Volume 1 Executive Summary
Yellowknife Gold Project Feasibility Study
Northwest Territories, Canada

Report Prepared for

TYHEE GOLD CORP

Report Prepared by

srk consulting

Lyntek Incorporated

Knight Piésold Consulting

August 21, 2012

Volume 1 Executive Summary
Yellowknife Gold Project Feasibility Study
Northwest Territories, Canada

Tyhee Gold Corp.

Suite 401 - 675 West Hastings Street
Vancouver, British Columbia
V6B 1N2 Canada
Tel: (604) 681-2879

SRK Consulting (U.S.), Inc.
7175 West Jefferson Avenue, Suite 3000
Lakewood, CO 80235
e-mail: denver@srk.com
website: www.srk.com
Tel: +1.303.985.1333
Fax: +1.303.985.9947

SRK Project Number 250300.010
August 21, 2012

Authors and Contributors:
Bret Swanson/SRK Consulting (U.S.), Inc.
Eric J. Olin/SRK Consulting (U.S.), Inc.
Jeff Volk/SRK Consulting (U.S.), Inc.
John Tinucci/SRK Consulting (U.S.), Inc.
Anthony Lowe /SRK Consulting (U.S.), Inc.
Travis Leach/SRK Consulting (U.S.), Inc.
Jens Lichter/Lyntek, Inc.
Doug Maxwell/Lyntek, Inc.
Ken Smith/Lyntek, Inc.
David Grills/Lyntek, Inc.
Jeff Coffin/Knight Piésold
Harjinder Gill /Tyhee Gold Corp.
Hugh Wilson/Tyhee Gold Corp.
Valmar Pratico/Tyhee Gold Corp.
Doug Levesque/Tyhee Gold Corp.

Reviewed by:
Bret Swanson/SRK Consulting (U.S.), Inc.
Brian Briggs/Tyhee Gold Corp.

Table of Contents

List of Tables

Disclaimer & Copyright

List of Figures

List of Abbreviations

The metric system has been used throughout this report. Tonnes are metric of 1,000 kg, or 2,204.6 lb. All currency is in U.S. dollars (US$) unless otherwise stated.

Abbreviation	Description
°	degree
%	percent
amsl	above mean sea level
ARD	acid rock drainage
Au	gold
C$	Canadian Dollar
CIL	carbon-in-leach
CoG	cut-off grade
$CuSO_4$	copper sulfate
DAR	Developers Assessment Report
DVR	digital video recorder
EPCM	Engineering, Procurement and Construction Management
FOS	factor of safety
FS	Feasibility Study
ft	feet
G&A	General and Administrative
GAC	granulated activated carbon
Ga	billion years before present
g	gram
g/h	grams per hour
g/L	grams per liter
g/t	grams per tonne
gpm	gallons per minute
h	hour
ha	hectare (10,000 m^2)
Hz	hertz
ID2	inverse distance weighting
I/O	input and outputs
k	thousand
kg	kilogram
kg/t	kilogram per tonne
km	kilometer
koz	thousand ounces
KP	Knight Piésold and Co.
kPa	kilopascal
kt	thousand tonnes
kV	kilovolt
kVa	kilovolt ampere
kW	kilowatt
KWh	kilowatt hour
kWh/t	kilowatts per tonne
L	liter
LAN	local area network
Lyntek	Lyntek Incorporated
m	meter
m^2	square meter
m^3	cubic meter
mm	millimeter
Mm^3	million cubic meters
Ma	million years before present
MCC	motor control center
min	minute
Mt	million tonnes

Abbreviation	Description
MMER	Metal Mining Effluent Regulations
MVA	megavolt ampere
MW	megawatt
$Na_2S_2O_5$	sodium metabisulfite
NaOH	sodium hydroxide
NI 43-101	Canadian National Instrument 43-101
NN	nearest neighbor
NWT	Northwest Territories
oz	troy ounce
P&ID	process and instrument diagrams
PFD	process flowsheet diagram
PLC	programmable logic controller
PoE	point-of-entry
psf	pounds per square foot
QA/QC	Quality Assurance/Quality Control
RoM	run-of-mine
RPM	revolutions per minute
SRK	SRK Consulting (U.S.), Inc.
SO_2	sulfur dioxide
st	short ton
st/d	short tons per day
TCA	tailings containment area
t	metric tonne (dry)
t/d	tonnes per day
t/h	tonnes per hour
t/m^3	tonnes per cubic meter
t/y	tonnes per year
Tyhee	Tyhee Gold Corporation and/or Tyhee NWT Corporation
µm	micron
US$	United States Dollar
V	volt
VFD	variable frequency drive
VOIP	voice-over internet protocol
wt%	weight percent
y	year
YGP	Yellowknife Gold Project

1 Introduction

Tyhee Gold Corp., through its 100% owned subsidiary, Tyhee, (both referred to herein as Tyhee), has commissioned a Feasibility Study (FS) on the Yellowknife Gold Project (YGP or the Project) located in the Northwest Territories (NWT), Canada. The FS has been prepared based on technical and economic input by a team of consultants consisting of SRK Consulting (U.S.), Inc., (SRK), Lyntek Incorporated (Lyntek) and Knight Piésold and Co. (KP) and EBA (collectively referred to as the Consultants). The FS consists of 14 Volumes, of which this is Volume 1 Executive Summary.

1.1 Location

The YGP area straddles National Topographic System (NTS) map sheets 85J/16, 85O/01, 85P/04 and 85P/05 extending 44 kilometers (km) north-northeast from Clan Lake to Nicholas Lake. The Project base of operations is located at latitude 63° 11' North, longitude 113° 55' west at the Discovery Camp 90 km north of the City of Yellowknife (Figure 1-1).

1.2 Land and Legal

The YGP is located on public lands in the NWT, Canada. For the most part, Tyhee purchased the mineral rights in transactions with individuals and a public company for value payable either in cash or common stock of Tyhee and royalty interest. In every instance, Tyhee has fully paid the consideration and the transactions have been properly closed. In few instances, Tyhee acquired the mineral rights by staking the land itself.

In one instance, advance royalty is payable annually; this payment has been made.

In every instance, an annual lease fee is payable to Canada, and in each instance, the fees are up to date and mineral rights are in good standing. The YGP is made up of the Ormsby-Nicholas Lake Property, Goodwin Lake Property and the Clan Lake Property (Figure 1-2).

Table 1.2.1: Ormsby-Nicholas Lake Property Mining Leases

Name	Lease	Owner	Issue Date	Anniversary Date	Acres
NIC 1	ML 3542	Tyhee NWT Corp	3/09/1996	3/09/2017	329.0
NIC 2	ML 3543	Tyhee NWT Corp	3/09/1996	3/09/2017	1,312.0
SAINT 1	ML 3774	Tyhee NWT Corp	2/27/1998	2/27/2019	1,809.0
SAINT 2	ML 3775	Tyhee NWT Corp	2/27/1998	2/27/2019	167.0
SAINT 3	ML 3776	Tyhee NWT Corp	2/27/1998	2/27/2019	321.0
BUSH 2	ML 3926	Tyhee NWT Corp	7/12/1998	7/12/2019	1,913.0
BUSH 3	ML 3927	Tyhee NWT Corp	7/12/1998	7/12/2019	2,059.0
BUSH 4	ML 3928	Tyhee NWT Corp	7/12/1998	7/12/2019	579.0
BUSH 5	ML 3929	Tyhee NWT Corp	7/12/1998	7/12/2019	486.0
PIG 1	ML 3930	Tyhee NWT Corp	3/23/1999	3/23/2020	1,423.0
GMC 1	ML 4236	Tyhee NWT Corp	2/12/2002	2/12/2023	1,706.0
JIM 2	ML 4239	Tyhee NWT Corp	12/27/2001	12/27/2022	1,214.0
SAINT 4	ML 4547	Tyhee NWT Corp	01/21/2003	01/21/2024	1,178.0
SAINT 5	ML 4548	Tyhee NWT Corp	01/21/2003	01/21/2024	1,154.0
Total					**15,650.0**

The Ormsby-Nicholas Lake property was purchased in 2001 from David R. Webb and GMD Resources Corporation (GMD) for cash consideration and 2¼% NSR royalty payable to each of the vendors on the entire property. In 2003 royalty obligation to GMD was eliminated by mutual agreement. Non-refundable advance royalty in the amount of US$20,000 is paid on the remaining royalty annually.

The Goodwin Lake property is composed of the leases and a claim as presented in Table 1.2.2 and Figure 1-3.

Table 1.2.2: Goodwin Lake Property Mining Leases and Mineral Claims

Name	Lease	Claim	Owner	Issue Date	Anniversary Date	Acres
Nak 1	ML 5125		Tyhee NWT Corp	12/15/1999	12/15/2030	309.90
Nak 2	ML 5125		Tyhee NWT Corp	12/15/1999	12/15/2030	103.30
Nak 4	ML 5125		Tyhee NWT Corp	3/27/2000	3/27/2031	731.10
Vad		F85947	Tyhee NWT Corp	11/20/2006	11/20/2016	503.59
Total						**1,647.89**

The Goodwin Lake property was purchased in 2006 from Lane Dewar, an independent prospector; the consideration was Tyhee common stock and 2% NSR royalty interest. Tyhee has the option of reducing the royalty interest by a half for a one-time payment.

The Clan Lake property is composed of the claims presented in Table 1.2.3 and Figure 1-4.

Table 1.2.3: Clan Lake Property Mineral Claims

Name	Claim	Owner	Issue Date	Anniversary Date	Acres
Nose	F85948	Tyhee NWT Corp	11/27/2006	11/27/2016	774.50
CL1	F85949	Tyhee NWT Corp	2/20/2007	2/20/2017	1,003.00
CL2	F85950	Tyhee NWT Corp	2/20/2007	2/20/2017	2,530.80
CL3	F85962	Tyhee NWT Corp	2/20/2007	2/20/2017	1,446.20
CL4	F85961	Tyhee NWT Corp	2/20/2007	2/20/2017	619.80
CL5	F97890	Tyhee NWT Corp	4/20/2007	4/20/2017	309.90
CL6	K12403	Tyhee NWT Corp	9/22/2008	9/22/2018	1,084.60
CL7	F97883	Tyhee NWT Corp	8/31/2009	8/31/2019	103.30
CL8	F97884	Tyhee NWT Corp	8/31/2009	8/31/2019	826.40
CL9	K13789	Tyhee NWT Corp	9/12/2011	9/12/2013	1,446.20
CL10	K13790	Tyhee NWT Corp	9/12/2011	9/12/2013	206.60
Total					**10,381.55**

Tyhee acquired the property by staking the mineral claims from 2006 through 2011.

Annual fees payable to Canada are current to the anniversary date for all of the mineral claims; Tyhee has performed the required work for all the mineral claims and the returns are current.

1.3 Ownership

The Canada Mining Regulations of the Territorial Lands Act govern the administration and dispositions of minerals belonging to Her Majesty in right of Canada under all lands forming part of the NWT.

The YGP consists of 17 mining leases and 12 mineral claims that total 27,675 acres in the South Mackenzie Mining District of the NWT, Canada. The registered owner of all mining leases and mineral claims is Tyhee NWT Corp, a 100% owned subsidiary of Tyhee Gold Corp.

Tyhee NWT Corp currently holds Land Use Permits and a Water License that allows the company to conduct advanced exploration activities (both surface and underground), to use water and dispose of wastes .

2 Environmental and Social Responsibility

2.1 Environmental and Permitting

The YGP will be developed using proven environmental management plans to ensure conformance with applicable environmental regulations and guidelines, ensuring that it is environmentally sound. Comprehensive environmental baseline studies have been carried out by Tyhee and its consultants between 2004 and 2011. In all cases these, studies have indicated that any potential adverse environmental effects can be satisfactorily mitigated, and that progressive reclamation and closure activities will return the mine and processing site to a landscape comparable to the surrounding area.

Water management plans have been specifically designed for the YGP site to contain potentially contaminated water within a controlled Tailings Containment Area (TCA). Excess storage capacity allowances provide for operational flexibility and contingencies.

Water treatment facilities include a potable water treatment plant, a sewage treatment plant, a cyanide detoxification plant, and a TCA. These facilities are expected to produce water suitable for discharge into the downstream receiving water bodies. No planned discharges are expected from the TCA; however, should discharges be required, then water discharged from the TCA will meet the standards set out in the Metal Mining Effluent Regulations (MMER) or as specified in the Project's water license.

Following implementation of mitigation measures, no effects on existing aquatic resources are expected from mining and milling operations at the YGP, and monitoring of Narrow Lake is expected to be included in the YGP water license. Although the YGP is located within the Bathurst caribou herd's winter range, it is outside known migration corridors. Therefore, the YGP is not expected to affect the migratory routes of the Bathurst caribou.

The YGP will incorporate a program of progressive reclamation that minimizes costs and allows timely monitoring of performance. Upon closure, some waste rock may be used as backfill material for the Ormsby pit and Nicholas Lake underground mining operations; other waste rock will remain in-situ. For closure, the waste rock material is assumed to be resistant to erosion and rilling at the design slope of 37^{o} (1.3H:1.0V) and will not be regarded. Natural, volunteer re-vegetation is assumed to establish on the Waste Rock Facility (WRF) surfaces. The WRF's will not need to be covered as a result of the operational management of the potential acid generating (PAG) materials, and the gradation indicates gravel and cobble size material will not generate fugitive dust. A series of diversion ditches will collect surface runoff from the waste rock storage areas and redirect it to settling ponds or other appropriate receiving area.

All operating permits and licenses will be issued by the Mackenzie Valley Land and Water Board and Tyhee does not foresee any concerns in this regard, allowing the YGP to proceed as scheduled in the FS.

2.2 Community Relations and Social Responsibility

The development of the YGP is expected to provide significant new employment and business benefits for indigenous people and regional communities, the NWT and Canada. The YGP is located within the Chief John Drygeese traditional Territory of the Akaitcho Region of the NWT, where the Yellowknives Dene First Nation (YKDFN) is one of the primary aboriginal groups with which that Tyhee liaises. The North Slave Métis Alliance is another indigenous people that may benefit from the YGP.

The development of the YGP is expected to provide significant new employment and business benefits, during its projected 15-year mine life.

It is estimated that the YGP will employ up to 265 people depending on the mine phase (construction, operations, or reclamation). During construction approximately 75 workers (not including contractors – estimated at 200) will be required, with up to 20% of the workforce coming from the NWT.

During operations, average personnel requirements are estimated at 220 people per year, including 120 people on site. During the operations phase, up to 50% of the workforce could be from the NWT.

In addition to the employment and business benefits, Tyhee's Social Responsibility Statement will guide management, operations personnel and all contractors to operate within the statement's guiding principles.

3 Geology

3.1 History

The YGP commenced with the acquisition by Tyhee of the Discovery Mine property (ML GMC1) from GMD and the Nicholas Lake property from David R. Webb. The Discovery Mine property was acquired for staged payments totaling US$265,000 and the Nicholas Lake property was purchased for payments totaling US$225,000. Both properties have been paid in full. Each previous owner initially retained a sliding scale net smelter royalty. Tyhee purchased the royalty held by GMD for US$75,000 in August 2003. The purchases marked the first-ever consolidated ownership of the two properties despite exploration and development since the 1940's. Subsequently, Tyhee acquired the Clan Lake and Goodwin Lake mineral claims by staking.

Total production from the Discovery Mine during its operation between 1950 and 1969 is estimated to be 1,023,550 oz of gold from 1,018,800 short tons of ore. The average production grade of slightly more than 1 oz gold per short ton is generally considered the highest average grade of gold produced in the Yellowknife gold district.

3.2 Regional Geology

The YGP properties are located within the southern Slave Province of the Precambrian Shield and more precisely within the Archean aged Yellowknife Basin. The Slave Province is described as an Archean craton, which covers a major portion of the northwest Canadian Shield and consists of variable amounts of granitic-gneissic, metasedimentary and metavolcanic lithologies. The Slave province is bounded by paleoproterozoic orogenic belts to the east and west. Development of the Slave Province is a result of the tectonic evolution of northern Canada which involved a series of accretionary events alternating with periods of continental extension

The Yellowknife Greenstone Belt is the southernmost exposed greenstone belt of those that occur throughout the Slave Province. The Yellowknife Greenstone Belt trends north-northeasterly from Yellowknife Bay for approximately 100 km. Southern portions of the greenstone belt are continuously exposed and well researched, whereas more northern extents are less well exposed and studied. Lithologies within the belt define a homocline which dips steeply to the east. These sequences of greenstone consist of greenschist to amphibole facies metamorphosed mafic to felsic volcanic rocks below a thick sequence of related metasedimentary rocks termed the Yellowknife Basin.

The geological units of the Yellowknife Basin that are the subject of this report include, from north to south: the Nicholas Lake granodiorite-quartz diorite intrusion; the mafic volcanics of the Giauque Lake Formation; the gabbro sill at Goodwin Lake; and, the bimodal mafic-intermediate volcanics of the Clan Lake Complex. All of these lithologies are hosted and deposited within, and/or subsequently buried by, the metasediments of the Burwash Formation.

3.3 Local Geology

Burwash Formation lithologies consist predominantly of variably laminated and interbedded greywacke-mudstone turbidite sequences with syn-formational volcanic vent sequences such as those seen at Clan Lake and Giauque Lake, among others. Bedding thickness ranges from the millimeter scale to over 8 meters (m). With regional tectonic activity and orogenesis, the lithologies of the Burwash Formation were compressed, thickened, and complexly folded between circa 2650 and 2580 Ma, with a peak in crustal anatexis between 2595 and 2585 Ma that resulted in numerous granitoid intrusive and diabase dike swarm events. It is postulated that the various gold deposits were formed during these orogenic events. Hydrothermal alteration including silicification, sericitization and other minor phases can be seen throughout the Burwash Formation. Quartz veining and ductile shearing are common in areas of significant large scale regional tectonic structural trends. Gold mineralization within the Burwash Formation is typically associated with ductile to brittle shear zones and replacement deposits with variable proportions of arsenopyrite, pyrrhotite, pyrite, sphalerite, chalcopyrite, and galena. Gold deposits to date occur near the isograd defining greenschist to amphibolite grade metamorphism.

3.4 Exploration and Drilling

Diamond drill programs on the Nicholas Lake deposit totals 27,590 m in 141 holes. In 1994, a previous operator developed the Nicholas Lake decline for 820 m of underground development with a 3,000 tonne (t) bulk sample excavated, which is stored on surface. The Nicholas Lake portal is currently flooded and the portal barricaded.

Diamond drill programs on the Ormsby and Bruce deposits total 157,570 m in 707 drill holes, both surface and underground. Total underground development by Tyhee is 959 m of decline, 531 m of level development and 89 m of raise. The decline is currently flooded but was pumped out in 2011 to allow inspection by SRK and KP personnel as part of this FS. A bulk sample of approximately 7,000 t was excavated from two subdrifts and stored on surface which was used in part for bulk metallurgical sampling.

Diamond drill programs on the Goodwin Lake property total 5,934 m in 28 holes and on the Clan Lake property drilling has totaled 40,515 m in 185 holes.

Tyhee conducted detailed mapping and sampling programs on each of the properties.

3.5 Drilling, Quality Control and Data Verification

Quality Assurance/Quality Control (QA/QC) Procedures

Quality Control (QC) procedures and results made available to SRK by Tyhee include documentation of inter-laboratory check assay results, blank sample assay results, standard sample results, duplicate pulp assay results and duplicate coarse reject assay results. Pulps from samples were regularly submitted to ALS Chemex of North Vancouver, BC, to verify Acme Laboratories' assay results.

Tyhee maintains a separate series of spreadsheets containing sample information for each drill hole. Records of blanks, standards and duplicates are kept as part of those spreadsheets. The sample interval data and coded geological data are compiled into a master Microsoft Access database for each deposit for the purpose of QA/QC monitoring. The QC data is compiled into a separate database for analysis. QC samples (blanks, repeats and lab standards) were inserted into the sample stream approximately every 20 to 50 m. Tyhee compiled and analyzed QC data for all assays conducted from 2004 to the present. Statistics, graphs and results of selected Ormsby analyses were audited by SRK and are discussed in more detail below. QC samples (blanks, repeats and lab standards) were inserted by the laboratory into the sample stream approximately every 20 to 50 m. Tyhee requested specific pulp repeats and reject repeats in addition to the normal laboratory repeats. Statistics, graphs and results of analyses compiled by Tyhee between 2004 and 2011 were reviewed by SRK. Based on this review of the results of the QA/QC programs implemented by Tyhee during the period 2004 to 2011, SRK is of the opinion that the data provided is reliable, and suitable for use in resource estimation.

Data Verification

SRK conducted validation of the data for the five deposit areas using random manual checks of 10% of the database against the original certificates provided by Tyhee. The 10% random assay comparisons were conducted for gold for 13,503 sample intervals. The overall error rate was extremely low (72 data entry errors). Based on this analysis, SRK is of the opinion that the data is of high quality, and suitable for resource estimation.

4 Resource Estimation

4.1 Mineral Resources

SRK conducted a mineral resource estimate of the Tyhee's YGP, which comprises the Ormsby, Bruce, Nicholas Lake, Clan Lake and Goodwin Lake deposits using the data from both the historic drilling and Tyhee's drilling from 2003 to 2011. A database was compiled using data from 980 core holes, with collar, survey, geological and assay information, containing a total of 134,033 m of non-zero assayed intervals.

In the process of completing the resource estimate update, SRK validated and verified the database, interpretation and available data. The block dimensions selected for the open pit models were 3.0 m x 3.0 m x 3.0 m, and are based on the existing drilling pattern, spatial distribution and mine planning considerations. The Nicholas Lake model, which is considered amenable to underground mining, was constructed using a block size of 1.5 m x 1.5 m x 1.5 m. The resource estimate was interpolated using Maptek Vulcan™ (Vulcan) software, the inverse distance weighting method (ID2) and nearest neighbor (NN) methods for model validation. No significant discrepancies exist between the methods and values obtained from ID2 have been used for the resource tabulation.

The ID2 block models for Ormsby, Bruce, Clan Lake, and Goodwin Lake were exported to Gemcom™ Whittle (Whittle) software for pit optimization, based on the Lerchs-Grossman 3D algorithm. The optimized pit shells were generated by SRK using Measured, Indicated and Inferred resources. Various economic parameters, such as mining and processing, General and Administrative (G&A) costs, gold recovery and pit slope angle, were used as input parameters for the resource pit shells. All open pit resources are stated above a 0.50 grams per tonne (g/t) gold cut-off. Additional potentially mineable resources are also stated at the Ormsby, Bruce, Clan Lake and Nicholas Lake deposits. The underground resources are stated above a 1.50 g/t gold cut-off.

The mineral resources for the Tyhee YGP have been estimated by SRK at 27,115 thousand tonnes (kt) grading an average of 1.97 g/t gold classified as Measured and Indicated mineral resources; with an additional 5,744 kt grading an average of 2.62 g/t gold classified as Inferred mineral resources. The mineral resources are stated above are at a 26.0 g/t silver equivalent cut-off and contained within a potentially economically mineable open pit.

The mineral resources are reported in accordance with CSA, NI 43-101 standards and have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines.

4.2 Mineral Resource Statement

The effective date of this mineral resource estimate is July 1, 2012 and is based on data received by SRK in August 2011. The mineral resource statement for the Project is presented in Table 4.2.1.

Table 4.2.1: Mineral Resource Statement for Tyhee's Yellowknife Gold Project, Northwest Territories, Canada: SRK Consulting (U.S.), Inc., July 1, 2012

Deposit Type	Deposit Area	Resource Category	Quantity (000's)	Average Grade	Contained Metal (000's)
			Tonnes	Au (g/t)	Au Oz
Open Pit	Ormsby(2)(3)	Measured	7,339	1.59	376
	Subtotal Measured		**7,339**	**1.59**	**376**
	Ormsby(2)(3)	Indicated	13,295	1.68	718
	Bruce(2)(3)		749	1.59	38
	Clan Lake(2)(3)		1,266	1.68	69
	Subtotal Indicated		**15,310**	**1.68**	**825**
	Subtotal Measured and Indicated		**22,649**	**1.65**	**1,201**
	Ormsby(2)(3)	Inferred	218	1.23	9
	Bruce(2)(3)		60	1.56	3
	Clan Lake(2)(3)		1,964	2.46	155
	Goodwin Lake(2)(3)		875	1.15	32
	Subtotal Inferred		**3,117**	**1.99**	**199**
Underground	Ormsby(4)	Indicated	1,662	3.30	176
	Bruce(4)		440	3.17	45
	Clan Lake(4)		110	2.77	10
	Nicholas Lake(4)		2,255	3.91	283
	Subtotal Indicated		**4,466**	**3.58**	**514**
	Ormsby(4)	Inferred	113	2.89	11
	Bruce(4)		71	2.47	6
	Clan Lake(4)		1,784	2.80	161
	Nicholas Lake(4)		689	5.00	111
	Subtotal Inferred		**2,658**	**3.37**	**288**
All	**Total Measured and Indicated**		**27,115**	**1.97**	**1,715**
	Total Inferred		**5,774**	**2.62**	**487**

(1) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves.
(2) Open pit resources stated as contained within a potentially economically minable open pit above a 0.50 g/t Au cut-off.
(3) Pit optimization is based on an assumed gold price of US$1,500/oz, metallurgical recovery of 90%, mining cost of US$2.00/t and processing and G&A cost of US$23.00/t.
(4) Underground resources stated as contained within potentially economically minable gold grade shapes above a 1.50 g/t Au cut-off.
(5) Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.
(6) Mineral resource tonnage and grade are reported as undiluted and reflect a potentially minable bench height of 3.0m
(7) Contained Au ounces are in-situ and do not include metallurgical recovery losses
(8) Mineral resources are inclusive of Mineral Reserves

5 Mining

Mining will be a combination of traditional open pit truck and shovel operations at Ormsby, Bruce Lake and Clan Lake, combined with underground operations at Nicholas Lake and Ormsby. SRK has evaluated previous work conducted by EBA who prepared a Pre-feasibility Study of the Yellowknife Gold Project dated July 22, 2010 (PFS) and recommended new and appropriate geotechnical parameters that were utilized in both open pit and underground design. Project economics and metallurgical recoveries used for mine design vary from those published in the final economic model, although no material differences were encountered. A complete first principle work up of operation and capital cost estimates for both underground and open pit operations was completed. SRK is of the opinion the mine plans are achievable and adequately costed for the purpose of this FS.

5.1 Geotechnical Mine Design Parameters

All geotechnical data used for the design is from previous prefeasibility study work. No new field data has been collected and no new laboratory testing has been performed for this work. The raw data and summarized data have been reviewed and found to be reasonably relied on for recommending geotechnical design parameters for this FS.

Between 2006 and 2010, 50 geotechnical holes (totaling over 6,000 m) were drilled at Ormsby and Nicholas Lake, 17 of which were oriented core. Ormsby has the most quantitative data, followed (in descending order) by Nicholas Lake, Bruce and Clan Lake. Drill holes were located in a variety of key areas including the Ormsby and Nicholas Lake proposed mine sites. The rock quality in this region is generally good. Open pit and underground mine design parameters are based on mean values minus one standard deviation of rock mass strengths. Geotechnical parameters have been assessed for three pit areas (Ormsby, Clan Lake and Bruce resources) and two underground areas (Nicholas Lake and Ormsby). Ormsby required the highest level of confidence because its open pit resource is deep and its underground resource is particularly difficult due to its low dip angle.

The pit design aims to achieve the closest match to the optimal pit shells from the mine optimization process. Due to the practical considerations of a mine design considerations, such as location of ramps, the design will not exactly match the Lerch-Grossman optimized pit shell. The optimization process allows for the ramp in the overall slope angle, but does not allow for it specific placement. Other parameters that influence pit design include:

- The open pit mining has not made allowances for dilution because the geology does not have a distinct grade boundary and the planned mining block makes the cut-off grade (CoG) even though parts of a block may be below the CoG.
- The overall pit slopes vary depending on ramp locations around the pits and, in areas where the maximum pit angle is not met; additional catch berms have been included.
- The underground mining has allowed for 5% dilution at Nicholas Lake due to the near-vertical hangingwall in stopes, and 9% at Ormsby due to the unfavorable low-angle dip of the stopes.
- Underground mining using modified longhole (Ormsby) and longhole (Nicholas Lake) stoping methods.

Pit Design Parameters and Stability

The Ormsby pit is the deepest of the three designed pits. The target overall slope angle for the Ormsby pit is 50º with an inter-ramp angle of 55º, depending on the rock mass domain. A total of six domains have been identified as determined by pit wall exposure direction and rock type. Overall slopes angles, which control global pit wall stability, range from 49° to 53.2°. The wall height around the pit ranges from 304 to 371 m, which is considered a relatively deep pit by industry standards.

Stability analyses have been performed in all six domains using a limit equilibrium *Slide* program. Assuming lower rock mass strength parameters to account for uncertainties in rock quality, global stability and local inter-ramp bench stability have been analyzed. Cases were examined assuming static (long-term equilibrium) and dynamic (quasi-static earthquake) conditions, and assuming saturated, dewatered and dry conditions. Results indicate that under the least favorable conditions (dynamic and saturated), all domains have a factor of safety (FOS) greater than 1.8, which is more stable than the minimum 1.3 criteria. The pit is predicted to be stable.

These analyses assume gravitational overburden stresses. Published data on Canadian Shield stresses suggest the horizontal stresses to be about 2.0 to 2.5 times the vertical stress. However, the hydrogeologic characterization indicates well inflow of about 250 gallons per minute (gpm) from fractures, which suggests the in situ horizontal stresses are not unusually elevated and the assumed lithostatic stresses are reasonable for this level of analysis. Additional numerical modeling stability analyses are recommended prior for final design, which can explicitly simulate the effects of groundwater pressure and pre-mining in situ stresses.

There is a potential upside for steepening the overall pit walls by 3° to 5° degrees. This would lower the overall FOS closer to the minimum 1.3 criteria, but would allow deepening the pit to recover some ore via less expensive open pit operations rather than the more expensive underground operations.

Due to a lower geotechnical understanding of the Clan Lake and Bruce Lake deposits, the overall slope angle have been targeted to 50º. Locally, the overall angle will depend on the ramp location and in some cases is 5° to 8° steeper. Clan Lake pit wall rock mass is situated in a competent andesite and the Bruce Lake pit wall rock is in a competent amphibolite. At about 100 m, these pits are significantly shallower than the Ormsby pits and hence more stable because of the similar design criteria. The limit equilibrium stability analysis results indicate a FOS greater than 4.0 under the least favorable conditions (dynamic and saturated) for both the pits. These pits are predicted to be stable.

More exploration drilling should be conducted at Clan Lake and Bruce Lake to delineate the extents of the rock quality along strike and at depth. The additional data will support estimated pit slope geometry and can be used to examine kinematic block stability of benches due to fracture intersections.

Underground Mine Design Parameters and Stability

The orebody at Nicholas Lake is found in near vertical veins, which can be mined using a longhole stoping method. The mining thickness will range from 2 to 24 m wide, with an average of 4 m wide. Sill heights have been established at 20 m, which gives an open hangingwall of 23 m using a 3 m in-stope mining height. The length of stopes have been established using an allowable hydraulic radius (open stope area divided by perimeter) that depends on the rock quality and using an empirical design method. If the stopes were to remain open after mining, then sill pillars and dip pillars would be required to prevent collapse of the hangingwall, but at the planned depths of 20 to 290 m, significant ore would be left unmined. To minimize the remnant ore left unmined, backfilling stopes will reduce or eliminate the need for pillars.

The following geotechnical design criterion has been used for the stopes at Nicholas Lake:

- Cemented rockfill will be used in all primary stopes (i.e., 1, 3, 5 sequence where possible);
- Uncemented rockfill can be used in secondary stopes where no mining adjacent to backfill is planned;
- The assumed cement quantity in the rockfill is 4% by weight at stope ends adjacent to sequential stope (i.e., about 25% rockfill will be cemented);
- Mining sequence is overhand progressing upwards;
- Sill pillars are defined where deeper mining meets shallower mining such that pillar dimensions are driven by stress at depth (pillar load divided by rock strength) and pillar slenderness (pillar height to width ratio);
- Mining infrastructure should be kept 20 m from mining;
- Dilution of 5% has been included to account for overbreak and localized hangingwall falls of ground;
- Mining sequence should be from hangingwall south and west to footwall on north and east; and
- No abutment pillars are necessary where nearest mining is at least 2.0 times the mining width away (i.e., unmined rock serves as natural abutment pillar).

The mineable orebody at Ormsby is smaller than at Nicholas Lake because most of the Ormsby ore is mined via open pit method. Underground mining at Ormsby is planned using modified longhole because the ore dips at about 35° to 45°. This dip is unfavorable for hangingwall stability because a blocky rock mass is least stable under low-stress gravitational loading conditions (i.e., flatter or steeper is more stable and easier to mine). The objective to maintaining stability in this type rock mass is to keep openings small and backfill as soon as practicable.

The ore thickness ranges from 3 to 6 m wide with an average of 4 m width. Sill heights have been established at 9 m which gives an open hangingwall of 15 m using a 3 m in-stope mining height for a 45° dip of the orebody. Stope lengths have been established using an allowable hydraulic radius. Backfilling stopes is planned, eliminating the need for leaving pillars that contain ore.

The following geotechnical design criterion has been used for the stopes at Ormsby:

- Stopes shallower than 40° will be mined using a cut and fill method, unless footwall cutouts can be used to allow breasting to 4.5 m height;
- Uncemented rockfill will be used in all cut and fill stopes and, in modified longhole stopes, an assumed cement quantity of 4% by weight is used at stope ends adjacent to sequential stope;
- No sill pillars are anticipated because mining areas are relatively isolated;
- Mining infrastructure should be kept 20 m from mining; and
- Dilution of 9% has been included to account for overbreak and localized hangingwall falls of ground where 30% of the time instability will be deeper into the hangingwall.

Since the rock mass at Ormsby and Nicholas Lake are similar, ground support has been specified to be similar at both locations. It is anticipated that a variety of support methods and arrangements will be used depending on local ground conditions (i.e., heavier support will be used in less favorable ground and lighter support in more favorable ground).

Development drifts are planned to be 4 m wide x 3 m high. It is anticipated that, in long-term access entries in good rock, mass quality will be supported by 2 m long mechanical anchor bolts spaced 1.2 m apart. In poor ground conditions (10% of the development), bolt spacing will be reduced to 0.9 m and chain-link mesh will be required. In very good ground conditions (10% of the development) spot bolting can be used and, in limited-use entries, the use of split sets will provide a more cost effective support.

5.2 Mine Operations

Mining operations analyzed in this FS include Ormsby Open Pit, Ormsby Underground, Nicholas Lake Underground, Clan Lake Open Pit and Bruce Lake Open Pit. The Ormsby site will be the destination for all the open pit and underground ore and the only external waste dump outside of Ormsby will be located at Clan Lake. Technical staff will be located at Ormsby for all mine operations along with maintenance and general housing. Small camps may be located at Nicholas Lake and Clan Lake if the need arises.

5.2.1 Open Pit Mining

Ormsby Open Pit

While the Ormsby open pit is the largest operation in terms of ore delivered, capital cost requirements and manpower, it contributes the greatest number of ounces and highest throughput rates to the mill.

The Ormsby open pit is situated in gentle terrain surrounded by numerous small lakes, sparse vegetation and barren rock. The open pit size and economics have been maximized through the process of pit optimization, mine design and grade bin scheduling to supply 4,000 t/d of mill feed. The ultimate pit is 600 m from east to west, 1,130 m north to south with a maximum high-wall height of 350 m and volume of 64.4 Mm^3. At a cut-off of 0.6 g/t Au, the overall strip ratio (waste:feed) of the pit is estimated at 10.1 containing 984 koz of proven and probable gold reserves.

The Ormsby production schedule entails nine years of in-situ mining that provides five grade bin ore streams for mill feed selection. The premise for the production schedule is to maintain a consistent mine production fleet that brings forward high grade material and defer lower grade material to the end of the mine life. This incurs a re-handle penalty but ensures low grade ore does not displace higher value ore during the capital payback period.

The open pit production schedule is detailed in Table 5.2.1.1. It should be noted the amount of ore mined is in excess of the mill production. In practice, only the highest value gold grade bins are combined with ore from Nicholas Lake and Ormsby underground to meet full mill capacity. The material not directly fed to the mill is stored in the low grade stockpile that is placed in the dewatered portion of Winter Lake and abutting the TCA.

Table 5.2.1.1: In-Situ Open Pit Production Schedule for Ormsby, Bruce and Clan Lake

Description	units	Total or Avg	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Waste Mined	kt	170,035	5,657	18,850	25,617	25,663	24,245	23,436	21,033	15,255	10,278	0	0	0	0
Ore Mined	kt	16,849	1,528	2,226	2,331	2,315	2,151	1,349	1,052	1,263	2,634	0	0	0	0
Total Ormsby	**kt**	**186,884**	**7,185**	**21,076**	**27,948**	**27,978**	**26,396**	**24,785**	**22,085**	**16,518**	**12,912**	**0**	**0**	**0**	**0**
Gold	g/t	1.82	1.82	1.69	1.70	1.67	2.18	2.09	1.63	1.60	1.89				
Gold	**koz**	**984**	**89**	**121**	**127**	**124**	**151**	**91**	**55**	**65**	**160**	**0**	**0**	**0**	**0**
Waste Mined	kt	5,739	0	0	0	0	0	0	0	0	0	5,739	0	0	0
Ore Mined	kt	390	0	0	0	0	0	0	0	0	0	390	0	0	0
Total Bruce	**kt**	**6,128**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6,128**	**0**	**0**	**0**
Gold	g/t	1.70										1.70			
Gold	**koz**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**0**
Waste Mined	kt	6,627	0	0	0	0	0	0	0	0	0	0	3,123	2,670	834
Ore Mined	kt	677	0	0	0	0	0	0	0	0	0	0	204	251	222
Total Clan Lake	**kt**	**7,305**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,328**	**2,921**	**1,056**
Gold	g/t	2.02											3.19	2.65	2.94
Gold	**koz**	**44**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	13	11	13

Mine equipment has been sized to support detailed mining of ore and bulk mining required for waste stripping. Therefore, use of the Komatsu 605-7 rigid body dump trucks combined with Komatsu PC800LC-8 Loaders (with suitable support equipment) have been estimated for both capital and operating costs for ore. Similarly, Komatsu HD785-7 and Komatsu PC2000-8 Hydraulic face shovel will be the main waste fleet. Drilling will be performed by a CAT MD5050T 127 mm blast hole drill rig and explosive loading and supply will be outsourced to a blasting contractor. Both CAT and Komatsu quotes were considered during the course of the FS and a combined fleet was reported. During procurement, both vendors indicated the capital cost may reduce given a firm order. The current makeup of the proposed open pit fleet (without ancillary items) is detailed in Table 5.2.1.2.

Table 5.2.1.2: Proposed Open Pit Equipment Fleet

Description	Unit Cost US$000's	Freight and Assembly US$000's	Fuel L/hr	Lube L/hr	Total US$/hr	Max Units Required
Primary Mine Equipment						
CAT MD5050T	650	8	21.00	4.22	97.93	4
Komatsu PC2000-8	2,823	354	74.00	8.50	201.46	2
Komatsu PC800LC-8	900	108	48.00	2.09	98.78	1
Komatsu WA470–6	408	8	15.00	0.78	37.41	1
Komatsu HD785-7	1,340	313	52.00	3.36	115.44	16
Komatsu HD605-7	885	42	48.00	2.13	83.11	2
CAT 740	667	8	22.00	2.44	54.17	2
Roads & Dumps						
Komatsu D275AX-5E0 Dozer	980	8	48.00	1.96	92.36	1
Komatsu WD600-3	905	8	50.00	1.31	86.13	1
CAT 16M	965	8	23.00	1.35	50.87	1
Water Truck - (773 Body - 30kl)	1,220	15	44.00	1.53	79.43	1
Komatsu WA 380	315	8	12.50	0.69	26.65	2

The initial open pit mine capital is estimated at US$23.5 million with an additional US$33.6 million in sustaining capital that includes new purchases and major equipment rebuilds. Mine operating costs are estimated at US$1.81/t mined and are based on Canadian labor rates with a 23% burden and a fuel price of US$1.06/L. Additional costs applied to labor are captured in the G&A estimate. Table 5.2.1.3 details the mine operating cost on a unit basis and does not include pre-production capitalized costs of US$9.6 million.

Table 5.2.1.3: Open Pit Mine Operating Cost

Description	Unit Rate (US$/t-RoM)	Unit Cost (US$/t-Moved)	LoM Cost (US$000's)
Open Pit Mining	17.716	1.807	362,004
Rehandle	0.813	1.386	16,612

<u>Waste Rock Storage Facility</u>

The waste rock storage for the Ormsby operation has been designed to limit the vertical expansion of the waste dump and have dump toes located for control of surface run-off. The dumps have also been located in areas that have been previously disturbed and in catchments that will be impacted from mining operations. The dumps are not placed on the west side of the pit which is an up-hill haul and in undisturbed water catchments.

Waste rock produced from the Ormsby mining operations (both open pit and underground) will be placed on surface in two designated areas. The “Runway dump” is located between the narrow lake and the proposed TCA. The “NE Dump” is to the northeast of the pit covering round lake and part of the discovery mine tailings cap.

The “Runway dump” has capacity to store 11.5 Mm^3 or 25.5 Mt of material at a loose density of 2.25 t/m^3 with the ability to expand in length to the south. Current dimensions are 1.3 km north to south, 500 m east to west, with a maximum height of 35 m terminating at elevation 325.

The “NE dump” has capacity to store 73.5 Mm^3 or 161.7 Mt of material at a loose density of 2.25 t/m^3 with the ability to expand in height. Current dimensions are 1.5 km north to south, 800m east to west, with a maximum height of 35 m terminating at elevation 385.

Scheduling of waste rock removal from the open pit and underground operations will facilitate material management and will allow for the waste pile to be segmented into potential acid generating (PAG) and non acid generating (NAG) material.

The closure activities will include construction of a series of catchment and diversion ditches to collect surface runoff from the waste rock storage areas. The ditches will be designed to control sediment loading into the natural water drainage, to minimize erosion of surface materials, and to divert any potential acidic or metal-rich waters to the Ormsby pit.

Bruce Open Pit

The Bruce deposit is an off-shoot of the old Discovery Mine and provides a small contribution to the overall economics of the project. The Bruce open pit has been included in the reserve statement and economic model; although it is unlikely it will be mined until after the Ormsby open pit has finished and, if alternate mineralization is discovered in the general area of the deposit, not at all. To validate Bruce for a mine reserve, full pit optimization, pit design, geotechnical and economic analysis have been completed on the deposit.

Clan Lake Open Pit

The Clan Lake deposit is located approximately 30 km south from the Ormsby deposit with no all-weather road connecting the two. Clan Lake only provides a small contribution to the overall economics of the project and is in the early stages of resource evaluation. While the current resources is small, an assumption has been made that ore would be transported by ice-road to the Ormsby mill. If resources increase during further exploration, it is likely another mill or all-weather road would be constructed between the two deposits. The Clan Lake open pit has been included in the reserve statement and economic model, although it is unlikely it will be mined until after the Ormsby open pit has finished. To validate it for a mine reserve, full pit optimization, pit design, geotechnical and economic analysis has been completed on the deposit.

5.2.2 Underground Mining

Two underground operations have been considered as part of the FS. Nicolas Lake is approximately 10 km north of Ormsby and comprises a high grade, lower recovery (82% vs. 92% at Ormsby) underground operation that will feed the Ormsby mill beginning in 2016. Upon completion at Nicholas Lake, the mine production fleet and personnel will be relocated to the Ormsby underground accessed through the open pit, which will have finished primary operations.

Figure 5-2 illustrates the Ormsby underground workings and its relation to the open pit.

From an ore geometry perspective, Nicholas Lake is generally steeply dipping (80° to 90° dip) with the width of the economic mineralization varying from 2 to 24 m with an average of approximately 4 m. In contrast, Ormsby is generally moderately dipping (45 to 60° dip) with the width of economic mineralization varying from 3 to 6 m with an average of approximately 4 m.

Figure 5-3 illustrates the Nicholas Lake underground layout and design. This design is based on a ramp to access the ore. The vertical blue line in Figure 5-3 is the ventilation raise.

Longhole stope mining method using conventional drill and blast and cemented rock fill (CRF) will be used for Nicholas Lake only. Diesel LHD's will clean out the respective headings to a nearby muckbay to allow the drilling crew to start the mining cycle in a timely manner. Underground haul trucks being loaded with the LHD's will collect ore or waste from the muckbays for transport to the surface stockpile. Material from the ore stockpile is transferred to the processing facility at Ormsby using CAT 740's or rehandle equipment. Waste material transported back underground by the underground ore trucks will be used for the cemented rock backfill.

The following parameters define the production schedule:

- 8 m/d development advance;
- Nicholas Lake production at 800 t/d;
- Ormsby production at 400 t/d; and
- Initially target high grade stopes at Nicholas Lake.

The Ormsby underground is separated into six different mines, each being accessed by a separate portal. Mining begins with the development of the portal. A single development crew then mines all of the development before that crew becomes the production crew.

Nicholas Lake will be in production for a total of ten years. Development starts in June 2016 and production begins in February 2017. Production will finish in May 2026.

Ormsby underground will be in production for a total of six years. The first portal at Ormsby starts development in January 2024 and production begins in 2024. Production from the last portal will finish in December 2029.

Table 5.2.2.2 details the underground production schedule from Nicholas Lake and Ormsby underground. Ore material is directly fed to the Ormsby mill due to its high grade and ability for the open pit to stockpile lower grade material.

Table 5.2.2.2: Underground Production Schedule for Nicholas Lake and Ormsby

Description	Units	Total or Avg	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Nicholas Lake																
Waste	kt	684	96	107	98	99	93	91	69	30	0	0	0	0	0	0
Development Ore	kt	252	31	41	25	14	32	33	57	19	0	0	0	0	0	0
Stope Ore	kt	1,777	0	124	146	146	146	146	146	237	292	292	101	0	0	0
Total Mined	**kt**	**2,713**	**127**	**272**	**269**	**259**	**271**	**270**	**272**	**286**	**292**	**292**	**101**	**0**	**0**	**0**
Development Ore	g/t	3.06	2.99	3.51	2.99	3.06	2.82	3.40	2.87	2.62						
Stope Ore	g/t	3.15		4.65	3.30	2.81	2.67	3.32	3.28	3.40	3.01	2.85	2.51			
Average Grade	**g/t**	**3.14**	**2.99**	**4.37**	**3.26**	**2.84**	**2.69**	**3.33**	**3.16**	**3.34**	**3.01**	**2.85**	**2.51**			
Total Gold	**koz**	**205**	**3**	**23**	**18**	**15**	**15**	**19**	**21**	**27**	**28**	**27**	**8**	**0**	**0**	**0**
Ormsby																
Waste	kt	663	0	0	0	0	0	0	0	0	98	93	78	117	154	123
Development Ore	kt	173	0	0	0	0	0	0	0	0	19	19	13	29	31	62
Stope Ore	kt	599	0	0	0	0	0	0	0	0	64	24	77	46	125	264
Total Mined	**kt**	**1,435**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**182**	**135**	**168**	**192**	**310**	**449**
Development Ore	g/t	3.33									3.57	2.62	2.75	3.99	2.58	3.66
Stope Ore	g/t	3.54									3.53	2.34	3.57	4.72	3.12	3.62
Average Grade	**g/t**	**3.49**									**3.54**	**2.47**	**3.45**	**4.44**	**3.01**	**3.63**
Total Gold	**koz**	**87**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**3**	**10**	**11**	**15**	**38**

Underground Mining Operating Costs

The underground mine operating cost is built from several individual estimates and is expected to remain consistent for the duration of the underground mining considered in this study. Table 5.2.2.3 presents a summary of the average operating cost estimates on a yearly basis, averaged for the life of mine for the underground operations. The individual operating cost estimates are for the develop headings based on the development schedule advance in meters, the production costs are based on the scheduled tonnage and the backfill is estimated from the void space volume based on the cubic meters requirements to be backfilled. These estimates do not include labor costs, which are handled separately.

Table 5.2.2.3: Summary of Underground Operating Costs (US$)

Description	Units	Value
Development		
Main Ramps (4m by 3m)	US$/m	$597.18
Stope Access Ramp (4m by 3m)	US$/m	$492.64
Vent Raise - Conventional	US$/m	$613.38
Production		
Long Hole Ore Stope	US$/t-RoM	$5.16
Ore Haulage to Surface	US$/t-RoM	$1.11
Mine General	US$/t-RoM	$3.33
Back Fill		
Density	t/m^3	2.10
Haulage	US$/$m^3$	$1.47
Placement	US$/$m^3$	$0.32
Cement (3 %)	US$/$m^3$	$5.11

5.2.3 Underground Sustaining Capital Costs

Underground mine development takes place after the mill is in full production; hence capital items are categorized as sustaining capital rather than initial capital. Table 5.2.3.1 details the equipment cost breakdown and major infrastructure items for access to Nicholas Lake. The infrastructure associated with wet/dry, fuel storage, etc., is sourced from the current Tyhee mancamp, which will be relocated when mining commences.

Total sustaining capital for underground operations has been estimated at US$9.5 million. Site infrastructure incorporates an all-weather road to access Nicholas Lake.

Table 5.2.3.1: Underground Equipment Fleet

Description	Unit Cost US$000's	Total Cost US$000's	Max Units
Primary Equipment			
Sandvik TH430 – Haul Truck	867	1,751	2
Sandvik LH 307 - LHD	643	2,603	4
Sandvik DD321 –Two Boom Jumbo	986	986	1
Sandvik DD311 – Single Boom Jumbo	814	814	1
Sandvik DL230 – Longhole Drill	348	696	2
Support Equipment			
Getman Grader	320	320	1
Getman Charger	300	300	1
Getman Fuel/Lube	300	300	1
Personnel Carrier	90	180	2
Infrastructure			
All Weather Road		1500	
Dry @ Misc		30	
Total		**$9,474**	

5.3 Mill Schedule – Open Pit, Underground and Rehandle Operations

The production schedule was carried out using the Chronos scheduling package and comprised of an "In-Situ" mine schedule from open pit and underground operations, followed by a "Stockpile" or plant feed schedule.

Central to the production schedule is the use of grade bins to maximize the metal content being delivered to the process plant and delaying lower grade material which would displace higher grade ore during the early years where the discount rate is of great importance. To do this, total rock is mined at a rate where the number of trucks (90 Mt capacity) required is capped at 16 or approximately 29 Mt depending on haul distance. The grade bins accumulate for each schedule period and become inventory for the Stockpile schedule. When a stockpile bin is mined in the same period as it is sent to the plant, it is assumed the material is directly fed to the crusher. When there is a period lag, it is assumed it was mined and sent to the low grade stockpile and treated separately.

The combined open pit, underground and stockpile re-handle schedule is detailed in Table 5.3.1. Due to the different recoveries at Nicholas Lake, Ormsby and Clan Lake, the weighted average recoveries are also reported.

Table 5.3.1: Mill Production Schedule

Mill Feed Schedule	Description	Unit	Total	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
RoM to Mill																		
	Open Pit Ore	kt	17,633	391	1,429	1,295	1,289	1,300	1,282	1,281	1,257	1,204	1,084	1,126	1,269	1,385	1,304	738
	Underground Ore	kt	2,801	0	31	165	171	160	178	179	203	256	376	334	191	75	156	325
	Total RoM	**kt**	**20,434**	**391**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,460**	**1,063**
Grade	Open Pit	g/t	1.84	3.71	2.40	2.43	2.37	3.06	2.27	1.60	1.65	3.02	1.35	0.94	1.01	0.88	0.89	0.69
	Underground	g/t	3.23		2.99	4.37	3.26	2.84	2.69	3.33	3.16	3.34	3.13	2.80	2.95	4.44	3.01	3.63
	Average Grade	**g/t**	**2.03**	**3.71**	**2.41**	**2.65**	**2.47**	**3.03**	**2.32**	**1.81**	**1.86**	**3.08**	**1.81**	**1.36**	**1.26**	**1.06**	**1.12**	**1.59**
	Total Gold	**koz**	**1,334**	**47**	**113**	**125**	**116**	**142**	**109**	**85**	**87**	**145**	**85**	**64**	**59**	**50**	**53**	**54**
Gold Produced																		
	Average Recovery	%	90.5%	92.0%	91.7%	90.1%	90.5%	91.0%	90.6%	89.7%	89.6%	90.1%	88.7%	87.8%	90.6%	92.0%	92.0%	92.0%
	Gold Produced	**koz**	**1,207**	**43**	**104**	**112**	**105**	**130**	**99**	**76**	**78**	**130**	**75**	**56**	**54**	**46**	**48**	**50**
Tailings																		
	Tailings Produced	kt	20,396	389	1,457	1,457	1,457	1,456	1,457	1,458	1,458	1,456	1,458	1,458	1,458	1,459	1,458	1,061
	Gold Grade	g/t	0.19	0.30	0.20	0.26	0.24	0.27	0.22	0.19	0.19	0.31	0.21	0.17	0.12	0.09	0.09	0.13

6 Reserve Statement

Reserves are valid at the time of estimation and include CoG assumptions made before the final economic model is published. SRK confirmed there were no periods of negative cash flow and the overall Project economics are favorable at the three year moving average gold price of US$1,400/oz Au.

6.1 Reserve Estimation

Table 6.1.1: Reserve Statement for Tyhee's Yellowknife Gold Project, Northwest Territories, Canada: SRK Consulting (U.S.), Inc., July 28, 2012

Deposit Type	Deposit Area	Resource Category	Quantity (000's)	Average Grade	Contained Metal (000's)
			Tonnes	**Au (g/t)**	**Au Oz**
Open Pit	Ormsby	Proven	6,347	1.75	357
	Subtotal Proven		**6,347**	**1.75**	**357**
	Ormsby	Probable	10,502	1.86	627
	Bruce		390	1.70	21
	Clan Lake		394	2.93	37
	Subtotal Probable		**11,286**	**1.68**	**685**
Underground	Ormsby	Probable	772	3.49	87
	Nicholas Lake		2,029	3.14	205
	Subtotal Probable		**2,801**	**3.24**	**291**
Total Proven and Probable			**20,433**	**2.03**	**1,334**

- Reserves are inclusive of mineral resources;
- Reserves are based on a gold price of US$1,400/oz;
- Open pit reserves assume full mine recovery;
- Open pit reserves are not diluted (Further to dilution inherent in the resource model and assume selective mining unit of 3m x 3m x 3m.);
- Underground reserves assume planned dilution, 5% unplanned dilution at Nicholas Lake and 9% at Ormsby;
- In situ Au Ounces do not include metallurgical recovery of 92% for Ormsby, Clan Lake and Bruce or 82% for Nicholas Lake;
- An open pit CoG of 0.6g/t-Au was applied to open pit resources constrained by the final pit design;
- An underground CoG of 2.0 g/t-Au was applied to underground resources constrained by a final underground design; and
- Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.
- The mineral reserve estimate for the YPG was calculated by Bret C Swanson, BE (Min) MMSAQP #04418QP, of SRK Consulting (U.S.) in accordance to CSA, NI 43-101 standards and generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines.

7 Metallurgy

SRK designed and supervised a feasibility-level metallurgical development program for Tyhee's YGP, which was conducted by the Metallurgical Division of Inspectorate Exploration and Mining Service Ltd (Inspectorate). Metallurgical studies were conducted on master composites and variability composites from the Ormsby, Nicholas Lake and Clan Lake ore deposits.

7.1 Test Composite Characterization

The Ormsby master composite was formulated from a split of a large bulk composite that had been used for pilot plant testing at Inspectorate in 2007. The Ormsby variability composites, as well as the Nicholas Lake and Clan Lake master composites and variability composites, were formulated from drill core. Table 7.1.1 provides gold head analyses for each test composite.

Table 7.1.1: Test Composite Head Analyses

Composite	Au (g/t)
Ormsby Master	1.78
OM-105	4.39
OM-417	1.71
OM-559	3.40
OM-723	4.99
Bruce Zone	4.68
Nicholas Lake Master	2.32
NL-West	1.91
NL-Central	4.48
NL-East	2.50
Clan Lake Master	1.92
CL-North Main	6.05
CL-Central Main	1.63
CL Southeast Main	2.27

7.2 Metallurgical Test Program

The metallurgical program was based on earlier prefeasibility studies that were conducted by Inspectorate from 2007 to 2009, and was designed to evaluate a process flowsheet that would include:

- Three-stage crushing;
- Ball mill grinding;
- Gravity concentration of the coarse gold;
- Gold flotation from the gravity tailing;
- Cyanide leaching of the gold flotation concentrate;
- Cyanide detoxification of the cyanidation residue; and
- Tailing thickening.

7.3 Grindability Studies

Bond ball mill work index tests were conducted on the three master composites and the five Ormsby variability composites. The Bond ball mill work index (BWi) for the Ormsby master composite was found to be 14.6 kWh/t, and the Ormsby variability composites were found to range from 13.8 to 15.4

kWh/t, with an average of 14.7 kWh/t. The Nicholas Lake master composite was found to be somewhat harder with a BWi of 16.2 kWh/t and the Clan Lake master composite was found to be somewhat softer with a BWi of 13.6 kWh/t. Based on these results, these composites would be classified as medium to medium-hard.

7.4 Grind-Recovery: Gravity Concentration/Rougher Flotation

A grind-recovery test series was carried out on the Ormsby master composite to evaluate gravity concentration followed by gold flotation from the gravity tailing. Based on the results of these tests, a grind at P_{80} 120 μm appeared to be optimal and was selected as the optimum primary grind for the remainder of the test program on the Ormsby composites. Similar grind-recovery tests were also conducted on the Nicholas Lake and Clan Lake master composites, which resulted in the selection of a primary grind of P_{80} 120 μm for the Nicholas Lake master composite and primary grind of P_{80} 150 μm for the Clan Lake master composite.

7.5 Grind-Recovery: Rougher Flotation Concentrate

Upgrading of rougher flotation concentrates by regrinding and cleaner flotation was performed to assess regrind size, number of stages cleaning and collector dosage requirements. Grind-recovery tests were conducted on rougher concentrates produced from the Ormsby master composite over the range from P_{80} 125 to 30 μm. Regrinding to P_{80} 30 μm regrind resulted in the highest gold recovery. Regrind tests were also conducted on rougher flotation concentrates produced from Nicholas Lake and Clan Lake master composites. This work resulted in selecting a regrind size of P_{80} 74 μm for Nicholas Lake and a regrind size of P_{80} 120 μm for Clan Lake.

7.6 Locked-Cycle Testwork

The optimum process conditions developed for the Ormsby master composite were tested in an eight-cycle locked-cycle test designed to demonstrate the impact of recycling intermediate process streams on overall gravity/flotation gold recovery. The locked-cycle test flowsheet is shown in Figure 7-1, and includes primary grinding, gravity concentration followed by rougher and cleaner flotation of the gravity tailing and recycling of intermediate flotation products. The Nicholas Lake and Clan Lake master composites were also evaluated with the same locked-cycle test flowsheet using the optimum test conditions that were established for each of these composites.

The results of the locked-cycle test performed on each test composite are summarized in Table 7.6.1 and show that, for the Ormsby master composite, an overall gold recovery into gravity and flotation concentrates of 93% was obtained. For the Nicholas Lake master composite, an overall gold recovery of 86.4% was obtained and, for the Clan Lake master composite, an overall gold recovery of 93.7% was obtained.

Table 7.6.1: Gravity/Flotation Locked-Cycle Gold and Silver Recovery Summary

Composite	Gravity Conc.		Flotation Conc.		Overall	
	Au %	Ag %	Au %	Ag %	Au %	Ag %
Ormsby	49.6	41.3	43.4	49.5	93.0	90.8
Nicholas Lake	22.3	3.7	64.1	69.7	86.4	73.4
Clan Lake	44.5		49.2		93.7	

7.7 Concentrate Cyanidation

Rougher flotation concentrates produced from Ormsby, Nicholas Lake and Clan Lake master composites were reground over a range of regrind sizes and subjected to one stage of cleaner flotation to assess the concentrate regrind requirement. Each of the resulting cleaner flotation concentrates were then subjected to agitated cyanide leaching to determine the extent to which both gold and silver could be extracted. The results of this test series are summarized Table 7.7.1 at the regrind size selected for each composite. Gold extraction of 98.9% was obtained from the Ormsby cleaner-1 flotation concentrate. Similar tests on Nicholas Lake and Clan Lake flotation concentrates resulted in 93.9% and 97.0% gold extraction, respectively. Additional cyanidation tests were conducted on cleaner flotation concentrates that were produced from bulk rougher flotation concentrates that had been reground to the target grind and upgraded with two stages of cleaner flotation. The results of both standard and carbon-in-leach (CIL) tests conducted on the Ormsby master composite and the results of CIL tests conducted on the Nicholas Lake master composite are shown in Table 7.7.2.

Table 7.7.1: Cyanidation Test Results on Cleaner-1 Flotation Concentrates at Selected Regrind Size

Composite	Regrind	Extraction %	
	P80 µm	Au	Ag
Ormsby	30	98.9	80.5
Nicholas Lake	69	93.9	68.1
Clan Lake	120	97.0	91.0

Table 7.7.2: Cyanidation Results on Cleaner-2 Flotation Concentrates at Selected Regrind Size

Composite	Regrind	Extraction %		
		Standard Cyanidation	CIL Cyanidation	
	P80 µm	Au	Au	Ag
Ormsby	26	98.0	96.3	78.6
Nicholas Lake	73		92.3	70.7

7.8 Detoxification Studies

The SO_2/air cyanide destruction process was simulated in a continuous mode on the Ormsby master samples and in a batch mode on Ormsby variability composites. The detoxification testwork was performed on the residues from CIL cyanidation of bulk cleaner flotation concentrates. As shown in Table 7.8.1, analysis of the final products from each detoxification test demonstrated that <1 ppm CN_{total} in the effluent was achieved on most of variability samples, and detoxification to 2.88 ppm CN_{total} was achieved on the Ormsby master composite sample.

The detox tails represents approximately 6% of the total tailings from the processing plant to the TCA. The balance of the tailings to the TCA (~94%) are from the rougher / scavenger tailings thickener. With this in mind the detoxed CIL tailings will be diluted in the TCA to a fraction of the numbers given. The TCA is briefly described in Section 10 of this Volume and in more detail in Volume 8 and is designed as a non-planned discharge facility.

Table 7.8.1: Cyanide Detoxification Results on Ormsby Master and Variability Composite

Composite	CN_{WAD}, mg/L	CN_{Total}, mg/L
Ormsby Master	**1.61**	**2.88**
OM-105	4.90	6.43
OM-417	0.28	0.35
OM-559	0.07	0.15
OM-723	0.06	0.08
Bruce Zone	<0.05	<0.05

7.9 Recoverability

Gold recoveries for Ormsby, Nicholas Lake and Clan Lake have been developed from the results of both locked-cycle testwork and from bulk gravity/flotation tests that were conducted on each of the test composites to produce flotation concentrates for regrind and cyanidation testwork. As summarized in Table 7.9.1, gold recoveries for Ormsby and Clan Lake are projected at 92% and gold recovery for Nicholas Lake is projected at 82%. SRK has used gold extraction results from standard cyanidation tests instead of CIL cyanidation tests to project overall gold recovery due to concerns that the carbon may have been over-attritioned during the CIL cyanidation tests, resulting in gold losses in the carbon fines that report in the leach residue.

Table 7.9.1: Projected Gold Recoveries for Ormsby, Nicholas Lake and Clan Lake

Composite	Gravity Recovery %	Flotation Recovery %	Cyanidation Extraction, %	Overall Lab Recovery, %	Projected Recovery, %
Ormsby	52.3	41.0	98	92.5	92
Nicholas Lake	15.5	72.6	93	83.0	82
Clan Lake	46.3	48.4	97	93.3	92

8 Process and Plant

8.1 Design Philosophy/Design Criteria

There are several factors that influenced the process design of the concentrator for this project. Two test programs had been conducted on this ore prior to the present team becoming involved. These programs demonstrated that there was a considerable amount of gold in the ore that could be recovered by gravity (density) separation. These programs also demonstrated that froth flotation would recover a very high fraction of any remaining gold. And finally the programs demonstrated that gold could be easily leached from flotation concentrates with the use of cyanide.

These factors, plus the plant location and other external factors, led to the development of a flowsheet consisting of conventional three-stage crushing, followed by ball mill ore grinding with gravity recovery of coarse gold, rougher flotation, regrinding of rougher concentrate, cleaner flotation, CIL cyanide extraction of gold from cleaner concentrate and SO_2/air process for cyanide detoxification of the leach residue.

Combining preliminary operating cost estimates for the mine and concentrator led to the specification of a 4,000 t/d processing rate for the mill. The concentrator has been designed with two parallel, equal capacity (2,000 t/d) processing lines from fine ore storage, through grinding, gravity gold recovery, and rougher froth flotation. The two parallel lines provide greater flexibility for operation if treating primarily underground ores later in the project life, and also provide a degree of safety for a continued processing capability in the event of catastrophic equipment failure in one of the primary processing lines given the fact that the project is constrained to an ice road for oversize equipment. There will be a single regrinding operation on flotation concentrate, followed by cleaner flotation. The cleaner flotation concentrate will then feed the leaching circuit. To keep the leaching and gold recovery circuit simple and compact, a CIL circuit has been specified. An SO_2/air process type cyanide destruction circuit will treat the leach residue to reduce cyanide concentrations to levels below those regulated in the MMER.

The flotation tailings will be thickened to recover as much water as practical and reduce the volume sent to the tailings facility. The detoxified leach residue will also be sent, separately from the flotation tailings, to the tailings facility for disposal.

The specifications above and other criteria necessary for the design of the concentrating plant have been assembled in a design criteria document.

8.2 Recovery Method

8.2.1 Crushing

The ore processing begins with (run-of-mine) RoM ore dumped into a feed bin. From the feed bin the ore will flow to a vibrating grizzly feeder that will remove the -100 mm material from the feed to the primary jaw crusher to reduce the load on the crusher. The crusher will reduce the RoM ore to 80% finer than 100 mm. Fine material from the grizzly and the crusher will flow to a three deck vibrating screen. A three deck screen can produce four products, one from each of the three screen decks and the fine product that passes through the bottom screen deck.

In the Yellowknife crushing plant, the coarse products from the top two screen decks will be combined and feed the secondary, "standard," cone crusher. The crushed material from the secondary crusher will return to the vibrating screen. The intermediate product that flows off the top of the third deck of the screen will feed the tertiary, "short head," cone crusher. Crushed material from the tertiary crusher will also recycle to the vibrating screen.

The fine (finer than 9.5 mm) product that flows through the third (bottom) deck of the vibrating screen is the final crusher product fine ore. The fine ore is transported by conveyor to either one of two fine ore storage silos. A reversing conveyor selects to which silo the ore flows. Each fine ore silo has a storage capacity of 2,000 t of ore, sufficient for 24 hrs of operations of one ball mill - rougher / scavenger flotation line.

8.2.2 Primary Ball Milling

Apron feeders will control the flow of ore from the fine ore storage silos on to feed belts that will feed the two parallel grinding circuits. One fine ore bin will feed one grinding mill with no cross over provided. The ball mills will operate in closed circuit with hydrocyclone size classifiers to produce a product ground to 80% finer than 120 microns (µm). The hydrocyclone overflow (fine) product will flow to a rougher-scavenger flotation circuit. A portion of each hydrocyclone circuit underflow stream will be fed to a centrifugal gravity concentrator to recover coarse free gold. Concentrate from the centrifugal concentrators will be combined and fed to a shaking table for clean-up. The shaking table concentrate will be handled in a secure gold room.

8.2.3 Rougher / Scavenger Flotation

The hydrocyclone overflow streams from the grinding circuits will feed two, parallel, rougher-scavenger flotation circuits. These flotation circuits will recover as much of the gold remaining in the ore as possible. Tank type flotation cells have been selected for this plant. The concentrate streams from the rougher-scavenger flotation circuits will be combined to feed the regrind mill. Tailings from this circuit will flow to a tailings thickener and thickened tailings will flow to the tailings management facility.

8.2.4 Cleaner / Scavenger Flotation

To achieve optimum separation of gold from barren constituents of the ore, the rougher-scavenger concentrate will be ground in a Vertimill fine grinding mill to a size of 80% finer than 40 µm. This will liberate the gold from gangue minerals and allow a further concentration of gold in the cleaner flotation circuit.

The cleaner flotation circuit will consist of three stages: first cleaner, cleaner scavenger, and second cleaner. The final product of this will be about 6% of the overall plant feed. Tailings from the cleaner scavenger circuit will flow to the rougher circuit feed. Second cleaner (final) concentrate will flow to a pre-leach thickener.

8.2.5 Carbon-in-Leach Cyanidation Circuit

The thickened flotation concentrate will first flow to a pre-leach aeration tank. If necessary, the concentrate slurry can be aerated in this tank to passivate cyanide consuming constituents in the ore. After pre-leach aeration, the slurry will flow to the CIL circuit. Cyanide solution will be added and the slurry will flow, by gravity, from tank to tank in the leach circuit. Coarse granular activated carbon (GAC) will be added to the circuit to adsorb dissolved gold from the slurry.

The GAC will be retained in each leach tank by interstage carbon screens. Periodically, a portion of the slurry will be pumped to the next tank upstream to move the carbon in a counter-current flow to the leach slurry. Carbon will be transferred from the first leach tank to the carbon stripping circuit. The leach slurry will flow from the last leach tank to the detox thickener. This thickener will reduce the volume of material needing detoxification and recover cyanide solution that will be recycled to the first leach tank.

8.2.6 Adsorption-Desorption-Recovery Circuit

The activated carbon that is loaded with gold will be washed with acid to remove scale then stripped with a strong hot cyanide solution to recover the adsorbed gold. The strip solution will circulate through electro-winning cells where the gold will be plated onto steel wool. The steel wool and sludge from the electro-winning cells will be sent to the secure gold room.

The thickened leach residue will flow to a cyanide detoxification circuit with two tanks in series. After detoxification, the slurry will flow to a storage tank and will periodically be pumped to a containment area within the tailings management facility.

The shaking table concentrate and electro-winning products will be combined and smelted into doré in the secure gold room.

8.3 Process Material Balance

The material balance for the plant was made utilizing the metallurgical testwork conducted by Inspectorate in Vancouver under the direction of SRK and various recommendations based on previous engineering experience. These limiting parameters were then used to model the mass balance partially in AggFlow and fully in Metsim.

The material balance for the crushing circuit was initially prepared using the software called AggFlow. AggFlow is a material balance program that utilizes existing actual equipment manufacturers' data to create material balances with conditions that reflect real life situations for crushing circuits. AggFlow offers the opportunity to use various vendors' equipment specifications giving the user the ability to pick and choose both the specific equipment and the vendor for the proper solution. The crushing circuit was modeled multiple times in AggFlow with various process configurations using a variety of vendors. The final agreed upon process configuration, which is utilized in the Process Flow Diagrams, and the most realistic vendor parameters were used as the final AggFlow model.

The ore parameters used to feed the grinding circuit in Metsim are the same as those feeding the crushing circuit except that the throughput was decreased to 181 t/h solids (mill and flotation circuit availability is considerably higher than crushing circuit availability). The ore size distribution was adjusted to account for the crushing process, and the percent moisture was increased from dust control in crushing.

The parameters for the recovery of the gold in the grinding, flotation and leaching circuits of the Metsim model were interpreted using results from the metallurgical testwork. Based on the metallurgical testwork results for the Ormsby ore, SRK recommended using the recoveries shown in

Table 8.3.2. Specific parameters in Metsim were varied until the results converged on the recoveries required.

Table 8.3.1: Basic Material Balance Criteria

Item	Parameter
Gold Head Grade	2.31 g/t
Average Head Percent Moisture	3%
Solids Specific Gravity	3.05
Throughput Solids to the crushing circuit	266 t/h

*Note: The Design Criteria, and mass balances, were based on an average head grade of 2.46 g/t Au. Subsequent optimization of the mine has reduced the average head grade to 2.31 g/t. This change has no effect on the design of the processing plant, and minimal effect on the mass balances. All economic calculations are based on the revised head grade of 2.31 g/t. Mass balances on the PFD's reflect the head grade of 2.46 g/t listed in the Design Criteria.

Table 8.3.2: Design Gold Recovery Values for Ormsby Type Ore

Area	Recovery (%)
Gravity Separation	50%
Rougher Flotation	88%
Cleaner Flotation	96%
Cyanide Leaching	98%
Overall Recovery	**92%**

Based on the above criteria, and a 2.31 g/t average head grade, approximately 400 kg of gravity concentrates containing ~4.3 kg (137 oz) of gold will be recovered from the grinding circuit each day. Leach circuit feed (cleaner flotation concentrate) will be approximately 6% of grinding circuit feed or 11 t/h. The CIL circuit will produce approximately 1.3 t of loaded carbon per day containing ~4.3 kg (137 oz) of gold. Total gold production is predicted to be ~8.5 kg (273 oz) per day.

On average, 170 t/h of flotation tailings will flow to the tailings thickener. Eleven t/h of detoxified leach residue will flow to the leach residue storage tank.

8.4 Process Plant Water Balance

The water balance for the Tyhee project was completed in conjunction with the material balance, shown in Section 8.3, as modeled in Metsim.

Metsim is modeling software that, given required parameters, can create a model that accurately represents the process in question. While the material balance was being created within Metsim, it was important that the water requirements were also modeled so the overall mass balance would be accurate in steady state. Once again, steady state would be the mass balance averaged over an entire day rather than including batch operations which would have to be calculated separately.

The Metsim model also displays the water requirements for both raw water and recycled return process water. The model shows an assumption that the gland water for pumps and water makeup for reagents will be clean raw water, resulting in a minimum steady state raw water requirement of approximately 12.5 m^3/hr (55 gpm). The rest of the water requirements within the model are coming from the return water, but because there is not enough return water to supply all of the aforementioned water requirements there could be a fresh water demand of up to 150 m^3/hr (660 gpm). Note that these figures are for the concentrator only and do not include potable water or any water that may be needed in the mining operation. All fresh water will be supplied from the Giauque Lake freshwater system.

8.5 Process Flow Diagrams, Piping & Instrumentation Diagrams and Electrical Single Line Diagrams

The process description above refers to the drawing and equipment numbers shown on the process flow diagrams. Line numbers on the diagrams correlate with stream numbers in the Metsim mass balance. Preliminary piping and instrumentation diagrams (P&IDs) have been developed to assist in estimating costs for piping and instruments. These have been developed to a level that is between 60% and 80% of final design. Few additional instruments will be required, expected changes will include adding actuators to valves and altering connections.

Electrical one line diagrams for power distribution have been developed based on the equipment list and physical location of the loads. The electrical one line diagrams provide a basis for determining the equipment required to distribute power throughout the site. This allows for estimating the cost of the switchgear, MCC's, transformers, electrical cabling, etc.

8.6 Process Equipment

Equipment type selection and sizing used a combination of standard industry practices, data from the laboratory testing program, the mass and volume flow data from the mass balance models, experience of engineers at Lyntek and SRK, vendor recommendations and client preferences. Critical items included the crushers, grinding mills, gravity concentrators, flotation cells, leach tanks, thickeners and detoxification tanks.

When the equipment duty specifications for major equipment were finalized, they were summarized on equipment data sheets. These data sheets accompanied requests for quotation for the major pieces of equipment during this FS and will be updated for the same purpose in detailed engineering and procurement.

8.7 Process Plant Operating Cost Estimate

The plant operating cost is built from several individual estimates as discussed below. The operating costs are expected to remain consistent for the duration considered in this study. The throughput of the processing plant is also expected to be consistent for that period, meaning that costs per tonne will not vary significantly. The head grade is expected to vary, therefore the processing cost per troy ounce of gold will vary somewhat. Table 8.7.1 presents a summary of the average processing cost estimates on a yearly basis, averaged for the first five years of operation.

Table 8.7.1: Summary of Operating Costs

Item	Annual Cost US$000's	Cost per Tonne US$
Labor	6,843	4.69
Comminution Consumables	3,357	2.30
Reagents	4,850	3.32
Processing Power	14,917	10.22
Lighting Power	945	0.65
Maintenance & Lubrication Supplies	1,800	1.23
Laboratory and Analytical Supplies	100	0.07
Total Processing Costs	**$32,813**	**$22.47**
Cost Per Nominal Troy Ounce Produced	**$329**	

8.8 Process Plant Capital Cost Estimate

The Project's capital cost estimate is presented in third quarter 2012 (3Q12) United States dollars (US$).

The initial capital cost estimate is summarized in Table 8.8.1 and total US$124.0 million. The capital cost estimate includes the design, construction and/or procurement of the following items:

- Truck shop;
- Ore crushing building;
- Fine ore bins;
- Complete mill processing building with milling equipment, administration offices, mill lab, change facility, mechanical and electrical shops, warehouse, reagent area and power generators;
- Tailings thickener;
- Fuel storage area;
- Covered lay down storage area;
- Mancamp;
- Water pump station; and
- Other indirect costs as specifically listed in Table 8.8.1.

Other initial and sustaining capital costs related to process plant and infrastructure are included elsewhere in this report and in the economic model these include:

- First fills;
- Construction insurance;
- Construction contractor employee transportation from Yellowknife to Tyhee site; and
- Sustaining capital for the process plant.

The costs associated with these excluded items are contained elsewhere in the financial model and are accounted for separately in the FS.

Table 8.8.1: Capital Cost Summary

Cost Element	Estimated Cost (US$000's)
Direct Costs	
Crushing	5,794
Grinding	6,897
Flotation	11,687
Carbon-In Leach	1,674
Cyanide Detoxification	1,610
Carbon Strip and Reactivation	898
Gold Refining	551
Reagent Storage and Preparation	502
Utilities	29,908
Infrastructure and Support Facilities	33,881
Electrical, Instrumentation and Communications	7,223
Subtotal Direct Costs	**$100,628**
Indirect Costs	
Contractor Mobilization and Demobilization	900
Large Crane and Heavy Equipment Rental	500
Construction Crew Mancamp Living Expenses	3,645
Construction phase transportation costs to Yellowknife	1,680
Equipment Freight	4,318
Site Surveying	150
Small Tools and Consumables	1,181
Construction Equipment Rental	885
Construction Equipment Maintenance	148
Contractor Profit	3,541
Contractor Safety Equip. and Temp. Utilities	100
Construction Field Office, Wash Rooms, Crib Rooms	148
Commissioning and Start-Up Support - Lyntek	470
Consumables and First Fills excl. Diesel for Operations	Incl. in DCF model by SRK
Diesel, First fills for operations	Incl. in DCF model by SRK
Construction Diesel & LPG	3,625
Capital Spares	2,098
Subtotal Indirect Costs	**$23,389**
Subtotal Direct Costs	**$100,628**
Total Capital Cost (Bare)	**$124,017**
Contingency (%)	**Not included(1)**
Total Capital Cost	**$124,017**

(1) No contingency is included in the CAPEX as this is handled separately in the form of a plant wide contingency.

Lyntek Incorporated provided estimates for all on site capital cost components associated with the ore processing facilities, power and communications for the overall site, ancillary buildings, and other infrastructure items.

9 Infrastructure

9.1 General

Tyhee's YGP is composed of a mining, milling, and refining operation on the site. The Ormsby Zone is a combined open pit and underground mining operation designed to process 4,000 t/d of ore. Construction of the plant is expected to take 19 months, though detailed construction planning is pending the detailed design phase of the project.

9.2 Site Access

The Ormsby site is only accessible by air either by landing at the current air strip or float dock or by land through use of a winter ice road which begins at Prosperous Lake North of Yellowknife and crosses roughly 90 km of frozen land and lakes. The winter ice road is constructed and operated for approximately 3 to 5 months per year beginning in December and depending on ice conditions allows actual transport of materials and supplies for about 2 to 3 months. The assumption made in this report is that the ice will have sufficient thickness to support the weight of transported goods to the mine site for two months of the year.

To account for any shifts in the formation of the ice road, annual storage of consumables is specified at fourteen months. Tyhee has its own current Land Use Permit for construction of an ice road from the mine site to the North end of Prosperous Lake and will not need to rely on the Tibbitt to Contwyoto Joint Venture for the use of that winter road. It is intended that each year Tyhee will construct the ice road to the site using this Land Use Permit these costs are included in Owner's Cost and G&A.

9.3 Mine Infrastructure

9.3.1 Truck Shop

A truck shop has been included in the infrastructure. The truck shop includes three drive-through maintenance bays capable of handling the large haul equipment as well as tracked vehicles, one drive through wash bay, and an attached 450 m^2 workshop, tools and storage area.

9.4 Plant Infrastructure

9.4.1 General Plant Infrastructure

Geotechnical evaluation of the site prompted the decision to scale the site 2 m to eliminate damaged bedrock, with the excavated material used as fill where necessary. Use of excavated material will reduce the number of trucks traveling the ice road to prepare for construction. Cut slopes are considered to be stable but, if considered prudent during construction, slopes will be stabilized using rock bolts.

Existing facilities from previous exploration trips will be utilized for operations in addition to the newly developed mine and plant. Facility design conforms to relevant industry standards and best engineering practices.

The site will be exposed to harsh cold climates, limited access, and year round operations. Considerations for these conditions include reliable power generation, fourteen month fuel and reagent storage, insulated and heated buildings, a waste-heat recovery system, and on site water supply with heat traced and insulated piping.

9.4.2 Site Utilities

Power is generated on site using a series of seven diesel generators to provide power for the facilities around site while minimizing electrical losses with the chosen distribution system. Six generators will be required to provide power to the plant and operations with one generator remaining on standby to facilitate scheduled maintenance or provide power in the event of a failure of one of the generator sets. The use of several generators minimizes plant shutdowns as multiple failures are required to drop the generated power below the site power demand. Waste heat from the generators is captured through a heat exchanger system, which heats water used to heat the buildings. Raw water to site is pulled from Giauque Lake using redundant submersible pumps for use on site as makeup process water or as domestic water with treatment. Water from Giauque Lake is considered safe for use as potable water after sterilization to eliminate biological contaminants. Water from specific facility operations, such as thickeners and filter presses, is reclaimed to reduce the generation of waste water and the associated costs. Both the reclaim heat system and electrical heaters are provided in the buildings to ensure proper control of the process and safe occupancy conditions for operators.

9.4.3 Crushing Building

The crushing area is fed ore by haul trucks from the mine. Ore is sorted for crushing by the vibrating grizzly feeder which feeds the jaw crusher. A conveyor system will route the crushed material to a triple deck screen which feeds two cone crushers. Material from the crushing area is stored in fine ore bins until being transferred to the mill.

9.4.4 Process Equipment

Process equipment housed in the mill building encompasses the comminution plant, flotation circuit, CIL circuit, carbon reactivation, water storage, reagent preparation, utilities and gold room. Size reduction is carried out by two ball mills on the west side of the building, each fed by a conveyor. Cyclones are used for size separation following the two primary ball mills. The flotation circuit is composed of two parallel sets of seven rougher tank cells, two parallel sets of three scavenger tank cells, five cleaner/cleaner scavenger tanks and four second cleaner tanks. The plant area is also equipped with a Vertimill for regrind of the rougher/scavenger concentrate ahead of the cleaner circuit. The CIL process is composed of a leach solution tank, pre-leach tank, eight carbon contacting tanks, detox tails storage tank and detox thickener. The flotation circuit is composed of a fourteen tank rougher circuit, six scavenger tanks, six rougher cleaner tanks, five scavenger cleaner tanks and four second cleaner tanks. The plant area is also equipped with a Vertimill for secondary size reduction.

Equipment has been sized and specified to ensure that the process building is compact, making it more energy efficient and less costly to construct. Buildings are predominantly heated using waste heat recovery from the power generation units, as well as waste oil and lubricants primarily from the mining fleet.

9.5 Security

The site will be equipped with security cameras at points of entry. Additional security will be provided for the gold room which will have restricted access and an alarm system. Gold room facilities include electrowinning cells, a shaker table, a filter press and a refining area where the final doré bars are stored in a secure vault.

9.6 Site Logistics

Independent operation of this facility is essential. Adequate fuel storage and a backup generator ensure that electrical power is able to meet the demand for the site. The dry storage area has been sized to provide adequate storage for 14 month of supply for all reagents and other process consumables and supplies. Three different workshop facilities are available to service the electrical, mechanical, and mobile equipment as necessary. The electrical and mechanical workshops are located inside of the mill building on the south side. Mobile equipment is serviced at the truck shop located southwest of the mill. Truck shop facilities are equipped for three heavy vehicles bays and include an internal tool shop and truck washing bay.

Laboratory facilities onsite allow personnel to optimize the process to varying conditions as well as verify the recovery and grade of the product. The mancamp addition will provide room and board to the expected personnel and provides the necessary facilities to keep the operation staffed and running. Plant workers will be able to change clothing inside of the plant building where lockers, restrooms, and showers have been made available. Additional mancamp facilities include a cafeteria, laundry room, and recreation areas.

10 Tailings Management and Closure

10.1 Tailings Containment Area and Tailings Management

The TCA will provide for combined storage of both the flotation and CIL tailings within a single facility. The TCA will be built within the existing Winter Lake basin, south of the proposed Ormsby Pit. Stored tailings will essentially fill the southern reach of the existing lake basin. This location is excellent for tailing storage since it provides a naturally occurring containment area for the tailings and associated waters and limits offsite run-on.

The TCA has been designed to contain both the flotation and CIL tailing and associated waters produced over the 11 year mine life. This corresponds to approximately 15 Mt of tailing, split 94%/6% by weight for the flotation/CIL tailings, respectively. The basin has been subdivided into a northern, southern, and central cell, separated by internal divider causeways. The northern and southern cell will be dedicated to flotation tailing storage; whereas, the central cell will contain both flotation and CIL tailings. The CIL tailings will be deposited subaqueously in the western portion of this central cell, below the operational decant pond. The divider causeways will allow water pass between the cells but retain solids allowing for the pond to develop in the area of the CIL deposition and provide enough pond volume (and depth) such that decant waters can be returned to the process plant all year, when available. Due to potential mine expansions, additional tailings produced after 11 years of operations will need to be stored in TCA expansions which are currently designed to a conceptual level. These expansions are currently able to contain approximately 5 Mt of additional tailing, per the scheduled FS mine plan.

The TCA will be formed by natural ridgelines to the east and west and the construction of six embankment dams around the north and south perimeters. These dams will be constructed in three stages (Stages 1 to 3) over the life of the Project to spread capital costs over the mine life while meeting project needs. At build-out in Stage 3, the TCA will extend approximately 1,750 m in the north-south direction and 1,150 m in the east-west direction, and will cover approximately 1.4 km^2 (140 hectares). As mentioned above, potential expansions have been designed to a conceptual level for additional tailing storage. These expansions consider construction beyond Stage 3 (year 11) and would impact a larger footprint than that described herein.

At the end of Stage 3, these TCA dams will be constructed to an elevation of 298 m, approaching ultimate elevation of the ridges on the eastern and western limit of the TCA. The tailing dams are designed as either (1) water retaining structures, (2) tailing solids retaining structures, or (3) water retaining structures to an elevation of 292 m and tailing solids retaining structures above this elevation. The TCA embankments which will have water ponded against them temporarily or throughout operation of the TCA are designed as water retaining structures. As the water pond is moved away from an embankment face, the requirement that the dams be designed as water retaining structures is relaxed and facilities are thereafter designed as tailing solids retaining structures. Dam crests are based on the tailing and water storage requirements in the facility, freeboard requirements for dams, and accounting for a sloped tailing beach.

The design of the TCA embankments provide for zoned earth and rock-filled structures. Overburden and highly weathered bedrock will be removed from the dam footprints and replaced with the appropriate, zoned fill material. The underlying bedrock and lacustrine sediments, in the southeastern reach of the facility, appear adequate for founding the tailing dams. Construction of the embankments is based on the use of on-site materials.

Results of the operational water balance have been used to size the TCA and provide parameters for their operation. This includes parameters related to providing fresh and return water to the process facilities, and anticipates that no planned, controlled discharges to the downstream receiving environment will be necessary. Although the new water balance indicates that no discharge from the TCA to the downstream environment is expected during operation, Tyhee recognizes that the ability to allow discharge of TCA supernatant may be required at some point during the planned mine life and expect the option to do so would be included in the operations water license issued by the Mackenzie Valley Land and Water Board (MVLWB) following the Regulatory Phase. The YGP is committed to meeting MMER discharge criteria on any releases to the downstream environment as well as CCME water quality guidelines in downstream receiving water bodies. Based on current test work on the YGP process waste streams, any releases from the TCA are expected to meet the MMER standards at the point of discharge and the resulting concentrations in Narrow Lake are expected to meet the CCME guidelines.

10.2 TCA Closure

The design and operating criteria for the tailing impoundment considers closure and reclamation of the tailing mass. The tailings facility surface will be covered using a combination of soil and geosynthetics to allow revegetation and provide a low permeability cover over the CIL tailing to limit potential oxidation. Voluntary revegetation is anticipated over the tailings covers. Pipelines will be removed and disposed of.

11 Project Implementation

The Tyhee YGP occurs as three separate claim/lease blocks that extend from Clan Lake (approximately 60 km north of the city of Yellowknife) to Nicholas Lake (approximately 100 km north-northeast of Yellowknife). The YGP consists of 14 mineral leases and 13 mineral claims that total 10,520 hectares (25,985 acres). The site is accessible by seasonal winter road and year round by aircraft during daylight hours. The 1,100 m long gravel airstrip is able to accommodate cargo and passenger airplanes as large as a Buffalo or Dash 7 aircraft. Giauque Lake provides float plane access to the property by means of a wharf connecting to the camp by an all season gravel road.

The current project plan allows for the development of the concentrator to treat the Ormsby ore, with an allowance for supplemental ore from Nicholas Lake in year two.

A key consideration in the implementation plan is the seasonal road. All shipments will need to be scheduled to coincide with the 2014 and 2015 seasonal road availability.

11.1 Project Execution

11.1.1 Scope of Work

Tyhee has retained several engineering companies to assist in the design and development of the property into a producing project. SRK is acting as the lead engineering company for this project development, including the mine design, and related facilities. KP has been assigned the responsibility of designing the TCA and developing all the necessary site geotechnical studies, to allow for the design and construction of the TCA and plant site foundations. Lyntek has been assigned the process plant design, man-camp, utilities/support facilities, project logistics and transportation, including evaluation of equipment options and recommendations on equipment and supplies.

The Project scope of work includes designing the entire project facility starting with:

- The mine and mining method – SRK;
- Ore handling and crushing – Lyntek;
- Milling and processing – Lyntek;
- TCA – KP;
- Waste ore dumps- SRK;
- All site infrastructure, roads, utilities, communications, etc. – SRK / Lyntek;
- Site Logistics, including transportation of goods and men – Lyntek / Tyhee;
- Other site facilities, including man-camp, maintenance and shop facilities – Lyntek / Tyhee; and
- Fuel storage and power generation and distribution – Lyntek.

Feasibility-level engineering has been completed in all of these areas to allow the development of a project execution plan starting in Q3 of 2012, and completion in Q3 of 2015 with production starting at the beginning of Q4 in 2015.

11.1.2 Engineering, Procurement and Construction Management (EPCM) Execution Schedule

A detailed preliminary schedule has been developed for the project that will allow production to begin in October 2015

The detailed engineering for this project is anticipated to commence early in the 3rd quarter 2012, with procurement of the primary ball mills early in the 4th quarter that same year (First week of October 2012). The completion of the detailed design is expected by the end of 2013 with some construction related design activities still required in Q1 of 2014.

It will be necessary to procure additional long lead items before the completion of the detailed engineering study. An early review and detailing of the construction schedule in 2012 will allow refinements to be made to the procurement schedules of the project. The detailed engineering will be prioritized accordingly to ensure readiness of the design in time for the procurement requirements of the project.

In preparation for the site construction phase and the first shipments to site in Q1 of 2014, the following activities will need to be completed in 2013;

- A temporary laydown area will need to be prepared at Tyhee site in preparation of receiving the first shipments in February 2014;
- The contractor for the ice road will need to be selected;
- Primary haul contractor identified and selected. This will need to be completed early in 2013 so as to ensure adequate availability of trucks and a suitable staging area in Yellowknife to allow the staging of the shipments on the ice road;
- Long term diesel supply contracts will need to be established to ensure adequate availability of diesel both for the construction phase as well as the production phase of the project;
- Construction contractor(s) will need to be selected;
- Temporary (enviro) diesel storage tanks will need to be secured to allow adequate fuel storage for the construction phase;
- An aggregate plant and a batch plant will need to be secured;
- Temporary generators will need to be secured to provide power for the mancamp and the construction activities during the construction phase; and
- Logistics and supply contracts will need to be in place to provide for the construction crews.

The bulk of the procurement for the buildings, civils, initial equipment, site contractors and storage facilities will begin in early 2013 to ensure availability of services, and the delivery of the materials to Yellowknife for the 2014 ice-road season.

The balance of the procurement, including the bulk of the equipment, will begin early 2014 to ensure delivery of the equipment to Yellowknife for the 2015 ice-road season.

Special consideration will be given to staging. All loads will be staged in Yellowknife at a marshaling yard with a specific emphasis on prioritizing deliveries to site, maximizing utilization of the trucks, maximizing use of the periods where heavy loads can be transported.

It is expected that site preparation will be completed by the end of April 2014. Concrete pouring will begin early May 2014 once temperatures have moderated.

It is planned to complete the following activities before the onset of winter in 2014:

- The primary ball mills will be set in place;
- The main concentrator building, the truck shop, and the long term storage area will be erected and skinned suitable for winter construction to take place inside these buildings; and
- Half of the permanent diesel storage tanks will be erected in preparation of receiving the construction and production fuel requirements for 2015.

The 2014/2015 winter construction period will be used to finish off the inside of the buildings, erect structural steel, manufacture large tanks, and start on piping and electrical.

The balance of the site construction activities will commence in March 2015 with the arrival of the first loads on the 2015 ice road. Mechanical completion is planned for early September 2015, with commissioning completed by October 1, 2015.

11.2 Project Considerations

The location of this plant requires some specific considerations associated with the development of a plant in the NWT. The two dominant considerations relate to the reliance on a seasonal ice road and the influence of a harsh winter on construction schedules. Specific measures have been implemented in the Project Execution Plan to mitigate the potential risks.

11.2.1 Logistics

One of the primary considerations associated with the procurement and construction phase of this project relates to the reliance on a seasonal road for the transport of all major equipment, materials, and consumables to site.

Two measures are implemented in the Project Execution Plan to offset this risk:

- Construction has been spread over two summer seasons. This reduces the dependence of the project on a single ice road season; and
- All major shipments will be staged in Yellowknife, with critical items required in Yellowknife by December 31st of 2013 and 2014. This will allow a two month buffer before the opening of the seasonal road, with an additional two months buffer before the seasonal road is no longer passable.

The delivery schedules for long lead items used in the EPCM schedule have been confirmed by the equipment vendors.

The site can be accessed by air throughout the year which will provide adequate capability for bringing small (less than 4 t) supplies to site if required.

11.2.2 Weather

To help minimize the risk associated with a harsh winter in 2013-2014, the construction is scheduled over two summer seasons. The first season in 2013-2014 will concentrate on the completion of the civil works, the erection of the mill buildings, the erection of the mancamp, and the installation of sufficient tankage to provide the diesel storage requirements for the first year of operation. An enclosed and heated workspace (the concentrator building and the truck shop) will be available for continued activity during the winter months.

The second summer season (2014-2015), will be used to install the balance of the equipment and to prepare the plant for a September/October startup. Starting construction in 2014 will allow adequate time to prepare the site for equipment and consumables shipments in 2015. It will also allow any construction delays due to a harsh winter to be recovered, either with extra activity in the winter, or by moving some of the construction tasks to 2015.

11.2.3 Project Engineering & Procurement Schedule

Reliance on the ice roads for all major shipments will require an engineering and procurement schedule specifically tailored to meet the delivery schedule for all major equipment and supplies. The Engineering and Procurement schedules developed for the project make specific allowances to ensure that necessary activities are prioritized so as to ensure sufficient time is available to procure and ship all equipment and materials to Yellowknife. Buffers have been included to minimize risk associated with late delivery of equipment. A very fast start to the procurement schedule is required and anticipated. Equipment selections for long lead items have been finalized as part of this FS.

11.2.4 Corporate Health and Safety Policy Statement

Tyhee is committed to preventing the accidental loss of any of its resources, including employees and physical assets.

In fulfilling this commitment to protect both people and property, management will provide and maintain a safe and healthy work environment in accordance with industry standards and in compliance with legislative requirements, and will strive to eliminate any foreseeable hazards which may result in property damage, accidents, or personal injury/illness.

We recognize that the responsibility for health and safety are shared. All employees will be equally responsible for minimizing accidents within our facilities and on our work sites. Safe work practices and job procedures will be clearly defined in Tyhee's Policies & Procedures Manual for all employees to follow.

Accidental loss can be controlled through good management in combination with active employee involvement. Safety is the direct responsibility of all managers, supervisors, employees, and contractors.

All management activities will comply with Tyhee's safety requirements as they relate to planning, operation and maintenance of facilities and equipment. All employees will perform their jobs properly in accordance with established procedures and safe work practices.

The safety information in this policy does not take precedence over Occupational Health and Safety legislation. All employees should be familiar with the NWT Mine Health & Safety Act and Regulations.

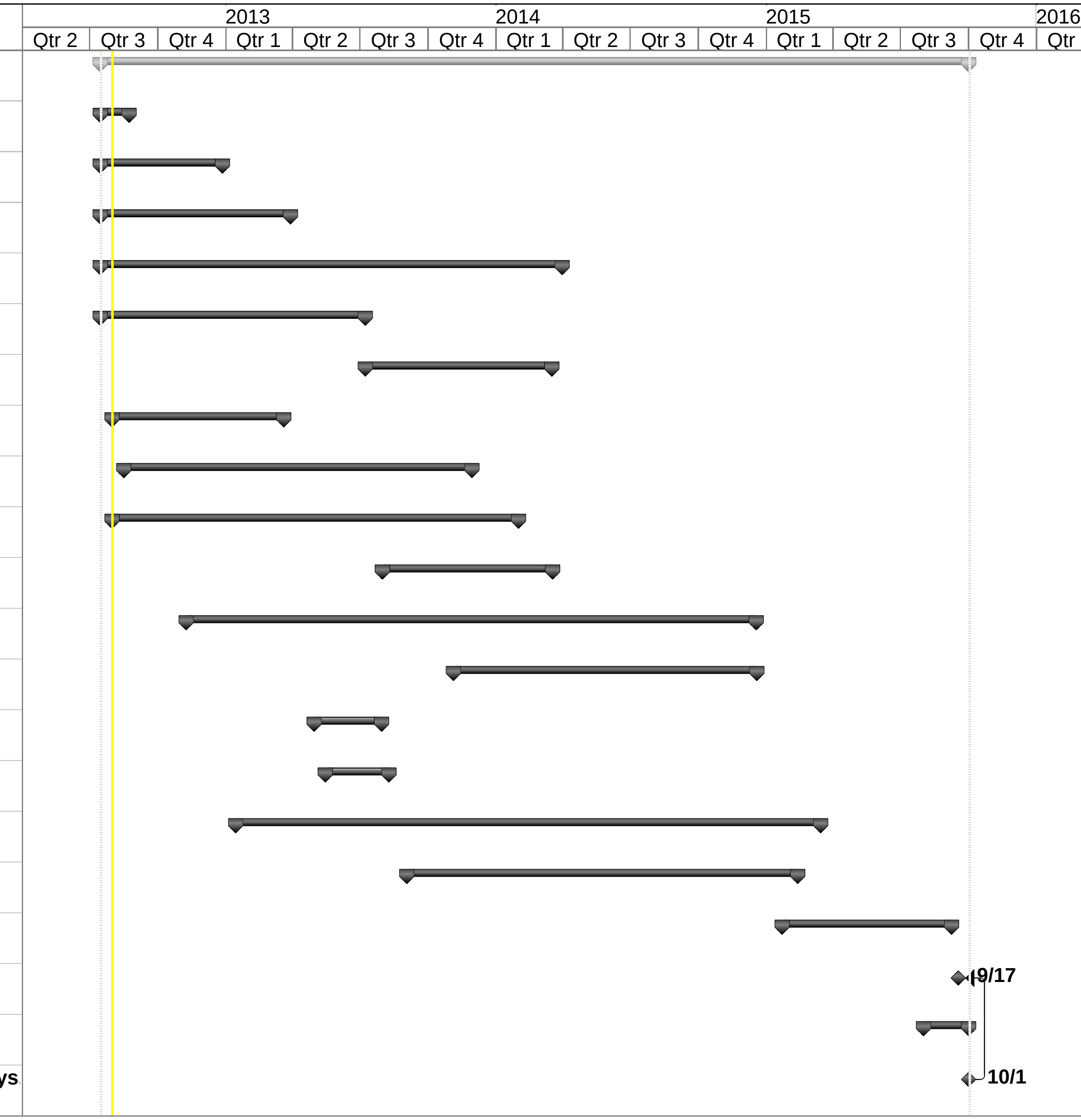
12 Operations Plan

The YGP will operate on a basis of 24 hours per day, 365 days a year, and have a workforce of approximately 265 onsite personnel, working 12 hours shifts and on two weeks work / two weeks rest rotation. Work crews will rendezvous at Yellowknife airport and be airlifted from there to the Project site. Tyhee will provide boarding & lodging at the Project site at a level of comfort that is customary for other remote mining camps in Canada. Wage levels will be competitive with other remote location mining operations, but higher than average industrial wage level elsewhere in Canada.

The YGP will face intense pressure to have a large portion of the workforce from the aboriginal community, a community-needs imperative that will have to be balanced with the high-skills and long-experience needs for efficient startup of production. Additionally, Tyhee will have to compete for qualified trades people that are in great demand in the Alberta oil fields and elsewhere in Western Canada. It is also to be noted that a large portion of the workforce will live far away from Yellowknife, thus requiring Tyhee to arrange and pay for air transportation from distant cities. Due to the work rotation, remote worksite and constrained lifestyle, high turnover is expected, thus causing the Project to be constantly challenged to remain appropriately staffed.

Tyhee Gold Corp.
NWT Gold Project
7-Day Week for Procurement/Construction

ID		Task Name	Duration	Start	Finish	Predecessors	Successors
0		**Tyhee Gold Corp.**	**1153 days**	**Mon 7/16/12**	**Thu 10/1/15**		
1		**FEASIBILITY STUDY**	**28 days**	**Mon 7/16/12**	**Thu 8/23/12**		
6		**FEASIBILITY STUDY GEOCHEM**	**115 days**	**Mon 7/16/12**	**Thu 12/27/12**		
8		**PROJECT FINANCING**	**180 days**	**Mon 7/16/12**	**Fri 3/29/13**		
10		**ENVIRONMENTAL & PERMITTING**	**435 days**	**Mon 7/16/12**	**Mon 3/31/14**		
12		**DAR PROCESS**	**250 days**	**Mon 7/16/12**	**Mon 7/8/13**		
14		**REGULATORY PHASE**	**175 days**	**Tue 7/9/13**	**Mon 3/17/14**		
16		**ENGINEERING & DESIGN - YEAR 2012**	**162 days**	**Wed 8/1/12**	**Wed 3/20/13**		
28		**PROCUREMENT ACTIVITIES - YEAR 2012**	**462 days**	**Fri 8/17/12**	**Fri 11/29/13**		
35		**ENGINEERING & DESIGN - YEARS 2013 - 2014**	**383 days**	**Wed 8/1/12**	**Fri 1/31/14**		
119		**DESIGN PHASE COMPLETION**	**160 days**	**Thu 8/1/13**	**Tue 3/18/14**		
124		**PROCUREMENT ACTIVITIES - YEAR 2013**	**757 days**	**Fri 11/9/12**	**Thu 12/18/14**		
223		**PROCUREMENT ACTIVITIES - YEAR 2014**	**403 days**	**Tue 11/5/13**	**Fri 12/19/14**		
355		**SITE CONTRUCTION PACKAGES - 2013**	**89 days**	**Wed 5/1/13**	**Tue 7/30/13**		
363		**CONSTRUCTION ACTIVITIES - YEAR 2013**	**84 days**	**Thu 5/16/13**	**Fri 8/9/13**		
365		**CONSTRUCT WINTER ROAD**	**778 days**	**Tue 1/15/13**	**Sun 3/15/15**		
369		**CONSTRUCTION ACTIVITIES - 2014**	**519 days**	**Tue 9/3/13**	**Thu 2/12/15**		
425		**CONSTRUCTION ACTIVITIES - YEAR 2015**	**226 days**	**Fri 1/23/15**	**Tue 9/8/15**		
459		**MECHANICAL COMPLETION**	**0 days**	**Thu 9/17/15**	**Thu 9/17/15**	**462FF-14 day**	
460		**PLANT COMMISSIONING**	**60 days**	**Sun 8/2/15**	**Thu 10/1/15**		
462		**PLANT START-UP**	**0 days**	**Thu 10/1/15**	**Thu 10/1/15**		**459FF-14 days**



Lyntek Project No.: 11027
Date: Tue 7/31/12

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline | Progress

14 Financial Analysis

Principal Assumptions

The gold price used in the technical economic model is based on the 36-month moving average. As of July 2012, the 36-month average was US$1,396.35/oz. For the purposes of economic analysis a rounded up average of US$1,400/oz Au has been used for reserves and economic modeling.

The economic model presented is a base case, technical economic model and constructed on a pre-tax basis. The model assumes 100% equity to provide a clear picture of the technical merits of the project. Principal assumptions used are summarized in Table 14.1.

Table 14.1: Principal Assumptions

Model Parameter	Technical Input
General Assumptions	
Preproduction Period	32 months
Ormsby OP Mine Life	8.67 years
Bruce OP Mine Life	1.00 years
Clan Lake OP Mine Life	3.00 years
Nicholas UG Mine Life	9.67 years
Ormsby UG Mine Life	6.00 years
Process Plant Life	14.33 years
Operating Days per Year	365 days/yr
Production Rate	4,000 t/d
Market Assumptions	
Discount Rate	5%
Gold Price	US$1,400/oz Au
Royalty	
3rd Party	2.25%

A 32-month preproduction period is assumed to allow for construction of site access and associated infrastructure. The Project will have an estimated life of 14.33 years given the reserves described in Section 6 at the assumed production rate of 4,000 t/d.

Capital Cost

Life of mine (LoM) capital costs totaling US$265.2 million are summarized in Table 14.2. Preproduction capital costs are estimated at US$193 million. Ongoing capital costs of US$72.2 million account for the remaining mine life expenditure and are classified as sustaining capital. Capital cost estimates are stated in Q2 2012 US constant dollar terms with a US to Canada exchange rate assumption of US$1.00:C$1.00.

Table 14.2: LoM Capital Costs

Description	Initial Capital (US$000's)	Sustaining Capital (US$000's)	LoM Capital Cost (US$000's)
Capitalized Costs			
Open Pit Mining(Pre-Production and Diesel)	7,213	2,269	9,482
Processing	990	8,484	9,474
G&A	21,241	0	21,241
Subtotal	**29,444**	**10,753**	**40,198**
Capital Costs			
Open Pit Mining	23,490	33,586	57,076
Underground Mining	0	9,480	9,480
Process Plant & Site Infrastructure	117,955	6,062	124,017
Tailings Storage Facilities	6,121	1,335	7,456
Owners Costs	4,149	0	4,149
Mine Closure	0	10,460	10,460
Project Contingency(@10%ofProcess&Infrastructure)	11,796	606	12,402
Subtotal	**163,511**	**61,529**	**225,040**
Total Capital	**192,955**	**72,283**	**265,238**

Operating Cost

LoM operating costs are summarized in Table 14.3. Operating cost estimates are in Q2 US constant dollar terms.

Table 14.3: LoM Operating Cost Summary

Description	Unit Rate (US$/t-RoM)	Unit Cost (US$/t-Moved)	LoM Cost (US$000's)
Open Pit Mining(1)	17.716	1.807	362,004
Underground Mining	5.541	40.419	113,218
Rehandle	0.813	1.386	16,612
Processing	21.303	21.303	435,291
G & A	4.369	4.369	89,271
Total Opex	**$49.741**	**-**	**$1,016,396**

(1) Does not include mine pre-production capitalized cost

Pre-Tax Financial Results

The financial analysis results, shown in Table 14.4, indicate a pre-tax $NPV_{5\%}$ of US$215.7 million with an IRR of 20%. Pre-tax payback occurs 42 months after the start of gold production (Q1 2019). The following provides the basis of the LoM plan and economics:

- Total project life of 15 years using three open pits and two underground mines;
- An overall average metallurgical recovery rate of 90.5% Au, over the LoM that includes 92% recovery for Ormsby, Clan and Bruce Lake ores and 82% for Nicholas;
- A cash operating cost of US$853.86/oz-Au;
- Mine closure costs, included in the above sustaining capital estimate, of US$10 million; and
- No provision for salvage value.

Table 14.4: Pre-Tax Financial Model Results

Description	Units	Value	Unit Cost (US$/oz-Au)
Production			
Ore Processed	kt	20,434	-
Gold Recovered	koz	1,207	-
Estimate of Cashflow			
Gold Price	US$/oz-Au	$1,400.00	-
Gross Revenue	**US$000's**	**1,689,522**	**-**
Refinery Charge	US$000's	(8,448)	(7.00)
Freight	US$000's	(86)	(0.07)
Insurance	US$000's	(252)	(0.21)
NSR	**US$000's**	**1,680,736**	**$1,392.72**
Nicholas Lake Royalty	US$000's	(5,259)	(4.36)
Net Revenue	**US$000's**	**1,675,477**	**$1,388.36**
Operating Costs			
OP Mining	US$000's	362,004	299.97
UG Mining	US$000's	113,218	93.82
Rehandle	US$000's	16,612	13.77
Processing	US$000's	435,291	360.70
G & A	US$000's	89,271	73.97
Total Operating Costs	**US$000's**	**1,016,396**	**$842.22**
LoM Cash Cost	US$/oz-Au		853.86
Operating Profit	US$000's	**659,080**	**$546.14**
Capital Expenditure	US$000's	(225,040)	-
Capitalized Costs	US$000's	(40,198)	-
Pre-Tax Cashflow	**US$000's**	**393,843**	**$326.35**
NPV @5%	**US$000's**	**215,724**	**-**
IRR	**%**	**20%**	**-**

Post-Tax Financial Results

All results presented in this section are based on a monthly cash flow developed by SRK. The SRK LoM plan and post-tax economics are based on the base case presented above with the addition of the following:

- The NWT Mining Tax is US$58.2 million over the LoM at an average rate of 9.6% after deductions;
- A total income tax rate of 26.5%;
- Current company loss carry forward of US$13.8 million;
- Initial capital and capitalized costs are added to the loss carry forward for Class41(A) tax calculation; and
- Project payback 4.1years after the start of production.

The post-tax case economic analysis results, shown in Table 5.3.1, indicate a post-tax net present value of US$115.1 million at a 5% discount rate with an IRR of 15%.

Table 14.5: Post-Tax Financial Model Results

Description	Units	Value	Unit Cost (US$/oz-Au)
Production			
Ore Processed	kt	20,434	-
Gold Recovered	koz	1,207	-
Estimate of Cashflow			
Gold Price	US$/oz-Au	$1,400.00	-
Gross Revenue	**US$000's**	**1,689,522**	**-**
Refinery Charge	US$000's	(8,448)	($7.00)
Freight	US$000's	(86)	($0.07)
Insurance	US$000's	(252)	($0.21)
NSR	**US$000's**	**1,680,736**	**$1,392.72**
Nicholas Lake Royalty	US$000's	(5,259)	($4.36)
Net Revenue	**US$000's**	**1,675,477**	**$1,388.36**
Operating Costs			
OP Mining	US$000's	362,004	$299.97
UG Mining	US$000's	113,218	$93.82
Rehandle	US$000's	16,612	$13.77
Processing	US$000's	435,291	$360.70
G & A	US$000's	89,271	$73.97
Total Operating Costs	**US$000's**	**1,016,396**	**$842.22**
LoM Cash Cost	US$/oz-Au		$0.00
Operating Profit	US$000's	**659,080**	**$546.14**
Capital Expenditure	US$000's	(225,040)	-
Capitalized Costs	US$000's	(40,198)	-
Pre-Tax Cashflow	**US$000's**	**393,843**	**$326.35**
NWT Mining Tax	US$000's	(58,251)	-
Income Tax	US$000's	(99,491)	-
After-Tax Cashflow	**US$000's**	**236,100**	
NPV @5%	**US$000's**	**115,139**	**-**
IRR	**%**	**15%**	**-**
Payback	**years**	**4.1**	**-**

Sensitivity

Sensitivity analyses for key economic parameters are shown in Tables 14.6 and 14.7. This analysis suggests that the project is most sensitive to market price. Operating costs are more sensitive than capital costs primarily due to the diesel fuel price.

Table 14.6: Project Sensitivity (NPV5%, US$000's)

Description	-20%	-15%	-10%	-5%	Base	5%	10%	15%	20%
Pre-Tax									
Revenue	(7,476)	48,324	104,124	159,924	215,724	271,523	327,323	383,123	438,923
Opex	348,134	315,032	281,929	248,826	215,724	182,621	149,518	116,415	83,313
Diesel	276,180	262,133	247,374	231,905	215,724	198,831	181,228	162,913	143,887
Capex	262,234	250,606	238,979	227,351	215,724	204,096	192,469	180,841	169,214
Post-Tax									
Revenue	(31,366)	6,651	43,058	79,468	115,139	151,765	187,169	222,403	257,490
Opex	201,282	180,114	158,886	136,618	115,139	93,798	72,371	50,140	28,255
Diesel	155,608	146,365	135,854	125,706	115,139	104,071	92,646	80,761	68,153
Capex	152,097	143,139	134,164	124,413	115,139	106,105	97,039	87,953	77,973

Table 14.7: Gold Price Sensitivity

Gold Price Sensitivity	$1,300	$1,400	$1,500	$1,600	$2,500
Pre-Tax					
$NPV_{5\%}$ (US$000's)	136,010	215,724	295,438	375,152	1,092,578
IRR	15%	20%	24%	28%	52%
Post-Tax					
$NPV_{5\%}$ (US$000's)	63,658	115,139	166,957	217,379	666,312
IRR	11%	15%	18%	21%	43%

15 Opportunities and Risks

15.1 Land and Legal

Public lands where the YGP is located are part of the aboriginal land claims process in Canada, wherein the Government of Canada is responding to the certain rights being asserted by the aboriginal people. It is uncertain how and when this process will come to a conclusion and what impact it may have on the YGP.

Whereas most of the mineral rights are subject to private royalties payable to the vendors, it may be possible to reduce the quantum of, or eliminate the royalties, within the terms of the purchase agreements, negotiations, or otherwise.

15.2 Geology and Resources

The primary risk associated with the resource estimates and the mining plan is in the geological models. The risk is mitigated as much as possible by the geological models being derived from observation of underground and surface exposures and diamond drill core.

The discovery of previously unknown gold mineralization is usual during mining operations due to occurrences of gold mineralization not encountered in diamond drill core. Mining operations also provide the opportunity for geological staff to improve the geological models.

The potential for the development of additional resource exists for the Ormsby, Nicholas Lake, Goodwin Lake and Clan Lake properties. The deposits are open laterally or vertically and additional diamond drilling has the potential to develop significant new gold resource.

The resource potential of the Ormsby deposit is limited laterally but unbounded vertically. Diamond drilling that defines the Ormsby gold resource demonstrates geological continuity to the bottom of the known gold resource, approximately 400 m below surface. Two deep diamond drill holes show the amphibolite and gold mineralization occur 650 m below the surface. The nearby Discovery Mine deposit, which produced 1,000,000 oz of gold from stopes as deep as 1,240 m below surface, suggests a possible vertical extent to the Ormsby deposit.

Diamond drilling limits the lateral extent of the Nicholas Lake deposit but the deposit is unbounded below the bottom of Nicholas Lake resource approximately 360 m below surface.

The Goodwin Lake property has some potential for diamond drilling to expand the Vad Zone resource and the property hosts a prospective metavolcanic unit with historical gold showings.

The Clan Lake Main Zone gold deposit is unbounded both laterally and vertically. Considering only the immediate vicinity of the Clan Lake Main Zone gold deposit, diamond drill programs have been conducted on only 25% to 30% of the area that surface prospecting has demonstrated to contain gold mineralization. The 10,381 acre Clan Lake property hosts highly prospective metavolcanic units and numerous gold showings over a 7 km north-south trend. All of the showings have geological and mineralogical similarities to the Clan Lake Zone gold deposit.

15.3 Open Pit Mining

Any potential resource expansion for Ormsby, Bruce, Nicholas Lake or associated targets along the mineralization trend would have the benefit of taking demand off the Ormsby open pit and potentially increasing the grade being fed through the plant. These additional resources would enable the production rate to be scaled back at Ormsby, thus reducing the sustaining capital required.

There is a history of mining within the YGC region. This will help sourcing of technical and hourly staff who wish to stay in the Yellowknife area rather than commuting to the far north mining operations. Yellowknife also has good infrastructure to support mining operations.

A dedicated all-weather road would remove the risk of fuel shortages and ability to source critical spares. Although this is possible to alleviate with heavy lift helicopters, there would be a significant cost savings. The additional benefit would include cheaper transportation rates for Nicholas Lake and Clan Lake.

Increased slope angles will allow the open pit to reduce the overall strip ratio and at the same time increase the potential open pit reserves. Depending on economics it may be possible to liberate the high grade ore currently being targeted by underground operations below the current pit floor.

After open pit operations commence, the quantity and quality of ore will soon be realized and the grade model calibrated. This reconciliation may or may not improve the quality of ore but has the potential to fill in the blanks if the mineralization is more consistent than that realized from drill core.

The mineralization of the Ormsby deposit is controlled by the level of silicification rather than lithological control. As such, it will not be possible to proportion the effect of the selective mining unit on the mineralization control. Therefore, the estimation of composited gold into the selective mining unit is the only inherent dilution applied to the Ormsby model. To counter this, a 3 m x 3 m blast pattern in ore combined with two samples per hole has been costed in the model. From an operational perspective, it will be vital to ensure the information sampled is made available for precise selective mining of the ore by excavator operators.

Where possible, at least 60 m was left between phase walls that formed the basis of the production schedule. While this is adequate for a FS, careful control of pit congestion and blasted inventory will need to be monitored to determine if this mining width is adequate.

Fuel must be transported in once a year via the ice road; if estimates are incorrect, there is the risk production targets will not be met.

Labor rates and cost escalation will all play a part in mining to an economical level given the geographical location of the deposit.

Drill and blast operations are relatively expensive. Due to the grade control requirement the 0.6 kg/t powder factor for ore is sufficient but waste uses a 0.25 kg/t powder factor that was based on the assumption that the rock shatters well (as indicated during underground operations when the Ormsby decline was driven). If this assumption is incorrect and fragmentation becomes a problem, drill and blast cost may escalate.

Acid rock drainage and metals base accounting indicate that the potential for oxidation and liberation of deleterious elements will be slow but do exist. It will be important to instill an operational culture that understands the negative effects of acid rock drainage (ARD) and ensure potentially acid generating material is encapsulated as specified in the Waste Rock Facility plan.

15.4 Underground Mining

There is an opportunity to mine a greater proportion of the orebody than has been presented in this design. A long-term gold price of US$1,250/oz has been used to calculate the CoG and hence the stoping limits. However, the current gold price is higher and if used to plan the short-term production, would result in a lower CoG. This would lead to more material being included within the economic stope limits.

In the preparation of the ore reserve estimate, all inferred material had its grade zeroed and was in effect treated as waste dilution. In the current reserve design for Nicholas Lake, approximately 720,000 t of inferred material at 3.56 g/t was set to zero gold grade but was included in the design. In the current reserve design for Ormsby underground, approximately 17,000 t of inferred material at 2.46 g/t was set to zero gold grade but was included in the design.

There is potential to improve the efficiency of the ventilation system during the detailed design phase, thus optimizing the power requirements, capital equipment cost and possibly access drift sizes.

As with all underground mining operations, ground conditions pose a significant risk. The most effective defense against risk from poor ground conditions is a sound engineering practice, good miner training, well-motivated supervision and a high degree of management focus on safety and standards.

If the pre-mining stresses are higher than assumed the mining of near stopes could become difficult. If this is the case, then the last stope in a block would have to be cut shorter to alleviate the stresses in the next stope block.

It may be difficult to achieve the 8 m per day development rate in long dead-end drifts. The current production schedule allows for multiple headings. This should allow the higher development rate by allowing the equipment to be moved to different locations and not being clustered in one heading.

15.5 Process and Recovery

There are opportunities to reduce both the capital cost as well as the operating cost for the Tyhee project.

Capital equipment prices are based on feasibility-level quotes and proposals provided by equipment vendors. No negotiation has taken place and there are opportunities to negotiate better pricing, as well as bundling equipment, to secure greater discounts.

There are also opportunities for reducing reagent consumption and cost by tuning the process. The laboratory program did not extensively test all possible reagent choices nor did the program attempt to optimize dosages for the reagents used. These optimizations are best determined in the full scale operation. For instance, the reagent dosages need to account for the use of reclaim water which will contain residual reagent. The effect of this reclaim on the process can only be determined in the full scale operation but typically will reduce reagent additions as a result of the recycled reagent

Some other parts of the process can be adjusted, such as the degree of pre-leach aeration, air addition to the leaching tanks, carbon transfer frequency, etc. Again, these adjustments are best tested in operation and may change as with the natural variations in the ore.

There is also an opportunity to improve on the overall recoveries for the Nicholas Lake ore. The initial work completed Inspectorate on Nicholas Lake composites as part of the PFS indicated that significantly higher flotation recoveries (~10% higher) are possible, than the recoveries obtained for the Nicholas Lake composites tested as part of the FS. This could translate into an overall recovery improvement of up to 8% on the Nicholas Lake ores if similar recoveries to the PFS can be obtained. The differences in the recoveries are not well understood at this time and further work has been commissioned to better understand the differences. The recovery data used in this FS use the lower, more recently developed, recoveries for the Nicholas lake ore, as determined by the second series of tests.

As a general statement, the concentrator process design for Tyhee's YGP uses technologies and systems that are well proven and in use throughout the gold industry. Further, the proposed process has been tested on a selection of samples from the project ore bodies. Therefore, the risks for this process are low, and only those encountered in most mineral development projects. The proposed process ***will*** recover gold from the ore and is likely to achieve the projected recoveries.

Specific risks in the process are that various unit operations may not achieve optimum recovery as designed. Extensive test data is available, but it is restricted to a limited number of composite samples. Variations in the ore may require changes in the operation of the plant, including but not limited to, grind size and reagent additions. Adjustments will need to be made in the field to account for any variations in the response of the ore if it differs from the composite sample(s) tested at Inspectorate. Adequate design margin has been incorporated into the design to allow for anticipated possible variations in the ore.

Comminution consumables, both crusher and mill liners, as well as grinding media, are estimated based on limited data. Allowances have been made to ensure a reasonable buffer is available for the first year of operation. There is both a risk and an opportunity that comminution consumables consumption could differ from the design values. The values used are relatively conservative, but significant variations from the design value are possible. Optimization of the metallurgy for both the liners and the grinding media is a normal process. The cost of freight will put an emphasis on quality and life rather than cost. If adequate inventory is kept on site, the only risk is that of increasing OPEX due to increased consumables requirement.

The rest of the concentrator is deliberately designed to be flexible and allow for adjustments in operation. This will mitigate most risks in processing. Again the risks are not that the process will or won't work, the risks are that the process may leave more gold in the tailings than an optimum process would recover.

A significant fraction of the OPEX is power generation, which is 100% reliant on diesel fuel. The OPEX is therefore sensitive to increases in the delivered cost of diesel fuel.

To a lesser extent, pricing on other reagents and consumables, as well as transport costs to site, impact the OPEX. Changes in the reagent prices, most notably cyanide, will impact the operating costs.

15.6 Infrastructure

It is probable that the "minimum 2 m" of excavation required to remove all fractured and weathered rock from the surface will not be necessary everywhere. This will be assessed during the detailed engineering phase, as well as during construction as differing clearing practices can result in cost savings. Reducing the quantity of blast and backfill will provide both cost savings as well as have a positive influence on the construction schedule.

Transformer, MCC, and switchgear sizes are conservative to mitigate possible risks associated with the lack of electrical data. Further design information may reduce the size of the equipment, providing an opportunity for a reduction in the CAPEX.

Lighting was estimated per recommendations in the appropriate building codes, which is commonly considered a conservative estimate. A review of lighting requirements, lighting options and optimized building design could reduce the lighting requirements, providing a saving both in the OPEX and the CAPEX.

The availability of quality aggregate for the use as both concrete and structural fill is currently under evaluation. At this time tests indicate a higher amount of fine aggregate than is acceptable for a competent concrete mix. However this can be mitigated by screening out the fine material, or by blending material from the multiple borrow sites available to the project. The risk is considered to be small and will only have an impact on the cost of the aggregate material insomuch as it will require an additional screening stage. Adequate quantities are available.

Currently there has not been extensive testing done to the local water sources to determine whether or not they can be used in the production of concrete. Testing will have to be completed in conformance with ASTM C1602 standards. This is considered a low risk to cost and schedule as it has been determined that the local water sources are acceptable as potable water with minimal treatment, and high levels of contaminants are unlikely.

Power factor correction is currently excluded under the assumption that the system will operate at an acceptable power factor, with minimal impact on the OPEX. This will be reviewed in the detailed design phase of the project. Additionally, a full ground and lightning analysis was not performed, and the costs are estimated using the best available information.

15.7 Tailings Containment Area

The following list presents either risks or opportunities that may impact the value or consequences of the project. These should be assessed further as part of future phases of design.

- Limited borrow materials on site. It is cost prohibitive to haul materials into site due to access.
- Necessity to pump water from Giauque into Narrow Lake to restore "base flow" conditions during operations.
- It is currently unclear how ore from Clan, Nicholas, and Bruce Lake mining operations will affect the water quality of the decant pond within the TCA. This may impact the ability to discharge waters during operations which meet the MMER and CCME guidelines, without additional treatment though. As noted above no planned discharges are expected and therefore the risk is deemed low.

- Additional subsurface investigation work may be required to evaluate the site groundwater regime.
- Potential for better/worse storage efficiency in the TCA than has been estimated for this FS. Tailings density results from the consolidation model have been reduced by approximately 12% to account for ice lensing and ground freezing of the flotation tailings during operations. This is based on experience in similar environments, but is dependent on site conditions and operations during the life of the TCA, and this may either under- or over- estimate the density of the placed tailings.
- It is currently assumed that there will be sufficient non-PAG waste rock available for early stages of construction for the TCA dams.
- Some PAG material may be used for construction of the divider causeways or the upstream shell material of early stages of dam construction. By doing this, the materials will be inundated and this may limit potential oxidation.
- There may be additional opportunities for TCA expansions beyond the two described herein. These would allow for additional tailings processing and storage due to potential increases in mine reserves.

15.8 Environment, Permits, Licenses and Authorizations

The YGP will provide the opportunity to improve the projects economics and minimize environmental impacts by:

- Shorter haulage distance for waste rock storage to the areas by increasing height of waste dumps;
- Minimize the environmental impacts from the YGP operations by placing the waste rock storage area over a portion of the Discovery Mine Tailings cap and the area between Winter and Narrow Lakes; and
- The points mentioned above keeps the majority of project activities and the environmental impacts contained within the “brown-field” site of the Discovery Mine.

Risks related to the YGP and to some degree related to the opportunities mentioned above are:

- Assuming the environmental liability related to the deposition of waste rock on the Discovery Mine tailings cap is something Tyhee is aware of and based on project economics the assumption of this liability is seen to be acceptable.
- Although the geochemistry of the various ore zones are seen not to be an issue in the long term, Tyhee will monitor the waste rock piles during operations and any mitigative measures required to address these issues, will be implemented.

15.9 Community Relations and Social Responsibility

The YGP will provide additional employment and business opportunities to the residents of the NWT and to the affected First Nations business organizations and their people within whose territory the YGP is located. This will give them the opportunity to participate in the mineral sector while providing a high standard of living for them and their families.

The recently announced Social Responsibility Statement will provide the foundation to working with the affected First Nations and all stakeholders in a socially responsible manner, which Tyhee is committed to doing. This commitment includes but is not limited to developing an Impact Benefit Agreement with the affected First Nations groups.

Risks related to the YGP could be related to the following:

- Tyhee must recognize the involvement of the First Nations groups within whose territory the YGP is located and must accommodate them to participate in the Project by not only employment opportunities but also by meaningful business opportunities.
- If the Operation does not achieve funding or environmental permits, the potential economic benefits from the mine will not eventuate.
- Reaching an agreement with the affected First Nations is seen to be critical to the success of the YGP and failure to reach such an agreement in a timely manner may be a risk to the YGP meeting its production schedule.

15.10 Project Implementation

The study is currently at a feasibility-level with opportunity to optimize the implementation plan. In particular, three opportunities exist:

a) Optimized Cash Flow. There are significant opportunities to optimize the cash flow of the Project. In particular, payment terms, delivery requirements, and the 2014 and 2015 construction periods can all still be optimized to improve overall project cash flow.

b) Accelerated Schedule. Once discussions with equipment vendors and site construction contractors are complete, opportunities will be evaluated to shorten the construction schedule and bring the plant on line earlier than currently scheduled.

c) Construction Schedule and Costs. There is an opportunity to improve on the estimates for the construction work. Negotiations with potential contractors will highlight possible savings in time estimates due to an optimized construction schedule.

Logistics provide the single largest risk of this project. Late deliveries (deliveries that miss the required ice road availability) will significantly impact delivery cost and the construction schedule. Items that can be airlifted on a DASH 7 aircraft can be brought to site at a relatively modest cost. Items larger than the carrying capacity of a Dash 7 would need to wait for the following ice road. Measures in place to manage this risk include:

- Early delivery of critical equipment to the Yellowknife marshaling yard, providing an adequate buffer between availability of equipment;
- Careful selection of vendors with proven delivery track records, and control of fabrication facilities selected by the vendors; and
- Extension of the construction period to provide access to two ice roads, with adequate time available ahead of the 2015 ice road to ensure timeous delivery.

The weather provides an additional risk. Mild winters will affect the duration of the ice road. Long winters will affect the length of the spring to fall construction period. Measures in place to manage this risk include:

- A construction period extended over two summers. This minimized the work scheduled during the harsh winter months, specifically outdoor activities. The schedule also allows for construction delays (if present) to be managed by extending construction over the winter months or providing additional crews in the summer construction period. Any shortfalls observed in the pace of construction in 2014 can be remedied in 2015 either by an early start, or by increasing the availability of construction personnel on site.

- Any shortfall in the 2014 winter road can be accommodated in the 2015 winter road. By extending the construction period (and the subsequent deliveries to site over two winter roads) the load on the road in any one season will be significantly reduced.

A detailed construction plan has not been generated in conjunction with a construction company. Extensive discussions have, however, taken place with construction contractors familiar with, and experienced in, construction in the NWT. These discussions included, but were not limited to, project and site specific labor rates and efficiencies, general construction schedules and manpower loadings. There is some risk to the construction cost until detailed plans and estimates are developed as part of the EPCM phase.

15.11 Operations Plan

Tyhee may not be able to find adequately skilled people among the aboriginal community and thus not be able to extend employment offers in synch with aboriginal community's expectations. Tyhee may need to implement additional training programs to mitigate this potential risk.

In view of acute shortage in certain high technology trades, Tyhee may not be able to fill some of the key positions on a permanent basis thus requiring contractor personnel to perform some tasks at a much higher cost. Rotational work and high turnover make it difficult to organize the workforce into a labor union, which in turn allows greater flexibility for the employer to manage. Additionally the two week on/off schedule is seen as attractive to many potential employees.

Should the efforts to recruit among residents of Canada prove to be difficult, it may be possible to obtain necessary approvals from Citizenship and Immigration Canada for Temporary Foreign Workers.

16 Conclusions and Recommendations

16.1 Geotechnical Mine Design

More exploration drilling should be conducted at Clan Lake and Bruce Lake to delineate the extents of the rock quality along strike and at depth. Both rock mass characterization of coreholes and laboratory testing of samples should be conducted. The additional data will support estimated pit slope geometry and can be used to examine kinematic block stability of benches due to fracture intersections. Kinematic stability analyses should be performed using site-specific data for the Clan Lake and Bruce Lake pits to check local bench stability.

Numerical stress analyses of critical sections the Ormsby, Clan Lake and Bruce Lake pits should be conducted to more accurately account for pre-mining state of stress and groundwater conditions that influence slope stability. These analyses would be especially important if the overall pit slope is steepened by 5° to 8° and the Ormsby pit is deepened.

Stability analyses of the Ormsby underground stopes should be performed to verify hangingwall stability in the presence of jointed rock mass. Empirical design methods are less certain because of the unfavorable dip of the orebody relative to gravitational block stability. Numerical modeling should also be used to identify the depth of distressing that controls dilution of low-angle stopes (less than 40° dip).

16.2 Open Pit Mining

Through the process of pit optimization, fleet estimation, mine design, production scheduling and economic modeling, the YGP open pit operations have been sized and estimated appropriately at a feasibility-level. SRK has estimated a mining cost of US$1.81/t mined for insitu operations and an additional US$1.37 for re-handle material over the life of mine. Combined with a ramp-up to 75 kt/d, the benefit of high production rates, grade bin schedule and support from underground operations, SRK is of the opinion the costs estimated are reasonable at the present time (2012).

Open pit mine capital is estimated at US$23.5 million with an addition US$33.6 million in sustaining capital that includes new purchases and major equipment rebuilds.

SRK is of the opinion further work programs should include:

- Detailed monthly scheduling and haul profile estimation for the first three years of production that is linked into a short term economic model;
- In-fill drilling carried out on material mined in the first three years;
- Operational guidelines for treatment of any ARD waste rock;
- Fragmentation study to better identify optimal drill spacing and powder factors;
- Detailed schedule for pre-production earthworks;
- Continued discussion with vendors for equipment quotes and detailed fuel usage;
- Analysis of underground voids at Bruce Lake;
- Continued resource drilling at Clan Lake;
- Further discussions about all-weather roads from Yellowknife; and
- More defined estimates of groundwater in-flow from local fractures/structures into the pit.

16.3 Underground Mining

The Tyhee FS underground mine design and production schedule presents a reasonably conservative estimate of the ore that can be economically and safely extracted from the geologic model. Only ore reserves determined from the indicated resource is evaluated in the design for gold content.

The longhole stoping mine design that is applied to the orebody is a widely used method in the industry and was used successfully at the Discovery mine.

The mine production schedule achieves a consistent production rate within a reasonable ramp-up period and waste development is able to keep up with the demands of stope production.

Nicholas Lake reserves are calculated to include 2,029 kt of ore at an average grade of 3.14 g/t using a CoG of 2.0 g/t. Ormsby underground reserves are calculated to include 772 kt of ore at an average grade of 3.49 g/t using a CoG of 2.0 g/t.

SRK is of the opinion that Tyhee should:

- Proceed with the detailed design phase;
- Hire key underground technical and management staff on a priority basis to facilitate the detailed design phase;
- Order long lead time capital equipment on a priority basis;
- Review the use of a lower CoG in the short term mining plan to take advantage of the high gold price to increase the amount of gold recovered from the resource;
- Optimize the ventilation and electrical power systems; and
- Carry out detailed geotechnical studies.

16.4 Metallurgy

The following conclusions and recommendations are made regarding the metallurgical program that was conducted in support of the YGP FS:

- The Ormsby, Nicholas Lake and Clan Lake metallurgical composites found to be highly amenable to gold recovery by conventional processing methodologies that included gravity concentration, gold flotation from the gravity tailing and cyanide leaching of the flotation concentrates.
- Overall gold recovery for Ormsby and Clan Lake is projected at 92% and gold recovery for Nicholas Lake is projected at 82%.
- A primary grind of P_{80} 120 μm was determined for the Ormsby and Nicholas Lake Master composites and a coarser primary grind of P_{80} 150 μm was determined for the Clan Lake Master composite.
- A rougher concentrate regrind size of P_{80} 35 to 40 μm was established for Ormsby. In addition, rougher flotation concentrate regrind sizes of P_{80} 74 μm for Nicholas Lake and P_{80} 120 μm for Clan Lake were determined.
- Cyanide leach residues can be detoxified using the industry standard SO_2/air process.

16.5 Process and Recovery

Process and recovery conclusions are:

- The process plant (concentrator) has been designed based on an extensive laboratory testing program using a bulk sample and core material from the Ormsby ore body.
- The process uses standard, proven processes that have been demonstrated to work in the laboratory testing program.
- The particular process using gravity and flotation for primary gold recovery and cyanide leaching of flotation concentrate was chosen to reduce the plant footprint due to the location in northern Canada.
- The concentrator has been designed to process 4,000 t/d of ore.
- There are two primary grinding/gravity/flotation lines with a capacity of 2,000 t/d each to allow for turn down.
- Equipment sizing and selection has emphasized flexibility of operation.
- A mass and water balance model of the projected plant has been created in Metsim simulation software.
- A drawing package including: Process Flow Diagrams, General Arrangement Drawings, preliminary Piping and Instrumentation Drawings, preliminary Single Line Electrical Drawings, etc. have been created to allow cost estimation to the desired accuracy.
- An operating cost estimate has been produced. Average annual operating cost is projected to be US$32.813 million. Average operating cost per tonne of ore is projected to be US$22.47 and average concentrator operating cost per ounce of gold produced is projected to be US$329.
- The capital cost estimate for the concentrator is US$124.017 million. Of that total, US$100.628 are direct costs and US$$23.389 million are indirect costs.

Recommendations are:

- Crushability Testing - Crusher selection is currently based on Bond Grindability Tests. Additional testwork is required to determine the crushability index for the Ormsby ore. The preferred crushability test will be vendor specific. Samples should be provided to crushing equipment vendors for vendor specific testing for crusher sizing and power usage before equipment selection is finalized.
- Settling Rate Determination - Due to the size and expense of thickeners, determining the minimum settling area required can have a significant effect on capital costs. For this reason, additional sedimentation testing is highly recommended during the detailed design phase. If sufficient sample can be produced (15 kg each of tailings and cleaner flotation concentrate), dynamic settling tests can be conducted. Dynamic tests are considered the most accurate for critical thickener sizing. These tests can be conducted by thickener vendors, but that would require multiple samples (one for each vendor). An alternative is to have the testing run at an independent laboratory that is acceptable to all vendors.

16.6 Infrastructure

Infrastructure conclusions and recommendations are:

- Infrastructure exists on site including a 50 bed mancamp, limited fuel storage, limited power generation capacity, and access roads on site. These will need to be augmented for the construction and operation phases of the project, but they are available as initial infrastructure for mobilization.

- Primary access to site for bulk goods will be a seasonal ice road, which will be specifically prepared for this site. Manpower and perishables will utilize air transport from Yellowknife to site.
- All infrastructures required for the continuous operation of the mine have been included in the cost estimate. These include the crusher building, mill concentrator building, power generation, warehousing, administrative offices, workshops, mobile equipment maintenance facility, diesel and reagent storage, spares laydown area, and mancamp.
- All heat requirements for the heating of the workspaces will be provided by recovered heat form the power generation units. No additional fuel will be required for heating with the possible exception of the mancamp.
- Further geotechnical testing will need to be completed for the aggregate for concrete mix design, as well as for the design of the engineered fill.

16.7 Tailings Containment Area

The TCA has been designed to contain both the flotation and CIL tailings and associated waters produced over the 11 years mine life. This corresponds to approximately 15 Mt of tailing, split 94%/6% by weight for the flotation/CIL tailings, respectively. The basin has been subdivided into a northern, southern, and central cell, separated by internal divider causeways. The northern and southern cell will be dedicated to flotation tailings storage; whereas, the central cell will contain both flotation and CIL tailings. The CIL tailings will be deposited subaqueously in the western portion of this central cell, below the operational decant pond. The divider causeways will allow water pass between the cells but retain solids allowing for the pond to develop in the area of the CIL deposition and provide enough pond volume (and depth) such that decant waters can be returned to the process plant all year, when available. Due to potential mine expansions, additional tailings produced after 11 years of operations will need to be stored in TCA expansions which are currently designed to a conceptual level. These expansions are currently able to contain approximately 5 Mt of additional tailing, per the potential expanded mine plan.

Additional work to be performed in support of the final design of the TCA would include, but not be limited to, the following:

- Additional geochemical testing on a sample representative of the supernatant pond waters produced when liberated waters from the CIL and flotation tailings are mixed;
- Additional geochemical testing on samples representative of the waste rock being used for construction of the TCA dams. This should include both waste rock from the Ormsby pit for construction of the TCA dams and the waste rock from plant site construction used for use in the cofferdam;
- Final design-level subsurface site investigations in select areas including geotechnical laboratory testing, including a study to estimate available borrow material quantities;
- Finalization of the embankment sections including foundation excavation limits for use in final designs;
- Additional subsurface investigation to support a site-wide hydrogeologic evaluation of the project area;

- Final design-level study and design of the run-off collection channels and ponds. Finalization of the Winter Lake dewatering system including cofferdam section and construction sequence;
- Final design of tailings distribution system and water reclaim system considering a potential economic trade-off study for different system options. This will include the preparation of an operations manual for the operation of both of these systems;
- Final design of potential expansion options to increase the TCA capacity from 15 to 20.3 Mt;
- Conduct a dam break analysis in potentially impacted drainages;
- Conduct a site specific seismic hazard assessment;
- Preparation of technical specifications and construction QA/QC plans. This will include a study of the blending ratio of esker to lacustrine sediments necessary for construction of the cofferdam and zoned embankment cores. Additionally, a specification will be needed to provide guidance as to how these materials are to be blended to provide sufficient mixing during construction;
- Preparation of the TCA instrumentation and monitoring program; and
- Preparation of an Emergency Action Plan (EAP).

The final design phase will include preparation of design drawings in sufficient detail for use during construction and an updated quantity and cost estimate to a final design-level. Services during construction include resident engineering, home office support, and construction QA/QC services.

16.8 Project Implementation

Conclusions and recommendations are as follows:

- The detailed design, procurements schedule and construction schedule will need to be designed specifically around the availability of the seasonal ice road.
- An accelerated procurement schedule will be required for some equipment choices.
- The logistics associated with the procurement, transport of equipment, and construction of the plant, will be of primary importance. There is however adequate experience available for construction in the NWT to ensure a successful execution of the project with minimized risk to either the cost or the schedule.

16.9 Environment, Permits, Licenses and Authorizations

Tyhee is very confident that the YGP can be constructed, operated and closed in an acceptable manner and in accordance with the issued operating water license and land use permits.

16.10 Community Relations and Social Responsibility

Tyhee will construct, operate and close the YGP in a responsible manner keeping in mind the values of the affected First Nations groups and as Tyhee committed in its Social Responsibility Statement.

Based on new information and economics provided by the FS, a revised socio economic assessment will be conducted during the EPCM phase of the project. This new assessment will detail the direct economic effects and disbursements to local, state and regional governments and estimate the project multiplier effect at large.

16.11 Financial Modeling

SRK is of the opinion that the economic model presented and discussed in this volume meets current industry standards. The base case economic analysis results indicate a pre-tax net present value of US$215.7 million at a 5% discount rate with an IRR of 20%.

This analysis suggests that the project is most sensitive to market price. Operating costs are more sensitive than capital costs due primarily to the diesel fuel price. The project is very sensitive to the discount rate due to the extended preproduction period.

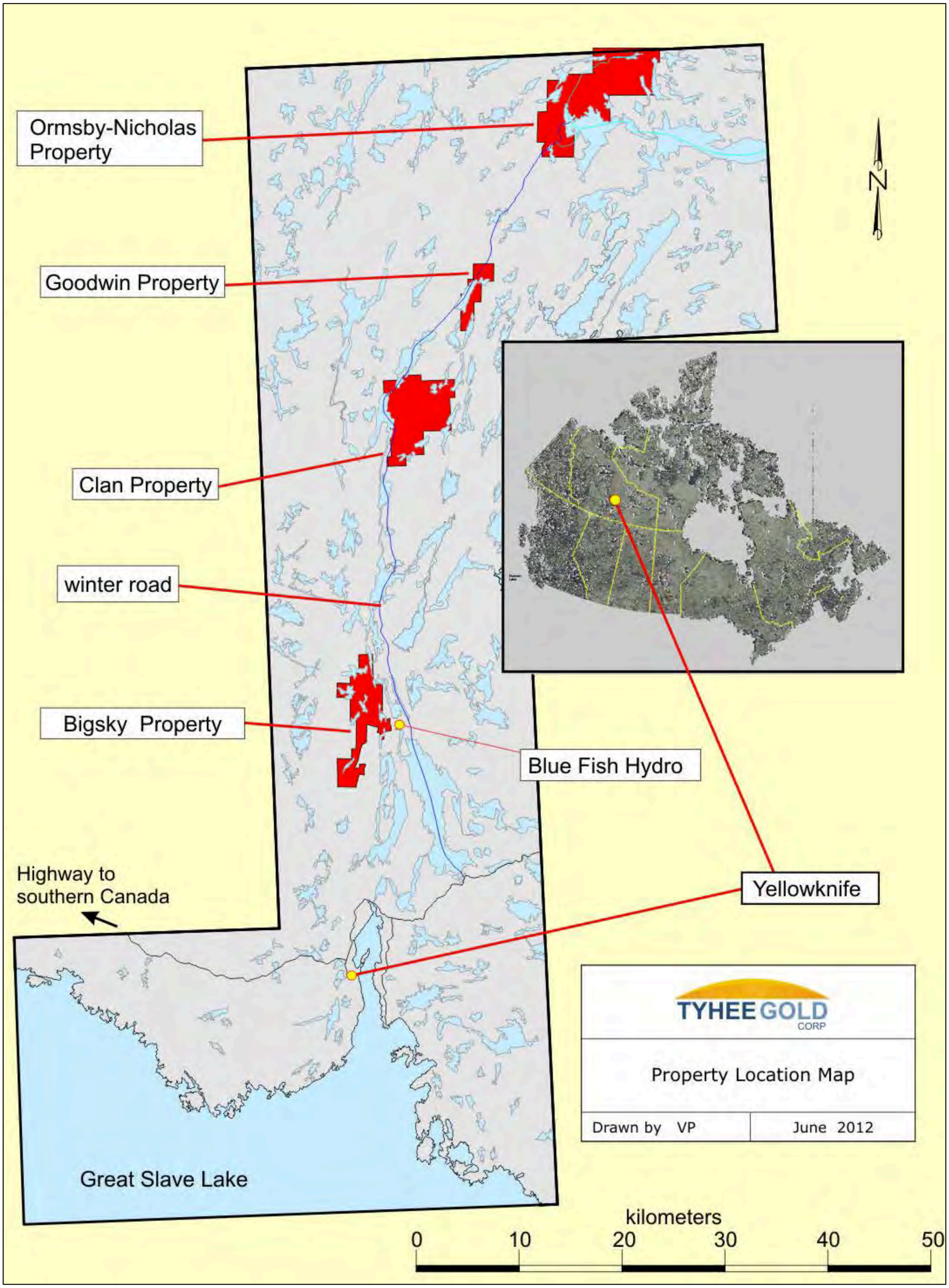
Disclaimer

The opinions expressed in this Report have been based on the information supplied to SRK Consulting (U.S.), Inc. (SRK), Lyntek Inc. (Lyntek) and Knight Piésold (KP) by Tyhee Gold Corp. (Tyhee). These opinions are provided in response to a specific request from Tyhee to do so, and are subject to the contractual terms between SRK, Lyntek, KP and Tyhee. SRK, Lyntek and KP have exercised all due care in reviewing the supplied information. Whilst SRK, Lyntek and KP have compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK, Lyntek and KP do not accept responsibility for any errors or omissions in the supplied information and do not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of SRK, Lyntek and KP's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report.

Copyright

This report is protected by copyright vested in SRK Consulting (U.S.), Inc. It may not be reproduced or transmitted in any form or by any means whatsoever to any person without the written permission of the copyright holder, SRK except for the purpose as set out in this report.

Figures



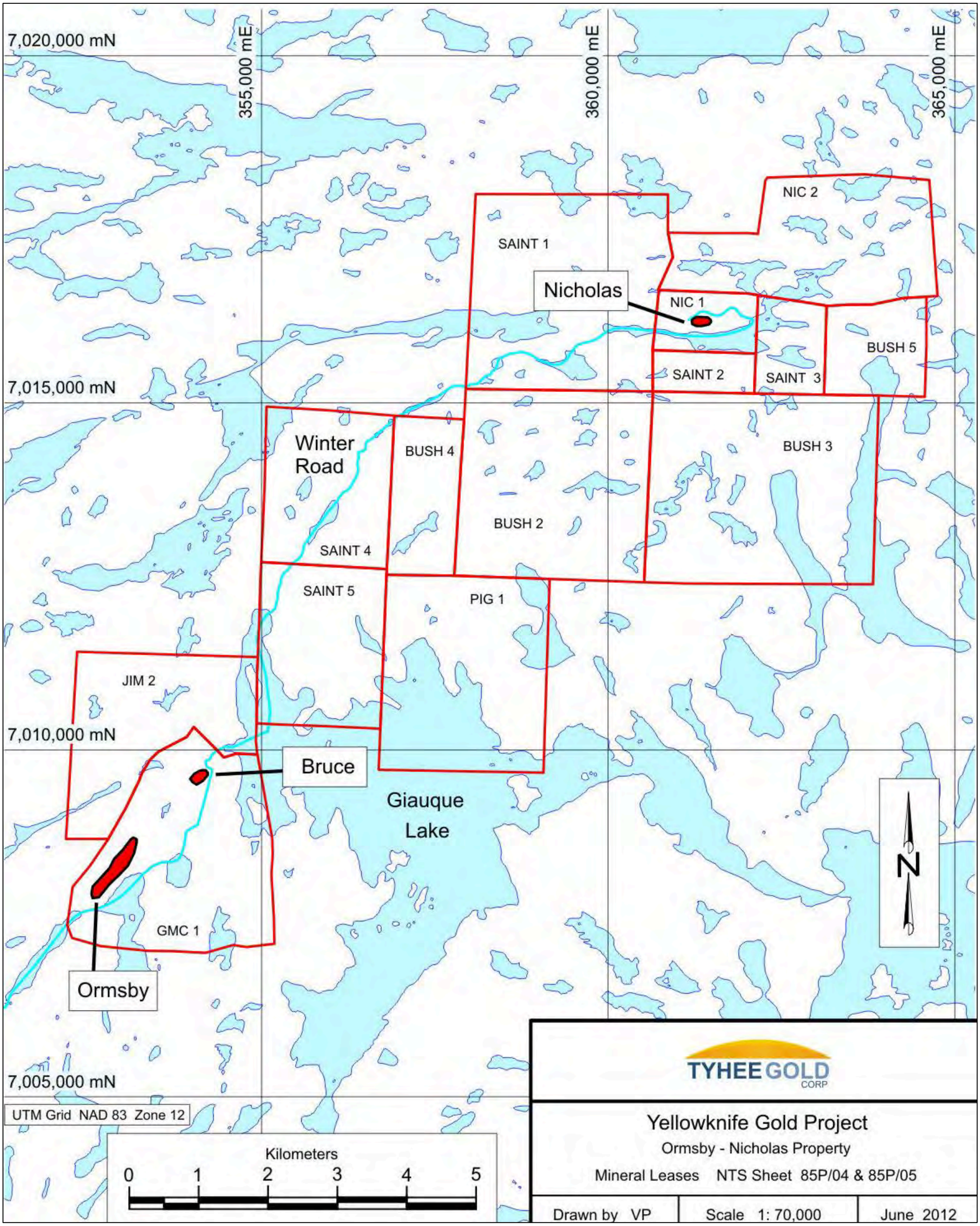
srk consulting

Yellowknife Gold Project, Northwest Territories, Canada

Source: Tyhee, 2012

Figure 1-1

Property Location Map



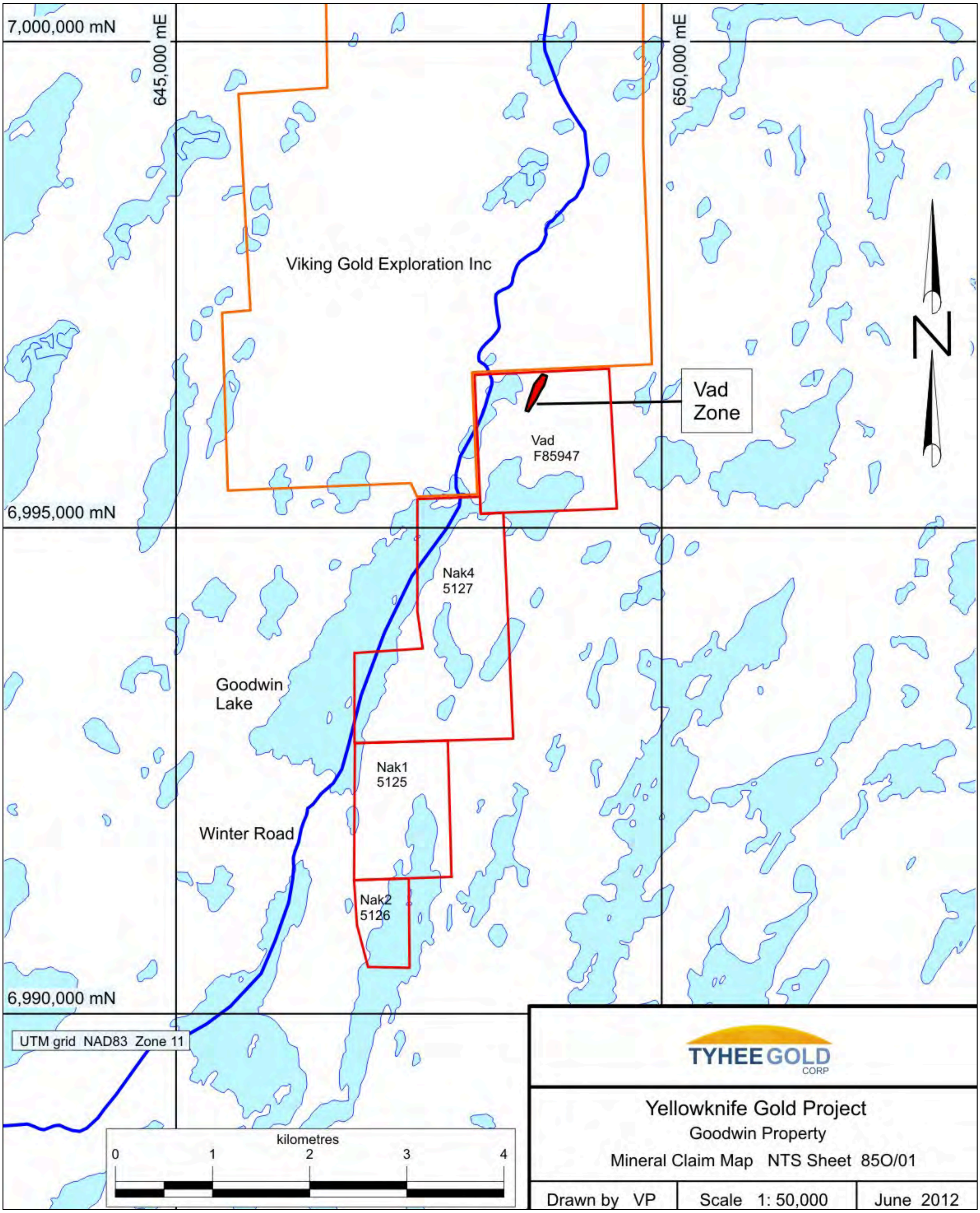
srk consulting

Yellowknife Gold Project, Northwest Territories, Canada

Source: Tyhee, 2012

Figure 1-2

Ormsby – Nicholas Lake Property Mining Lease Map



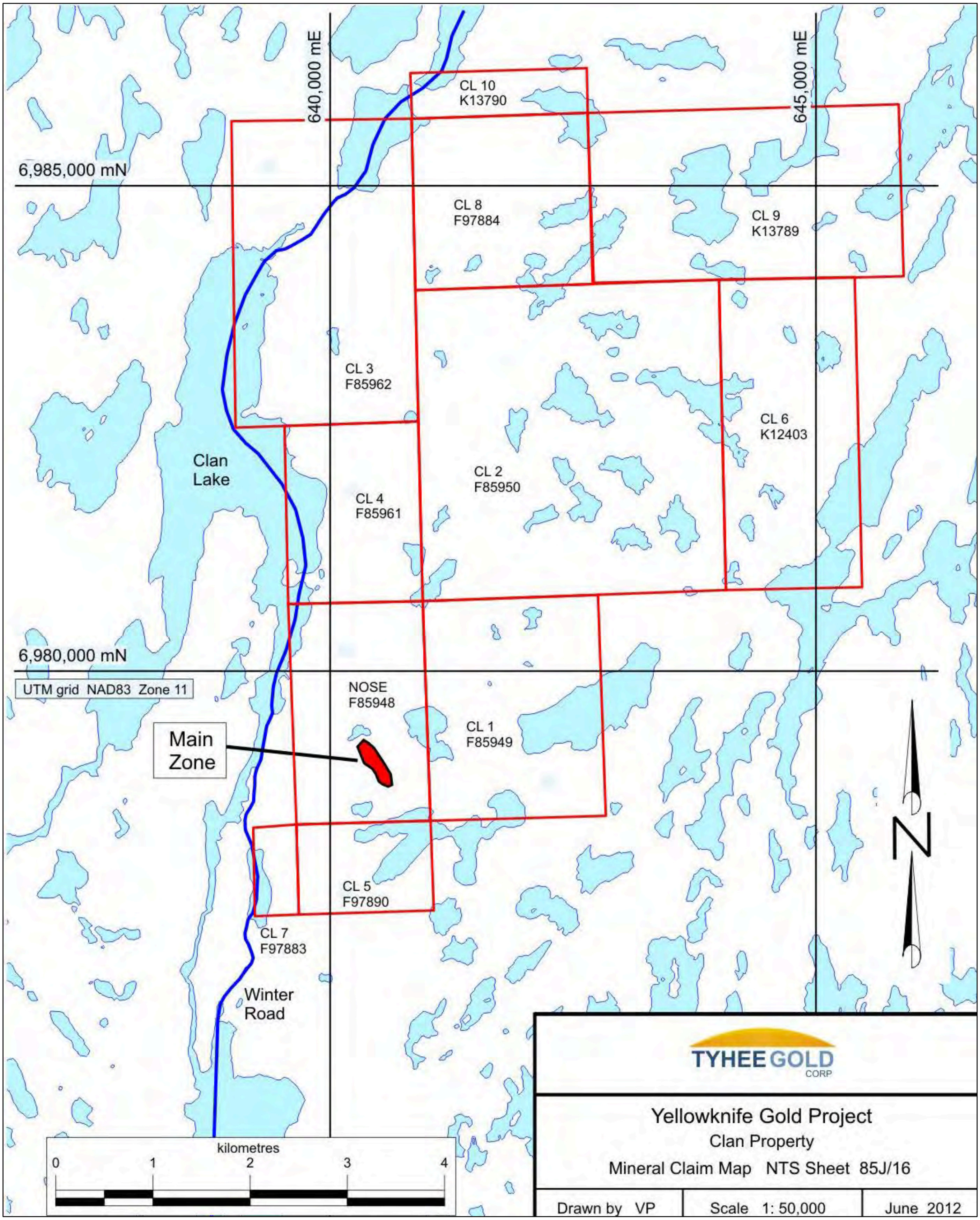
srk consulting

Yellowknife Gold Project, Northwest Territories, Canada

Source: Tyhee, 2012

Figure 1-3

Goodwin Lake Property Mining Lease and Mineral Claim Map



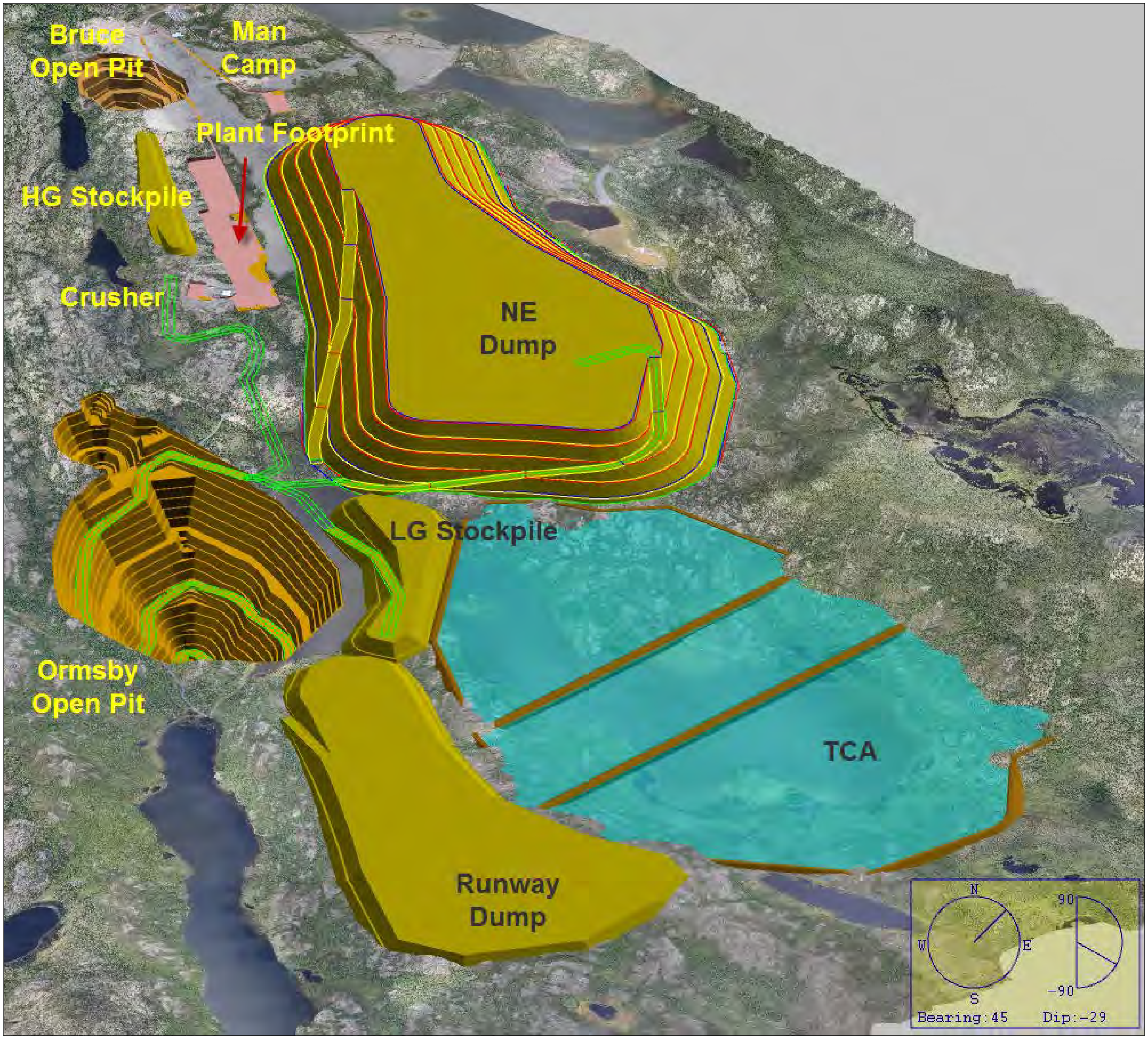
srk consulting

Yellowknife Gold Project, Northwest Territories, Canada

Source: Tyhee, 2012

Figure 1-4

Clan Lake Property Mineral Claim Map

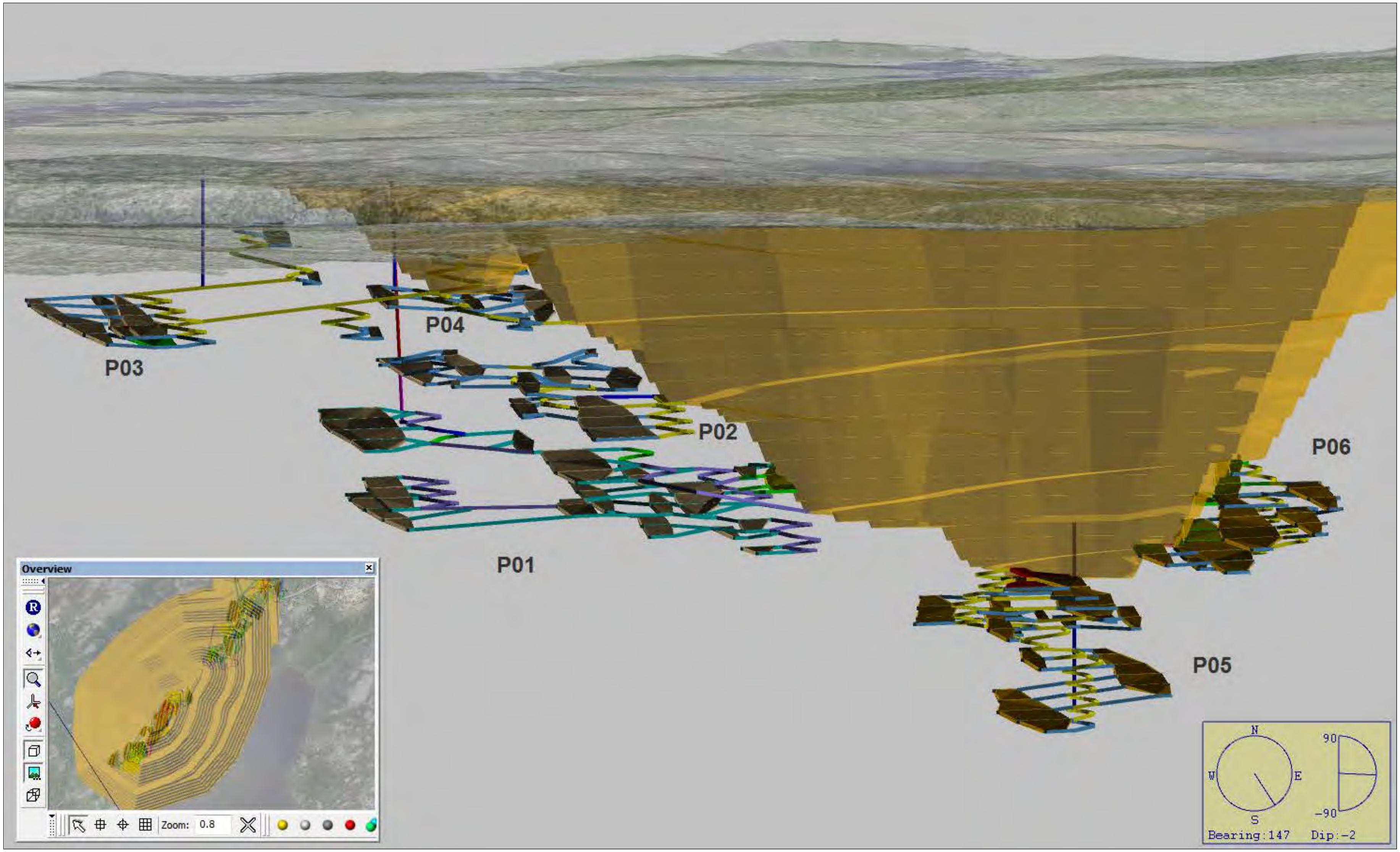


srk consulting

Yellowknife Gold Project,
Northwest Territories, Canada

Figure 5-1

Perspective View of Ormsby

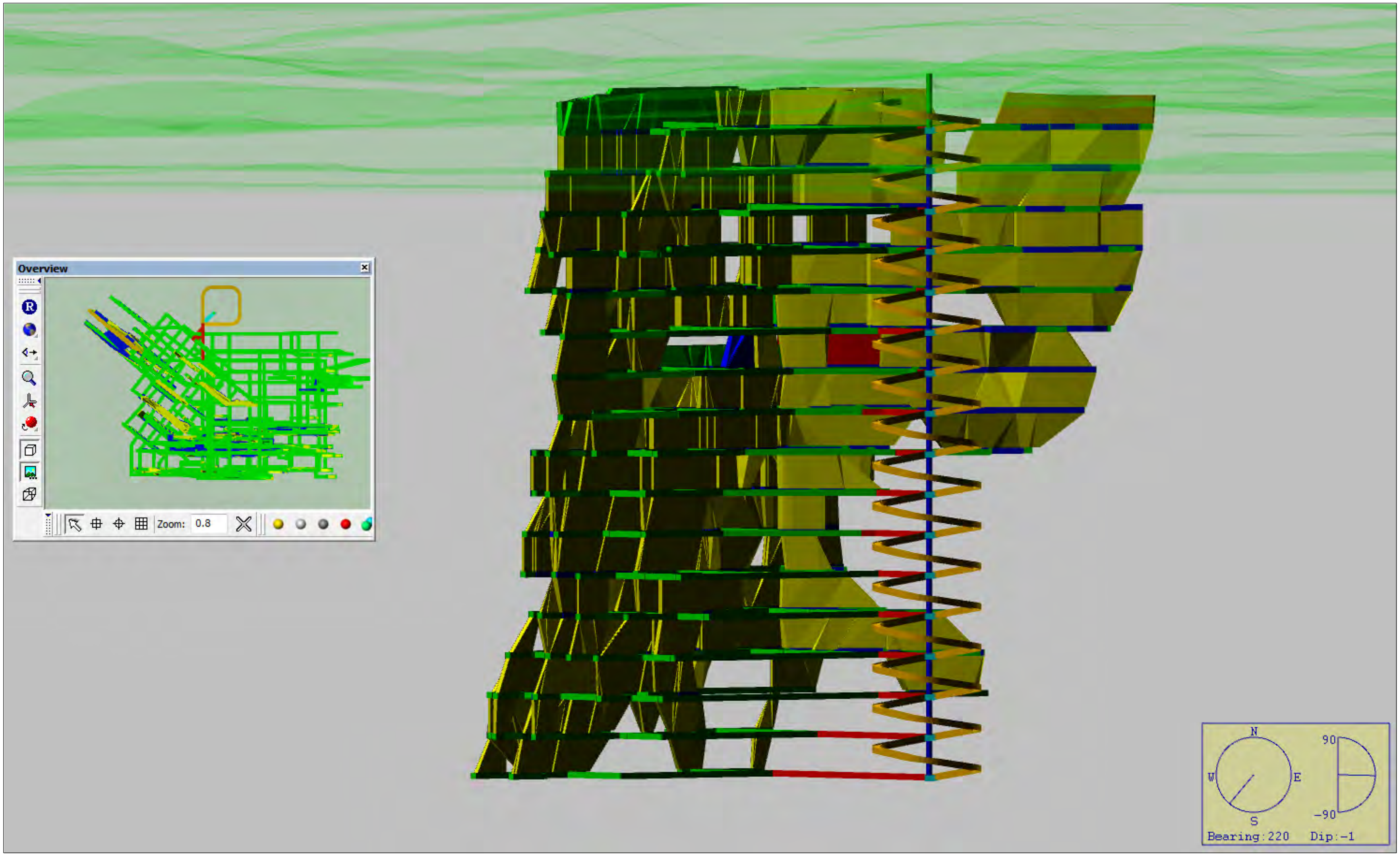


srk consulting

Yellowknife Gold Project,
Northwest Territories, Canada

Figure 5-2

Ormsby Underground

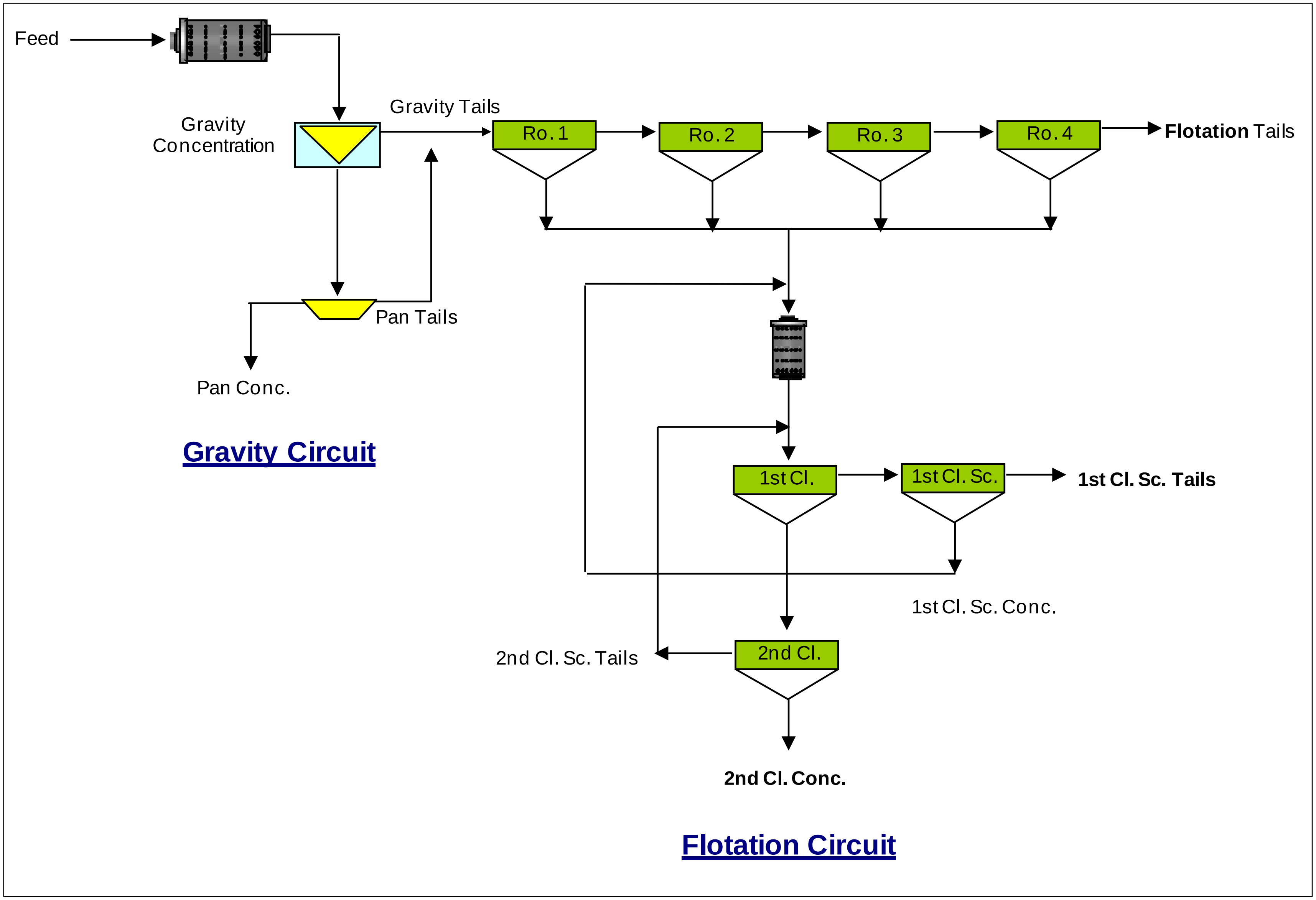


srk consulting

Yellowknife Gold Project,
Northwest Territories, Canada

Figure 5-3

Nicholas Lake Underground Layout and Design



srk consulting	**Yellowknife Gold Project, Northwest Territories, Canada**	**Figure 7-1**
		Nicholas Lake Underground Layout and Design