MOUNT POLLEY MINE
2016 TECHNICAL REPORT

Report for:
Imperial Metals Corporation

Mount Polley Mine
British Columbia
Cariboo Mining Division
Latitude 52° 33' North,
Longitude 121° 39' West
NTS map sheet 93A/12

Authors:
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Janice Baron P.Eng.
Chris Rees, Ph.D., P.Geo.

Effective Date for the Mineral Resource:
January 1, 2016

Report Date:
May 20, 2016

Imperial Metals

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2016 TECHNICAL REPORT ON THE MOUNT POLLEY MINE

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Authors:
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Effective date for the Resource/Reserve Estimate is January 1, 2016

May 20, 2016

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1 Summary

1.1 Summary Introduction

This report ("2016 Technical Report") has been written to conform to the format and specification outlined in NI 43-101F1, for the Standards of Disclosure for Mineral Projects as required in National Instrument 43-101.

This report has been prepared for the Mount Polley Mining Corporation (MPDC) and Imperial Metals Corporation to update the technical details of the Mount Polley Mine. This report updates all drilling and exploration activities conducted on the property to the end of 2015. The report also states a new mineral reserve, resource and a mine plan extending the mine life to 2026 (11 years).

The qualified people responsible for the report are the Ryan Brown P.Eng., Chris Rees Ph.D., P.Geo., Gary Roste P.Geo., and Janice Baron P.Eng. The qualified authors were assisted by other technical staff at the Mount Polley Mine and Imperial Metals.

Table 1-1 Mount Polley Mine: Summary Details

PROPERTY	Mount Polley Mine, Seven mining leases and 45 mineral claims, totaling 19,601 hectares.
LOCATION	Eight km southwest of town of Likely and 56 km east of Williams Lake in northwest British Columbia. The property is centered on latitude 52° 33' north, longitude 121° 39' west within NTS map sheet 093A/12, Cariboo Mining Division.
OWNERSHIP	100% owned and operated by Mount Polley Mining Corporation, a wholly owned subsidiary of Imperial Metals Corporation
OPERATOR	Mount Polley Mining Corporation 580 Hornby Street, Suite 200. Vancouver. BC, V6C 3B6 Phone: (604) 669 8959
GEOLOGY	Copper/gold porphyry deposit. Chalcopyrite in intrusive host.
METALS	Copper, Gold and Silver. Produced from a concentrate sold to off shore smelters
RESOURCES (M&I)	247 Million Tonnes @ 0.266% Copper, 0.262g/t Gold, 0.667 g/t Silver
RESERVES	73.6 Million Tonnes @ 0.274% Copper, 0.293g/t Gold, 0.563 g/t Silver
MINE	Conventional shovel, truck and open pit mine. With a developing underground mine.
PROCESSING	Conventional crushing, grinding and flotation technology, producing copper and gold concentrate, for shipment to overseas smelters, through the Port of Vancouver.
LIFE OF MINE	Current proposed life of mine plan is 11 years

All dollar values are in Canadian dollars, unless otherwise noted. Metals prices are in U.S. dollars.

Mount Polley Mine, operated by the Mount Polley Mining Corporation 'MPMC' (a wholly owned subsidiary of Imperial Metals Corporation), is an open pit copper/gold mine with an underground component, and has the capacity to process 17,800 to 22,000 tonnes per day (tpd) depending on the hardness of the ore.

Historic production from all zones at Mount Polley since start-up in 1997 through August 4, 2014, when operations were suspended, is approximately 522.8 million pounds copper, 783,100 ounces gold, and 2.37 million ounces silver, from about 95.3 million tonnes of mill throughput.

In the early morning of August 4, 2014 a breach of the tailings storage facility (TSF) occurred at the Mount Polley mine causing water and tailings to be released. Emergency protocol procedures were immediately enacted. The mill was shut down, and put on care and maintenance. Imperial's senior management arrived at the mine site that day to work with mine operating personnel, local agencies, provincial ministry officials and the engineers of record to assess the extent of the breach and the impact of the release of water and tailings into the surrounding area. The first priority was the health and safety of employees and neighbours. Thankfully there was no loss of life or injury, and no personal property damage occurred.

On January 12, 2015, MPMC applied for a Permit M-200 and Permit 11678 amendments to allow return to restricted operations at the Mount Polley Mine, with tailings being deposited in the Springer Pit. A revised application was submitted March 20, 2015, incorporating screening comments from the MOE, the MEM and First Nations, and permit amendments were received on July 9, 2015. The approved restricted restart allows milling for the period of one year, up to a maximum throughput of 4,000,000 tonnes of ore (approximately half the pre-tailings dam failure annual throughput) with the tailings to be stored in the Springer Pit. Mill operations restarted on August 4, 2015.

The key item effecting Mount Polley's continued operation is the mines ability to obtain the necessary permits to reactivate its tailings storage facility.

MPMC has been seeking to follow a permitting timeline which would allow for uninterrupted operations through the transition from using the Springer Pit for tailings deposition, to using the TSF for tailings deposition. This transition would hopefully occur by the end of the second quarter of 2016.

Currently, the permitting process is advancing in an orderly schedule which suggests that permits may be attainable close to the desired timeline; however, there is no certainty that the required permit amendments will be received in sufficient time to avert the need for a temporary suspension of operations, or that the necessary permit amendments will ever be received.

To provide additional security as to the continuity between the currently authorized operations and the proposed return to full operations (in such case that there is a delay in receipt of authorization of the latter), permit applications have been made for an additional 1.0 million tonnes of tailings to be stored in the Springer Pit. This approval was also granted on April 29, 2016 with the amendment to Permit 11678 and the discharge period runs to August 5, 2016.

Although Mount Polley has completed the necessary repairs and numerous upgrades to the tailing storage facility and its water management program there can be no assurance that the necessary permits will be received.

The deposits and the factors controlling mineralization are well understood. Overall the property is well explored with over 560,000 metres of drilling, little additional exploration drilling is required for the proposed project. The exception to this is in the NE Zone, below the Wight Pit, the underground zone (called the Martel Zone), needs further drilling to define and expand the Resource there.

The block modelling process is well developed and tested with numerous successful ore grade and tonnages reconciliations. The metallurgy, although variable, is also known and the mill has demonstrated its ability to treat the ores scheduled to be processed.

The mine is located in a desirable part of the province and has over its 14 operating years attracted and kept an experienced and talented group of dedicated mining personnel.

Economic analysis at metals pricing of: Cu $3.00 US/lb, Au $1,200 US/oz and Ag $15 US/oz, indicates the continued operation of the mine will provide a cash flow of $502 million dollars.

The Net Present Value of the Project at a 6% discount rate is $381 million. The mine's economics are sensitive to metals pricing: Cu $2.25 US/lb, Au $1,276 US/oz and Ag $15 US/oz, reduces the cash flow and NPV to $254 million and $187 million, respectively.

The project will generate 11 years of employment for the mines over 350 employees, along with the added economic benefit to the local and provincial economies.

Other than the question of permitting and metals pricing there are no known or significant risks affecting the outcome of the project.

Therefore it is the opinion of the Qualified Persons that the stated Ore Reserves and Plan of Operations are both Technically Feasible and Economically Viable; and as such recommend the mine plan proceed as outlined in this report.

2 Introduction

This report has been prepared for Imperial Metals Corporation to update the technical details of the Mount Polley Mine.

The scope of work for this report includes the following:

- A review of the work done on the Mount Polley property to date
- Details of all drilling used in the Resource and Reserve update
- Details of the block model completed in December 31 of 2015 and the new mineral resource and reserve results.
- Details of the mine plan going forward
- Recommendations and conclusions.

Figure 2-1 Mount Polley Location Map

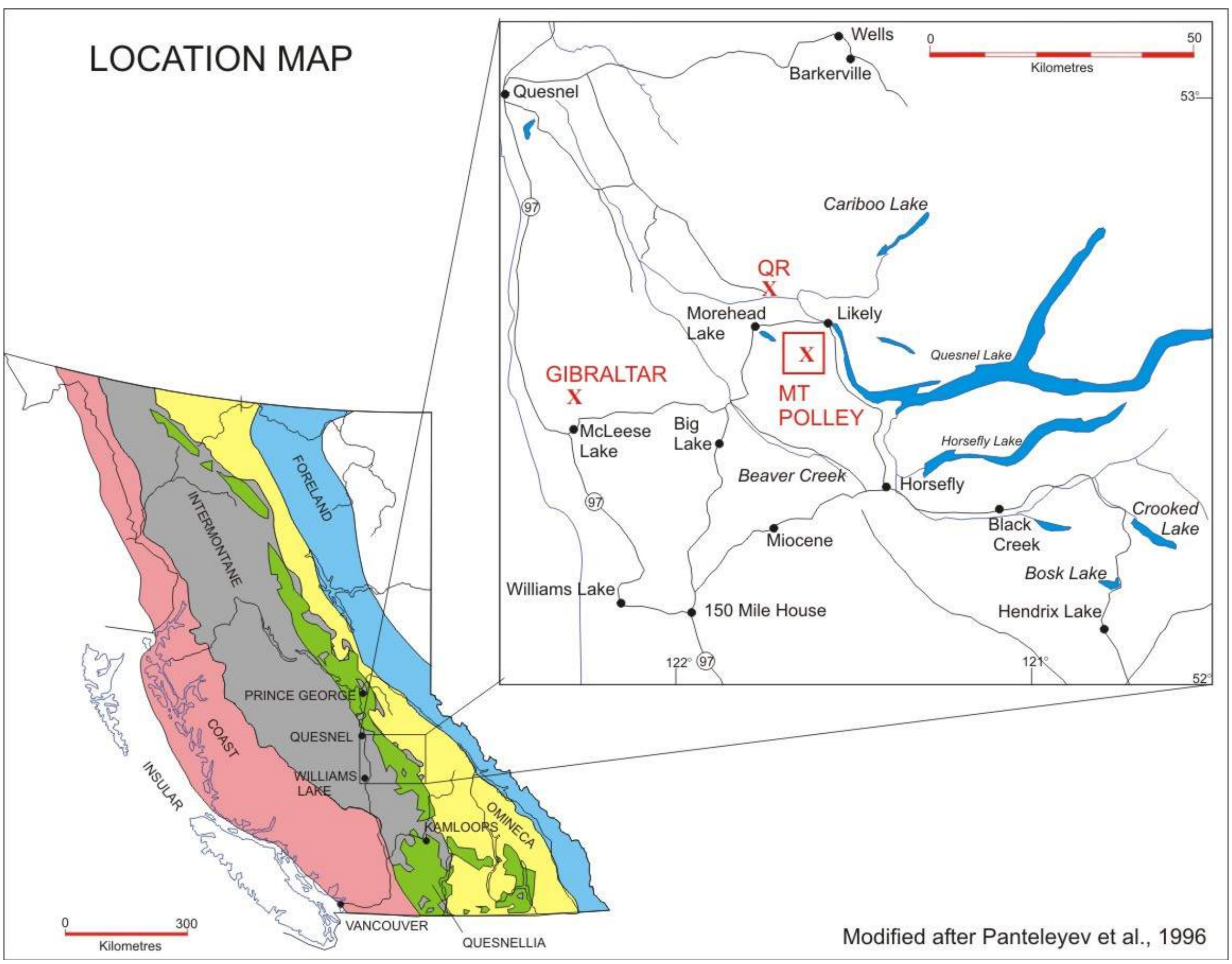

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Figure 2-2 Mount Polley Regional Location Map, Showing Claim Block

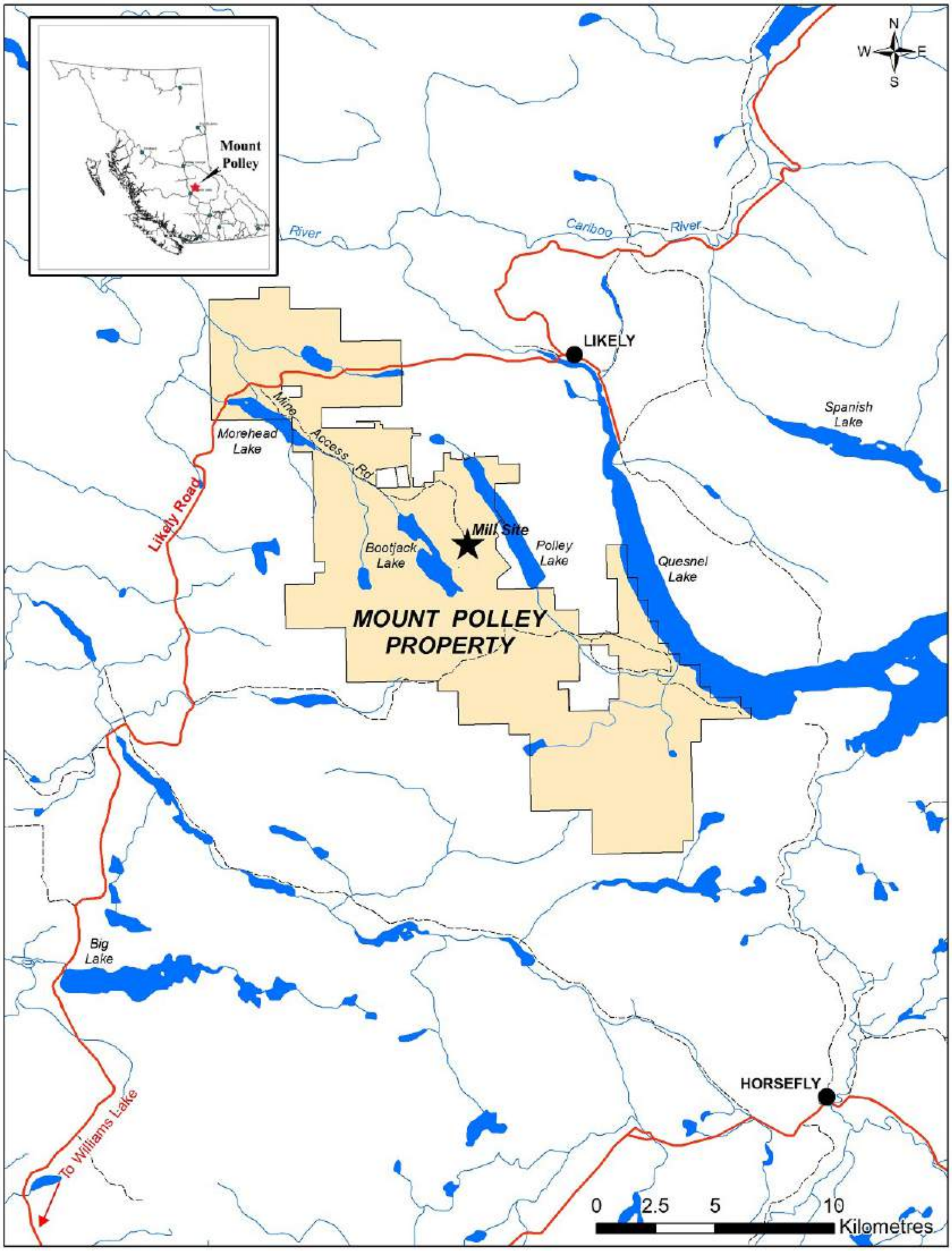

Table 2.1 List of Standard Abbreviations

Above mean sea level	amsl
Ampere	A
Annum (year)	a
Billion years ago	Ga
Centimetre	cm
Cubic centimetre	cm^3
Cubic feet per second	ft^3/s or cfs
Cubic foot	ft^3
Cubic metre	m^3
Day	d
Days per week	d/wk
Degree	°
Degrees Celsius	°C
Dry metric ton	dmt
Foot	ft
Gallons per minute (US)	gpm
Gram	g
Grams per litre	g/L
Grams per tonne	g/t
Greater than	>
Hectare (10,000 m^2)	ha
Horsepower	hp
Hour	h (*not* hr)
Hours per day	h/d
Hours per week	h/wk
Hours per year	h/a
Kilo (thousand)	k
Kilogram	kg
Kilograms per cubic metre	kg/m^3
Kilograms per hour	kg/h
Kilograms per square metre	kg/m^2
Kilojoule	kJ
Kilometre	km
Kilometres per hour	km/h
Kilonewton	kN
Kilopascal	kPa
Kilovolt	kV
Kilovolt-ampere	kVA
Kilovolts	kV
Kilowatt	kW
Kilowatt hour	kWh
Kilowatt hours per tonne (metric ton)	kWh/t
Kilowatt hours per year	kWh/a
Less than	<

Litre	L
Litres per minute	L/m
Megabytes per second	Mb/s
Megapascal	MPa
Megavolt-ampere	MVA
Megawatt	MW
Metre	m
Metres above sea level	masl
Metres per minute	m/min
Metres per second	m/s
Micrometre (micron)	µm
Milliamperes	mA
Milligram	mg
Milligrams per litre	mg/L
Millilitre	mL
Millimetre	mm
Million	M
Million tonnes	Mt
Minute (plane angle)	'
Minute (time)	min
Month	mo
Ounce	oz
Parts per billion	ppb
Parts per million	ppm
Percent	%
Percent moisture (relative humidity)	% RH
Phase (electrical)	Ph
Pound(s)	lb
Second (plane angle)	"
Second (time)	s
Specific gravity	SG
Square centimetre	cm^2
Square foot	ft^2
Square kilometre	km^2
Square metre	m^2
Thousand tonnes	kt
Tonne (1,000 kg)	t
Tonnes per day	t/d
Tonnes per hour	t/h
Tonnes per year	t/a
Volt	V
Week	wk
Wet metric ton	wmt

3 Reliance on Other Experts

This report has been written to conform to the specification outlined in NI 43-101F1, for the Standards of Disclosure for Mineral Projects as required in National Instrument 43-101. This NI 43-101 Technical Report has not relied on any information provided by nonqualified people.

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4 Property Description and Location

4.1 Location and Description

Mount Polley Mine, operated by the Mount Polley Mining Corporation 'MPMC' (a wholly owned subsidiary of Imperial Metals Corporation), is an open pit copper/gold mine with an underground component, and has the capacity to process 17,800 to 22,000 tonnes per day (tpd) depending on the hardness of the ore. The mine is located in the Cariboo Mining Division, Latitude 52° 33' North, Longitude 121° 39' West, NTS map sheet 93A/12. It is accessible year round by road, 27 km southwest of Likely and 100 km (56 km by air) northeast of Williams Lake, BC., (See Figure 2-1 and 2-2). Mount Polley copper/gold concentrates are trucked to facilities at the Port of Vancouver and then shipped to overseas smelters or transported by rail to smelters in North America.

4.2 Claim Information (Mineral Tenure)

The Mount Polley property consists of 52 mineral tenures covering 19,601 hectares, including seven mining leases. Table 4-1 and 4-2 show the expiry dates and area covered. Mining lease 933970 is subject to a production royalty held by BRZ Mex Holdings Ltd. of $2.50 per tonne on the first 400,000 tonnes of ore mined and milled and $1.25 per tonne on any additional ore mined and milled a rate that may be reduced to $0.62 per tonne by payment of $1,000,000. See Figure 4-1 for the Mount Polley Claim Tenure Map.

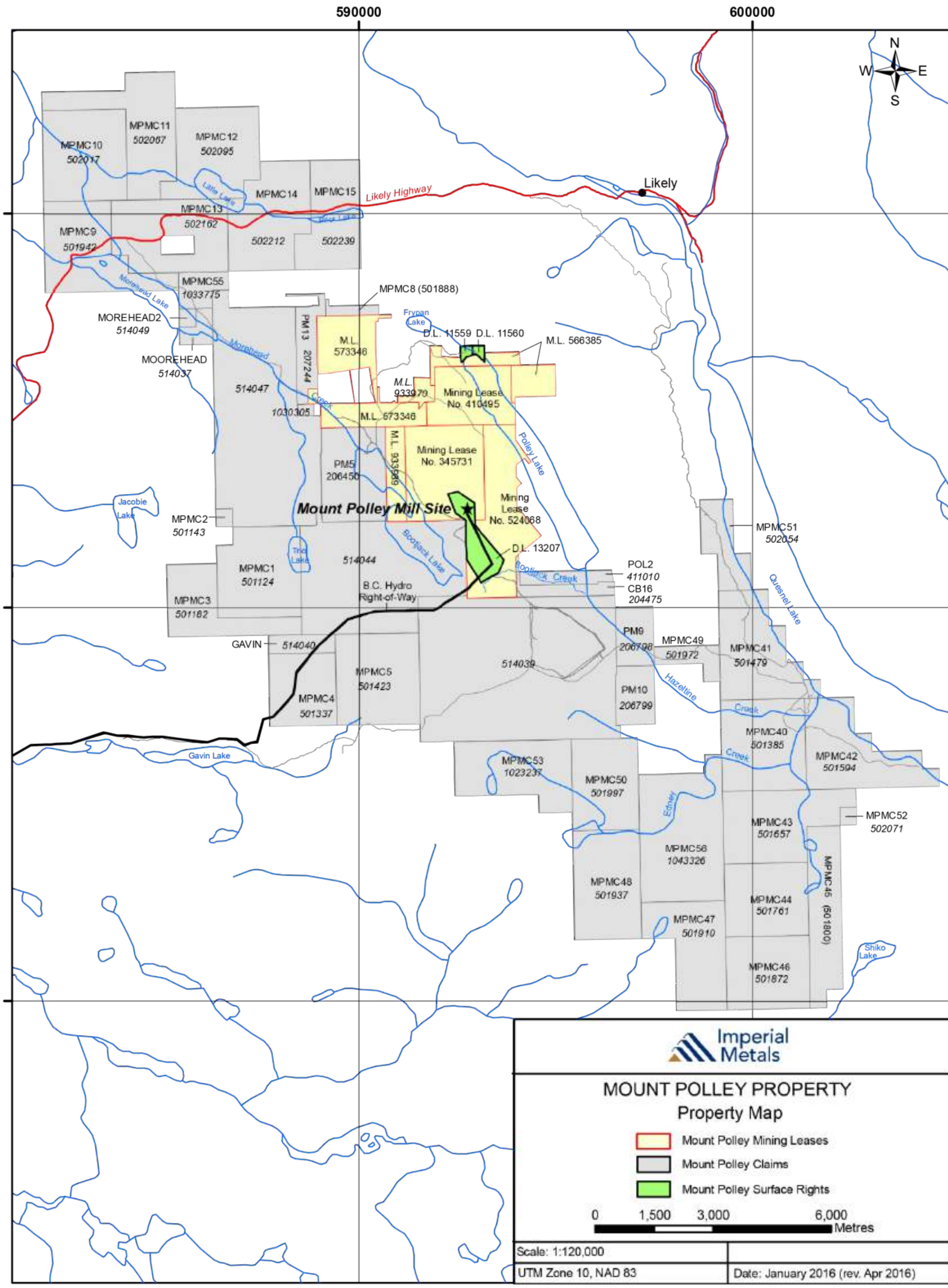
Table 4-1 Mount Polley Mining Leases

	Mount Polley Mining Leases:				
Tenure No.	**Tenure Type**	**Map No.**	**Issue Date**	**Term Expiry**	**Area (ha)**
345731	Lease-30 yr.	093A052	1996/aug/22	2026/aug/22	483.16
410495	Lease-30 yr.	093A052	2004/sep/29	2034/sep/29	310.07
524068	Lease-30 yr.	093A052	2005/dec/19	2035/dec/19	501.00
566385	Lease-30 yr.	093A052	2007/sep/21	2037/sep/21	172.70
573346	Lease-30 yr.	093A052	2008/jan/09	2038/jan/09	399.92
933970	Lease-10 yr.	093A052	2011/nov/28	2021/nov/28	38.90
933989	Lease-10 yr.	093A052	2011/nov/28	2021/nov/28	101.00
TOTAL:	7				**2,006.75**

Table 4-2 Mount Polley Claims

Mount Polley Claims:					
Tenure No.	**Tenure Type**	**Map No.**	**Record Date**	**Expiry Date**	**Area (ha)**
204475	Claim	093A052, 053	1981/May/04	2020/nov/01	500.00
206450	Claim	093A052	1989/Sep/29	2020/nov/01	500.00
206798	Claim	093A053	1990/Feb/23	2020/nov/01	150.00
206799	Claim	093A053	1990/Feb/23	2020/nov/01	150.00
207244	Claim	093A052	1990/Sep/26	2020/nov/01	300.00
340020	Claim	093A052	1995/Sep/22	2020/nov/01	25.00
392621	Claim	093A052	2002/Apr/11	2020/nov/01	25.00
392622	Claim	093A052	2002/Apr/11	2020/nov/01	25.00
411010	Claim	093A052, 053	2004/may/22	2020/nov/01	125.00
501124	Claim	093A052	2005/Jan/12	2020/nov/01	472.01
501143	Claim	093A052	2005/Jan/12	2020/nov/01	19.66
501182	Claim	093A052	2005/Jan/12	2020/nov/01	334.39
501337	Claim	093A052	2005/Jan/12	2020/nov/01	314.85
501385	Claim	093A043	2005/Jan/12	2020/nov/01	492.20
501423	Claim	093A052	2005/Jan/12	2020/nov/01	491.95
501479	Claim	093A053	2005/Jan/12	2020/nov/01	491.94
501594	Claim	093A043	2005/Jan/12	2020/nov/01	492.22
501657	Claim	093A043	2005/Jan/12	2020/nov/01	492.39
501761	Claim	093A043	2005/Jan/12	2020/nov/01	394.05
501800	Claim	093A043	2005/Jan/12	2020/nov/01	374.39
501872	Claim	093A043	2005/Jan/12	2020/nov/01	394.19
501888	Claim	093A052	2005/Jan/12	2020/nov/01	98.21
501910	Claim	093A043	2005/Jan/12	2020/nov/01	433.56
501937	Claim	093A043	2005/Jan/12	2020/nov/01	472.79
501972	Claim	093A053	2005/Jan/12	2020/nov/01	98.39
501997	Claim	093A043	2005/Jan/12	2020/nov/01	393.81
502054	Claim	093A053	2005/Jan/12	2020/nov/01	196.66
502071	Claim	093A043	2005/Jan/12	2020/nov/01	19.70
514037	Claim	093A052	2005/Jun/07	2020/nov/01	58.93
514039	Claim	093A052, 053	2005/Jun/07	2020/nov/01	1,889.02
514040	Claim	093A052	2005/Jun/07	2020/nov/01	78.70
514044	Claim	093A052	2005/Jun/07	2020/nov/01	1,238.99
514047	Claim	093A052	2005/Jun/07	2020/nov/01	1,414.94
514049	Claim	093A052	2005/Jun/07	2020/nov/01	19.64
1023237	Claim	093A042	2013/Oct/22	2017/mar/15	452.81
1030305	Claim	093A052	2014/Aug/16	2017/mar/15	19.65
1033775	Claim	093A052	2015/Jan/31	2017/jan/31	98.20
1043326	Claim	093A043	2016/Apr/07	2017/apr/07	709.07
501942	Claim	093A062	2005/Jan/12	2020/nov/01	490.89
502017	Claim	093A062	2005/Jan/12	2020/nov/01	490.64
502067	Claim	093A062	2005/Jan/12	2020/nov/01	490.59
502095	Claim	093A062	2005/Jan/12	2020/nov/01	490.67
502162	Claim	093A062	2005/Jan/12	2020/nov/01	490.86
502212	Claim	093A062	2005/Jan/12	2020/nov/01	490.82
502239	Claim	093A062	2005/Jan/12	2020/nov/01	392.65
TOTAL:	**45**				**17,594.43**

Figure 4-1 Mount Polley Claim Tenure Map



4.3 Permits and Agreements

All phases of the mining and reclamation are regulated by the Province under the Environmental Management Act and the Mines Act, as well as the Water Act and other legislation implemented by the BC Ministry Ministries of Energy and Mines (MEM), Environment (MOE) and Forests, Lands and Natural Resource Operations (MFLNRO). A summary of existing Mount Polley permits under these regulations is provided in Table 4-3. Table 4-4 provides a list of amendments to the MEM Permit M-200 that have been received throughout the mine life. MOE Permit 11678 authorizes discharge of effluent to the land.

Table 4-3 Mount Polley Permits

Ministry	Authorization	Purpose	Permit #	Date Issued	Comment
MFLNRO	Conditional Water License	Dust suppression and industrial.	111741	December 1996	
MFLNRO	Conditional Water License	Diversion of water from Polley Lake	101763	June 2002	
MFLNRO	Conditional Water License	Storage of water in Polley Lake; Edney Creek , Hazeltine Creek, Polley Lake rights	5002458	August 2015	For rehabilitation purposes following the tailings dam failure
MOE	Waste Discharge Permit	Landfill	14590	March 1997	
MOE	Effluent Discharge Permit	Effluent discharge	11678	May 1997	Many amendments. Most recent April 2016.
MOE	Waste Generator Registration	Waste Regulation	1559	July 1997	Updated 2010
MOE	Effluent Discharge (Biosolids)	Store and apply biosolids	15554	May 1998	Updated July 2014
MOE	Air Contaminant Discharge	Waste management	15087	August 1997	
MFLNRO	Road Use Permit	Road use obligations	01-4160-08	March 2008	Gavin Lake FSR
MEM	Permit Approving Mining and Reclamation Program	Mining activities	M-200	August 1995	Many amendments. Most recent April 2016.

Table 4-4 Amendments to the MEM Permit M-200

Date	Amendment Title
June 13, 1996	Name Change
September 23, 1996	Approval to Construct Tailings Storage Facility to Elevation 934m
July 11, 1997	Amended Reclamation Permit, Approval to Construct Open Pits and Waste Dumps, and Traffic Plan
April 7, 1998	Approval to Construct Tailings Storage Facility to Elevation 940m
June 13, 2000	Approval to Construct Tailings Storage Facility to Elevation 944m
August 2, 2000	Approving Tailings Storage Facility and Amended Metal Leaching and ARD Conditions
May 30, 2001	Approval to Construct Tailings Storage Facility to Elevation 945m
February 16, 2004	Approving Milling of Ore and Tailings Deposition from the International Wayside Bulk Sample
November 1, 2004	Approving Mining and Reclamation Program for the NE Zone and Approving Mine Restart
May 25, 2005	Approving Tailings Storage Facility Stage 4 Construction
August 2, 2005	Approving Haulage Road Construction from the Northeast Zone to TSF
November 24, 2005	Approving Mining of Southeast Zone
August 2, 2006	Approving Change of Name and Deletion of Requirement to Monitor Blasting
August 2, 2006	Approving Tailings Storage Facility Stage 5 Construction
March 29, 2007	Approving Northeast Zone Dump Expansion
March 29, 2007	Approving Coper Oxide Test Heap Leach Facility
August 31, 2007	Approving Boundary Road
December 5, 2007	Approving Wight Pit High Wall Rehabilitation
February 19, 2008	Approving Tailings Storage Facility Stage 6 Construction
March 6, 2008	Approving Transfer of Road Use, Maintenance, and Reclamation
July 8, 2009	Approving Pond Zone
August 15, 2011	Approving Mining of C2 and Boundary Zone Pits
June 29, 2012	Approving Tailings Storage Facility Stage 8 Construction
October 15, 2012	Approving Tailings Storage Facility Stage A Construction
March 25, 2013	Approving Boundary Zone Underground
April 22, 2013	Approving Processing of 15000 Tonnes of Ore from Dome Mountain
July 25, 2013	Approving Northwest PAG Dump Expansion and South Haul Road
August 9, 2013	Approving Tailings Storage Facility Stage 9 Construction
March 17, 2014	Approving Cariboo Phase 4 Expansion
March 27, 2014	Approving Change to Reclamation Security Schedule
June 24, 2014	Approving Waste Rock and Tailings Comingling Research Project
December 17, 2015	Approving TSF Breach Repair and Perimeter Embankment Buttress Design for 2015 Freshet
July 9, 2015	Approving Return to Restricted Restart of Operations
October 22, 2015	Approving Main Embankment Buttress
February 26, 2016	Approving Upstream TSF Construction and 2016 Freshet Water Management
March 17, 2016	Approving Springer Pit Lake Elevation Increase
April 29, 2016	Approving Extension to Restricted Operations and Corner 1 Buttressing

Table 4-5 lists amendments to MOE Permit 11678 that have been issued over the course of the mine life.

Federal regulation is primarily through the Fisheries Act which aims to protect fish habitat by prohibiting the entry of deleterious substances into fish-bearing waters, as well as the disruption or disturbance of fish habitat without the necessary approvals. Protection of fish habitat also includes the Metal Mining Effluent Regulations (annexed under the Fisheries Act) which regulate deposition of mining waste (effluent) into fish-bearing waters.

Table 4-5 Amendments to MOE Permit 11678

Date	Scope of Amendment
May 30, 1997	Original permit
October 20, 1997	Amended authorized tailings discharge rate (10,000 tpd increase)
June 12, 1998	Amended reporting requirements
September 8, 1999	Amended monitoring requirements
February 1, 2000	Amended authorized tailings discharge rate (4,500 tpd increase)
February 7, 2002	Approval to discharge effluent from the Perimeter Embankment Seepage Collection pond (PESCP) and MESCP; approval to store TSF supernatant and site contact water in the Cariboo and Bell Pits
May 4, 2005	Amended authorized tailings discharge rate (5,000 tpd increase); discharge of groundwater to Polley Lake; updates to reference analytical procedures and monitoring program
April, 17 2009	Amended monitoring, water level and supernatant characteristic requirements for the Cariboo and Bell Pits
November 7, 2012	Approval to discharge to Hazeltine Creek
June 7, 2013	Sulphate guidelines
July 9, 2015	Tailings discharge to the Springer Pit
November 29, 2015	Approval of Short-Term Permit to Treat and Discharge Water
March 11, 2016	Approval of Partial Bypass of Water Treatment Plant
April 29, 2016	Approval of Increase in Volume of Tailings to be Discharged into the Springer Pit

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Figure 5-1 Air Photo Looking Northeast: Showing Mount Polley Mine and the Local Terrain

5.1 Accessibility, Local Resources and Infrastructure

Primary access to the mine site is via the Likely Highway. The route from Williams Lake involves driving 14 km south on Highway 97 to the Horsefly/Likely Road turnoff and continuing on this road 4.3 km, then turning left onto the Likely Road and continuing 66 km to the 'Bootjack' Forest Service Road (FSR). Shortly after the Morehead Lake Resort, the Bootjack FSR turnoff is to the right of the highway. The Bootjack FSR is a radio controlled (frequency 153.635) industrial road operated and maintained by the MPMC (see Figure 2-1). All mine personnel, supplies and concentrate trucks use this access road. The Bootjack FSR is also used by the forest industry, hunters and tourists who stay at the Bootjack Lake forestry campsite. There are also several private properties that are accessed via the Bootjack FSR.

Mine employees live in many communities along this secondary highway, including: 150 Mile House, Beaver Valley, Big Lake, Morehead Lake, Hydraulic, Little Lake and Likely. Neither the Likely Highway nor the Bootjack FSR have seasonal road restrictions that impact the hauling of copper concentrate and other supplies. The mine is responsible for the maintenance of the Bootjack FSR year-round, including grading, repairs, dust suppression, and clearing of snow. The Likely Highway is maintained under contract by the Ministry of Transportation.

The existing mill and plant site area, occupying 35.36 ha (mill and warehouse), encompasses nearly all the structures and equipment that exist at the Mount Polley Mine including; the crusher and stockpile facilities, mill, concentrator, electrical substation, maintenance shops, warehouse, offices, laboratory, fuel storage facilities, and potable water systems. Exploration geology buildings and core shacks are also located in this area. Craigmont Industries Ltd. operates a magnetite recovery plant on the mill site. The mill site is located on a gently-sloping south-facing plateau.

Power for the Mount Polley Operation is supplied via an onsite electrical substation. The substation is fed off the B.C. Hydro grid from a tap at the Soda Creek substation. The 70km, 69kV line from Soda Creek to the mine was built privately by The Mount Polley Mining Corporation and then transferred to BC Hydro.

5.2 Climate and Physiography

Climate data has been recorded at the Mount Polley Mine site since 1995 and by Environment Canada at their weather station in Likely from 1973 through 1993.

Comparing the data from the Likely weather station, shows that average temperatures at the Mine site are generally 0.3 to 1.0 °C cooler than Likely. Average monthly temperatures at the Mount Polley Mine range from -6.0 °C in January to 15.3 °C in July and August.

The mine site experiences high summer precipitation due to summer storms, with the lowest precipitation occurring in February. Precipitation typically occurs as snowfall starting in November, and accumulates until March. Average annual precipitation at Mount Polley is estimated to be 670 mm.

Prevailing winds are from the north-north-east and from the south-south-west near the TSF and from the northwest (and to a lesser extent the southeast) near the mill site.

The Mount Polley Mine site is a remote site, but is subject to seasonal pollen and fugitive dust and particulate matter from the logging industry, forest fires, recreational traffic, and nearby wood-burning stoves. The slightly undulating terrain around Mount Polley permits unobstructed atmospheric exchanges and permits prolonged inversions. Major storm tracks are from the west off the Pacific Ocean. A monthly dustfall monitoring program was initiated at Mount Polley in 1995 to establish baseline dustfall data. The program recorded the total deposition amounts of fugitive dust (particles) during the non-winter months (June to September). The dustfall collectors were set up at seven locations on the mine property and collected monthly. Monitoring results did not exceed 3.95 milligrams per decimetre squared per day ($mg/dm^2/d$).

The property sits near the eastern edge of the Fraser Plateau physiographic sub-division, which is characterized by rolling topography and moderate relief (see Figure 5.1). Elevations range from 920 metres at Polley Lake to 1266 metres at the summit of Mount Polley.

Forest cover consists of red cedar, Douglas fir and sub-alpine fir, with lesser black cottonwood, trembling aspen and paper birch. Much of the area has been clear-cut by commercial logging.

Then mine is located on the divide of two sub-watersheds within the Quesnel Lake watershed. The western watershed, which includes drainage from Bootjack Lake, Trio Lake, and Morehead Lake, discharges to the Quesnel River via Morehead Creek and drained approximately 60% of the Mount Polley area prior to mine construction.

The eastern watershed includes Polley Lake, which discharges to the east via Hazeltine Creek, to Edney Creek and the western arm of Quesnel Lake. The Hazeltine Creek and Edney Creek watershed areas at Quesnel Lake are currently approximately 30.2 square km (km^2) and 87.4 km^2, respectively. Approximately 10.5 km^2 that historically reported to this watershed is now within the mine contact water runoff collection system catchment.

Bootjack Creek is a small tributary of Hazeltine Creek downstream of Polley Lake. Historically, Bootjack Lake discharged into Hazeltine Creek via Bootjack Creek, but in 1913 a dam was constructed at the south end of Bootjack Lake and the flow direction was reversed in order to direct water into Morehead Lake for hydropower production. This resulted in 14 km^2 being diverted from the Hazeltine Creek catchment.

The Morehead Creek watershed, including the Bootjack Lake catchment area, is approximately 11.2 km^2. Approximately 2.3 km^2 that historically reported to this watershed is now within the mine contact water runoff collection system catchment.

6 History

6.1 Ownership and Mining History

The Mount Polley deposit was first discovered as a result of follow-up prospecting of an aero magnetic anomaly highlighted on a government aeromagnetic map sheet issued in 1963. Mastodon Highland Bell Mines Limited and Leitch Gold Mines first staked claims in 1964. In 1966 the two companies merged to form Cariboo-Bell Copper Mines Limited. The property was mapped, soil and geochemical surveys, and air-borne and ground-based geophysical surveys were conducted. This was followed by bulldozer trenching and drilling.

In 1969 Teck Corporation assumed control of Cariboo-Bell. During the period from 1966 to 1972 at total of 18,341 metres of core drilling and 8,553 metres of percussion drilling was completed in 215 holes. In 1970 magnetic, seismic and induced polarization (IP) surveys were conducted. Teck continued to work the property in 1972, 1973 and 1975. In 1978 Highland Crow Resources, an affiliate of Teck, acquired control. In 1979 Teck completed six percussion holes for 354 metres.

In 1981 E&B Explorations Inc. optioned the property from Highland Crow and completed 1,746 metres of core drilling, 1,295 metres of rotary drilling, and soil geochemical and ground control surveys. In 1982 E&B acquired a 100% interest (subjected to a 22% net profits royalty) and continued to work the property with joint venture partners Geomex Partnerships and Imperial Metals Corporation. From 1982 to 1987 E&B completed soil geochemistry, magnetic, VLF-EM and IP surveys, geological mapping, 3,585 metres of core drilling and 4,026 metres of reverse circulation drilling.

In 1987, Imperial Metals acquired the interest in the property held by E&B Exploration Inc. and others. During the period between 1988 and 1990, Imperial Metals Corporation conducted a comprehensive exploration program consisting of 238 core holes totaling 27,566 metres, the collection of six bulk samples from surface trenches totaling 130 tonnes, geological mapping and IP surveys.

In 1990 Wright Engineers completed a Feasibility Study that incorporated new ore reserve calculations, metallurgical testing, geotechnical evaluations, and environmental impact assessments. In 1992, Imperial Metals bought the Geomex Partnerships consolidating ownership of the property in one Company. During 1993-1994, Theresa Fraser from the University of British Columbia completed a Masters thesis on the geology, alteration, and origin of hydrothermal breccias on the deposit. The focus of the study was to document data important to aspects of the genesis of the deposit, particularly breccia distribution, breccia types, distinctive matrix minerals and alteration.

In 1994, Gibraltar Mines Ltd., under an option agreement with Imperial Metals, drilled seven core holes for 1,216 metres. Upon evaluation of the project, Gibraltar declined further participation.

In December of 1994, Imperial purchased the 22% net profits royalty that had been retained by Highland Crow in 1981.

Following a merger with Bethlehem Resources Corporation in 1995, Imperial completed an in-house Feasibility Study. Financing was arranged with Sumitomo Corporation through a joint venture with SC Minerals Canada that culminated in the formation of Mount Polley Mining Corporation in April 1996.

In late May 1996, construction of an 18,000 tonne per day mine and milling facility began at the Mount Polley site. Construction at Mount Polley was completed in June of 1997. The plant start-up and commissioning took place in late June with the plant rising towards design capacity by the end of 1997. Mining continued until September of 2001, when operations were suspended due to low metal prices. See Table 1-6 for a list of the Mount Polley Production Statistics from 1997 to 2001.

In August 2003, Imperial discovered a new copper and gold zone by prospecting north of the Bell Pit. The newly discovered Northeast Zone, is approximately 1.5 km northeast of the Bell Pit.

In December 2004, Mount Polley reopened with mining in the Wight Pit (Northeast Zone) and the Bell pit, with mill production commencing again in March of 2005. Mining during the next 10 years, saw the completion of the Wight Pit, Bell Pit, Pond Zone Pit, and Southeast Pit. Mining in the Springer Pit and deep Cariboo is ongoing.

Figure 6-1 Completed Wight Pit with the Boundary UG Portal in North End

6.2 Historic Production

Historic production from all zones at Mount Polley since start-up in 1997 through August 4, 2014, when operations were suspended, is approximately 522.8 million pounds copper, 783,100 ounces gold, and 2.37 million ounces silver, from about 95.3 million tonnes of mill throughput. Remaining reserves are targeted for mining within the current mine plan. A detailed list of Mount Polley's production history is shown in Table 6-1 below.

Table 6-1 Mount Polley Historic Production to the Fall of 2015

Year of Production	Ore Processed (t)	Tailings Produced (t)	Grinding Circuit	Sources of Tailings	Changes and Geochemical Considerations
Mine Start in 1997	2,346,829	2,333,186	2 rod, 2 ball, 3 pebble mills.	Three tailings streams: (1) sand scavenger; (2) oxide; and (3) cleaner tails from cyclone overflow. All streams combined for disposal in the impoundment.	NaHS used to float copper oxide minerals. Addition of third ball mill to increase production. Addition of flash flotation for remainder of operations to date.
1998	5,828,358	5,788,498			
1999	7,051,212	6,986,932			
2000	6,948,339	6,883,317			
2001	5,385,796	5,328,581			
5 year shutdown					Tailings Consolidation
2005	4,814,083	4,758,757	2 rod, 2 ball, 3 pebble mills.	Two streams; rougher and scavenger tails. Both streams combined for disposal in the impoundment.	Higher proportion of sulphide ore and lower NaHS addition.
2006	6,235,221	6,133,088			
2007	6,444,112	6,346,640	2 rod, 3 ball, 3 pebble mills.		
2008	6,848,983	6,735,444			
2009	7,045,737	6,977,681			
2010	7,894,596	7,825,178			
2011	7,716,856	7,663,577	2 rod, 3 ball, 3 pebble mills and flash flotation.	One stream combined.	More oxidized ore and higher NaHS addition.
2012	8,121,878	8,056,496		One flotation stream and addition of circuit to remove magnetite.	Addition of magnetite removal circuit. Tailings produced after 2012 would contain lower amounts of magnetite.
2013	7,956,738	7,882,625			
2014 (to July 31, 2014)	4,486,121	4,440,700			
Total	95 million				
1 year shutdown					
2015 (August 5 to October 30)	912,429	903,813	2 rod, 3 ball, 3 pebble mills and flash flotation.	One flotation stream, plus magnetite circuit.	Tailings deposition in Springer Pit.

6.3 Tailings Dam Breach

6.3.1 Summary of the Tailing Storage Facility Breach

In the early morning of August 4, 2014 a breach of the tailings storage facility (TSF) occurred at the Mount Polley mine causing water and tailings to be released. Emergency protocol procedures were immediately enacted. The mill was shut down, and put on care and maintenance. Imperial's senior management arrived at the mine site that day to work with mine operating personnel, local agencies, provincial ministry officials and the engineers of record to assess the extent of the breach and the impact of the release of water and tailings into the surrounding area. The first priority was the health and safety of employees and neighbours. Thankfully there was no loss of life or injury, and no personal property damage occurred.

The TSF breach caused the following physical impact to the downstream environment:

- erosion of the embankment separating the TSF from Polley Lake, as well as along Hazeltine Creek
- deposition of trees and woody debris in Polley Lake, along the sides of the erosion path associated with Hazeltine Creek, and into Quesnel Lake at the mouth of Hazeltine Creek
- deposition of tailings and eroded earth in Polley Lake, Hazeltine Creek and Quesnel Lake

The estimated summary of materials released or displaced by the TSF breach:

- supernatant water 10.6M m^3
- tailings slurry: tailings solids 7.3M m^3; interstitial water 6.5M m^3
- construction materials 0.6M m^3

A Pollution Abatement Order No. 107461 (the Order) was issued to Mount Polley Mining Corporation (MPMC) by the Province of British Columbia on August 5. The Order required MPMC to prepare and submit documentation describing its response, and to communicate to the Ministry of Environment (MOE) regarding response progress. A Conceptual Interim Erosion and Sediment Control Plan (the Plan) for mitigating ongoing erosion and sediment transport within impacted areas downstream of the breach was submitted by MPMC. Specific objectives of the Plan are summarized as:

- provide water management structures to improve the quality of water flowing into Quesnel Lake
- reduce the potential for re-mobilization of tailings and sediments that were deposited or exposed by the TSF breach
- minimize and control water flows from the TSF and re-direct these flows to the Springer Pit

Three high priority areas were identified where in-stream controls were planned to mitigate potential future erosion and/or sediment transport:

- within and down-gradient of the TSF
- where the water pumped from Polley Lake was transferred into Hazeltine Creek

6.3.2 Independent Expert Engineering Investigation and Review Panel

On August 18, the Government of British Columbia, in conjunction with the Soda Creek Indian Band (Xats'ull First Nation) and Williams Lake Indian Band, ordered an independent expert engineering investigation and review into the Mount Polley TSF breach to determine the root cause. The geotechnical work program in support of the review included mapping, geophysical surveys, drilling and test pitting.

On January 30, 2015 the Independent Expert Engineering Investigation and Review Panel issued their report (the Report). The Report stated no evidence of failure was found due to human intervention, overtopping, or piping and/or cracking resulting in internal erosion. The water accumulation within the TSF was not a cause of failure but did contribute to the release of tailings. The Report concluded that the perimeter embankment of the TSF breached because a glacio-lacustrine layer lying approximately 8 metres below the base of the dam in the area of the breach was not as strong as had been assumed in the design of the TSF and failed. The Report noted the omissions associated with site characterizations remained undetected notwithstanding the large number of experienced geotechnical engineers associated with the TSF over the years.

6.3.3 Rehabilitation Strategy

Rehabilitation plans normally take shape after sources and discharges are controlled, and after an assessment of impacts has been done. MPMC is providing the community and local First Nations with updates on the progress of our rehabilitation. The rehabilitation strategy summary is subject to change and will be updated from time to time.

6.3.4 Long-Term Water Management Plan Development

The mine has a surplus water balance, which means the amount of water entering the mine site as rain or snow exceeds the amount of water used in processing (when the mine is operating) or water that leaves the site by evaporation.

Precipitation at the mine area is now 5.9 million cubic metres in an average year and up to 9.3 million cubic metres during a 1-in-200 wet year weather event. This amount of water must be consumed by milling operations, with the excess handled, treated, and then disposed offsite to maintain a neutral water balance. At present, all mine-influenced water is being intercepted and stored in the Springer pit which has a finite volume. Depending on whether the mine is operating or not, the surplus water must be managed in a responsible manner and all options that are available for this volume will involve discharge of treated water to a water body.

MPMC has prepared a proposal that takes a long-term perspective to arrive at an effective water management plan for the mine site that will protect human health and the environment. It also recognizes that in the context of urgency, short-term measures may be necessary and a contingency plan is under development. However, such measures that would be carried out in the short-term should fit within the context of a long-term vision for how MPMC will manage, treat, and dispose of mine water through mine closure.

6.3.5 Environmental Monitoring

Environmental monitoring has been ongoing since the TSF breach. Data collection includes water chemistry at sampling stations at multiple water depths in Quesnel Lake, Polley Lake, Hazeltine Creek and the Quesnel River. Interior Health issued a notice on July 13, 2015 for all areas impacted by the lifting all remaining water use restrictions that were imposed at the time of the breach. Water sampling has shown the affected areas were not toxic to aquatic life. Water quality information has been communicated to the local community and stakeholders on a regular basis. The program also includes geochemical, physical limnology and biological testing. This program will continue for the foreseeable future.

6.3.6 Post Event Environmental Impact Assessment Report

On June 5, 2015 Golder Associates provided MPMC with a Post Event Environmental Impact Assessment — Key Findings Report. The objective of this report was to provide an assessment of the physical, chemical and biological impacts immediately following the TSF breach, and in the first 6-8 months following. The assessment of long term impacts was conducted in the next phase of during the summer of 2015.

6.3.7 Modified Restart of Mine Operations

Alternatives for a modified restart of mine operations were studied, and consulted with First Nations and the Province of BC. On July 9, 2015 MPMC received permit amendments from MEM and MOE which allow a modified operation plan to process a maximum of 4 million tonnes of ore over a period of up to one year (approximately 50% of capacity of the processing plant). The tailings from the processing during modified operations will be directed to and stored in the Springer pit. During the modified operation plan, ore will be mined from the Cariboo pit and the Boundary zone underground workings. Rehabilitation and restoration work will continue during the period of modified operation. Additional amendments to Permit M-200 and Permit 11678 were issued on April 29, 2016, authorized an additional 1,000,000 tonnes of ore to be processed.

The permit amendments to recommence operations allow the mine to retain a large portion of its skilled work force which is critical to ongoing operations. Employment and business opportunities related to the mine are also important to the regional economy as the mine and its employees play a substantial role in the economy and fabric of the surrounding communities. MPMC management and staff are thankful for the ongoing support of these communities.

All the reports mentioned above and many others can be found on the Imperial metals website (www.imperialmetals.com).

6.4 Current Project Status

On January 12, 2015, MPMC applied for a Permit M-200 and Permit 11678 amendments to allow return to restricted operations at the Mount Polley Mine, with tailings being deposited in the Springer Pit. A revised application was submitted March 20, 2015, incorporating screening comments from the MOE, the MEM and First Nations, and permit amendments were received on July 9, 2015. The approved restricted restart allows milling for the period of one year, up to a maximum throughput of 4,000,000 tonnes of ore (approximately half the pre-tailings dam failure annual throughput). Mill operations restarted on August 4, 2015. Permit amendments issued on April 29, 2016 authorized the processing of an additional 1,000,000 tonnes of ore.

The current project infrastructure consists of

- the Mill and Crusher Facilities
- active mining in the Cariboo Pit
- active mining in the Boundary Zone underground operation, with the portal in the bottom of the completed Wight Pit
- two active rock disposal sites (RDSs): the Southeast Rock Disposal Site (SERDS); and the Temporary Northwest (NW) Potentially-Acid Generating (PAG) Stockpile
- access roads
- power lines
- TSF area with a tailings pipeline from Mill
- drainage collection systems
- sediment/seepage control ponds

Note: The Boundary Zone Pit, the Pond Zone Pit, the Southeast Zone (SEZ) Pit, the Bell Pit, and the Springer Pit are not currently active. Back-filling of the Bell Pit and Pond Zone Pit with waste rock was completed in 2012, and the SEZ Pit was backfilled in 2013. The Wight Pit was partially back filled in 2010.

Currently, the TSF is not permitted to store site contact water and no permitted water discharge is in place following the tailings dam failure. All contact water is currently directed to, and stored in, the Springer Pit. The Springer Pit has a finite capacity, necessitating implementation of a short-term water discharge strategy. On July 16, 2015, MPMC submitted a permit amendment application to the MOE to amend Permit 11678 to allow short-term (maximum two years) discharge of site contact water to Quesnel Lake via Hazeltine Creek, which is currently not fish bearing and is undergoing rehabilitation following the tailings dam failure. MPMC has installed all required pipelines, diffusers, and water treatment plant infrastructure (this was completed prior to October 30, 2015, as required by Permit M-200). The permit was approved on December 1 2015, allowing treated water to be discharged into Hazeltine Creek where it will flows down to a settlement pond and then into twin pipelines that discharge approximately 40-50 metres below the surface of Quesnel Lake.

MPMC is also taking steps to develop a long-term water management strategy; the July 9, 2015 Permit 11678 amendment requires submission of a draft Technical Assessment Report for this long-term water management strategy by June 30, 2016 and a draft schedule of consultation meetings for development of this strategy was submitted to the MOE on September 30, 2015. In parallel with implementation of a short-term water management plan and development of a long term water management plan for the Mount Polley Mine, MPMC plans to apply for a Permit M-200 amendment in 2015 to allow temporary contingency water storage in the TSF to manage 2016 freshet flows, prior to the December 17, 2015 expiry of the current permit for 2015 freshet.

Following a 2014/2015 site investigation program designed and supervised by Golder and executed by MPMC, stability analyses were updated for the TSF. MPMC submitted an M-200 Permit amendment application for completion of additional buttressing activities for the Main and Perimeter Embankments to the MEM on July 31, 2015. This permit amendment was received from the MEM on October 22, 2015, and buttressing work as per this permit amendment is incorporated in mine planning. A further permit amendment issued on April 29, 2016 authorized the construction of the Corner 1 Buttress.

No permits for operation beyond the one year restricted operations period are in place, and the Reclamation and Closure Plan Update 2015, submitted September 30, 2015, assumed closure following the completion of the milling of 4,000,000 tonnes of ore within the one year restricted operations period as currently authorized. The milling authorization was increased by 1,000,000 tonnes of ore as of April 29, 2016.

Figure 6-2 Mount Polley Crusher and Crushed Ore Stock Piles

7 Geological Setting and Mineralization

7.1 Tectonic Setting and Regional Geology

Mount Polley is in Quesnellia, an accreted terrane in the Intermontane Belt of the Canadian Cordillera (Figure 7-1). Quesnellia is characterized by Triassic to Jurassic volcanic, sedimentary, and mafic to intermediate intrusive rocks formed in a west-facing arc that developed west of the continental margin of ancestral North America. The Mount Polley mine is within the Mount Polley Intrusive Complex (MPIC) situated in the Central Quesnel Belt, a region of Quesnellia roughly between latitudes 51.5° and 53.5°N (Figures 7-1, 7-2). In this area, the arc and a marginal basin immediately to its east were obducted eastwards onto the then continental margin in the late Early Jurassic. Continued crustal shortening in the Middle Jurassic resulted in regional metamorphism and southwest-verging back-folding of the now coupled arc-marginal basin and continental margin assemblages. Mount Polley lies in the core of a broad regional, northwest-trending upright syncline at the western limit of this Middle Jurassic folding (Figure 7-1). Regional metamorphic grade at Mount Polley is no more than zeolite facies.

Figure 7-1 Tectono-stratigraphic setting of the Mount Polley Deposit

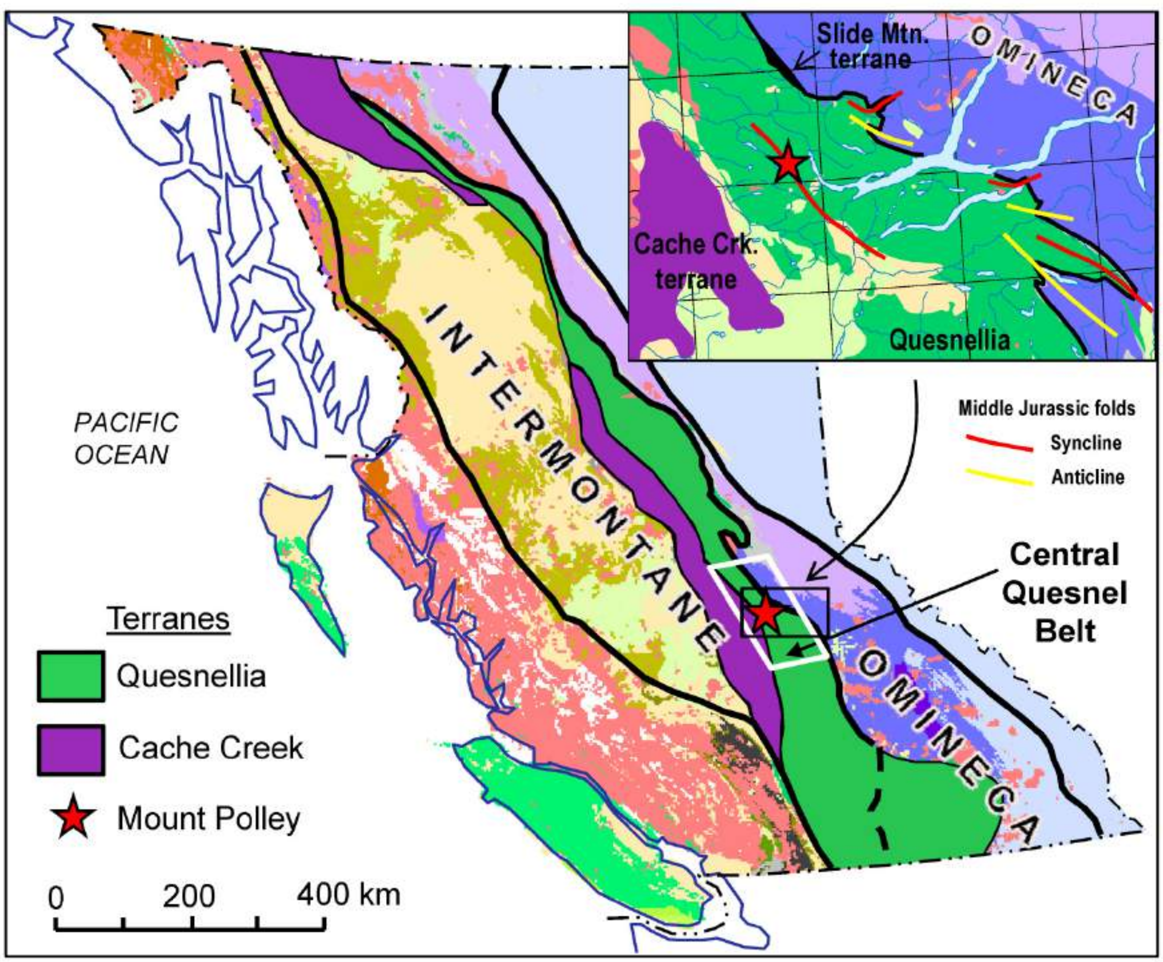


Figure 7-2 Regional Geology of the Mount Polley Property

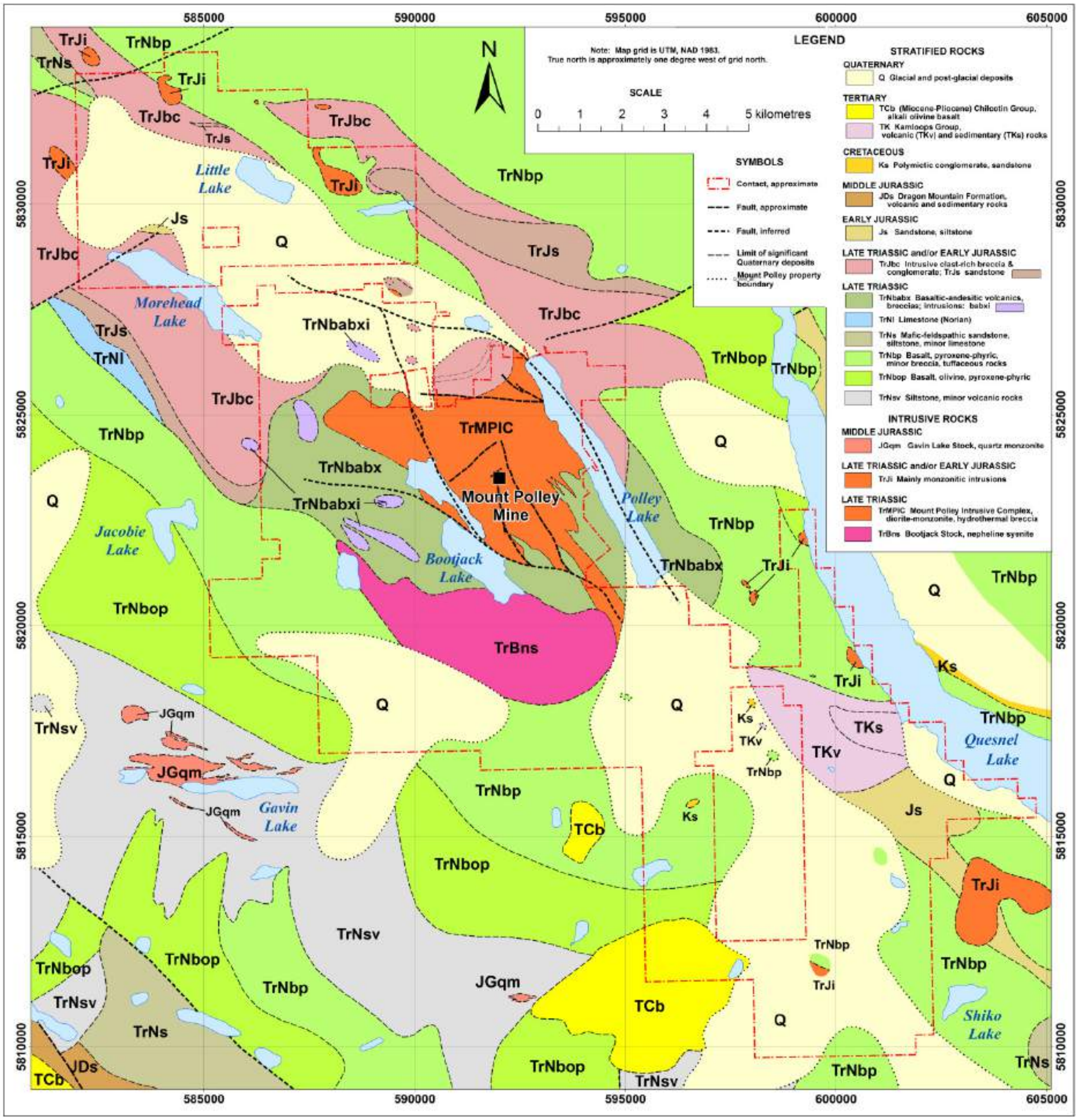
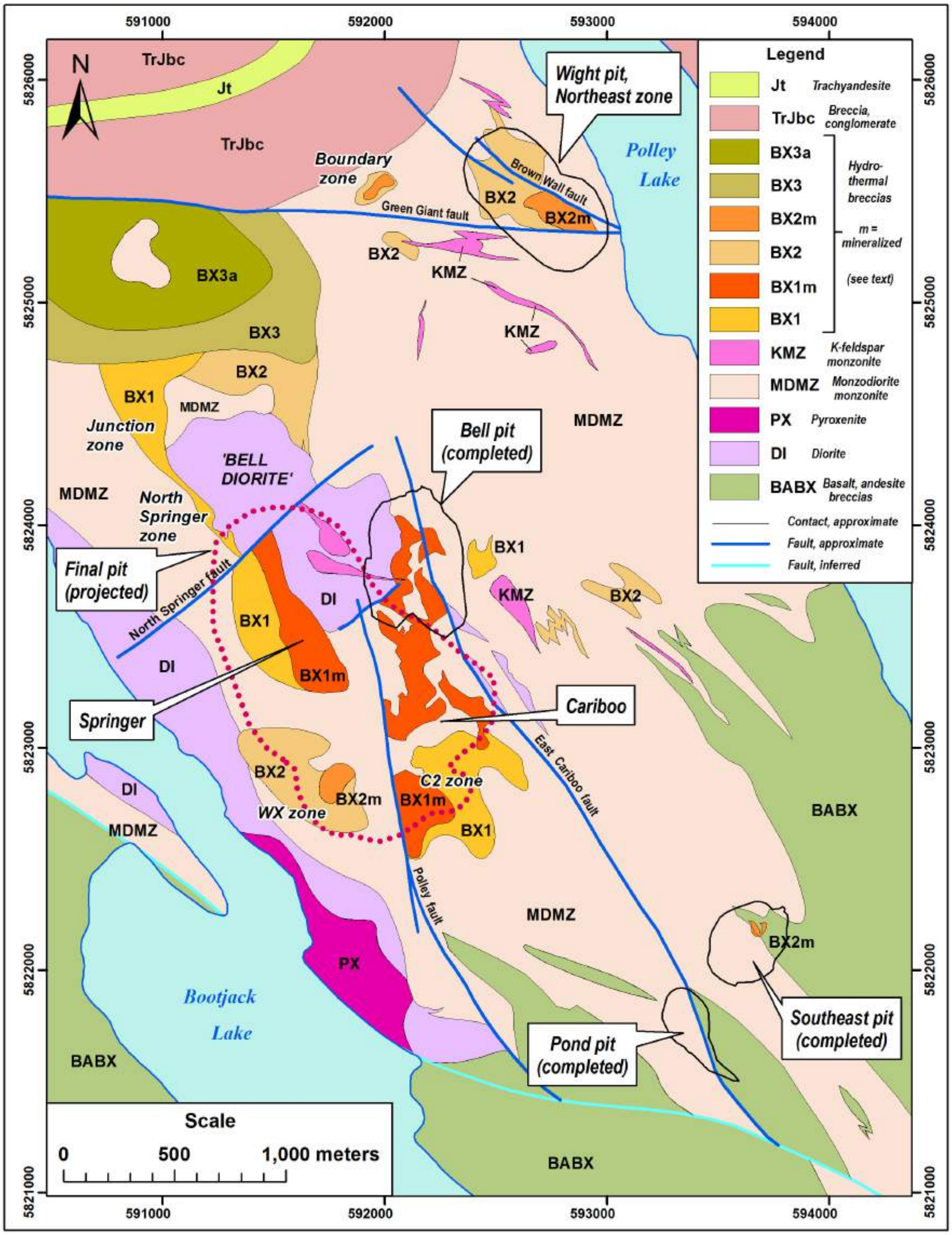


Figure 7-3 Simplified Geology of the Mount Polley Intrusive Complex



Stratified Triassic rocks surrounding Mount Polley are assigned to the Nicola Group, the type-area of which is in southern Quesnellia, where the Nicola hosts other porphyry copper deposits such as the Highland Valley, Copper Mountain, and New Afton mines. The arc stratigraphy in the Mount Polley district extends from the Middle and Late Triassic Nicola Group into the Early Jurassic. From the base, the Nicola Group consists of Middle to early Late Triassic sedimentary and minor volcanic rocks, overlain by a thick Late Triassic succession of submarine, trachybasaltic volcanics and related tuffaceous sediments and volcaniclastic breccias. The youngest assemblage, which extended into the Early Jurassic, consists of volcanic, plutonic, and sedimentary rocks representing a more mature stage of arc activity, and more differentiated magmatism, when the MPIC was formed. The youngest arc rocks are polymictic breccia and conglomerate that unconformably overlie the MPIC, and are products of late arc uplift and erosion. In the southern part of the Mount Polley property, Nicola Group country rocks are covered by post-accretion units including outliers of unnamed Cretaceous sandstone and conglomerate; early Tertiary andesitic volcanic and sedimentary rocks of the Kamloops Group; and Miocene-Pliocene basaltic volcanics of the Chilcotin Group.

The regional fold structure described above is such that the MPIC and the late arc rocks lie in the core of the Middle Jurassic syncline, with successively older Nicola Group assemblages outcropping to the east and west of Mount Polley on the limbs of the syncline across the width of Quesnellia (Figures 7-1, 7-2). Later, in the Paleocene-Eocene, dextral transpressional / transtensional tectonics affected southern British Columbia: the MPIC forms a lenticular block between major bounding faults trending NW-SE, following the Bootjack and Polley lake depressions. This large-scale fault pattern is discernible in the aeromagnetic expression.

7.2 Deposit Geology

The Mount Polley Intrusive Complex (MPIC) hosts the Mount Polley copper-gold porphyry deposit (Figures 7-2, 7-3). It is a Late Triassic magmatic centre approximately 6 by 4 kms, elongate in a NNW direction. It consists of alkalic, marginally silica-undersaturated intrusions, and magmatic-hydrothermal breccias. The age of the deposit is approximately 205 million years, based on uranium-lead isotopic dating; there is close agreement between age determinations from MPIC intrusions and minerals associated with sulfide mineralization. Mineralization occurs in almost all constituent rock types of the MPIC, and thus occurred late in its formation. Nearly all economic mineralization is in breccias, or in mineralized stockwork veins in adjacent wall rock intrusion. Country rocks of the Nicola Group closest to the MPIC are mafic to intermediate volcanic and subvolcanic coherent rocks, and related breccias, and may form components of mineralized hydrothermal breccias in the periphery of the MPIC.

7.2.1 MPIC Igneous Rocks

In more detail, coherent igneous rocks of the MPIC form a temporal sequence from (i) equigranular through to weakly to strongly porphyritic phases, and (ii) from relatively mafic to more evolved (but still relatively silica-poor) compositions. From presumed oldest to youngest, the intrusive units likely to be encountered in mining are:

Diorite: Equigranular diorite to monzodiorite (unit DI) is generally massive, medium to coarse grained, and speckled black and white or grey due to subequal clinopyroxene and plagioclase, typically accompanied by several per cent primary biotite, and minor poikilitic K-feldspar.

Monzodiorite-Monzonite: This unit (unit MDMZ) is a composite of many intermediate intrusive rock types that make up the bulk of the MPIC. All are considered to pre-date the main mineralization. The predominant lithology is plagioclase porphyry consisting of small (2-3 mm) subhedral phenocrysts of plagioclase in a fine-grained or 'aplitic' groundmass, with subordinate augite phenocrysts and minor biotite. Quartz is rare to negligible in the groundmass, if not absent. The feldspathic groundmass is pale grey where least altered but can be deep salmon pink to red if strongly altered. K-feldspar is restricted to the groundmass; although much is secondary, some is likely primary, and a general monzodioritic to monzonitic composition has been assumed, although the range of MDMZ extends to diorite or leucodiorite, and possibly syenite.

K-feldspar monzonite: This is a volumetrically minor intrusive phase (unit KMZ) of the MPIC, but important because it is implicated in mineralization (see Section 7.3 on Mineralization). The unit consists of monzonite with crowded to sparse phenocrysts or megacrysts (1-4 cm) of K-feldspar, along with smaller augite and/or hornblende grains, and lesser biotite and magnetite. This is the most evolved phase in the MPIC, and formed late in the porphyry sequence because it intrudes hydrothermal breccias as well as older units of DI and MDMZ. Unit KMZ forms dykes a few metres to tens of metres in map width, which dip steeply, and have various orientations.

Minor intrusive units: These include late stage dykes up to a few metres in thickness such as augite-phyric trachybasaltic ('AP') dykes, and rare minette dykes, which cut through all other units and mineralization.

7.2.2 MPIC Hydrothermal Breccias

Nearly all ore zones in the MPIC coincide with zones of hydrothermal breccia (Figure 7-3); non-mineralized but altered hydrothermal breccias also occur in the MPIC. At Mount Polley, 'breccia' refers to (i) a fragmental rock containing diverse, transported and rotated clasts of pre-existing igneous rock in a matrix of comminuted rock ('rock flour') or in an igneous 'cement' or mineral cement, and (ii) a strongly fractured, originally coherent rock in which fragments display a jigsaw-fit organization (cf. 'crackle breccia'). Three general units of hydrothermal breccias have been recognized in the MPIC, here called BX1, BX2, and BX3. Note that all areas of these breccia map units include volumes of coherent igneous rocks that may not be distinguished at the map scale.

Breccia BX1 consists of a mixture of fragmental and jigsaw-fit breccias, and is characterized by complex, relatively coarse-grained, texture-destructive alteration and replacement of breccia matrix/cement or of fracture fillings and vein envelopes. This unit characterizes breccias in the core of the MPIC, encompassing the present Springer and Cariboo ore zones (and the mined-out Bell zone). The intensity and coarseness of the associated alteration in BX1 is thought to indicate that this area constitutes the centre of the MPIC hydrothermal system.

Breccia BX2 applies to hydrothermal breccias outside the core of the MPIC, where there is less intense texture destruction due to the generally milder associated alteration, and clast-matrix/infill textures are better defined. Fragmental BX2 breccias can be clast- or matrix-supported. The Boundary orebody is in BX2, as is the Northeast zone (partly open-pit mined in the Wight pit), and also the mined-out Southeast ore zone.

Breccia BX3 is unmineralized fragmental breccia in the upper levels of the MPIC, in the north between the Wight Pit and the Bootjack access road. Clasts and matrix were derived from adjacent or subjacent MPIC monzonitic porphyries, which were altered before incorporation in the breccia. The matrix/clast ratio in BX3 increases with distance away from the main contact with MPIC porphyries.

7.2.3 Hydrothermal Alteration

High-temperature alteration in the Mount Polley Intrusive Complex consists of potassic(-sodic) and calc-potassic assemblages characterized by K-feldspar and (lesser) biotite, albite (generally minor but locally predominant), magnetite, and subordinate calc-silicate minerals such as actinolite, diopside, epidote, clinozoisite, and sporadic andraditic garnet. Interstitial calcite is almost invariably disseminated in the alteration, and it occurs in veins on a variety of scales. Retrograde and mainly post-mineralization alteration minerals include chlorite, sericite, prehnite, zeolites, gypsum, and clay. Quartz may be present in rare, very late stage veins as a by-product of epithermal alteration, but it is absent from high-temperature alteration. There is no phyllic overprint in the MPIC (this contrasts the alkalic MPIC with calc-alkalic porphyry copper systems where phyllic alteration is typical).

In intrusive rocks, K-feldspar is the most prevalent and pervasive alteration phase, normally marked by a deep salmon-pink or red colouration due to nanoscale inclusions of hematite. Where not pervasive, the K-feldspar alteration takes the form of vein- or fracture-controlled halos. Veins related to high-temperature alteration mainly consist of a combination of (in approximate order of abundance) calcite, magnetite, epidote, and actinolite, with or without sulfides. In breccias, texture-destructive replacement of the matrix by alteration minerals ranges from partial to complete; it may extend well into breccia clasts as well, blurring clast-matrix boundaries, especially in breccias in the centre of the hydrothermal system (see below). Blotchy, subtly fracture-controlled alteration in coherent rocks can produce pseudobreccia textures.

Geographically, alteration (especially calc-potassic) is strongest and most texturally destructive in the core of the MPIC, in BX1 in the Springer-Cariboo ore zones. In the rest of the MPIC, red-pink potassic alteration is dominant, but is variable in intensity; it is less pronounced in the southern parts of the MPIC compared to the centre and north, judging by the less prominent or extensive reddening in most intrusive rocks in the south. Alteration is generally stronger and more complex in zones of fracturing, where there was greater penetration by hydrothermal fluids, and also in breccias of BX2. The most notable examples of the latter are the breccias in the Northeast and Boundary ore zones, and the mined-out Southeast zone, although there is limited texture-destruction in these areas compared to that in BX1 in the centre of the MPIC. Fringing the south of the MPIC, Nicola Group country rocks are moderately to strongly propylitic, and the adjacent MPIC monzodiorite-monzonite rocks are marginally propylitic, marked by stronger than usual epidote, and pyrite. Unusual, skarn-like alteration indicated by andraditic garnet characterized the mined-out Pond Zone, related to an inclusion of Nicola Group limestone within MPIC intrusives.

7.2.4 Structure in the MPIC

As mentioned, the MPIC lies in the core of a regional, open syncline in the Nicola Group. At Mount Polley, the syncline plunges 10° to 20° north, based on (1) the NNW dip of originally flat, unconformably overlying post-MPIC units, which crop out to the NNW; and (2) in the SSE, the MPIC is surrounded only by older and structurally deeper Nicola Group country rocks.

Minor faults within the MPIC are common. Ore-waste contacts or grade discontinuities are frequently fault-controlled, but most are not traceable very far. However, a few major faults are present (See Figure 7-3). The Polley fault is a north-south zone of cataclastic deformation consisting of fault gouge, breccia and an anastomosing network of sheared and fractured rocks over a maximum thickness of 50 metres. The fault dips steeply east and separates the Springer deposit with its distinctive sodic alteration to the west from the Cariboo deposit to the east, and it also marks the western limit of the original C2 ore zone, farther south. Overall, however, the Polley fault does not indicate major displacement of geological units, and may mainly represent reactivation(s) of a vestigial, deeply rooted feeder structure on which the Springer-Cariboo breccia complex was originally formed.

The East Cariboo fault lies immediately east of the Cariboo and (former) Bell ore zones, and has a clear aeromagnetic expression. It trends NNW and dips steeply east, and underwent at least some dextral strike slip, with a west-side up vertical component. The North Springer fault truncates mineralization at the north end of the main Springer Zone and displaces it to the southwest due to about 250 metres of sinistral strike slip; the displaced mineralization on the NW side is narrower and forms the North Springer and Junction exploration zones (Figure 7-3; see Section 7.3 on Mineralization).

In the northern part of the MPIC, post-mineralization faults are a more important control on present ore geometry. The Northeast Zone (NEZ) is clearly truncated in the south by the east-west trending, subvertical Green Giant fault (Figure 7-3). The Boundary zone also lies north of the Green Giant fault, but it is not truncated by it. The northern fault block containing the orebodies was displaced downwards, such that on the south side the displaced part of the NEZ has been eroded away, and the southern block consists of structurally deeper and virtually unmineralized MDMZ rocks; the Green Giant fault may have a dextral strike-slip component as well as dip slip. The Northeast Zone orebody is also truncated on its northeast side by the Brown Wall fault (Figure 7-3). This is an oblique-slip reverse fault with mainly sinistral strike-slip that has displaced a substantial portion of the original orebody downwards and to the northwest. The deeper, displaced portion (the mine term is Martel Zone) is beneath the north end of the completed Wight pit, and is a longer-term target for underground mining. The Brown Wall fault is slightly older than the Green Giant fault and is cut by it at depth.

The majority of minor brittle faults and fractures throughout the MPIC collectively define a conjugate set with N-S dextral strike slip and ENE-WSW sinistral strike slip components, produced by shortening oriented NE-SW. These structures are probably related to the regional dextral transpressional regime mentioned above.

7.3 Mineralization

As is typical of alkalic porphyry copper systems (see Section 8), mineralization at Mount Polley formed in a number of distinct zones rather than as a simple zoned deposit. The most important (remaining) ore zones can be divided into two main groups, distinguished by location, size, mineralization style, and average copper-gold grades: the Springer-Cariboo area (referred to as the "Main zone" elsewhere in this document) and the Northeast-Boundary area (Figure 7-3).

7.3.1 Springer-Cariboo

The original discovery at Mount Polley was in the Springer zone in the centre of the MPIC, which was followed by the adjacent Cariboo Zone to the east across the Polley fault (Figure 7-3). Through further exploration, mineralization expanded to the former Bell Zone (now mined), just north of the Cariboo, and to the C2 zone south of the Cariboo, which is now considered part of the Cariboo ore reserve. The WX zone is the most recent discovery (2009) in this area, south of the Springer. Together, this group of zones in the core of the MPIC has contributed most of the historic production at Mount Polley, and still contains the bulk of remaining reserves and resources. Although the zones are not contiguous, being separated by faults or poorly mineralized intrusions, they share similar features of host rock, and alteration and sulfide textures. Grades of economic mineralization are relatively low to moderate, averaging between 0.23 to 0.3% Cu, 0.2 to 0.29 g/t Au, and around 0.5 g/t Ag.

In the existing Springer and Cariboo Zones, hypogene mineralization consists primarily of chalcopyrite, and minor bornite. Pyrite is generally present as part of the associated alteration, with or without chalcopyrite. The sulfides may occur (i) disseminated in coherent rocks in thin (hairline to mm-scale) stockwork veins and fractures, (ii) as fine-grained specks of chalcopyrite disseminated in pervasive red or pink, K-feldspar-rich alteration, or in fracture-controlled K-feldspar halos; and especially (iii) in the matrix of BX1-type breccias, co-precipitated with alteration minerals from hydrothermal solutions. Coarser, chalcopyrite-rich veins greater than 1-2 cm thickness are rare. Bornite is widespread but fine-grained and irregular, and is subordinate to chalcopyrite; it is best developed in K-feldspar-magnetite alteration such as in the north of the Springer deposit. In the breccias, chalcopyrite and locally bornite may form coarse blebs or infills as part of the texturally-destructive alteration assemblage consisting typically of albite, magnetite, calcite and epidote. In the southern part of the Springer where albite alteration is most pronounced, chalcopyrite is present in albite-magnetite-actinolite intergrowths in breccia and pseudobreccia.

The presently undeveloped WX zone is somewhat peripheral to the main Springer-Cariboo area, and has less intense alteration and brecciation except in the north and east. The WX zone is significant for its high gold and silver grades.

Secondary copper sulfides such as chalcocite and covellite, and secondary oxides, carbonates and silicates, all related to oxidation and supergene effects are noteworthy only in the upper 100-150 metres of the Springer deposit. Here, malachite and azurite form fracture coatings, and chrysocolla occurs in fractures and veinlets.

The secondary sulfides attest to leaching of the original hypogene sulfides by groundwater, but due to the high calcite content of the rocks, most of the dissolved copper was not removed and readily reprecipitated as copper carbonates malachite and azurite, and thus there is limited supergene copper enrichment at depth. The secondary copper minerals constitute only a minor portion of the overall mineralization and did not produce any significant perturbations in the original modelling, even in the Springer. In the most recent Springer pit mining, ore containing 10-20% oxide was still encountered in the lower benches, particularly in the north.

7.3.2 Northeast-Boundary

The second main group of economic mineral zones occurs in the far north of the MPIC, north of the Green Giant fault (Figure 7-3), namely the Northeast and Boundary Zones, and the Quarry exploration zone. These deposits differ from the Springer-Cariboo group by their coarser sulfide mineralization, the much higher bornite content (except in the Quarry zone), and consequently their high to very high copper-gold grades, commonly ≥1% CuEq. Chalcopyrite and bornite occur as polygonal or irregular inter-clast cement in fragmental breccia bodies (BX2); disseminated in altered, rock-flour breccia matrix; and as veins (1 to 10 cm-plus thick) and microveins in adjacent brecciated monzonite wall rock. The associated hydrothermal alteration is mainly potassic, and not strongly texturally destructive (compared to BX1 breccias). Pyrite content in the mineralization varies: it may form the dominant sulfide in more peripheral zones, or it may be virtually absent, especially if bornite is present.

Northeast Zone (NEZ): This deposit is roughly zoned, with a centre rich in chalcopyrite and bornite, surrounded by predominant chalcopyrite, accompanied by increasing pyrite outwards. In the high-grade centre, bornite is inter-grown with, and locally replaced by chalcopyrite, and both commonly replace secondary magnetite. Grades can reach 5% copper or more, and average 0.8 to 1%; the highest grades are in tightly packed, clast-rich breccias. The highest gold and silver grades in the NEZ correlate with the concentration of copper. However, research studies found that although silver may form inclusions in chalcopyrite, bornite is not enriched in gold or silver, suggesting that gold and silver crystallized independently as micron-scale grains (possibly electrum) that accompanied the copper sulfides. There is more gold enrichment in pyrite than in copper sulfides. The near-surface part of the NEZ in the hanging wall of the Brown Wall fault was mined between 2005 and 2009 as an open pit called the 'Wight Pit'. The substantial resource remaining below this pit is being considered for an underground mine.

Figure 7-4 Northeast Zone (Wight Pit) High Grade Bornite/Chalcopyrite Sample

Boundary Zone (BZ): This zone is similar to the Northeast Zone 400 metres to its east, but is much smaller, with the higher grades split into smaller zones at depth (Figure 7-5). During exploration drilling from surface, mineralized breccias were traced from surface downwards and to the east, towards the NEZ. Underground development in the deep BZ since 2011 (with access from the completed Wight pit) has provided more insights into mineralization styles, host rock controls, and fault orientations. Mapping and wall sampling between 2013 and 2015 was done on four elevation levels (842m, 812 m, 782 m, and 752 m), accompanied by drilling programs (Figures 7-6 to 7-9). The interpretation is that mineralized breccias form irregular, subvertical pipes, and lenses trending NE-SW; in width, they range from less than a metre to over 20 metres. Typically, fragmental breccia grades laterally into brecciated monzonite wall rock (which may be even better mineralized), beyond which is barren monzonite, or possibly another breccia zone. Magnetite locally dominates the breccia cement or matrix alteration, although magnetite content is not a reliable indicator of copper grade. A volume of mineralization 75-100 metres SE of the main Boundary zone is termed the Zuke Zone; it contains slightly more dilution by post-mineral mafic (augite porphyry) dykes (Figure 7-5 and Figure 7-8).

There are two dominant fault trends in the Northeast and Boundary zones: NNW-SSE, and (E)NE-(W)SW. The majority dip steeper than 45°, increasing in frequency towards a vertical dip. Slip vectors on the fault planes are generally low-angle. Displacements are probably in the order of a few metres in most cases. The Zuke fault is the most conspicuous structure in the underground. It is a low-angle fault, oriented approximately 175°/20°W, but is not thought to affect ore geometry significantly.

Figure 7-5 3D View: Northeast and Boundary Zones

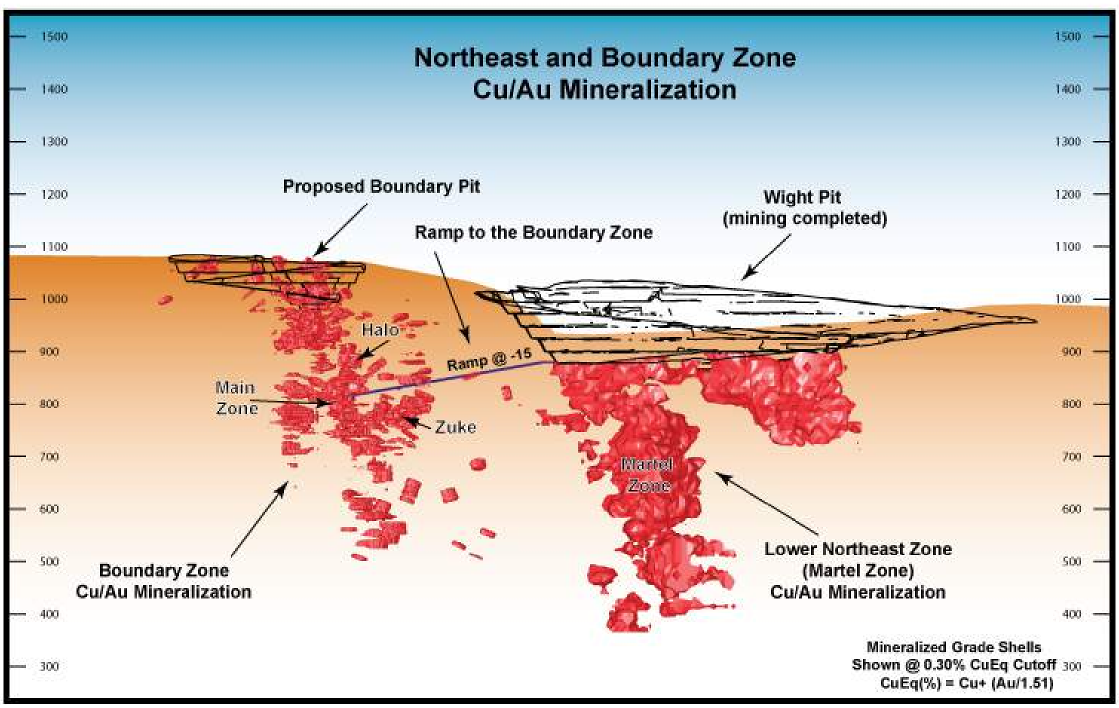


Figure 7-6 Geology of the Boundary Zone Underground, 842 Level

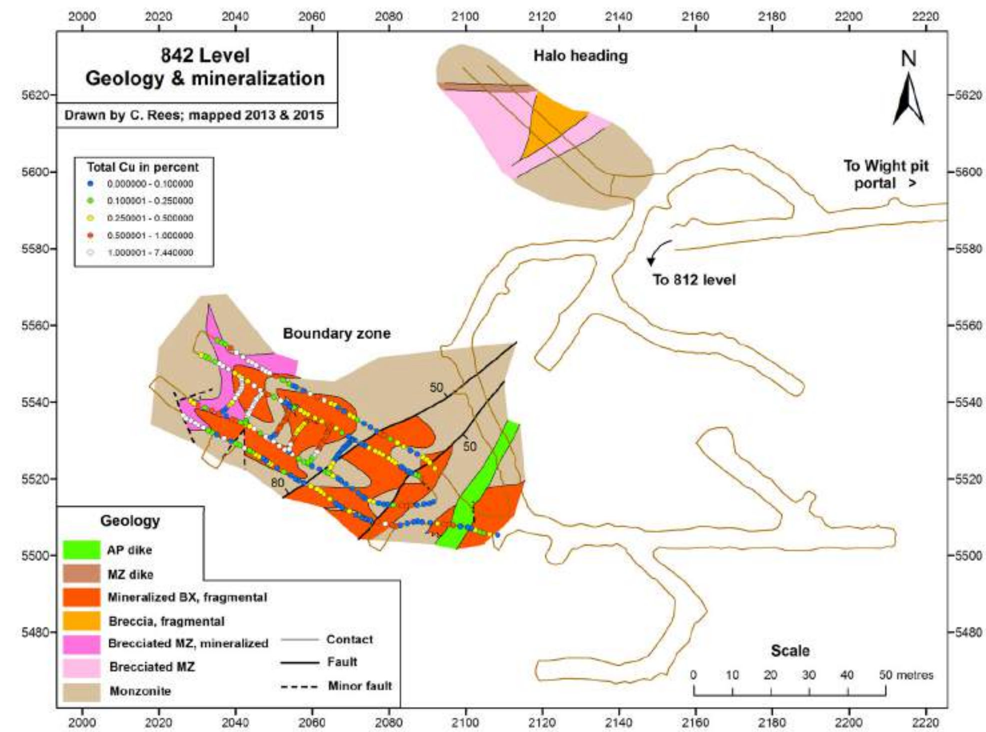


Figure 7-7 Geology of the Boundary Zone Underground, 812 Level

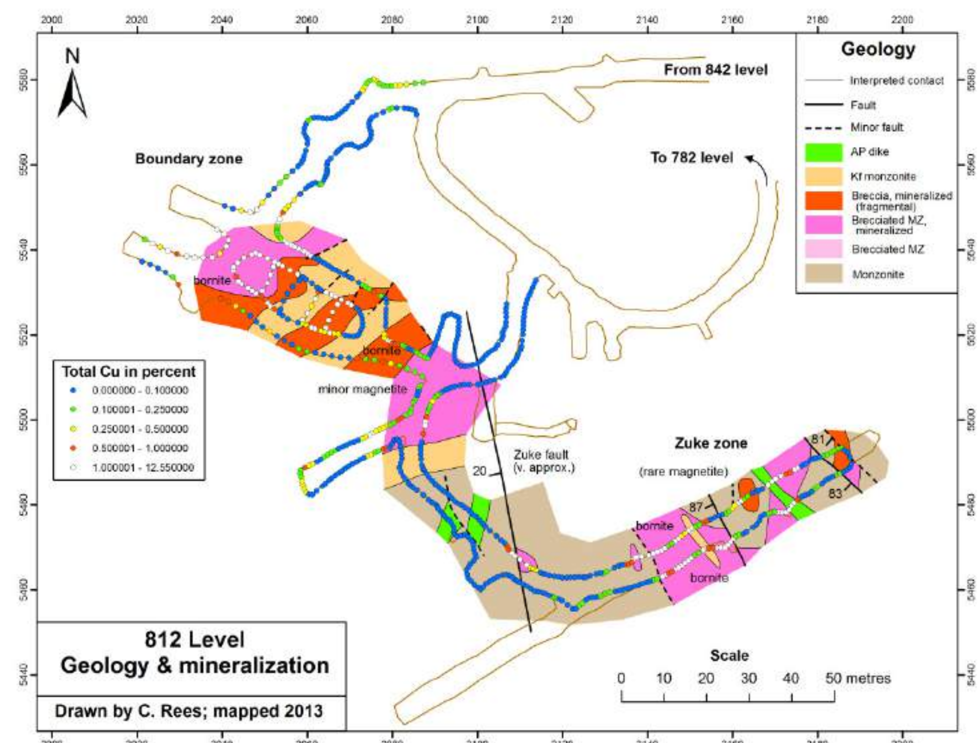


Figure 7-8 Geology of the Boundary zone underground, 782 level

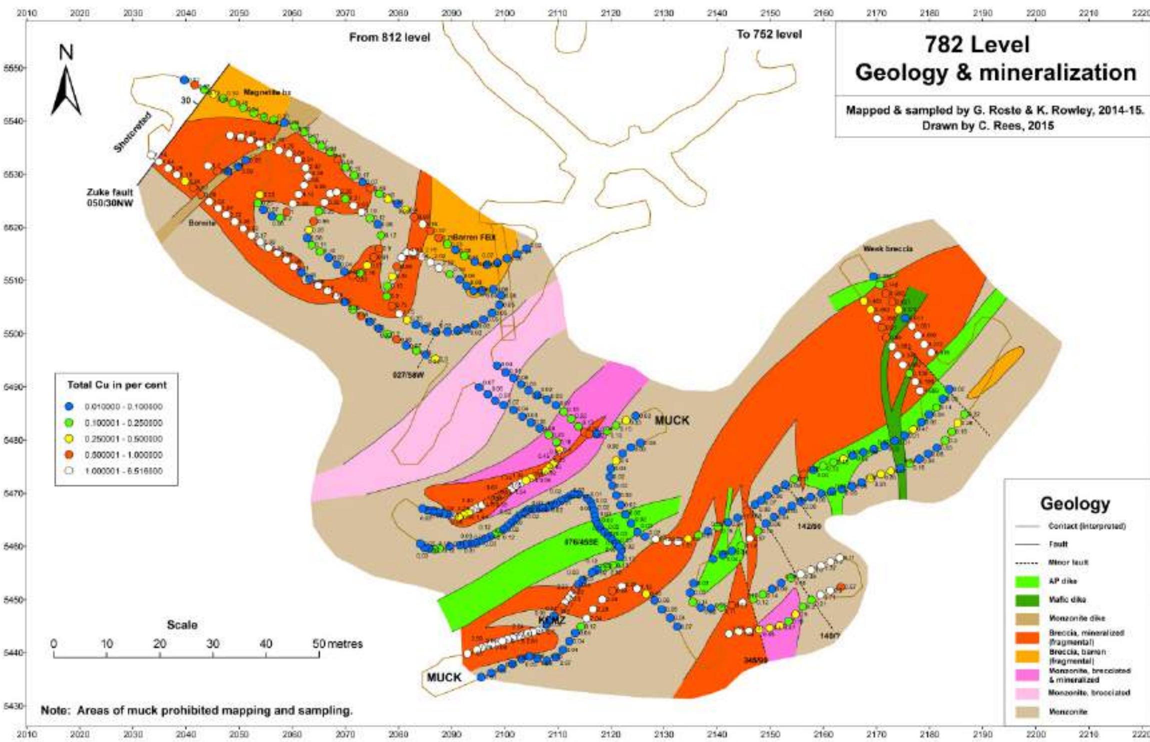
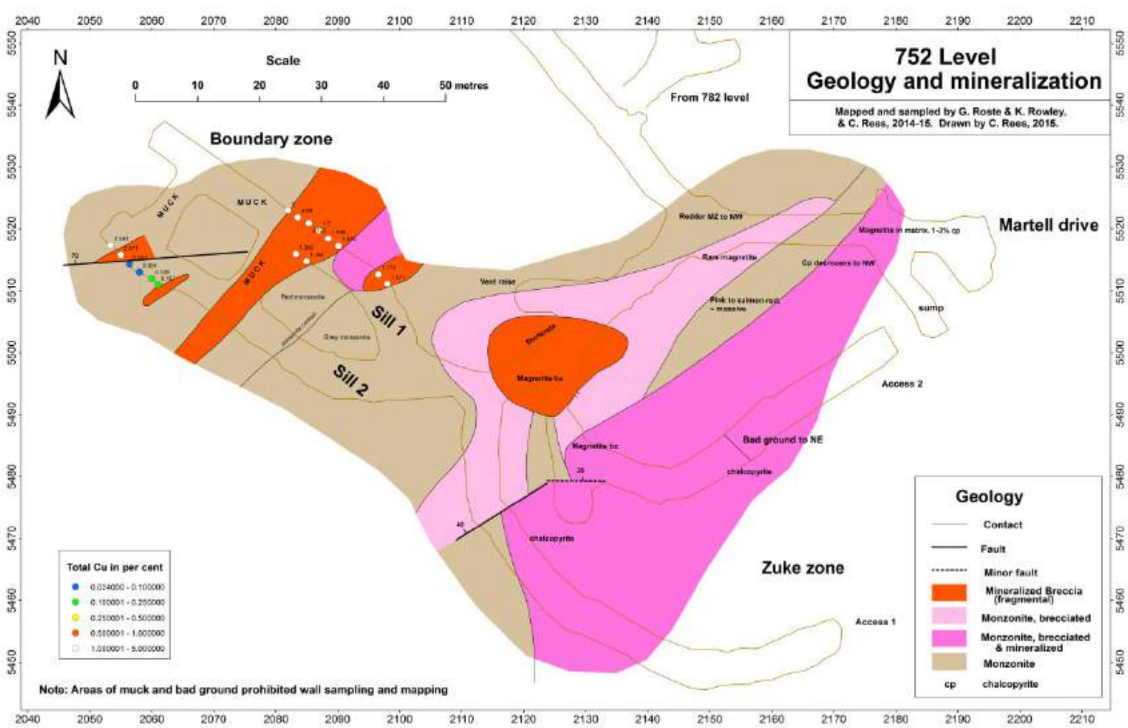


Figure 7-9 Geology of the Boundary Zone Underground, 752 Level



7.3.3 Other mineralized zones

A few other zones of mineralization at Mount Polley are described here for completeness. Some have already been mined, but may still contain a resource.

Quarry Zone: This was discovered in 2007 immediately north of the MPIC by drilling an exploratory hole through younger conglomerate cover rocks (unit TrJbc in Figure 7.3) into the buried MPIC. Coarse-grained chalcopyrite mineralization occurs roughly 350 metres below the surface in polymictic fragmental hydrothermal breccia identical to the Northeast Zone (minus bornite). Grades are encouragingly high, but drilling has so far not delineated substantial volumes or continuity of Quarry zone mineralization.

Southeast Zone: This area (Figures 7.3 and 7.8) of hydrothermal breccias and mineralization formed at the contact between MPIC monzonitic-monzodioritic intrusive rocks to the west, and more mafic, basaltic-andesitic rocks of the Nicola Group to the east. Breccias (BX2) form discontinuous tabular bodies along intrusive contacts, and were probably controlled by hydrothermal fluid channelling along the same trend. Alteration is a mixture of potassic and marginal propylitic. The style of Southeast zone BX2-breccia hosted mineralization resembles that in the northern MPIC (more than that in BX1 in the core of Mount Polley), although grades are lower: ore typically ranged from 0.1 to 0.6% Cu, with some assays reaching 2%. Bornite is absent. The copper-gold ratio is generally lower than in most other Mount Polley zones, at around 0.4 to 1 (in terms of percent versus g/t), possibly because of the relatively high pyrite in Southeast zone mineralization. Molybdenite is rare, occurring in albite veins accompanied by chalcopyrite and pyrite, and is found mainly in the south where copper and gold grades weaken. The Southeast zone pit was mined between 2008 and 2010.

Pond Zone: This zone (see comparison with the Southeast Zone in Figure 7.10) is near the southern margin of the MPIC where diorite-monzodiorite included a large xenolithic block of limestone belonging to the adjacent Nicola Group. Skarn-like alteration in the intrusive rocks is characterized by andraditic garnet and lesser epidote, and hosts disseminated chalcopyrite-pyrite mineralization and minor bornite (Figure 7.11). The best copper grades form a vertical N-S tabular zone related to fractures which probably channeled mineralizing fluids. Ore grades range from less than 1% copper to over 10%, and the Pond zone is particularly high in silver compared to the other Mount Polley Zones. The limestone is not well mineralized. The Pond zone open pit was mined out in 2011, but still contains a resource below the mined pit.

North Springer – Junction Zone: These zones, beginning immediately NW of the Springer pit (Figure 7.3), were explored extensively by trenching and later drilling. They contain similar mineralization to the Springer, and the North Springer was carefully considered for pit expansion, but with average grades of approximately 0.25% copper and 0.25 g/t gold, it was judged to be subeconomic with the current drilling.

Figure 7-10 Comparison of the Pond Zone and Southeast Zone

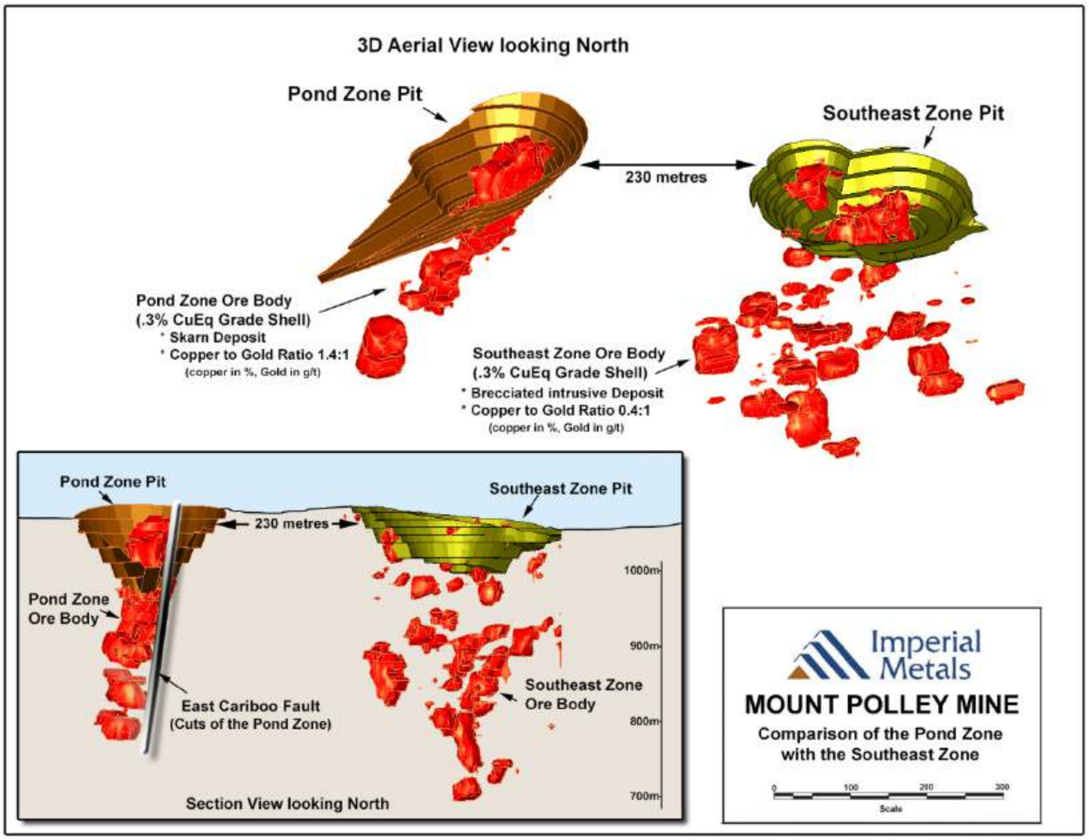
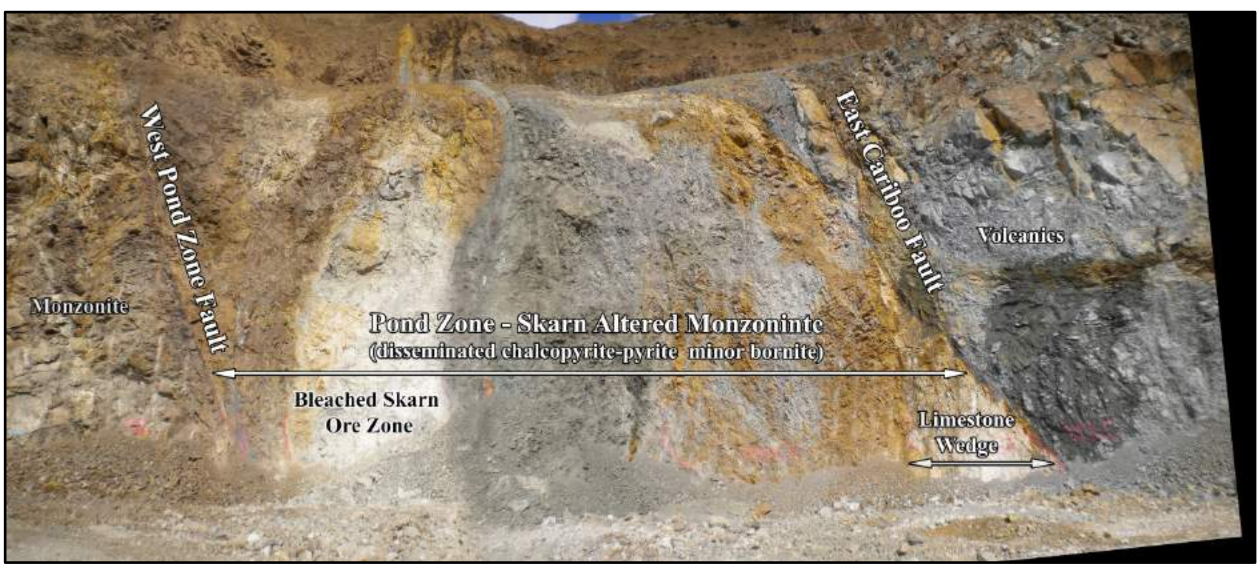


Figure 7-11 Exposed Bench Face in the Pond Zone Pit



8 DEPOSIT TYPES

8.1 Mount Polley Deposit Type

Porphyry copper deposits (PCDs) form in subvolcanic stocks and dike complexes, usually at paleo-depths between about 1 and 6 km. These deposits form from magmatism related to subduction at convergent plate margins. The PCD igneous complex typically forms above the cupola of a deeper, hydrous, fractionating parental magma of intermediate to felsic composition, from which partially crystallized magma and metalliferous aqueous and hypersaline fluids are injected into the shallower crust where final crystallization, hydrothermal alteration, and mineralization processes take place. PCDs occur in volcanic arc assemblages, like Mount Polley, or in continental arc settings. Classification schemes of PCDs emphasize the total alkali (K_2O and Na_2O) versus silica ratio of the host intrusive rock types, dividing PCDs into calc-alkalic and alkalic classes. The role of tectonics or mantle metasomatism in this differentiation of subduction-generated magmas and their various Cu-Au-Mo signatures is still debated, and the subject is beyond the scope of this document.

Mount Polley belongs to the alkalic class of porphyry copper deposits (PCDs), based on the petrochemistry of the least altered intrusions of the MPIC, which show high total alkalis relative to silica. Worldwide, alkalic PCDs are less abundant than their calc-alkalic and high-K calc-alkalic counterparts, and their tonnages are usually well below average for a PCD. Their comparatively small size and less conspicuous hydrothermal footprints may have made them more difficult to recognize, historically. Interest in alkalic PCDs has increased in recent years because they are associated with unusually high copper-gold grades. Indeed, the trend to explore and mine PCDs to greater depths can be incentivized by sustained high grades, making even underground mining feasible (e.g. Cadia district, Australia; New Afton, B.C.). Alkalic PCDs occur on a number of continents, but they are particularly important deposit types in Triassic-Jurassic volcanic arc assemblages in the British Columbia segment of the North American Cordillera.

8.1.1 General characteristics of Alkalic PCDs

It is useful to review the global characteristics of the alkalic porphyry copper deposit type.
The following is based on reviews by Wilson et al. (2002) and Holliday and Cooke (2007).

- Composite or multiphase intrusive systems, which can be silica-saturated or undersaturated. Host rocks typically range from diorite to syenite. Breccias are important in many but not all deposits.
- Complex alteration patterns, a combination of potassic and calc-potassic alteration, typically structurally and lithologically controlled; secondary magnetite, and usually carbonate are prominent in the alteration. Propylitic alteration halo, of variable width. Skarn may occur, but usually host-rock dependent.
- Sodic alteration (albite) is usually present.

- Phyllic alteration is absent or very localized (e.g. faults); advanced argillic alteration is absent.
- Systems are low sulfidation, typically.
- High oxidation state.
- Smaller mineral endowment than average calc-alkalic PCDs, but frequently higher grade.
- Multiple mineralization centres or clusters, commonly related to narrow, discrete, vertically elongate porphyry intrusions.
- Copper-gold rich ore, dominantly bornite and chalcopyrite; molybdenite is very sparse and erratic (no Cu-Mo ores).
- Neither the presence nor absence of quartz veins or gangue is diagnostic.
- Commonly show no systematic metal zoning over the PCD; peripheral or distal Pb-Zn-Ag signature is usually not apparent.

8.1.2 Exploration Techniques for Alkalic PCDs

- Complex alteration, and erratic mineral zoning can make geochemical vectoring inconclusive, but it is nevertheless an effective empirical tool in conjunction with mapping and prospecting.
- Induced polarization surveys have limited value for vectoring within an alkalic PCD district (with some exceptions) because of typically low sulfide abundance and its irregularity (non-annular pattern), and a potentially low resistivity contrast with unmineralized or country rocks.
- Low-level aeromagnetics is a more useful geophysical tool for identifying the magnetite-rich system core; magnetite is not likely to be destroyed by overprinting phyllic alteration as in most calc-alkalic or high-K calc-alkalic PCDs.

8.1.3 Relevance to Mount Polley

Mount Polley complies with essentially all of the above characteristics of alkalic PCDs. Two important geochemical features of the MPIC should be highlighted:

- It is a relatively low sulfur system: pyrite is not a major component of the copper mineralization, and pyritic halos around zones, if any, are narrow and relatively weak.
- Significant calcite in alteration and veins served to buffer the pH of circulating fluids, which limited sulfide decomposition and metal dispersion during system cooling, and in more recent weathering and oxidation.

As a result, Mount Polley has no phyllic overprint or pyritization of mafic mineral sites by low-temperature sulfur-rich fluids, and consequently the acid-rock drainage potential is relatively low.

Oxidation of hypogene sulfides is restricted to the upper Springer zone, on the better-drained, west-facing slope of Polley Mountain; supergene copper minerals are present here but are very minor.

The level of erosion of the MPIC precludes the preservation of any significant epithermal effects anywhere at Mount Polley, except in very sporadic late-stage, low-temperature hydrothermal veins.

8.2 Mount Polley Deposit Model and Exploration Concepts

As described in Section 7 dealing with geology and mineralization, Mount Polley ore zones are almost exclusively hosted in magmatic-hydrothermal breccias, and in stockwork veins in adjacent structurally prepared wall rock intrusion. In theory, magmatic-hydrothermal breccias are usually formed by the sudden expansion of trapped and overpressured vapour in boiling juvenile fluids, especially in rock weakened by hydraulic fracturing. The mechanical forces generated are potentially sufficient to mobilize and mix broken rock, and are possibly triggered by a pulse of heat or magma from below, or pressure-release events in the overlying rock column like dilational faulting, or sudden erosional unloading at the paleosurface.

Brecciation processes can occur in the cupola of the devolatizing parental magma, or at lower confining pressures in the PCD itself. In plan, breccia bodies range from metres to hundreds of metres across; in shape they can be cylindrical, or lenticular, implying structural control. The permeability created by brecciation is exploited by less buoyant (denser), hypersaline, mineralizing magmatic solutions, driven upward by the lithostatic pressure gradient, which produce alteration reactions and replacement. Associated copper sulfides are precipitated due to heat loss or fluid-rock reactions.

The Springer-Cariboo area represents the largest volume of mineralization in the MPIC, and the most intense alteration, and likely formed on the main feeder or conduit from the parent magma source at depth. The smaller but copper and gold-enriched Northeast-Boundary area of brecciation was caused by a different, probably more focussed magma-fluid feeder, 1 to 2 km away to the north.

The Northeast zone is the most studied deposit in the MPIC, and the magmatic-hydrothermal breccia model can be amplified based on interpretations from the NEZ (Jackson, 2009; Pass, 2010). The fragmental breccias that host much of the mineralization are characterized by globular shaped clasts of coarse- to megacrystic K-feldspar monzonite porphyry, which are interpreted as fluidal clasts of juvenile magma that were incorporated into the breccia during its formation, along with more angular monzonite wall rock fragments. The highest concentration of these clasts in the breccia correlates with the highest copper-gold grades, and thus is an important mineralization vector. University research studies postulated that crystallization of a deeper, hydrous and fertile K-feldspar-phyric monzonite magma and ensuing fluid exsolution and boiling was the trigger for explosive brecciation, with disintegration of still ductile magma at the root of the breccia providing the fluidal fragments. Hydrothermal brines percolated into the breccia after it 'settled', and precipitated copper sulfides. Non-explosive hydraulic fracturing in the wall-rocks of the breccia also provided excellent ground preparation for mineralizing fluids. The absence of breccia-reworking (clast-within-clast textures) suggests that the Northeast zone was produced by a single catastrophic brecciation event, which did not breach the surface.

The hypothesis that K-feldspar monzonite is the 'mineralizer' in the Northeast zone deposit (likely applicable to the Boundary zone as well) might also be applied in a general way to the Springer-Cariboo zones and to the Southeast zone, although there are no fluidal clasts in those breccias, and thus K-feldspar monzonite cannot be directly implicated in their formation. However, circumstantial evidence does link the timing of this porphyry phase to the main mineralization event everywhere in the MPIC, as both occur late in the intrusive sequence. In conclusion, it may be postulated that a K-feldspar –phyric monzonite intrusion(s) was one of the last and most evolved and fluid-rich melt fractions to be expelled from the parent magma chamber, and crystallized beneath the Springer-Cariboo area at some depth, providing the energy for magmatic-hydrothermal brecciation, and copper and gold-rich solutions for mineralization.

8.3 Mount Polley Exploration Strategies

After the original Mount Polley deposit was outlined in the 1960s, subsequent discoveries elsewhere within the MPIC have almost invariably been made by mapping, prospecting, and soil geochemical surveys, followed by trenching programs to obtain surface dimensions and assay samples. Positive results are normally pursued with a diamond drilling program. As well as copper and gold assays, multi-element geochemical analyses are routinely obtained, at least during the early stages of investigating a new zone.

The correlation between the tenor of copper-gold mineralization and the intensity of hydrothermal alteration and brecciation was recognized early in Mount Polley's exploration history. This remains the most compelling relationship when exploring the MPIC, and is supported on a smaller scale by recent underground mapping in the deep Boundary zone (see Section 7). On a large scale, there is no obvious structural trend evident in the distribution of breccia zones over the entire MPIC, so linear structure is not favoured as a first-order control on mineralization vectoring. However, on a smaller scale, the NE-SW trend of tabular mineralized breccia bodies recognized within the Boundary zone is compelling, and may guide the design of future underground drilling programs.

In the 1990s, Mount Polley geologists devised a scoring system in drill core logging in the Springer-Cariboo area, based on the most important alteration indicator minerals of K-feldspar, magnetite, and albite: higher scores consistently corresponded to higher grade. However, vectoring based on alteration should be tailored to the characteristics of the zone or area being explored, because in the more recently discovered Northeast zone, magnetite and sodic alteration are not so well preserved. This was because magnetite formed in (early) potassic alteration was largely consumed by chalcopyrite mineralization (magnetite is more abundant in the nearby, less sulfide-rich Boundary zone). Notwithstanding the consequent absence of a magnetic anomaly over the Northeast zone, which possibly delayed its discovery, aeromagnetic and ground magnetic surveys are still the most reliable geophysical tools at Mount Polley because of the correlation of magnetite and mineralization in most ore zones.

Mount Polley has a more muted electrical signature compared to magnetic properties, because of the lack of a significant pyrite halo around most ore zones. Early (pre-mining) induced polarization (IP) surveys helped to define the deposits in the core of the MPIC, but they are less revealing elsewhere; for example, the Northeast and Boundary zones did not originally present a strong chargeability high. More recently, a Titan-24 survey was conducted over the northern and southern parts of Mount Polley in 2009, to characterize IP and magnetotelluric responses with respect to known geology and sulfide mineralization, and to potentially identify other blind deposits. The procedure had some success with the geophysical expression of major geological contacts or structures, and did detect a modest chargeability anomaly over the remaining (unmined) part of the Northeast zone, but otherwise did not identify compelling new targets.

Figure 8-1 Exploration Core Drilling in the DX Zone, South of the Springer Pit

9 Exploration

9.1 Exploration History

The Mount Polley deposit was first discovered as a result of follow-up prospecting of an aero magnetic anomaly highlighted on a government aeromagnetic map sheet issued in 1963. Mastodon Highland Bell Mines Limited and Leitch Gold Mines first staked claims in 1964. In 1966 the two companies merged to form Cariboo-Bell Copper Mines Limited. The property was mapped, soil and geochemical surveys, and air-borne and ground-bases geophysical surveys were conducted. This was followed by bulldozer trenching and drilling.

In 1969 Teck Corporation assumed control of Cariboo-Bell. During the period from 1966 to 1972 a total of 18,341 metres of core drilling and 8,553 metres of percussion drilling were completed in 215 holes. In 1970 magnetic, seismic and induced polarization (IP) surveys were conducted. Teck continued to work the property in 1972, 1973 and 1975. In 1978, Highland Crow Resources, an affiliate of Teck, acquired control. In 1979 Teck completed six percussion holes for 354 metres.

In 1981 E&B Explorations Inc. optioned the property from Highland Crow and completed 1,746 metres of core drilling, 1,295 metres of rotary drilling, and soil geochemical and ground control surveys. In 1982 E&B acquired a 100% interest and continued to work the property with joint venture partners Geomex Partnerships and Imperial Metals Corporation. From 1982 to 1987 E&B completed soil geochemistry, magnetic, VLF-EM and IP surveys, geological mapping, 3,585 metres of core drilling and 4,026 metres of reverse circulation drilling.

In 1987, Imperial Metals acquired the remaining interest in the property held by E&B Explortion Inc. and others. During the period between 1988 and 1990, Imperial Metals Corporation conducted a comprehensive exploration program consisting of 238 core holes totaling 27,566 metres, the collection of six bulk samples from surface trenches totaling 130 tonnes, geological mapping and IP surveys.

In 1990 Wright Engineers completed a Feasibility Study that incorporated new ore reserve calculations, metallurgical testing, geotechnical evaluations, and environmental impact assessments. In 1992, Imperial Metals bought the Geomex Partnerships consolidating ownership of the property in one Company. During 1993-1994, Theresa Fraser from the University of British Columbia completed a Masters thesis on the geology, alteration, and origin of hydrothermal breccias on the deposit. The focus of the study was to document data important to aspects of the genesis of the deposit, particularly breccia distribution, breccia types, distinctive matrix minerals and alteration.

In 1994, Gibraltar Mines Ltd., under an option agreement with Imperial Metals, drilled seven core holes for 1,216 metres. Upon evaluation of the project, Gibraltar declined further participation. Following a merger with Bethlehem Resources Corporation in 1995, Imperial completed an in-house Feasibility Study. Financing was arranged with Sumitomo Corporation through a joint venture with SC Minerals Canada that culminated in the formation of Mount Polley Mining Corporation in April 1996.

In 1995 Mount Polley Mining Corporation drilled five core holes for 884 metres to be used for metallurgical test work. Eleven core holes for 1,773 metres tested on-site exploration targets outside the proposed pit limits, including the Kay Lake Basin area and the Road Zone. Seven rotary holes for 932 metres were drilled to source and monitor groundwater near the mill and between the pits and adjacent lakes: these holes were also logged and assayed. A soil geochemistry survey was conducted over a six line-kilometre grid.

In 1996, seven core holes for 992 metres were drilled in areas peripheral to the proposed pits, such as the Road Zone, the Northwest Zone and the S Zone. Lithogeochemical samples were collected from road cuts and new bedrock exposures.

In 1997, fifteen core holes for 1,614 metres were drilled to define the margins of the Cariboo Pit and 17 percussion holes for 702 metres were drilled to provide better ore definition for mine planning. Surface and pit wall geological mapping east of and in the Cariboo Pit were conducted concurrently. Three water well holes for 351 metres were drilled to provide source water for milling and mining operations. Rock chip samples from new road cuts were collected and analyzed.

During 1998, nine core holes for 1,993 metres were drilled within and along the margins of the Cariboo Pit. These holes were designed to prove continuity of mineralization to depth, to determine the orientation of mineralization, to provide definition in under-drilled areas and to determine rock quality for pit design. Core from previously drilled holes within the Cariboo Pit area was relogged and reinterpreted.

In 1999, thirty-three percussion holes for 1,385 metres and eighteen core holes for 4,067 metres were completed. The percussion holes tested for near-surface ore reserves southeast of the Cariboo Pit. The core holes were drilled in the Bell Pit area to test for mineralization to the north and east and to depth, in the Cariboo Pit to test high-grade mineralization at the south end of the pit, and to test targets south of the Cariboo Pit that resulted in the discovery of the C2 Zone. Core from previously drilled holes within the Bell Pit and Cariboo Pit areas was relogged and reinterpreted. The surface geology of the Bell Pit area was mapped.

In 2000, a total of 226 percussion holes for 10,653 metres and 26 core holes of 4,875 metres were completed. The areas that received work were the 207, Bell, C2, Cariboo, MP-071, Road, Rad, Southeast and Springer zones. This drilling was successful in defining previously discovered copper and gold mineralization in the C2/207 and Southeast zones, and in discovering high-grade copper mineralization north of the proposed Springer Pit.

In 2001, a total of 170 percussion holes for 9,421 metres and 41 core holes for 6,696 metres were completed. The areas that received work were the Bell, Cariboo, Springer, and North Springer zones. This drilling was successful in discovering and defining new high-grade copper and gold mineralization in the North Springer Zone and helped infill the gaps in the central and south Springer. A majority of the Springer drill cuttings from these zones were used for metallurgical test work. The drilling results from the Cariboo and the Bell zones facilitated short and long range production planning. Mining operations were suspended at Mount Polley in late 2001 due to low metal prices, but exploration continued.

In August 2003 Imperial discovered a new copper and gold zone by prospecting north of the Bell Pit. The newly discovered zone called the 'Northeast Zone', is approximately one and a half kilometres northeast of the Bell Zone. Trenching and drilling through 2003 and 2004 revealed a hydrothermal breccia over a 560 metre strike length, and extending vertically 460 metres. A Feasibility Study completed in August of 2004 showed Proven and Probable Reserves of 6.2 million tonnes of 0.98% copper, 0.324g/t gold, and 6.98 g/t silver. Based on this study the mine was reopened in December of 2004. The upper part of the zone was mined successfully as an open pit (The Wight Pit) to completion in 2009. A substantial high-grade resource now exists beneath the Wight pit, which is potentially mineable by extending the existing underground workings in the Boundary Zone (see Section 14.2.3 for more details).

In subsequent years, drilling exploration was carried out in a number of other areas, focused on expanding or deepening known deposits, or testing new targets revealed by trenching, mapping and sampling programs, or by geophysical anomalies. As a result, significant copper-gold resources were delineated in the Southeast zone (mined 2008- 2010), the Pond zone (mined 2009-2010), the C2 zone, and the Boundary zone. The most significant recent discovery (2009) was the WX zone, immediately south of the Springer zone. Mining was completed in the Bell pit in 2008 and in the Wight pit in 2009. Mining in the Springer zone, which contains the majority of the remaining ore at Mount Polley, began in 2008. Deep drilling conducted from 2003 - 2012 has resulted in a substantial increase in Springer resources. Under the current mine plan, the final pit will encompass the Springer, WX, C2 zones, and the adjacent lower Cariboo zone.

The first underground exploration development at Mount Polley began in 2010 in the deep Boundary zone. The first test ore was delivered to the mill in May 2013. Underground stoping in the Deep Boundary is currently on going (see Section 14.2.3 for more details).

Oxide ore from the upper Springer zone has been stockpiled since 2008 for extraction of copper by heap leaching, to be followed by milling for gold recovery. A pilot leach operation began in 2007. Work is ongoing to determine the economic viability of utilizing a bio-reactor to create sulphuric acid.

In 2010, a magnetite circuit was installed in the Mount Polley mill to recover fine magnetite, intended for sale to coal mines as media grade magnetite for use in wash plants.

10 Drilling

10.1 Introduction

As detailed in the previous history section, drilling on the Mount Polley claims began in 1966. As of December 31, 2015 a total of 3,953 exploration holes (diamond and RC combined) have been drilled.

Figure 10-1 Mount Polley Exploration Facility

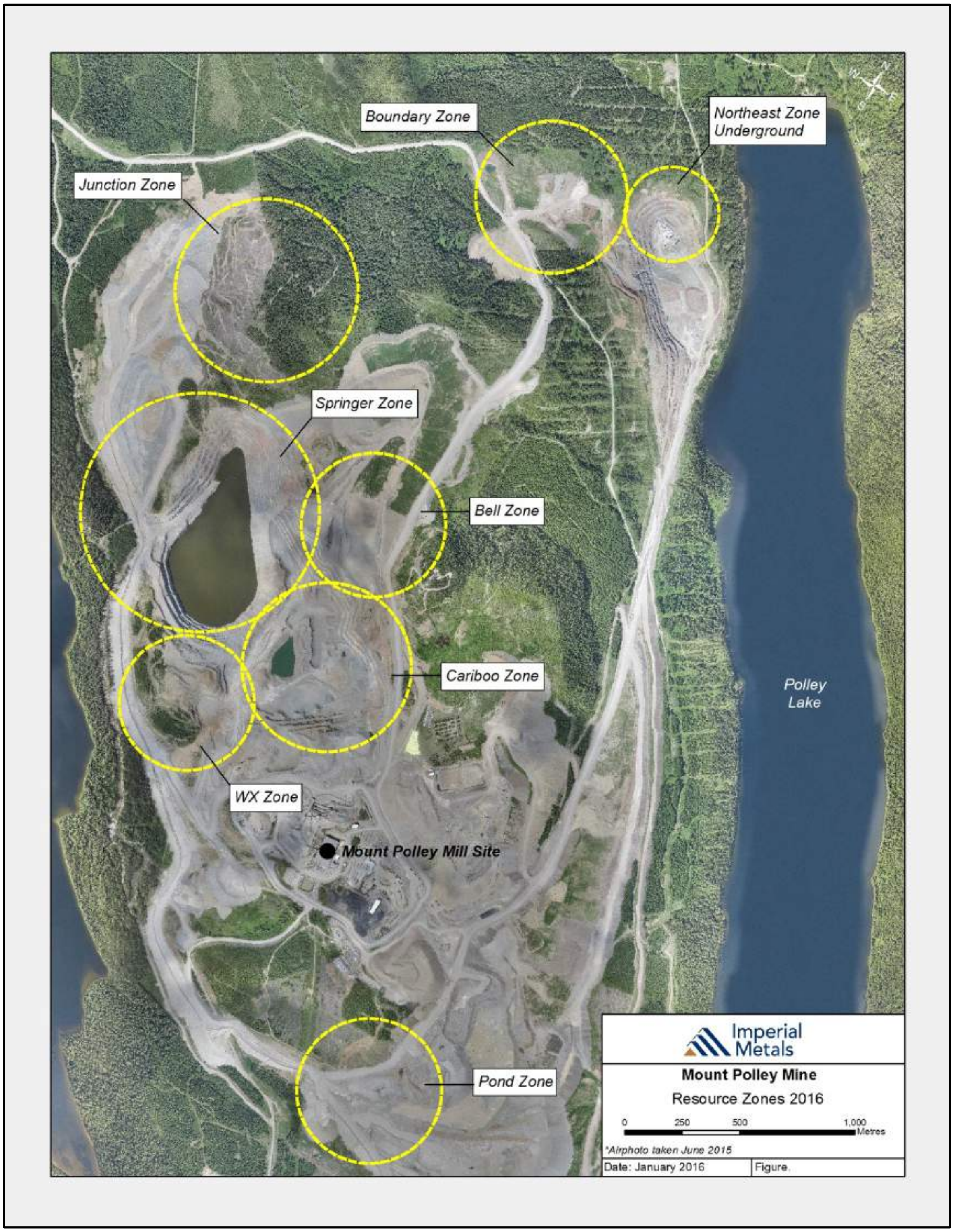
Over the life of the mine, exploration samples have been assayed at a number of British Columbia labs. Since 2006 approximately 80% of core samples were analyzed by the certified on-site mine laboratory, and the remainder were analyzed by Acme Analytical Laboratories Ltd., Vancouver. After the mine restarted in 2004, the widespread industry methodology of using standards, duplicates and blank samples was applied in all drilling programs for QA/QC purposes (see Chapter 11 and 12 for QA/QC details).

All geotechnical and geological logging is currently done on site at the mine's exploration facility. The facility was moved and upgraded in 2008, with a new prefabricated steel building erected on the mine site near the administration building, securely inside the mine perimeter. The core library, and all exploration assay pulps and rejects are stored in this same facility.

All drill core was assayed for gold, total copper, and iron, while non-sulphide copper, silver and ICP analyses were completed on core from certain areas of the property where the additional data was considered to be important.

For the purposes of resource modeling the drilling was divided into four modeling groups. Each group has a separate database and block model (Main, Northeast, Boundary, and Pond). The 'Main" group includes the Cariboo, Bell, Springer, WX, and Junction Zones.

Figure 10-2 Mount Polley Resource Zones



10.2 Main Zone Drilling

The current mining plan calls for an expanded Springer Pit which encompasses the Springer, Cariboo, and WX mineralized zones. This group (along with the Bell and Junction Zones) is collectively called the 'Main Zone'. The southern part of the Cariboo domain is often referred to as the C2 zone.

Most of the early drilling in the main zone (pre-1999) done before the mine started up is now mined out. A majority of the remaining drilling in the current Main Zone model was done between 2000 and 2012 by Imperial Metals, with only two exploration holes drilled in 2013. No exploration drilling was conducted in 2014 and 2015.

The 2012 drill program was the most important and focused below the north and central areas of the Springer Zone conducted from within the active Springer pit. As shown in Table 10-1 many holes intersected long intervals of continuous mineralization. Figure 10-3 shows a section view of the proposed Main Zone final pit and the constraining Resource pit. The section also highlights the results of the 2012 deep drilling program along this section.

Mineralization was intersected immediately below the current pit surface and continues at depth for several hundred metres. Hole SD12-132, a vertical hole from the bottom of the Springer pit, intercepted 432.5 metres grading 0.29% copper and 0.25 g/t gold starting at 22.5 metres below the pit elevation at that time.

Drill hole SD12-143 was collared 50 metres west-northwest and returned equally impressive grades with 161.3 metres grading 0.30% copper and 0.23 g/t gold starting at 6.1 metres depth, followed by 14.8 metres of barren dyke and then an additional 337.8 metres grading 0.25% copper and 0.37 g/t gold.

Drill hole SD12-144 returned 91.4 metres starting at 6.1 metres grading 0.40% copper and 0.33 g/t gold, and a deeper 262.6 metres interval grading 0.22% copper and 0.55 g/t gold, including a 72.5 metre section grading 0.41% copper and 1.09 g/t gold. The high gold:copper ratio in the higher grade interval of hole SD12-144 was particularly encouraging and supported the rationale for more detailed drilling in this area.

Drill hole SD12-146 was collared approximately 125 metres west of SD12-143 and also returned long intervals of continuous mineralization including 81.4 metres grading 0.25% copper and 0.19 g/t gold starting 6.1 metres down hole, followed by a 17.5 metre dyke and 395.0 metres grading 0.23% copper and 0.22 g/t gold.

Most drilling was from the bottom of the Springer pit, however four drill holes (SD12-129, SD12-135, SD12-138 and SD12-140) were drilled from west of the pit and were designed to cut across beneath the planned Springer pit.

Hole SD12-117 was drilled at this orientation intersected 312.2 metres grading 0.30% copper and 0.31 g/t gold, including 70 metres grading 0.78% copper and 0.81 g/t gold.

Figure 10-3 Main Zone Plan Map: Deposits and Drilling

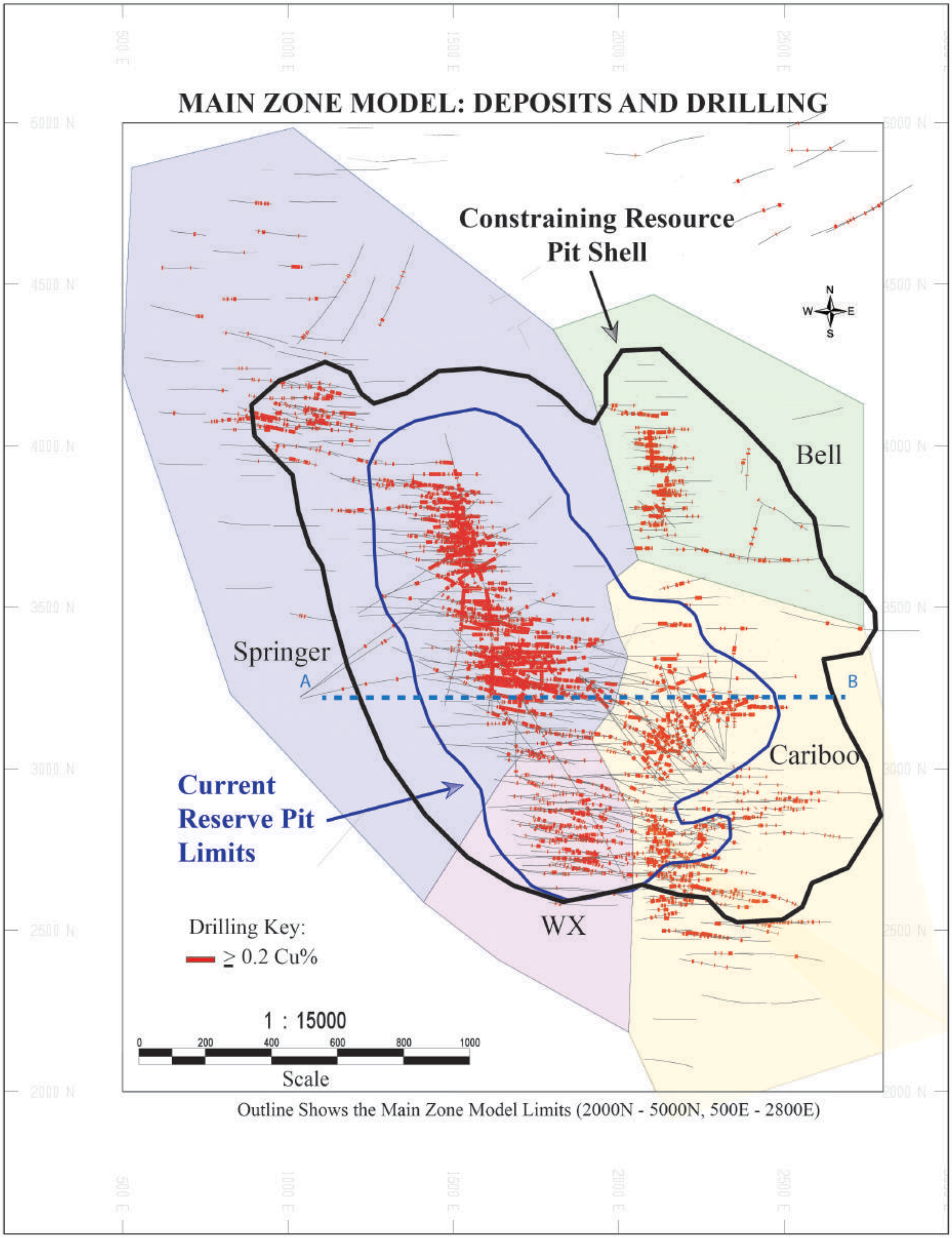
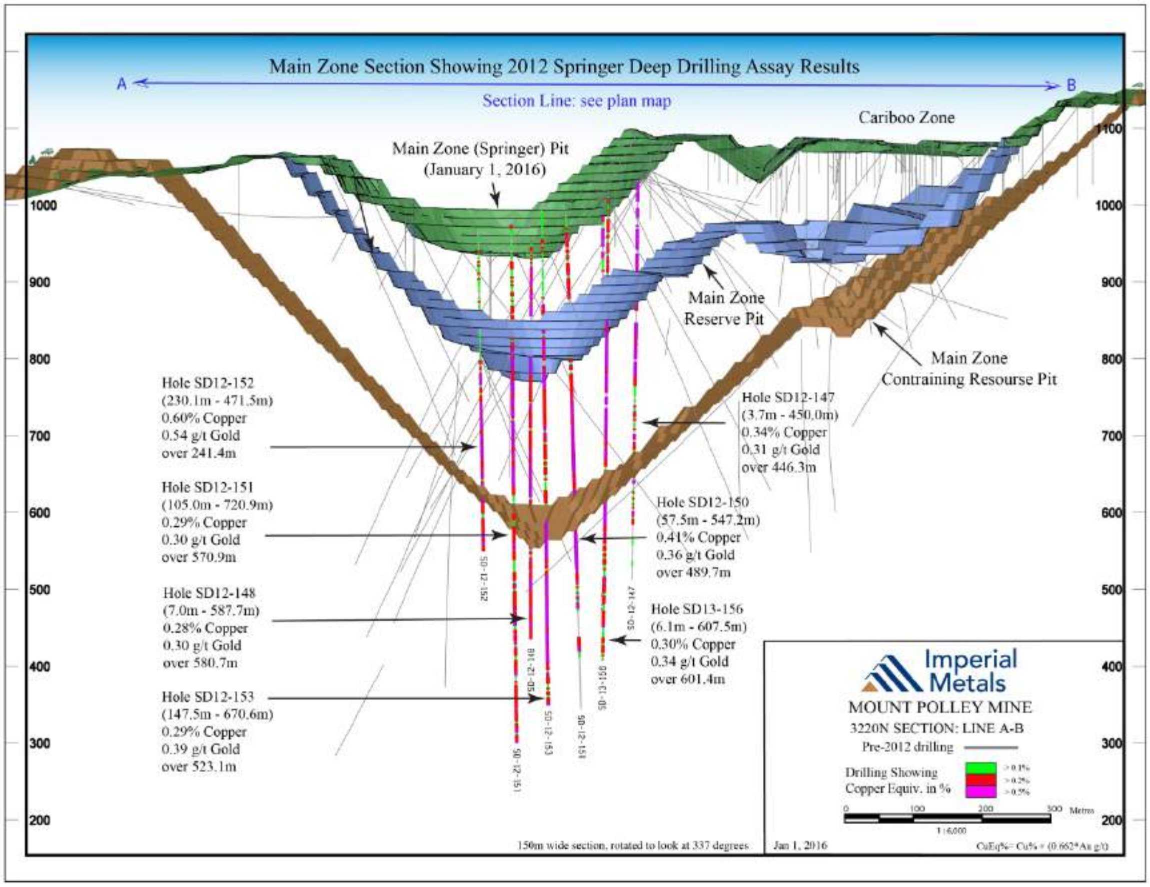


Table 10-1 Assay Highlights from the 2012 Main Zone Drilling Program

Name	From (m)	To (m)	Interval (m)	Copper %	Gold g/t	CuEq%
SD12-129	302.5	702.5	400.0	0.29	0.27	0.47
including	420.0	507.5	87.5	0.40	0.45	0.70
SD12-130	137.8	215.0	77.2	0.22	0.34	0.45
SD12-131	35.0	217.5	182.5	0.39	0.40	0.65
and	387.9	635.0	247.1	0.29	0.31	0.50
SD12-132	22.5	455.0	432.5	0.29	0.25	0.46
SD12-133	6.1	57.5	51.4	0.42	0.60	0.82
and	95.0	129.9	34.9	0.40	0.56	0.77
SD12-134	100.0	110.0	10.0	0.38	0.32	0.59
SD12-135	85.0	175.0	90.0	0.26	0.19	0.39
and	290.0	535.0	245.0	0.21	0.17	0.32
SD12-136	15.0	97.5	82.5	0.33	0.28	0.52
and	262.3	302.5	40.2	0.26	0.43	0.54
SD12-137	42.5	292.5	250.0	0.23	0.22	0.38
including	42.5	190.0	147.5	0.26	0.28	0.45
SD12-138	335.0	510.0	175.0	0.26	0.25	0.43
SD12-139	6.1	312.5	306.4	0.25	0.27	0.43
and	367.5	460.0	92.5	0.21	0.29	0.40
SD12-140	422.5	445.0	22.5	0.27	0.26	0.44
and	522.5	540.0	17.5	0.27	0.24	0.43
and	572.5	592.8	20.3	0.32	0.23	0.47
SD12-141	6.1	87.5	81.4	0.23	0.23	0.38
and	105.0	322.5	217.5	0.28	0.34	0.51
and	437.5	705.0	267.5	0.27	0.27	0.45
SD12-142	355.0	492.3	137.3	0.25	0.24	0.41
SD12-143	205.0	6.1	167.4	161.30	0.30	0.23
and		182.2	520.0	337.80	0.25	0.37
SD12-144	195.0	6.1	97.5	91.40	0.40	0.33
and		117.4	380.0	262.60	0.22	0.55
including		302.5	375.0	72.50	0.41	1.09
SD12-146	230.0	6.1	87.5	81.40	0.25	0.19
and		105.0	500.0	395.00	0.23	0.22

**Copper Equivalent (CuEq%) = Cu% + (0.662*Au g/t)*

Figure 10-4 Section View of the Main Zone Pit, Showing 2012 Drilling Program



SD12-129 was collared 200m to the north at the same azimuth (90°) and dip (-50°) and encountered a similar zone of 400m grading 0.29% copper and 0.27 g/t gold, including a higher grade 87.5 metre zone of 0.40% copper and 0.45 g/t gold.

The final phase of 2012 Main Zone surface exploration drilling was conducted in the south end of the active Springer pit and tested areas both within the current mine plan and also below the proposed final phase of the Springer pit.

Drill hole SD12-147, drilled along the eastern edge of the known Springer mineralization, intercepted 446.3m grading 0.34% copper and 0.31 g/t gold.

All holes drilled in this program intersected long intervals of copper/gold mineralization above the current mine cut-off grades, as shown on the table below. The copper oxide level averaged 6.5% over the long intervals, shown on the table, which is much less than the average copper oxide level of 14% in the ore delivered to the mill in 2012. The lower oxide level results in better copper recovery in the flotation circuit. Also, some holes intercepted shorter intervals with copper grades averaging over 1% as highlighted by SD12-152 which intercepted 67.5m grading 1.27% copper and 0.90 g/t gold well below the planned pit, and hole SD12-150 which intercepted 31.9m grading 1.20% copper and 0.84 g/t just below the planned pit, and SD12-157 which intercepted 23.5m grading 1.20% copper and 1.16 g/t gold within the planned Springer pit.

Table 10-2 Assay Highlights from the Final Phase of the 2012 Main Zone Drilling Program

Name	From (m)	To (m)	Interval (m)	Copper %	Gold g/t	*CuEq%
SD12-147	3.7	450	446.3	0.34	0.31	0.54
including	186.8	257.5	70.7	0.54	0.73	1.02
SD12-150	57.5	547.2	489.7	0.41	0.36	0.65
including	180	211.9	31.9	1.2	0.84	1.76
including	427.5	492.5	65	0.54	0.69	1
SD12-151	150	720.9	570.9	0.29	0.3	0.49
including	252.5	290	37.5	0.73	0.47	1.04
including	302.5	345	42.5	0.62	0.48	1
SD12-152	230.1	471.5	241.4	0.6	0.54	0.95
including	280	347.5	67.5	1.27	0.9	1.86
SD12-153	147.5	670.6	523.1	0.29	0.39	0.54
including	502.5	567.5	65	0.52	0.86	1.09
SD13-156	6.1	607.5	601.4	0.3	0.34	0.53
including	157.3	435	277.7	0.46	0.48	0.77
SD12-157	7.5	348.1	340.6	0.3	0.37	0.55
including	41	64.5	23.5	1.2	1.16	1.97
including	412.5	462.5	50	0.17	0.39	0.43

**Copper Equivalent (CuEq%) = Cu% + (0.662*Au g/t)*

Diamond drilling at depth below the Springer pit has confirmed the mineralization continues for several hundred metres below the current mine plan and is notably higher grade in certain areas than in the design pit above it. This exploration drilling data was be used to support the updated resource stated in this report.

This successful drilling below the current Springer pit indicated high potential to extend known mineralization at depth below the adjacent Cariboo pit. Drilling in the Cariboo pit was completed with low angle holes collared into the east wall of the Springer pit, as well as steeper holes collared to the south of the Cariboo pit.

The longest interval of continuous mineralization was from drill hole CB12-11 which intersected 193.6 metres of copper/gold mineralization grading 0.21% copper and 0.23 g/t gold. The most easterly of the Cariboo holes was CB12-16 which returned 130.5 metres grading 0.22% copper and 0.22 g/t gold, and it remains open to the east.

CB12-17 tested an under-drilled area between Springer and Cariboo and hit a shorter interval of higher grade with 35.0 metres grading 0.51% copper and 1.12 g/t gold.

All twelve drill holes targeting the deep Cariboo returned significant grades, (see Table 10-3 for result highlights). Table 10-4 shows the total number of holes and metres drilled by domain in the Main Zone area since 2000.

Table 10-3 Assay Highlights from the 2012 Cariboo Zone Drilling

Name	From (m)	To (m)	Interval (m)	Copper %	Gold g/t	CuEq%
CB12-11	162.5	356.1	193.6	0.21	0.23	0.36
CB12-16	157.5	288.0	130.5	0.22	0.22	0.37
CB12-17	40.2	75.2	35.0	0.51	1.12	1.25
CB12-19	320.0	459.3	139.3	0.19	0.30	0.39

**Copper Equivalent (CuEq%) = Cu% + (0.662*Au g/t)*

Table 10-4 Main Zone Drilling Since 2000 by Deposit and Year.

Deposit	Year	Number of Holes	Total Metres Drilled
Bell	2004	30	6,749
Bell	2006	5	771
C2	2006	66	11,825
C2	2007	3	614
C2	2009	5	726
C2	2010	2	964
C2	2011	13	6,264
Junction	2007	1	389
Junction	2009	18	6,686
Junction	2010	18	5,832
Cariboo	2000	22	4,302
Cariboo	2001	49	6,855
Springer	2003	4	2,601
Springer	2004	14	10,456
Springer	2006	1	612
Springer	2007	48	18,147
Springer	2008	9	4,125
Springer	2009	20	7,960
Springer	2010	6	3,245
Springer	2011	7	4,079
Springer	2012	45	24,720
Springer	2013	2	1,096
WX	2009	2	614
WX	2010	42	24,491
WX	2011	27	13,750
	Total	**459**	**167,873**

10.3 Northeast Zone Drilling

The Northeast Zone (mined as 'the Wight Pit') was discovered in 2003. During its lifetime, 263 surface core holes were drilled to explore and delineate it. The Wight Pit (completed in 2009) mined the deposit down to the 'open pit economic limits' of 200m to the 805m elevation. The rest of the ore body extends down another 455m to the 350m elevation. This deep Northeast Zone (also called the 'the Martel Zone') is being looked at as a possible underground mine. Further drilling in the zone is being planned from underground, off an exploration ramp extending from the current Boundary Zone underground workings (See Figure 10-5).

Most of the drilling was conducted in 2004 (166 holes) with holes targeted to delineate the open pit. By the beginning of 2005, exploration of the Northeast Zone had defined an open-pit reserve and mine plans were completed. The programs in 2005 and beyond were designed to target the deeper copper/gold mineralization. Table 10-5 shows assays highlights from these programs targeting the deep Northeast Zone. Table 10-6 shows the total number of holes and metres drilled by year in the Northeast Zone.

Figure 10-5 Northeast Zone 3D View: Showing Exploration Drilling

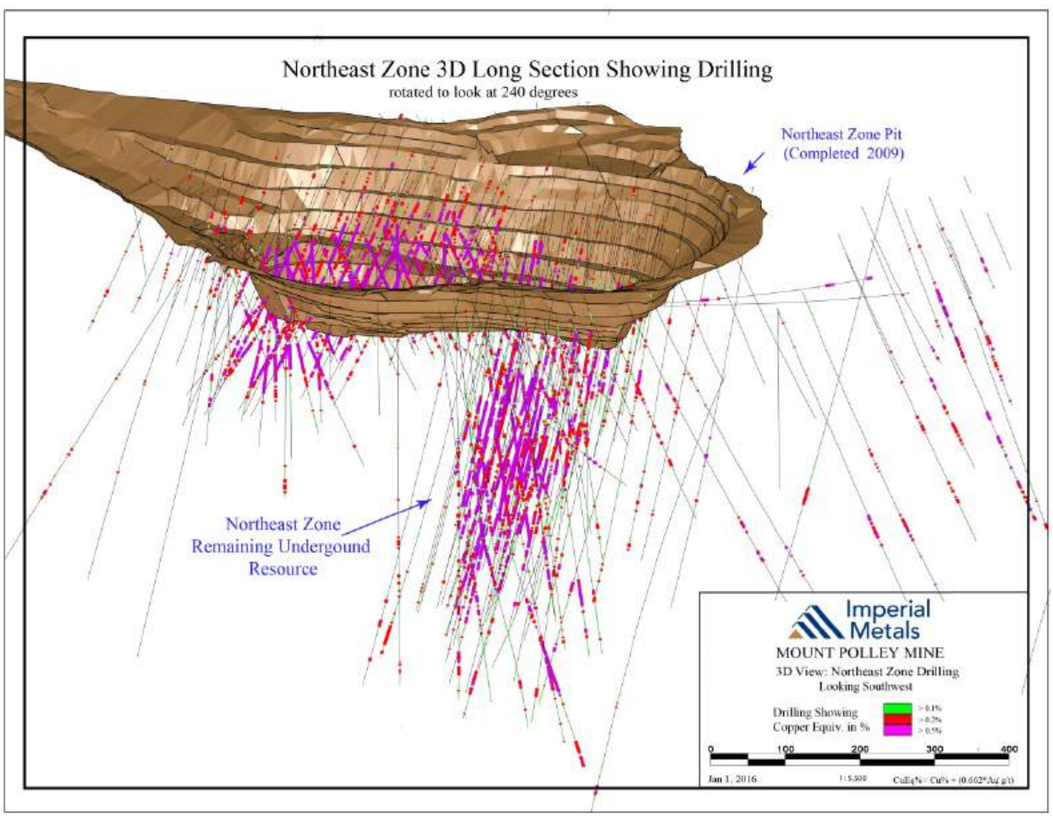


Table 10-5 Northeast Zone deep drilling Assay Highlights

Mount Polley	From	To	Interval	Assays	Assays	Assays
Drill Hole #	(m)	(m)	Length	Copper %	Gold g/t	CuEq%
WB03 07	13.4	217.5	204.1	1.02	0.4	1.28
including	13.4	126.3	112.9	1.72	0.56	2.09
WB03 14	44.3	213.3	169	1.06	0.37	1.30
including	55	90	35	2.02	0.79	2.54
WB03 19	145.3	265	119.7	1.02	0.2	1.15
including	147.5	195	47.5	1.73	0.45	2.03
WB03 21	26.5	235	208.5	1.18	0.45	1.48
WB04-26	130	217.5	87.5	0.72	0.22	0.87
including	137.5	190	52.5	1.01	0.34	1.24
WB04-27	200	241	41	0.87	0.3	1.07
and	266.6	307.5	40.9	1.36	0.14	1.45
WB04-28	239.6	353.3	113.7	0.62	0.25	0.79
including	255	297.5	42.5	0.92	0.46	1.22
WB04-29	21.3	158.2	136.9	1.14	0.44	1.43
and	211.8	235	23.2	0.54	0.35	0.77
WB04-32	65	77.5	12.5	0.45	0.01	0.46
and	149.8	237.5	87.7	0.65	0.16	0.76
including	150	187.5	37.5	1.02	0.14	1.11
WB04-36	22.5	55	32.5	0.55	0.2	0.68
and	115	132.5	17.5	1.04	0.63	1.46
WB04-37	177.5	202.5	25	0.62	0.11	0.69
WB04-45	93.6	115	21.4	0.42	0.15	0.52
and	137.5	215	77.5	1.02	0.38	1.27
WB04-48	172.5	212.5	40	0.67	0.36	0.91
including	187.5	199.8	12.3	1.16	0.61	1.56
WB04-56	85	195.43	110.4	1.11	0.33	1.33
WB04-57	105	107.5	2.5	1.3	0.06	1.34
WB04-58	142.5	144.37	1.9	0.72	0.2	0.85
WB04-59	27.5	176.8	149.3	1.37	0.58	1.75
including	27.5	107.5	80	2.32	1.07	3.03
including	57.5	75	17.5	4.93	3.81	7.45
WB04-60	137.31	242.51	105.2	1.03	0.34	1.26
including	155	176.61	21.6	2.7	1.19	3.49
WB04-63	139.5	289.51	150	0.48	0.09	0.54
WB04-64	90	237.5	147.5	0.59	0.18	0.71
including	182.85	200	17.2	2.82	3.52	5.15
WB04-65	172.5	280	107.5	0.76	0.36	1.00

NE Zone	From	To	Interval	Assays	Assays	Assays
Drill Hole #	(m)	(m)	Length	Copper %	Gold g/t	CuEq%
WB04-66	205	257.66	52.7	0.61	0.61	1.01
and	107.5	108.23	0.7	1.66	2.7	3.45
and	187.5	192.5	5	0.4	0.16	0.51
WB04-87	103.1	132.7	29.7	1.46	0.18	1.58
WB04-88	192.9	205.1	12.2	0.62	0.72	1.09
and	229.6	282.5	52.9	0.49	0.06	0.53
WB04-92	202.5	267.2	64.7	0.85	0.25	1.01
including	220.2	267.2	47.0	1.05	0.24	1.21
and	293.0	320.0	27.0	0.32	0.14	0.41
WB04-98	302.5	365.0	62.5	1.48	0.50	1.81
WB04-99	190.0	440.0	250.0	0.83	0.25	1.00
including	400.0	440.0	40.0	1.18	0.70	1.64
WB04-101	280.0	377.5	97.5	0.74	0.27	0.92
WB04-102	215.3	442.5	227.2	1.11	0.41	1.38
WB04-104	81.2	118.2	37.0	1.43	0.69	1.89
and	187.5	304.0	116.5	0.90	0.06	0.94
and	346.7	420.0	73.3	1.10	0.58	1.48
WB04-112	63.3	97.6	34.3	1.72	0.62	2.13
and	245.0	267.2	22.2	0.71	0.02	0.72
WB04-113	97.5	155.0	57.5	1.72	0.16	1.83
and	187.5	241.6	54.1	0.67	0.15	0.77
and	290.2	300.0	9.8	0.30	0.44	0.59
WB04-122	195.0	232.5	37.5	0.71	0.83	1.26
and	273.6	366.5	92.9	1.28	0.07	1.33
and	395.0	410.0	15.0	0.61	0.10	0.68
WB04-123	150.0	222.5	72.5	1.11	0.19	1.24
WB04-138	107.8	112.5	4.7	0.69	0.35	0.93
and	155.0	170.0	15.0	0.82	0.43	1.10
and	219.8	354.9	135.1	1.03	0.16	1.14
including	223.7	242.5	18.8	1.98	0.23	2.13
and	380.6	394.2	13.6	0.67	0.12	0.74
WB04-161	57.8	100.0	42.2	1.51	0.35	1.74
and	237.5	312.5	75.0	1.69	0.06	1.73
and	332.5	358.4	25.9	0.70	0.15	0.80
and	372.5	397.6	25.1	4.43	1.28	5.28
including	377.5	395.0	17.5	5.41	1.52	6.42
WB04-170	119.5	160.8	41.3	0.94	0.22	1.08
including	120.0	145.0	25.0	1.24	0.33	1.46
and	218.1	244.6	26.5	0.87	0.15	0.97

NE Zone	From	To	Interval	Assays	Assays	Assays
Drill Hole #	(m)	(m)	Length	Copper %	Gold g/t	CuEq%
WB04-172	100.0	143.0	43.0	0.77	0.17	0.88
and	197.8	219.4	21.6	1.15	0.03	1.17
and	275.6	467.5	191.9	0.98	0.29	1.17
including	275.6	365.0	89.4	1.59	0.36	1.83
WB04-179	337.5	382.4	44.9	2.19	1.19	2.97
including	367.4	382.4	15.0	5.86	3.13	7.93
and	404.9	407.8	3.0	6.64	4.44	9.58
WB04-181	112.6	149.2	36.7	1.19	0.53	1.54
including	125.4	149.2	23.8	1.56	0.67	2.00
WB05-188	6.1	162.1	156	2.03	0.73	2.51
WB05-189	202.5	273.8	71.3	1.09	0.2	1.22
and	295.7	344.6	48.9	1.97	0.22	2.12
WB05-190	32.5	62.5	30	1.69	0.44	1.98
and	207.5	332.1	124.6	0.67	0.36	0.91
and	407.5	422.5	15	1.09	0.84	1.65
and	452.5	465	12.5	0.63	0.44	0.92
WB05-192	173	195	22	0.45	0.32	0.66
and	297.5	324.1	26.6	1.1	0.34	1.33
and	350	392.5	42.5	0.6	0.13	0.69
and	450	485	35	0.88	1.17	1.65
Including	465	470	5	1.84	5.01	5.16
WB05-195	358.6	386.3	27.7	0.41	0.18	0.53
and	405	437.5	32.5	0.52	0.34	0.75
WB05-197	372.5	443	70.5	0.65	0.07	0.70
and	530.8	542.2	11.4	1.17	0.29	1.36
and	553.7	582.5	28.8	0.39	0.96	1.03
and	695	710	15	0.49	0.59	0.88
WB05-202	506.1	565.4	59.3	1.29	0.59	1.68
and	585	598.1	13.1	0.74	0.85	1.30
and	619	635	16.1	0.76	0.62	1.17
WB05-203	182.5	192.5	10	0.43	0.34	0.66
and	199.3	236.9	37.6	0.76	0.16	0.87
WB05-204	268.2	275	6.8	0.73	0.03	0.75
and	342.2	352.4	10.3	1.76	1.5	2.75
and	490.6	499.8	9.3	1.44	0.3	1.64
and	552.5	629.3	76.8	0.77	0.54	1.13

**Copper Equivalent (CuEq%) = Cu% + (0.662*Au g/t)*

Table 10-6 Northeast Zone Drilling by Year

Zone	Year	Number of Holes	Total Metres Drilled
NE Zone	2003.00	21.00	4,324.3
NE Zone	2004.00	166.00	50,413.8
NE Zone	2005.00	41.00	22,273.2
NE Zone	2006.00	4.00	1,494.5
NE Zone	2007.00	13.00	6,211.0
NE Zone	2008.00	8.00	2,168.4
NE Zone	2009.00	1.00	640.7
NE Zone	2010.00	3.00	1,240.1
NE Zone	2012.00	6.00	4,675.7
	Total	**263.00**	**93,441.6**

10.4 Boundary Zone Drilling

Imperial started surface drilling in the Boundary Zone in 2004, with 174 surface core holes now completed (39,864m). Underground exploration drilling began in 2011 after the completion of an exploration ramp from the north wall of the White Pit (Figure 10-7), extended down to the main deep Boundary zone. This diamond drilling continued intermittently to 2013, with 126 drill holes completed (13,376 m). These drilling results, complemented by wall mapping and rib sampling, led to additional underground development, and helped guide stope design. Underground percussion blasthole and definition drilling continue in the Main Boundary and Zuke zones with mining ongoing. Table 10-7 shows the total number of holes and metres drilled by year in the Boundary Zone. Table 10-8 shows highlights from these programs.

Table 10-7 Boundary Zone Drilling by Year

Zone	Year	Number of Holes	Total Metres Drilled
Boundary	2004	4.0	1,072
Boundary	2006	22.0	5,417
Boundary	2007	14.0	4,511
Boundary	2008	25.0	7,668
Boundary	2009	35.0	12,960
Boundary	2010	21.0	4,003
Boundary UG	2011	24.0	3,707
Boundary UG	2012	2.0	525
Boundary UG	2011	46.0	6,241
Boundary UG	2012	21.0	1,865
Boundary UG	2013	59.0	5,270
	Total	**273.0**	**53,240**

Figure 10-6 3D View: Boundary Zone Drilling

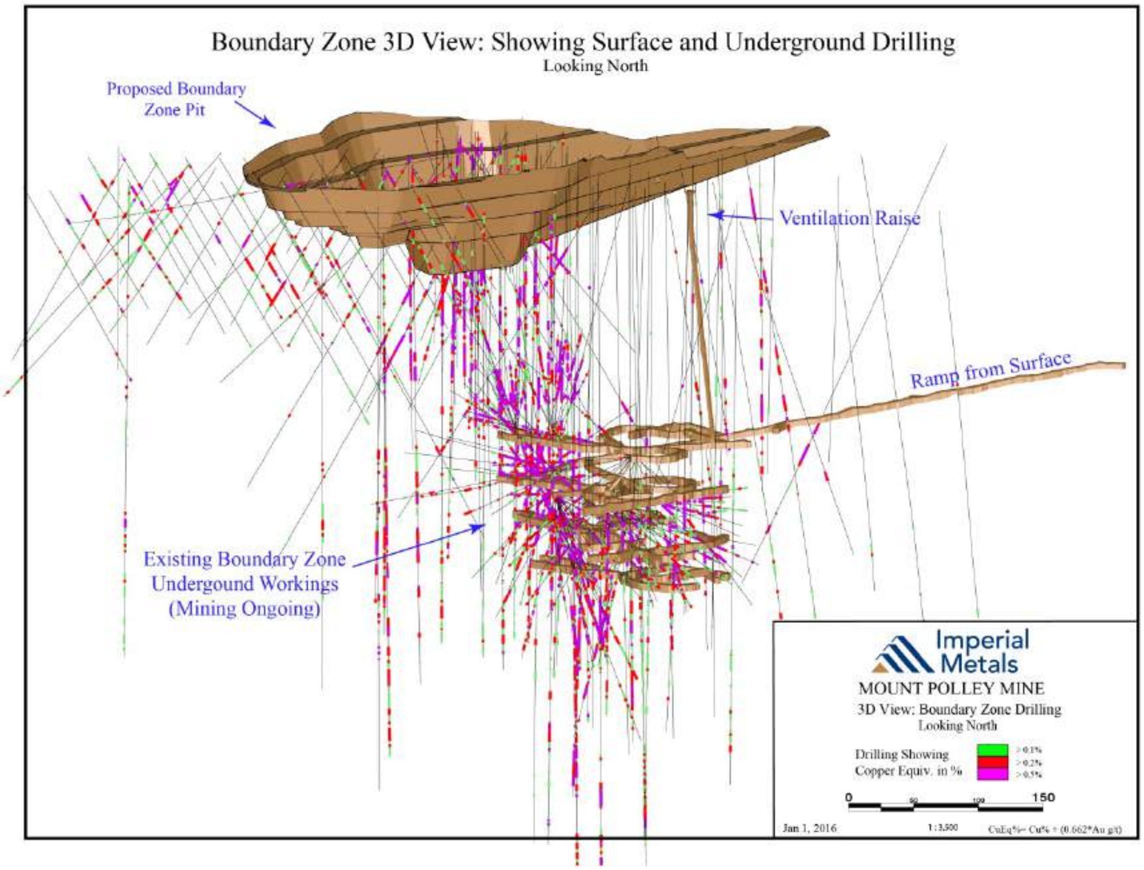


Figure 10-7 Boundary Underground Portal from the Wight Pit

Table 10-8 Boundary Drilling Assay Highlights

Boundary Drill Hole #	From (m)	To (m)	Interval Length	Assays Copper %	Assays Gold g/t	Assays CuEq%
NDU11-149	82.5	98.5	16	2.78	1.02	3.455
including	88.9	98.5	9.5	4.23	1.51	5.230
NDU11-150	62.3	80	17.7	2.16	0.96	2.796
NDU11-154	70.3	97.5	27.2	1.49	1.17	2.265
including	80.3	97.5	17.2	2.06	1.72	3.199
NDU11-159	27.8	46.4	18.6	2.26	1.64	3.346
NDU11-160	25	52.5	27.5	2.56	1.68	3.672
NDU11-161	32.2	48.3	16	2.46	1.26	3.294
NDU11-169	27.5	50.2	22.7	2.52	1.19	3.308
NDU11-178	0	25	25	3.22	1.62	4.292
NDU11-185	0	75.8	75.8	2.32	1.24	3.141
NDU11-188	0	27.5	27.5	4.15	2.05	5.507
NDU11-189	0	35	35	4.8	2.76	6.627
including	0	9.1	9.1	7.97	3.45	10.254
NDU12-196	22.1	34.9	12.8	4.73	2.61	6.458
NDU12-197	23.7	26.5	2.8	9.66	6.42	13.910
NDU12-198	38.7	48.7	10	3.18	2.92	5.113
NDU12-199	29.4	36.7	7.3	2.47	1.45	3.430
and	54.4	61.6	7.2	3.1	0.68	3.550
NDU12-203	0	19.5	19.5	2.12	1.2	2.914
incl.	0	10	10	3.31	1.77	4.482
NDU12-204	2.1	13.8	11.7	3.37	1.23	4.184
NDU12-207	0	15.1	15.1	2.92	0.79	3.443
incl.	0	7.5	7.5	4.45	0.84	5.006
NDU12-208	0	35	35	1.72	2.22	3.190
incl.	0	10	10	3.95	6.53	8.273
NDU12-210	82.5	99.9	17.4	2.64	1.66	3.739

**Copper Equivalent (CuEq%) = Cu% + (0.662*Au g/t)*

10.5 Pond Zone Drilling

The Pond Zone was discovered in 2005. During its life time, 60 surface core holes (16,690 metres) were drilled to explore and delineate it (See Figure 10-8). The Pond Zone Pit (completed in 2010) mined the deposit down to the 'open pit economic limits' of 100 metres (970m elevation). The rest of the ore body extends down another 220 metres to the 750m elevation. This deeper mineralization remains as an underground resource (See Figure 10-9).

The deeper mineralization was targeted with new drilling in 2008 to 2010. Highlights of the drilling include drill hole PZ10-55 which returned 90.0 metres grading 1.23% copper and 0.60 g/t gold and included a higher grade 15.5 metres section grading 3.73% copper and 2.09 g/t gold. Drill hole PZ10-58 returned 13.3 metres grading 1.93% copper and 0.39 g/t gold at 147.5 metres, and PZ10-52 returned 12.2 metres grading 4.25% copper and 1.26 g/t gold including 5.7 metres of 8.34% copper and 2.22 g/t gold. Table 10-9 shows the highlights from these programs. Table 10-10 shows the total number of holes and metres drilled by year in the Pond Zone.

Figure 10-8 Pond Zone Drilling Plan Map

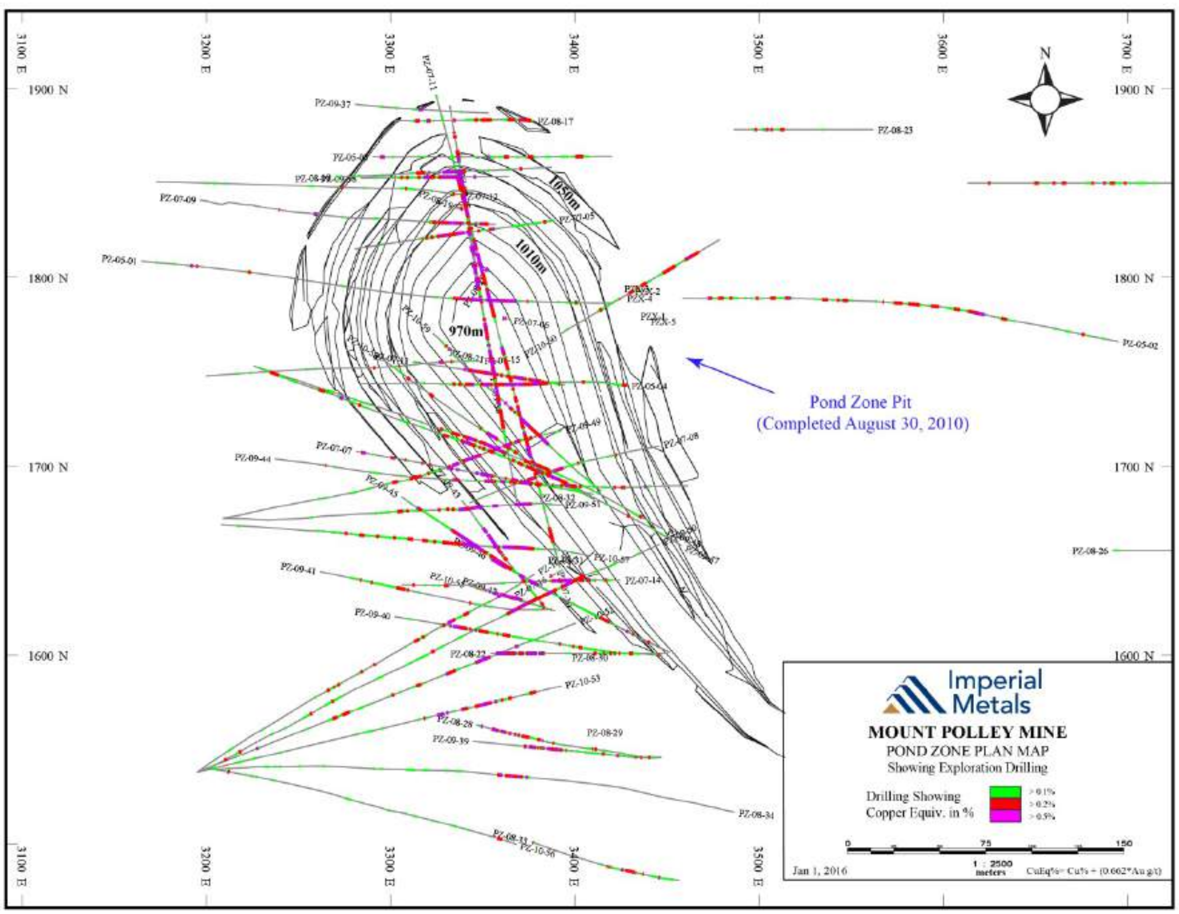


Table 10-9 Pond Zone Drilling Highlights

Pond Zone	From	To	Interval	Assays	Assays	Assays
Drill Hole	(m)	(m)	Length	Copper %	Gold g/t	CuEq%
PZ08-21	17.5	115.6	98.1	0.380	0.190	0.506
including	107.5	115.6	8.1	1.330	0.500	1.661
and	128.5	135.0	6.5	2.440	0.640	2.864
PZ08-22	265.0	273.1	8.1	6.070	1.260	6.904
including	255.0	273.1	18.1	3.680	1.010	4.349
including	197.5	273.1	75.6	1.160	0.420	1.438
PZ08-28	240.0	271.3	31.3	1.970	0.220	2.116
including	261.6	271.3	9.7	5.570	0.360	5.808
including	261.6	267.5	5.9	7.380	0.410	7.651
PZ08-31	132.8	192.5	59.7	0.240	0.230	0.392
including	132.8	140.0	7.2	0.690	0.420	0.968
PZ09-35	64.2	135.4	71.3	0.570	0.220	0.716
including	131.0	135.4	4.4	4.200	1.030	4.882
including	42.5	51.5	9.0	1.110	0.480	1.428
PZ09-43	140.0	185.0	45.0	2.030	0.420	2.308
including	212.5	217.5	5.0	2.790	0.530	3.141
PZ09-45	177.5	212.5	35.0	1.120	0.510	1.458
including	200.0	206.0	6.0	2.040	0.570	2.417
PZ09-46	160.4	172.5	12.1	1.170	0.830	1.719
and	200.3	220.0	19.8	1.310	0.580	1.694
PZ09-48	187.5	221.8	34.3	0.860	0.310	1.065
including	207.5	211.4	3.9	2.810	0.830	3.359
PZ09-49	194.4	255.0	60.6	0.850	0.580	1.234
including	206.4	217.9	11.6	2.490	0.740	2.980
PZ09-51	203.3	267.5	64.2	0.850	0.660	1.287
including	203.3	224.8	21.5	1.360	1.410	2.293
PZ10-52	283.9	296.1	12.2	4.25	1.26	5.08
including	290.3	296.1	5.7	8.34	2.22	9.81
PZ10-55	147.5	237.5	90	1.23	0.60	1.63
including	213.9	229.4	15.5	3.73	2.09	5.11
PZ10-58	147.5	160.8	13.3	1.93	0.39	2.19

**Copper Equivalent (CuEq%) = Cu% + (0.662*Au g/t)*

Figure 10-9 Pond Zone Long Section

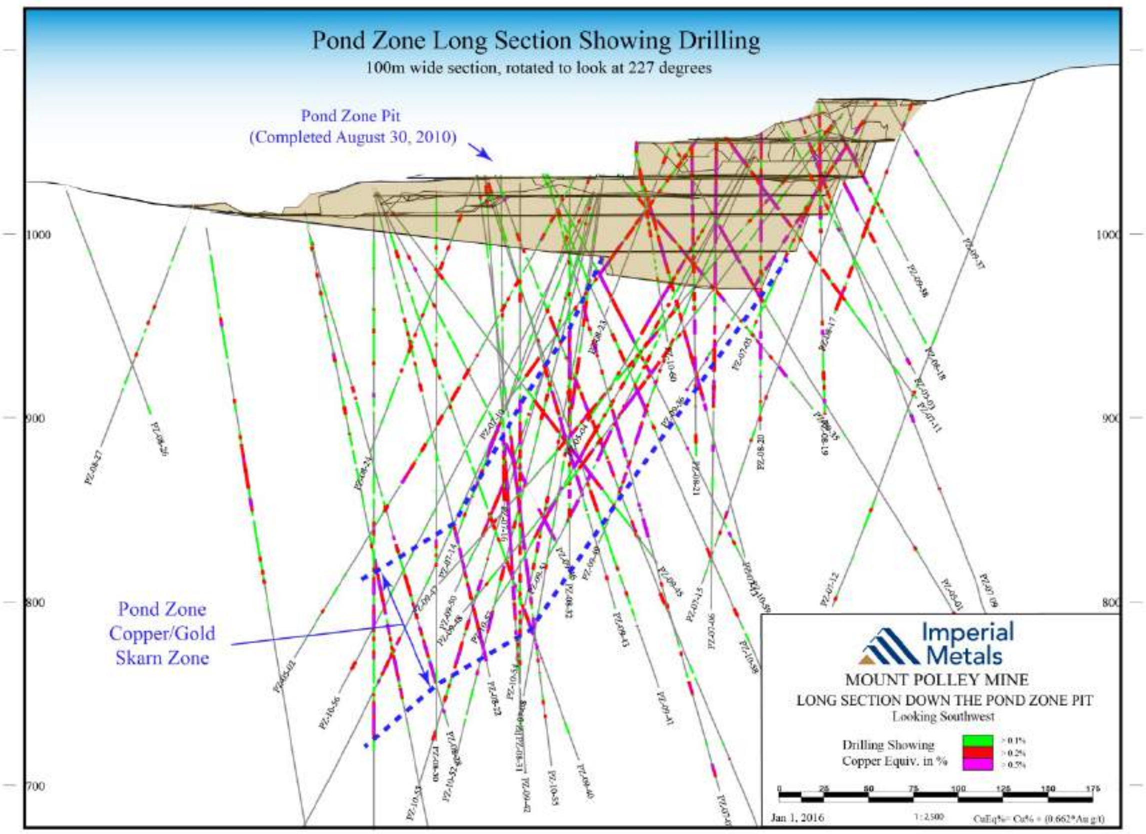


Figure 10-10 Pond Zone Drilling By Year

Deposit	Year	Number of Holes	Total Metres Drilled
Pond	2005	4	1,210
Pond	2007	12	3,211
Pond	2008	18	4,537
Pond	2009	17	4,898
Pond	2010	9	22,834
	Total	**60**	**36,690**

11 Sample Preparation, Analyses and Security

11.1 Introduction

Since 1981, drill core from the Mount Polley exploration drilling programs has been processed, logged, sampled and stored on site by Imperial Metals employees. Most of the early drill core from 1966 to 1980 was lost due to vandalism during the 1980s when the site was not occupied.

After the start-up of the mine and continuing to 2002, core logging and handling was done from two metal shipping containers located on the east side of the mill. Beginning in 2003 and up to 2007, the core logging and sampling facility was moved to an upgraded warehouse building south of the mill site. In 2007, a larger permanent exploration facility was built and customized to the flow of the core logging and sampling procedures. The new facility includes a prefabricated steel building erected on the mine site near the administration building, securely inside the fenced mine perimeter. The core library, and all exploration assay pulps and rejects are stored in this same facility (Figure 11-1).

Figure 11-1 Mount Polley Exploration and Core Processing Facility

11.2 Drilling Core Handling Procedures

Ninety percent (90%) of all the assays used in the Reserve and Resource estimate in this report were drilled after the mine started in 1998 and were supervised by Imperial Metals geologists.

For all of these drilling programs, the drill core was delivered from the drill to the logging facility via pick-up truck. Once received at the facility, it was washed and photographed with a high-quality digital camera, with resulting files stored in a computer directory, labeled by hole number and footage. The Core was then logged for geotechnical information. Geotechnical measurements included, core recovery, RQD, fracture counts, core strength and the occurrence of slickensides and fault gouge.

After the geotechnical logging was complete, the core was then geologically logged by Imperial Metals geologists. The geology data were recorded directly into “Lagger” (Northface Software), a database program designed specifically for exploration drilling. The core was sampled at 2.5 metre intervals. Where a geological contact could possibly affect the distribution of grade, the sample boundaries were marked at the contact. The sample tags were placed in the box at the beginning of each marked sample interval. Duplicate, blank and standard reference samples were randomly inserted within every 17 consecutive core samples. The marked and tagged core was then photographed in 3 box groups.

Magnetic susceptibility measurements were recorded for each sample interval. These measurements were taken using a KT-9 magnetic susceptibility metre. Ten susceptibility measurements were taken for each sample and then averaged. Beginning in 2009, core samples were tested for axial (4cm NQ core, and 6 cm HQ core) and diametral (5cm NQ and 10cm HQ) strength using a point load testing device. One sample was selected for every geological unit or rock type down the hole. The samples were returned to the core boxes after testing was complete.

Following the logging and sampling procedures, the core boxes were loaded into enclosed racks in the core cutting area of the logging facility. The core was cut in half lengthwise using a diamond bladed rock saw. The saws were rinsed clean after each sample was cut. Each cut sample was placed into a poly-ore bag with the sample tag, labeled with the sample number and closed using a zap-strap. The remaining half-core was left in the core box with the corresponding sample tag stub stapled to the box at the beginning of the sample interval. The bagged samples were placed in secure wooden bins with lids until being transported to the on-site Mount Polley lab processing facility or to an off-site commercial lab. The remaining half-core samples are currently stored in labeled core boxes in wooden core racks on the property.

11.3 Assay Labs

Before the startup of the mine and the establishment of the onsite Mount Polley Assay Lab, exploration samples were assayed at a number of B.C. Labs. These labs included; Bondar Clegg (Vancouver, BC), Chemex (North Vancouver, BC), International Metallurgical and Environmental (Kelowna, BC) or G&T Metallurgical Services (Kamloops, BC).

As mentioned in the History Section, operations at Mount Polley were suspended due to low metal prices from 2001 to end of 2004. During the suspension, the onsite assays lab was not operating, so when drilling was restarted in 2003, and continuing to 2005, drill core was prepped and assayed off-site at ACME Analytical Laboratories Ltd. in Vancouver.

From 2006 onwards, approximately 85 - 90% of all exploration drill core was prepped and analyzed on-site at the Mount Polley mine laboratory. The remaining 10 - 15% of the samples were analyzed off-site at ACME Analytical Laboratories in Vancouver. The Mount Polley mine lab analyzed all samples for gold, copper, copper oxide and iron. If additional analyses were required, such as a full 36-element geochemical suite, the analysis was performed at ACME Analytical, Vancouver. Mount Polley employs only BC certified assayers at the Mount Polley mine assay lab. Original assay certificates and drill logs are stored on site at the Mount Polley mine

11.4 Processing and Analytical Techniques

The split and bagged core samples prepared at the onsite exploration facility were taken by Imperial Metals Staff to the Mount Polley mine assay lab, which is located in the mill building. The samples were dried to 60^{o}C, crushed using a jaw crusher to 80% passing, split and pulverized in a ring pulverizer to 85% minus 200-mesh, rolled and bagged.

The pulp samples were analyzed for, total copper, total iron, gold, and copper oxide, by the following methods:

- The TOTAL COPPER (TCu%) and IRON (Fe%) analyses were completed with a solution produced from 0.5 gram sample splits treated with aqua-regia digestion and diluted to 50 ml. Assay was by Atomic Absorption (AA).
- GOLD (Au g/t) was obtained by Fire Assay Fusion with an AA finish on a 15g sample.
- COPPER OXIDE (CuOx%) was determined using a 30% H2SO4 leach and atomic absorption finish.

Note: Copper Oxide assays are needed to predict mill recovery performance as it is difficult to recover oxide copper minerals in a conventional flotation mill. Iron assay are used in a formula to predict Specific Gravity (SG).

The remaining coarse rejects were bagged and labeled with the appropriate sample number and stored in wooden crates on-site.

If a sample required further analysis for additional elements, the pulp was packaged and delivered via Van-Kam Freightways Ltd. to ACME Analytical Laboratories Ltd. in Vancouver. A full 36-element geochemistry suite was performed using ICP-MS with an aqua-regia digestion. ACME Analytical Laboratories Ltd. is an ISO 9001 registered analytical laboratory. In 2014, ACME changed ownership and is currently known as Bureau Veritas Mineral Laboratories.

Figure 11-2 Fire Assaying at the Mount Polley Lab

12 Data Verification

12.1 Quality Assurance and Quality Control Program

A formal quality assurance and quality control ("QA/QC") program was adopted at Mount Polley in 2004 under the supervision of Barry Smee, Ph.D., P.Geo., of Smee and Associates Consulting Ltd. Smee performed a quality control review of the 2004 exploration drilling program and made recommendations for future drilling programs at Mount Polley (Smee and Associates, 2004). Using this report as a guideline, a rigorous QA/QC program was developed and implemented for all subsequent drilling programs.

Since mid-2004, the exploration QA/QC program has included the random placement of a duplicate (DUP), blank (BLK) and standard reference sample (STD) within every 17 consecutive core samples (one of each QC sample per approximately 40 metres of drilling). Three different grades of standard reference material were available to reflect low, medium and high grade material. Table 11.1 summarizes the regular mainstream samples (MS) and the QA/QC samples (duplicates, standards and blanks) analyzed during drilling programs between 2004 and 2013 at Mount Polley.

Table 12-1 QA/QC Sample Summary of Drilling Programs by Year

YEAR	MS	DUP	STD	BLK	TOTAL
2004	31695	1728	671	1731	35825
2005	14773	1024	1021	956	17774
2006	11348	661	667	663	13339
2007	16728	973	969	968	19638
2008	8078	469	462	473	9482
2009	18153	1061	982	1065	21261
2010	18435	1078	1068	1076	21657
2011	21643	1273	1249	1272	25437
2012	16570	972	969	974	19485
2013	2851	164	168	166	3349

12.2 Assay Reference Standards

All standard reference material inserted into the sampling stream was prepared by CDN Labs of Surrey, British Columbia. Custom batches of standards were made in 2004, 2007, 2009 and 2010. The material used to prepare the standards was collected from remaining coarse rejects from previous Mount Polley drilling programs. The rejects were selected based on assay intervals that would yield low, medium and high-grade copper and gold values. The selected rejects were sent to CDN Labs where they were prepared and packaged as homogeneous standards for use as assay standard reference material. Each batch of standards was independently certified by Barry Smee, Ph.D., P.Geo. of Smee and Associates Consulting Ltd.

12.2.1 Standards:

Copper and gold assays for the standard reference material were monitored for bias and precision. Standards met QA/QC requirements if the assayed values were within 3 standard deviations of the mean calculated standard value (or as stated in the reference material certification). To monitor for bias, any two consecutive standard assay values could not be above two standard deviations on the same side of the mean calculated standard value. Failure to meet these requirements resulted in a re-assay of the failed standard, along with at least five sequential samples above and below that standard. Figures 12-1 and 12-2 show examples of the assay standard analysis program. Figure 12-1 shows low grade gold results in the 2007–2009 drilling programs, and Figure 12-2 shows medium grade copper assays standard analysis for drilling in years 2012-2013.

12.2.2 Duplicates:

Duplicate samples, taken to measure the precision of analysis, were randomly inserted into the sampling sequence within 17 consecutive core samples. These samples were made from quartering the half-core sample at the time of cutting. The assay results for the duplicate samples met QA/QC requirements if they assayed within an acceptable limit of +/- 20%. Samples failing to meet this requirement were investigated and re-assayed, along with at least five sequential samples above and below the failed sample. Figures 12-3 and 12-4 show examples of the duplicate assay analyses program (for copper and during the 2008-2010 drilling in 12-3 and for gold during the 2011-2013 drilling programs in 12-4).

12.2.3 Blanks:

Blank samples were also randomly inserted into the sampling stream within every 17 consecutive core samples. The blank material consisted of crushed rock from a highways gravel pit located along the Likely highway, near to the Mount Polley Mine site. This material was bagged in poly ore bags in one kilogram samples. If a blank sample returned copper and gold assay values over a pre-determined threshold (0.05% Cu and 0.05g/t Au), the blank reject along with at least five sequential core rejects (above and below the blank) would be re-processed and re-assayed. If the re-processed reject failed to meet the QA/QC requirements, the remaining half-core was quartered and new samples in the affected range were re-submitted to the lab for processing and assaying. Figures 12.5 and 12.6 show examples of blank assay analyses for copper during the 2007-2009 drilling programs and gold assay analyses for drilling in years 2010-2012.

Figure 12-1 Low Grade Assay Standard Analysis for 2007 - 2009 Drilling Assays

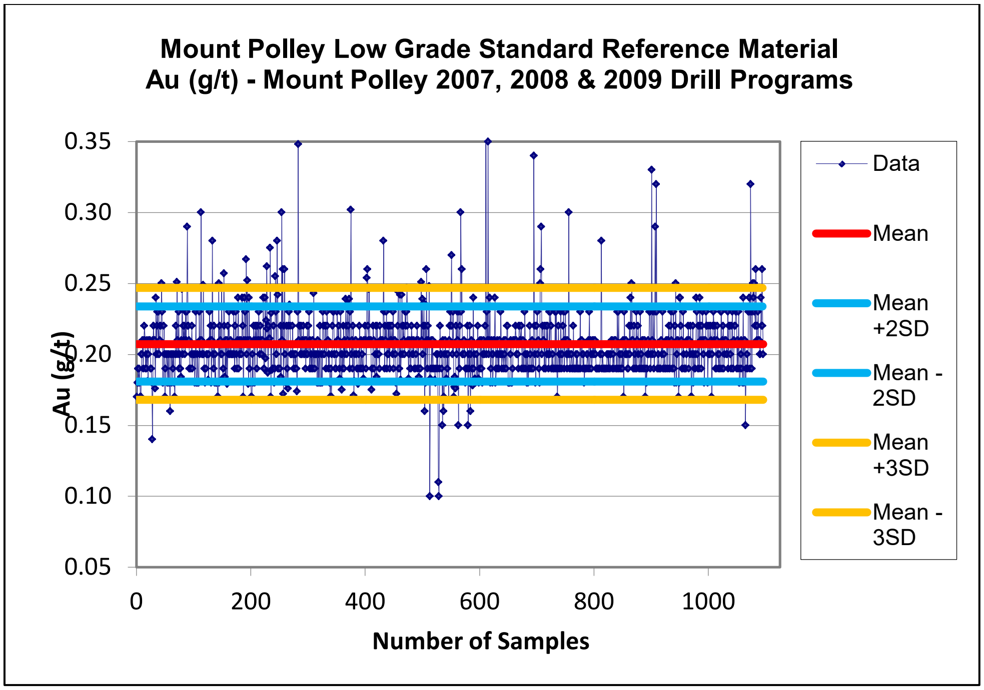


Figure 12-2 Medium Grade Assay Standard Analysis for 2012 - 2013 Drilling Assays

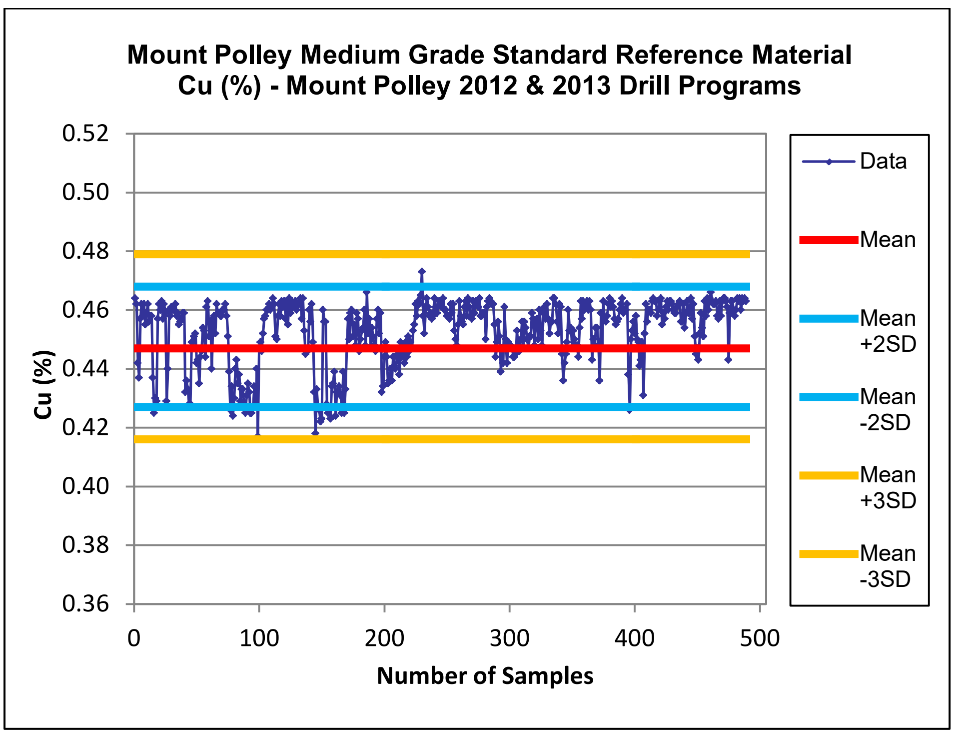


Figure 12-3 Copper Assay Duplicate Analysis for 2008 - 2010

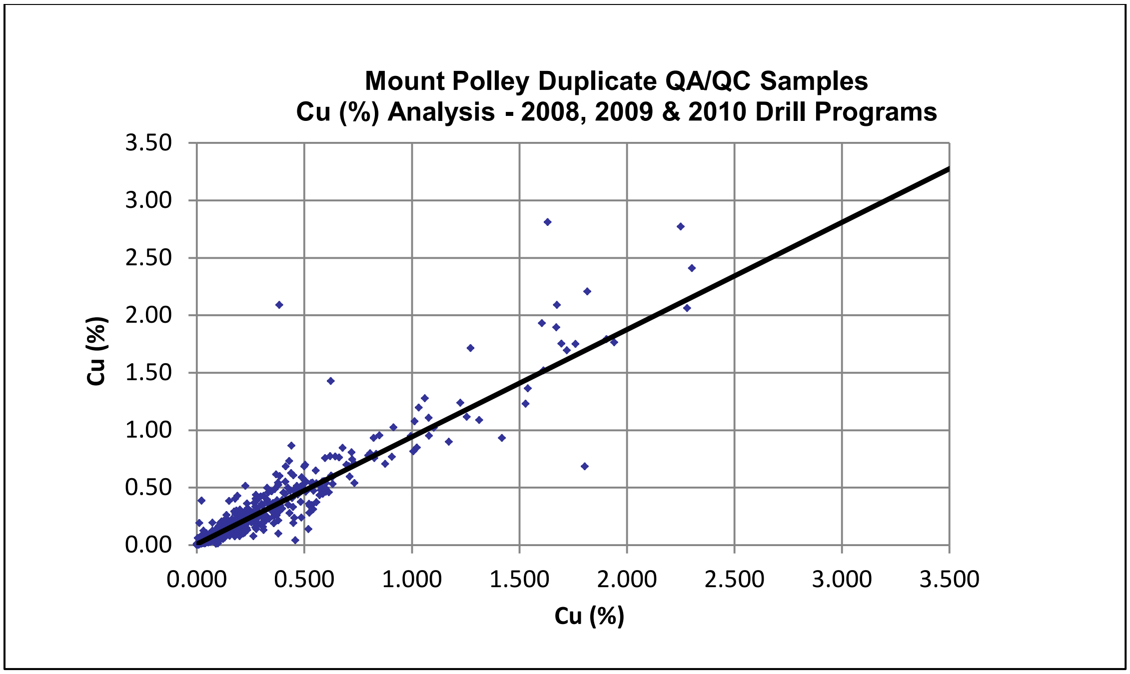


Figure 12-4 Gold Assay Duplicate Analysis for 2011 - 2013

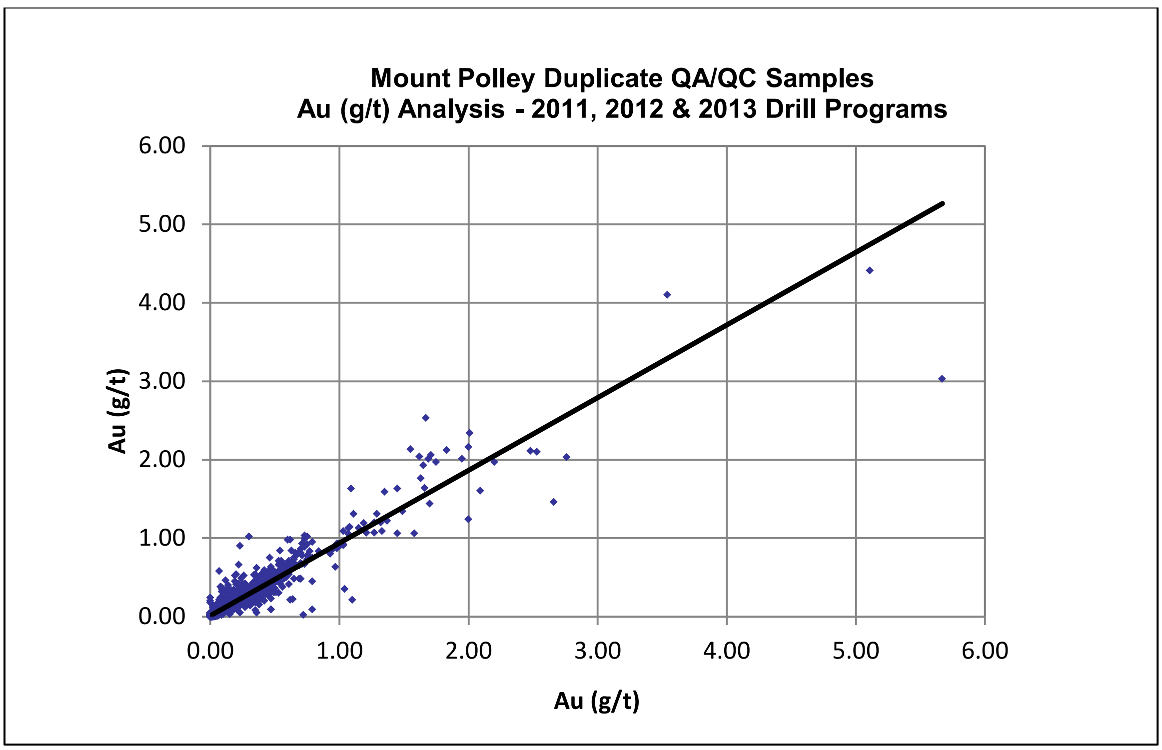


Figure 12-5 Copper Blank Assay Standard Analyses for 2007-2009

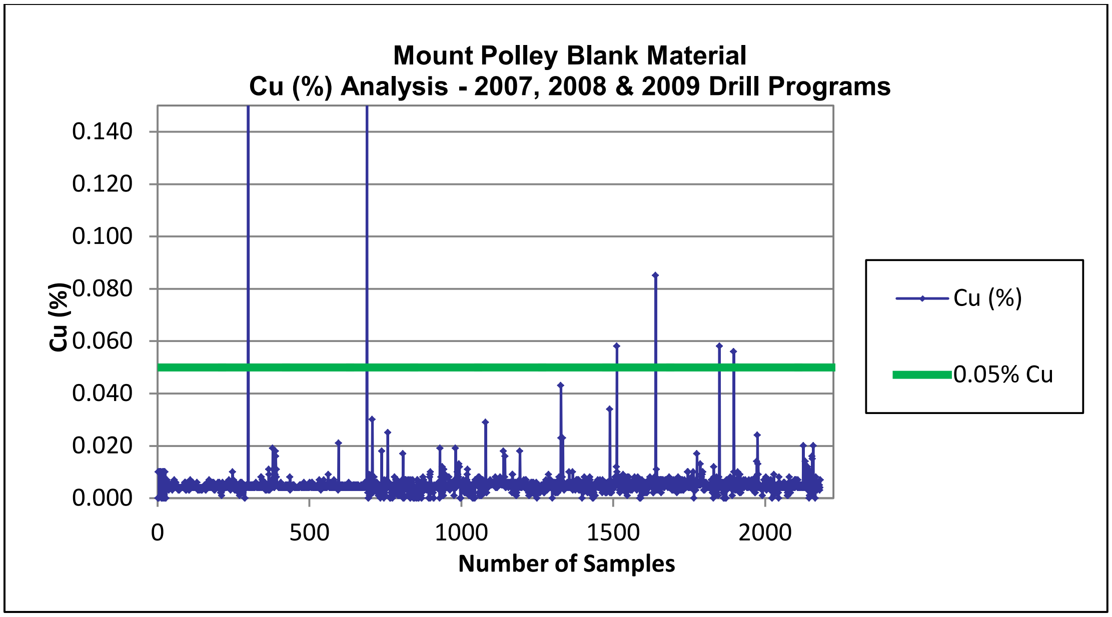
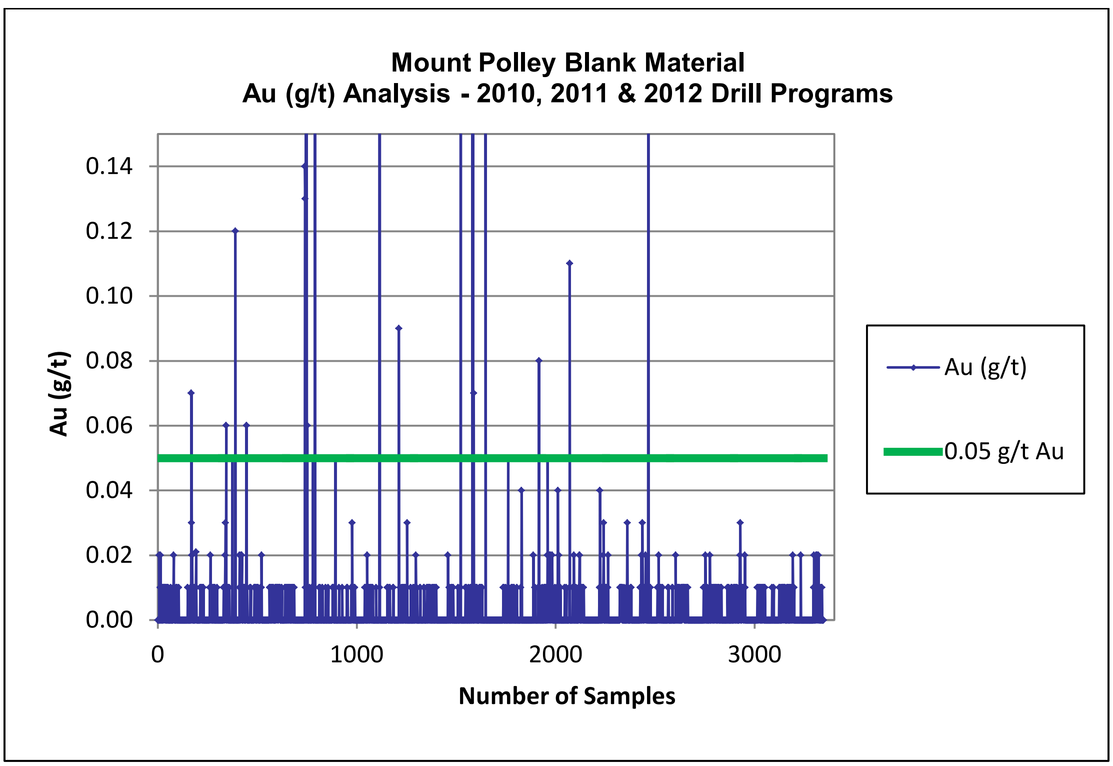


Figure 12-6 Gold Blank Assay Standard Analyses for 2010-2012



12.3 Down Hole Survey and Collar Coordinates

For all drilling programs conducted after the start of the mine in 1998, the collar coordinates were surveyed by the Mount Polley survey department. The mine survey department switched from conventional survey equipment to GPS based equipment in 2000. The mine employs a GPS base station on site to insure accuracy for both day to day mine operation and exploration work.

Collar coordinates surveyed prior to 1998 were done by contracted personnel usually several times during the season. The accuracy of these older holes was tested in Springer pit in 2001, by resurveying them. All resurveyed holes were within one to three metres of the old coordinates.

For mining and modelling purposes, a down-hole survey was done for each diamond drill hole in the program to record the azimuth and dip of the hole as it progresses. Two similar methods (instruments) have been used since the restart of drilling in 2003:

- single-shot (EZ-shot) survey,
- multi-shot (AQ-tool) survey.

Both type of instruments records azimuth, dip, magnetic field strength, and tool temperature. A measurement was usually taken every 9.1m (30 feet). The results were loaded into the 'MineSight' drilling database. MineSight (like most modern mining software) is able to reconstruct the trace of the drill hole from this data to ensure accurate modelling. Early down hole surveys (pre-2003) were done by acid test, which only gives the dip (inclination) value. Most of these early holes were relatively short, with a majority of them already being mined out.

12.4 Adequacy of Samples and Procedures

All geological, geotechnical, and assay data for the Project have been entered into a 'MineSight' software database, with the results being checked by at least three other geologists or engineers.

MineSight software is an industry standard mining software package used for all stages of mining. It is used for initial exploration and drilling, through to advanced resource estimation, mine planning and daily mine production.

MineSight software includes several levels of data verification subroutines during the loading of the data. These checks are to ensure that assay interval data are defined properly, there are no undefined intervals, no overlapping intervals, no missing intervals, and no values outside user set limits.

The drilling results are loaded into the software as they come in during the program, usually only several holes at a time. Once loaded, the Mount Polley drilling is viewed on a computer monitor in a 3D viewer to check the downhole surveys and collar locations for accuracy. The collar elevation is also checked against a current topographical survey. The assays values are color coded and examined at various cutoffs to check for anomalies.

Similar to the drilling the resulting block model estimation can be color coded at various assay value cutoffs and viewed in 3D and in 2D sections. The software allows the operator to walk through the model section by section, or horizontally level by level, comparing the drilling assays to the block model assays for model validation.

In the author's opinion, the adequacy of sample preparation, security, and analytical procedures for the data used in this report are valid and of the quality necessary to use in the Resource and Reserve estimates presented in this report.

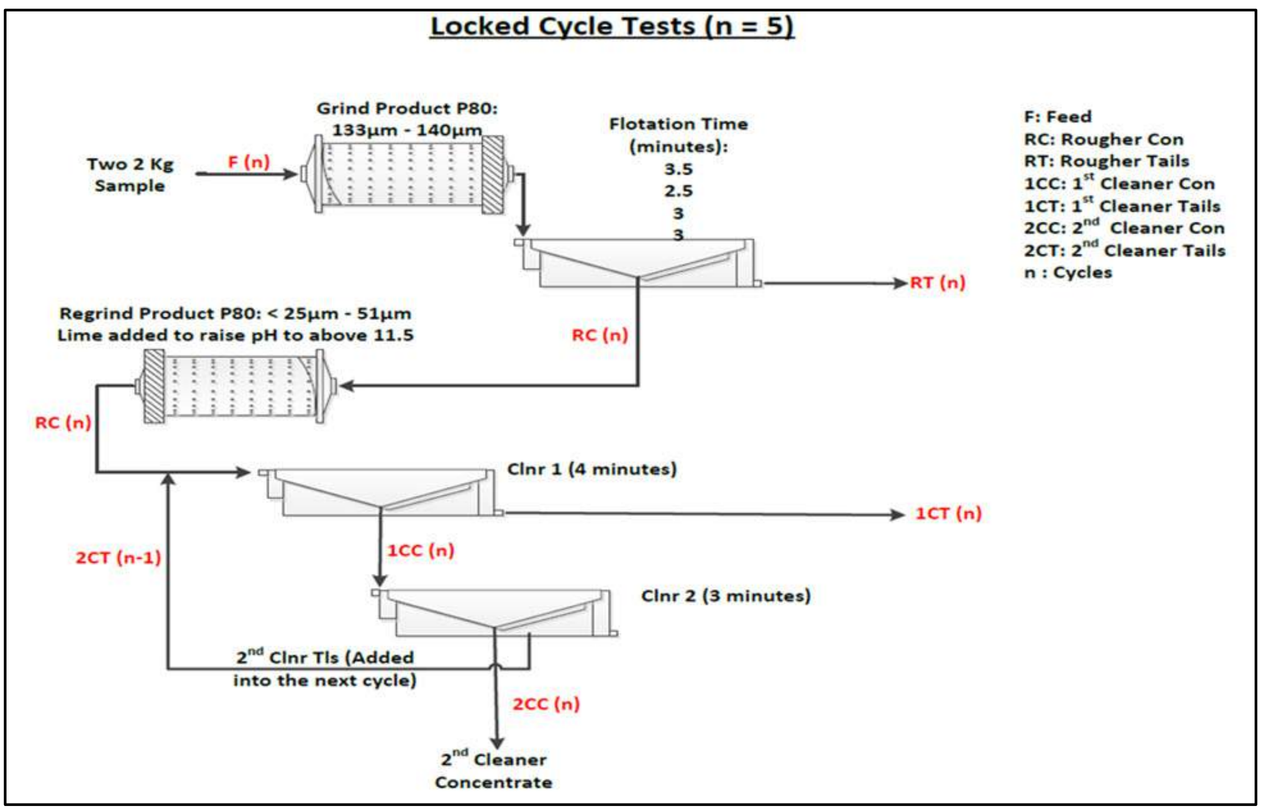
13 Mineral Processing and Metallurgical Testing

13.1 Summary

Laboratory testing has been completed on composite samples from various pits at the Mount Polley Laboratory and/or G&T commercial laboratory. Drill cores were selected and combined to construct composite samples based on ore characteristics. Each composite sample was composed of a number of different core intersections (usually 5-10 each). These intersections were continuous lengths of cores between 10m and 20m long containing intervals of variable grades in an attempt to mimic true mining conditions. An attempt was made to select samples representing the total area, both in plan and in depth, in order to create a good spatial distribution of samples. Composite samples were dried, stage crushed to minus 16mesh[1] and mixed to homogeneous samples for grinding prior to conducting flotation tests.

The batch flotation test work is divided into two groups: rougher and cleaner tests. The purpose of rougher tests is to determine the optimum grind size and reagent addition rates. The flotation kinetics and rougher recoveries are also determined. The purpose of cleaner tests is to determine the regrind time for achieving the target concentrate grade. Once regrind time is determined, locked cycle tests which simulate a continuous and stable flotation circuit could be conducted to reveal overall metal recoveries.

Figure 13-1 Flowsheet for Locked Cycle Tests



1 Some laboratories stage crush sample to minus 10 mesh.

In each rougher test, a homogenized sample was ground in a laboratory rod mill for a certain time and floated in certain time intervals. The collected rougher concentrate was ground in a laboratory ball mill to attain target regrind size, following by two or three stages cleaning. In a locked cycle test, the 2nd cleaner tails from the first cycle test was added to the 1st cleaner feed in the second cycle. Cycles were continued until the fifth cycle was completed (See Figure 13.1). The collected concentrates and tailings samples were prepared for assay.

The predictive recovery models were derived based on laboratory rougher and cleaner flotation results from the locked cycle tests or historical mill production data. Linear regression was performed on each metal to determine the best fit formula. Since copper sulfide (CuS) minerals are the bulk of the material recovered by flotation, CuS recovery and copper non-sulfide (CuNS) recovery were calculated separately. The total copper (CuT) recovery was made up of CuS recovery and CuNS recovery.

The metallurgical performance varied with ore characteristics from different pits. The Springer Pit ore represents more traditional copper and gold feed grades, but with elevated oxide copper content. The Cariboo Pit supplies more traditional copper feed grade, but higher gold grade ore than the Springer Pit. Ores from the Pond Zone, Boundary Zone and Underground have much higher feed grades than the Springer and Cariboo Pit, resulting in higher expectation in metallurgical performance. The stockpile ore, mostly derived from the Springer pit, should conform to the metallurgical performance as Springer Pit ore.

13.2 Springer Pit

For metallurgical purpose, the Springer Pit is separated to two (2) sections, Springer Main and Springer North. Composite samples from these two areas were sent to G&T Metallurgical in 2012 for testing. Locked cycle tests were conducted at a target primary grind size of 140µm P80 and a target regrind size of 25µm P80.

The locked cycle results are presented as follows.

- **Springer North** – Overall recovery of 70.7% Cu, 33g/t Au into a 31.7% Cu concentrate from a 0.23% Cu, 0.24g/t Au head.
- **Springer Main** – Overall recovery of 80.2% Cu, 21.8g/t Au into a 30.2% Cu concentrate from a 0.25% Cu, 0.21g/t Au head.

Eight-six (86) Springer tests which mimic the actual operation conditions were selected to derive predictive models. Table 13.1 shows the minimum copper sulphide tails grade for the Springer North and Main. The predictive recovery models for these feed types are shown in Table 13-2.

Table 13-1 Minimum CuS Tails Grade

Zone	Minimum CuS Tails Grade
Springer North	0.055
Springer Main	0.045

Table 13-2 Predictive Springer Recovery Models

Metal	Predictive Recovery Models
Total Copper	CuT Recovery = (CuS Recovered + CuNS Recovered)/ CuTFD (CuT Recovery / 2 if oxide ratio >0.5) CuS Tails = CuSFD – CuS Recovered IF CuS Tails > Minimum CuS Tails Grade CuS Recovered= (0.877x CuSFD – 0.00776) x 0.977 CuNS Recovered = (0.586 x CuNSFD – 0.011984) x 0.742 (CuNS Recovered /2 if oxide ratio > 0.5) IF CuS Tails< Minimum CuS Tails Grade CuS Recovered = (0.877x CuSFD – 0.00776) x 0.977 – (Minimum CuS Tails - CuS Tails) CuNS Recovered = (0.586 x CuNSFD – 0.011984) x 0.742
Total Gold	Au Recovery =(0.75 x AuFD – 0.003964) x 0.90) / Au FD

13.3 Cariboo Pit/ C2 Zone

The predictive models for Cariboo pit and C2 Zone were derived from the data from previous milling of the Cariboo Pit. The maximum predictive recoveries for copper and gold are 89% and 88% respectively.

Table 13-3 Predictive Recovery Models for Cariboo/ C2 Zone

Ore Type	Cariboo Pit / C2 Zone
CuT Recovery Predictive Model	(0.0592 x CuTFD – 0.9562 x Cu Oxide Ratio + 0.9348) x 0.95
Au Recovery Predictive Model	(0.1032 x CuTFD – 0.3139 x Cu Oxide Ratio + 0.0886 x AuFD + 0.7701) x 0.95

13.4 Pond Zone

Based on the test work completed at G&T Metallurgical, at the target primary grind of 104µm P80, the rougher recoveries of copper and gold were 96% and 95% respectively. G&T performed cleaner tests to show the ability of upgrading the concentrate to make a final grade, but no locked cycle test was conducted. The predictive formulas for Pond Zone are showed in Table 13.3. The maximum copper and gold predictive recoveries are 90%.

Table 13-4 Predictive Recovery Models for the Pond Zone

Metal	Predictive Recovery Models
Total Copper	Minimum CuS Tails Grade = 0.035
	CuT Recovery = (CuS Recovered + CuNS Recovered)/ CuTFD CuS Tails = CuSFD – CuS Recovered IF CuS Tails > Minimum CuS Tails Grade CuS Recovered= (0.829x CuSFD +0.06978) x 0.977 CuNS Recovered = 0.2 x CuNSFD IF CuS Tails< Minimum CuS Tails Grade CuS Recovered = (0.829x CuSFD +0.06978) x 0.977 – (Minimum CuS Tails – CuS Tails) CuNS Recovered = 0.2 x CuNSFD
Total Gold	Minimum Au Tails Grade = 0.04
	Au Tails = AuFD – Au Recovered IF Au Tails > Minimum Au Tails Grade Au Recovery = (0.942 x AuFD – 0.00555) X 0.975) / AuFD IF Au Tails < Minimum Au Tails Grade Au Recovery = (0.942 x AuFD – 0.00555) X 0.975) – (0.04 – Au Tails)

13.5 Boundary Zone

Based on the test work completed at G&T Metallurgical, the rougher recoveries of copper and gold were averaged at 92% and 95% respectively. Cleaner tests were performed at G&T to reveal the ability of upgrading the concentrate to make a final grade, but no locked cycle test was conducted. The predictive model for copper is shown as below. The maximum copper recovery is 85%. The predictive gold recovery is 70%, obtained from the G&T cleaner test results.

Table 13-5 Predictive Copper Recovery Model for the Boundary Zone

Boundary Zone
CuT Recovery = (CuS Recovered + CuNS Recovered)/ CuTFD
CuS Recovered = (0.864 x CuSFD + 0.0069) x 0.922
CuNS Recovered = (0.586 x CuNSFD – 0.011984) x 0.742

13.6 Northeast Zone

A portion of the Northeast Zone was historically mined when the Wight Pit was mined from 2004-2009. Two different metallurgical recovery models were created during this period to reflect different styles of mineralization present. The mineralization included in the Mineral Resource stated for the Northeast Zone includes both direct extensions of the portions of the Northeast Zone ore body mined via the Wight Pit, and more significantly, deeper mineralization which is off-set by approximately 100m from the upper part of the Northeast Zone deposit. Metallurgical test work specific to the deeper, offset portion of the Northeast Zone ore body has not been performed. For the calculation of Mineral Resources, metallurgical recoveries were assumed to be equal to the historical model generated for northern portions of the Northeast Zone deposit. The recovery assumptions used in this model are 83% for copper and 77% for gold. These represent the most conservative of the predictive models utilized for any Northeast Zone or Boundary Zone materials. The mineralization in the deeper portions of the Northeast Zone is believed to be sufficiently similar to the material mined during operations in the Wight Pit to allow for this model to be applied.

14 Mineral Resource Estimates

The Mineral Resource estimate for the Mount Polley property was prepared under the supervision of Ryan Brown, P.Eng. Imperial Metals Qualified Person responsible for Mineral Reserves and Resources. Art Frye, Mine Operations Manager of Mount Polley performed the geostatistical analysis and model interpolation work, which the author has reviewed and utilized in completing the estimates of Resource and Reserve totals. The Reserve and Resource estimates were completed using Hexagon MineSight 3D software. Processes and parameters used for the interpolation of grade items into resource block models are considered appropriate by the Qualified Person. The resultant block models are deemed suitable for use in Resource and Reserve estimation, and the subsequent processes and parameters undertaken to calculate and classify both Reserve and Resource estimates are deemed to be valid by the Qualified Person.

Table 14-1 Resource Estimation Metal Price Assumptions

Resource Estimation Metal Price Assumptions	Price
Copper Price Assumption (US$/lb Cu)	$3.50
Gold Price Assumption (US$/ oz Au)	$1400
Silver Price Assumption (US$/oz Ag)	$25
Exchange Ratio Assumption ($US: $CAD)	0.80

14.1 Geological Block Models

Mineralization at Mount Polley occurs in a number of discrete deposits separated by various distances. Six different block models were utilized in the generation of the Resource estimates contained in this report. A list of the model parameters and locations are contained in Table 14.1.

Table 14-2 List of Block Models

Model Name		Minimum Extent	Maximum Extent	Block Dimension	Number of Blocks
Main Zone	Easting	590,500	592,800	10x10x 12m	4,899,000
	Northing	5,822,000	5,825,000		
	Elevation	400	1252		
Boundary Zone OP	Easting	591,595	592,405	5x5x 10m	1,503,418
	Northing	5,825,195	5,826,005		
	Elevation	850	1140		
Boundary Zone UG	Easting	591,595	592,405	2.5x2.5x 2.5m	26,128,368
	Northing	5,825,195	5,826,005		
	Elevation	500	1130		
Northeast Zone UG	Easting	592,400	593,100	2.5x2.5x 2.5m	20,294,400
	Northing	5,825,200	5,825,800		
	Elevation	300	1055		
SEZ Model	Easting	592,990	594,210	10x10x 10m	3,513,840
	Northing	5,821,290	5,822,510		
	Elevation	550	1150		

The Main Zone block model includes a number of discrete and semi-connected deposits clustered around the current open pit mining operations. Deposits contained in this block model include the Springer, Cariboo, WX, Bell, C2, and Junction Zone deposits. Due to proximity and geological similarities, the Cariboo and C2 zones have been combined into one grouping called the Cariboo Zone. Similarly the Springer and Junction Zones have been combined as the Springer Zone for Resource reporting purposes.

Two different block models were utilized for reporting the Boundary Zone resources: one open pit model, and one underground model. A single block model was used for reporting underground Northeast Zone resource. The final block model utilized covers the Southeast and Pond Zones.

No Mineral Resource or Mineral Reserve is currently reported for the Southeast Zone. An underground Mineral Resource is reported from this model for the Pond Zone.

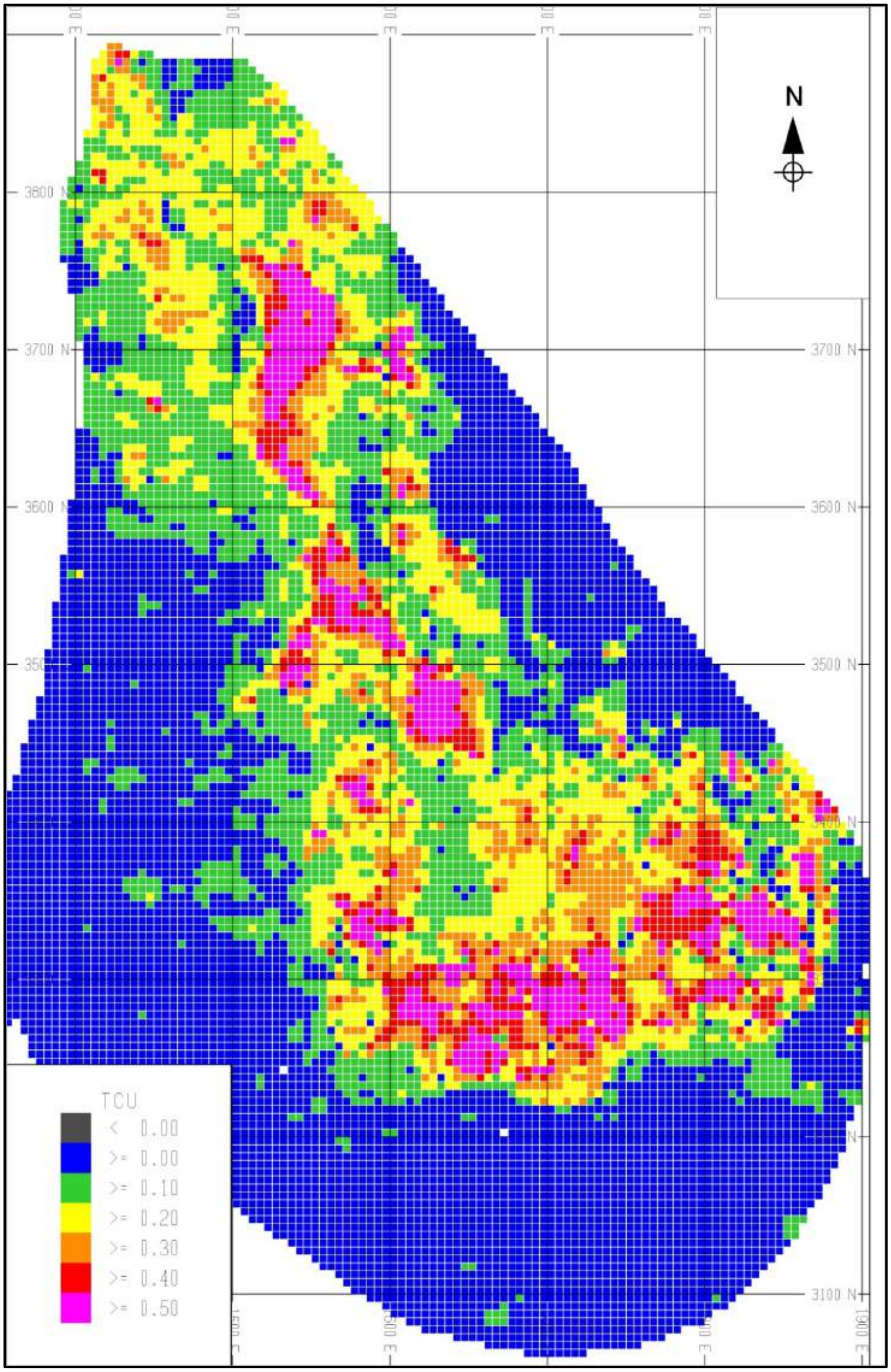
14.1.1 General Discussion of Modelling Techniques

Mineralization at Mount Polley most commonly occurs in breccia porphyry zones which can vary markedly in physical dimensions and grade tenor and continuity. The largest deposit at Mount Polley, the Springer deposit, typically exhibits broad dimensions exceeding 500m along strike, and 200m in width. While mineralization generally shows good continuity, grades can fluctuate over short distances and boundaries of the ore body can be erratic and somewhat amorphous and disconnected. This poses a challenge for defining geological controls and boundaries for mineralization, as the true shapes are somewhat complex, and difficult to predict with reasonable exploration drill resolution.

In an effort to mitigate these challenges, an indicator item is used to mathematically define areas which have a strong probability of being "mineralized", or more specifically to grade in excess of a chosen cut-off (typically 0.15% Cu). By selecting a desired probability cut-off (typically 50%), a boundary is created which serves much the same purpose as a conventional geological boundary: assay data from within this boundary is not used to estimate blocks beyond the boundary, and vice versa. This serves to help limit the effect of grade smearing. In conjunction with this approach, if any geological features are known to serve as boundaries to mineralization, three-dimensional models for the structures were constructed and utilized as exclusion areas during interpolation.

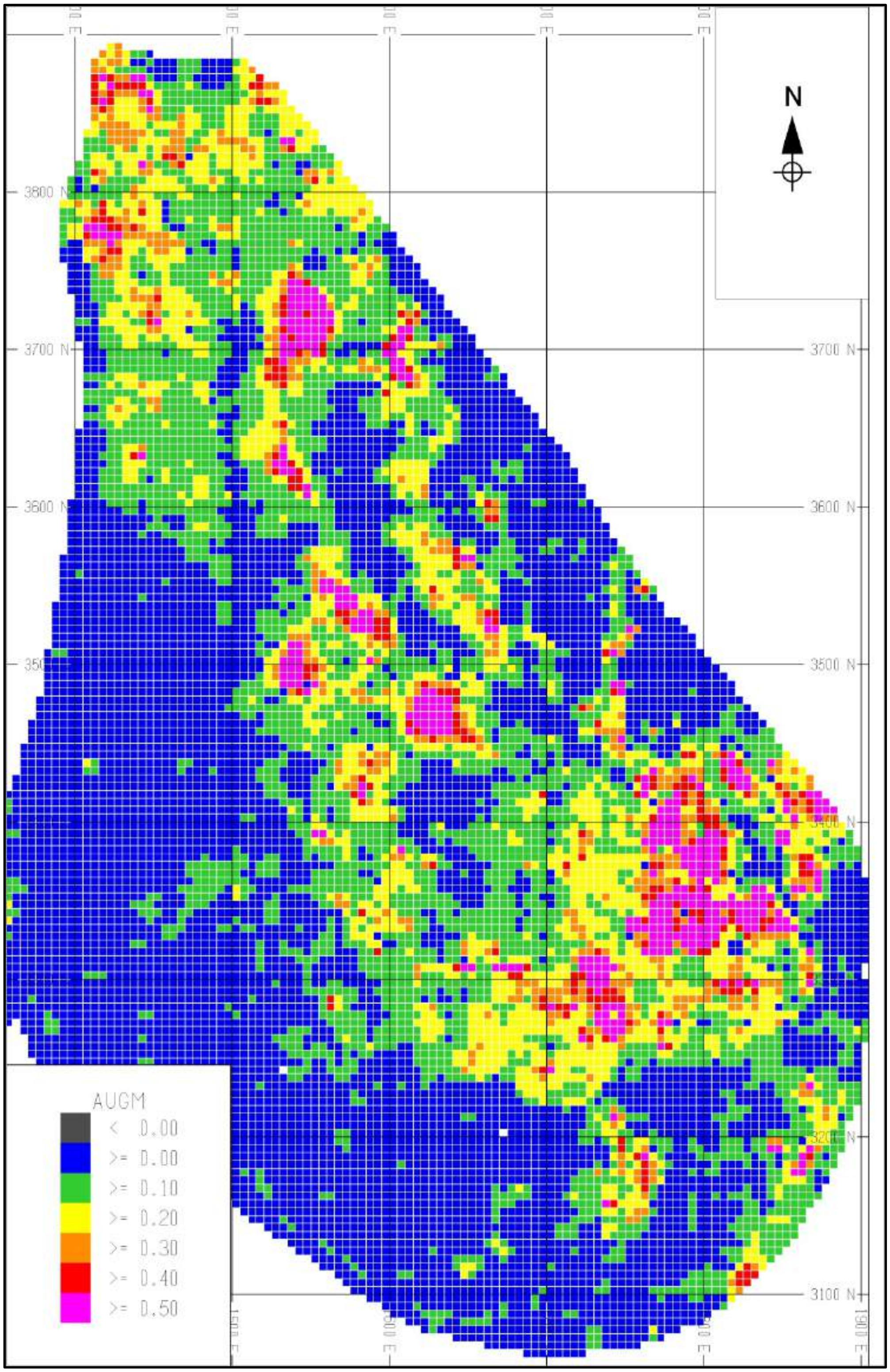
A plan section of both the copper and gold blasthole grades for the Springer Pit on the 1048m bench is shown below in Figure 14-1 and 14-2 to illustrate the typical nature of mineralization at Mount Polley. These figures reference blasthole drilling assay data and resulting block model update produced during past production, and as such do not pertain directly to any material included in either the Mineral Resource or Mineral Reserve estimates included in this report. Grade distribution and tenor does vary from deposit to deposit at Mount Polley, and as such the images presented in Figure 14-1 and 14-2 are only presented for the purposes of highlighting the general interpolation strategies.

Figure 14-1 Blasthole Copper Assay Data (%) for the Springer 1048m Bench



(only blocks containing blasthole data are displayed: deposit boundaries as defined by exploration drilling extend beyond the edges of this information in some cases)

Figure 14-2Blasthole gold assay data (g/t) for the Springer 1048m bench



(only blocks containing blasthole data are displayed: deposit boundaries as defined by exploration drilling extend beyond the edges of this information in some cases)

14.1.2 Main Zone Block Model

The Main Zone block model covers the majority of the mineralization currently defined at Mount Polley. The Main Zone is a term used to describe the cluster of the deposits which is situated between 500m and 2000m northwest of the crusher/mill facility. Deposits covered by this model include: Springer, Cariboo, C2, WX, Bell, and the Junction Zone. These deposits can generally be described as discrete, with varying degrees of separation, and as such they have been given individual names historically. However, due to similarities in the style and distribution of mineralization, some of these zones are combined when performing model interpolation. This is true of the Cariboo, Bell, and C2 Zones, and the Springer and Junction Zones. Unique interpolation parameters are applied to the Springer, Cariboo, and WX Zones within the Main Zone block model. The Main Zone block model is split into five different interpolations zones which are displayed in Table 14-3.

Table 14-3 Main Zone Block Model Grade Capping logic by Interpolation Zone

Interpolation Zone	Copper (%)	Gold (gpt)	Silver (gpt)
WX	1.5	4.0	3.0
Cariboo	1.6	2.5	3.0
Springer South	1.6	2.5	3.0
Springer North	1.0	2.0	10.0
Springer Deep	2.0	1.8	4.0

All zones within the Main Zone block model use similar interpolation philosophy and methodology. The primary differences between zones are the use of unique variograms for both kriging indicators and metal grades. The general model build process for the Main Zone model is described below:

- Three-dimensional solids are created to define each resource zone in the model.
- Blocks and drill holes were then coded with the resource zone solids.
- Drill holes were composited to 6 metre fixed-length composites.
- Drill hole composites were coded as either a 1 or a 0 based upon a 0.15% Cu cut-off.
- Using these 0 and 1 value composites, indicator variograms for each resource zone were created using MineSight geostatistical software.
- Using the indicator variograms for each zone, indicator composite values (0 or 1s) were kriged using normal kriging into a probability item in the block model.
- The resultant block model indicator probability item was then used at a 50% cutoff to define a block model indicator item as either a 0 or 1.
- The drill hole composites were then coded again to match the indicator codes created in the block model.
- Outlier grades were capped, and variograms for Cu, Au, Ag and Fe in each zone were generated.
- Grades were kriged into the block model, using zone and indicator matching
- An oxide ratio number for each block was interpolated using an ID3 method, with zone and indicator matching.
- Blocks were coded as Measured, Indicated, or Inferred based upon classification criteria.

Capping parameters were determined using log-probability plots to identify outlier data points. Values used for capping are displayed in Table 14-2. Unique variograms were created for each interpolation zone for the copper indicator, copper, gold, silver, and iron. The characteristics of the copper indicator, copper, and gold variograms used for each interpolation zone in the Main Zone block model are found in Table 14-3, Table 14-4, and Table 14-5 respectively. Grades were interpolated in one pass using zone and indicator matching. Overburden, backfill, and barren fault zones were coded to ensure their exclusion from grade interpolation. An estimate of copper oxide ratios was performed by using copper oxide ratio data from composites and an inverse distance calculation methodology using anisotropic search distances. Oxide ratio interpolation employed short vertical search distances to respect the relationship between oxidation and depth beneath surface. During the interpolation process, the number of composites and drill holes employed in the estimate is stored, as is the distance to the nearest composite. This information is then used to classify the block as Measured, Indicated, or Inferred according to the criteria defined in Table 14-6. All variogram rotations are in GSLIB terminology. GSLIB (Geostatistical Library) are a group of geostatistical computer programs, developed at Stanford.

Table 14-4 Main Zone block model indicator variogram parameters

Interpolation Zone	Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
WX	0.4641	1.0376	76.1	21.5	100.1	26.7	-8.0	25.6
Cariboo	0.5237	1.033	155.0	47.4	89.9	131.2	-57.4	11.5
Springer South	0.383	1.000	225.0	60.0	80.0	-35.0	-72.0	-37.0
Springer North	0.257	1.000	105.0	30.0	80.0	-20.0	25.0	-4.0
Springer Deep	0.350	1.000	85.0	50.0	370	-39.0	22.0	-5.0

Table 14-5 Main Zone block model copper variogram parameters

Interpolation Zone	Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
WX	0.4879	1.0296	67.8	22.3	100.1	212.4	12.7	-25.1
Cariboo	0.6971	1.005	281.0	91.2	183.0	67.1	-45.1	-18.5
Springer South	0.397	1.000	106.6	44.0	52.6	-35.0	62.0	0.0
Springer North	0.288	1.000	269.8	20.0	64.2	-19.0	53.0	-12.0
Springer Deep	0.397	1.000	106.6	44.0	52.6	-35.0	62.0	0.0

Table 14-6 Main Zone block model gold variogram parameters

Interpolation Zone	Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
WX	0.5667	1.0309	84.5	25.1	100.1	209.4	8.6	-26.3
Cariboo	0.69	1.000	281.0	91.2	183.0	67.1	-45.1	-18.5
Springer South	0.514	1.000	125.5	63.5	121.2	-12	49.0	29.0
Springer North	0.25	1.000	39.2	23.1	195.0	-29.0	-20.0	4.0
Springer Deep	0.514	1.000	125.5	63.5	121.2	-12.0	49.0	29.0

Table 14-7 Main Zone block model Mineral Resource classification criteria

Classification Level	Maximum Distance To Nearest Composite	Minimum Number of Drill Holes Required	Minimum Number of Composites Required
Inferred	60m	1	3
Indicated	50m	2	3
Measured	25m	3	5

14.1.3 Boundary Zone Open Pit Model

The Boundary Zone is located approximately 1km west of the Northeast Zone, or 2km northeast of the Main Zone deposits. The deposit consists of a number of intrusions which are relatively small in dimension when compared to other deposits at Mount Polley. The mineralization however is typically high grade and in places abrupt. Mineralization is often associated with magnetite breccia pipes, resulting in high iron contents.

Due to the high grade nature and smaller dimensions of mineralization in the Boundary Zone, it was decided that the block model would be generated using 5m vertical blocks, and that mining of ore zones would be undertaken in 5m benches. The general model build process for the Boundary Zone open pit block model is described below:

- Drill holes were composited to 5 metre fixed-length composites.
- Drill hole composites were coded as either a 1 or a 0 based upon a 0.15% Cu cut-off.
- Using these 0 and 1 value composites, indicator variograms for each resource zone were created using MineSight geostatistical software.
- Using the indicator variograms for each zone, indicator composite values (0 or 1s) were kriged using normal kriging into a probability item in the block model.
- The resultant block model indicator probability item was then used at a 50% cutoff to define a block model indicator item as either a 0 or 1.
- The drill hole composites were then coded again to match the indicator codes created in the block model.
- Outlier grades were capped, and variograms for Cu, Au, Ag and Fe in each zone were generated.
- Grades were kriged into the block model, using zone and indicator matching.
- An oxide ratio number for each block was interpolated using an ID3 method, with zone and indicator matching.

Capping parameters were determined using log-probability plots to identify outlier data points. Values used for capping are displayed in Table 14-8. Unique variograms were created for the copper indicator, copper, gold, silver, and iron. The characteristics of the copper indicator, copper, and gold variograms used for interpolation in the Boundary Zone open pit block model are found in Tables 14-9 to 14-11, respectively. Grades were interpolated in one pass using zone and indicator matching. Overburden, backfill, and barren fault zones were coded to ensure their exclusion from grade interpolation. An estimate of copper oxide ratios was performed by using copper oxide ratio data from composites and an inverse distance calculation methodology using anisotropic search distances. Oxide ratio interpolation employed short vertical search distances to respect the relationship between oxidation and depth beneath surface. During the interpolation process, the number of composites and drill holes employed in the estimate is stored, as is the distance to the nearest composite. This information is then used to classify the block as Measured, Indicated, or Inferred according to the criteria defined in Table 14-12.

Table 14-8 Boundary Zone open pit block model grade capping values

Copper (%)	Gold (gpt)	Silver (gpt)
3.0	3.5	20.0

Table 14-9 Boundary Zone model indicator variogram parameters

Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
0.50	1.00	10.0	25.0	50.0	-23.0	-18.0	-32.0

Table 14-10 Boundary Zone model copper variogram parameters

Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
0.578	1.018	113.3	7.0	14.0	-106.0	50.0	-15.0

Table 14-11 Boundary Zone model gold variogram parameters

Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
0.45	0.983	14.5	93.8	6.3	-102.0	-69.0	-90.0

Table 14-12 Boundary Zone open pit block model Mineral Resource classification criteria

Classification Level	Maximum Distance To Nearest Composite	Minimum Number of Drill Holes Required	Minimum Number of Composites Required
Inferred	60m	1	3
Indicated	50m	2	3
Measured	25m	3	5

14.1.4 Boundary Zone Underground Model

The Boundary Zone underground model covers the same extents as the Boundary Zone open pit block model. The underground block model was created to support more selective underground mining of deeper portions of the Boundary Zone deposit. The Boundary Zone underground block model uses smaller 2.5m x 2.5m x2.5m blocks. The interpolation methodology utilized also differs from that employed for the Boundary Zone open pit block model. The underground model utilizes two copper grade indicator items in an effort to provide greater constraint on the interpolation of high grade samples. As in the open pit block model a 0.15% Cu cut-off is employed for the first indicator item. A second indicator is also employed using a 0.50% Cu cut-off value.

- Drill holes were composited to 2.5 metre fixed-length composites.
- Drill hole composites were coded as either a 1 or a 0 based upon a 0.15% Cu cut-off in a primary indicator item.
- Drill hole composites were coded as either a 1 or a 0 based upon a second, higher, 0.50% Cu cut-off in a secondary indicator item.
- Using the 0 and 1 value composites generated by the primary indicator cut-off, an indicator variogram was created using MineSight geostatistical software.
- Using the indicator variogram, indicator composite values (0 or 1s) were kriged using normal kriging into two probability items the block model, one each for both the primary and secondary indicator items.
- Both the resultant block model indicator probability items were then used at a 50% cutoff to define two corresponding block model indicator items as either a 0 or 1.
- The drill hole composites were then coded again to match the indicator codes created in the block model for each of the indicator items.
- Outlier grades were capped.
- Grades were interpolated into the block model using and inverse-distance cubed (ID3) calculation with anisotropy, using zone and indicator matching,

Capping parameters were determined using log-probability plots to identify outlier data points. Values used for capping are displayed in Table 14-13. A variogram was created for the copper indicator item, with the resultant parameters shown in Table 14-14. The characteristics of the anisotropic search parameters applied for both copper and gold grade interpolation in each of the high and medium grade indicator cut-off zones are displayed in Tables 14-15 and 14-16 respectively. Grades were interpolated in one pass using zone and indicator matching and an ID3 calculation. Overburden, backfill, and barren fault zones were coded to ensure their exclusion from grade interpolation. No estimate of oxide copper ratios was performed as this model targets deep, un-oxidized material. During the interpolation process, the number of composites and drill holes employed in the estimate is stored, as is the distance to the nearest composite. This information is then used to classify the block as Measured, Indicated, or Inferred according to the criteria defined in Table 14-17.

Table 14-13 Boundary Zone underground block model grade capping values

Copper (%)	Gold (gpt)	Silver (gpt)
3.0	3.5	20.0

Table 14-14 Boundary Zone UG block model indicator variogram parameters

Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
0.364	1.000	107.9	67.7	26.7	41.0	57.0	-64.0

Table 14-15 Boundary Zone UG Zone 1 (0.15% Cu indicator) ID3 anisotropy characteristics

Range 1	Range 2	Range 3 (vertical)	Rotation	Outlier Cut-off	Outlier Range
60.0	30.0	40.0	55.0	0.50% Cu	10m

Table 14-16 Boundary Zone UG Zone 2 (0.50% Cu indicator) ID3 anisotropy characteristics

Range 1	Range 2	Range 3 (vertical)	Rotation	Outlier Cut-off	Outlier Range
60.0	30.0	40.0	55.0	3.00% Cu	10m

Table 14-17 Boundary Zone UG block model Mineral Resource classification criteria

Classification Level	Maximum Distance To Nearest Composite	Minimum Number of Drill Holes Required	Minimum Number of Composites Required
Inferred	60m	1	3
Indicated	50m	2	3
Measured	25m	3	5

14.1.5 Northeast Zone Underground Model

The Northeast Zone is located approximately 2.5km northeast of the mill facility. The Northeast Zone was mined from 2007-2009 from an open pit called the Wight Pit. Further extensions of the deposit exist beneath the exhausted open pit. No open pit resource is stated for the Northeast Zone due to the high stripping ratio of the remaining mineralization. A modelling philosophy similar to that utilized for the Boundary Zone underground model was utilized for the Northeast Zone underground model. This includes using the same block size and compositing parameters. The use of similar modelling techniques is due to the fact that the spatial distribution and variability of grade in the Northeast Zone is relatively similar to that in the Boundary Zone. There are also significant mineralogical differences between the deposits, including much lower magnetite content, and lower gold values in the Northeast Zone. The general model build process for the Northeast Zone underground block model is described below.

- Drill holes were composited to 2.5 metre fixed-length composites.
- Drill hole composites were coded as either a 1 or a 0 based upon a 0.15% Cu cut-off in a primary indicator item.
- Drill hole composites were coded as either a 1 or a 0 based upon a second, higher, 0.50% Cu cut-off in a secondary indicator item.
- Using the 0 and 1 value composites generated by the primary indicator cut-off, an indicator variogram was created using MineSight geostatistical software.
- Using the indicator variogram, indicator composite values (0 or 1s) were kriged using normal kriging into two probability items the block model, one each for both the primary and secondary indicator items.
- Both the resultant block model indicator probability items were then used at a 50% cutoff to define two corresponding block model indicator items as either a 0 or 1.
- The drill hole composites were then coded again to match the indicator codes created in the block model for each of the indicator items.
- Outlier grades were capped.
- Grades were interpolated into the block model using and inverse-distance cubed (ID3) calculation with anisotropy, using zone and indicator matching.

Capping parameters were determined using log-probability plots to identify outlier data points. Values used for capping are displayed in Table 14-18. A variogram was created for the copper indicator item, with the resultant parameters shown in Table 14-19. The characteristics of the anisotropic search parameters applied for both copper and gold grade interpolation in each of the high and medium grade indicator cut-off zones are displayed in Table 14-20. Grades were interpolated in one pass using zone and indicator matching and an ID3 calculation. Overburden, backfill, and barren fault zones were coded to ensure their exclusion from grade interpolation. No estimate of oxide copper ratios was performed as this model targets deep, un-oxidized material. During the interpolation process, the number of composites and drill holes employed in the estimate is stored, as is the distance to the nearest composite. This information is then used to classify the block as Measured, Indicated, or Inferred according to the criteria defined in Table 14-21.

Table 14-18: Northeast Zone underground block model grade capping values

Interpolation Zone	Copper (%)	Gold (gpt)	Silver (gpt)
High-grade zone	5.0	4.0	
Medium-grade zone	1.5	1.0	

Table 14-19: Northeast Zone underground block model indicator variogram

Nugget	Total Sill	Range 1	Range 2	Range 3	Rotation 1	Rotation 2	Rotation 3
0.364	1.000	107.9	67.7	26.7	41.0	57.0	-64.0

Table 14-20: Northeast Zone underground block model ID3 anisotropy characteristics

Range 1	Range 2	Rotation
60.0	30.0	310

Table 14-21: Northeast Zone UG Mineral Resource classification criteria

Classification Level	Maximum Distance To Nearest Composite	Minimum Number of Drill Holes Required	Minimum Number of Composites Required
Inferred	60m	1	3
Indicated	50m	2	3
Measured	25m	2	5

14.1.6 Southeast Zone Model (Pond Zone Mineral Resource)

The Southeast Zone (SEZ) block model contains both the Southeast Zone and the Pond Zone deposits. Historical mining has occurred on each deposit in the form of two open pits (one phase on each deposit). The SEZ model utilizes 10m high block heights primarily due to the fact that mining was conducted with only diesel equipment, and this height was deemed to be the largest practical size achievable. No Mineral Resource or Mineral Reserve is reported here for the Southeast Zone deposit, as the deposit fails to demonstrate reasonable prospects for economic extraction under the current assumptions for metal pricing. As such, no discussion of the modelling practices used for the SEZ deposit will be included in this report. A major consideration in the open pit economic analysis applied to both the SEZ and the Pond Zone deposits was the fact that the exhausted pits have been backfilled and incorporated into the Southeast waste dump, with further dump construction planned over the current life-of-mine plan. The economic prospects of further open pits on either deposit are not sufficient to justify deferring the cost savings currently provided by using these areas for waste rock disposal. Thus, the only portion of the Mineral Resource summary contained in this report which is derived from the SEZ block model is an underground Mineral Resource for the Pond Zone.

The Pond Zone is a skarn-like deposit, and therefore significantly different from other currently known deposits at Mount Polley. It is approximately 1km southeast of the mill facility. Alteration includes significant quantities of garnet and magnetite which result in high bulk densities (see Section 14.1.1 for further detail). Geometrically the Pond Zone is more regular than other deposits at Mount Polley. The mineralization generally forms an ovoid pipe, plunging at approximately 48° south with horizontal dimensions of approximately 100m by 30m. Mineralization is characterized by a low Au:Cu ratio and high silver contents, relative to other deposits at Mount Polley.

Two interpolation zones were used in the construction of the Pond Zone block model. These include a high-grade core zone, and a main ore body zone. The high-grade core zone is defined by a 3-dimensional wireframe model. The main ore body zone is generated using a copper grade indicator much as employed in other block models at Mount Polley. This indicator uses a 0.15% Cu cut-off. A second gold indicator was also employed for the interpolation of gold grades due to the poor correlation of copper-gold distributions in the deposit. This gold indicator utilized a 0.15gpt Au cut-off value. The general model build process for the Pond Zone block model is described below.

- Blocks and drill holes were coded with geology zone solids.
- Drill holes were composited to 5 metre fixed-length composites.
- Drill hole composites were coded as either a 1 or a 0 based upon a 0.15% Cu cut-off (or a 0.15gpt Au for the gold indicator item).
- Using these 0 and 1 value indicator composites, a probability item in the block model for both copper and gold was calculated using ID3.
- The resultant block model indicator probability item was then used at a 50% cutoff to define a block model indicator item as either a 0 or 1 for both copper and gold.
- The drill hole composites were then coded again to match the indicator codes created in the block model.
- Outlier grades were capped.
- Grades were then interpolated into the block model, using an ID4 calculation with anisotropy and zone and indicator matching.

Capping parameters were determined using log-probability plots to identify outlier data points. Values used for capping are displayed in Table 14-22. A variogram was created for both the copper and gold indicator items. The characteristics of the anisotropic search parameters applied for both copper and gold grade ID4 interpolation are displayed in Table 14-23. Grades were interpolated in one pass using zone and indicator matching. Overburden, backfill, and barren fault zones were coded to ensure their exclusion from grade interpolation. An estimate of copper oxide ratios was performed by using copper oxide ratio data from composites and an inverse distance calculation methodology using anisotropic search distances. Oxide ratio interpolation employed short vertical search distances to respect the relationship between oxidation and depth beneath surface. During the interpolation process, the number of composites and drill holes employed in the estimate is stored, as is the distance to the nearest composite. This information is then used to classify the block as Measured, Indicated, or Inferred according to the criteria defined in Table 14-24.

Table 14-22 Pond Zone underground block model grade capping values

Copper (%)	Gold (gpt)
2.5	3.0

Table 14-23 Pond Zone UG Zone 1 (0.15% Cu indicator) ID3 anisotropy characteristics

Range 1	Range 2	Rotation Azimuth	Dip degrees
60.0	30.0	348	35

Table 14-24 Pond Zone UG Mineral Resource classification criteria

Classification Level	Maximum Distance To Nearest Composite	Minimum Number of Drill Holes Required	Minimum Number of Composites Required
Inferred	60m	1	3
Indicated	50m	2	3
Measured	25m	2	5

14.2 Bulk Density

Bulk densities were assumed for all block models. One model is used property-wide for modelling bulk density in both ore and waste zones, with two exceptions. The first is the Boundary Zone underground model, where mineralization is characterized by significantly higher contents of both copper and iron (in the form of magnetite), resulting in bulk densities higher than what the general density model is calibrated for. The second is in the Pond Zone, where mineralization is contained in a zone of skarn alteration, again resulting in heavier-than-typical bulk densities.

The general predictive formula is displayed in Equation 1. The model is calibrated for both the typical ore host rock (breccia) and waste rocks (monzonites and diorites). Generally both ore and waste display a narrow range of bulk densities between 2.60 and 2.68 tonnes per cubic metre, unless influenced by relatively uncommon magnetite breccia pipes which can grade in excess of 20% iron, and display markedly higher bulk densities than those modelled with Equation 1. Much of the Boundary Zone underground Mineral Resource and Mineral Reserve are contained in such magnetite pipes, necessitating the modified bulk density model shown in Equation 2. Each predictive model for bulk density uses the iron and copper contents of a given block as variables in the calculation of the bulk density.

Equation 1: General bulk density model for both ore and waste (tonnes/m^3)

$$S.G. = 0.0139 * \left(Fe(\%) + Cu(\%)\right) * 2.5703$$

Equation 2: Bulk density model specific to only Boundary Zone underground ore (tonnes/m^3)

$$S.G. = 0.0139 * (Fe(\%) + Cu(\%) + 2.5703 + (Fe(\%) * 0.0144) - 0.0115)$$

Equation 3: Bulk density model specific to only Pond Zone skarn materials (tonnes/m^3)

$$S.G. = 3.1 + (Fe(\%) - 4.899) * 0.09 + (Cu(\%) - 0.5422) * 0.09$$

Each of the predictive models supplied above has been generated using laboratory-performed bulk density measurements on split core samples from exploration diamond drilling. Each of the models has also been verified through actual production reconciliations to varying degrees. The general site model has been utilized over the entire production history at Mount Polley, and has consistently achieved acceptable reconciliations against both mining and milling comparison statistics. The predictive model in use for the Pond Zone was developed and reconciled while mining the Pond Zone open pit over a period of approximately one year. The predictive bulk density model for the Boundary Zone underground has been tested over the course of one Boundary Zone stope mined in the summer of 2014. Preliminary reconciliations at that time demonstrated acceptable performance of the bulk density model. The total average density for ore in the Main Zone Mineral Resource ore is 2.64 tonnes/m^3.

14.3 Mineral Resource Classification and Summary

A new series of five block models were completed in December 2015, with the cut-off date for the drilling being December 15, 2015. The new resource statement presented in this chapter is based on these new models. The effective date for this new Resource Statement is January 1, 2016. The new block models cover the Main Zone, Northeast Underground Zone, Boundary Surface, Boundary Underground and the Pond Zone.

The Total Mineral Resources for Mount Polley is summarized below in Table 14-25 below. This summary is inclusive of totals reported as Mineral Reserves in Section 15.1. See Table 14-26 for Resource Details by divided by Zone.

Table 14-25 Mineral Resource Summary

Mount Polley	Resource	CuEq	Cu	Au	Ag	Cu	Au	Ag
Total Resource	Thousand Tonnes	%	%	g/t	g/t	Million Pounds	Thousand Ounces	Thousand Ounces
All Zones - Measured	138,255	0.439	0.282	0.276	0.722	859.26	1,226.39	3,211.06
All Zones - Indicated	109,077	0.385	0.246	0.245	0.597	591.31	860.55	2,095.09
All Zones - Inferred	14,033	0.257	0.161	0.170	0.347	49.91	76.90	156.54
All Zones - M&I	247,332	0.415	0.266	0.262	0.667	1,450.57	2,086.94	5,306.15
All Open Pit - Measured	132,300	0.394	0.244	0.269	0.424	711.10	1,144.20	1,803.50
All Open Pit - Indicated	107,500	0.372	0.236	0.242	0.469	558.71	838.09	1,621.07
All Open Pit - Inferred	13,900	0.242	0.149	0.167	0.276	45.60	74.63	123.34
All Open Pit - M&I	239,800	0.384	0.240	0.257	0.444	1,269.81	1,982.30	3,424.57
All Underground - Measured	5,955	1.438	1.129	0.429	7.352	148.17	82.19	1,407.56
All Underground - Indicated	1,577	1.275	0.938	0.443	9.349	32.60	22.46	474.03
All Underground - Inferred	133	1.839	1.471	0.531	7.763	4.31	2.27	33.20
All Underground - M&I	7,532	1.404	1.089	0.432	7.770	180.76	104.65	1,881.58

- *Mineral Resource statement is inclusive of Mineral Reserves*
- *Ore tonnes are rounded to the nearest 100,000 tonnes for open pit sources, and the nearest 1000 tonnes for underground sources*
- *Contained metals are rounded to the nearest 1,000,000lbs Cu, 1000 oz Au, 1000 ozs Ag*
- *Equivalent Copper = (Copper + Gold/1.847 + Silver/96.018); based on Resource metals prices in Table 14-2*
- *Totals may not sum exactly due to rounding*

Table 14-26 Mineral Resource Summary by Zone

Mount Polley	Resource	CuEq	Cu	Au	Ag	Cu	Au	Ag
Resource By Zone	Thousand Tonnes	%	%	g/t	g/t	Million Pounds	Thousand Ounces	Thousand Ounces
Main Zone - Measured	132,300	0.394	0.244	0.269	0.424	711.10	1,144.20	1,803.50
Main Zone - Indicated	106,300	0.367	0.232	0.240	0.431	543.93	820.23	1,473.00
Main Zone - Inferred	13,900	0.242	0.149	0.167	0.276	45.60	74.63	123.34
Total Main Zone M&I	238,600	0.382	0.239	0.256	0.427	1,255.02	1,964.43	3,276.50
Boundary Zone Open Pit - Measured		-	-	-	-	-	-	-
Boundary Zone Open Pit - Indicated	1,200	0.850	0.559	0.463	3.838	14.78	17.86	148.07
Boundary Zone Open Pit - Inferred		-	-	-	-	-	-	-
Boundary Zone Open Pit - M&I	1,200	0.850	0.559	0.463	3.838	14.78	17.86	148.07
Boundary Zone Underground - Measured	557	1.648	1.148	0.800	6.390	14.09	14.33	114.44
Boundary Zone Underground - Indicated	14	1.534	1.144	0.628	4.799	0.35	0.28	2.16
Boundary Zone Underground - Inferred		-	-	-	-	-	-	-
Boundary Zone Underground - M&I	571	1.645	1.148	0.796	6.351	14.45	14.61	116.60
NE Zone Underground - Measured	5,398	1.416	1.127	0.391	7.451	134.07	67.86	1,293.12
NE Zone Underground - Indicated	871	1.347	1.048	0.417	6.946	20.13	11.68	194.51
NE Underground - Inferred	127	1.861	1.495	0.537	7.209	4.19	2.19	29.44
						0.00		
NE Zone Underground - M&I	6,269	1.406	1.116	0.395	7.381	154.20	79.54	1,487.63
Pond Zone Underground - Measured		-	-	-	-	-	-	-
Pond Zone Underground - Indicated	692	1.179	0.794	0.472	12.466	12.11	10.50	277.35
Pond Zone Underground - Inferred	6	1.390	0.965	0.410	19.498	0.13	0.08	3.76
Pond Zone Underground - M&I	692	1.179	0.794	0.472	12.466	12.11	10.50	277.35

- *Mineral Resource statement is inclusive of Mineral Reserves*
- *Ore tonnes are rounded to the nearest 100,000 tonnes for open pit sources, and the nearest 1000 tonnes for underground sources*
- *Contained metals are rounded to the nearest 1,000,000lbs Cu, 1000 oz Au, 1000 ozs Ag*
- *Equivalent Copper = (Copper + Gold/1.847 + Silver/96.018); based on Resource metals prices in Table 14-2*
- *Totals may not sum exactly due to rounding*

14.4 Cut-Off Grade Analysis

Mount Polley currently employs a Mill Head Value (MHV) calculation for evaluating the economic merits of a given material on a block-by-block basis in dollar terms. This system has the benefit of being able to accommodate diverse mineralogical characteristics while providing a simple understanding of what the economic return will be from a given material, should it be processed. A MHV is essentially a net smelter return calculation with known site unit costs such as processing, tailings storage, administration, and sustaining capital applied. Direct mining, or mine operations costs are not included in the MHV calculation. The MHV demonstrates the value of a block, on a per-tonne basis, using the crusher pocket as the point of reference. This provides an understanding of the amount of mining cost which can be incurred in the process of bringing this block to the crusher. Mount Polley claims are generally free of production royalties, with the exception of a small amount of material in the Boundary Zone open pit resource which is subject to a royalty of $2.50 per tonne of ore mined. The inclusion of this royalty in cut-off grade analysis does not have a significant effect on Mineral Resource estimates.

Major components of the MHV calculation include: an estimation of recovered grades, an estimate of payable product quantities, assignment of metal prices and exchange ratios, an estimate of concentrate shipping and treatment/refining costs, and an estimate of site unit operating costs.

Detailed metallurgical recovery models for each relevant zone are included in Section 17. Table 14-27 contains a summary of relevant cost and price assumptions applied to the MHV cut-off analysis employed in calculating the Mineral Resource totals.

Metal price assumptions employed for the calculation of the Mineral Resources were approved by Imperial Metals Management, and are deemed appropriate for the purpose of defining a Mineral Resource by the Qualified Person. Each commodity price selected has been achieved in the recent past, while the exchange ratio selected roughly reflects the average over the past thirty years.

MHV calculations were utilized for cut-off grade analysis in all block models employed in both the Mineral Resource and Mineral Reserve calculations.

Table 14-27 Mineral Resource cut-off grade calculation statistics

Concentrate Moisture Content	8.0%
Concentrate Copper Content	23.0%
Concentrate Payable Copper Percent	95.6%
Concentrate Payable Gold Percent	97.5%
Concentrate Payable Silver Percent	90.0%
Smelting Charge (US$/dry metric tonne concentrate)	$105.50
Refining Charge (US$/payable lb Cu)	$0.105
Refining Charge (US$/payable oz Au)	$5.53
Refining Charge (US$/payable oz Ag)	$0.37
Concentrate Shipping and Handling Costs (US$/wet metric tonne of concentrate)	$124.43

Milling Cost (CA$/t of mill feed)	$5.07
Administration and General Cost (CA$/t of mill feed)	$1.10
Sustaining Capital/Tailings Storage Costs (CA$/t of mill feed)	$1.50
Copper Price Assumption (US$/lb Cu)	$3.50
Gold Price Assumption (US$/ oz Au)	$1400
Silver Price Assumption (US$/oz Ag)	$25
Exchange Ratio Assumption ($US: $CAD)	0.80

14.5 Open Pit Economic Models and Constraints

To demonstrate a reasonable prospect for eventual economic extraction, the open pit Mineral Resources stated in Tables 14-25 and 14-26 are constrained by maximum pit shells (one for the Main Zone model, and one for the Boundary Zone open pit model) which were calculated and generate using a Lerchs-Grossman algorithm within MineSight software. The basis of the calculation is economic cut-off grade in each block which differentiates between ore and waste material.

In order to define these maximum pit shells and to define this economic cut-off grade, a number of assumptions and calculations were performed:

- For each block in the relevant open pit block models, both potential revenue and potential mining costs were applied.
- The revenue generating potential of a block is represented by the MHV item discussed in Section 14.2.1.
- A $1/tonne MHV cut-off grade was used for the pit limits analysis. This cut-off was selected because this is believed to be the cost of rehandling materials from stockpiles. Thus, if a block is to be either milled or stockpiled, it must have a MHV greater than $1 per tonne, so that the revenue generated by processing this block can pay for the future rehandle when the material is hauled to the crusher from a stockpile. This logic is further reinforced by the slightly lower cost of hauling to stockpiles versus waste dumps. The cut-off grade which is utilized to determine whether ore is stockpiled or milled during the normal course of operations is generally slightly higher, in an attempt to ensure adequate revenue to cover the mining costs of both ore and waste materials. Material which falls between this operating cut-off and stockpiling cut-off is generally stockpiled.
- The potential mining costs for a given block were taken from cost estimates for near-surface materials which were escalated for materials beyond depths where detailed estimates have been performed. These cost assumptions have been bench-marked against recent operating cost performance.
- The escalating unit cost applied is an additional $0.04/t for every additional 12m bench of depth achieved.
- Slightly different costs are assumed for the three primary material types mined at Mount Polley: ore, non-acid generating waste (NAG), and potentially acid-generating waste (PAG). Ore and PAG waste are generally charged similar initial costs due to similar haul distances. NAG waste rock is charged a slightly higher rate due to a slightly longer haul distance required. An additional charge is also applied to PAG waste due to the requirement that all PAG rock be permanently submerged at mine closure. This effectively means that all PAG rock must be stockpiled and rehandled into exhausted pits at the end of the mine life. In consideration of this cost, a $1/tonne rehandle cost is applied to all PAG blocks during pit

limits analysis. Currently it is not believed that pit sequencing has the ability to significantly reduce this rehandle requirement.

- PAG rock quantities have been estimated using carbon and sulfur assay data from exploration drilling. Carbon and sulfur assays are interpolated into the block model, and then are used to calculate the neutralizing potential (NP) and acid generating potential (AP) for a given block.

- The ratio of NP/AP is called the neutralizing potential ratio (NPR). If a given block has a NPR greater than 2, or sulfur content lower than 0.1% it is assumed to be NAG rock.

- Regular operating procedures require acid-base accounting to be performed once per every 20,000 tonnes of rock mined. This has generated a strong data set and understanding of the distribution of PAG rock at Mount Polley. While carbon and sulfur assays do not exist in all exploration drill holes, data are targeted to define known PAG bodies which constitute the vast majority of PAG rock encountered at Mount Polley, and to perform broad checks of other areas beyond operational experience. It is however possible that additional sources of PAG rock could be discovered within the Mineral Resource pit shell, adversely affecting the mining costs currently assumed for these areas.

- A summary of the resultant mining cost assumptions is contained in Table 14-28. This data demonstrates the average mining cost per tonne assumed for each bench within the pit shell limiting the Mineral Resource. These unit costs are an average of costs for ore, NAG, and PAG materials, and show the effect of including a $1/t rehandling charge on PAG rock.

Table 14-28 Average mining cost assumptions by bench for Main Zone Resource

Bench	Tonnes	Mining Cost ($/t)	Mining Cost with Rehandle ($/t)
1240	128,757	$2.19	$2.19
1228	524,862	$2.19	$2.19
1216	914,564	$2.19	$2.19
1204	2,254,776	$2.19	$2.19
1192	5,794,975	$2.07	$2.07
1180	9,902,068	$2.05	$2.05
1168	12,647,441	$2.14	$2.14
1156	14,939,020	$2.12	$2.12
1144	16,873,561	$2.09	$2.09
1132	19,361,456	$2.06	$2.06
1120	23,381,240	$2.01	$2.02
1108	26,356,152	$1.99	$2.00
1096	27,841,698	$1.98	$2.01
1084	32,003,547	$1.94	$2.03
1072	38,100,174	$1.93	$2.05
1060	39,690,711	$1.94	$2.07
1048	40,726,421	$1.96	$2.09
1036	40,185,363	$1.98	$2.12
1024	39,649,317	$2.01	$2.14

1012	37,580,468	$2.05	$2.18
1000	35,491,057	$2.07	$2.22
988	34,150,633	$2.11	$2.26
976	32,214,094	$2.15	$2.31
964	30,505,598	$2.19	$2.36
952	28,849,086	$2.23	$2.40
940	27,426,933	$2.27	$2.44
928	26,573,736	$2.31	$2.47
916	25,076,271	$2.35	$2.48
904	23,493,426	$2.39	$2.52
892	22,058,657	$2.43	$2.60
880	20,575,514	$2.48	$2.63
868	19,109,964	$2.52	$2.67
856	17,681,070	$2.56	$2.70
844	16,252,153	$2.61	$2.74
832	14,884,509	$2.65	$2.79
820	13,645,090	$2.69	$2.84
808	12,543,699	$2.72	$2.88
796	11,452,158	$2.76	$2.93
784	10,504,420	$2.79	$2.95
772	9,565,464	$2.83	$2.94
760	8,585,080	$2.87	$2.97
748	7,726,786	$2.91	$3.02
736	6,876,493	$2.94	$3.01
724	6,039,973	$2.97	$3.04
712	5,203,744	$3.01	$3.06
700	4,538,795	$3.04	$3.08
688	3,911,355	$3.07	$3.10
676	3,313,149	$3.10	$3.10
664	2,796,053	$3.13	$3.13
652	2,310,987	$3.17	$3.17
640	1,861,571	$3.21	$3.21
628	1,443,127	$3.25	$3.25
616	1,063,414	$3.30	$3.30
604	747,981	$3.34	$3.34
592	485,659	$3.37	$3.37
580	271,107	$3.41	$3.41
568	91,148	$3.44	$3.44
556	9,381	$3.48	$3.48
TOTAL	**918,185,906**	**$2.24**	**$2.35**

Includes a variable composition of material types and thus variable costs on each bench

Constraints for pit slope angles were assumed during the Resource calculation. The assumptions which were made are contained in Tables 14-29 and 14-30. The angles assumed are the overall pit wall angles planned for the current ultimate pit design (Springer Phase 6). Springer Phase 6 uses the same design assumptions as the successfully completed Springer Phase 3 design.

Golder Associates Ltd. is retained by Mount Polley to perform annual pit wall inspections, and to review planned pit designs. The Springer Phase 6 pit design parameters and the geotechnical performance of Springer Phase 3 have been reviewed by Golder Associates Ltd; however no evaluation of significantly larger pit designs has been undertaken by a qualified Geotechnical Engineer. The author considers utilizing the assumptions in Table 14-29 and 14-30 reasonable for the purpose of Mineral Resource definition. The exploration drilling appears to show that familiar rock types will be present in the expanded pit walls. There are no poor quality rock or overburden units known to exist in proximity to the pits and structures of potential concern (faults and dykes) are generally vertically oriented with limited interaction. The general assumptions are in line with pit wall angles achieved in larger mines with generally less competent rock than Mount Polley. Further detail regarding pit wall designs is located in Section 16.1.

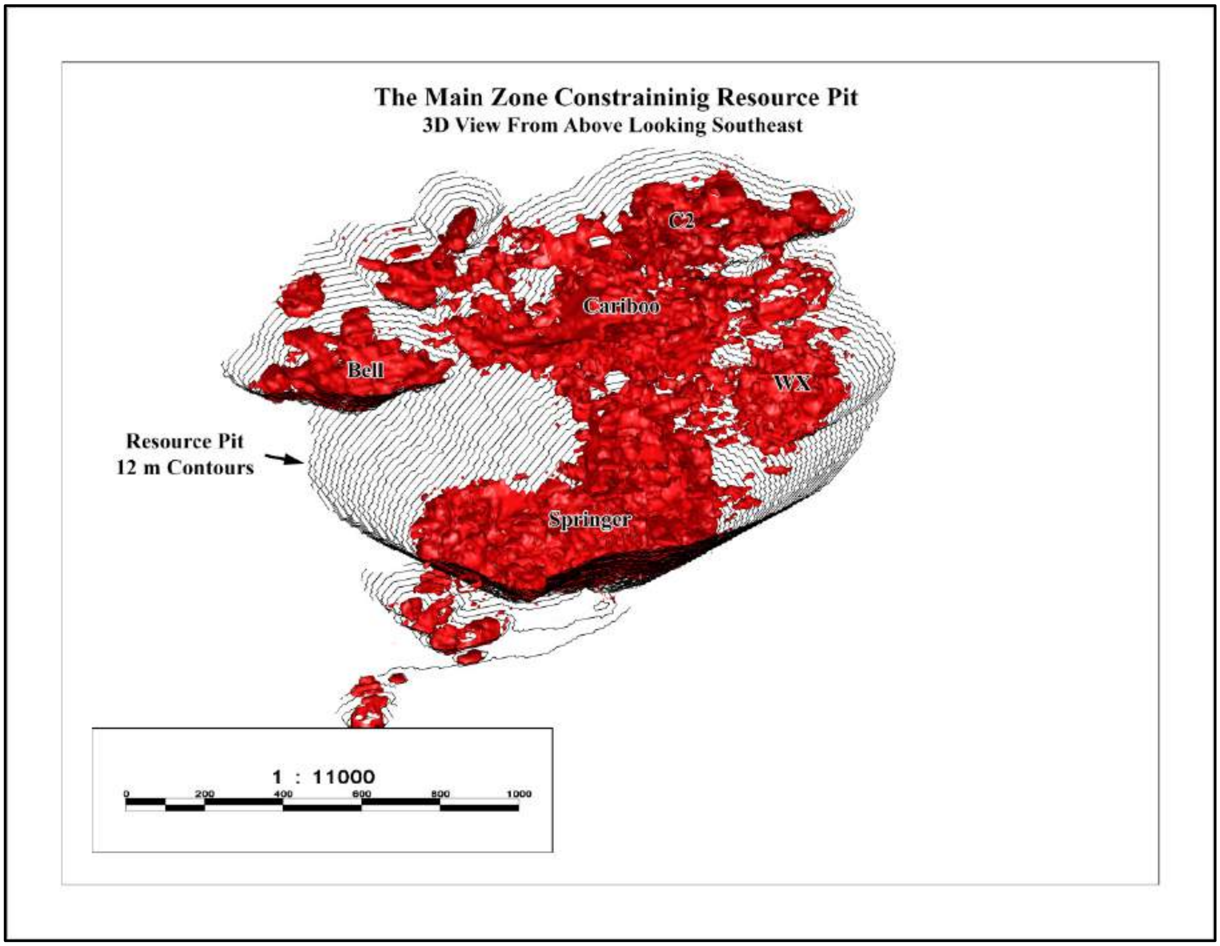
Table 14-29 Pit wall angle constraints for Mineral Resource definition – Main Zone

Wall Segment	Maximum Wall Angle (degrees)
320-130 degrees (north and east walls)	41
130-320 degrees (south and west walls)	43

Table 14-30 Pit wall angle constraints for Mineral Resource definition – Boundary Zone

Wall Segment	Maximum Wall Angle (degrees)
All Walls	42

Figure 14-3 3D View: Main Zone Constraining Resource Pit



Using all of the inputs and constraints defined in the previous paragraphs, a pit-limit analysis was performed with the MineSight MS- Economic Planner program for both the Main Zone block model, and the Boundary Zone open pit block model. This program utilizes a Lerchs-Grossman algorithm to evaluate and define the maximum profitable incremental pit limit by referencing a block model containing cost and revenue information while respecting defined maximum geotechnical pit slope angles. The resulting pit shell was used as the limit beneath which mineralization could not be included in the Mineral Resource. This pit shell is displayed in Figures 14-3 to 14-9. Appendix A shows a series of Sections along the North-south lines seen in Figure 14-5.

Figure 14-4 Isometric view of the Main Zone Resource Constraining Pit

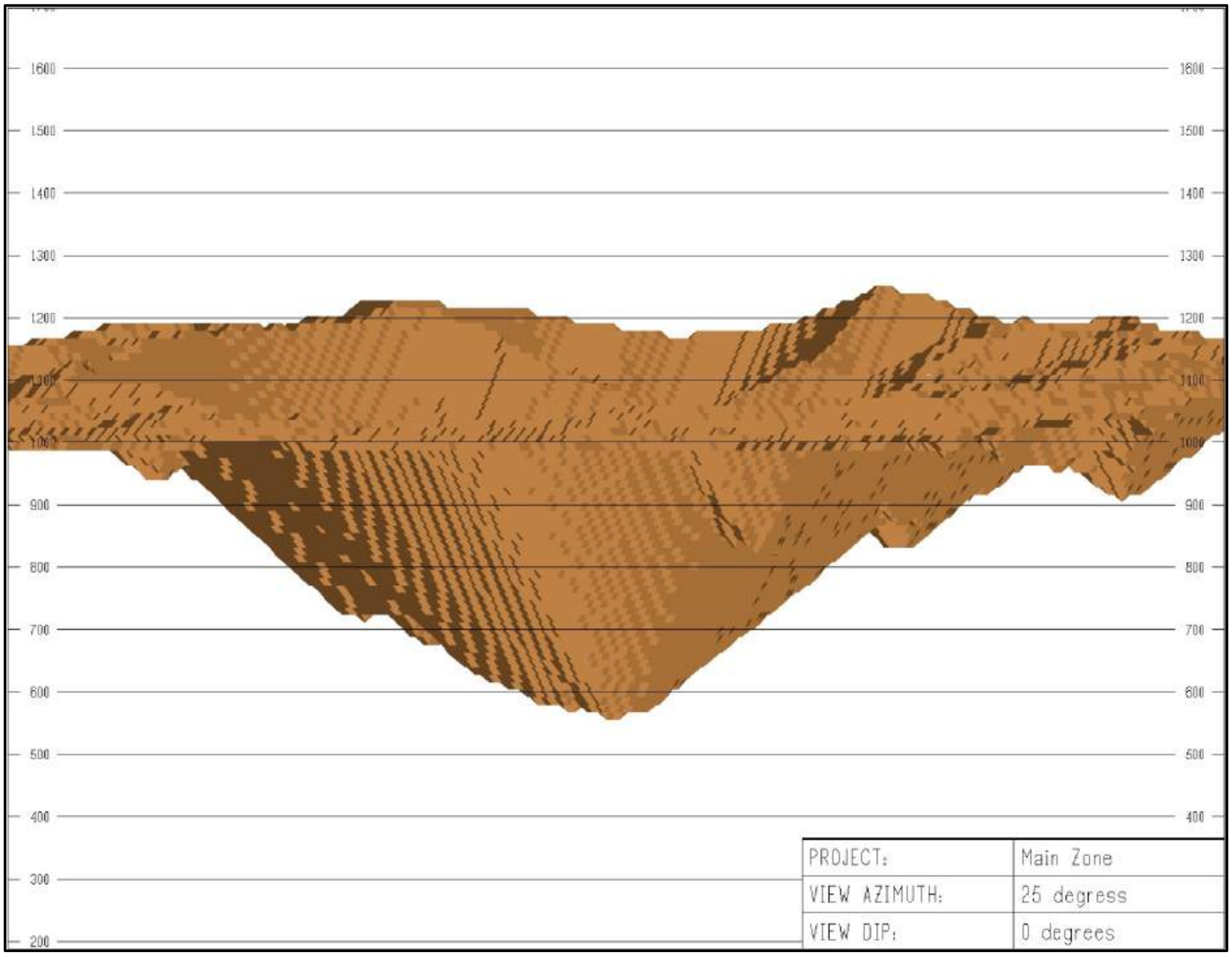
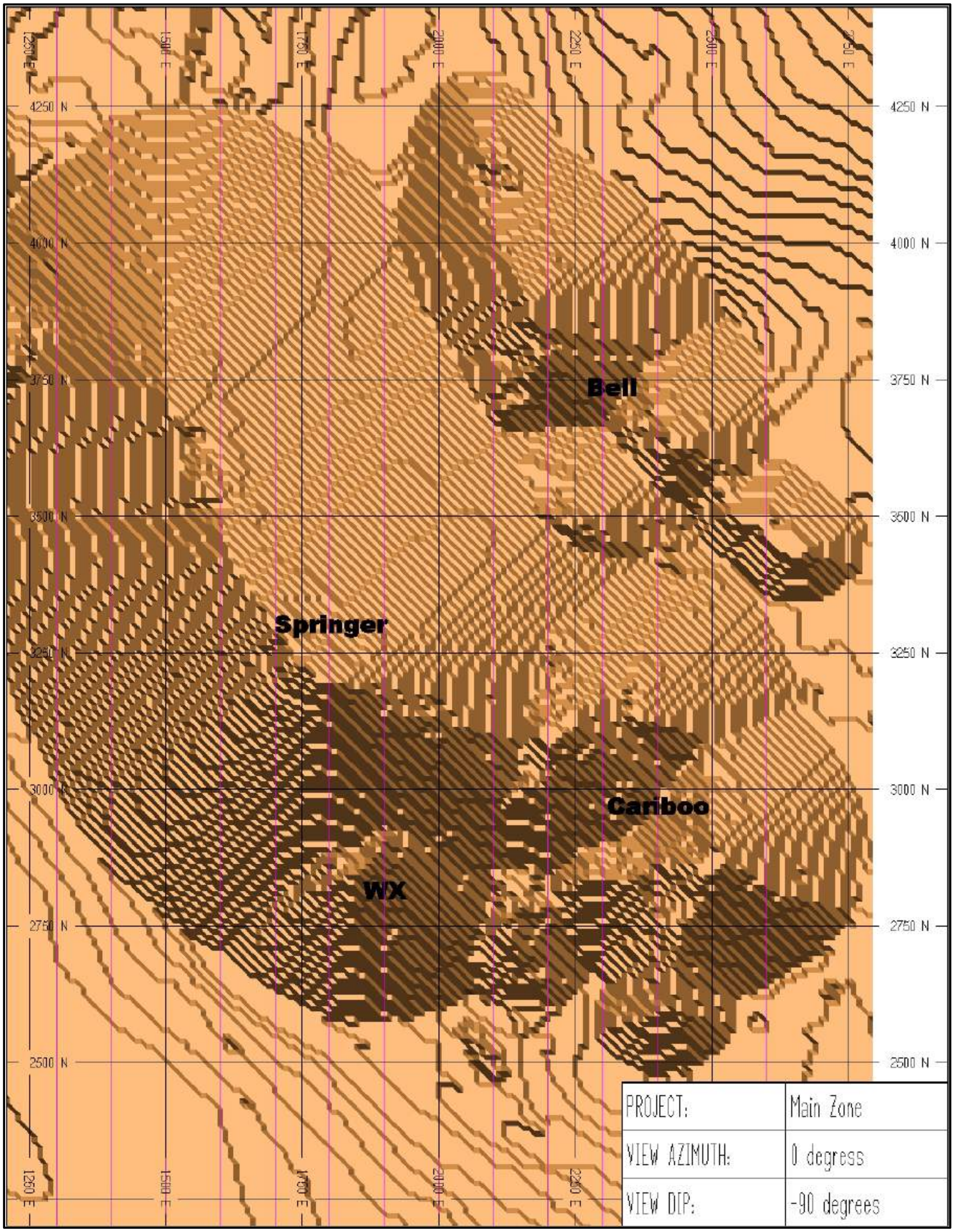


Figure 14-5 Plan View: Main Zone Constraining Resource Pit



See Appendix A for Cross Sections along the North-South Pink Lines

Figure 14-6 Plan view: Main Zone Showing Resource Deposit Boundaries

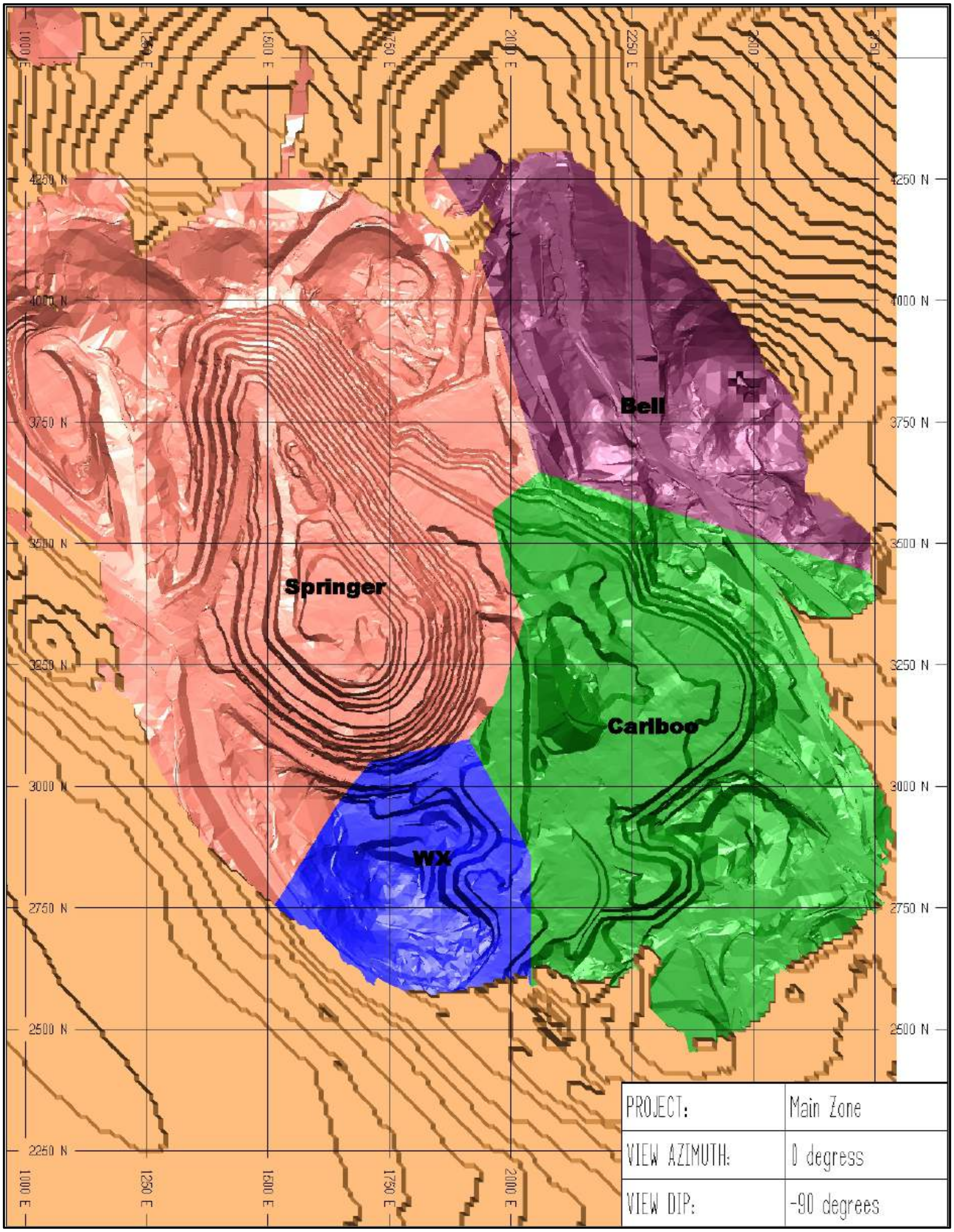


Figure 14-7 Long Section (on trend) of Main Zone Model Centered on Springer Deposit

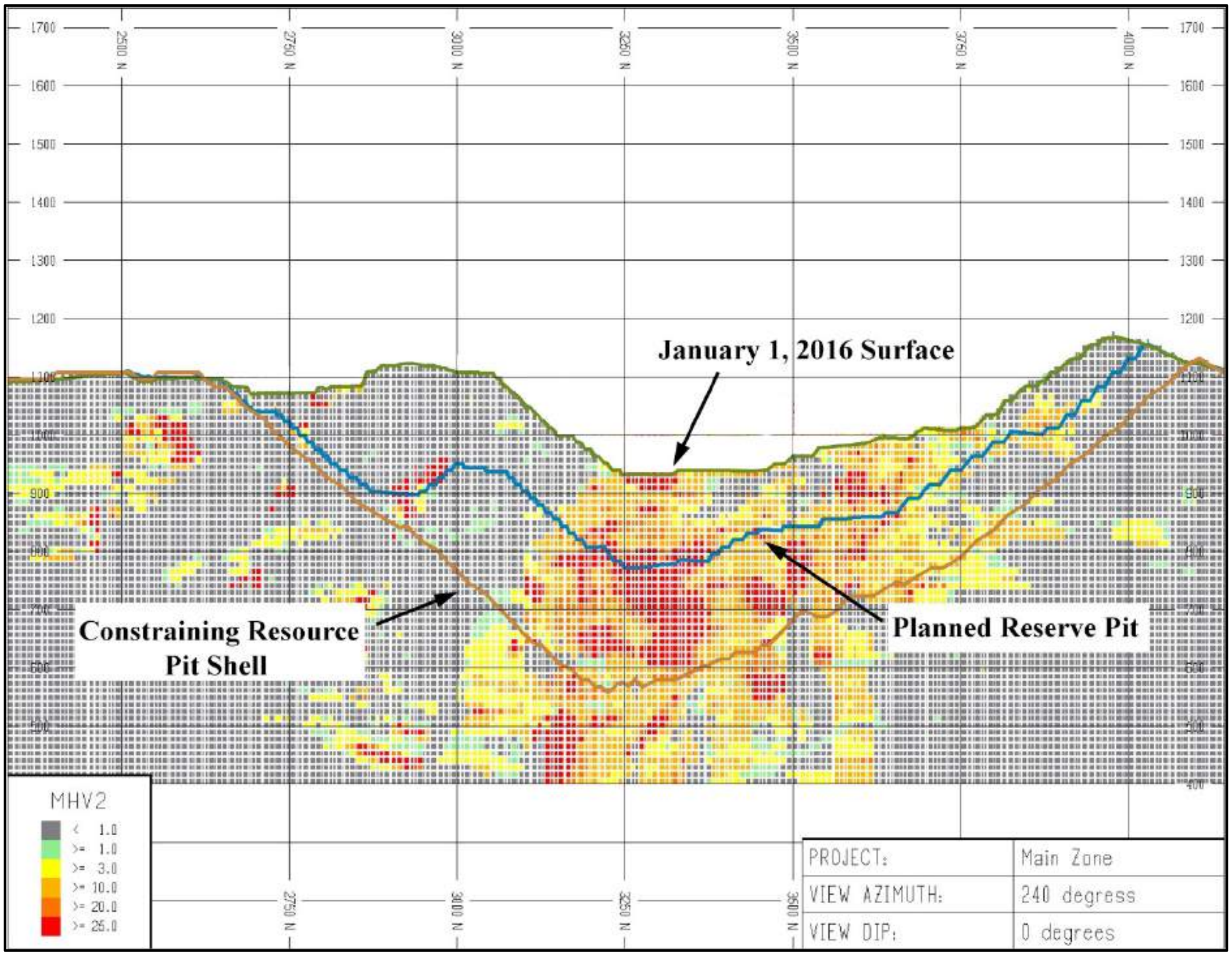


Figure 14-8 Isometric View of the Boundary Zone Constraining Resource Pit

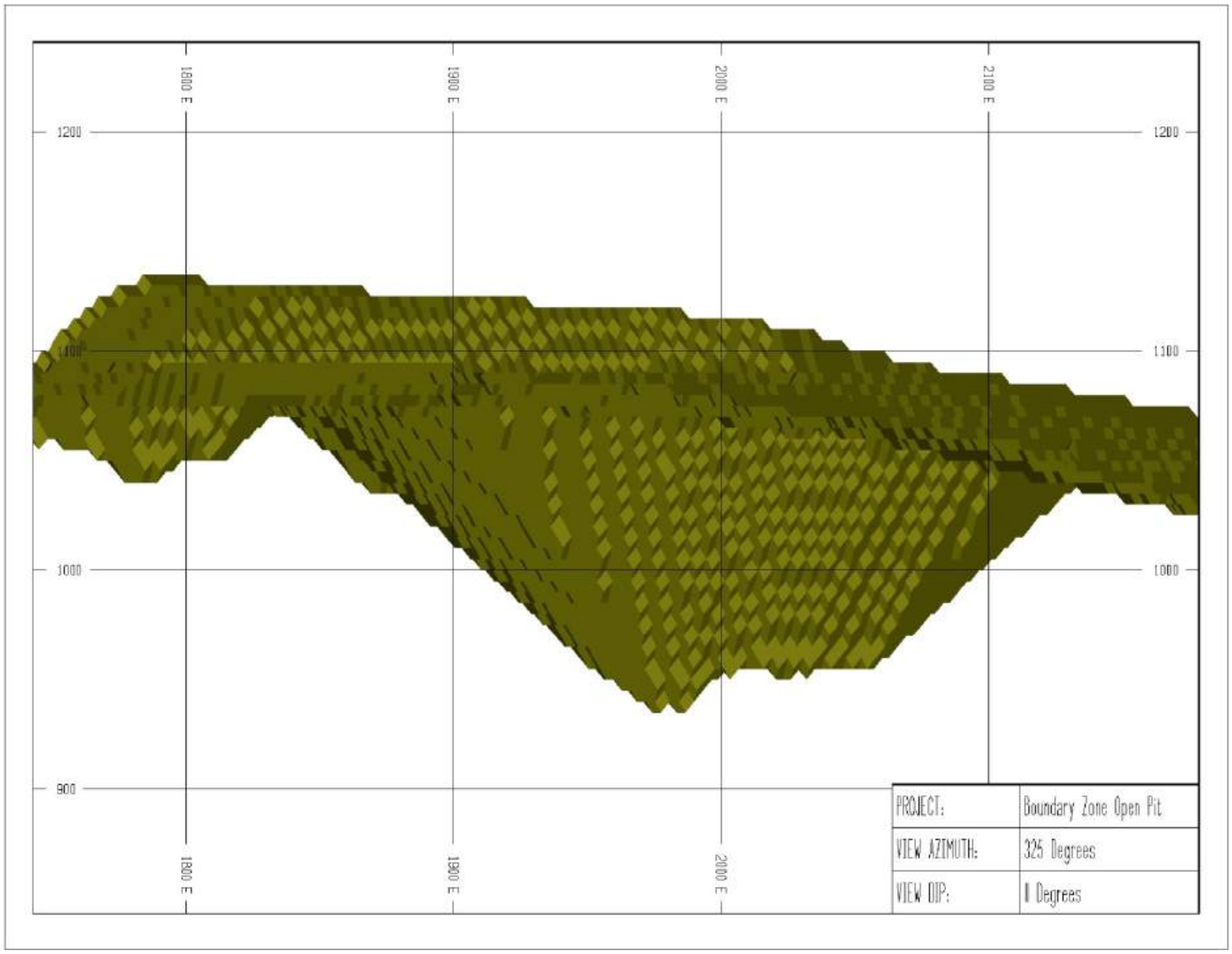
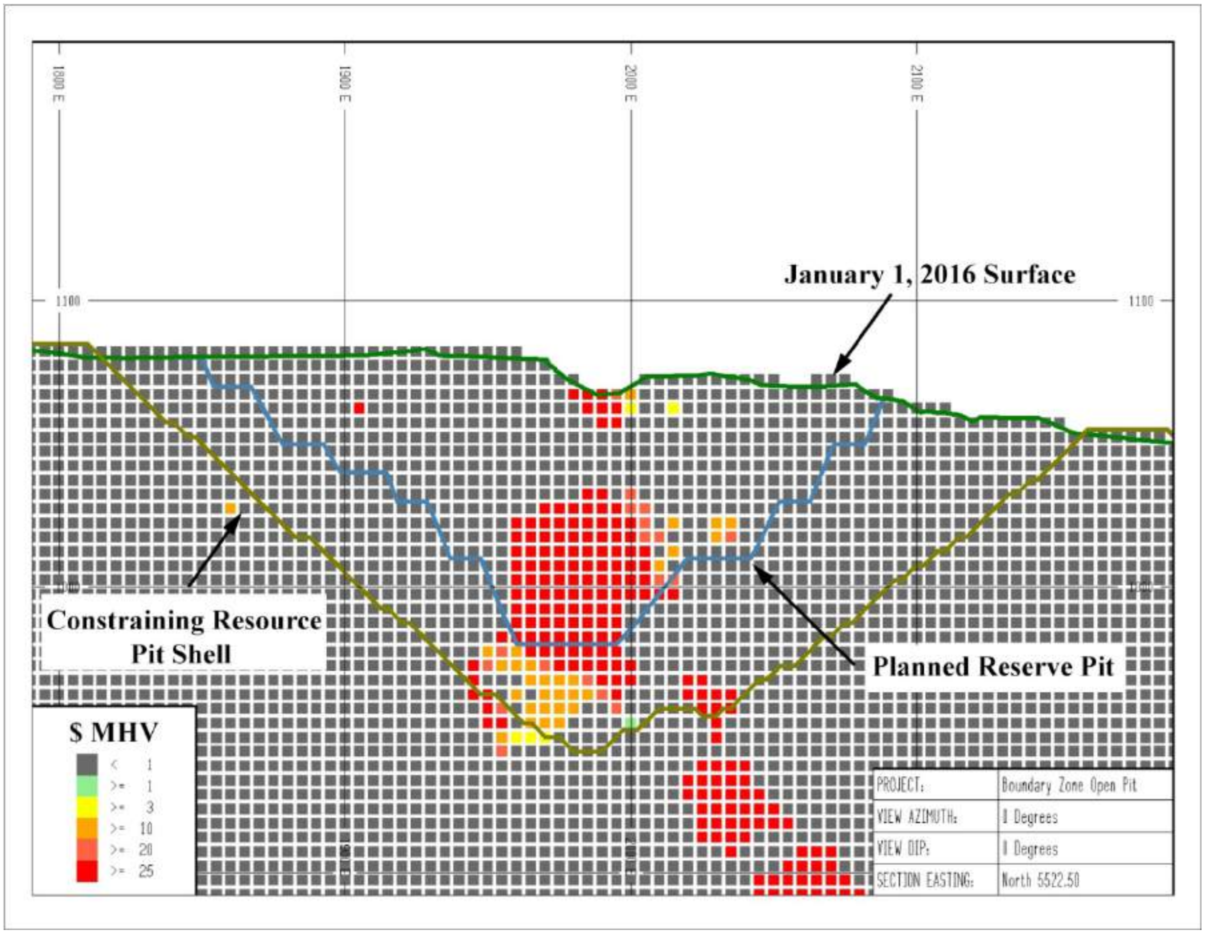


Figure 14-9 Sectional View of the Boundary Zone Open Pit Mineral Resource Pit Shell



14.6 Underground Economic Models and Constraints

The underground Mineral Resource stated in Table 14-26 is constrained by Mill Head Value ($MHV) cut-off grades which for each zone reflect potential unit mining costs. They are also manually constrained by general spatial conditions which seek to remove any mineralized bodies which are either too small or too far removed from supporting mineralization to demonstrate potential for economic extraction. Mineral Resource totals for underground targets did not include any consideration of mining recovery or grade dilution.

Two different MHV cut-off values were employed in constraining the Mineral Resource. For the Boundary Zone and Pond Zone Mineral Resource, a $40 per tonne MHV cut-off grade was applied. This value reflects the targeted unit mining cost assuming a long-hole open-stoping mining scenario with backfill. For the Northeast Zone underground Mineral Resource, a $30 per tonne MHV cut-off was employed. This value reflects the potential that the larger size of the Northeast Zone will make it amenable to lower-cost bulk mining methods such as sublevel caving. For the Boundary Zone underground Mineral Resource, the Boundary Zone maximum open pit surface (resource pit shell) was used as a limiting boundary which splits the open pit and underground resources. The Boundary Zone underground Mineral Resource is inclusive of the Boundary Zone underground Mineral Reserve.

Figure 14-10 3D View: Boundary Zone UG Mineral Resource solid at $40/t MHV Cut-off

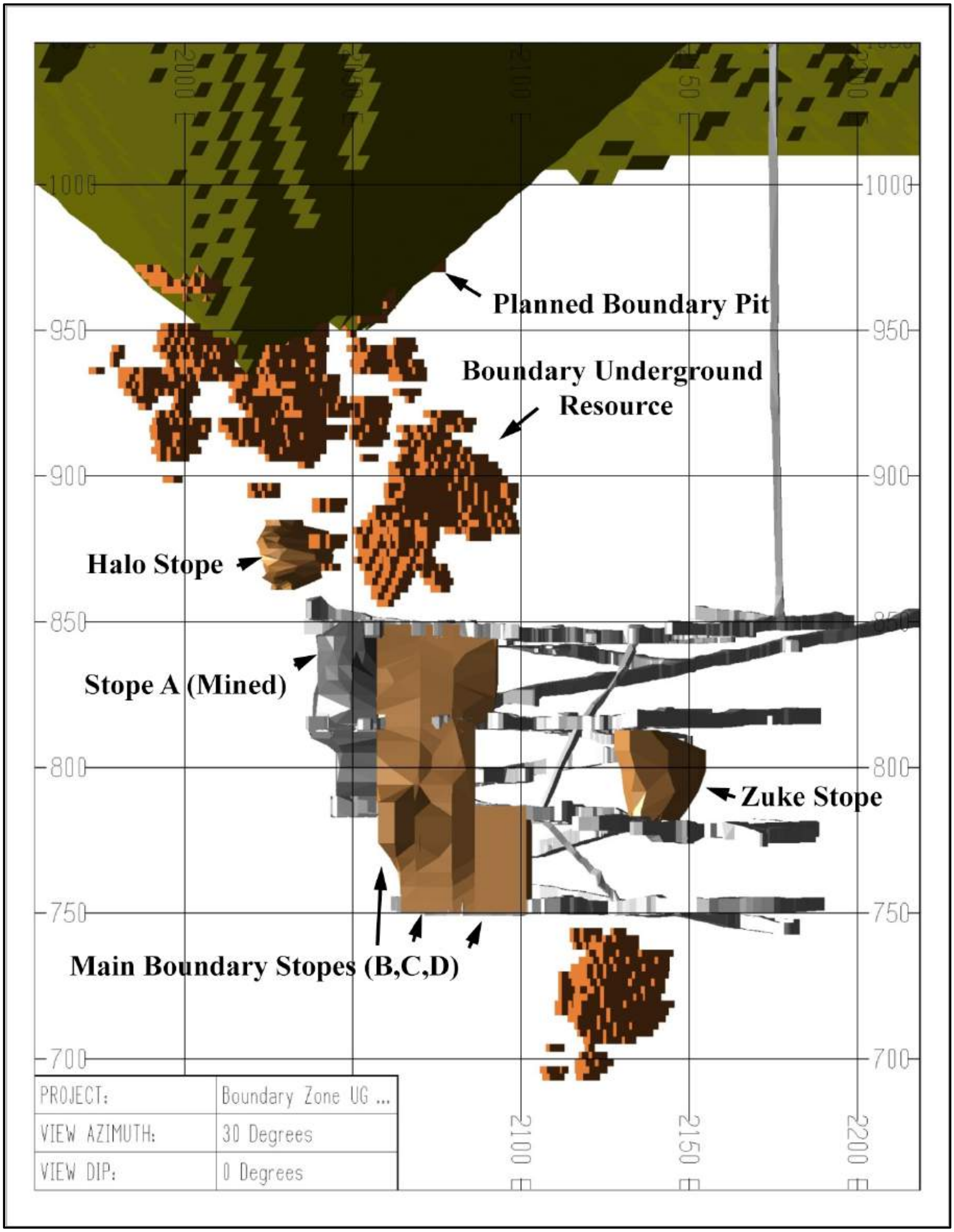


Figure 14-11 3D View: NE Zone underground Mineral Resource solid at $30/t MHV Cut-off

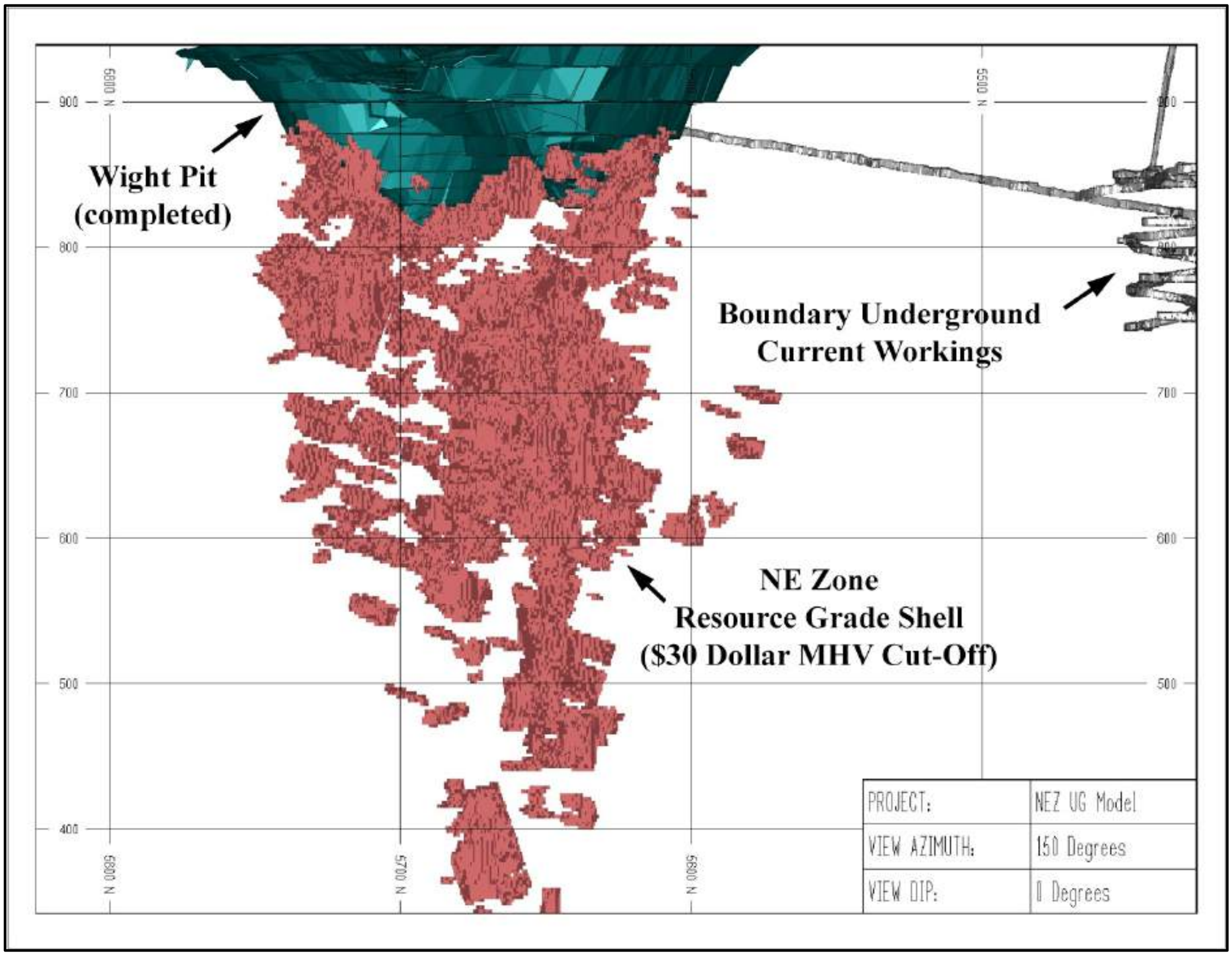


Figure 14-12 Plan View: NE Zone underground Mineral Resource Solid at $30/t MHV Cut-off

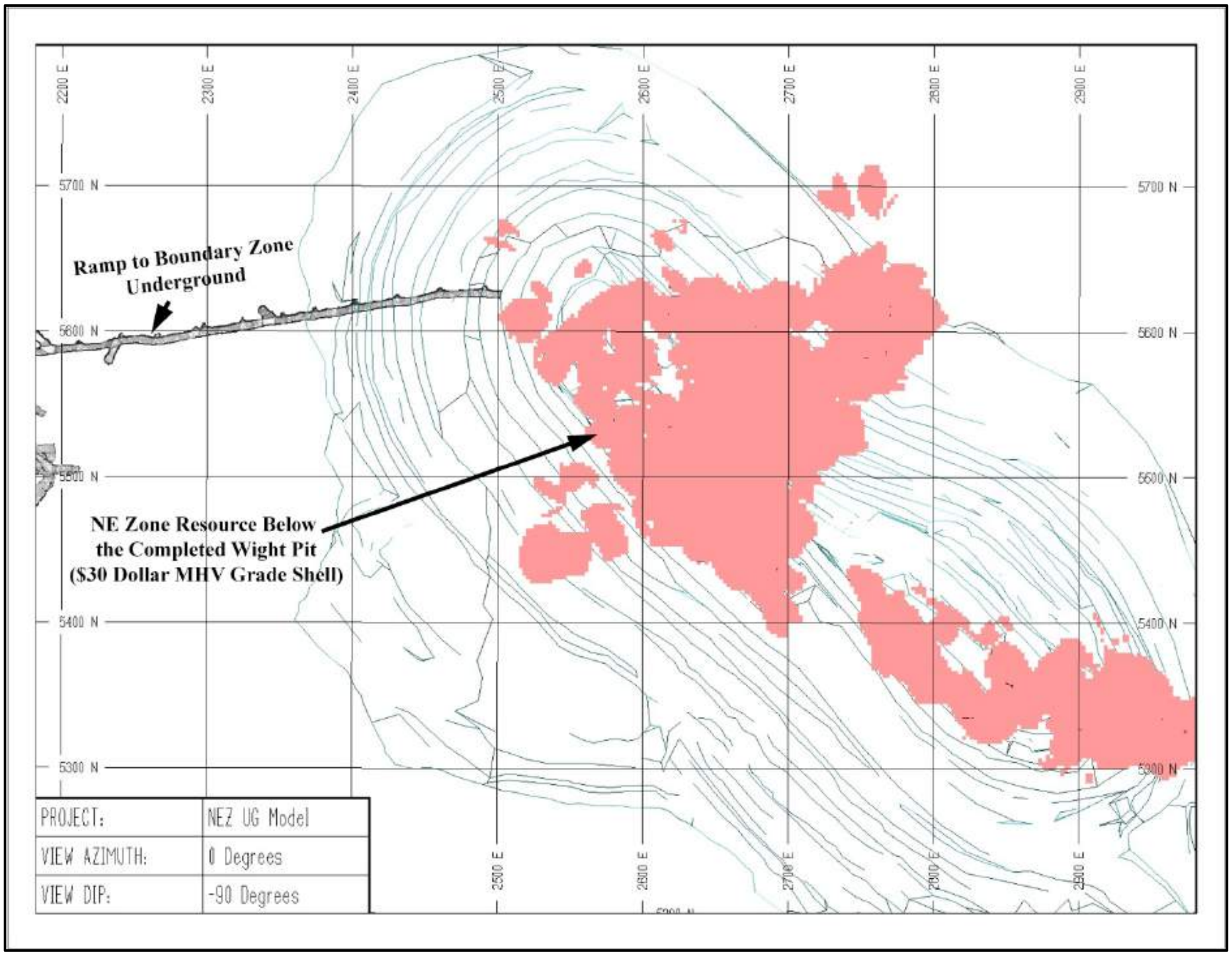
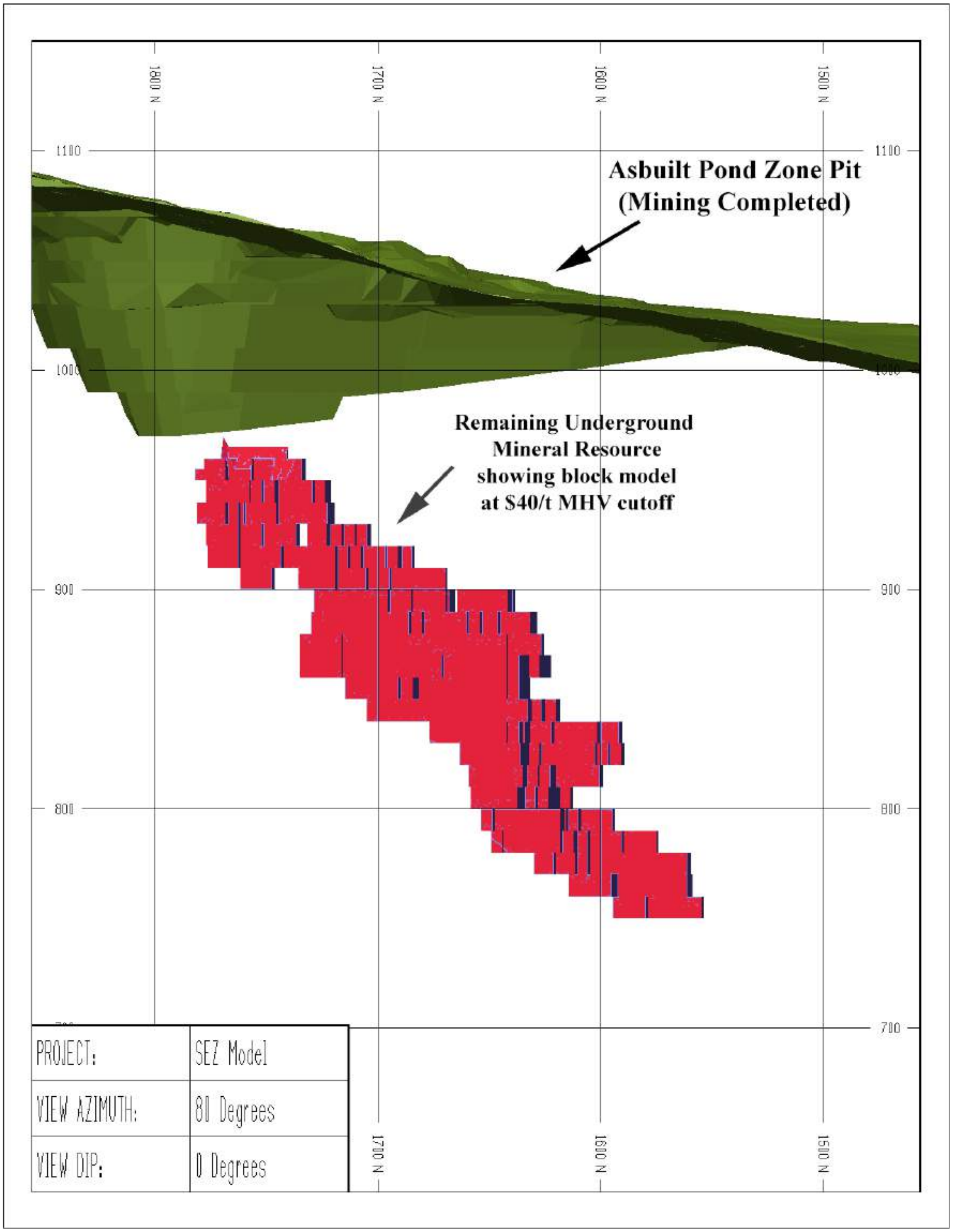


Figure 14-13 3D view: Pond Zone underground Mineral Resource Solid at $40/t MHV Cut-off



14.7 Block Model Validation

All of the block models utilized for Resource calculations in support of this report were visually validated by comparing the interpolated metal grade values against relevant drill hole composite information on a section-by-section basis. Block models have also been validated using production reconciliation data where possible. Production reconciliation data is however not available for all zones modelled in the Mineral Resource estimate, due to the fact that some deposits have never been exploited to-date.

The selection of production reconciliation data which is presented below does not include all available data, but it is considered to provide a summary of the most relevant data for reviewing the quality of the estimates and assumptions made while generating both the Mineral Resource and also the Mineral Reserve. Reconciliation data is provided in support of the Springer Zone and Cariboo Zone. The Springer and Cariboo Zones together constitute the bulk of both the Mineral Reserve and Mineral Resource estimates, and are therefore considered to be the most important of the block models relied upon.

14.7.1 Springer Deposit Model Validation

A reconciliation of the Springer Zone block model is provided below in the form of an annual reconciliation of mining activities from the full year of 2013 in Table 14-29.

In 2013 nearly all mill feed processed was sourced from the Springer Phase 3 Pit, which over the period included ore sourced from nearly the full lateral extents of the ore body, while exploiting elevations generally below the oxide cap which had been mined in earlier periods (from approximately the 1012m elevation to the 976m elevation). This reconciliation provides a comparison between what was actually achieved for head grades and metallurgical performance at the mill and what was projected in the geological block model. Also included are comparisons against the updated blasthole model which incorporates the higher resolution production drill hole assay data.

The grades and tonnages quoted for the geological and blast hole block models have been modified to reflect stockpiling activities undertaken over the course of the year, and also the effect of a relatively small amount of underground ore which was processed in 2013. The very small variance in the normalized MHV demonstrates the overall validity of the both the grade estimate and recovery assumptions contained in the Mineral Resource block model.

Table 14-31 2013 Production Reconciliation Data for Springer Deposit

Summary of Stockpiling Activities									
	Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Gold (gpt)	Rec. Au (gpt)	MHV	Contained Cu Lbs	Contained Au Ozs
Stockpile Ore Processed	670,000	0.253	0.167	22%	0.242	0.157	$12.22	3,736,000	5,213
Total Ore Sent to Stockpiles	372,000	0.261	0.187	15%	0.243	0.160	$13.81	2,138,665	2,906

Summary of Un-Modified Block Model Statistics and Mill Data									
	Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Gold (gpt)	Rec. Au (gpt)	MHV	Contained Cu Lbs	Contained Au Ozs
Mineral Resource Model	7,438,000	0.318	0.229	15%	0.255	0.168	$17.18	52,098,073	60,981
Blasthole Model	7,404,000	0.314	0.226	10%	0.270	0.179	$17.51	51,190,871	64,273
Actual Mill Feed Statistics	7,900,000	0.295	0.219	11%	0.263	0.179	$17.01	51,364,220	66,801
Underground Ore Processed	32,300	1.015	0.863	3%	0.664	0.465	$78.09	722,570	690
Mill Less Underground Ore Feed	7,867,700	0.292	0.217	11%	0.261	0.178	$16.76	50,641,650	66,111

Comparison of Modified Block Model Statistics and Mill Data									
	Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Gold (gpt)	Rec. Au (gpt)	MHV	Contained Cu Lbs	Contained Au Ozs
Mineral Resource Model	7,736,000	0.315	0.226	15%	0.254	0.168	$16.91	53,695,408	63,288
Blasthole Model	7,702,000	0.311	0.222	11%	0.269	0.178	$17.23	52,788,207	66,579
Actual Mill Feed Statistics	7,867,700	0.292	0.217	11%	0.261	0.178	$16.76	50,641,650	66,111

Variances									
	Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Gold (gpt)	Rec. Au (gpt)	MHV	Contained Cu Lbs	Contained Au Ozs
Actual vs Mineral Resource Model	1.7%	-7.3%	-4.0%	-28.2%	2.7%	6.2%	-0.9%	-5.7%	4.5%
Blasthole vs Mineral Resource Model	-0.4%	-1.3%	-1.5%	-30.7%	5.7%	6.1%	1.9%	-1.7%	5.2%
Actual vs Blasthole Model	2.2%	-6.1%	-2.5%	3.7%	-2.8%	0.1%	-2.7%	-4.1%	-0.7%

1. MHVs calculated using Mineral Reserve metal price assumptions

14.7.2 Cariboo Deposit Model Validation

A reconciliation of the Cariboo deposit block model is provided below in Table 14-30 in the form of a comparison of blasthole and resource block models for the regions of the Cariboo deposit mined from January 1, 2012 to December 31, 2015. This area is a part of the Cariboo Pit Phase which is the current focus of mining operations. No comparison to actual mill production statistics is provided due to complications with multiple feed sources.

Over the period considered, mill feed was rarely sourced exclusively from the Cariboo Pit Phase: mill feed was initially dominated by Springer ores from 2012-2014, and then subsequent to the restart of operations in 2015, significant amounts of underground and stockpile mill feeds were mixed with Cariboo mill feeds. The model currently used for the Mineral Resource estimates is different than that which was used in the 1990s when the Cariboo deposit was first mined, and as such cannot be used to compare against production statistics from that period. Metallurgical recovery projections however are well informed by a large data set of historic recovery performance.

The comparison of the resource model against the blasthole model shows favorable reconciliations in both tonnage and grades for several different cut-off thresholds. Importantly, the reconciliation shows the blasthole model generated 19% greater tonnes with a 16% higher MHV when using a $10 MHV cut-off grade. The high positive reconciliations noted in Table 14-32 are believed to be in part a result of the conservative modelling approach undertaken. These conservative approaches include removing mined-out exploration holes from the data set in an attempt to limit the modelling of ore near the mined-out pit walls, where subsequent confirmatory exploration drilling was not practical. MHVs calculated using Mineral Reserve metal price assumptions.

Table 14-32 Cariboo deposit model reconciliation

Data Source	Ore Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Au (gpt)	Rec. Au (gpt)	MHV ($/t)	Contained Cu Lbs	Contained Au Ozs
Resource Model >$1 MHV	5,032,000	0.200	0.117	34%	0.246	0.168	$8.74	22,158,875	39,799
Blasthole Model > $1 MHV	6,820,000	0.188	0.110	34%	0.270	0.185	$9.03	28,183,650	59,203

Variances	Ore Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Au (gpt)	Rec. Au (gpt)	MHV ($/t)	Contained Cu Lbs	Contained Au Ozs
Resource vs Blasthole $1 MHV	35.5%	-6.2%	-6.1%	-0.9%	9.8%	10.2%	3.4%	27.2%	48.8%

Resource Model	Ore Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Au (gpt)	Rec. Au (gpt)	MHV ($/t)	Contained Cu Lbs	Contained Au Ozs
MHV>=$10	1,574,000	0.290	0.190	28%	0.374	0.267	$18.81	10,043,033	18,927
$5<=MHV<$10	1,209,000	0.198	0.106	40%	0.232	0.152	$7.14	5,286,638	9,018
$1<=MHV<$5	2,249,000	0.138	0.073	38%	0.163	0.105	$2.55	6,835,422	11,786

Blasthole Model	Ore Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Au (gpt)	Rec. Au (gpt)	MHV ($/t)	Contained Cu Lbs	Contained Au Ozs
MHV>=$10	1,869,000	0.292	0.194	26%	0.448	0.329	$21.74	12,032,405	26,921
$5<=MHV<$10	1,725,000	0.175	0.099	36%	0.244	0.162	$7.17	6,657,127	13,532
$1<=MHV<$5	3,227,000	0.134	0.067	42%	0.180	0.115	$2.66	9,494,931	18,675

Variance	Ore Tonnes	Cu (%)	Rec. Cu (%)	Oxide Ratio	Au (gpt)	Rec. Au (gpt)	MHV ($/t)	Contained Cu Lbs	Contained Au Ozs
MHV>=$10	19%	1%	3%	-5%	20%	23%	16%	20%	42%
$5<=MHV<$10	43%	-12%	-7%	-9%	5%	7%	0%	26%	50%
$1<=MHV<$5	43%	-3%	-8%	12%	10%	9%	4%	39%	58%

14.8 Mineral Resource Classification Parameters

The primary consideration for the classification of Mineral Resources as Measured, Indicated, or Inferred is the density of drill hole data points (assays) in a given region. For each deposit modelled, a unique set of requirements is defined for each classification level. These requirements are based upon the geostatistical characteristics of the deposit, and more specifically the distance over which it is appropriate to utilize assay data for the purpose of estimating the grade of a block. The specific parameters used for each deposit for the classification of material as Measured, Indicated, or Inferred are located in Section 14.1 under each deposit sub-heading.

In only one case was there a modification made to the classification levels stated in the Mineral Resource summary. This modification affected the Mineral Resource statement for the Pond Zone underground resource. The modification made was the down-grading of all material which achieved the interpolation rules to qualify as Measured Resources, to the level of Indicated. It is the opinion of the Qualified Person that further study into the geotechnical characteristics of the rock and potential costs of mining access will be required before the material can be classified as a Measured Resource. In all other cases, it is believed that the confidence in modifying economic and technical factors are sufficiently high to allow for Mineral Resource classification to be decided solely by the confidence provided by the existing drill hole resolution in any given location.

15 Mineral Reserve Estimates

The Mineral Reserve estimate for the Mount Polley property was prepared under the supervision of Ryan Brown, P.Eng. Imperial Metals Qualified Person responsible for Mineral Reserves and Resources. The estimates were made using three-dimensional block models created with the commercial mining software MineSight. The same three-dimensional block models used in the calculation of the Mineral Resource were used in the calculation of the Mineral Reserve. Interpolation parameters and the resultant block models are proclaimed to be valid by the Qualified Person. Procedures for calculating the Mineral Reserve estimate are also declared to be valid by the Qualified Person. The Mineral Reserve estimate is composed of the portions of either the Measured or Indicated Mineral Resource which are both contained within the current life-of-mine pit designs and have sufficiently high metal content to achieve the defined cut-off grade for Mineral Reserves. The life-of-mine plan is a feasibility-level study which contains a detailed mine schedule for the exploitation of material contained within a detailed final pit design. This mine plan has been financially evaluated, and accepted by Imperial Metals Management as having met the financial objectives of the company under the assumed commodity prices.

15.1 Mineral Reserve Classification and Summary

The mineralization classified as a Mineral Reserve for Mount Polley is tabulated in Table 15-1. The Mineral Reserve is included within the Mineral Resource. Table 15-2 shows the Reserve for each zone divided into proven and probable. The effective date for this Reserve Statement is January 1, 2016.

Table 15-1 Mineral Reserve Summary (Proven + Probable)

Reserve	Ore	Waste	Strip	MHV	CuEq	Cu	Au	Ag	Cu	Au	Ag
Zone	Thousand Tonnes	Thousand Tonnes	Ratio	$Can	%	%	g/t	g/t	Million Pounds	Thousand Ounces	Thousand Ounces
Main (Springer)	45,500	103,500	2.27	15.35	0.443	0.292	0.252	0.572	292	368	836
Main (Cariboo)	17,100	31,500	1.84	13.61	0.384	0.211	0.293	0.280	79	161	154
Main (WX)	10,100	48,400	4.79	19.25	0.510	0.248	0.442	0.552	550	144	179
Boundary OP	600	5,200	8.67	46.98	1.004	0.639	0.572	4.353	8	11	84
Boundary UG	313	-	-	96.62	1.782	1.248	0.819	7.708	9	8	78
Total	73,613	188,600	2.57	16.08	0.449	0.274	0.293	0.562	443	692	1,331

- *Mineral Resource statement is inclusive of Mineral Reserves*
- *Ore tonnes are rounded to the nearest 100,000 tonnes for open pit sources, and the nearest 1000 tonnes for underground sources*
- *Contained metals are rounded to the nearest 1,000,000lbs Cu, 1000 oz Au, 1000 ozs Ag*
- *Equivalent Copper = (Copper + Gold/1.715 + Silver/137.169); based on Reserve metals prices in Table 15-3*
- *Totals may not sum exactly due to rounding*

15.2 Mineral Reserve Classification Level

Table 15-2 Mount Polley Reserves (divided into proven and probable)

ZONE	Ore	MHV	Cu	Au	Ag
Springer	Thousand Tonnes	$Can	%	g/t	g/t
Proven	28,200	$16.28	0.303	0.254	0.575
Probable	17,300	$13.83	0.273	0.248	0.566
Total	45,500	$15.35	0.292	0.252	0.572
Cariboo	**Ore**	**MHV**	**Cu**	**Au**	**Ag**
Proven	13,700	$13.42	0.210	0.289	0.273
Probable	3,400	$14.42	0.214	0.311	0.309
Total	17,100	$13.61	0.211	0.293	0.280
WX	**Ore**	**MHV**	**Cu**	**Au**	**Ag**
Proven	8,500	$19.54	0.251	0.445	0.555
Probable	1,600	$17.74	0.232	0.426	0.539
Total	10,100	$19.25	0.248	0.442	0.552
Boundary OP	**Ore**	**MHV**	**Cu**	**Au**	**Ag**
Proven	-	-	-	-	-
Probable	600,000	$46.98	0.639	0.572	4.353
Total	600,000	$46.98	0.639	0.572	4.353
Boundary UG	**Ore**	**MHV**	**Cu**	**Au**	**Ag**
Proven	313	$96.62	1.248	0.819	7.708
Probable	-	-	-	-	-
Total	313	$96.62	1.248	0.819	7.708
Total	**Ore**	**MHV**	**Cu**	**Au**	**Ag**
Proven	50,713	$16.55	0.275	0.299	0.534
Probable	22,900	$15.06	0.271	0.278	0.625
Total	73,613	$16.08	0.274	0.293	0.562

The classification of Mineral Reserves as either proven or probable is a reflection of the level of confidence which is placed in both the estimated grade of a given block and the economic assumptions which have been applied to that block when assessing it economic characteristics. Confidence in the accuracy of the grade estimate in a given block is primarily a function of the proximity of informing data points relative to the variability of a given deposit.

To measure this confidence, the classification criteria used in defining the Mineral Resource are relied upon, with blocks either being classified as Measured, Indicated, or Inferred, in order of decreasing confidence. Material which received a Mineral Resource classification of Measured is deemed eligible to be given a designation of Proven for Mineral Reserve reporting, while Indicated material is eligible to be given the Probable designation.

Mineral Resource materials which are given the Inferred classification are not allowed to be included in Reserves due to either a lack of geological confidence or a lack of confidence in some modifying factor. All Inferred Mineral Resources are considered to be waste in the mine schedule supporting these stated Mineral Reserves. Technical factors can also influence the confidence level in a given block or material causing the Mineral Reserve classification to be down-graded relative to the Mineral Resource classification or even removed from the Mineral Reserve estimate altogether. These modifying factors or technical factors can include uncertainty surrounding metallurgical performance, or geotechnical requirements for safe extraction, among others.

No modifying factors have been added to the classification of Mineral Reserves as tabulated in Tables 15-1 and 15-2. It is believed that the technical assumptions applied when generating the Mineral Reserve estimates are sufficiently robust, having been well-established over the operating history of Mount Polley. It is believed that the technical conditions which will be encountered within the current life-of-mine plan should not be significantly different from conditions previously experienced. Therefore there is no reason to doubt the continued validity of these assumptions.

15.3 Cut-off Grade Analysis

All material included in the Mineral Reserve estimate surpasses an economic cut-off grade which differentiates between ore and waste. This cut-off grade employs a mill head value (MHV) calculation using the same methodology as that used for calculating the Mineral Resource.

All cost parameters utilized in the MHV calculation are the same for both the Mineral Reserve and Mineral Resource calculations; however different metal price assumptions are employed.

A full summary of the parameters used in the calculation of the MHV item used for cut-off designation is contained in Table 15-3. The MHV cut-off grade used for the calculation of Mineral Reserves was $1 per tonne.

For further information on the MHV calculation please see Section 14.2.1. Underground Mineral Reserves are contained within three-dimensional stope solids, and as such do not have a cut-off grade applied as it is assumed that all material within the solids will be mined.

In generating these stope shapes, a target cut-off grade of $25/t was applied, while respecting practical and geotechnical limitations of stope geometries. Royalties do not exist on any materials included in the Mineral Reserve estimate.

Metal price assumptions are informed by current analyst projections for long-term pricing of copper, gold, and silver. Exchange rate assumptions were informed by a review of historical rates, and analyst consensus projections. The metal prices and exchange rates selected have been reviewed by Imperial Metals management, and have been deemed appropriate for the purpose of stating Mineral Reserves.

Table 15-3 MHV calculation parameters for Mineral Reserve

Concentrate Moisture Content	8.0%
Concentrate Copper Content	23.0%
Concentrate Payable Copper Percent	95.6%
Concentrate Payable Gold Percent	97.5%
Concentrate Payable Silver Percent	90.0%
Smelting Charge (US$/dry metric tonne concentrate)	$105.50
Refining Charge (US$/payable lb Cu)	$0.105
Refining Charge (US$/payable oz Au)	$5.53
Refining Charge (US$/payable oz Ag)	$0.37
Concentrate Shipping and Handling Costs (US$/wet metric tonne of concentrate)	$124.43
Milling Cost (CA$/t of mill feed)	$5.07
Administration and General Cost (CA$/t of mill feed)	$1.10
Sustaining Capital/Tailings Storage Costs (CA$/t of mill feed)	$1.50
Copper Price Assumption (US$/lb Cu)	$3.00
Gold Price Assumption (US$/ oz Au)	$1200
Silver Price Assumption (US$/oz Ag)	$15
Exchange Ratio Assumption ($US: $CAD)	0.75

15.4 Pit Designs

The Mineral Reserve estimate is contained within the current life-of-mine pit design. This is a detailed pit design which has been manually scheduled to ensure proper availability of access and practical sequencing. The final pit design for the Main Zone deposits is the culmination of five current and planned operating pit phases. This pit design adheres to all currently known geotechnical constraints, and is in agreement with all recommendations made by MPMC's geotechnical engineering consultants (Golder Associates Ltd.). MPMC retains these contractors to inspect the pit walls and current pit design plans on an annual basis. Further details on pit sequencing and geotechnical design parameters are provided in Section 16.1.

Figure 15-1 Plan view of the Boundary Zone Open Pit Mineral Reserve pit shell

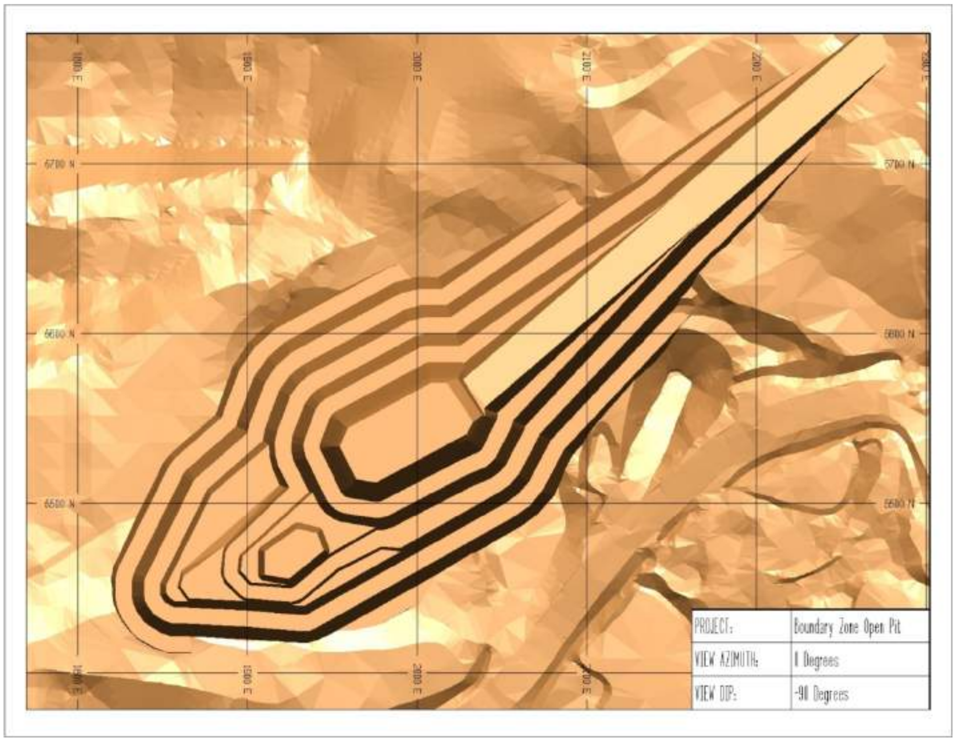
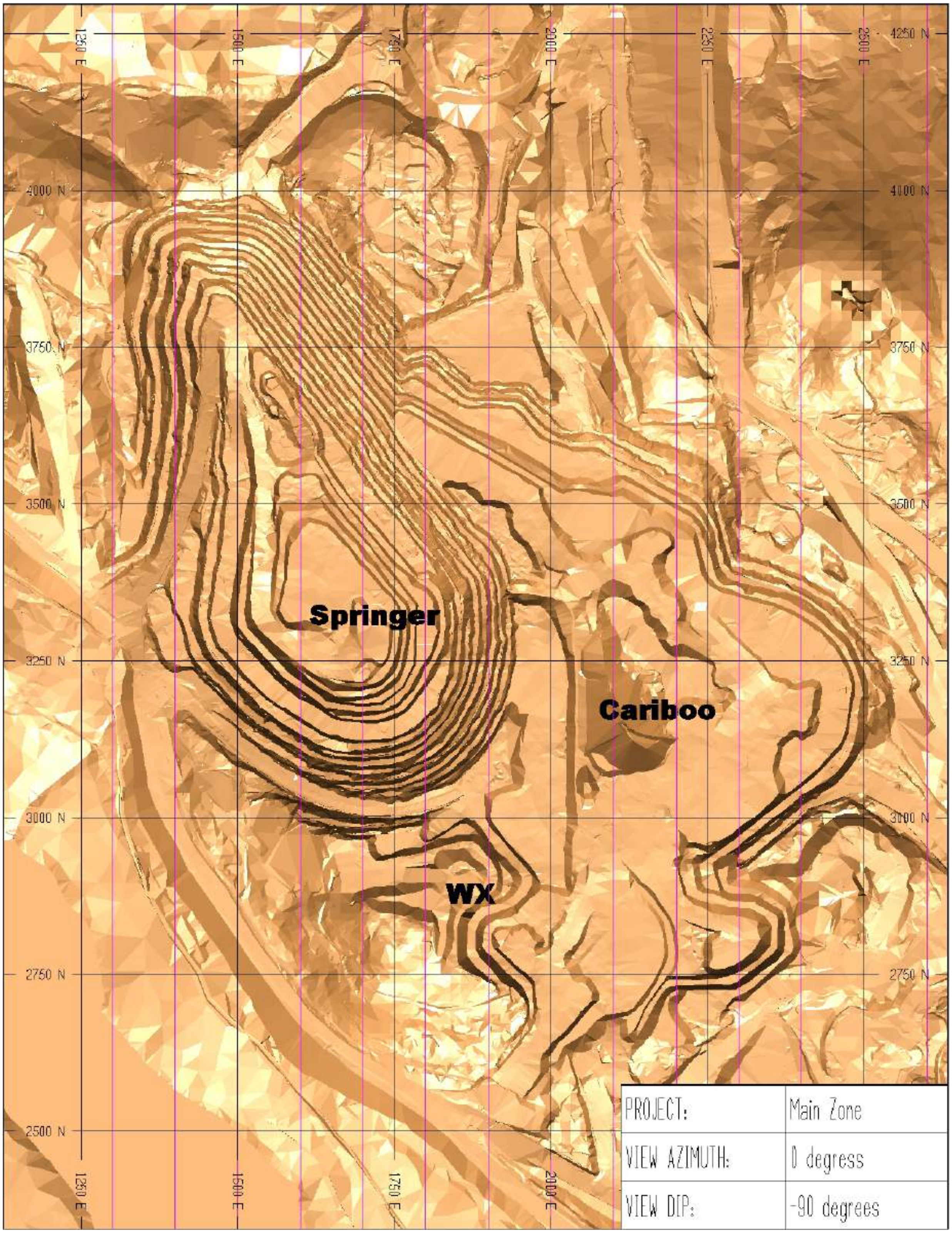
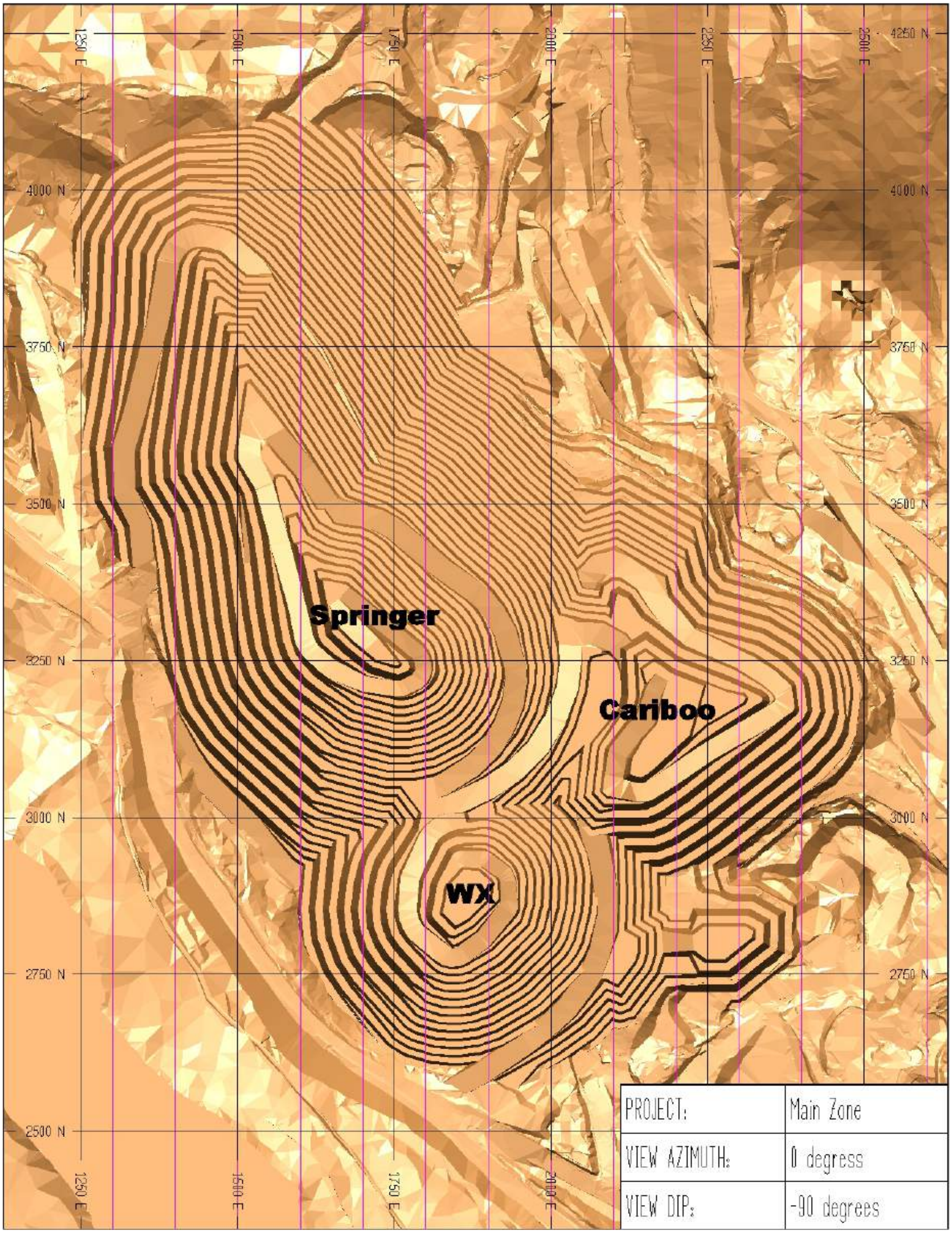


Figure 15-2 : Plan View of January 1, 2016 topographic surface in the Main Zone



See appendix A for Main Zone North-South Section along the pink lines in Figure 14-21

Figure 15-3 Plan View of Main Zone Mineral Reserve pit designs



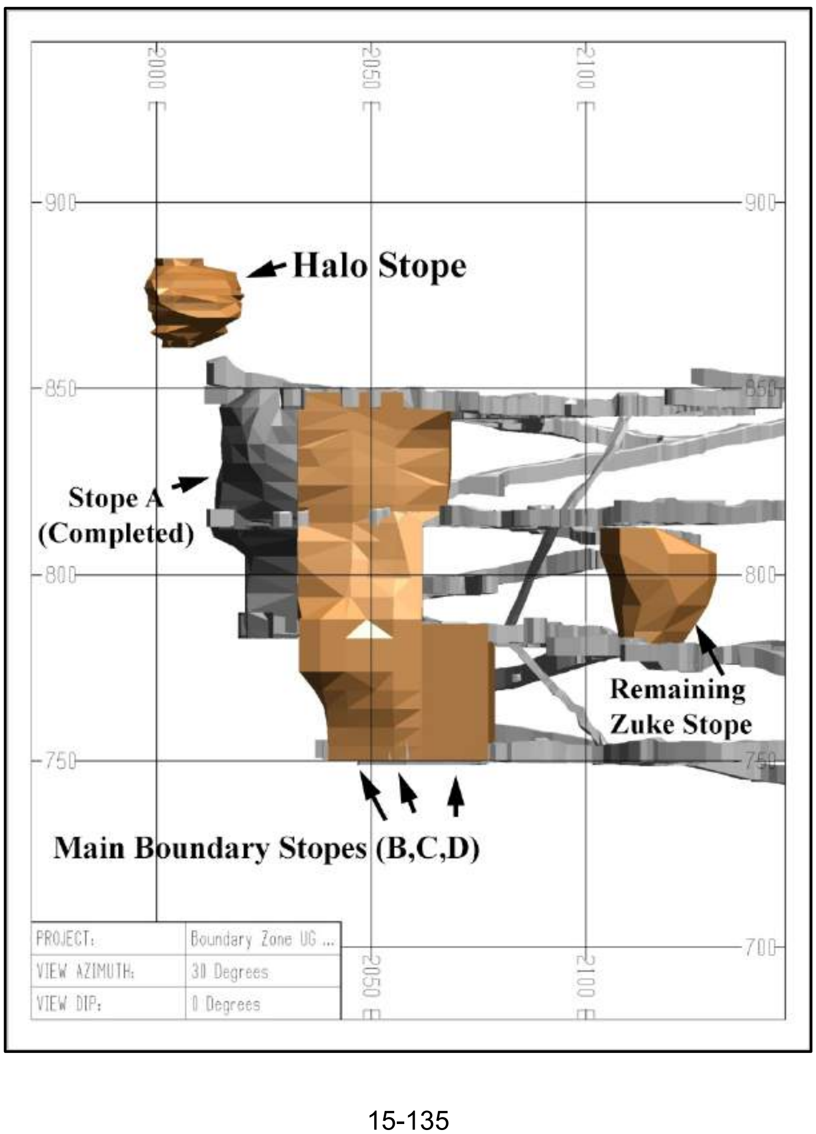
See appendix A for Main Zone North-South Section along the pink lines in Figure 14-22

15.5 Stope Design Assumptions

The design of the underground stopes included in the Mineral Reserve generally adhere to the recommendations of independent geotechnical consultants who have performed stope sizing reviews for MPMC. Download details of these reports are included in Appendix B. The size of the report (64Mb) prevents including it from being appended to the digital version of this report.

Values for recovery and dilution have been applied against the stope designs included in the Mineral Reserve. Generally two different sets of assumptions were applied: one for the Boundary Zone stopes, and one for the Halo and Zuke Zone stopes. For the Boundary Zone stopes, 10% dilution was applied on an assumed 100% recovery factor. Dilution was assumed to grade 0.30% copper and 0.20 gpt gold. For Halo and Zuke Zone stopes, a 15% dilution assumption was applied, also on a 100% recovery factor. The same diluting grades were applied. These assumptions are deemed reasonable due to the positive performance of the "A" Block stopes in the Boundary Zone which have been exhausted. Current stope designs are displayed in Figure 15-4.

Figure 15-4 Isometric view of the Boundary Zone underground Mineral Reserve solids



16 Mining Methods

16.1 Open Pit Mining Methods

16.1.1 Pit Sequencing

Open pit mining over the past 14 years has resulted in the partial exploitation of six different deposits at the Mount Polley Mine (Cariboo, Bell, Springer, Northeast, Southeast, and the Pond Zone). Three pushbacks, or phases, have been completed on the Springer deposit, and a second phase is currently in progress on the Cariboo deposit, for a total of total of nine completed or active phases over the historical mine life. The current life-of-mine plan incorporates the open pit mining of six phases, to be undertaken in the following order:

- Cariboo
- Springer Phase 4
- Springer Phase 5
- Springer Phase 6
- WX
- Boundary Zone

With the exception of the Boundary Zone Pit, all the future Main Zone mining phases are interconnected due to their close proximity to each other. The Boundary Zone Pit is located adjacent to the mined out Northeast Zone Pit and is approximately 2km northeast of the Main Zone deposits.

16.1.2 Open Pit Mining Equipment

The current open pit mining operation at Mount Polley utilizes a conventional truck and shovel fleet with drilling and blasting prior to excavation. The fleet includes a mixture of diesel and electrically powered equipment for drilling, excavating and dewatering. All trucks and auxiliary equipment are diesel powered. Major mining equipment includes:

- 1 P&H 2300XPB electric cable shovel
- 2 P&H 2100BL electric cable shovels
- 1 Komatsu PC1800 hydraulic excavator
- 1 Caterpillar 992C front-end loader
- 12 Caterpillar 785C haul trucks
- 3 Caterpillar 777B/D haul trucks
- 1 Atlas Copco 351 Pit Viper electric blasthole drill
- 1 B&E 60R electric blasthole drill
- 2 wall control blasthole drills
- 4 Caterpillar 16H/G motor graders
- 1 Caterpillar D10R bulldozer
- 4 Komatsu D375 bulldozers

16.1.3 Grade Control

As is common in most open pit mines grade control is based on assays of blasthole hole cuttings. The typical blasthole drill spacing at Mt Polley is 9 by 9m. Blast hole cuttings are assayed for total copper, oxide copper, gold, iron, and on approximately every eighth hole, carbon and sulfur. The assay data is used to populate the grade items in a 5 x 5 x 12m blasthole block model. Interpolation of grade items is performed using inverse distance cubed relative weighting of assays. In the blasthole block model, calculations are performed to update bulk density, recovered grade projections, and economic parameters in the form of the MHV calculation previously discussed in Section 14.

Cut-off grade thresholds are regularly modified to reflect current metals pricing. Surplus ore (in a given period), or ore which passes long-term metal price thresholds, but not current metal price thresholds, is stockpiled for future processing. No consideration is calculated for dilution, as the relatively large dimensions and disseminated nature of the porphyry mineralization generally result in modest dilution. Ore control geologists are responsible for manually determining material boundaries which are then staked in the field by surveyors to direct Mine Operations personnel.

16.1.4 Material Handling

Ore mined from the pits is hauled to either the primary gyratory crusher located immediately adjacent to the mill or to nearby stockpiles..

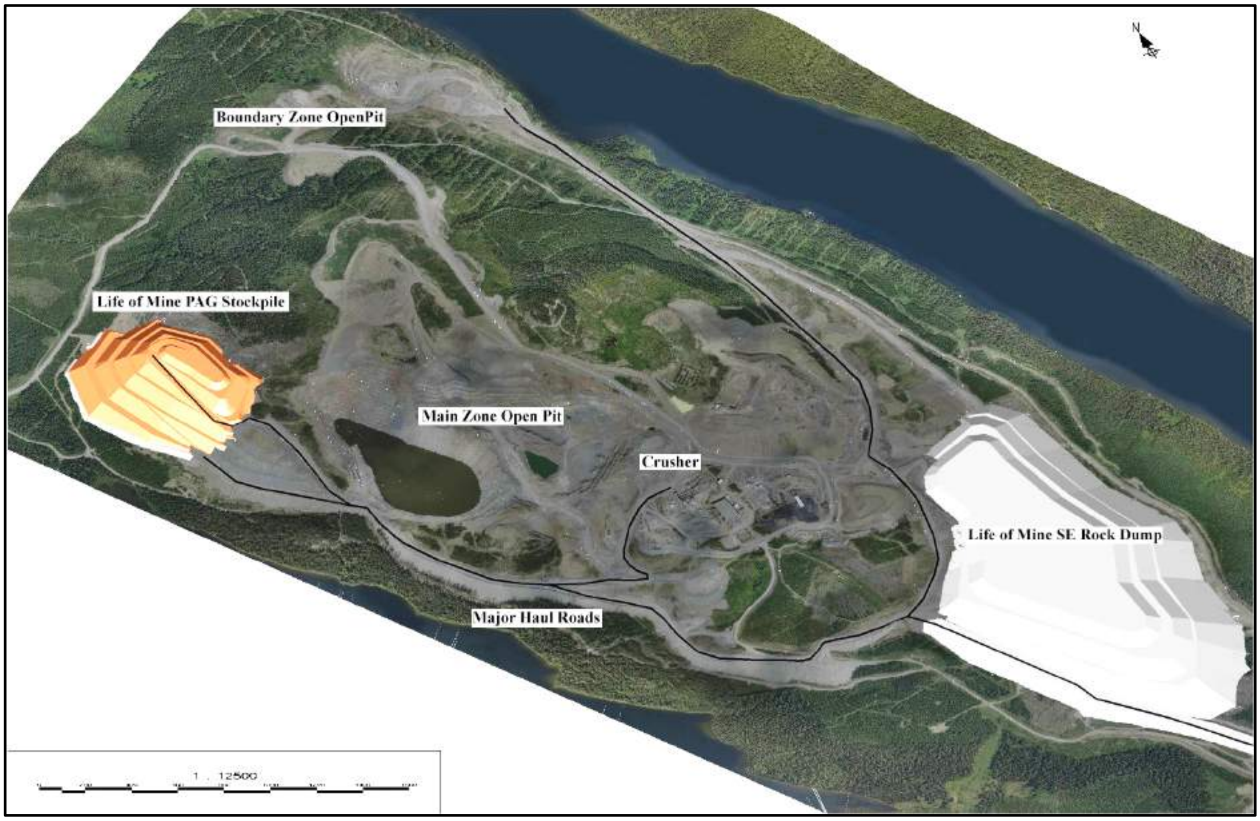
Waste material at Mount Polley occurs in one of two types: non-acid generating waste (NAG), and potentially acid-generating waste (PAG). NAG/PAG designations are made on the basis of the neutralizing potential ratio (NPR) of a given material. This NPR is calculated by performing acid-base accounting (ABA) using carbon and sulfur assays from blasthole cutting samples. Sampling is performed on a one sample per 20,000 tonnes basis. All rock with an NPR less than 2.0 and a sulfur content greater than 0.1% is designated as PAG and stockpiled.

PAG waste is estimated to constitute approximately 27% of the waste tonnage in the life-of-mine plan. PAG waste, as a condition of operating permits, must be submerged for long-term storage at the end of mine life. As such, all PAG rock is selectively mined and temporarily stored in the Northwest PAG Stockpile. This stockpile will be rehandled into the exhausted pits at the end of mine life. NAG waste is hauled to either the southeast rock dump (SERD), or to the Tailings Storage Facility (TSF) for construction purposes.

Additional permitting will be required for both the NW PAG stockpile and the SERD waste disposal areas to provide the required capacity to store all of the waste created by mining the stated Mineral Reserves. As the expansion of these dumps will largely be within established site disturbance areas and of modest size, no permitting difficulties are anticipated at this time.

Mount Polley has developed a network of haulage roads that will require only modest alterations over the course of this life-of-mine plan. Haul roads are designed at a minimum width of 35m to accommodate the safe operation of Caterpillar 793 haul trucks as per the Health, Safety and Reclamation Code for Mines in British Columbia. Ramps for accessing pits and dumps are limited to a maximum grade of 10%. A plan showing existing and planned haulage routes, waste dumps, stockpiles, and other relevant material handling locations is shown in Figure 16-1.

Figure 16-1 Mount Polley Waste Dumps and Major Haulage



16.1.5 Pit Slope Design Parameters

Bench heights in the Main Zone are 12m, while the Boundary Zone Pit will be mined with 10m bench heights in waste and 5m spilt benches in ore.

The strength of the overall rock mass around the pits is generally good with the exception of faults and late-stage mafic dykes which can be of poorer quality. Jointing in the rock mass is semi-consistent through different rock units, resulting in pit slope design criteria being dominated by the orientation of the pit face in question, and specifically how this open face interacts with the local jointing regime.

Pit wall design parameters employed for mining at Mount Polley are provided by Golder Associates Ltd., and are based on historical mining experience.

Table 16-1 summarizes the slope design parameters utilized for each pit wall phase design. All production benches in the Main Zone are mined on 12m high benches, with walls either configured in a single bench (12m high face between catchment berms) or a double bench (24m high face between catchment berms). All benches mined in the Boundary Zone are 10m high, mined in a double bench wall configuration (20m high wall face between catchment berms). Details of the current pit slope design assumptions can be found in a new 2016 report by Golder Associates Ltd. on Imperial Metal's website (See Appendix B for download details).

Table 16-1 1Pit Phase Design Parameters

Pit Phase	Wall Segment	Wall Type	Inter-Ramp Angle	Face Angle	Berm Width
Cariboo	North and East Wall	Double Bench	49°	70°	12.13m
	Far East Corner	Double Bench	51°	70°	10.70m
	South Wall	Double Bench	46°	65°	12.00m
	West Wall (Cariboo)	Double Bench	46°	65°	12.00m
	WX Area	Double Bench	46°	65°	12.00m
	C2 Area	Double Bench	46°	65°	12.00m
	Polley Fault Intersections	Single Bench	43°	70°	8.50m
	Access Slot Walls	Single Bench	43°	70°	8.50m
	West Wall Adjacent SP4	Single Bench	43°	70°	8.50m
Springer Phase 4	West Wall	Double Bench	46.5°	65°	11.50m
	North-East-South Walls	Single Bench	43°	70°	8.50m
Springer Phase 5	West Wall	Double Bench	46.5°	65°	11.50m
	North-East-South Walls	Single Bench	43°	70°	8.50m
Springer Phase 6	West Wall	Double Bench	46.5°	65°	11.50m
	North-East-South Walls	Single Bench	43°	70°	8.50m
WX	West Wall	Double Bench	46.5°	65°	11.50m
	North-East-South Walls	Single Bench	43°	70°	8.50m
Boundary Zone	All Walls	Double Bench	50°	70°	9.50m

16.1.6 Water Management

Mount Polley is located in a relatively wet climate, receiving on average approximately 670mm of rainfall per year. Where possible surficial water is diverted from the open pits using ditches. Groundwater is prevalent in all open pit mining areas and constant dewatering is required in all active pits. Dewatering is generally performed using in-pit sumps to lower the local water table below the active mining bench. No dewatering wells are currently utilized at Mount Polley. All mine contact water is captured in a series of ditches and sumps and is ultimately conveyed to the permitted effluent discharge location in the general area of the TSF.

A formal water management manual is in effect at Mount Polley. This manual provides specific direction regarding operational decisions related to water management, and is supported by regular meetings of technical and operations staff to ensure compliance with regulatory requirements and operational objectives. Redundant pumping systems are in place at major pumping stations, with routine testing performed to ensure reliability.

Historically, Mount Polley had been a no-release mine site, despite protracted efforts to attain water discharge permits as the site has a positive water balance. Historically, all surficial site contact water was stored in the TSF, where the majority was entrained as interstitial water during tailings deposition.

Approximately 10,000,000m^3 of supernatant water was ponded within the TSF Prior to the TSF breach in 2014. This larger than normal volume of water was due to several factors:

- the accumulation of water during the mines shut down (2001-2005).
- a 1-in-200 year high snowpack event in the winter of 2013/2014.
- an expanding site collection area after 2005.
- the lack of a permit to discharge water.

Future plans for site water management require a discharge permit of sufficient quantity to allow for high-precipitation periods to be managed without such large year-over-year accumulations; rather, storing on site only that volume of water required for processing operations. Site contact water will continue to be consumed through tailings deposition, while surplus water in excess of that required for processing operations is discharged in accordance with regulatory requirements.

Currently, MPMC is operating under a short-term water discharge permit, which authorizes the discharge of up to 0.3m^3/s of treated site contact water into Quesnel Lake via Hazeltine Creek and twin 24" pipes with diffusers for conveying the water below the thermocline.

Presently, treatment includes assisted settling through a water treatment plant to manage total suspended solids, though the Springer Pit has been observed to be presently providing passive treatment of particulates (i.e., the Springer Pit is essentially a very large sedimentation pond).

A long-term discharge permit is currently being sought, making the exact details of treatment requirements, conveyance, and discharge location currently uncertain. It is the aspiration of MPMC to ultimately move towards passive treatment with distributed flows from site reflecting those existing pre-mining.

MPMC understands that implementing this strategy will likely be a staged process requiring multiple permit amendments during operations, closure, and post-closure. For the purpose of this report, capital cost estimates for water management have assumed that a permanent pipeline will be constructed connecting the existing water treatment plant and the existing diffusers in Quesnel Lake. An additional allowance has been made for larger site water management ponds outside of the TSF, while no further allowance has been made for treatment capacity. See Section 21 for further detail on assumed costs.

16.2 Underground Mining Methods

16.2.1 Stope Sequencing

The Primary Underground mining method at Mount Polley is mechanized long-hole open stoping followed by backfill with cemented rock before mining the next stope.

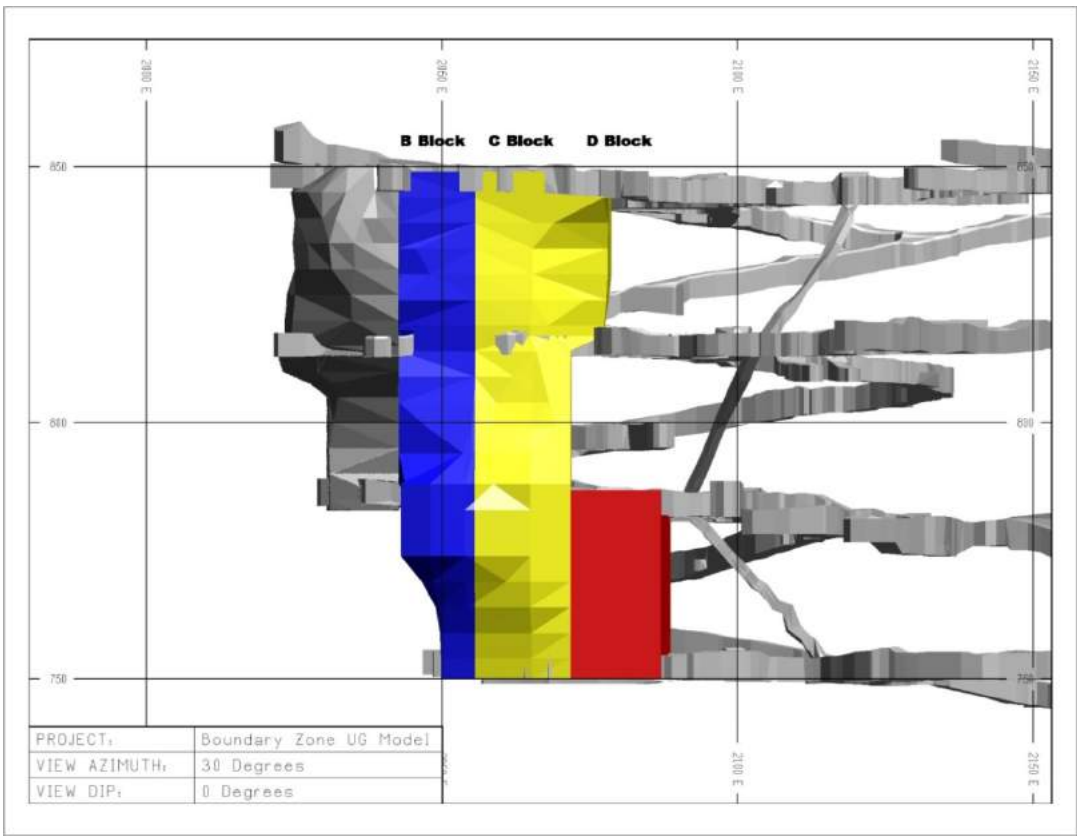
The three noteworthy zones which are currently being mined or planned to be mined are; the Boundary, Halo and Zuke Zones. The majority of the Mineral Reserve base is contained in the Boundary Zone (81% of the 312,000 tonnes of underground Mineral Reserves).

The larger Boundary Zone with approximate dimensions of 80m long by 20m wide and 100m tall has been divided into four stoping blocks (A, B, C, and D). Individual stoping blocks are approximately 20m by 20m in plan, and between 35m and 100m in height and are aligned as shown in Figure 16-2.

The final stoping blocks (C and D) will be filled with un-cemented rock fill as required. Mining of the smaller Halo and Zuke Zones will not require backfill.

Mining of the current underground Mineral Reserve is expected to be completed by the end of 2016. Mining production rates are 1000 tonnes per day during the mucking cycle and virtually nothing during the backfill cycle.

Figure 16-2 Boundary Zone stoping blocks



16.2.2 Underground Mining Equipment

Underground mining equipment is largely company-owned and maintained and includes:

- 3 6-yard scoop trams
- 1 2-yard scoop tram
- 4 20-25 tonne rated underground haulage trucks
- 2 twin-boom jumbo drills
- 1 scissor lift
- 1 Maclean automatic bolter
- 1 Alimak raise climber
- Electrical, pumping, and ventilation related infrastructure

16.3 Mine Production Schedule

A mine production schedule has been completed to support the Mineral Reserve stated in this report. The production schedule includes all open pit and underground mining which is currently planned by MPMC (See Figure 16-3 for total material moved by year). The schedule also includes all rehandle activities and associated costs related to the mining of ore stockpiles, tailings materials from the Springer Pit, and PAG rock mined from stockpiles and placed into the exhausted open pits for closure (See Figure 16-3).

Open pit mining rate assumptions utilized in this schedule start at approximately 70,000 tonnes per day through to the end of 2017. In the first quarter of 2016, lower mining rates are assumed as the mining fleet is partially engaged in buttressing projects at the TSF. The 70,000 tonne-per-day productive mining rate reflects the current production capacity of the mining fleet at Mount Polley. Planned mining rates are increased starting in early 2018, achieving a new rate of 90,000 tonnes per day at the end of 2018. This rate rise will be facilitated by the expansion of the mining fleet to include an additional three, 200 tonne class haul trucks and a matched loading unit. An allowance for these purchases has been included in financial schedules described further in Section 21 on Capital and Operating Costs.

A mining rate of 90,000 tonnes per day is maintained through the end of 2022. At this point, mining rates are reduced to approximately 70,000 tonnes to reflect lower waste stripping requirements. As ore reserves from the pits are exhausted, portions of the mining fleet are re-tasked for hauling PAG waste from stockpiles into the pits, and also for hauling stockpiled ore to the crusher for processing. Portions of the mining fleet will also be engaged with progressive reclamation throughout the mine life where possible, and final reclamation at the end of mine life. Figures 16-5 through 16-9 show the successive completed pit phase designs (not scheduled mining).

Figures 16-3 and 16-4 illustrate the scheduled total material movement year; and location by quarter to achieve the mine plan.

In 2016 and 2017 daily mining rates are 70kt/day ; which is the nominal capacity of the existing mining fleet. In 2018 mining fleet additions comprising of three 200 ton class haul trucks and a suitable loading unit will increase the daily mining rate to 90kt/day. Total material movement will remain at 90kt/day until the PAG stockpile has been reclaimed into the Springer Pit at the end of the mines life.

When not required for production the balance of the mining fleet will be will be deployed in reclamation throughout the mines life.

Figures 16-5 through 16-9 illustrate the pit development sequence.

Figure 16-3 Total material moved by year (tonnes)

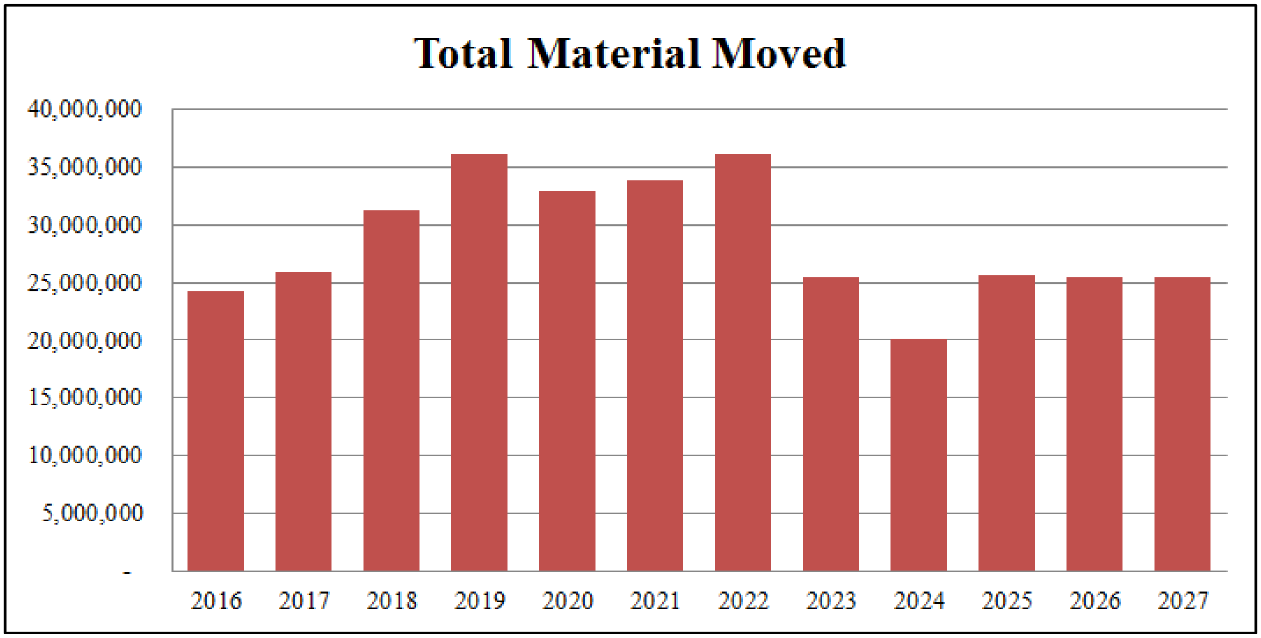


Figure 16-4 Total Tonnes Moved by Source Location by Quarter

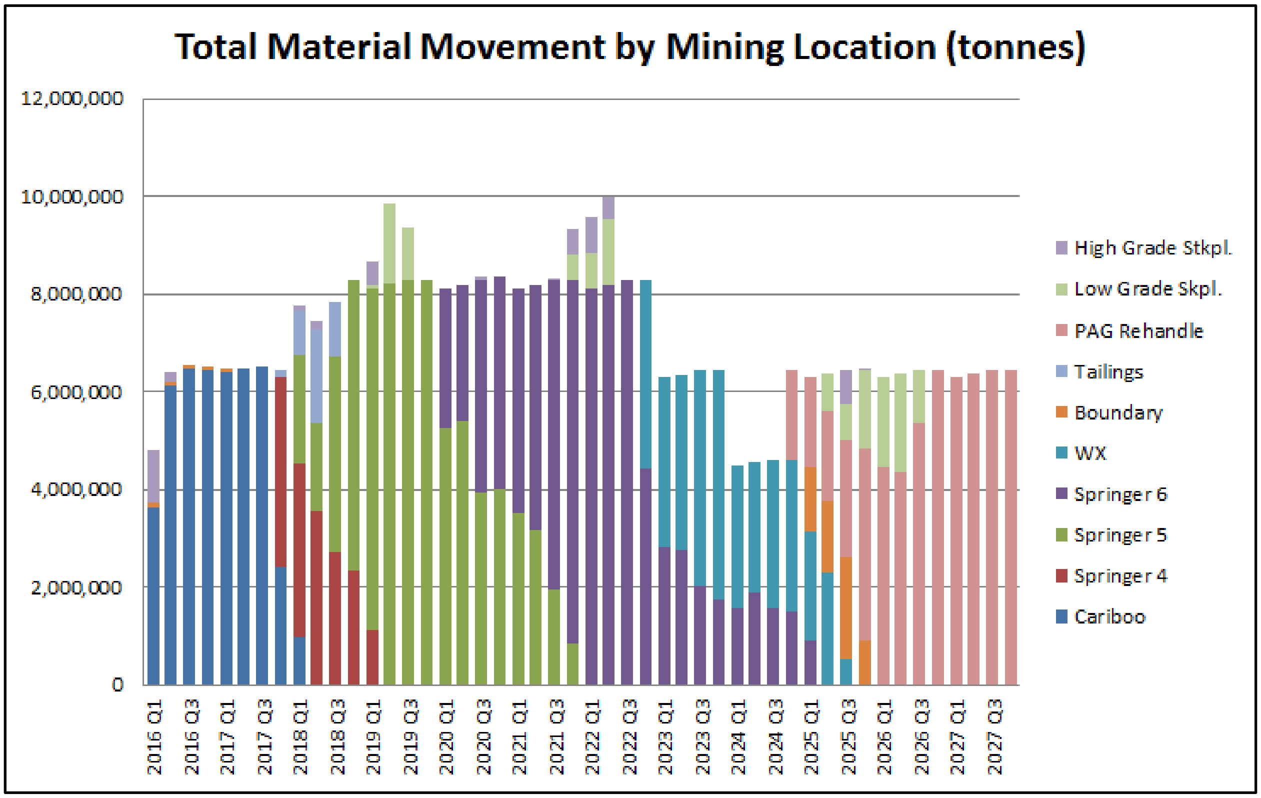


Figure 16-5 Isometric View of the January 1, 2016 Main Zone Topographical Surface

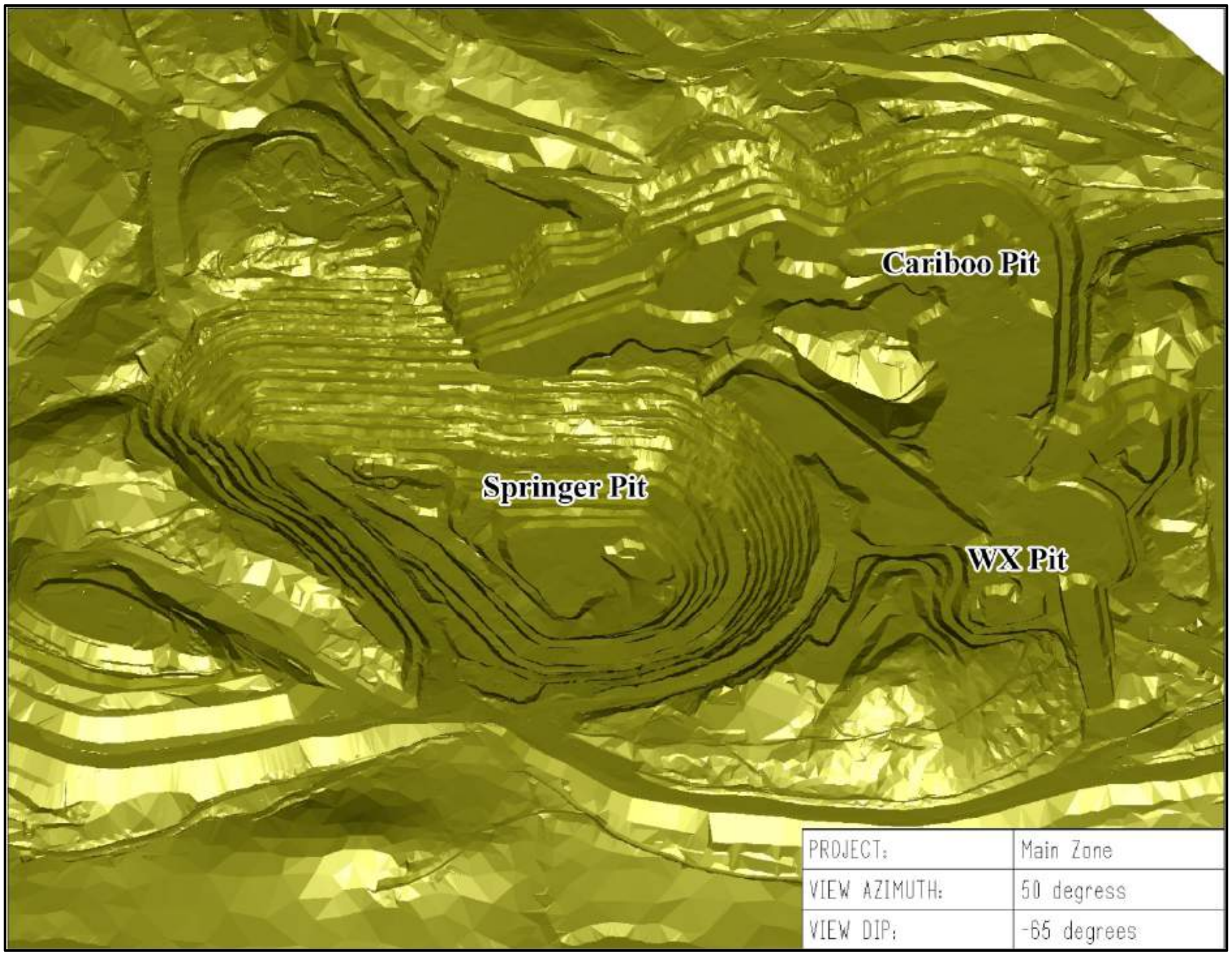


Figure 16-6 Isometric View of the Completed Cariboo and Springer 4 Pushback

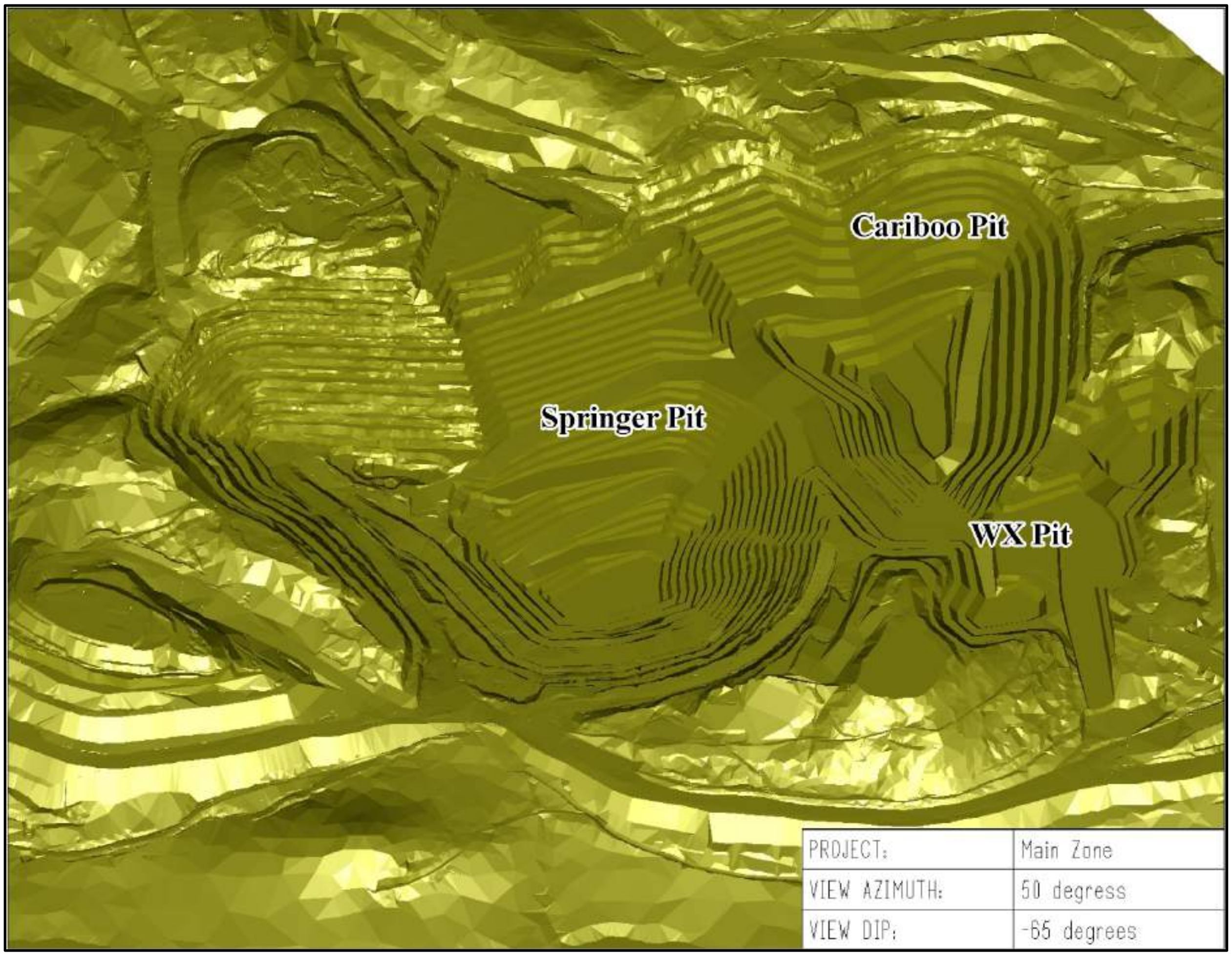


Figure 16-7 Isometric View of the Completed Springer Phase 5 Pushback

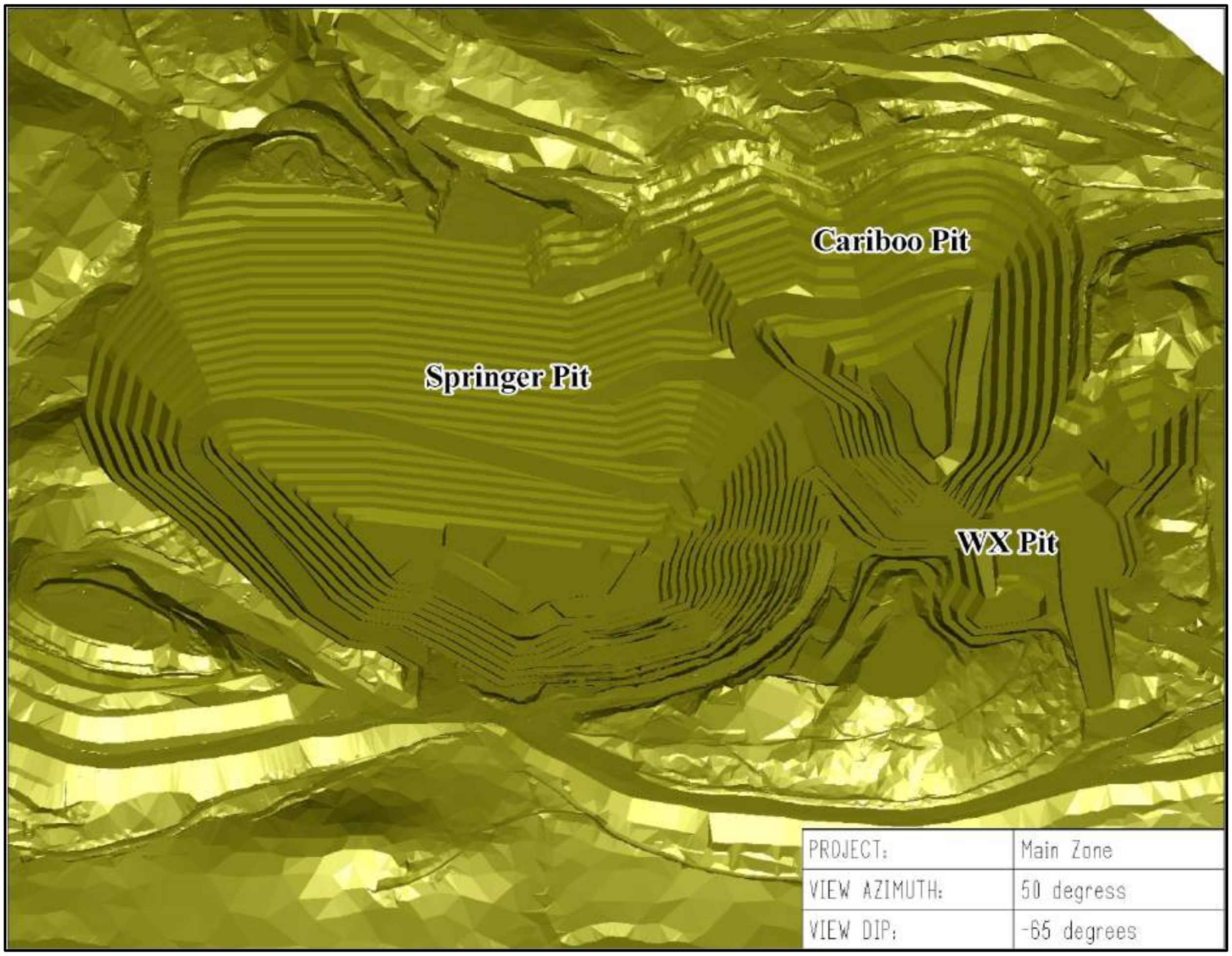


Figure 16-8 Isometric View of the Completed Springer Phase 6 Pushback

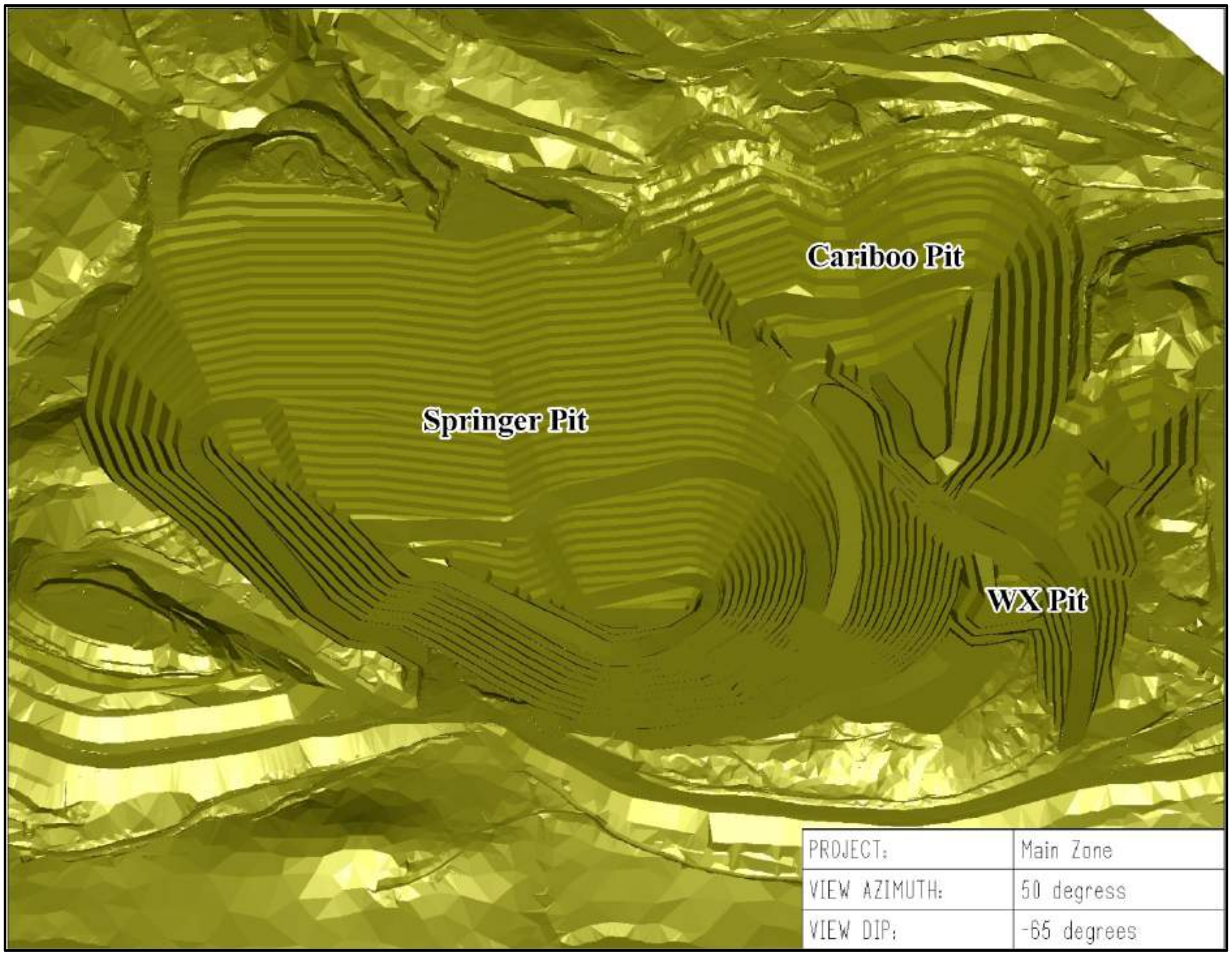
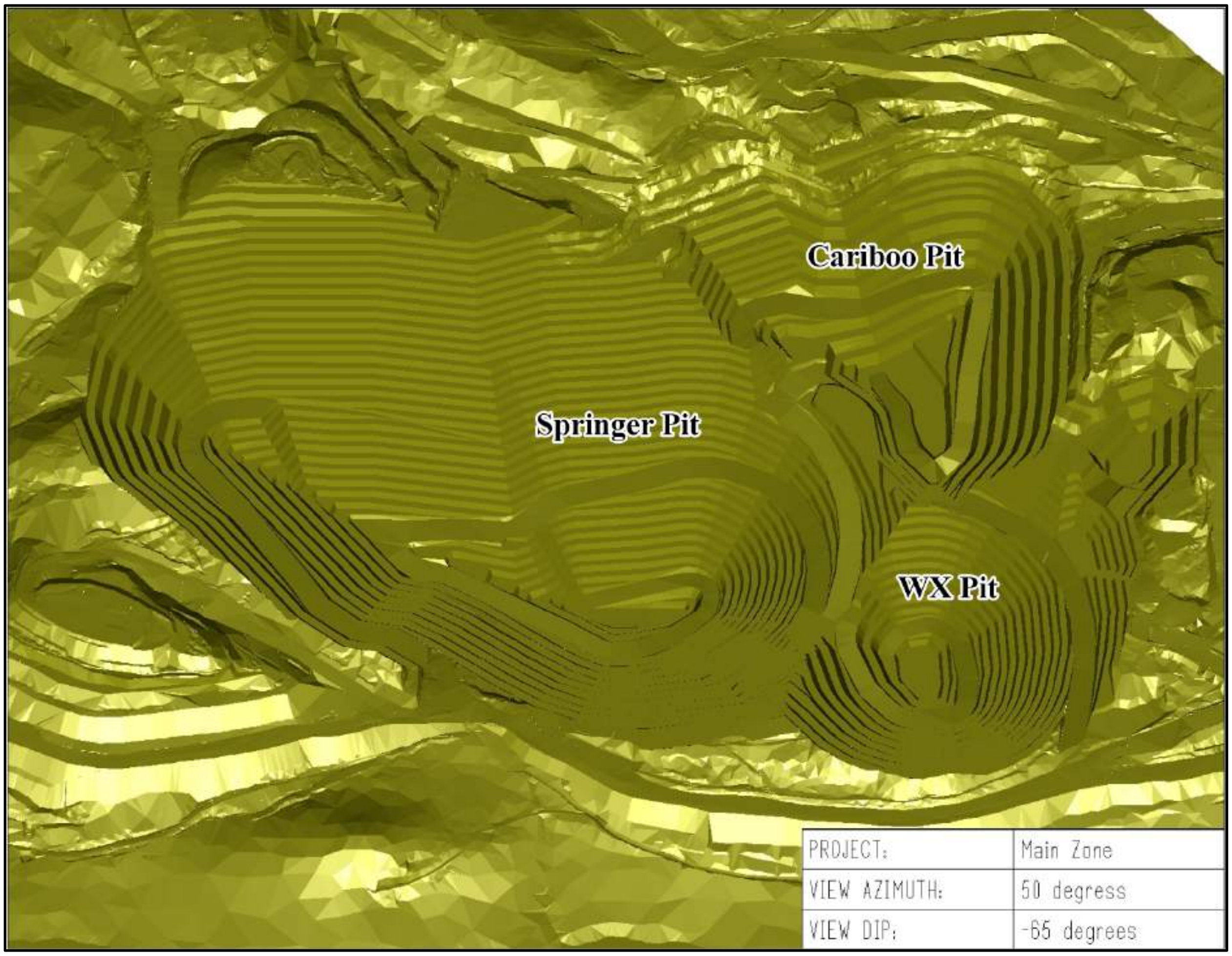


Figure 16-9 Isometric View of the Completed WX Pushback – End of Main Zone Mineral Reserves



A schedule describing projected mill throughput and head grades is included in Table 16-3 and again in Figure 16-10. These totals are inclusive of both the stated Mineral Reserve, and the processing of existing ore stockpiles intermittently throughout the mine life. A summary of existing ore stockpiles is shown in Table 16-2. Stockpile volume and characteristics at any given period vary throughout the mine life as stockpiles are added to or processed.

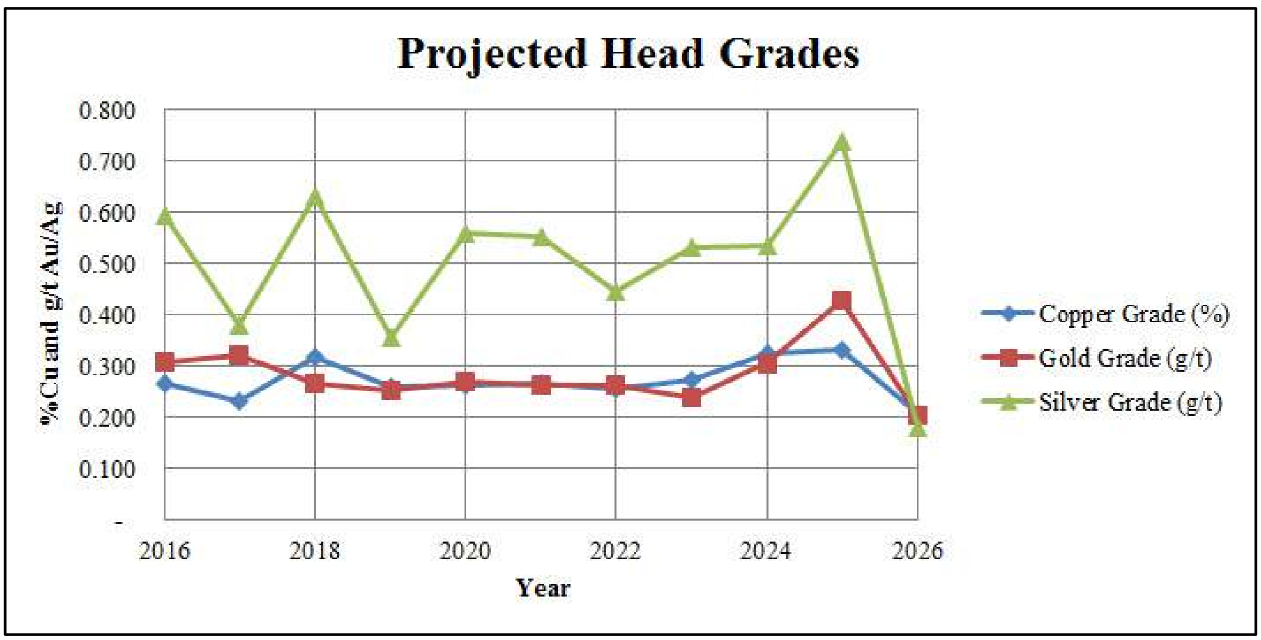
Table 16-2 Ore Stockpiles as of January 1, 2016

Tonnes	Cu Grade (%)	Au Grade (gpt)	Ag Grade (gpt)
8,900,000	0.287	0.261	0.105

Table 16-3 Ore Processing Schedule

Year	Tonnes Milled	Cu Grade (%)	Cu Produced (Million lbs)	Au Grade (g/t)	Au Produced (Thousand Ozs)	Ag Grade (g/t)	Ag Produced (Thousand Ozs)
2016	7,446,000	0.267	31,000,000	0.307	56,000	0.594	100,000
2017	7,790,000	0.232	31,000,000	0.322	59,000	0.382	69,000
2018	7,790,000	0.317	43,000,000	0.267	45,000	0.631	105,000
2019	7,790,000	0.260	26,000,000	0.253	41,000	0.356	59,000
2020	7,790,000	0.262	31,000,000	0.271	45,000	0.559	92,000
2021	7,790,000	0.265	32,000,000	0.261	43,000	0.553	91,000
2022	7,790,000	0.256	28,000,000	0.262	43,000	0.444	73,000
2023	7,790,000	0.274	36,000,000	0.238	39,000	0.530	87,000
2024	7,790,000	0.324	43,000,000	0.306	51,000	0.536	89,000
2025	7,790,000	0.332	40,000,000	0.429	71,000	0.739	126,000
2026	4,934,000	0.206	9,000,000	0.205	20,000	0.180	18,000
Total	**82,490,000**	**0.274**	**350,000,000**	**0.286**	**513,000**	**0.511**	**909,000**

Figure 16-10 Projected Head Grades Milled by Year



17 Recovery Methods

17.1 Mill and Processing Plant

The mill at Mount Polley was commissioned in June 1997. The mill uses conventional rod and ball mills with a flotation and dewatering circuit to produce a copper /gold concentrate. The mill has a capacity to process 17,800 to 22,000 tonnes per day (tpd) of ore depending on hardness. Mount Polley concentrates are trucked to facilities at the Port of Vancouver and then shipped to overseas smelters.

The complete process flow sheet outlining the processes of the Mount Polley Mill and processing plant are shown in Figure 17.2. Close up details of each of the milling processes are shown in Figures 17.3 to 17.6.

17.1.1 Primary, Secondary, Tertiary Crushing and Ore Handling

Ore is crushed in three stages to produce a 16 mm product for the grinding circuit, which is stored in a 15,000 t stockpile. The crushing plant consists of one (1) 42" x 65" gyratory crusher, one (1) 7' standard cone crusher, three (3) short head cone crushers and four (4) screen decks. Sized rock for the pebble mill is removed from the secondary crusher feed and stored in a 2,000 t surge pile (Figure 17.1 and 17.3).

Figure 17-1 Mount Polley Mill Crushed Stockpile System

Figure 17-2 Mount Polley Mill - Complete Milling Flow Diagram

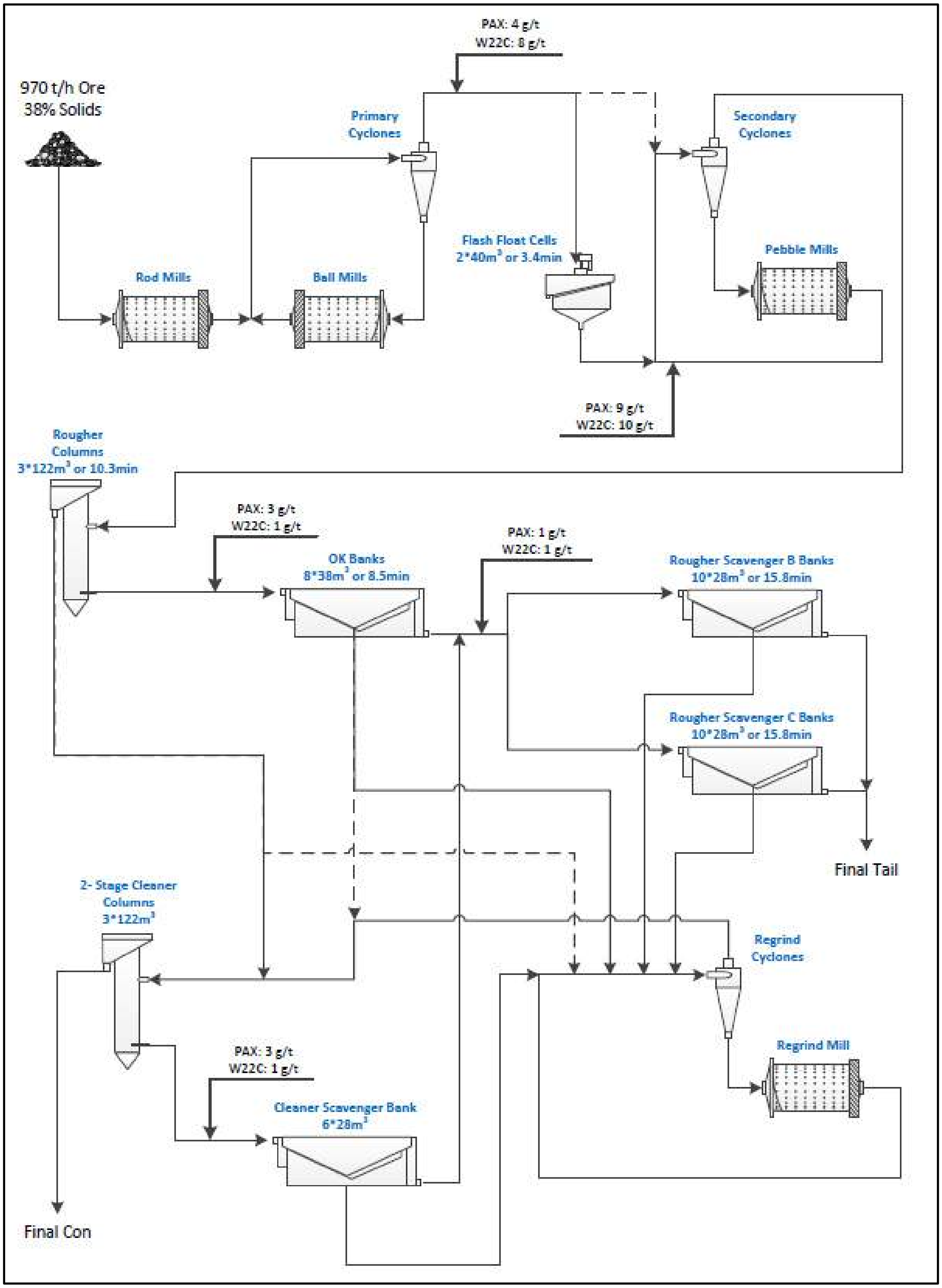


Figure 17-3 Mount Polley Mill - Crusher Stockpile System

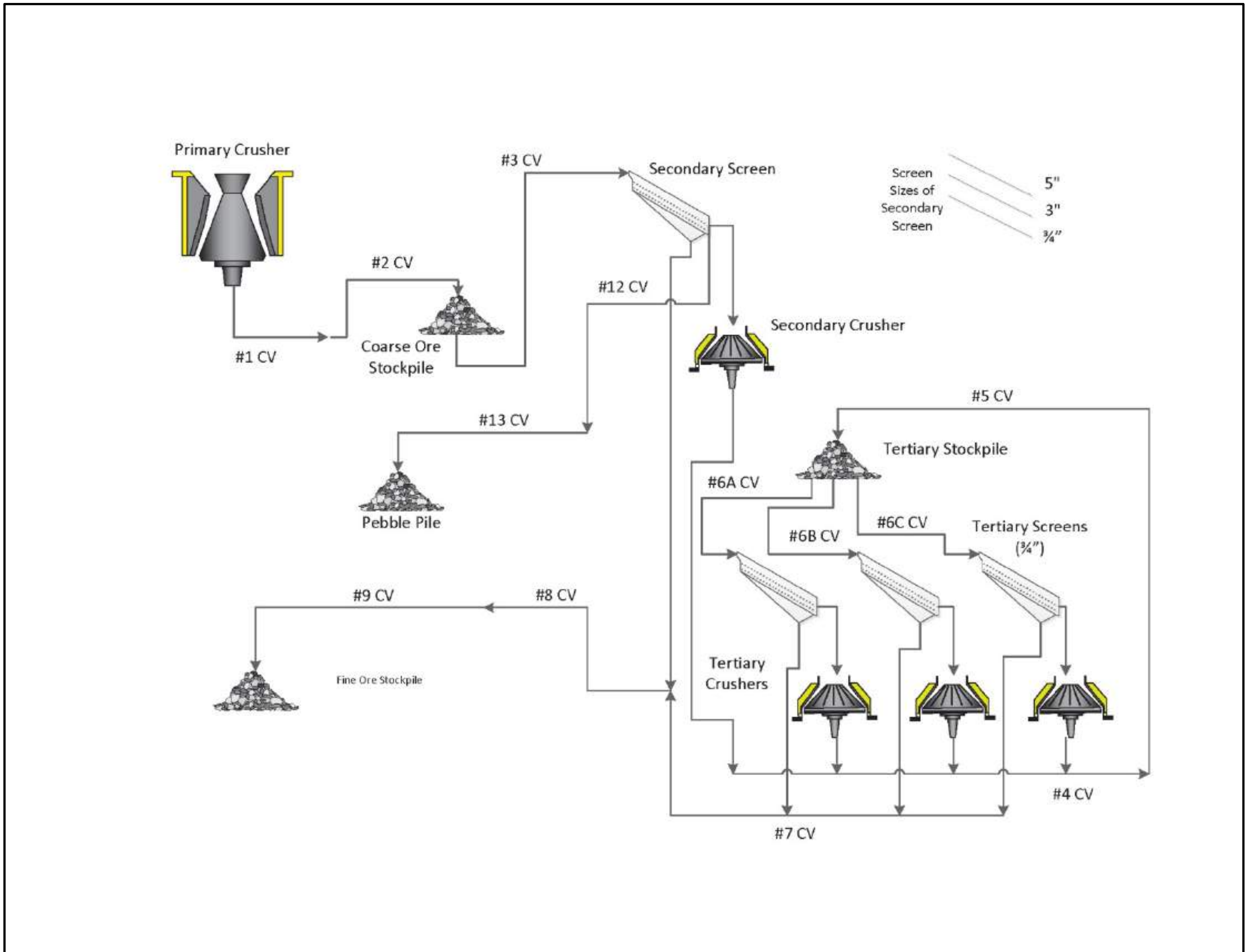


Figure 17-4 Mount Polley Mill - Milling System

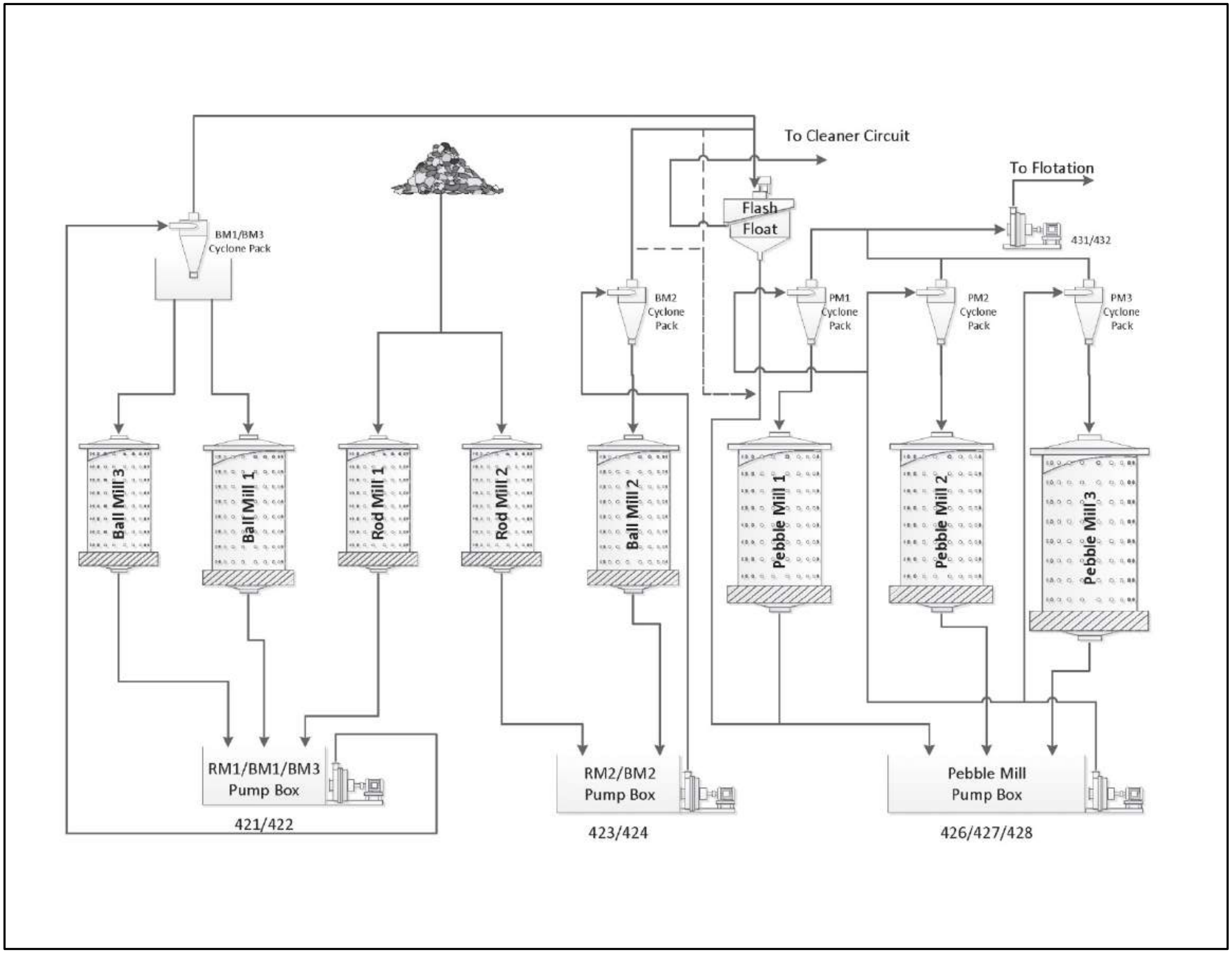


Figure 17-5 Mount Polley Mill - Floatation Circuit

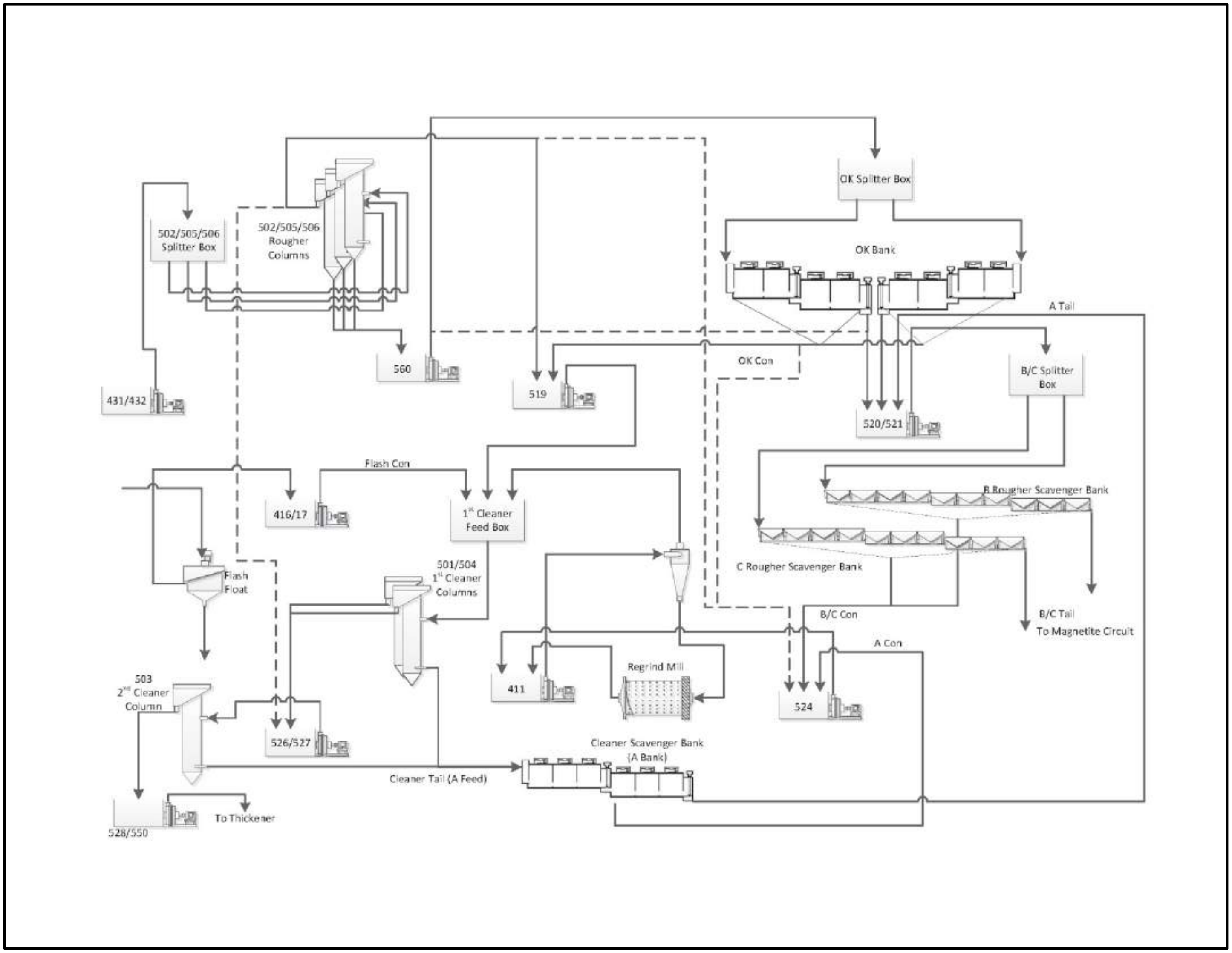
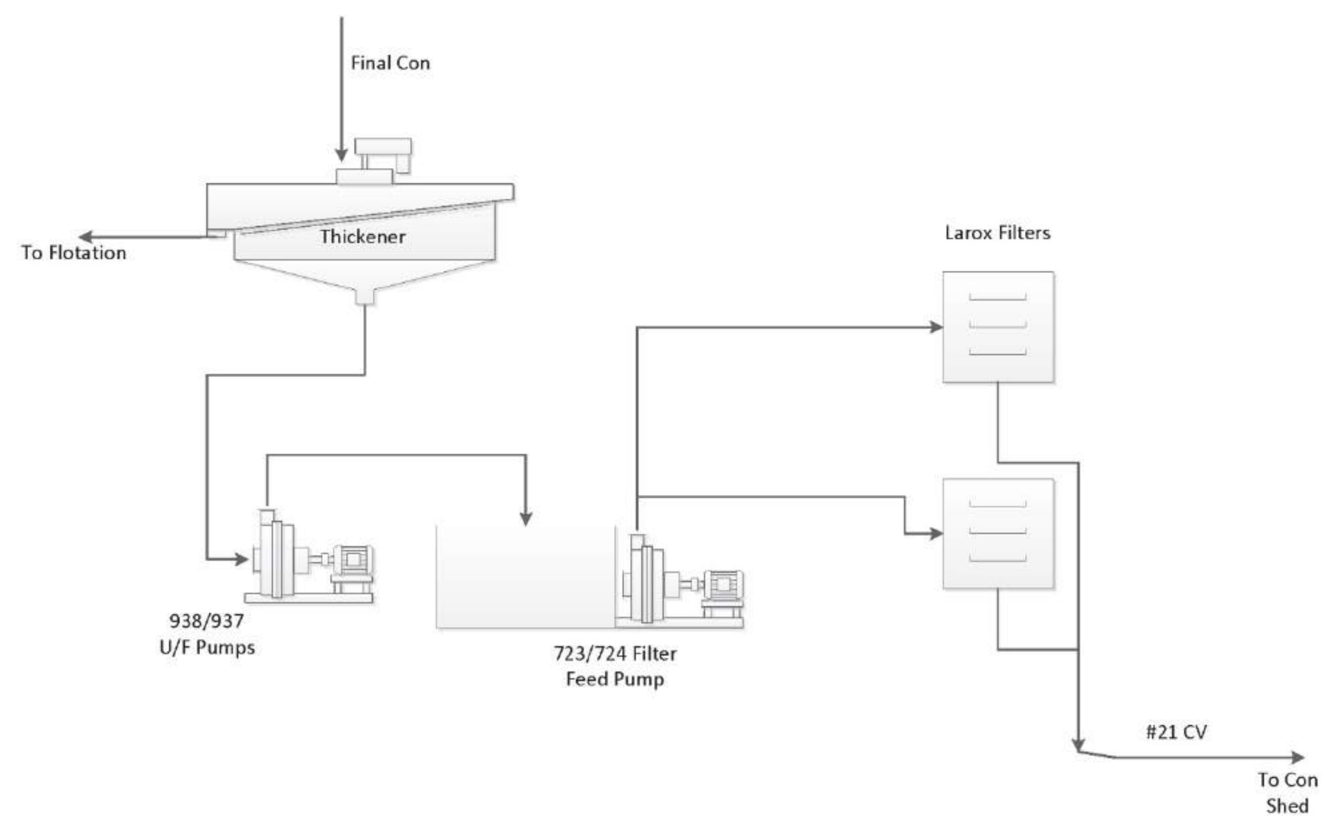


Figure 17-6 Mount Polley Mill - Thickener and Dewatering Circuit



17.1.2 Grinding

Rod mills receive the crusher product from the crusher stockpile and reduce it to ball mill feed size at a rate of approximately 915 t per hour. Product from the ball mills is fed to the pebble mill, where it is reduced to flotation feed sized at 65% passing 200 mesh. Pumps and a hydrocyclone classify pulp to process ore efficiently to the required product size (Figure 17.2 and 17.4). Water for the milling process is supplied by a reclaim pump from the tailing pond. Electrical power for the plant is supplied via an onsite electrical substation. The substation is fed off the B.C. Hydro grid from a tap at the Soda Creek station. The 70km, 69kV line from Soda Creek to the mine was built privately by MPMC and then transferred to BC Hydro.

Figure 17-7 Mount Polley Rod, Ball and Pebble Mills

17.1.3 Flotation

A combination of column and mechanical cells recover rougher and scavenger concentrates for regrinding and subsequent cleaning to produce high grade concentrates. The circuit has been designed with sufficient flexibility to accommodate anticipated variations in the head grade and degree of oxidation of the ore (See Figure 17.3 and 17.5).

Figure 17-8 Mount Polley Mill Flotation Cell Producing Copper Concentrate

17.1.4 Mill Reagents

Table 17.1 summarizes the types and estimated amounts of reagents used at Mount Polley in Mill processing. Depending on the type, mill reagents are shipped to Mount Polley in tank or bag as solids or in drum as liquids. Mixing and storage tanks, which are heated when necessary, provide reagents ready for feeding by pumps. A spare system is provided for trials of experimental reagents. A ventilation system ensures that there is no build-up of noxious fumes in the area.

Table 17-1 Reagent types and quantities used in the Mount Polley Mill

Reagent	Average Rate of Use
Potassium amyl xanthate	15 g/t
POLYFROTH® W22C	20 g/t
Flocculant	0.13 g/t
Lime	90 g/t

17.1.5 Concentrate Dewatering

The concentrate from the flotation circuit is thickened and stored in a stock tank that provides surge capacity between thickening and filtering. Two pressure filters reduce the moisture content of the final concentrate to 8% for shipment. A conveyor deposits the filtered concentrate in a storage area accessible to a front-end loader in the truck loading area (See Figures 17-6 and 17-9).

Figure 17-9 Mount Polley Larox Filter used to Dewater Concentrate

17.2 Instrumentation and Control Philosophy

The entire processing operation is controlled through a central programmable logic controller (PLC). This PLC and its principal auxiliary components (Figure 17-10 and 17-11) are located in a control room in the concentrator building and it communicates with the remote input/output stations at the fresh water pump house, the water head tanks, the reclaim water pump barge and the reclaim water booster pump house by way of an overhead data highway cable.

Figure 17-10 Human Machine Interface (HMI) Display of the Grinding Circuit

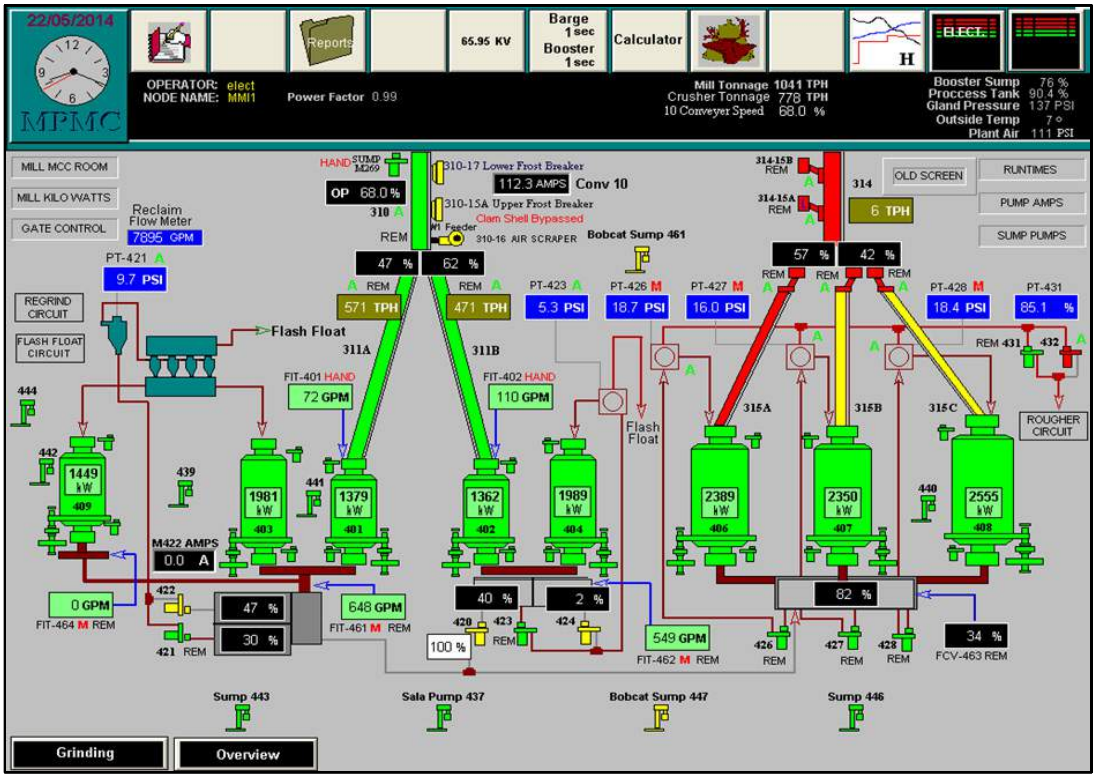
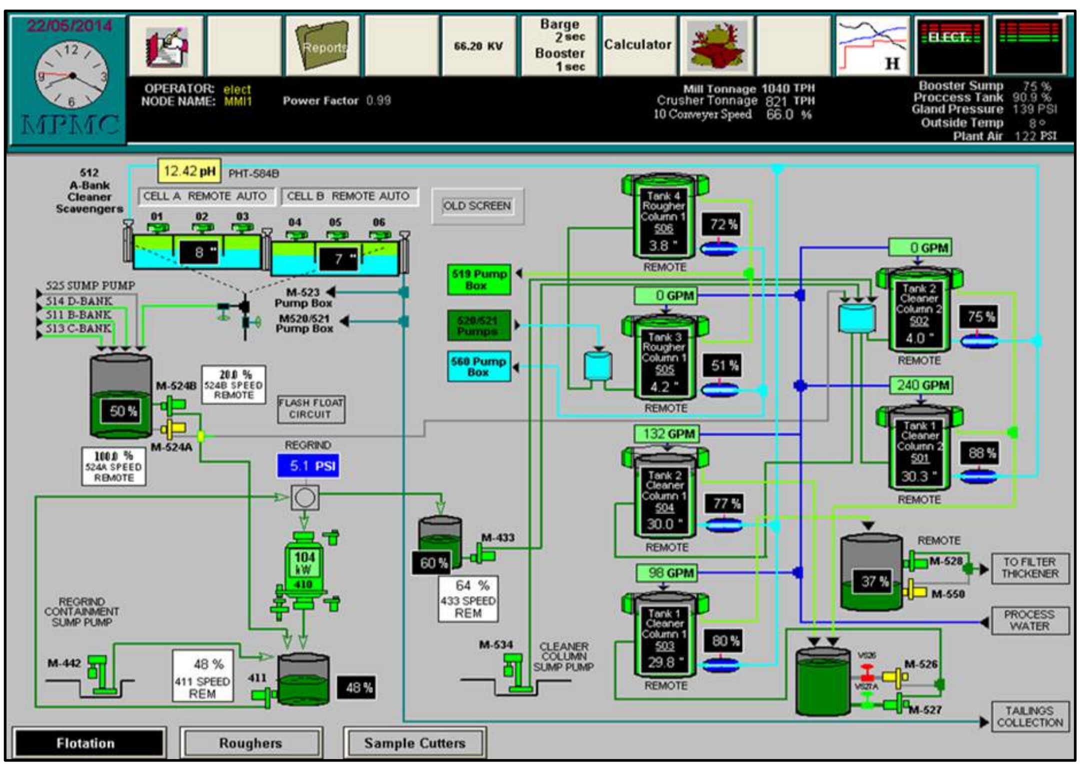


Figure 17-11 HMI Display of the Flotation Cleaner Circuit



An on-stream analyzer (OSA) provides up-to-date information on the changing ore and operating results by measuring assays for five streams. This enables flotation operators to control recovery and concentrate grades. The OSA minimizes the requirements for personnel who would otherwise be required to provide these control assays.

The OSA package includes an X-ray analyzer (including X-ray tube and spectrometer) and computer hardware and software for data collection and analysis. The sample streams to the OSA are used for shift composite samples for metallurgical accounting purposes, along with five other hand-cut samples from other streams.

17.3 Concentrate Handling and Transport

Mount Polley's concentrate is transported to the Port of Vancouver by Arrow Transportation Systems Inc. trucks and shipped to overseas smelters. The principal market for Mount Polley concentrate is Asia. New concentrate sales arrangements are negotiated as required. Figure 17-12 shows MPMC's concentrate shed at the Port of Vancouver.

Figure 17-12 MPMC's Concentrate Shed at Vancouver Wharves

18 Project Infrastructure

With the partial exception of tailings storage capacity, all required project infrastructure is currently in place at Mount Polley. This includes all electrical power facilities, crushing and milling equipment, pipelines and pumping stations, maintenance facilities, warehousing facilities, waste dumps, roads, and port facilities.

For the purpose of this report, long-term tailings storage is assumed to occur in the existing tailings storage facility (TSF) starting in May 2016. Currently, tailings were being deposited in the Springer Pit under a temporary operating permit which is expected to reach its effective limit at the end of April 2016. Additional amendments to Permit M-200 and Permit 11678 were issued on April 29, 2016, authorized an additional 1,000,000 tonnes of ore to be processed.

The TSF experienced a breach on August 4, 2014, which resulted in a loss of containment and the release of supernatant water, tailings solids, and interstitial water to the environment. The root cause of the failure was subsequently found to be a layer of weak soils in the foundation of the dam which exhibited strengths significantly lower than those projected in the design of the embankment. As a component of the remediation measures undertaken post-failure, the affected portions of the TSF embankment were completely removed and replaced with a new embankment designed to connect into the unaffected portions of the existing embankments. This restored containment within the TSF to an elevation of 950m asl. Figure 18-1 shows the 950m repair embankment relative to the 968.5m elevation embankments.

A large investigative geotechnical drilling program was also undertaken post-failure, both for the purpose of assessing root cause of failure, and for evaluating the stability of the remaining TSF embankments. As a result of this geotechnical drilling program, and the large volume of geotechnical test work completed, a revised geotechnical model was created for the foundations of the TSF. This model resulted in additional buttress being designed and built along the Perimeter Embankment in late 2014 and early 2015.

External engineering studies completed subsequent to the initial remediation response have investigated the potential for returning the TSF to an operational state. To date, all engineering work performed has suggested that there is no known technical reason why the TSF cannot be returned to operational use under modified design and operating parameters. Specific engineering studies conducted to date on the topic include an options analysis review of storage options for long-term tailings quantities (using this Mineral Reserve estimate as the approximate quantity objective), and a detailed design of the structure and construction sequence required to establish tailings storage capacity up to the 970m elevation. For further detail on both the 970m build phase design and the long-term options analysis referenced here, please refer to the two new Golder Reports on the TSF available for download on the Imperial Metal's website. (see Appendix B for details).

The 970m elevation was selected as the first major phase of future TSF construction because this was approximately the operating elevation of the TSF prior to failure. Thus, returning the TSF containment to this elevation will essentially require raising only the post-failure repair embankment. In providing tailings storage capacity to the 970m elevation, additional buttressing will be required, predominantly on the Main Embankment, with minor additions also required on the Perimeter Embankment. No buttressing was deemed required along the South Embankment as part of the 970m design. Much, but not all, of this buttressing work must be completed prior to returning the TSF to operations. As such, the work has been scheduled for substantial completion in the first quarter of 2016.

The TSF construction to 970m is currently scheduled to occur in two (2) phases, the first, to 963m, to be completed in 2016, and the second, to 970m, to be completed during 2017. When this 970m phase of construction is complete, it will provide for the storage of approximately 34,000,000 tonnes of tailings, or roughly four (4) years of production. See Figures 18-2 and 18-3 for Plan and Section views of the 970m TSF construction plan. Further construction phases have not been designed in construction-level detail, but according to the options analysis in Golder's Report they are expected to emulate the historical construction concept in many respects, with annual raising of the embankments and periodic buttressing as required to generate storage capacity (see Appendix B for Golder Report download details). Figure 18-4 shows the conceptual long-term TSF design plan with SERD dump and water management infrastructure. An estimate of the required costs for completing this work is included in Section 21.

Figure 18-1 TSF Showing 950m Repair Embankment Relative to the 968.5m Embankments

Figure 18-2 Plan View of 970m TSF Construction Plan

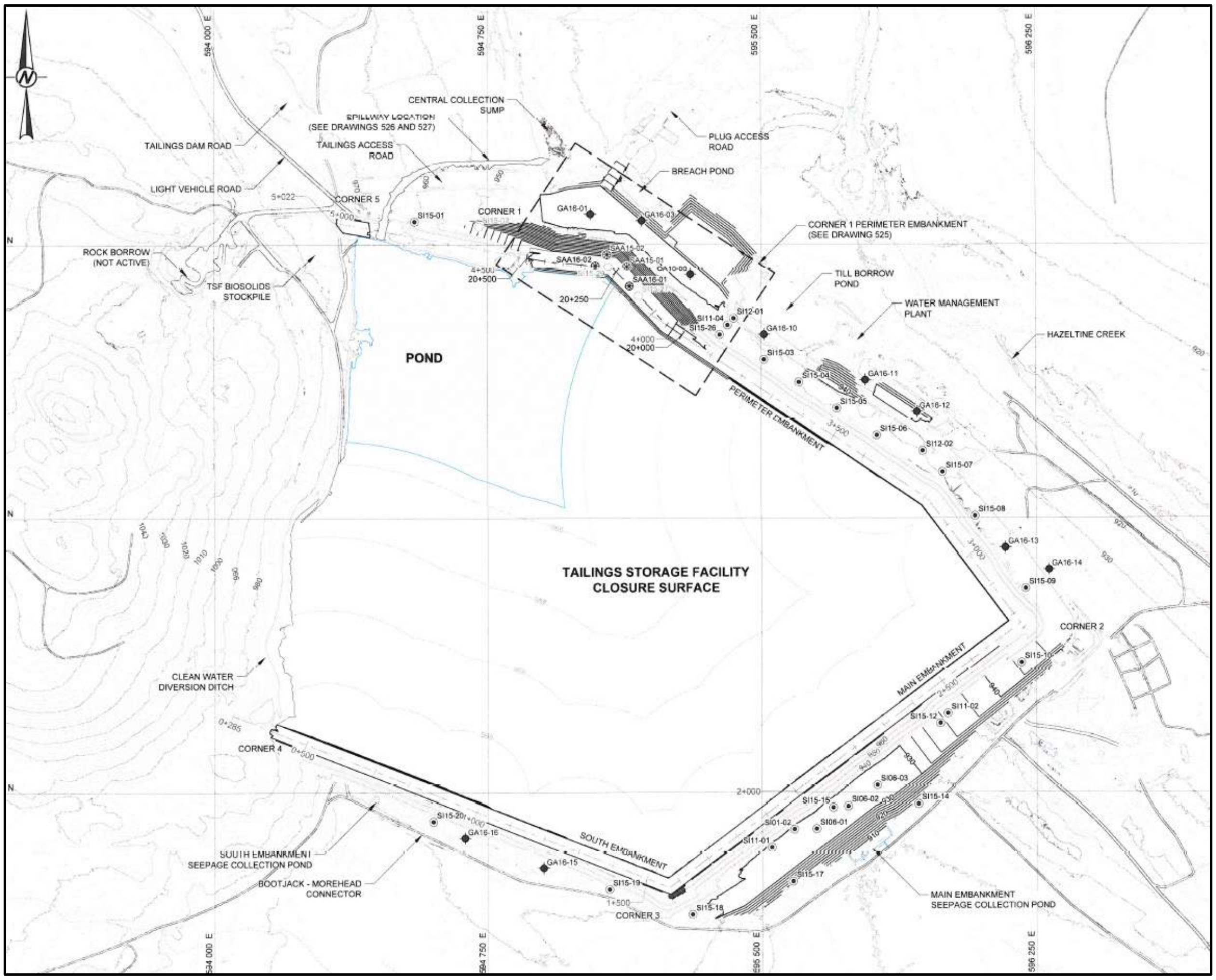


Figure 18-3 Cross Section: TSF Design Showing Completed Breach Repair and Lift to the 970m

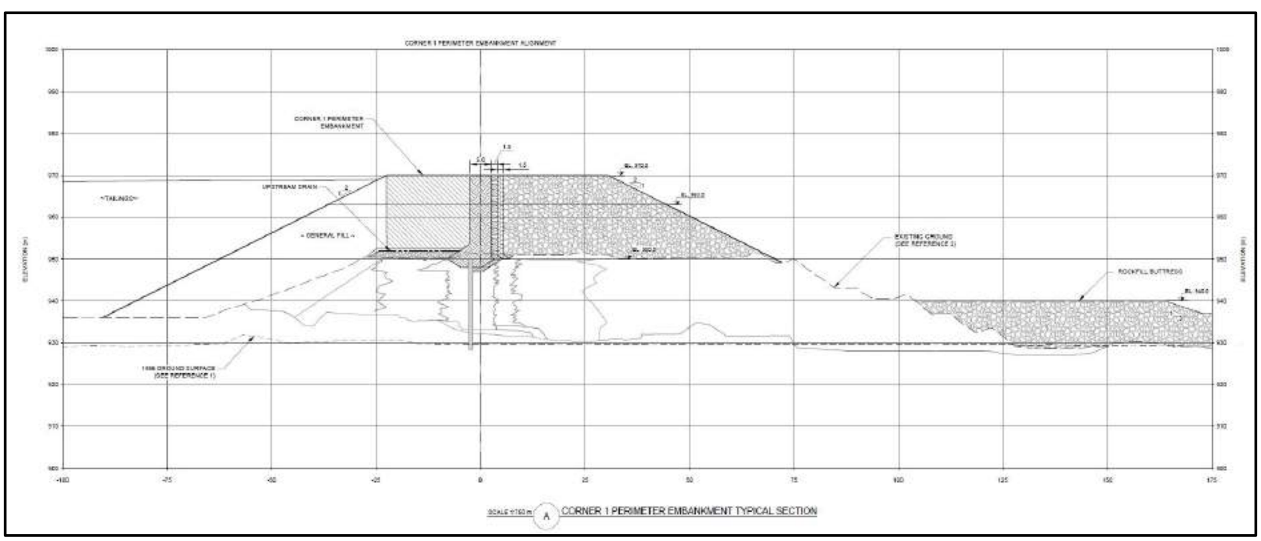
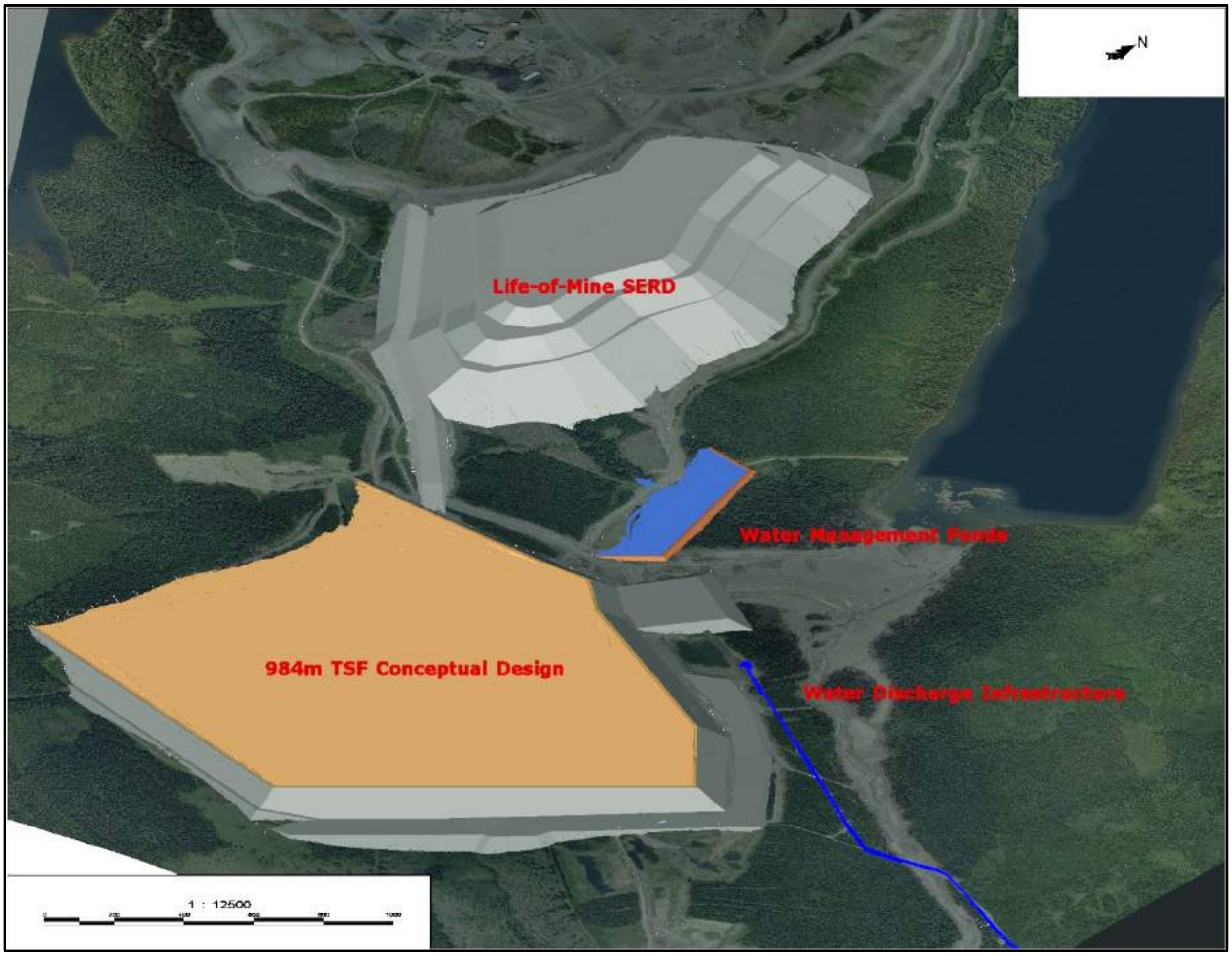


Figure 18-4 Proposed Long-term TSF Design with SERD Dump & Water Management



19 Markets and Contracts

Copper concentrates produced at the Mount Polley are transported by truck to Imperial's concentrate shed at the Port of Vancouver (by Arrow Transportation Systems Inc.) and shipped to overseas smelters. The principal market for Mount Polley concentrate is Asia. Currently copper concentrate sales contracts are in place with three buyers. New concentrate sales arrangements are negotiated as required.

Figures 19-1 and 19-2 show the inside of MPMC's concentrate shed at the Port of Vancouver.

Figure 19-1 Truck Delivering Copper Concentrate to MPMC's Port of Vancouver Facility

Figure 19-2 MPMC's Copper Concentrate Shed at the Port of Vancouver

20 Environmental Studies, Permitting and Social or Community Impact

20.1 Environmental Considerations

As of January 1, 2016 the Reclamation and Closure Bonding in place for Mount Polley totals $22,115,000.This bond covers the currently permitted operating plan (deposition of 4.0Mt of tailings in the Springer Pit).

As of January 1, 2016 there is a total of 1,245.4 ha of disturbed land at Mount Polley, at various stages of active operation and progressive reclamation. In compliance with the Reclamation and Closure plan, at the end of the mine life, all waste dumps will be re-contoured to maximum slopes of 2.0 horizontal to 1.0 vertical Waste Dumps, stockpiles and all infrastructure areas, will be capped with soils to facilitate revegetation. Appropriate reclamation prescriptions will be used to meet the required End-use land objectives tactics.

Historically, Mount Polley has demonstrated a high level of compliance with relevant environmental regulations and procedures. Progressive reclamation has been undertaken on a routine basis after the restart of mine operations in 2007 with completed areas at various stages of re-contouring, soil application and planting. MPMC has an extensive set of monitoring, management and operational plans implemented to maintain compliance with regulatory requirements. These programs are considered to be in line with industry norms, and have adequately satisfied the relevant regulatory agencies.

20.2 Tailings Dam Breach

As a result of the breach of the TSF in 2014, a large quantity of tailings materials was released to the environment, and more specifically Polley Lake, the Hazeltine Creek drainage, and Quesnel Lake. Significant efforts have been undertaken to measure the impact of this event, and to rehabilitate the affected areas to the best effect possible.

To date, this has included:

- establishing a rock creek channel to convey flows between Polley Lake and Quesnel Lake (along the Hazeltine Creek corridor) – including installation of a water management structure (weir) at the outflow of Polley Lake to manage flows during downstream rehabilitation activities and in accordance with site water management requirements;
- building a series of sediment ponds above Quesnel Lake to reduce potential for sediment loading;
- the removal of tailings where required to prevent re-mobilization into local water receivers;
- Logging of dead and danger trees; re-contouring of heavily scoured terrain; the creation of ground cover (application of soil, wood chips, and woody debris); and, the planting of vegetation.

While Hazeltine Creek is being maintained as non-fish bearing during the ongoing rehabilitation activities and under current regulatory requirements of the short-term water discharge, fish habitat has been returned to lower Edney Creek into Quesnel Lake. It remains the aspiration of MPMC to return Hazeltine Creek to fish-bearing status as soon as practicable.

While significant work remains, a substantial portion of the work to rehabilitate disturbed areas has been completed. Outstanding tasks include adding habitat features to portions of Hazletine Creek, remediating the flat area immediately south of Polley Lake, and continued erosion control efforts throughout affected drainages (including revegetation).

While it is believed that the majority of rehabilitation requirements are understood, it is possible that future scientific findings could result in the need for additional remediation measures beyond those currently planned and budgeted. A large environmental monitoring and sampling plan will continue to track and investigate the areas affected by the TSF failure.

20.3 Permitting Considerations

Mine operations at Mount Polley have historically been permitted under the authority of the Ministry of Mines and Energy by *Mines Act* Permit M-200. Permit M-200 was suspended following the August 4, 2014 failure of the TSF and subsequent release of tailings materials to the environment. Operations resumed at Mount Polley following the amendment of Permit M-200 to allow restricted operations on July 9, 2015. This Permit M-200 amendment allows for the processing of up to a limit of 4,000,000 tonnes of ore, with the condition that all processing must be completed before July 8, 2016. An additional 1,000,000 t was authorized on April 29, 2016 in a subsequent amendment to Permit M-200.

It is expected that the maximum allowable mill throughput will be achieved around the end of April 2016, and the operating permit for the mine will effectively return to a suspended state at that time.
All efforts are currently being undertaken to secure the required permit amendments to return to a more normalized state of long-term operations. An application for such an amendment was submitted to the MEM on November 6, 2015. The primary component of the application is the renewed use of the TSF for continued operations.

MPMC has been seeking to follow a permitting timeline which would allow for uninterrupted operations through the transition from using the Springer Pit for tailings deposition, to using the TSF for tailings deposition. This transition would hopefully occur near the end of April. Currently, the permitting process is advancing in an orderly schedule which suggests that permits may be attainable close to the desired timeline; however, there is no certainty that the required permit amendments will be received in sufficient time to avert the need for a temporary suspension of operations, or that the necessary permit amendments will ever be received.

To provide additional security as to the continuity between the currently authorized operations and the proposed return to full operations (in such case that there is a delay in receipt of authorization of the latter), permit applications have been made for an additional 1.0 million tonnes of tailings to be stored in the Springer Pit. This approval was also granted on April 29, 2016 with the amendment to Permit 11678 and the discharge period runs to August 5, 2016.

The Permit to return to full operations permit currently being sought outlines a four year mine plan, and would require further amendments in the future to allow for the full exploitation of the Mineral Reserves stated in this report. Future permitting requirements would include the expansion of the NW PAG

Stockpile, the expansion of the SERD, the expansion of the open pits, and the lifting to the TSF beyond the 970.0m elevation.

Other significant permitting requirements relate to the large positive water balance at Mount Polley, and the need to attain a permit to discharge large quantities of surplus water (both current and future accumulations) into the receiving environment.

As detailed above, MPMC's temporary (short-term) water discharge permit remains valid only until November 2017. Permitting efforts to secure a long-term discharge permit are well advanced; however, there is no guarantee that such a permit will be received. A provision for the costs related to acquiring and implementing the required discharge permit has been included in the capital cost models in Section 21.

20.4 Social and Community Impact Considerations

Social and community interactions with Mount Polley are currently dominated by the August 4, 2014 TSF breach. While this event generated a significant amount of negative publicity, MPMC efforts in returning the mine to restricted operations and provide an important economic benefit to local communities is well understood and appreciated.

This goodwill is also a result of a well-established community engagement program which includes regular update meetings and correspondence with the First Nations and local communities. As a result of the excellent relations with the Williams Lake Indian Band (WLIB) and Soda Creek Indian Band/Xatśūll First Nation (SCIB)(the two First Nations with recognized traditional territory covering the Mount Polley mine site) Polley became the first brown-fields mine in BC to sign an impact benefit agreement ("Participation Agreement") in 2012 and 2011.

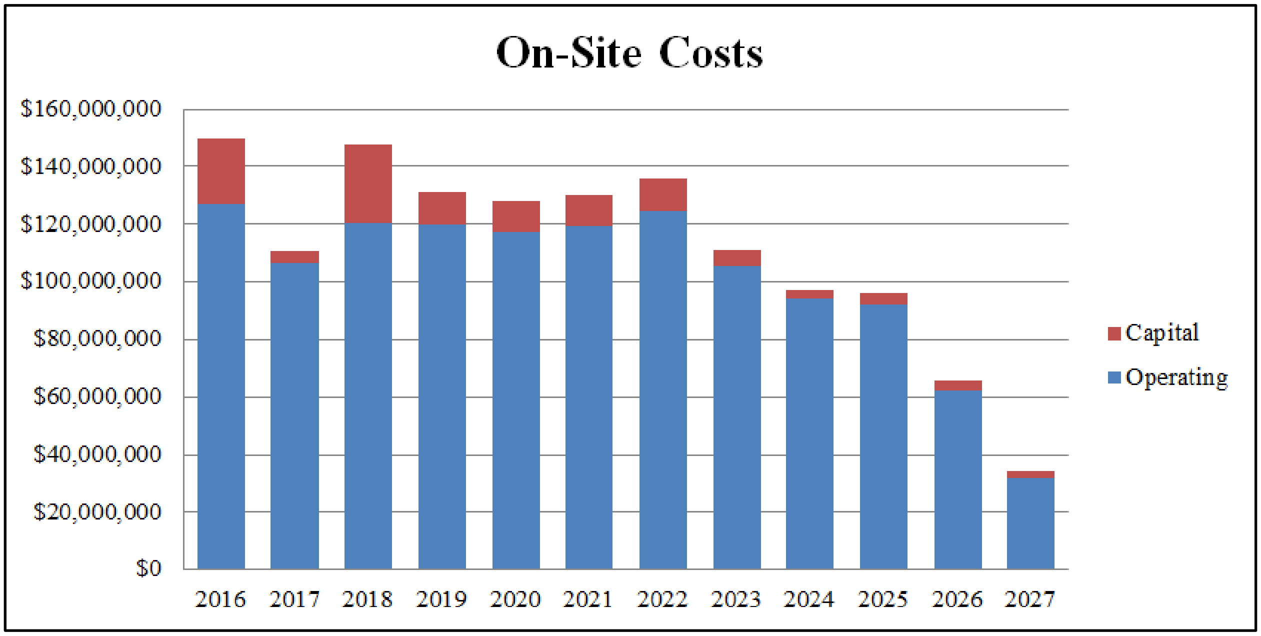
An additional forum for community outreach is the Cariboo Mine Development Review Committee (CMDRC). This CMDRC is facilitated by the MEM, and is composed of representatives of all relevant parts of government, local communities, and First Nations who hold an interest in ongoing permitting and mine development issues. The CMDRC holds an important role in reviewing permit applications, and providing input to relevant government agencies and statutory decision makers responsible for issuing permit decisions.

Given the long and continuous interactions with the local communities it is the belief of the author that there are no social issues which should cause the mine to be unable to return to long-term operations and achieve the objectives outlined in this report.

21 Capital and Operating Costs

Life of Mine Operating and Capital costs by year are illustrated in Figure 21-1. A breakdown of the Capital costs by area can be found in Table 21-1.

Figure 21-1 Life-of-mine On-site Cost Estimates



All costing was based on Mount Polley's 17 years of historical operating cost experiences.

The above costs do not include; off-site concentrate related charges, reclamation costs, bonding costs, or taxes. A detailed breakdown of both on-site and off-site unit operating cost projections is available in Table 15-3 as they pertain to cut-off grade analysis.

Table 21-1 Life-of-mine Capital Cost Estimates

New Mining Equipment	$	12,500,000
Water Management/Discharge Infrastructure	$	9,000,000
TSF Construction	$	43,232,000
Other Sustaining Capital	$	53,517,013
Total Life-of-Mine Capital Costs Projections	**$**	**118,249,013**

Schedules of both capital and operating costs were completed to demonstrate the reasonable prospect of economic extraction of the Mineral Reserves stated in this report. Estimates of future operating costs assumed in these schedules are informed by a large volume of historical cost information.

The majority of major capital cost items, such as: major mining equipment purchases, sustaining capital requirements for mining/mill equipment, and construction activities at the tailings storage facility, are based on historical Mount Polley cost data. Major Mine equipment purchases planned include the purchase of three 210-tonne class haul trucks and a loading unit of matched size for use in 2018. See Table 21-1 for life of mine capital cost estimates. 2013/2014 Mount Polley purchased four new Caterpillar 793 haul trucks and a new Hitachi 3600 hydraulic shovel (subsequently transferred to the Red Chris Mine). The truck cost estimates applied in this schedule were based on the prices paid for those items, with considerations given for the current reduced price environment for new and used equipment.

Capital cost estimates for life-of-mine tailings construction were generated by applying historical unit construction costs to the projected volumes required in the updated TSF designs outlined in Section 18.

It has been assumed that the water treatment plant constructed at Mount Polley has the capacity to treat all future mine discharge waters. No additional capital costs have been added for additional water treatment capacity.

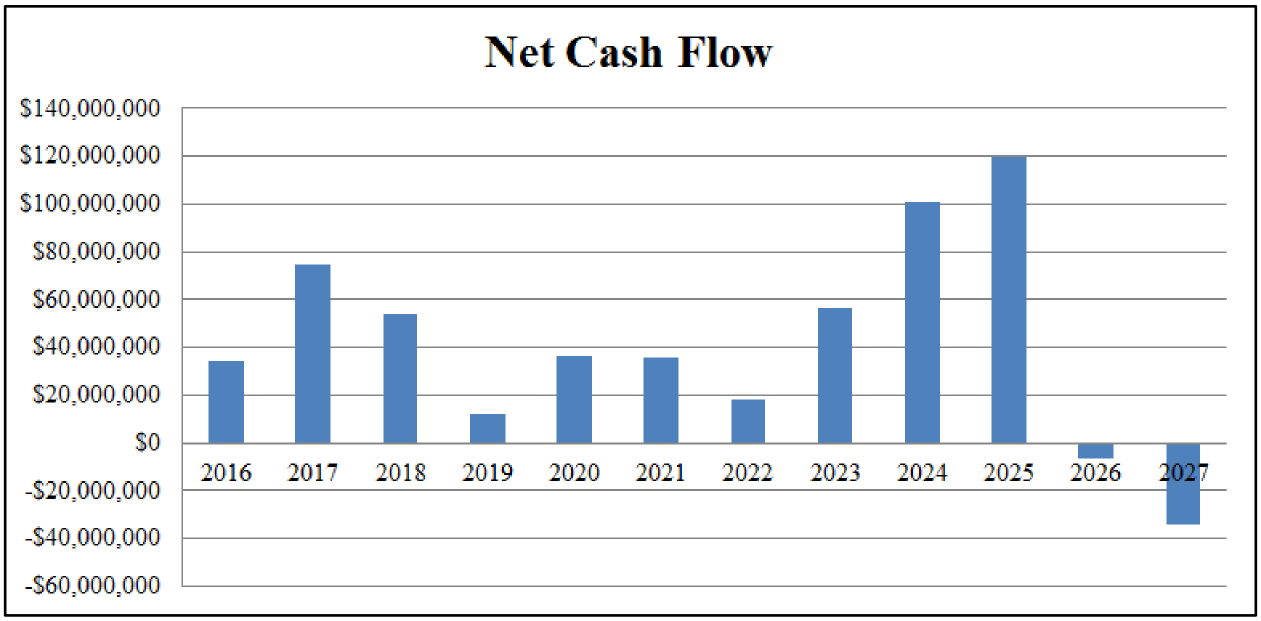
A $5 million dollar allowance has been made for the installation of a permanent water discharge pipeline from the existing water treatment plant to Quesnel Lake. A further allowance of $4 million dollars has been included for additional water management ponds and infrastructure.

22 Economic Analysis

The annual cash flow generated from the mine plan is displayed in Figure 22-1. The life-of-mine plan generates a total net cash flow of approximately $502 million. The project has a net present value of approximately $381 million at a 6% discount rate (See Table 22-1 for details).

The annual cash flow was calculated by subtracting all known operating, capital, and off-site costs from the expected revenues Changes to the Reclamation and Closure Bond and direct reclamation costs, the repayment of the Reclamation and Closure Bond related to these activities were not included in the cash flow calculations. However operating costs related to rehandling PAG waste rock into the exhausted pits and BC Mineral Taxes were included. There has been no allowance for income taxes, depreciation etc. The assumed metal prices and exchange rates are shown in Table 15-3.

Figure 22-1 Pre-tax Net Cash Flow at Mineral Reserve Metal Price Assumptions



Totals include all costs with the exception of reclamation costs and income taxes (BC Mineral Taxes are included).

Table 22-1 Summary of Cash Flow Model for Mineral Reserve Mine Schedule

Year	Revenue Less Treatment and Shipping Costs	On-Site Operating and Capital Costs	BC Mineral Taxes	Net Cash Flow	Discounted Cash Flow (6%)
Dollar values in Millions					
2017	$187.4	$110.8	$1.6	$75.0	$70.7
2018	$203.6	$147.9	$1.7	$54.1	$48.1
2019	$143.7	$131.4	$0.5	$11.8	$9.9
2020	$165.4	$128.1	$1.0	$36.3	$28.8
2021	$167.0	$130.4	$1.0	$35.6	$26.6
2022	$154.9	$135.9	$0.6	$18.4	$13.0
2023	$172.6	$111.2	$4.7	$56.7	$37.7
2024	$213.3	$97.3	$15.1	$100.9	$63.3
2025	$233.9	$96.0	$17.9	$119.9	$71.0
2026	$59.1	$66.0	$0.0	($6.9)	($3.8)
2027	$0.0	$34.3	$0.0	($34.3)	($18.1)
Total	$1,885.9	$1,339.1	$45.1	$501.7	$381.4

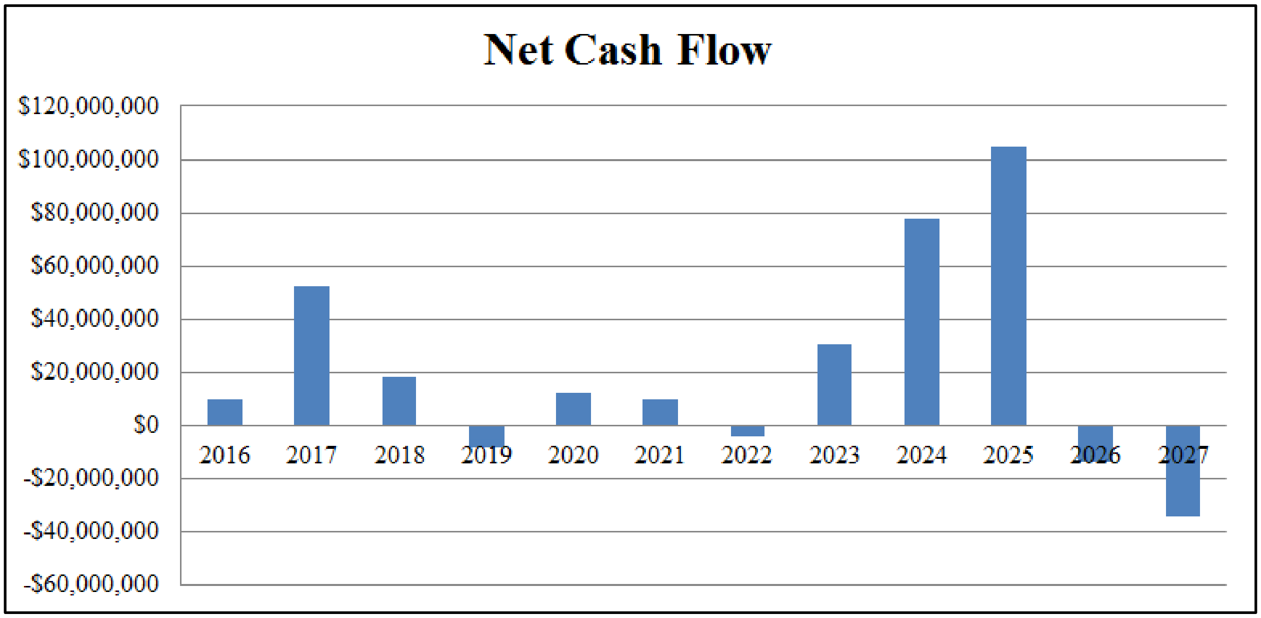
22.1 Metal Price Sensitivity

At the lower metals prices shown in Table 22-2 the mine plan generated $254 million and had a NPV of $187 million at a 6% discount rate. No accommodation was made for changes in cut-off grade, and as such it is assumed that the mine plan would be executed exactly the same as in the primary economic model. All operating cost variables remained constant. BC Mineral Taxes are included in the analysis and were recalculated to reflect changes in cash flow.

Table 22-2 Metal Price and Exchange Rate Assumptions for Metal Price Sensitivity Analysis

Copper ($US/lb)	$ 2.25
Gold ($US/oz)	$ 1,275
Silver ($US/oz)	$ 15.00
Exchange Rate ($USD/$CAD)	$ 0.75

Figure 22-2 Cash Flow Schedule Using Metal Price Sensitivity Assumptions from Table 21-2



23 Adjacent Properties

In the immediate area of the Mount Polley Mine there are currently no mineral properties that will or may affect the mine plan presented in this report.

24 Other Relevant Data and Information

To the knowledge of the Authors, there is no other relevant data and other information regarding the Mount Polley Mine Property that has not already been discussed in the appropriate sections of this report.

25 Interpretation and Conclusions

It is the opinion of the Lead Author that the relevant geological, mining, and metallurgical information presented in this report provides a sufficient level of understanding to assess the stated Mineral Resource and Mineral Reserve estimates for Imperial Metals Mount Polley Property.

The above conclusion is strongly supported by the following:

- The geology of the deposits at Mount Polley is typically well understood as a result of historical mining in all of the included zones and a large volume of exploration data.
- The quality of the assay data relied upon for the creation of the resource block models has been shown to be reliable with the use of QA/QC assaying procedures and acceptable reconciliations between resource models, blasthole models, and mill totals over the course of historical mining and milling activities using the current resource block models.
- Block modelling practices are within industry norms, and are deemed to be applied appropriately to the deposits modelled.
- The cut-off grade methodology utilized in the calculation of Mineral Resources and Mineral Reserves is within industry standards.
- Metallurgical projections are based upon a combination of historical production performance data and metallurgical test work, and are deemed to be appropriate.
- Operating and Capital cost assumptions are well supported with historical data.
- Assumed commodity price and foreign exchange assumptions are reasonable for defining Mineral Reserves and Mineral Resources.

26 Recommendations

Based upon the findings of this report, it is the conclusion of the Authors that the project is technically and economically viable. It is the recommended that the project proceed as outlined in the report.

Imperial Metals should continue to seek the required environmental and other permits necessary to allow for the full exploitation of the Mineral Reserves stated in this report.

It is recommended that further studies be undertaken to optimize the mine schedule by re-sequencing the pit production schedule to exploit higher grade material sooner in order to provide more resilience to low-metal price environments in the medium-term.

It is recommended that an exploration drilling program totaling 1000m of drilling be undertaken in the WX Zone with the objective of delineating additional near surface high-grade sources of mill feed. All other near surface exploration targets should also be investigated. Further exploration is also warranted in the Northeast Zone with the objective of extending the operating life of the current underground mining operation. This additional exploration drilling would cost approximately $2 million dollars.

27 References

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28 Certificate of Authors and Signatures

All Certificates are Signed, Dated and Sealed on the Original Version of this Document.

CERTIFICATE OF AUTHOR

Ryan Brown, P.Eng
Imperial Metals Corporation,
Suite 200, 580 Hornby Street,
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V6C 3B6

1. I Ryan Brown am a Registered Professional Engineer and am currently employed in the position of Senior Mine Engineer with Imperial Metals Corporation of Suite 200 at 580 Hornby Street, in the City of Vancouver, in the Province of British Columbia, Canada.
2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
3. That I am one of the contributing authors of the report dated May 20, 2016 entitled "2016 TECHNICAL REPORT on the MOUNT POLLEY MINE" to which this Certificate applies.
4. I graduated from Queen's University in 2009 with a Bachelor of Applied Science. I have seven years of relevant experience in the mining industry. The majority of my applicable experience with copper/gold porphyry deposits was gained during six years of employment in a number of roles at the Mount Polley and Red Chris mines.
5. As a result of my education, professional qualifications and experience, I am a Qualified Person as defined in NI 43-101.
6. My last visit to the Mount Polley property was on April 15, 2016, for seven days.
7. I am responsible for all items related to the following chapters in the technical report: Sections 1-6, 14-16, 18-26, 29-30.
8. I am not independent of Imperial Metals Corporation in reference to Section 1.5 of National Instrument 43-101. I hold the position of Senior Mine Engineer with the company.
9. I have read National Instrument 43-101, Form 43-101F1 and the Companion Policy 43-101 CP and this technical report has been prepared in compliance with NI 43-101, Form 43-101F1 and 43-101 CP.
10. As of the date of this Certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Newcastle, Ontario, this day of May 20, 2016.

____

Signature

Original is Dated, Signed and Sealed

CERTIFICATE OF AUTHOR

Christopher Rees
Imperial Metals Corporation,
Suite 200, 580 Hornby Street,
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V6C 3B6

1. I, Christopher Rees, am a Registered Professional Geologist and currently employed in the position of Exploration Geologist with Imperial Metals Corporation of Suite 200 at 580 Hornby Street, in the City of Vancouver, in the Province of British Columbia, Canada.
2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
3. I am one of the contributing authors of the report dated May 20, 2016 entitled "2016 TECHNICAL REPORT on the MOUNT POLLEY MINE" to which this Certificate applies.
4. I graduated from Carleton University (Ottawa) with a Ph.D. in Geology in 1987. I worked for the Geological Survey Branch of the British Columbia government on various projects between 1988 and 1996, primarily regional geological mapping surveys, and MINFILE database research. From 1997, I have been a contract employee of Imperial Metals Corporation, providing services in geological mapping, exploration core logging and project support, and deposit analysis and reporting. My main focus has been on building an understanding of porphyry copper systems at Mount Polley (2003-2008) and Red Chris (2009-2015), including collaboration with industry consultants and research specialists.
5. As a result of my education, professional qualifications and experience, I am a Qualified Person as defined in NI 43-101.
6. My last visit to the Mount Polley property was from September 24 to October 14, 2015, for 20 days.
7. I am responsible for all items related to the following chapters in the technical report: Sections (7-8, 27).
8. I am not independent of Imperial Metals Corporation in reference to Section 1.5 of National Instrument 43-101. I hold the position of contract geologist with the company.
9. I have read National Instrument 43-101, Form 43-101F1 and the Companion Policy 43-101 CP and this technical report has been prepared in compliance with NI 43-101, Form 43-101F1 and 43-101 CP.
10. As of the date of this Certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Vancouver, British Columbia, this day of May 20, 2016.

____
Signature

Christopher Rees, Ph.D., P.Geo.

Original is Dated, Signed and Sealed

CERTIFICATE OF AUTHOR

Gary L. Roste
BOX 12,
Likely, BC, Canada
V0L 1N0

1. I Gary L. Roste am a Registered Professional Geologist and am currently employed in the position of Geologist with Imperial Metals Corporation of Suite 200 at 580 Hornby Street, in the City of Vancouver, in the Province of British Columbia, Canada.
2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
3. That I am one of the contributing authors of the report dated May 20, 2016 entitled "2016 TECHNICAL REPORT on the MOUNT POLLEY MINE" to which this Certificate applies.
4. I graduated from the University of British Columbia. I have 30 years relevant experience in the mining industry. The majority of my applicable experience with copper/gold porphyry deposits was gained during 2003 to present.
5. As a result of my education, professional qualifications and experience, I am a Qualified Person as defined in NI 43-101.
6. I have been employed at the Mount Polley Mine since 2003.
7. I am responsible for all items related to the following chapters in the technical report: Sections 9 - 12.
8. I am not independent of Imperial Metals Corporation in reference to Section 1.5 of National Instrument 43-101. I hold the position of Geologist with the company.
9. I have read National Instrument 43-101, Form 43-101F1 and the Companion Policy 43-101 CP and this technical report has been prepared in compliance with NI 43-101, Form 43-101F1 and 43-101 CP.
10. As of the date of this Certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Mount Polley Mine, British Columbia, this day of May 20, 2016.

____
Signature

Original is Dated, Signed and Sealed

CERTIFICATE OF AUTHOR

Janice X. Baron, M.Eng.; P.Eng.
BOX 12,
Likely, BC, Canada
V0L 1N0

1. I, Janice Baron, am a Registered Professional Engineer and am currently employed in the position of Senior Metallurgist with Mount Polley, owned by Imperial Metals Corporation, in the City of Likely, in the Province of British Columbia, Canada.
2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
3. That I am one of the contributing authors of the report dated May 20, 2016 entitled "2016 TECHNICAL REPORT on the MOUNT POLLEY MINE" to which this Certificate applies.
4. I graduated from the University of British Columbia with a Master Degree in Mining Engineering and a Bachelor of Engineering in Mineral Processing from Central South University in China. I have practices my profession in Canada continuously since 2009. The majority of my applicable experience with copper/gold porphyry deposits was gained during my employment with Mount Polley.
5. As a result of my education, professional qualifications and experience, I am a Qualified Person as defined in NI 43-101.
6. I have been working at Mount Polley since 2008. I have been responsible for the ongoing activities in the processing facility and have knowledge and experience in plant operation including crushing, grinding, flotation, dewatering and leaching, water treatment, metallurgical accounting, metallurgical testing and mineralogy analysis.
7. I am responsible for all items related to the following chapters in the technical report: Sections 13 and 17.
8. I am not independent of Imperial Metals Corporation in reference to Section 1.5 of National Instrument 43-101. I hold the position of Senior Metallurgist with the company.
9. I have read National Instrument 43-101, Form 43-101F1 and the Companion Policy 43-101 CP and this technical report has been prepared in compliance with NI 43-101, Form 43-101F1 and 43-101 CP.
10. As of the date of this Certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Likely, British Columbia, this day of May 20, 2016.

____

Signature

Original is Dated, Signed and Sealed

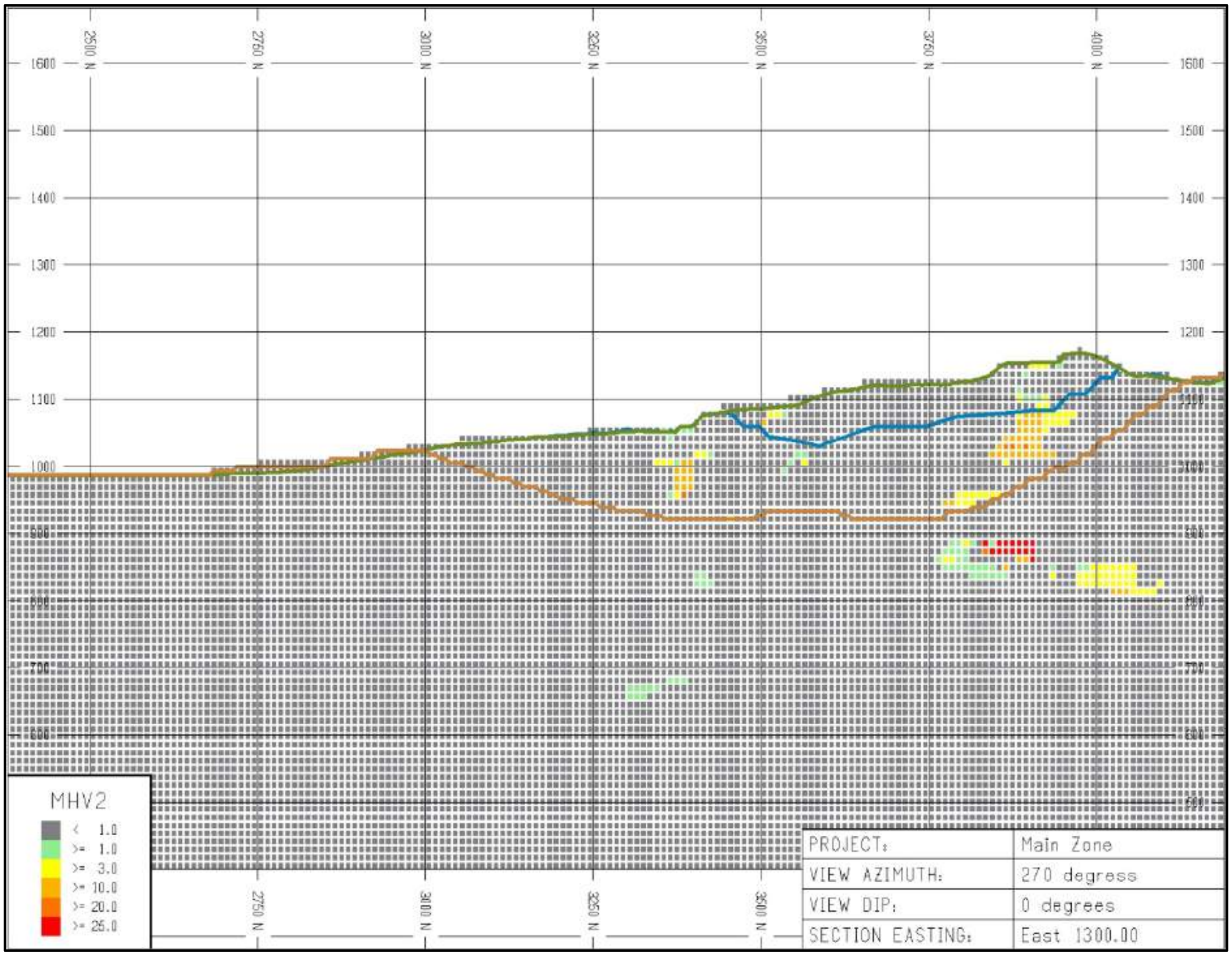
Appendix

29 Appendix A: Main Zone Cross Sections- from Chapter 15

Sections are all:

- looking West,
- at 100m separation,
- covering the Main Zone Model,
- Showing the January 1 2016 surface (green), planed Reserve Pit surface (blue) and constraining Resource Pit surface (orange).

A reference plan map is seen in Figure 15-3.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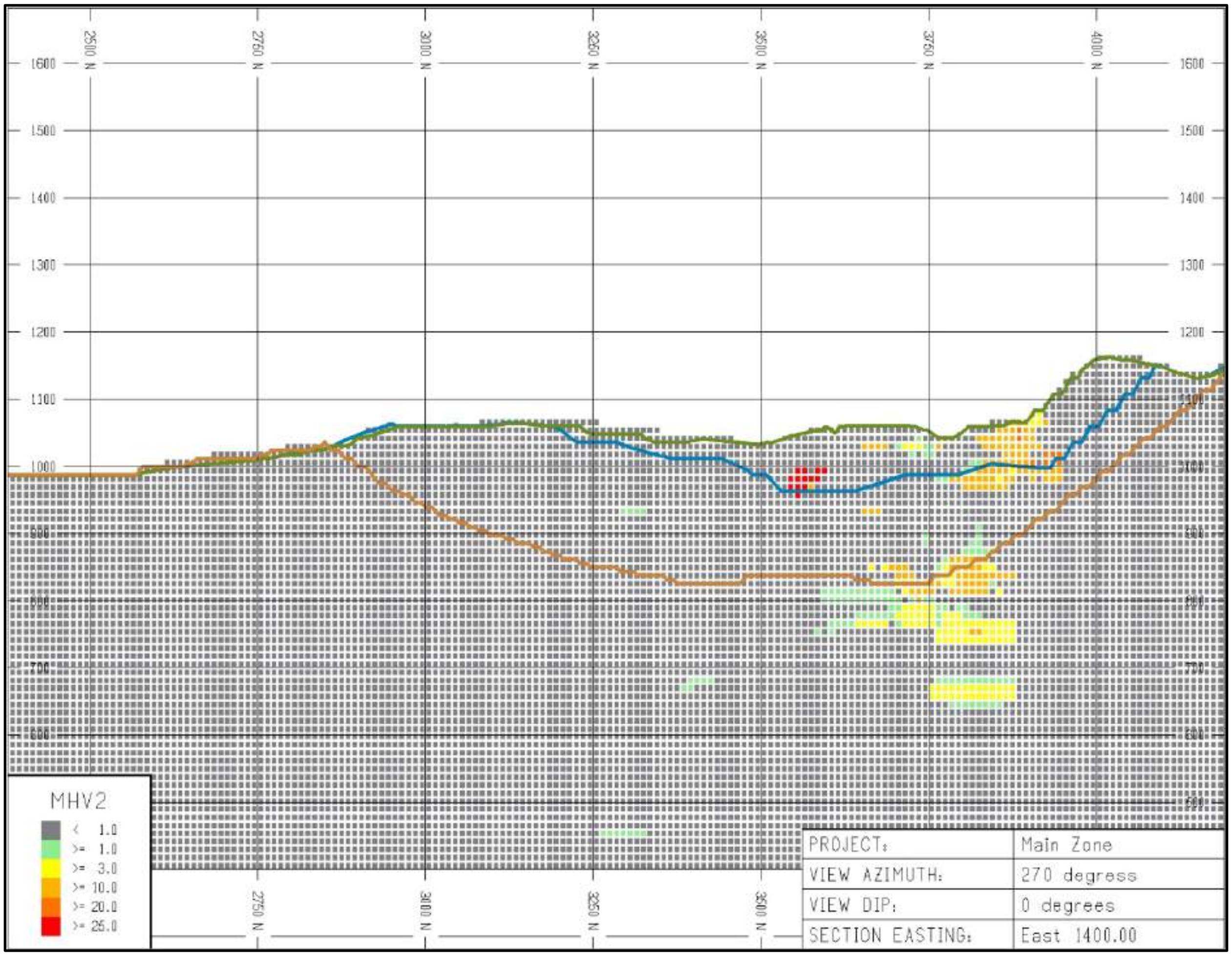
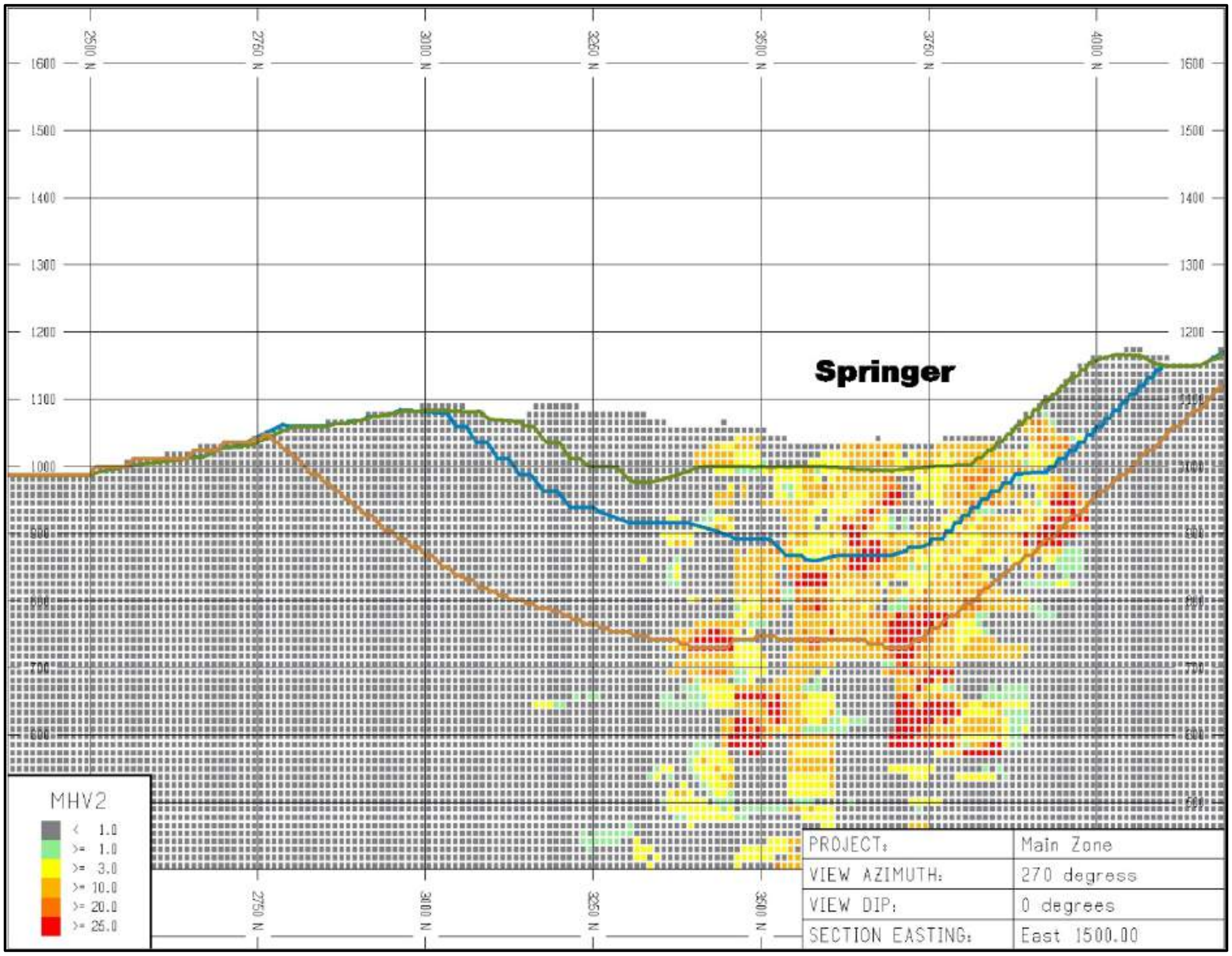
1100
1000
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT:
Main Zone
VIEW AZIMUTH:
270 degrees
VIEW DIP:
0 degrees
SECTION EASTING:
East 1300.00


2500 N
2750 N
3000 N
3250 N
3500 N
3750 N
4000 N
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 1400.00


Springer
MHV2
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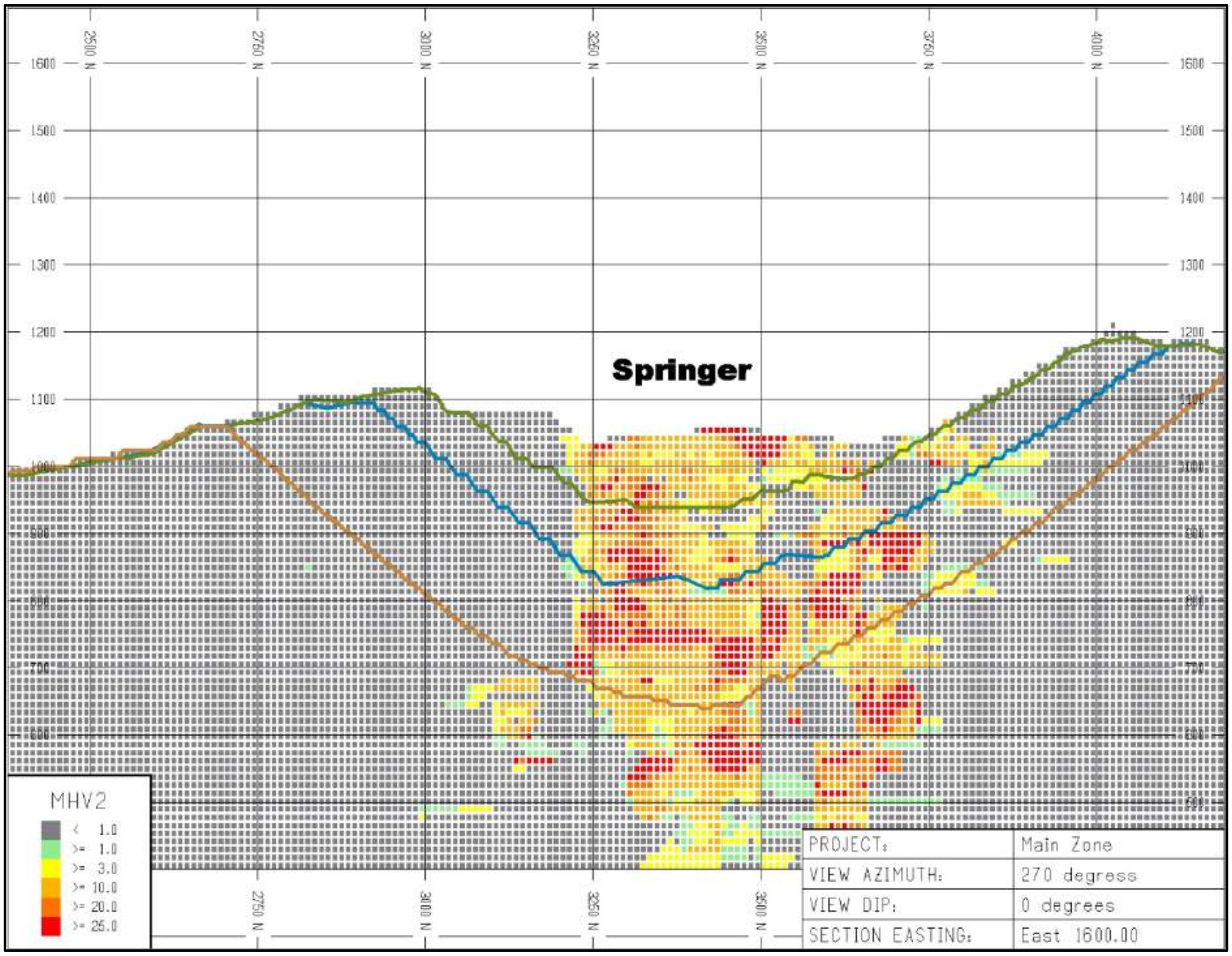
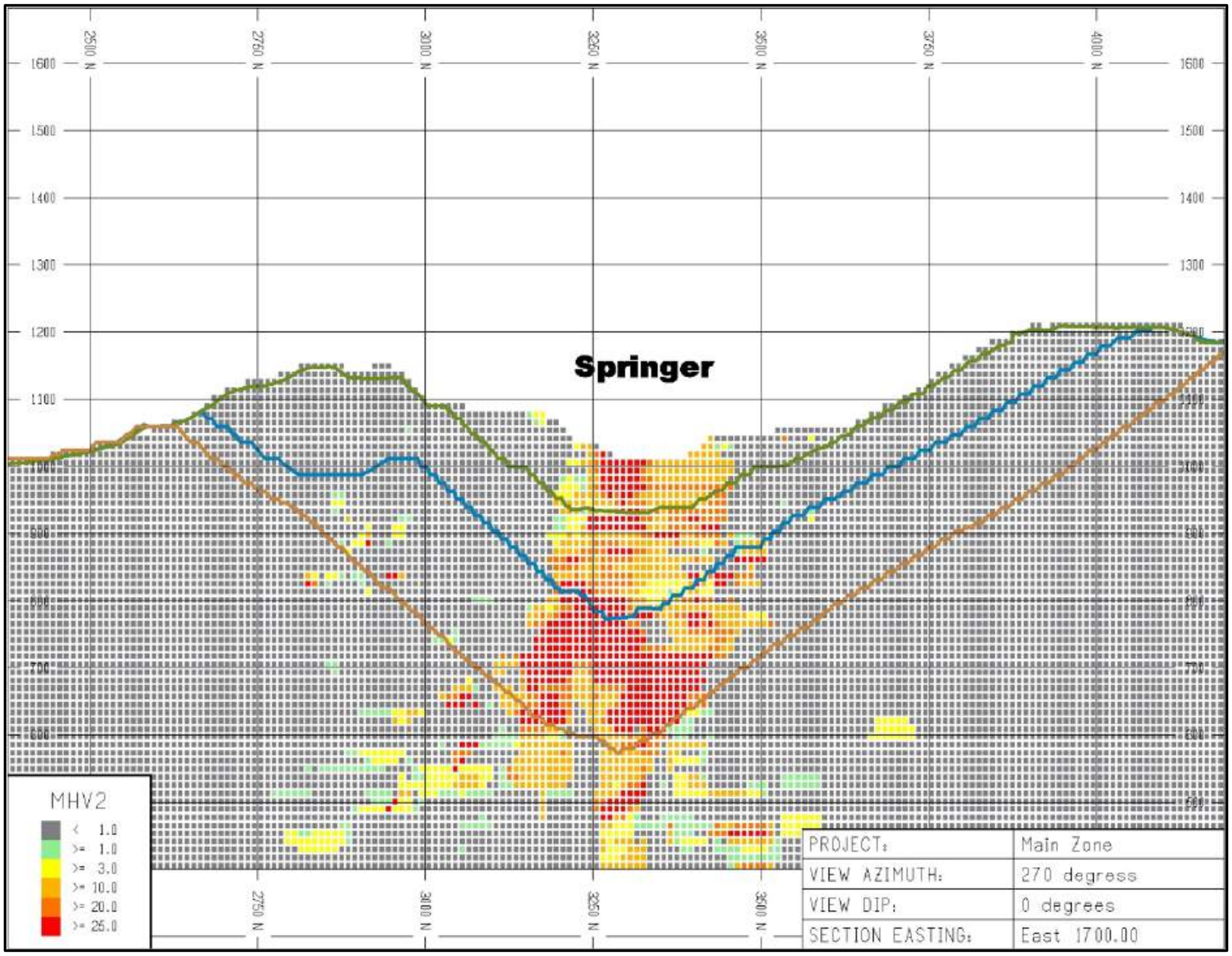
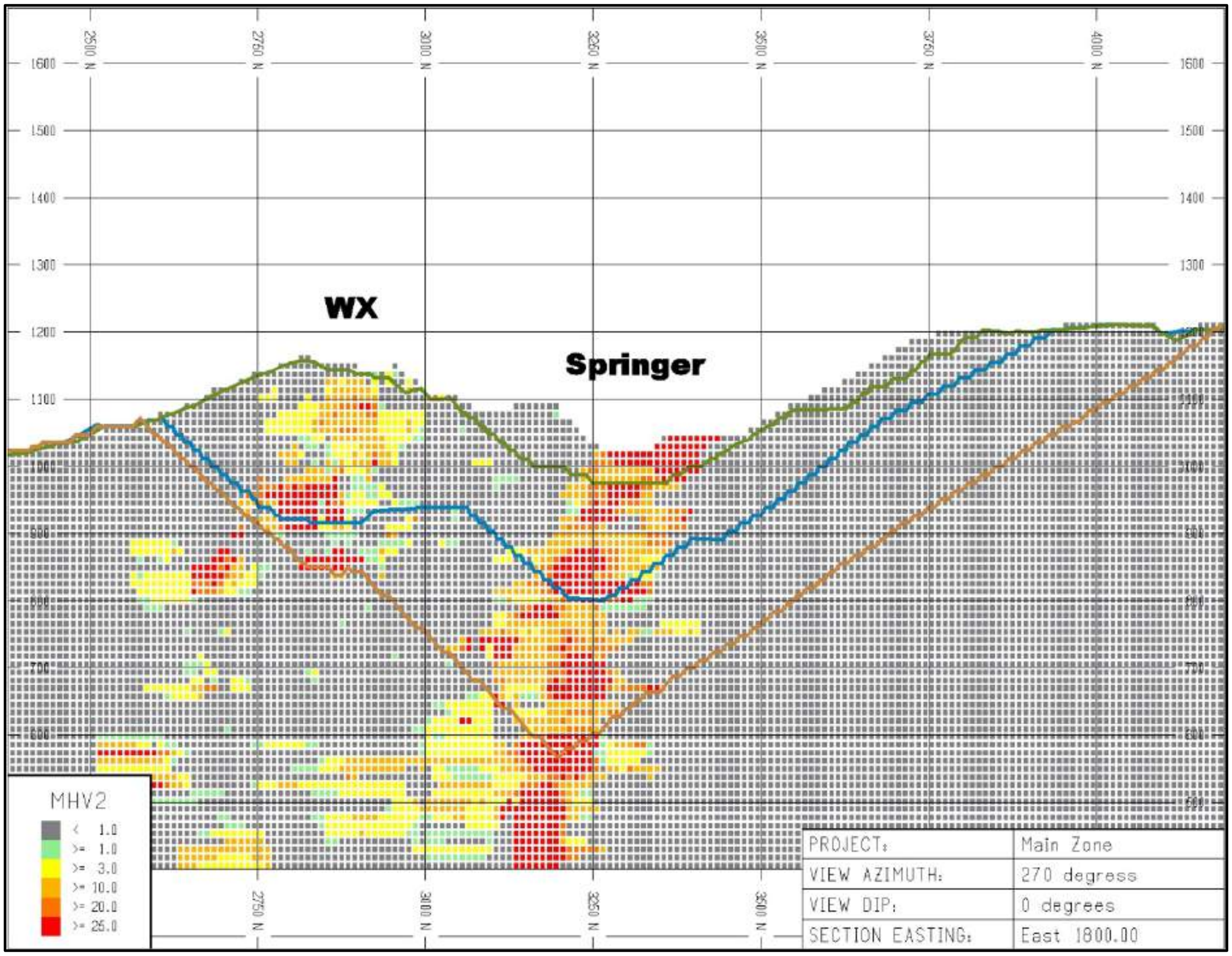
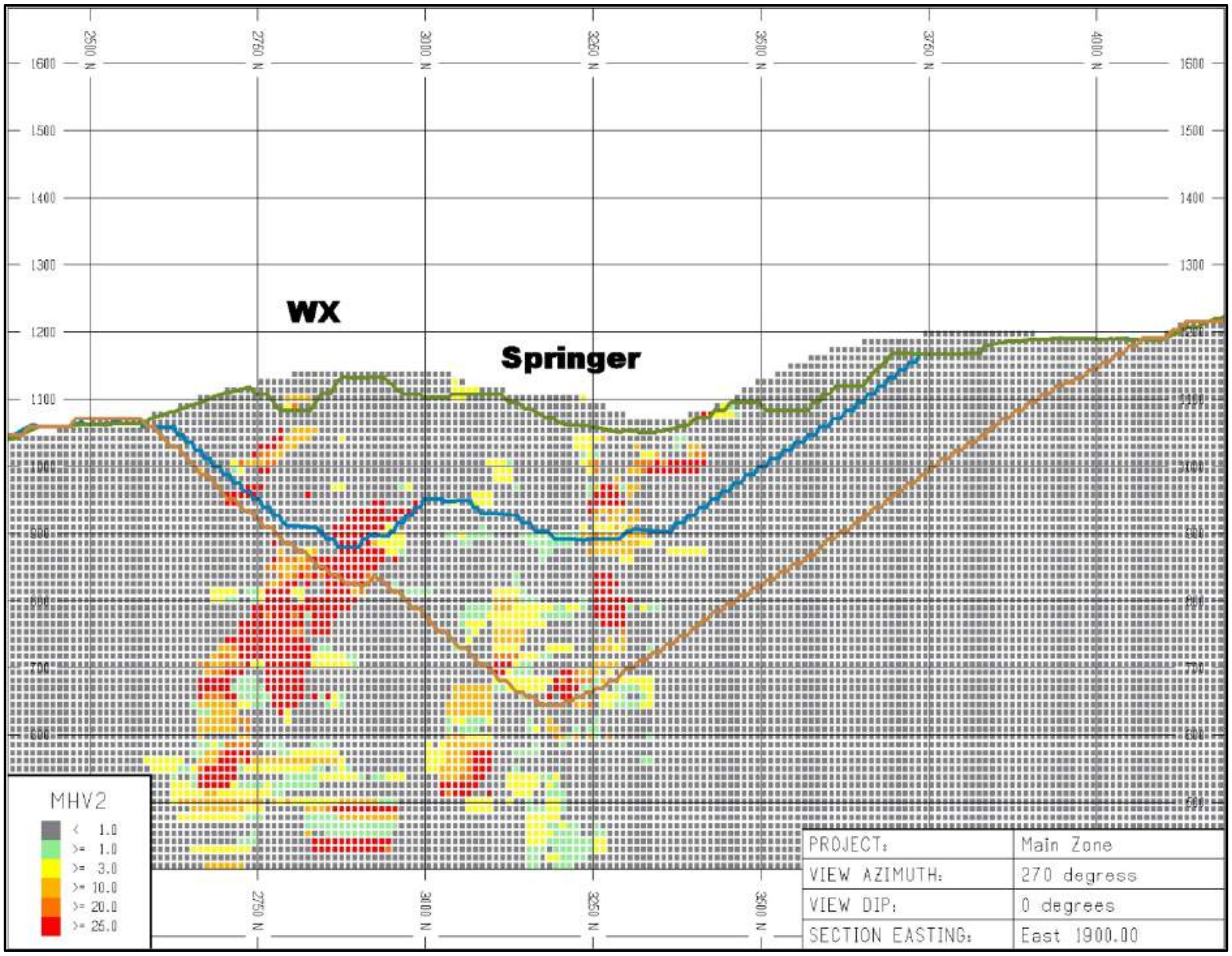
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 1500.00



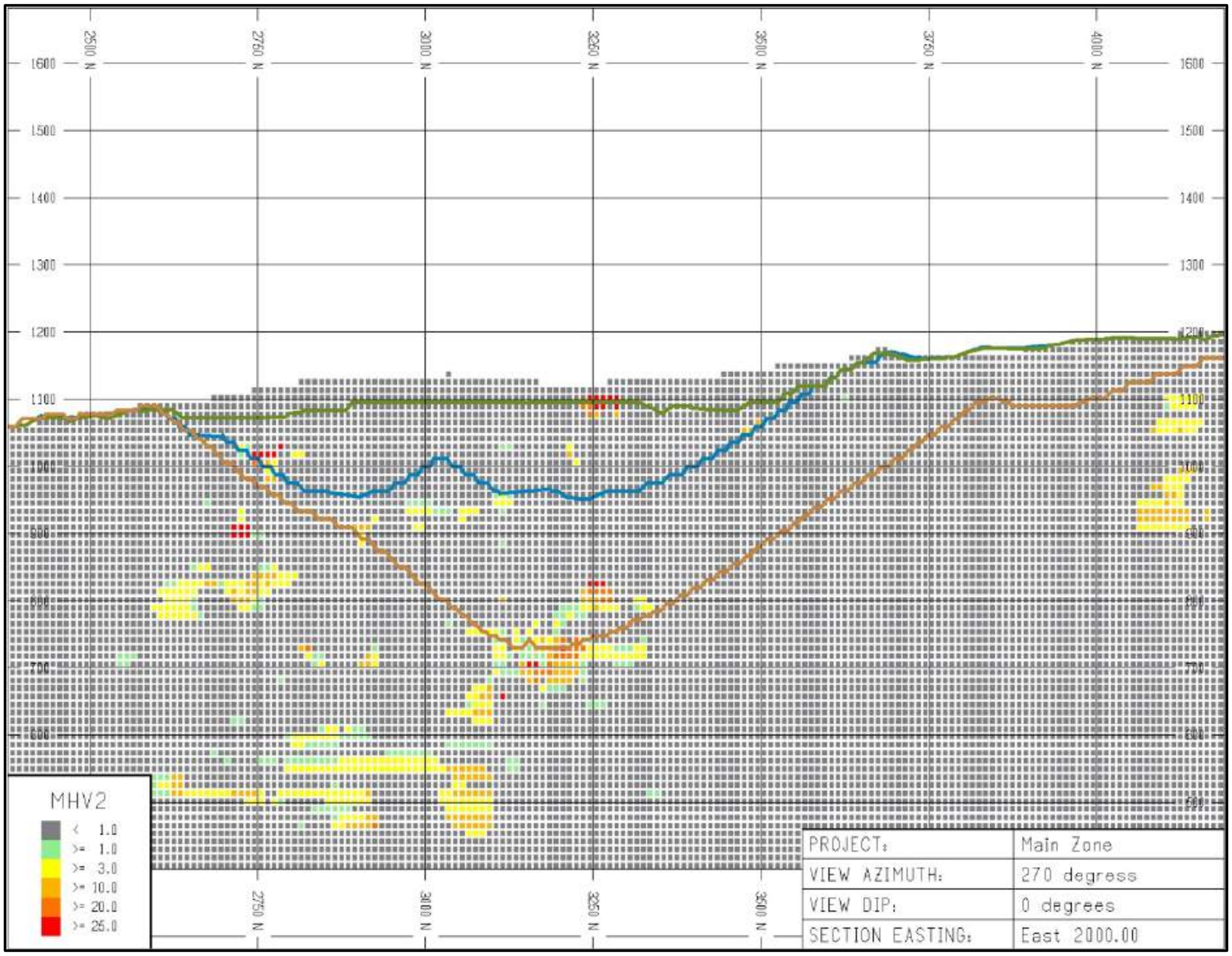
Springer
2500 N
2750 N
3000 N
3250 N
3500 N
3750 N
4000 N
1600
1500
1400
1300
1200
1100
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 1600.00


Springer
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 1700.00

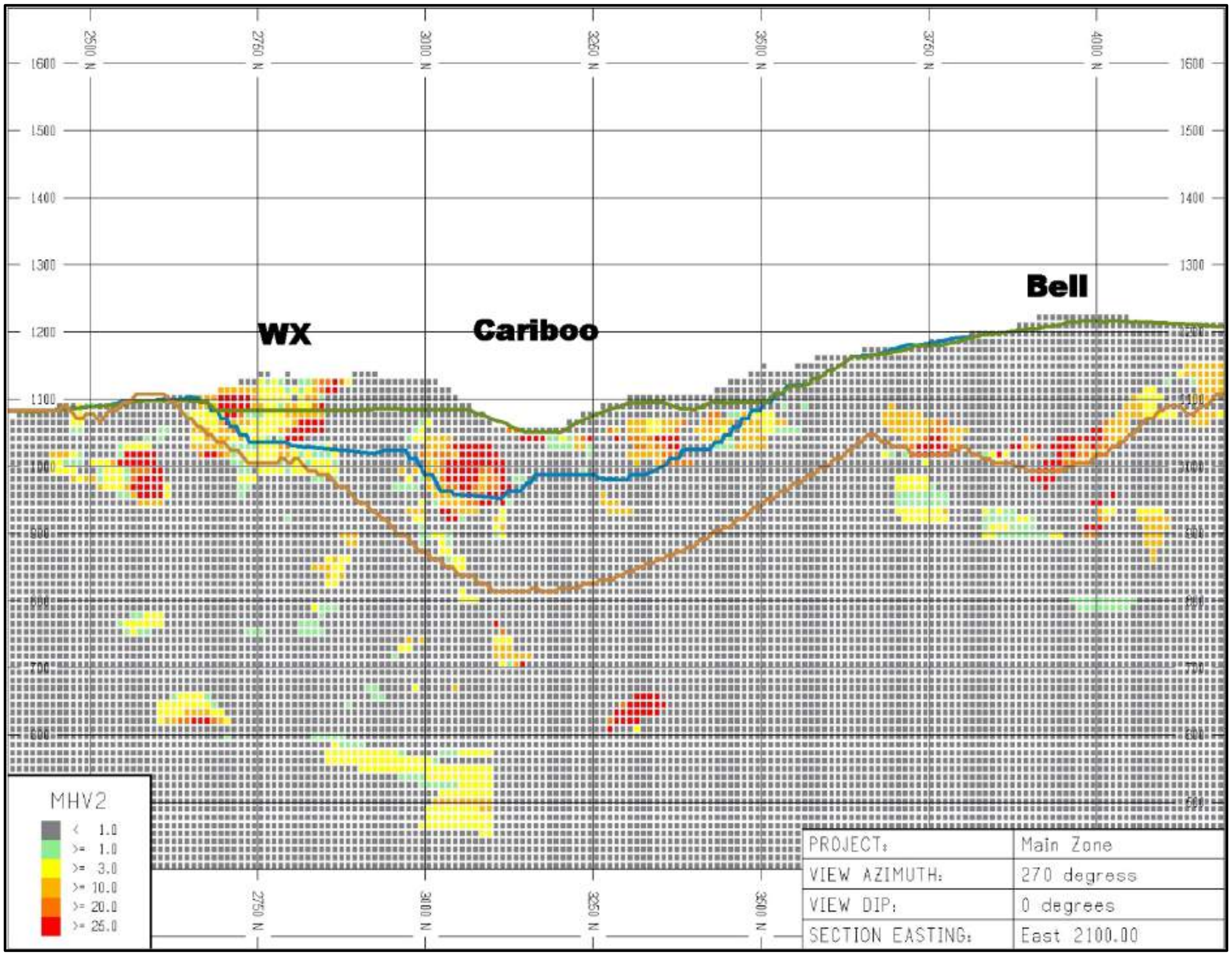

WX
Springer
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 1800.00



WX
Springer
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degrees
VIEW DIP: 0 degrees
SECTION EASTING: East 1900.00



2500 N
2750 N
3000 N
3250 N
3500 N
3750 N
4000 N
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT:
Main Zone
VIEW AZIMUTH:
270 degress
VIEW DIP:
0 degrees
SECTION EASTING:
East 2000.00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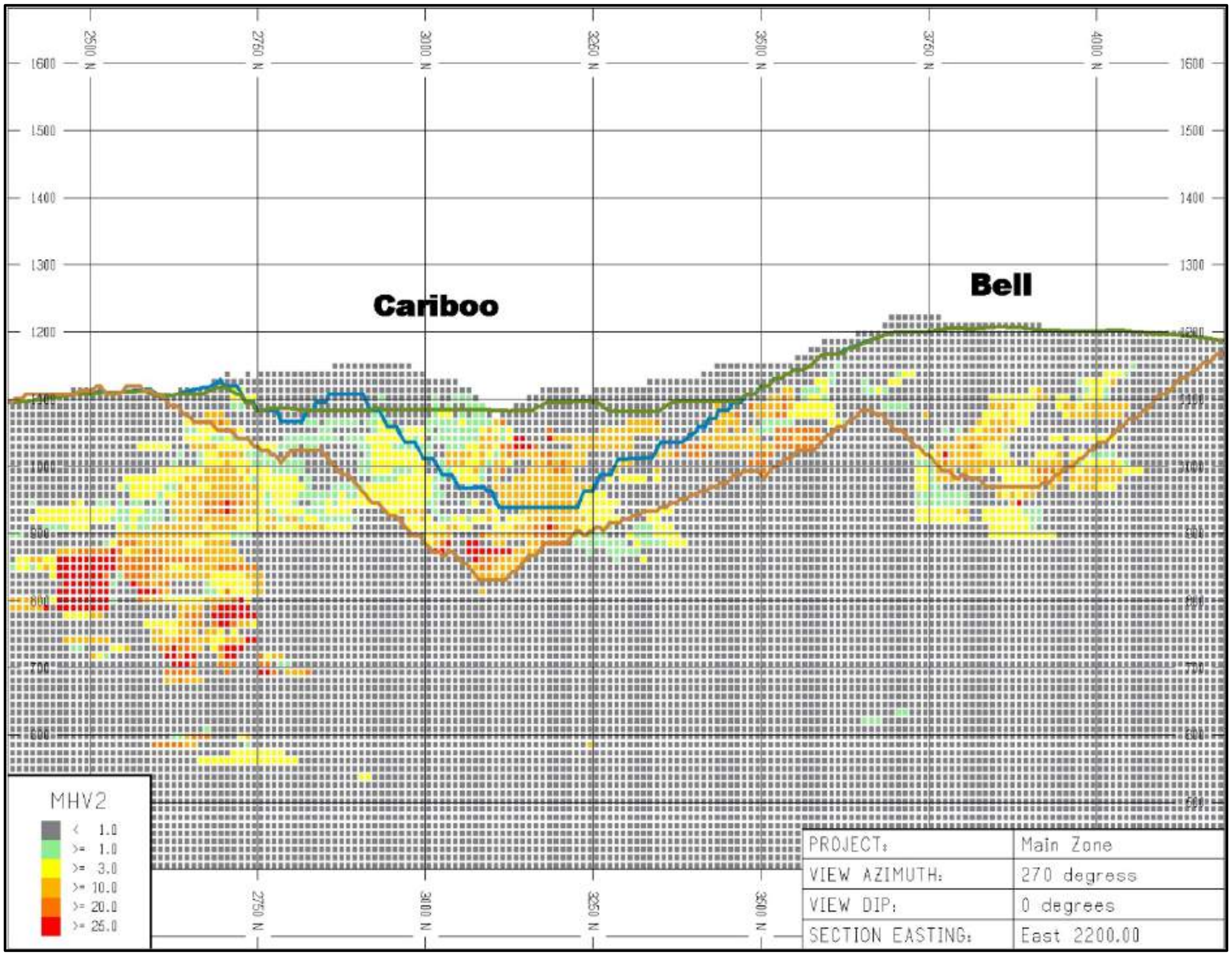
Cariboo
Bell
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 2100.00


Cariboo
Bell
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
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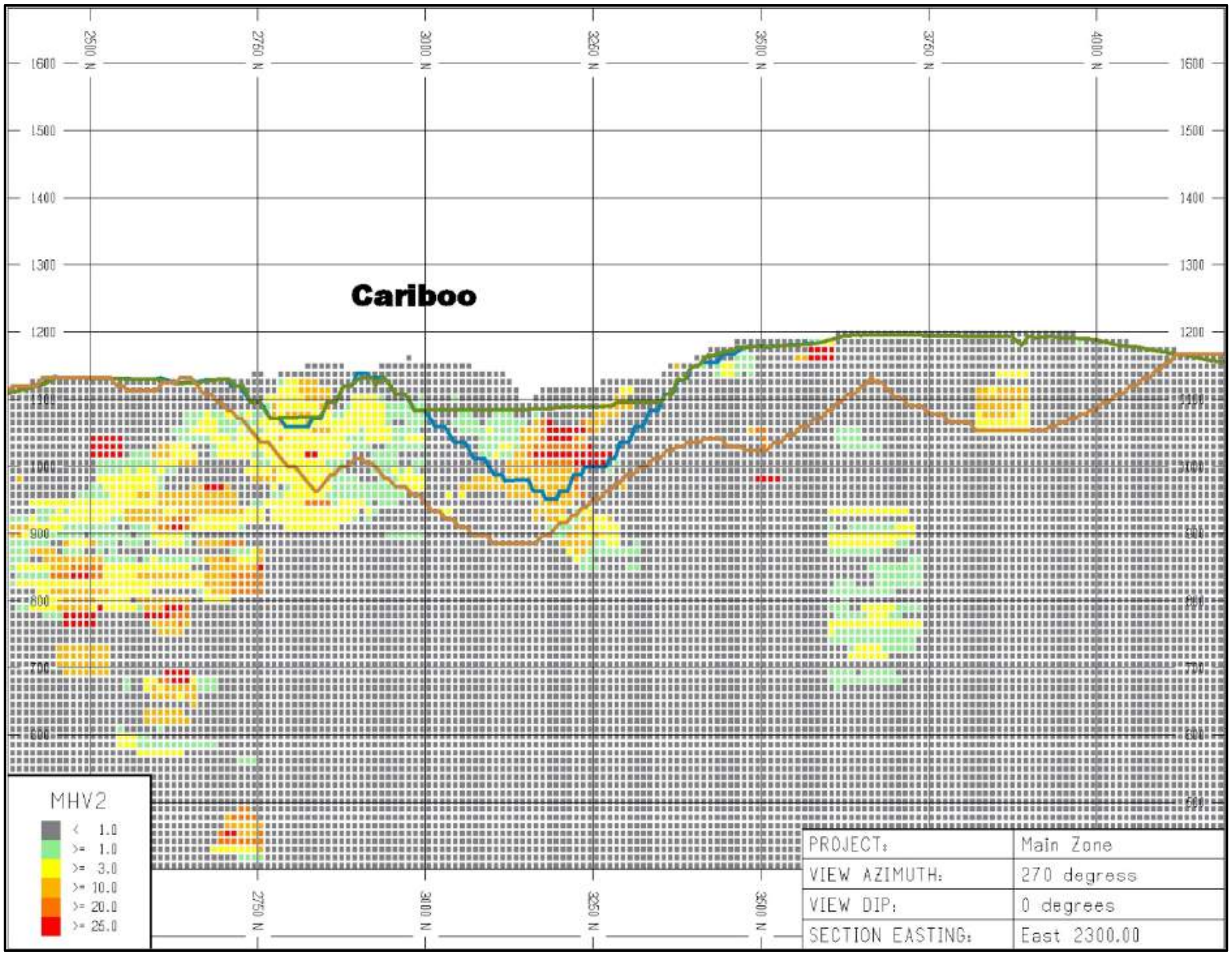
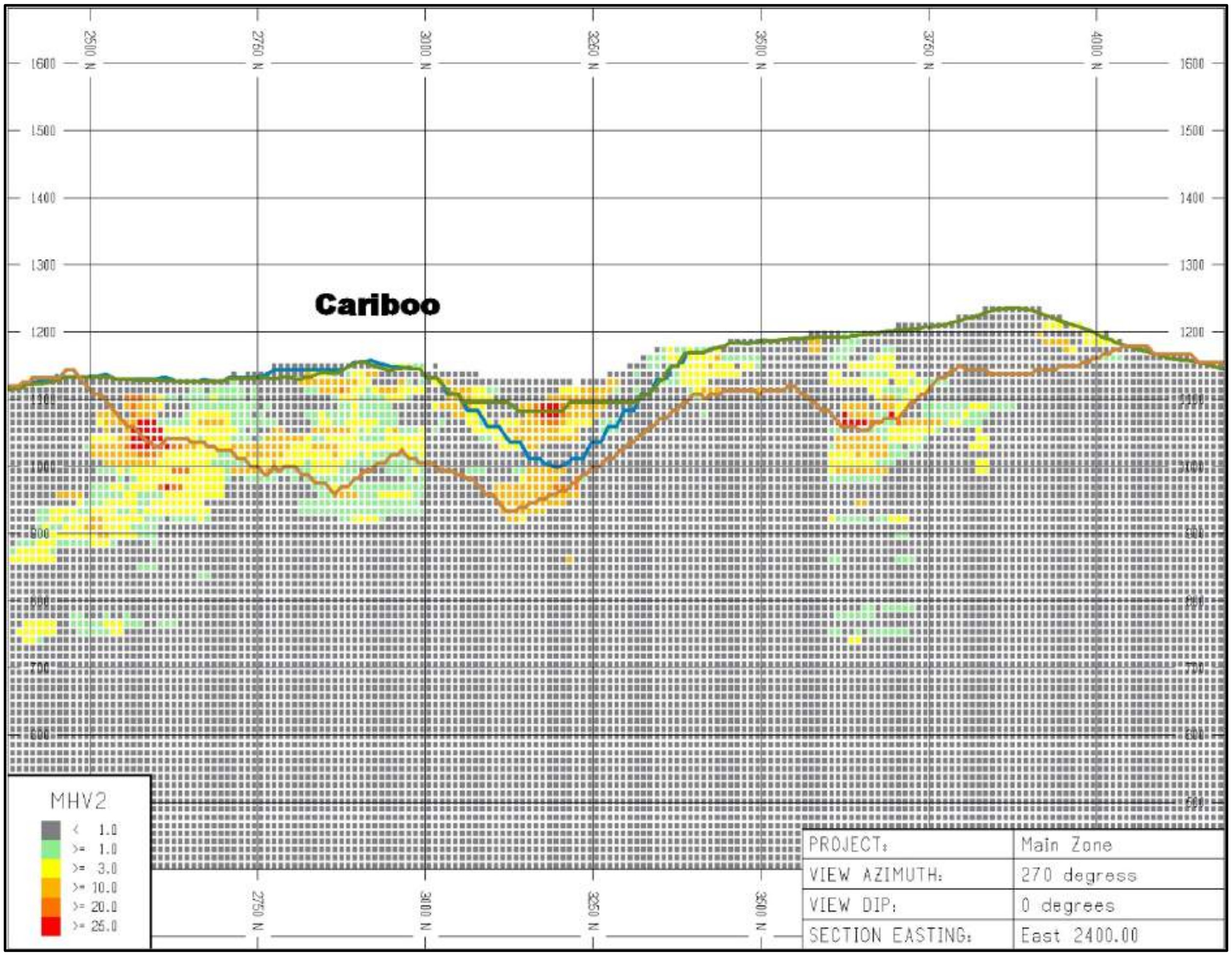
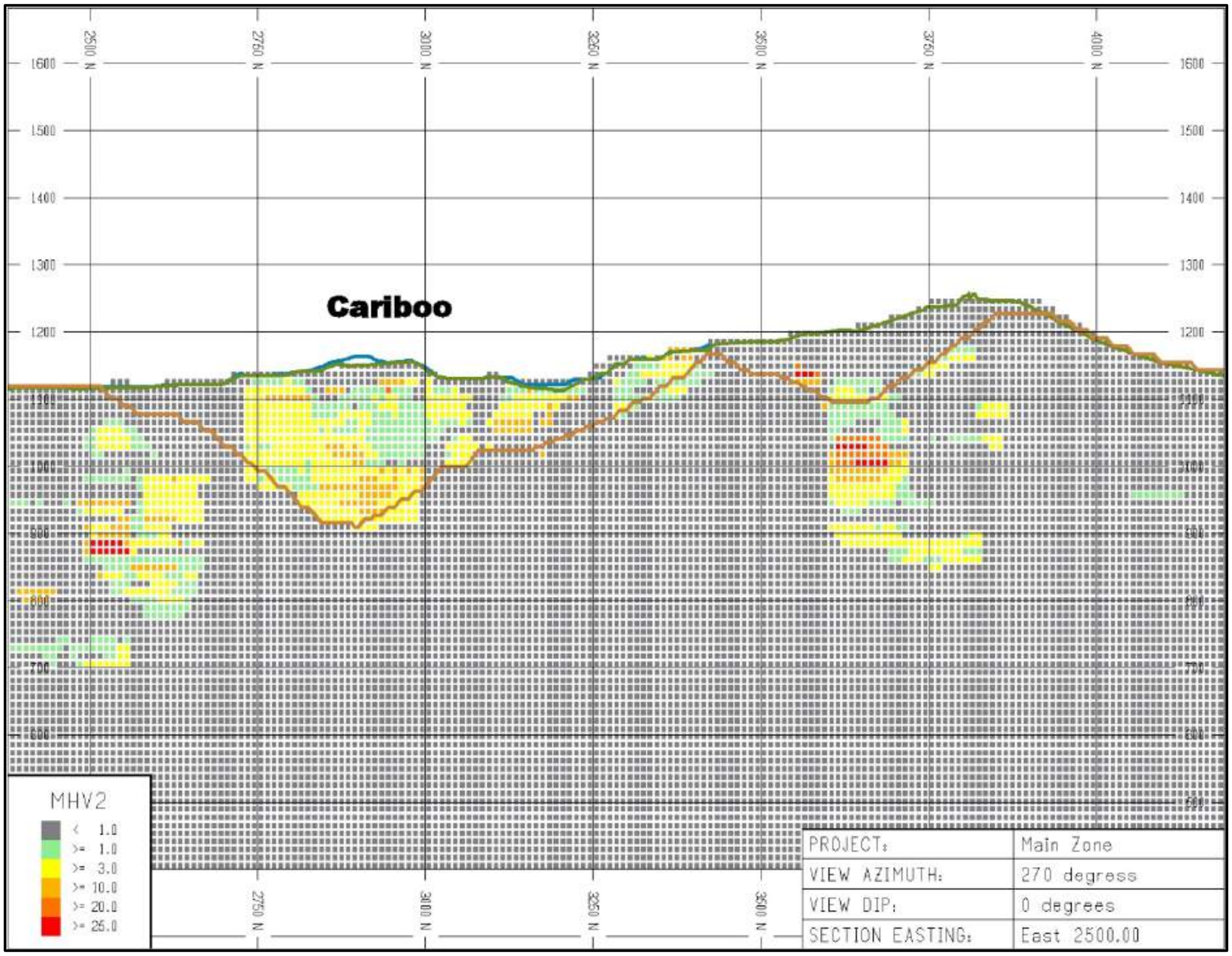
VIEW DIP: 0 degrees
SECTION EASTING: East 2200.00

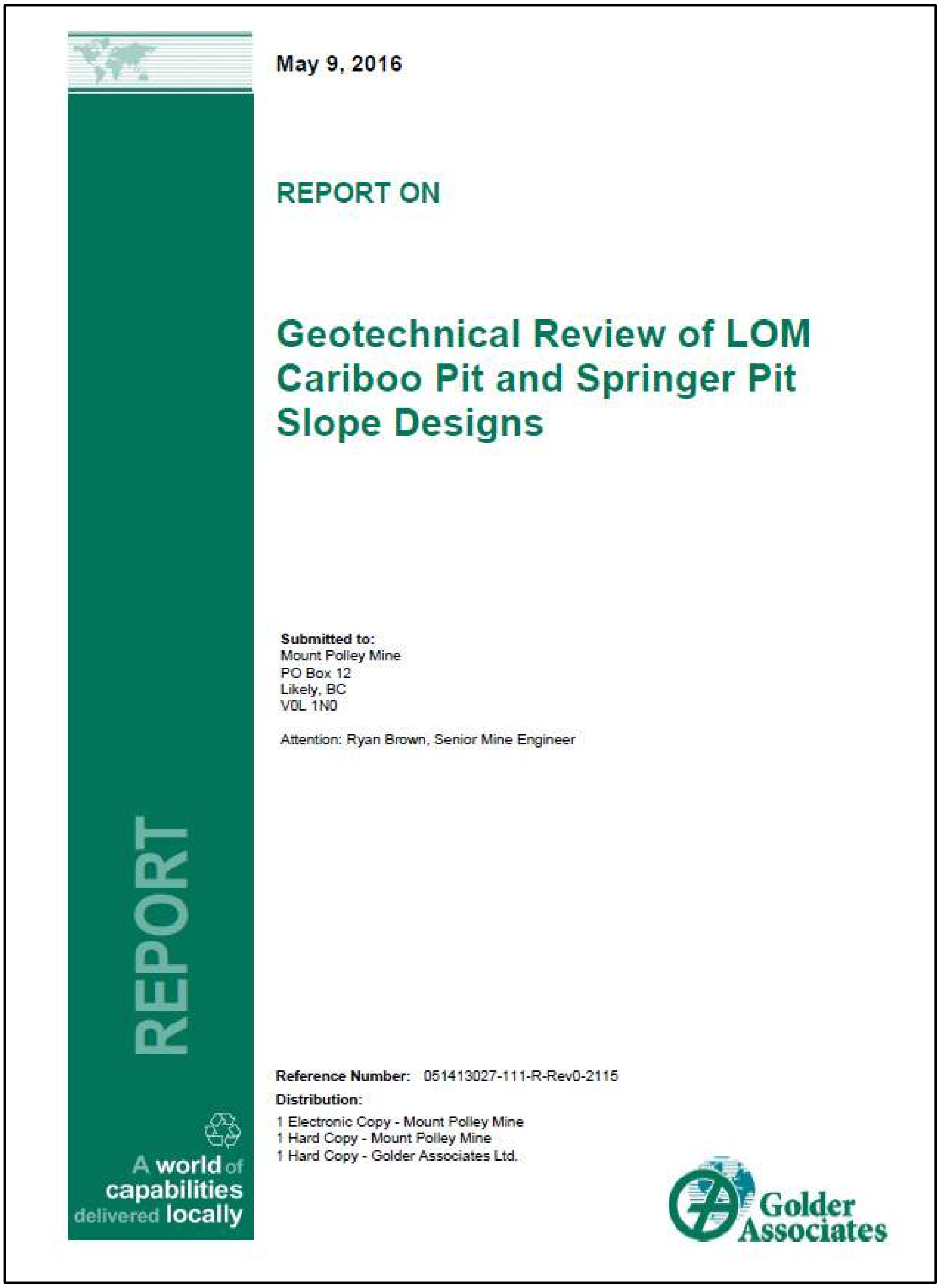

Cariboo
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 2300.00


Cariboo
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 2400.00


Cariboo
MHV2
< 1.0
>= 1.0
>= 3.0
>= 10.0
>= 20.0
>= 25.0
PROJECT: Main Zone
VIEW AZIMUTH: 270 degress
VIEW DIP: 0 degrees
SECTION EASTING: East 2500.00

30 Appendix B: Reference Reports

The following reports referenced the in this report are available on Imperial Metal's Website:
www.imperialmetals.com
The reports are too big to attached to the digital version of this report



May 9, 2016

REPORT ON

Geotechnical Review of LOM Cariboo Pit and Springer Pit Slope Designs

Submitted to:
Mount Polley Mine
PO Box 12
Likely, BC
V0L 1N0

Attention: Ryan Brown, Senior Mine Engineer

REPORT

Reference Number: 051413027-111-R-Rev0-2115

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TECHNICAL MEMORANDUM

DATE	February 18, 2016	REFERENCE No.	1520790-014-TM-Rev0-3000
TO	Ryan Brown Mount Polley Mining Corporation		
CC	Jetzen Loo and Richard Goodwin		
FROM	Donald Tolfree and Darren Kennard	EMAIL	Donald_Tolfree@golder.com; Darren_Kennard@golder.com

MOUNT POLLEY UNDERGROUND STOPE STABILITY REVIEW

1.0 INTRODUCTION

This technical memorandum presents a summary of a site visit and underground inspection performed by Donald Tolfree of Golder Associates Limited (Golder) to the Mount Polley Mine – Boundary Zone underground (Mount Polley) from July 27 through July 30, 2015. The results of a stability back-analysis of the current open stope (Block A), and recommendations for future stope mining adjacent to Block A are also presented.

The objective of the underground inspection was to map representative rock mass ground conditions, and ground support and stope wall performance in the vicinity of Block A. The underground tour focused on the areas close to the stope void and, for mapping purposes, areas that were considered representative of the ore body and host rock.

Quantification of the stability condition of the existing Block A using the field observations and empirical means was carried out to provide a calibrated stability baseline. Estimated hypothetical maximum unsupported and supported stope sizes for the rock mass present in the area were determined to aid in the planning of the extraction of the next four stopes.

The analyses focused on the potential stability condition of the rock mass resulting as stopes adjacent to Block A are sequentially extracted. The current mine plan requires the use of cemented backfill to allow extraction of ore adjacent to Block A. The comments regarding the details of the backfilling plan including stability of the backfill, mix design, and delivery system are not part of the scope of this work.

A presentation of the initial findings was delivered on the last day on site and is included in Appendix A.

2.0 BACKGROUND

The Boundary zone is composed of three main rock types which are breccia, red monzonite and grey monzonite. There are also porphyry dykes that present in the underground workings, some minor faulting on the overcut of the Block A and a large shallow dipping fault that intersects the stopes on the 782 level (Rockland 2013). The stope limits are economically based; therefore the host rock and ore body are composed of the similar material.

Golder Associates Ltd.
Suite 200 - 2920 Virtual Way, Vancouver, BC, V5M 0C4
Tel: +1 (604) 296 4200 Fax: +1 (604) 298 5253 www.golder.com

November 3, 2015

MOUNT POLLEY MINE

Tailings Storage Facility
Life of Mine Feasibility Design

Submitted to:
Mount Polley Mining Corporation
PO Box 12
Likely, BC
V0L 1N0

Attention: Don Parsons and Luke Moger

REPORT

Reference Number: 1413803-072-R-Rev0-9000

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November 3, 2015

MOUNT POLLEY MINE

Tailings Storage Facility Detailed Design to Elevation 970 m

Submitted to:
Mount Polley Mining Corporation
PO Box 12
Likely, BC
V0L 1N0

Attention: Don Parsons and Luke Moger

REPORT

Reference Number: 1413803-074-R-Rev0-3000

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