dub	1452	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38749	Quartz	Dub	1453	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38750	Quartz	Dub	1454	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38751	Quartz	Dub	1455	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38752	Quartz	Dub	1456	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38753	Quartz	Dub	1457	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38754	Quartz	Dub	1458	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38755	Quartz	Dub	1459	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38756	Quartz	Dub	1460	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38757	Quartz	Dub	1461	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38758	Quartz	Dub	1462	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38759	Quartz	Dub	1463	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38760	Quartz	Dub	1464	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38761	Quartz	Dub	1465	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38762	Quartz	Dub	1466	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38763	Quartz	Dub	1467	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38764	Quartz	Dub	1468	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38765	Quartz	Dub	1469	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38766	Quartz	Dub	1470	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38767	Quartz	Dub	1471	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38768	Quartz	Dub	1472	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38769	Quartz	Dub	1473	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38770	Quartz	Dub	1474	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38771	Quartz	Dub	1475	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38772	Quartz	Dub	1476	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38773	Quartz	Dub	1477	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38774	Quartz	Dub	1478	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38775	Quartz	Dub	1479	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38776	Quartz	Dub	1480	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38777	Quartz	Dub	1481	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38778	Quartz	Dub	1482	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38779	Quartz	Dub	1483	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38780	Quartz	Dub	1484	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38781	Quartz	Dub	1485	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38782	Quartz	Dub	1486	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38783	Quartz	Dub	1487	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38784	Quartz	Dub	1488	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38785	Quartz	Dub	1489	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		106D04
YC38786	Quartz	Dub	1490	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38787	Quartz	Dub	1491	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01
YC38788	Quartz	Dub	1492	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01
YC38789	Quartz	Dub	1493	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01
YC38790	Quartz	Dub	1494	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01
YC38791	Quartz	Dub	1495	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01
YC38792	Quartz	Dub	1496	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2019		116A01
YC38793	Quartz	Dub	1497	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38794	Quartz	Dub	1498	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38795	Quartz	Dub	1499	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38796	Quartz	Dub	1500	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		116A01
YC38797	Quartz	Dub	1501	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38798	Quartz	Dub	1502	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2015		116A01
YC38799	Quartz	Dub	1503	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38800	Quartz	Dub	1504	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38801	Quartz	Dub	1505	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38802	Quartz	Dub	1506	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38803	Quartz	Dub	1507	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38804	Quartz	Dub	1508	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38805	Quartz	Dub	1509	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38806	Quartz	Dub	1510	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38807	Quartz	Dub	1511	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38808	Quartz	Dub	1512	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38809	Quartz	Dub	1513	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38810	Quartz	Dub	1514	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38811	Quartz	Dub	1515	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38812	Quartz	Dub	1516	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38813	Quartz	Dub	1517	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38814	Quartz	Dub	1518	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38815	Quartz	Dub	1519	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38816	Quartz	Dub	1520	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38817	Quartz	Dub	1521	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38818	Quartz	Dub	1522	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38819	Quartz	Dub	1523	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38820	Quartz	Dub	1524	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38821	Quartz	Dub	1525	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38822	Quartz	Dub	1526	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38823	Quartz	Dub	1527	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38824	Quartz	Dub	1528	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38825	Quartz	Dub	1529	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		116A01
YC38826	Quartz	Dub	1530	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38827	Quartz	Dub	1531	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38828	Quartz	Dub	1532	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38829	Quartz	Dub	1533	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38830	Quartz	Dub	1534	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38831	Quartz	Dub	1535	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38832	Quartz	Dub	1536	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38833	Quartz	Dub	1537	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38834	Quartz	Dub	1538	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38835	Quartz	Dub	1539	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38836	Quartz	Dub	1540	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2022		106D04
YC38837	Quartz	Dub	1541	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38838	Quartz	Dub	1542	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38839	Quartz	Dub	1543	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38840	Quartz	Dub	1544	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38841	Quartz	Dub	1545	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38842	Quartz	Dub	1546	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38843	Quartz	Dub	1547	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38844	Quartz	Dub	1548	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38845	Quartz	Dub	1549	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38846	Quartz	Dub	1550	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38847	Quartz	Dub	1551	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38848	Quartz	Dub	1552	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38849	Quartz	Dub	1553	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC38850	Quartz	Dub	1554	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38851	Quartz	Dub	1555	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38852	Quartz	Dub	1556	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38853	Quartz	Dub	1557	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38854	Quartz	Dub	1558	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38855	Quartz	Dub	1559	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38856	Quartz	Dub	1560	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38857	Quartz	Dub	1561	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38858	Quartz	Dub	1562	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38859	Quartz	Dub	1563	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38860	Quartz	Dub	1564	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38861	Quartz	Dub	1565	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38862	Quartz	Dub	1566	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38863	Quartz	Dub	1567	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38864	Quartz	Dub	1568	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38865	Quartz	Dub	1569	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38866	Quartz	Dub	1570	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38867	Quartz	Dub	1571	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38868	Quartz	Dub	1572	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38869	Quartz	Dub	1573	STRATAGOLD CORPORATION - 100%	05/11/2004	01/03/2020		106D04
YC38870	Quartz	Dub	1574	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38871	Quartz	Dub	1575	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38872	Quartz	Dub	1576	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38873	Quartz	Dub	1577	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38874	Quartz	Dub	1578	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38875	Quartz	Dub	1579	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38876	Quartz	Dub	1580	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38877	Quartz	Dub	1581	STRATAGOLD CORPORATION - 100%	01/11/2004	01/03/2020		116A01
YC38878	Quartz	Dub	1582	STRATAGOLD CORPORATION - 100%	08/11/2004	01/03/2022		106D04
YC39850	Quartz	Dub	1583	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2017		106D04
YC39851	Quartz	Dub	1584	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2015		106D04
YC39852	Quartz	Dub	1585	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2015		106D04
YC39853	Quartz	Dub	1586	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2015		106D04
YC39854	Quartz	Dub	1587	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2015		106D04
YC39855	Quartz	Dub	1588	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2015		106D04
YC39856	Quartz	Dub	1589	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2015		106D04
YC39857	Quartz	Dub	1590	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2018		106D04
YC39858	Quartz	Dub	1591	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2018		106D04
YC39859	Quartz	Dub	1592	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		106D04
YC39866	Quartz	Dub	1593	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39867	Quartz	Dub	1594	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39868	Quartz	Dub	1595	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39869	Quartz	Dub	1596	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39870	Quartz	Dub	1597	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39871	Quartz	Dub	1598	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39872	Quartz	Dub	1599	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39873	Quartz	Dub	1600	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39874	Quartz	Dub	1601	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39875	Quartz	Dub	1602	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39860	Quartz	Dub	1603	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39861	Quartz	Dub	1604	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39862	Quartz	Dub	1605	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39863	Quartz	Dub	1606	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39864	Quartz	Dub	1607	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC39865	Quartz	Dub	1608	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		105M13
YC42226	Quartz	Dub	1609	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42227	Quartz	Dub	1610	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42228	Quartz	Dub	1611	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42229	Quartz	Dub	1612	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42230	Quartz	Dub	1613	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42231	Quartz	Dub	1614	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42232	Quartz	Dub	1615	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42233	Quartz	Dub	1616	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC42234	Quartz	Dub	1617	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42235	Quartz	Dub	1618	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YC42236	Quartz	Dub	1619	STRATAGOLD CORPORATION - 100%	28/10/2005	01/03/2020		105M13
YA63884	Quartz	Fiji	1	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YB03409	Quartz	Fiji	2	STRATAGOLD CORPORATION - 100%	02/11/1989	01/03/2022		106D04
YA63886	Quartz	Fiji	3	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63888	Quartz	Fiji	5	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63889	Quartz	Fiji	6	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YC10918	Quartz	Hla Hla	1	STRATAGOLD CORPORATION - 100%	07/08/2003	07/08/2011		106D04
YC10919	Quartz	Hla Hla	2	STRATAGOLD CORPORATION - 100%	07/08/2003	07/08/2011		106D04
YC10920	Quartz	Hla Hla	3	STRATAGOLD CORPORATION - 100%	07/08/2003	07/08/2011		106D04
YC10921	Quartz	Hla Hla	4	STRATAGOLD CORPORATION - 100%	07/08/2003	07/08/2011		106D04
YC10922	Quartz	Hla Hla	5	STRATAGOLD CORPORATION - 100%	07/08/2003	07/08/2011		106D04
YC10923	Quartz	Hla Hla	6	STRATAGOLD CORPORATION - 100%	07/08/2003	07/08/2011		106D04
YC10828	Quartz	Hla Hla	7	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10829	Quartz	Hla Hla	8	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10830	Quartz	Hla Hla	9	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10831	Quartz	Hla Hla	10	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10832	Quartz	Hla Hla	11	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10833	Quartz	Hla Hla	12	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10834	Quartz	Hla Hla	13	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YC10835	Quartz	Hla Hla	14	STRATAGOLD CORPORATION - 100%	06/06/2003	06/06/2011		106D04
YB65585	Quartz	Jan	1	STRATAGOLD CORPORATION - 100%	19/07/1996	01/03/2020		106D04
YB65586	Quartz	Jan	2	STRATAGOLD CORPORATION - 100%	19/07/1996	01/03/2020		106D04
YB65587	Quartz	Jan	3	STRATAGOLD CORPORATION - 100%	19/07/1996	16/01/2020		106D04
YB65588	Quartz	Jan	4	STRATAGOLD CORPORATION - 100%	19/07/1996	16/01/2025		106D04
YA17842	Quartz	Jeff	17	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17843	Quartz	Jeff	18	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17858	Quartz	Jeff	33	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17859	Quartz	Jeff	34	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA42976	Quartz	Jeff	113	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YA42977	Quartz	Jeff	114	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YA42978	Quartz	Jeff	115	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YC39877	Quartz	Jeff	116	STRATAGOLD CORPORATION - 100%	22/09/2005	01/03/2020		106D04
YB03408	Quartz	Jeff	117	STRATAGOLD CORPORATION - 100%	02/11/1989	01/03/2022		106D04
YA42981	Quartz	Jeff	118	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YA42983	Quartz	Jeff	120	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YC02730	Quartz	Len	1	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2026		106D04
YC02731	Quartz	Len	2	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2026		106D04
YC02732	Quartz	Len	3	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30524	Quartz	Len	4	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2026		106D04
YC02733	Quartz	Len	5	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30526	Quartz	Len	6	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2026		106D04
YC02734	Quartz	Len	7	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30528	Quartz	Len	8	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2025		106D04
YC02735	Quartz	Len	9	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30530	Quartz	Len	10	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2022		106D04
YC02736	Quartz	Len	11	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2027		106D04
YC02737	Quartz	Len	12	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2026		106D04
YC02738	Quartz	Len	13	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2025		106D04
YC02739	Quartz	Len	14	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2025		106D04
YC02740	Quartz	Len	15	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2024		106D04
YC02741	Quartz	Len	16	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2024		106D04
YC02742	Quartz	Len	17	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2024		106D04
YC02743	Quartz	Len	18	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2024		106D04
YC02744	Quartz	Len	19	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2021		106D04
YC02745	Quartz	Len	20	STRATAGOLD CORPORATION - 100%	15/05/2001	15/05/2021		106D04
YC02746	Quartz	Len	21	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YC02747	Quartz	Len	22	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YC02748	Quartz	Len	23	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30544	Quartz	Len	24	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2022		106D04
YC02749	Quartz	Len	25	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30546	Quartz	Len	26	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2025		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YC02750	Quartz	Len	27	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30548	Quartz	Len	28	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2026		106D04
YC02751	Quartz	Len	29	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YA30550	Quartz	Len	30	STRATAGOLD CORPORATION - 100%	02/06/1978	15/05/2026		106D04
YC02752	Quartz	Len	31	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YC02753	Quartz	Len	32	STRATAGOLD CORPORATION - 100%	15/05/2001	01/03/2020		106D04
YC10463	Quartz	Lynx	1	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10464	Quartz	Lynx	2	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10465	Quartz	Lynx	3	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10466	Quartz	Lynx	4	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10467	Quartz	Lynx	5	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10468	Quartz	Lynx	6	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10469	Quartz	Lynx	7	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10470	Quartz	Lynx	8	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10471	Quartz	Lynx	9	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10472	Quartz	Lynx	10	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10473	Quartz	Lynx	11	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10474	Quartz	Lynx	12	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10475	Quartz	Lynx	13	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10476	Quartz	Lynx	14	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10477	Quartz	Lynx	15	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10478	Quartz	Lynx	16	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10479	Quartz	Lynx	17	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10480	Quartz	Lynx	18	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10481	Quartz	Lynx	19	STRATAGOLD CORPORATION - 100%	02/07/2002	16/01/2026		105M13
YC10482	Quartz	Lynx	20	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10483	Quartz	Lynx	21	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10484	Quartz	Lynx	22	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10485	Quartz	Lynx	23	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10486	Quartz	Lynx	24	STRATAGOLD CORPORATION - 100%	02/07/2002	16/01/2020		105M13
YC10487	Quartz	Lynx	25	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10488	Quartz	Lynx	26	STRATAGOLD CORPORATION - 100%	02/07/2002	16/01/2020		105M13
YC10489	Quartz	Lynx	27	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10490	Quartz	Lynx	28	STRATAGOLD CORPORATION - 100%	02/07/2002	16/01/2020		105M13
YC10491	Quartz	Lynx	29	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10492	Quartz	Lynx	30	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10493	Quartz	Lynx	31	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10494	Quartz	Lynx	32	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10495	Quartz	Lynx	33	STRATAGOLD CORPORATION - 100%	02/07/2002	16/01/2020		105M13
YC10496	Quartz	Lynx	34	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10497	Quartz	Lynx	35	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10498	Quartz	Lynx	36	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10499	Quartz	Lynx	37	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10500	Quartz	Lynx	38	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10501	Quartz	Lynx	39	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10502	Quartz	Lynx	40	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10503	Quartz	Lynx	41	STRATAGOLD CORPORATION - 100%	02/07/2002	03/03/2020		105M13
YC10504	Quartz	Lynx	42	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10505	Quartz	Lynx	43	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10506	Quartz	Lynx	44	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10507	Quartz	Lynx	45	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10508	Quartz	Lynx	46	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10509	Quartz	Lynx	47	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10510	Quartz	Lynx	48	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10511	Quartz	Lynx	49	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10512	Quartz	Lynx	50	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10513	Quartz	Lynx	51	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10514	Quartz	Lynx	52	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10515	Quartz	Lynx	53	STRATAGOLD CORPORATION - 100%	02/07/2002	01/03/2020		105M13
YC10516	Quartz	Lynx	54	STRATAGOLD CORPORATION - 100%	22/07/2002	01/03/2020		105M13
YC10517	Quartz	Lynx	55	STRATAGOLD CORPORATION - 100%	22/07/2002	01/03/2020		105M13
YC10518	Quartz	Lynx	56	STRATAGOLD CORPORATION - 100%	22/07/2002	01/03/2020		105M13
YC11555	Quartz	Lynx	57	STRATAGOLD CORPORATION - 100%	16/01/2004	01/03/2020		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YA14896	Quartz	Mar	1	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14897	Quartz	Mar	2	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14898	Quartz	Mar	3	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14899	Quartz	Mar	4	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14900	Quartz	Mar	5	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14901	Quartz	Mar	6	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14902	Quartz	Mar	7	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14903	Quartz	Mar	8	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14904	Quartz	Mar	9	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14905	Quartz	Mar	10	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14906	Quartz	Mar	11	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14907	Quartz	Mar	12	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14909	Quartz	Mar	14	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14910	Quartz	Mar	15	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14911	Quartz	Mar	16	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14912	Quartz	Mar	17	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14913	Quartz	Mar	18	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14914	Quartz	Mar	19	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14915	Quartz	Mar	20	STRATAGOLD CORPORATION - 100%	30/03/1977	01/03/2022		106D04
YA14916	Quartz	Mar	21	STRATAGOLD CORPORATION - 100%	03/03/1977	01/03/2022		106D04
YA14917	Quartz	Mar	22	STRATAGOLD CORPORATION - 100%	03/03/1977	01/03/2022		106D04
YA14919	Quartz	Mar	24	STRATAGOLD CORPORATION - 100%	03/03/1977	01/03/2022		106D04
YA42984	Quartz	Mar	31	STRATAGOLD CORPORATION - 100%	29/09/1980	01/03/2022		106D04
YA43101	Quartz	MAR	33	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43102	Quartz	MAR	34	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43103	Quartz	MAR	35	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43104	Quartz	MAR	36	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43105	Quartz	MAR	37	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43106	Quartz	MAR	38	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43107	Quartz	MAR	39	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43108	Quartz	MAR	40	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA63876	Quartz	Mary	1	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63877	Quartz	Mary	2	STRATAGOLD CORPORATION - 100%		01/03/2022		106D04
YA63878	Quartz	Mary	3	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63879	Quartz	Mary	4	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63880	Quartz	Mary	5	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63881	Quartz	Mary	6	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63882	Quartz	Mary	7	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YA63883	Quartz	Mary	8	STRATAGOLD CORPORATION - 100%	11/08/1981	01/03/2022		106D04
YC10822	Quartz	Neera	1	STRATAGOLD CORPORATION - 100%	04/06/2003	04/06/2011		106D04
YC10823	Quartz	Neera	2	STRATAGOLD CORPORATION - 100%	04/06/2003	04/06/2011		106D04
YA01393	Quartz	R & D	1	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01394	Quartz	R & D	2	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01395	Quartz	R & D	3	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01396	Quartz	R & D	4	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01397	Quartz	R & D	5	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01398	Quartz	R & D	6	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01399	Quartz	R & D	7	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01400	Quartz	R & D	8	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01402	Quartz	R & D	10	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01404	Quartz	R & D	12	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01406	Quartz	R & D	14	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01407	Quartz	R & D	15	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01408	Quartz	R & D	16	STRATAGOLD CORPORATION - 100%	01/10/1975	01/03/2022		106D04
YA01401	Quartz	R & D No.	9	STRATAGOLD CORPORATION - 100%	01/10/1975	31/01/2015	3452	106D04
YA01403	Quartz	R & D No.	11	STRATAGOLD CORPORATION - 100%	01/10/1975	31/01/2015	3453	106D04
YA01405	Quartz	R & D No.	13	STRATAGOLD CORPORATION - 100%	01/10/1975	31/01/2015	3454	106D04
YB64630	Quartz	Roni	1	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64631	Quartz	Roni	2	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64632	Quartz	Roni	3	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64633	Quartz	Roni	4	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64634	Quartz	Roni	5	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64635	Quartz	Roni	6	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YB64636	Quartz	Roni	7	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64637	Quartz	Roni	8	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64638	Quartz	Roni	9	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64639	Quartz	Roni	10	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64640	Quartz	Roni	11	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64641	Quartz	Roni	12	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64642	Quartz	Roni	13	STRATAGOLD CORPORATION - 100%	31/07/1995	01/03/2022		106D04
YB64643	Quartz	Roni	14	STRATAGOLD CORPORATION - 100%	09/08/1995	01/03/2022		106D04
YA17930	Quartz	Smoky	1	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17931	Quartz	Smoky	2	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17932	Quartz	Smoky	3	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17933	Quartz	Smoky	4	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17934	Quartz	Smoky	5	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17935	Quartz	Smoky	6	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17936	Quartz	Smoky	7	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17937	Quartz	Smoky	8	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17938	Quartz	Smoky	9	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17939	Quartz	Smoky	10	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17952	Quartz	Smoky	23	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17954	Quartz	Smoky	25	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17955	Quartz	Smoky	26	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17956	Quartz	Smoky	27	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17957	Quartz	Smoky	28	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17958	Quartz	Smoky	29	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17959	Quartz	Smoky	30	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17966	Quartz	Smoky	37	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17967	Quartz	Smoky	38	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17968	Quartz	Smoky	39	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17969	Quartz	Smoky	40	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17970	Quartz	Smoky	41	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA30072	Quartz	Smoky	44	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30073	Quartz	Smoky	45	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30074	Quartz	Smoky	46	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30075	Quartz	Smoky	47	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA17973	Quartz	Smoky	48	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17974	Quartz	Smoky	49	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA30076	Quartz	Smoky	51	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30077	Quartz	Smoky	52	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30078	Quartz	Smoky	53	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30079	Quartz	Smoky	54	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA17977	Quartz	Smoky	56	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17979	Quartz	Smoky	58	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA30080	Quartz	Smoky	62	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30081	Quartz	Smoky	63	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30082	Quartz	Smoky	64	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30083	Quartz	Smoky	65	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA17983	Quartz	Smoky	66	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17984	Quartz	Smoky	67	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17985	Quartz	Smoky	68	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17986	Quartz	Smoky	69	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17987	Quartz	Smoky	70	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17988	Quartz	Smoky	71	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA30084	Quartz	Smoky	74	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30085	Quartz	Smoky	75	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30086	Quartz	Smoky	76	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA30087	Quartz	Smoky	77	STRATAGOLD CORPORATION - 100%	08/05/1978	01/03/2022		106D04
YA17991	Quartz	Smoky	78	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA17993	Quartz	Smoky	80	STRATAGOLD CORPORATION - 100%	24/04/1978	01/03/2022		106D04
YA43120	Quartz	Smoky	83	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43121	Quartz	Smoky	84	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43122	Quartz	Smoky	85	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43128	Quartz	Smoky	91	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43129	Quartz	Smoky	92	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04

Grant Number	Reg Type	Claim Name	Claim Nbr	Claim Owner	Operation Recording Date	Claim Expiry Date	Quartz Lease	NTS Map Number
YA43130	Quartz	Smoky	93	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43131	Quartz	Smoky	94	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43132	Quartz	Smoky	95	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43133	Quartz	Smoky	96	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43134	Quartz	Smoky	97	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43135	Quartz	Smoky	98	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43136	Quartz	Smoky	99	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43137	Quartz	Smoky	100	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43144	Quartz	Smoky	107	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43145	Quartz	Smoky	108	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YA43146	Quartz	Smoky	109	STRATAGOLD CORPORATION - 100%	01/10/1980	01/03/2022		106D04
YC02842	Quartz	Tin Dome	1	STRATAGOLD CORPORATION - 100%	10/08/2001	01/03/2020		106D04
YC02843	Quartz	Tin Dome	2	STRATAGOLD CORPORATION - 100%	10/08/2001	01/03/2020		106D04
YC02844	Quartz	Tin Dome	3	STRATAGOLD CORPORATION - 100%	10/08/2001	01/03/2020		106D04
YC02845	Quartz	Tin Dome	4	STRATAGOLD CORPORATION - 100%	10/08/2001	01/03/2020		106D04
YC02848	Quartz	Tin Dome	5	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02849	Quartz	Tin Dome	6	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02850	Quartz	Tin Dome	7	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02851	Quartz	Tin Dome	8	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02852	Quartz	Tin Dome	9	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02853	Quartz	Tin Dome	10	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02854	Quartz	Tin Dome	11	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YC02855	Quartz	Tin Dome	12	STRATAGOLD CORPORATION - 100%	16/08/2001	01/03/2020		106D04
YB18934	Quartz	WEST	167	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18935	Quartz	WEST	168	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18936	Quartz	WEST	169	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18937	Quartz	WEST	170	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18938	Quartz	WEST	171	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18939	Quartz	WEST	172	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18941	Quartz	WEST	174	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18949	Quartz	WEST	182	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		105M13
YB18951	Quartz	WEST	184	STRATAGOLD CORPORATION - 100%	29/08/1991	01/03/2022		106D04
GR1054	Grant	Olive Crown Grant		STRATAGOLD CORPORATION - 100%. of 7/8 interest				