

**AMENDED AND RESTATED**  
**TECHNICAL REPORT**  
**SKUKUM GOLD-SILVER PROJECT**

Whitehorse Mining District, Yukon Territory, Canada

prepared for:

**NEW PACIFIC METALS CORP.**

by

Ronald G. Simpson, *P.Geo.*

GeoSim Services, Inc.

Report Date: **July 16, 2012**

Amended Date: **July 31, 2013**

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## 1.0 SUMMARY

### 1.1 JULY 31, 2013 AMENDMENT FILING

The Technical Report was filed on September 14, 2012 with an effective date of July 16, 2012. This document is a revised version of that report with a revision date of July 31, 2013. None of the changes made in this revision to the September 14, 2012 filing materially affect GeoSim Services, Inc's opinions, conclusions or recommendations, and the effective date remains July 16, 2012. The revision has been made to address comments by the British Columbia Securities Commission. Comments and/or changes to the Technical Report are summarized below.

- Historical resource estimates previously reported in Section 14.0 were removed and inserted in Section 6.0 under a new sub-heading, Section 6.2. Additional cautionary language has been added.
- Information pertaining to exploration, drilling and metallurgical studies undertaken by New Pacific Metals was removed from Section 6.0 and inserted into their respective Sections, 9.0, 10.0 and 13.0. Minor non-material typographical errors were corrected in the reporting of significant intersections. Representative cross-sections have been added to Section 10.0.
- Information pertained to sample preparation, analyses and security undertaken by previous owners was removed from Section 11.0, with only information pertaining to New Pacific retained. Revision also included additional details of New Pacific's procedures and results. An opinion on the sample preparation, analyses and security by the Qualified Person (QP) has been added.
- Data verification work was removed from Section 9.0 and inserted into Section 12.0. An opinion on the data verification by the QP has been added.
- A summary table of historical mineral processing and metallurgical test work has been removed from Section 13.0 with only information pertaining to work undertaken by New Pacific retained. Revision included additional details of New Pacific's work. An opinion on the metallurgical test work by the QP has been added.
- Removal of appendices.
- Removal of Christopher O. Naas, *P.Geo.* as co-author.
- A site visit was carried out by the author, Ronald G. Simpson, *P.Geo.* from July 16 to 17, 2013

Due to the revisions described above, Sections 1.0, 2.0, 12.0 and 18.0 required rewording to reflect the changes. Section 1.0 includes new sub-headings, Section 1.1 and 1.2. Table and figure numbers have been updated to reflect the revisions. The signature page and certificates have been revised to reflect the change of authorship and date of the amended report.

## 1.2 PROJECT SUMMARY

The Skukum Property (the “Property”) is located in south western Yukon Territory, Canada, approximately 55 kilometres south of the territory’s capital city, Whitehorse. The 254.8 km<sup>2</sup> Property consists of 1,510 full or fractional Quartz Mining claims and 3 Crown Grants which encompass the Skukum Creek gold-silver prospect, the Goddell gold prospect, and the past-producing Mt. Skukum gold mine. Production at Mt. Skukum was undertaken between February 1986 and August 1988 during which a total of 233,400 tons of ore were processed in the plant, recovering 2,500 kilograms (77,790 tr. oz.) of gold.

The Property is situated on the boundary between the Jurassic andesites and siliciclastic rocks of the Stikine Terrane and Paleozoic gneisses of the Nisling Terrane. This package is intruded by the late Triassic to Jurassic Bennett Granite and Cretaceous intrusions of the Coast Plutonic Complex which includes: the Mt. McNeil granodiorite, the Mt. Ward granite and Carbon Hill quartz monzonite. Intermediate Cretaceous volcanic rocks of the Mt. Nansen Group deposited approximately coeval with the Coast Plutonic Complex, are present on the Property east of the Wheaton River. These rocks are separated from the late Paleocene to early Eocene rocks of the Mount Skukum volcanic complex, which outcrop in the northwestern part of the property, by east- to northeast-trending structures. .

Three deposit types on the Skukum Property are typically structurally controlled gold±silver±base metal bearing veins, vein breccias or mylonites. The Mt Skukum deposit is a structurally controlled epithermal gold deposit hosted in Eocene volcanics. Low temperature auriferous quartz-calcite-adularia veins occur along brittle fractures and faults with little shearing, and appear to be formed at shallow levels. The Skukum Creek deposit is a structurally controlled, polymetallic gold-silver, deep epithermal vein deposit hosted in Mid-Cretaceous Mt. McNeil granodiorite. In the Skukum Creek area, zones of mineralization are hosted primarily by a series of linked, northeast-trending faults that may represent splays off the Berney Creek fault system. The Goddell Gully deposit is a structurally controlled shear-hosted gold deposit. Mineralization is associated with altered andesite dykes within the shear zone. The shear zone is located within Mid-Cretaceous Carbon Hill granodiorites. .

A considerable amount of historical exploration, including diamond drilling and underground exploration, has been undertaken on the Property. Historical exploration consisted of surface geological surveys, geochemical surveys, ground and airborne geophysical surveys, trenching, and surface and underground drilling. Approximately 121,000m was drilled in more than 910 holes, and 7,630 metres of underground drifting and crosscutting were developed, mainly at Mt Skukum, Skukum Creek and Goddell Gully

In 2011, New Pacific undertook an exploration program consisting of digital data compilation; surface geochemical sampling, surface geological mapping, supplementary core sampling of historical drill holes, surface and underground diamond drilling, metallurgical testwork, rehabilitation of underground workings and camp upgrades. A total of 51 diamond drill holes totalling 12,487.77 metres were completed at various deposits and prospects on the Property, including Mt Skukum (Lake Zone), Skukum Creek and Goddell Gully.

As part of the preparation for a current resource estimate of the Lake Zone, Skukum Creek and Goddell Gully, drill core verification samples confirmed the presence of gold and silver mineralization with comparable grades to those reported historically for the Lake Zone, and for samples collected by New Pacific during the 2011 diamond drilling exploration.

Current resource estimates for the Mt Skukum (Lake Zone), Skukum Creek and Goddell Gully have been prepared by GeoSim Services, Inc. using all available exploration data, up to and including the results of New Pacific's 2011 exploration program. The current resource estimates, using a 3 g/t gold or 3 g/t gold-equivalent cut-off, are summarized below:

- Mt. Skukum (Lake Zone):
  - Inferred Mineral Resource of 90,500 tonnes at 9.51 g/t Au equivalent;
- Skukum Creek:
  - Indicated Mineral Resource of 1,086,800 tonnes at 8.73 g/t Au equivalent; and,
  - Inferred Mineral Resource of 586,000 tonnes at 6.83 g/t Au equivalent.
- Goddell Gully:
  - Indicated Mineral Resource of 329,700 tonnes at 8.13 g/t Au; and,
  - Inferred Mineral Resource of 483,900 tonnes at 7.13 g/t Au.

The selected base case cut-off grade of 3.0 g/t gold or gold equivalent is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location (using metal prices of US\$1,300 per ounce Au and US\$26 per ounce Ag). The effective date for these resource estimates is July 16, 2012.

Recommendations focus on expanding the resource base and increasing the confidence in the modelling of the three deposits. Recommended work includes surface and underground diamond drilling, surveying, infill sampling of historical core and underground chip sampling. Underground drilling would be dependent upon the extent of the available underground access.

## 2.0 INTRODUCTION AND TERMS OF REFERENCE

This report has been prepared GeoSim Services, Inc. (GeoSim) at the request of New Pacific Metals Corp. (New Pacific). This report summarizes the work completed by New Pacific on the Skukum Property and documents the results of the data verification and resource modeling and estimation of three deposits on the property: Mt Skukum (Lake Zone), Skukum Creek and Goddell Gully.

A visit to the Skukum Property was made by Ronald G. Simpson, *P.Geo.* of Geosim Services Inc. (Geosim) on July 16 and 17, 2013.

Structural orientations or Cartesian directions in this report are referenced with respect to true north.

The Technical Report was filed on September 14, 2012 with an effective date of July 16, 2012. This document is a revised version of that report with a revision date of July 31, 2013. None of the changes made in this revision to the September 14, 2012 filing materially affect GeoSim Services, Inc's opinions, conclusions or recommendations, and the effective date remains July 16, 2012. The revision has been made to address comments by the British Columbia Securities Commission. Comments and/or changes to the Technical Report are summarized below.

- Historical resource estimates previously reported in Section 14.0 were removed and inserted in Section 6.0 under a new sub-heading, Section 6.2. Additional cautionary language has been added.
- Information pertaining to exploration, drilling and metallurgical studies undertaken by New Pacific Metals was removed from Section 6.0 and inserted into their respective Sections, 9.0, 10.0 and 13.0. Representative cross-sections have been added to Section 10.0.
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### **3.0 RELIANCE ON OTHER EXPERTS**

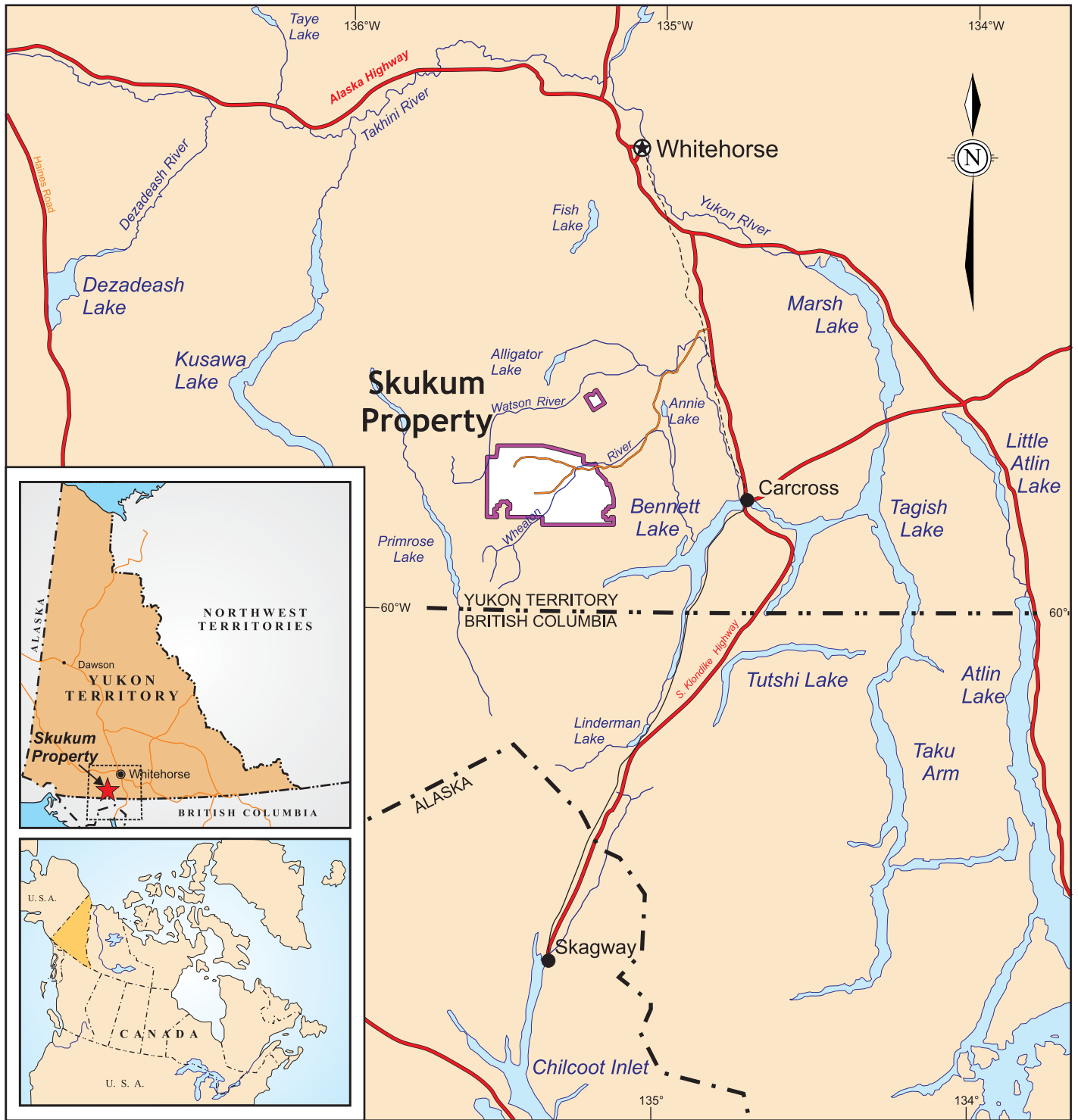
In the disclosure of information relating to title and related issues, the author has relied on information provided by the Mining Recorder of Whitehorse, Yukon, and by New Pacific Metals Corp. The disclosure represents no legal opinion of the author.

Certificate of the author is presented in Section 20.0.

### **4.0 PROPERTY DESCRIPTION AND LOCATION**

The Skukum property (“the Property”) is located approximately 80 kilometres south of Whitehorse, in the Whitehorse Mining District of the Yukon Territory, Canada (Figure 1). The Property’s approximate center is 60°10'N latitude and 135°30'W longitude and falls on NTS mapsheets 105D03, 105D04, and 105D06.

The 254.8 km<sup>2</sup> Property consists of 1,510 full or fractional Quartz Mining claims and 3 Crown Grants which encompass the Skukum Creek gold-silver prospect, the Goddell gold prospect, the past-producing Mt. Skukum gold mine as well as a large number of gold showings (Figure 2). As of May 7, 2012, 982 Quartz claims are registered under Tagish Lake Gold Corp. and 528 are registered under New Pacific Metals Corp. Thirty claims, HO 1-30, (Grant No’s. YB95941-YB95970) are not contiguous with the main Property but are located 8.6 kilometres to the northeast of the camp facility.

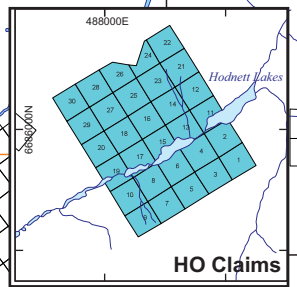
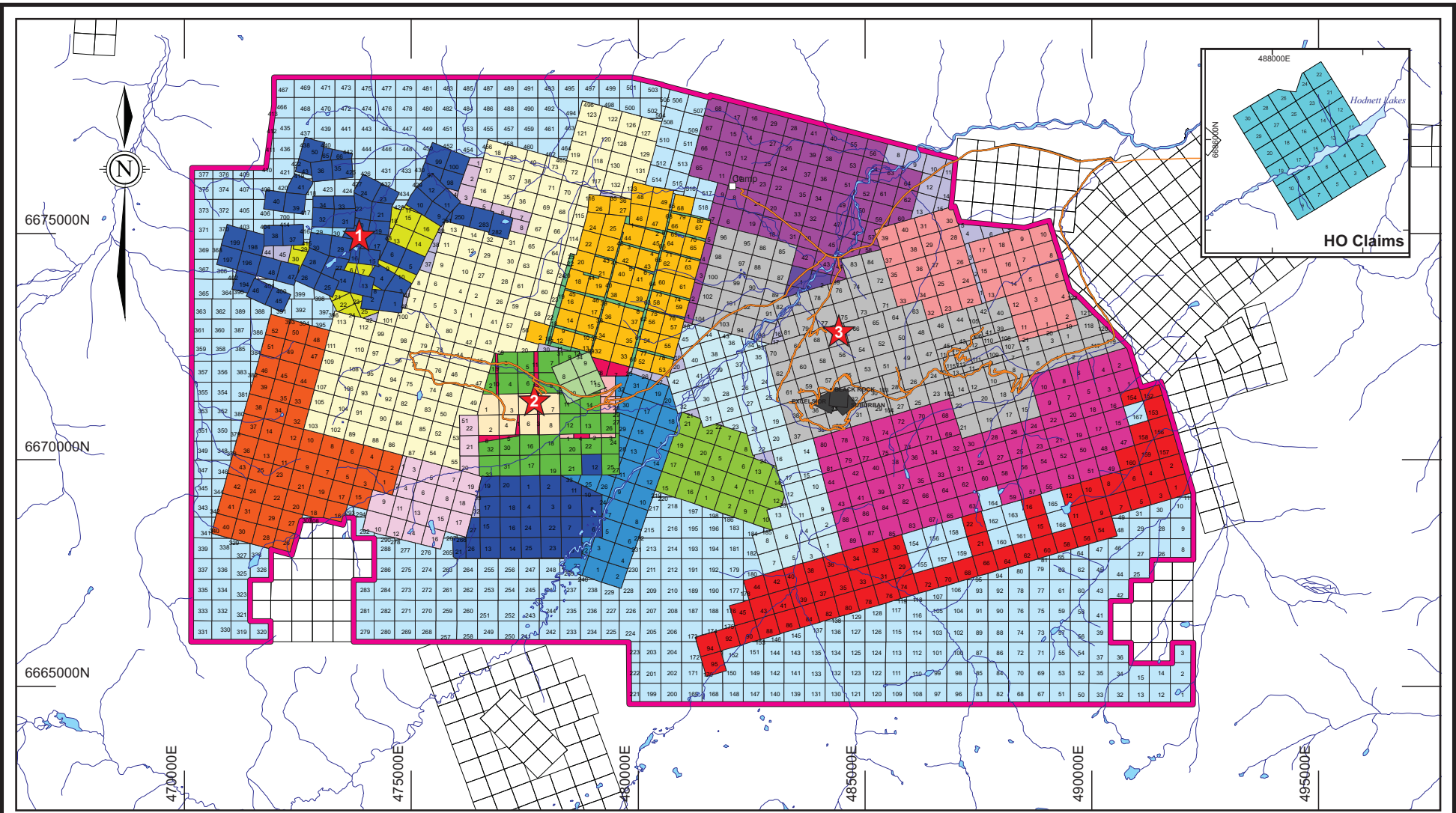


**NEW PACIFIC METALS CORP.**

**LOCATION MAP  
Skukum Property**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	NH
Scale:	1:1,000,000	Drawn:	TV
Figure:	1	Date:	July 2012



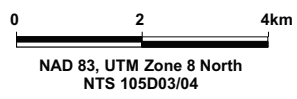
**LEGEND**  
Tagish Lake Gold Claims

- |       |      |      |
|-------|------|------|
| BERG  | KIR  | PUP  |
| CHAR  | KUKU | RACA |
| CHIEF | LB   | STEN |
| CL    | MB   | TECH |
| DG    | MIL  | TEX  |
| ERN   | MOM  | TM   |
| GLEE  | OMNI | TREE |
| HO    | POP  | WH   |

**New Pacific Metals Claims**

- |                   |
|-------------------|
| RIG               |
| SKO               |
| SKU               |
| <b>Other</b>      |
| Crown Grants      |
| Non-Skukum claims |

- Skukum Property (as of May 7, 2012)
- Deposit location: 1. Mt Skukum  
2. Skukum Creek  
3. Goddell Gully
- Access roads and trails (not all shown)



Topographic data © Department of Natural Resources.  
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**NEW PACIFIC METALS CORP.**

**CLAIM MAP**  
**Skukum Property**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	TV
Scale:	1:125,000	Drawn:	TV
Figure:	2	Date:	July 2012

## 4.1 TITLE

In September 2010, New Pacific completed the acquisition of a 100% interest in Tagish Lake Gold Corporation (TLG) through a court-approved plan of arrangement under the Business Corporations Act of British Columbia (TLG news release, Sept 23, 2010). TLG currently operates as a wholly owned subsidiary of New Pacific.

The Property claims are summarized in Table 1.

Table 1: Claims List Summary, Skukum Property

Claim Name	Claim Number(s)	Grant Number(s)
BERG	1-12	YB07446-YB07457
	15-16	YB07460-YB07461
	21-22	YB07466-YB07467
	29-45	YB07474-YB07490
	54	YB07499
	56	YB07501
	58	YB07503
	60	YB07505
	62	YB07507
	64	YB07509
	66	YB07511
	68	YB07513
	70	YB07515
	72	YB07517
	74	YB07519
	76	YB07521
	78	YB07523
	80	YB07525
	82	YB07527
	84	YB07529
	86	YB07531
	88	YB07533
	90	YB07535
92	YB07537	
	94-95	YB07539-YB07540
	152-154	YB07597-YB07599
	156-160	YB07601-YB07605
CHAR	1-43	YC18781-YC18823
	44-52	YC19347-YC19355
CHIEF	2	YA74385
	12-27	YA74395-YA4410
	32-49	YA74415-YA74432
	52-68	YA74435-YA74451
CL	6-10	YC14135-YC14139
	13-18	YC14140-YC14145
	21-25	YC14148-YC14152
	29-30	YC14156-YC14157
DG	1-22	YB66982-YB67003

Table 1: Claims List Summary, *Skukum Property (cont'd)*

Claim Name	Claim Number(s)	Grant Number(s)
ERN	1-15 16-22 24-27 30-33	YA81543-YA81557 YA85503-YA85509 YA85511-YA85514 YA85515-YA85518
GLEE	1-12 16-20 22 37-46 59-80	YA93875-YA93886 YA93890-YA93894 YA93896 YA93911-YA93920 YA93993-YA94014
HO	1-30	YB95941-YB95970
KIR	1-33	YA92967-YA92999
KUKU	1-6 9-21 23-41 43 45-48 50 65-66 97-100 194 196-199 250-251 282-283 22	YA61199-YA61204 YA61207-YA61219 YA61221-YA61239 YA61241 YA61243-YA61246 YA61624 YA61639-YA61640 YA61671-YA61674 YA61768 YA61770-YA61773 YA61824-YA61825 YA61856-YA61857 YB97767
LB	1-27	YB67028-YB67054
MB	1-3	YA94610-YA94612
MIL	1-69	YB67168-YB67234
MOM	1-10 15-44 47-60 62-81 82-89	YA81767-YA81776 YA81781-YA81810 YA81813-YA81826 YA81828-YA81847 YA82000-YA82007
OMNI	1-12	YA93743-YA93754
POP	1-14 15-70 71-104 101-102 103-116 117-122	Y 75415-Y 75428 YA81468-YA81523 YA86194-YA86227 YA93378-YA93379 YA93382-YA93395 YA94672-YA94677
PUP	85 29-30	YA78390 YB97801-YB97802
RACA	8-11	Y 60275-Y 60278
RIG	1-8	YE33401-YE33408
SKO	1-45	YE32968-YE33012
SKU	1-3 8-15 25-37 39 41-65 67-167 517 466-515	YE32801-YE32803 YE32808-YE32815 YE32825-YE32837 YE32839 YE32841-YE32865 YE32867-YE32967 YE33013 YE33014-YE33063

Table 1: Claims List Summary, *Skukum Property (cont'd)*

Claim Name	Claim Number(s)	Grant Number(s)
SKU	168-284 286 288 290 292-294 307-308 319-321 323 325-465 700 518 516	YE33102-YE33218 YE33220 YE33222 YE33224 YE33226-YE33228 YE33241-YE33242 YE33253-TE33255 YE33257 YE33259-YE33399 YE33400 YE33409 YE54650
STEN	1-17 19-45	YA92922-YA92938 YA92940-YA92966
TECH	1-4 7-13 15-18 19-21 22-40 6 14 5	YA82362-YA82365 YA82368-YA82374 YA82376-YA82379 YA86013-YA86015 YA92145-YA92163 YB26465 YB97763 YB97764
TEX	1-22	YA92833-YA92854
TM	1-14 16-20 22-32 35-117 118-123 126-133	YB66868-YB66879 YB66881-YB66885 YB66886-YB66896 YB66899-YB66981 YC07981-YC07986 YC07989-YC07996
TREE	1-5	YA82961-YA82965
WH	1-8	Y 75547-Y 75554
<i>Crown Grants</i> SUBURBAN BLACK ROCK EXCELSIOR		Y05-040301 06010 Y05-040301 22010 Y05-040301 23000

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

### **5.1 ACCESSIBILITY**

The Property can be accessed by all-weather road from Whitehorse, Yukon Territory. Road access from Whitehorse is gained by traveling southeastward on the Alaska Highway for 19 kilometres to Carcross Corner, then south on the South Klondike Highway a further 22 kilometres to the Annie Lake turnoff. The 28 kilometre Annie Lake road is a government-maintained 2 lane gravel road that heads west to the Wheaton River. From the Wheaton River Crossing, a 4-wheel drive non-maintained gravel road continues southwestward to the Property and on to the TLG camp. The trailer camp is located in the north-central portion of the Property, from which numerous roads and trails provide final access to the individual deposits and showings.

Alternatively, the Property can be reached by helicopter from the Whitehorse airport, which is 55 kilometres to the north-northwest of the Property.

### **5.2 CLIMATE**

The region is semi-arid, with an average annual precipitation of 163 millimetres, primarily as rain during the summer. Snow accumulation rarely exceeds 150 centimetres. Temperatures range from  $-30^{\circ}\text{C}$  in winter to  $30^{\circ}\text{C}$  in the summer. Permafrost is prevalent throughout the area. North facing slopes are frozen year round, with permanent snow-ice fields on the higher peaks, including Mt. Skukum. South facing slopes thaw to depths of rarely more than 1 metre during the summer.

### **5.3 LOCAL RESOURCES**

The Property is located close to Whitehorse, with good vehicle access. This provides excellent access to an experienced and skilled labour force as well as the necessary services and suppliers required to support exploration programs.

### **5.4 INFRASTRUCTURE**

The Property hosts the past producing Mt. Skukum gold mine. The past producing mine is located 12 kilometres from the mill on the northern flank of Mt. Skukum. There has been underground exploration and development undertaken on the Main Cirque, Lake and Brandy zones. The Main Cirque Zone portal is at an elevation of 1,635 metres, while the Lake Zone portal is at an elevation of 1,750 metres. Production was limited to the Main Cirque Zone.

The mine facilities consisted of a mill with a 270 tpd capacity, a service complex, a camp facility, a tailings pond and electric generators. The camp facility and electric generators

were removed when the mine closed in 1988. The tailings pond dam was breached to prevent accumulation of surface water behind the structure. Topography is suitable for expansion of the estimated 700,000 tonne-capacity of the tailings pond, or for this area to be used for waste rock storage.

Exploration drifts were driven on the Skukum Creek prospect and the Goddell Gully prospect. These underground workings were used to assist in the exploration of the mineralized zones at depth.

At Skukum Creek, an adit has been driven at the 1300 metre elevation in the footwall and parallel to the Rainbow Zone and affords access to the Rainbow, Kuhn, Rainbow 2 and Berg Zones. The distance from the portal to the end of the workings in the Rainbow 2 Zone is approximately 1,040 metres. Drifting has been completed along the Rainbow, Kuhn, Rainbow 2 and Berg Zones. Various facilities, such as a maintenance shop, water supply sump, and drainage have been established on that level. An adit has also been driven at the 1350 metre elevation of the Rainbow Zone which provides a drift of 200 metres in length, a footwall cross-cut, and drawpoints connecting the two. A decline driven at -15% from the 1300 level provides access to the 1275, 1250, and 1225 levels. A raise connects the 1300 and 1350 levels in the Rainbow Zone and a vertical ventilation raise connects all levels with the surface at an elevation of approximately 1450 metres. Two raises connect the 1300 and 1350 levels within the Rainbow and Kuhn main mineralized zones. The latter provides the only access to the 1350 sub-level within the Kuhn Zone. Raises have been initiated at the Rainbow 2 and Berg Zones.

At the Goddell prospect, a decline was driven at -15% from approximately the 1,015 metre elevation on surface down to the 900 metre elevation in 1996. The purpose of the decline was to provide a location for diamond drilling to further test the prospect at depth.

A site office and trailer camp that accommodated 25 people in previous exploration programs, was expanded in 2011 to accommodate 50 people. The existing core yard has been expanded for additional storage of up to 100,000 metres of core. A 180 kW diesel generator installed in May 2011, is the main electrical power source for the camp, with two 40 kW standby generators. The present camp facility uses two boreholes as a water source.

## **5.5 PHYSIOGRAPHY**

The Property is located within the Boundary Ranges of the Coast Mountain physiographic division. Topography covered by the claims is characterized by steep, rugged mountains. Elevations on the property range from 1,000 metres up to 2,260 metres above sea level. The Wheaton River valley is broad and flat, flanked by steep mountain slopes. Mountaintops consist of mainly rolling, high upland plateaus covered with glacial till and felsenmeer. On a regional scale, outcrop exposure is relatively uncommon.

Valley bottoms are typically underlain by glaciofluvial sediments, with a thickness in excess of 5 metres. Lower slopes above the valley floor are draped by colluvial apron sediments.

Slopes above the valley floor to the tree line are populated by forests of spruce, balsam fir, poplar and willow. The tree line occurs at approximately 1,350 metres and above this elevation alpine grasses, low shrubs and a variety of mosses prevail.

## **6.0 HISTORY**

### **6.1 EXPLORATION AND DEVELOPMENT BY PRIOR OWNERS**

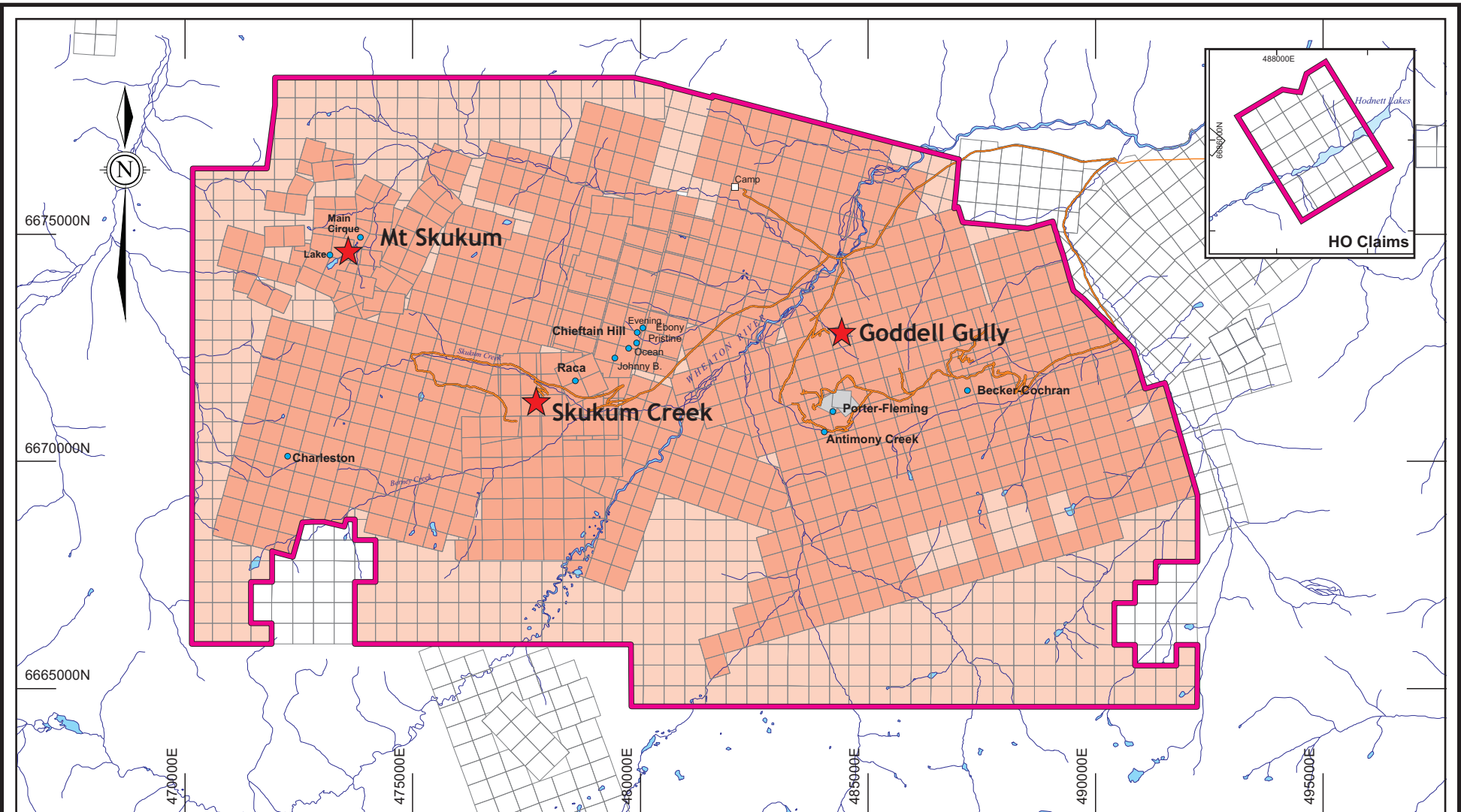
The Property has been the subject of exploration activities, and some production mining at Mt. Skukum, over its history. The history of work is somewhat convoluted as ownership changes and wide-ranging exploratory work, from regional geochemical surveys to detailed drilling and underground exploration and development, has been completed in many parts of the Property. Exploration and development are principally linked to the three known deposits of the Property, namely Mt Skukum, Skukum Creek and Goddell Gully. These deposits as well as other notable prospects and showings are presented in Figure 3 and described below.

#### **6.1.1 Mt. Skukum (Lake Zone)**

In 1980, Agip Canada Ltd. (Agip) conducted a regional reconnaissance level stream sediment sampling survey which located a strong gold anomaly at the head of Butte Creek. This area was staked in 1981 and subsequent exploration by Agip delineated five more strong gold-in-soil anomalies in the area of the Cirque Zone. In 1984, a joint-venture agreement between Erickson Gold Mines Ltd (later Total Erickson / Total Energold) and Agip was completed to develop a mine and mill. In 1984 an adit was driven into the Main Cirque Vein (Mortimer, 1987).

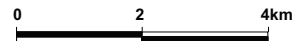
Production mining was carried out between February 1986 and August 1988. During this period a total of 233,400 tons of ore were processed in the plant, recovering 2,500 kilograms (77,790 tr. oz.) of gold (Naas and Rodger, 1999).

The Lake Vein (or Lake Zone) was discovered in 1982 as the regional exploration program in the Mt. Skukum Complex was expanded. At the Lake Zone, drilling up to 1988 delineated three vertically plunging shoots of gold bearing vein material within a mineralized structure; approximately 550 metres in strike length. Regional prospecting suggested the host structure continues to the south although in this region it is covered by talus.



**LEGEND**

- Skukum Property
- Skukum Property Claims**
- New Pacific claims
- Tagish Lake Gold claims
- Crown Grants
- Other claims
- ★ Deposit location
- Other notable prospects or showings
- Access roads and trails (not all shown)



NAD 83, UTM Zone 8 North  
NTS 105D03/04

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**NEW PACIFIC METALS CORP.**

**DEPOSITS AND SHOWINGS  
Skukum Property**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	TV
Scale:	1:125,000	Drawn:	TV
Figure:	3	Date:	July 2012

There were various versions of historical mineral reserve estimates of the Mt. Skukum deposit. The most frequently cited historical reserve estimate is the one of the Lake zones in an unpublished report by Macdonald of Agip in 1988. There was inadequate supporting data for the author to validate the estimate and the author does not consider the estimate to be reliable for public disclosure. The Lake Veins are mentioned in this section for the sole reason that the prospect has high exploration potential in the Lake Veins area.

The Brandy Zone was identified in 1982 by soil geochemistry and prospecting. Between 1983 and 1988, a total of five veins were encountered by diamond drilling and trenching of which probable ore reserves were delineated on two of the veins. Drill intersections include 27.02 g/t over 1.85 metres and 16.80 g/t Au over 2.14 metres. Underground chip sampling encountered 8.16 g/t Au over 1.5 metres width and 32 metres in length (Westervelt, 1988).

Many other smaller veins and anomalous zones are also known. Though generally small and of limited strike potential, some carried substantial gold and silver grades. Examples in the immediate Mt Skukum area include the Fox, Pika, Marmot, Wolverine, Wanda, K-9, Falls, and Gully Veins (Naas, 2002). Surface geochemical and geophysical surveys, as well as diamond drilling have been performed by MSGM over these veins and zones. Exploration was also carried out in the Chieftain Hill and Charleston areas and is discussed under those headings in section 6.4.

A summary of the drilling performed during the AGIP/Total Erickson,/Total Energold/MSGM period is presented in Table 2.

Table 2: Summary of Drilling, AGIP/MSGM, 1982-1989 (after Zhang, 2012)

Period	No. Drill Holes	Metreage	Targets
1982	29	3,325.80	Main Cirque
1983	40	4,380.52	Main Cirque, Brandy
1984	61	6,097.50	Main Cirque, Lake, Brandy
1985	6	168.42	Main Cirque
1986	72	8,864.96	Main Cirque, Lake, Brandy
1987	153	17,125.47	Main Cirque, Lake, Brandy, Pika, Falls, Fox, Wunder, Gully, Evening, Ocean, Midnight
1988	106	12,373.45	Pika, Tango, Lake, Cirque, Fox, Kiwi, Brandy, Sulphide Creek, Ocean, Morning
1989	14	3,214.73	Ocean, Tango, Goat

In 1991, Wheaton River Minerals Ltd. (Wheaton) purchased 100% of the Mt. Skukum claim group and the 270 tpd mine from MSGM. Wheaton completed three diamond drill holes totaling 576.38 metres targeting the Ocean Vein (Naas, 2003) (refer to section 6.4).

In September 1993, Wheaton negotiated an agreement with Omni Resources Inc. (Omni), whereby Omni could acquire all of Wheaton's claims within a 10-mile radius of Omni's Skukum Creek property (which would include the Mt. Skukum deposit). The option was for

12 months and called for a cash payment of C\$400,000 by Omni to Wheaton. Omni never exercised this option, but Wheaton agreed that Omni would have right of first refusal on the Mt. Skukum claims if Wheaton decided to sell its interest any time in the future (Naas, 2001).

In September 1994, Omni purchased a 100% interest in the 820 Mt. Skukum claims plus the 270 tpd mill for 1,600,000 shares together with C\$300,000 which would be paid out of smelter return proceeds of \$3.00 per dry ton from ore processed at the MSGM mill (Naas, 2001).

From 1995 to 1999, Omni added to their claim package in the Mt. Skukum area through claim staking (Naas, 2003). Omni completed 5 diamond drill holes in 1997 totaling 608.08 metres targeting the Ocean Vein (see section 6.4).

In August 2000, Trumpeter Yukon Gold Inc. (TYG) conducted a one-day traverse in the Mt Skukum area for purposes of assessment credit. Three rock samples were collected with no significant results obtained (Naas 2000).

In November 2000, TYG amalgamated with Omni to form Tagish Lake Gold Corp. (TLG).

In 2001, TLG relocated and resampled several of the smaller veins in the Mt Skukum area. A total of 50 rock samples and one silt sample were collected. Sampling confirmed historic grades, with the most notable result from the Wolverine Vein, which returned up to 52.22 g/t Au and 30.01 g/t Ag from a narrow quartz-carbonate stockwork vein (Naas, 2003).

As part of the TLG's 2003 exploration work, a data compilation program of the Lake Zone drilling was carried out to capture the data into digital format for future use (Naas, 2004a). Only drilling pertaining to the Lake Zone was digitized at that time.

In 2009, rock sampling was carried out as part of a Property wide geochemical sampling program by Yukon-Nevada Gold Corp. and NWME personnel. From 22 samples collected from the Mt Skukum area, significant sample results include 30.9 g/t Au and 187 g/t Ag over 0.18 metres and 26.20 g/t Au and 25.4 g/t Ag over 0.20 metres, both from the Lake Vein.

### **6.1.2 Skukum Creek**

The Skukum Creek area was originally staked in 1922 to cover anomalous gold and antimony showings and included driving a 41 metre adit and considerable trenching (Forster *et al*, 1986). In 1930-1931, J Stenbraten improved road access, conducted trenching and drove a 30 metre adit. In 1964, Yukon Antimony Corporation became interested in the area for its copper and antimony potential. Between 1964 and 1967, Yukon Antimony staked claims in the area, including ground covering the veins at Skukum Creek. Work included the construction of a road to gain access to the main showings and to explore the veins with several bulldozer trenches. The Skukum Creek area was staked again in 1973 by W. Kuhn for El Paso Mining and Milling Company who mapped and sampled in 1974, but returned the claims to Kuhn in 1976. In 1977 Com-Am Resources acquired the claims, marked out a new

grid and resampled old trenches. In 1980, the claims were transferred from Kuhn to Skukum Gold Inc. and subsequently transferred in 1984 to Omni Resources Inc. (Omni) (Robinson, 1988).

In 1985, Omni undertook a detailed exploration program at Skukum Creek. Work included geological mapping, trenching, soil sampling, diamond drilling and reverse circulation drilling which outlined ten anomalous gold zones, including the Rainbow, Kuhn, Ridge and Sterling zones (Forster *et al*, 1986).

During the 1986 field season, the focus was on diamond drilling and detailed mapping of the Rainbow, Kuhn and Sterling zones. Fifty-three (53) diamond drill holes totaling 8,301 metres were drilled (Montgomery, 1987).

In January 1987, an adit was collared at the 1300 metre elevation level. Between April and July, 823 metres of underground work was completed. A 2.8 metre by 3.5 metre adit was driven along the footwall side of the Rainbow Zone and extended to the Kuhn Zone. Two crosscuts were driven through the Rainbow Zone to provide access to the mineralized horizon and to provide a location for underground diamond drilling from the hanging wall side of the vein. A total of 7,446 metres of diamond drilling in 80 drill holes tested the Rainbow and Kuhn Zones in 1987 (69 underground and 11 from surface) (Robinson, 1988).

In 1988, Skukum Gold Inc. and Omni entered into a joint venture to bring Skukum Creek to production. Underground work in 1988 included 1,571 metres of tunneling which included a decline from the 1300 metre level to the 1218 metre level; collaring and driving the 1350 metre level at Rainbow; driving a raise at Kuhn from the 1300 metre level to the 1350 metre level; drifting and sampling along the Rainbow and Kuhn veins at the 1300 metre and 1350 metre levels; and diamond drilling.

Sampling results from the 1300 metre level drifts included 11.11 g/t Au, 93.5 g/t Ag over an average width of 2.89 metres and a length of 41.0 metres from the Kuhn Zone and 5.40 g/t Au, 407.2 g/t Ag over an average width of 2.34 metres and a length of 222.0 metres from the Rainbow Zone. From the 1350 metre level, results included 29.31 g/t Au, 197.8 g/t Ag over an average width of 2 metres and a strike length of 30 metres from the Kuhn Zone and 10.18 g/t Au and 423.5 g/t Ag over an average width of 2.64 metres and a length of 89.4 metres from the Rainbow Zone.

A total of 1,416 metres of diamond drilling in 13 drill holes tested the Kuhn, Rainbow and Sterling Zones from underground. At surface, 24 diamond drill holes totaling 5,165 metres tested the Kuhn and Sterling Zones. Surface mapping and geophysical surveying were conducted at the Taxi Zone.

Bacon, Donaldson and Associates carried out metallurgical testing of the Skukum Creek mineralization in 1988 initially under the direction of Orocon Inc. and later under the direction of Melis Engineering Ltd. Testing determined that the optimal treatment would be cyanidation of ground up mineralization followed by flotation of a bulk sulphide concentrate

from the cyanide tailings resulting in gold recoveries of 90-98% and silver recoveries of 93-98% (Wong and Beattie, 1988).

In June 1991, the property reverted back to Omni, as Skukum Gold failed to uphold its portion of the joint venture agreement to put the property into production. In August of 1991, Wheaton River Minerals Ltd. purchased the assets of Mt Skukum Gold Mining Corp., which included the neighboring Mt Skukum property and mill. Wheaton also entered into an agreement with Omni to purchase the Skukum Creek property with the intent to bring the property into production.

In 1993, Wheaton contracted Melis Engineering to determine if bioleaching could be used for pretreatment of flotation concentrate ahead of cyanidation as a means of recovering refractory mineralization from Skukum Creek. Results of this testwork reported recoveries of 92% for gold and 95% for silver (Melis, 1993).

By 1994, Wheaton backed out of this agreement and the Skukum Creek claims, along with the Mt. Skukum claims and mill, were transferred to Omni.

In 1995, Omni acquired a 70% interest in the nearby Goddell property from Arkona Resources. With this acquisition, Omni had consolidated three gold deposits and numerous gold showings into a single property, now referred to as the Skukum property.

In 1996, Trumpeter Yukon Gold Inc. (TYG) negotiated an agreement with Omni in which TYG could acquire 50% interest in Omni's Skukum property. The option was exercised in 1997.

During 1996, Omni de-iced and de-watered the underground workings at Skukum Creek and drove a 100 metre long drift off the 1225 metre level crosscut to provide a location for diamond drilling. Fifteen drill holes totaling 1,647 metres tested the down dip extension of the Rainbow Zone. The results of the program extended the mineralized zone 40 metres to 170 metres deeper to the 1050 metre elevation. The most significant result from the drilling program came from drill hole R96-211, which returned 49.18 g/t Au, 528.8 g/t Ag over a core length of 10.68 metres.

In 1997, seven surface diamond drill holes totaling 2,739 metres tested the Ridge and Rainbow East Zones. At the Ridge Zone, a new mineralized horizon named the Ridge 2 Zone (also reported as Zone 2) was discovered, with the most significant result being 8.44 g/t Au, 260.0 g/t Ag over 11.67 metres (RG97-2). At the Rainbow East Zone, 350 metres to the northeast of the Rainbow Zone, drilling encountered mineralization similar to that at Rainbow with results of up to 2.66 g/t Au, 561.37 g/t Ag over a core length of 3.61 metres (RACA97-1) (Omni referred to this zone as the Raca, but was changed to Rainbow East in 2002, so not to confuse the showing with the original Raca copper showing, 500 metres to the northeast).

Also during 1997, B.Y.G. Natural Resources Inc. contracted Process Research Associates Ltd. to carry out a preliminary flotation/cyanide leach study on Rainbow Zone mineralization. Overall recoveries were 88.7% for gold and 90.7% for silver. It was suggested that some of

the gold and silver were refractory and therefore recommended investigation into pretreatment by bio-oxidation or pressure oxidation before cyanidation (Tse, 1997).

In 1998, exploration consisted of geological mapping, contour and grid controlled soil sampling, HLEM geophysical survey and diamond drilling at favorable mineralized targets identified by previous exploration programs. A total of 56 rock and 164 soil samples were collected. Five drill holes totaling 1,321.90 metres tested the Taxi (1), Golden Eagle (1), Bonanza (1) and Polaris Zones (2). Although highly anomalous values were returned from the rock and soil sampling programs (up to 376.29 g/t Au, 3,954.17 g/t Ag, 11.78% Pb and 2.26% Zn), no significant results were obtained from the drilling program (Wesa, 1998).

In 1999, TYG consolidated the Property information through a data compilation program. This was followed by resource estimation carried out by Micromine Pty. of Perth, Australia, and reported in Naas and Rodger (1999). As part of this work, Laurion Consulting Inc. of Vancouver was contracted to undertake metallurgical studies on reject material from a drill core grade verification study (Fox, 1999). Results showed that a flotation concentrator and cyanide leach plant would give a 75% gold recovery and 72% silver recovery. Using a pressure oxidation system the gold and silver recovery would increase to around 92%.

In 2001, TLG undertook a program of detailed geological mapping and sampling in the Taxi Zone, reconnaissance sampling in the Raca Zone and surface diamond drilling in the Ridge Zone (four drill holes, 1,502.35 metres). Rock sampling in the Taxi Zone of well-mineralized veins returned significant precious metal grades of up to 56.27 g/t Au and 2,997.7 g/t Ag. The Ridge Zone was intersected by all four drill holes and returned up to 3.84 g/t Au, 251.1 g/t Ag over 2.05 metres. The Ridge 2 Zone was intersected by three drill holes and returned the highest gold grade to date of 40.37 g/t Au and 243.2 g/t Ag over 0.42 metres (Naas, 2002).

In 2002, TLG rehabilitated the underground workings and carried out 2,502.52 metres of underground diamond drilling in 15 drill holes on the Rainbow, Sterling and Kuhn Zones. Highlights of the Rainbow Zone drilling include 10.04 g/t Au and 507.4 g/t Ag over 7.10 metres and 33.48 g/t Au and 265.0 g/t Ag over 2.40 metres. Drilling of the Sterling and Kuhn Zones confirmed structural interpretation of the deposit, as well as continuation of the Kuhn Zone mineralization shoot. Coincident with this work was a regional structural and alteration study, as well as surface and underground mapping and sampling (Naas, 2003).

In 2002, MineTech International Limited was commissioned to complete a resource estimate of the gold resources for the Skukum Property, including Goddell Gully. Details of this estimate are presented in Section 6.2.

During 2003, 1,054 cubic metres of slashing was carried along the main drift on the 1300 metre level. The drift was slashed from the portal to a position near the first drill station on the Kuhn crosscut, a linear distance of approximately 420 metres. A new drift was collared at this point and driven 166 metres southwest. During the work, a new shear zone hosting quartz-sulphide vein was encountered, which returned 24.15 g/t Au and 215.2 g/t Ag over an average width of 0.37 metres over a length 8.25 metres. This new mineralized zone was distinguished as the Rainbow 2 Zone. Subsequently, a further 60 metres was driven to

accommodate a remuck bay and a diamond drill station. A total of 248 metres was drilled in 5 holes from two locations. Results from drilling confirmed the high-grade nature of the vein along strike and dip, though in places the vein appears to have been replaced by a post-mineral dyke. Highlights of the diamond drilling include 5.43 g/t Au and 78.5 g/t Ag over 8.39 metres and 32.31 g/t Au and 277.2 g/t Ag over 1.59 metres.

The 2005 exploration program on the Skukum Creek gold-silver prospect, completed between February 22 and May 1, 2005, included 913 metres of underground diamond drilling in 14 drill holes with minor detailed underground geological mapping. A total of 620 metres of underground diamond drilling in twelve holes was completed on the Rainbow 2 Zone to determine the continuity and grade of mineralization discovered in 2003 while completing an underground drift to provide drill access to the Ridge Zone (Ridge Access Drift). More detailed mapping of the drift exposure, at a scale of 1:100, was undertaken for correlation with the drill data. Two underground diamond drill holes, totaling 293 metres, were completed to verify the depth extent of mineralization in the northeastern Kuhn Zone, a similar sub-parallel dilational shear zone to the Rainbow 2 Zone.

During the spring of 2006, the access drift situated on 1308 metre level was extended for an additional 400 metres further southwest to establish drill platforms for underground drilling to trace southwestern extensions of the Rainbow 2 and Kuhn mineralized zones. Underground diamond drilling was completed between May 25 and November 7, 2006 and consisted of underground diamond drilling of 72 holes (SC06-39 through SC06-110) from 16 drill stations totaling 6,445.44 metres and with collection of 2,384 core samples. Geological mapping of the underground workings was also carried out (Naas, 2007).

The drill program was designed to trace the Rainbow 2 mineralized zone further west-southwest, with a goal to delineate new resources in this zone by determining the continuity and grade of mineralization. During this program designated drill holes would be extended with the goal of verifying the extent of mineralization in the west-southwestern part of the Kuhn Zone. This drilling would also be used to explore the areas between the Rainbow 2 and Kuhn Zones, which included testing the newly discovered Berg Zone (Naas, 2007).

Highlights of the drilling from the various zones include:

- Rainbow 2: 13.49 g/t Au and 218.80 g/t Ag over 3.76 metres, 77.50 g/t Au and 487.00 g/t Ag over 1.15 metres, 17.21 g/t Au and 103.30 g/t Ag over 2.57 metres, and 10.95 g/t Au and 59.1 g/t Ag over 3.61 metres.
- Berg: 13.60 g/t Au and 639.00 g/t Ag over 1.43 metres, 4.61 g/t Au and 69.9 g/t Ag over 7.63 metres, and 24.57 g/t Au and 90.00 g/t Ag over 0.95 metres.
- Kuhn: 2.48 g/t Au and 72.90 g/t Ag over 2.82 metres, 1.14 g/t Au and 12.10 g/t Ag over 2.50 metres;
- Other zones (outside the three main zones described above): SC06-74: 2.60 g/t Au and 79.20 g/t Ag over 1.00 metres, and SC06-101: 4.75 g/t Au and 15.6 g/t Ag over 1.50 metres,

A metallurgical test program was completed by Cantest Ltd. of Burnaby, BC. Tests included grinding and flotation to produce bulk sulphide concentrates, as well as cyanidation of the flotation concentrates to determine gold and silver recovery. Additional tests included cleaner flotation to evaluate possible concentrate quality, and ore characterization tests, including head assays, acid base accounting for environmental issues, specific gravity and bond work index determination. Settling tests were also conducted on flotation tailings. Test results are summarized below (O'Connor, 2006):

- Flotation Recovery: gold 96%, silver and lead 88%, zinc 84%;
- Grade of concentrate: 75g/t Au, 3000 g/t Ag, 7% Pb and 5% Zn; and
- Cyanidation of concentrate: up to 90% for gold and 87% for silver from concentrate.

In November 2006, TLG again contracted MineTech to complete an update of the resource of the Skukum Creek deposit based on additional drilling carried out in the Rainbow 2 and Berg Zones since the 2003 resource estimate. Details of this estimate are presented in Section 6.2.

During 2007 and 2008, TLG continued to focus on expanding the potential in the Rainbow 2 and the Berg Zones. This involved further drifting in both the footwall access and along the Rainbow 2 and Berg Zones. Approximately 570 metres of drifting in this area was completed during 2007. Mapping and sampling of the Rainbow 2 and Berg drifts was also carried out. Underground diamond drilling followed with a total of 16 drill holes (SC07-111 to SC07-126) from two drill stations, for a total of 2,125.98 metres and 559 samples collected (Note: SC07-124 to SC07-126 were completed in early 2008). No technical report of the work conducted during this time was available to the author. Details are based on TLG news releases and a memorandum supplied by New Pacific. Assay plans and a geological plan map of the workings were also made available by New Pacific.

Concurrent with the exploration TLG requested EBA Engineering Consultants Ltd. to prepare a feasibility level Tailings Management Plan for the Skukum Property. The plan outlines containment of the ten-year mine life tailings that requires the construction of three tailings containment structures and two spigot discharge structures prior to commencement of mill processing operations and placement of tailings (EBA, 2007). Additionally metallurgical testing and rock characterization study was conducted by Process Research Associates (PRA). The work was done as part of the variability program for the Skukum Creek deposit. Samples from the Rainbow 2 and Berg Zones were taken to confirm test procedures developed for the Rainbow Zone. The rock characterization included physical and chemical determinations and environmental analysis. The results suggest that these waste rocks will not be the source of detrimental environmental effects (PRA, 2007).

### 6.1.3 Goddell Gully

First recorded exploration in the Goddell area was in 1898 with the discovery of the Porter and Empire Showings, followed in 1906 with the discovery of the Becker-Cochran and Goddell antimony showings.

The Porter-Fleming and Becker Cochran Showings are located some 1.7 and 3.8 kilometres, respectively, from the current Goddell Gully gold deposit, but their history of exploration are often linked and have been included within this section. This area of the property has also been referred to as Carbon Hill and includes the aforementioned showings, as well as other areas including Antimony Creek, Horseshoe Gulch and Goldpan Gully.

At the Porter-Fleming Showing, trenching was undertaken between 1898 and 1905 but no records of results of this work were found. From 1906 to 1915, 335 metres of underground development was carried out. Early results of exploration include reports of grades of up to 500 oz/t Ag and up to 50-60% Sb (Wheeler, 1961). A short adit was driven at the Goddell Showing at this time and some trenching completed between 1906 and 1910. The Becker-Cochran Showing had been worked intermittently between 1906 and 1940. Trenching and two short adits were driven with lengths quoted as 30.5 metres and 27.4 metres. Work was also performed at other showings on Carbon Hill in this same time period although detailed reports are missing. These include hand trenching at the Carbon Showing and hand trenching at the Empire Showing.

Between 1964 and 1967, Yukon Antimony acquired or staked claims over Becker-Cochran, Goddell, and Porter-Fleming Showings. At Becker Cochran, exploration over this period included 567 metres of diamond drilling and driving of three adits on two levels that totalled 160 metres of crosscuts and 270 metres of drifting. The second level is 46 metres below the uppermost. Work at the Becker-Cochran Showing defined a mineralized antimony-bearing shear zone approximately 350 metres long. Widths varied 1.5 metres to 7 metres and a vertical extent of 120 metres was reported (Hylands, 1966). Underground maps reveal that as many as three parallel zones coexist in a sheeted fashion. Cross cutting late dykes and faults were estimated to represent 30% of lateral development and caused mineralized systems to be lost for substantial distances.

A trench was excavated using both a bulldozer and shovels during 1964. It measured 7 by 3 metres. Sampling in this trench returned antimony values ranging from 2.5% to 27.5%. The material was both mineralized gouge and quartz vein bearing stibnite. Arsenic red and yellow stains were pervasive. Independent metallurgical work at two laboratories reported head grades of 9.52% and the other at 11.78% antimony (Hylands, 1966). The bulk sample originated from the trench.

Berglynn Resources Inc. staked the Becker-Cochran area in 1974 and optioned the property to Belmoral Mines the same year. Belmoral conducted mapping, geochemical sampling and reserve calculation drilling. In 1976, Con-Am Resources Ltd. optioned the property and carried out a 1,255.5 metre diamond drilling program the following year on the stibnite

mineralized zone at Becker Cochran and the Empire Showing. Con-Am also staked the Goddell area in 1976 (Con-Am, 1977).

In 1984, Berglynn staked claims from Goddell to Becker Cochran, as well as ground to the south on Carbon Hill. During the same year, the three Crown Grants over the Porter veins were purchased by B. Wilson, who then also staked several claims surrounding the Crown Grants. Surface and underground sampling on the Porter Showing returned up to 3.70 g/t Au, 1680 g/t Ag, 7.98% Sb over 0.15 metres. Surface sampling returned 6.86 g/t Au, 2785.4 g/t Ag, 7.40% Sb over 0.25 (Wilson, 1984). The Crown Grants were transferred to Skukum Gold Inc. in 1989.

In 1985, Berglynn completed a 1,632 soil sampling program that covered a 3.4 by 4.9 kilometre area from Goddell Gully to Becker Cochran. Five anomalous areas were defined with gold values in the 600 to 1,500 ppb Au range (Doherty, 1986). The anomalies are distinct and covered areas of up to 900 by 200 metres in mostly overburden laden areas of gentle topography. One gold-antimony anomaly was localized over the Becker-Cochran antimony showing, the others were located in areas far removed from previously known mineralization. From the 13 rock samples collected during the 1985 program, a 0.5 metre wide quartz vein located 150 metres below the Goddell Showing returned 2.23 g/t Au. Approximately 400 metres north of the Goddell Showing, in the adjacent gully, a mineralized 0.10 metres wide quartz vein exposed for 10 metres hosted in altered granodiorite adjacent to rhyolite dykes, returned 0.03 g/t Au and 159.43 g/t Ag (Hulstein, 1986).

Stream sediment and talus fine samples were collected from the MOM claims (located south of the Goddell and Becker-Cochran Showings). Three consecutive talus fine samples contained 680, 35 and 320 ppb gold in one area of shearing and rhyolite dykes within altered granodiorite on the west face of Carbon Hill (Garagan, 1987).

In 1986, a program of geological mapping and rock sampling was designed to follow-up on the five anomalies outlined from the previous soil sampling survey. Adit No. 3 at the Becker-Cochran Showing and the Goddell adit were rehabilitated for mapping and rock sampling. Sampling at the Goddell adit returned 13.03 g/t Au and 82.29 g/t Ag from a grab sample containing greater than 80% stibnite. Follow-up work at the five soil anomalies returned: 3.09 g/t Au and 2,605.71 g/t Ag from Antimony Creek; 100 to 200 ppb Au and 100 to 130 g/t Ag from narrow quartz veins from the cliffs between Goddell Gully and Antimony Creek; up to 1890 ppb Au from Horseshoe Gulch; and, up to 1,500 ppb Au from Conglomerate Creek. Sampling within the Becker-Cochran adit returned background gold values (Garagan, 1987).

In 1987, an exploration program was undertaken to assess the previously determined targets and work them to a drill target stage, then test the high priority targets by diamond drilling. Prior to drilling, a VLF-EM survey was undertaken along roads over the Goddell Fault extensions. At Goldpan Gully, 4.1 kilometres of VLF-EM surveying was undertaken along grid lines spaced 100 metres apart. Bulldozer trenching was undertaken at Horseshoe Gulch, from which 29 samples were taken. A grab sample from a chalcocite breccia returned 3,920 ppb Au (Coster, 1988).

Eleven drill holes totaling 2,854.47 metres tested the Goddell Fault at relatively shallow depths (920-1280 metres elevation) along a strike length of 250 metres. This drilling was successful in delineating auriferous structures, with the best intersections being 10.9 metres of 2.23 g/t Au and 7.89m of 2.85 g/t Au. Three drill holes totaling 818.08 metres tested the Horseshoe Gulch area, but returned low gold values. Two drill holes totaling 483.72 metres tested the Goldpan Gully area, but results returned low gold values and failed to explain the VLF-EM and geochemical anomalies (Coster, 1988).

Drilling in 1988 tested the structure as deep as the 800 metre elevation (above sea level), below the 1987 anomalous drill intersections. Four drill holes totaling 1,976.33 metres were drilled from which gold values of up to 20.91 g/t Au across a core length of 11.24 metres were returned (88-PG3), (Doherty, 1989). This new gold zone is now referred to as the PD Zone (Rodger, 1997).

In 1990, seven drill holes totaling 1,573.08 metres were drilled to the south of the main Goddell structure over a strike length of 250 metres. Two holes intersected gold mineralization of up to 11.18 g/t Au over 0.3 metres. This zone was referred to as the Golden Tusk Zone (Rodger, 1997).

Arkona Resources Inc. (formally Berglynn) and 276 Taurus Ventures Ltd. (Taurus) entered into a joint venture in 1994. The following year, Omni negotiated an agreement with Arkona and Taurus to acquire a 70% interest in the claim group covering the Goddell, Porter and Becker-Cochran Showings.

Exploration in 1995 consisted of five drill holes into the PD Zone, totaling 2,855.4 metres. Results of up to 14.2 g/t Au over 6.47 metres extended the mineralized zone to 200 metres long by 100 metres vertical with an average width of 5 metres (Doherty, 1996).

In 1996 Trumpeter Yukon Gold (TYG) and Omni negotiated an agreement for which TYG could acquire 50% interest in Omni's Skukum Property. The main focus of the agreement was to develop the PD Zone of the Goddell Gully deposit.

A 3.5 metre by 4.0 metre decline was collared in late 1996, with 780 metres of underground workings and 9,242.55 metres of underground diamond drilling completed by September 1997. The PD Zone was explored over a 400 metre strike length and a vertical extent of 170 metres, from an elevation of approximately 870 metres down to 700 metres (Rodger, 1997). Significant results for the 1997 drilling include drill hole 97-41, which returned 26.23 g/t Au over a core length of 11.06 metres. The most easterly drill hole from the deposit returned 9.91 g/t Au over a core length of 1.6 metres (97-66).

On surface, during 1996, Omni drilled two diamond drill holes (510.23 metres) near the Porter-Fleming Showing and encountered only weak values of antimony (266.7 ppm Sb over 0.9 metres) and background levels of gold. One drill hole, which totaled 887.58 metres in length, was drilled at Becker-Cochran to test for possible gold mineralization at depth. No significant gold grades were encountered, but results did include 2,509 ppm Sb over 1.0 metres and 278.1 ppm Ag over 1.0 metres (Elliot, 1996).

In 1999, TYG consolidated the Property information base through a data compilation program. This was followed by resource estimation carried out by Micromine Pty. of Perth, Australia, and reported in Naas and Rodger (1999).

In December 2000, TYG and Omni amalgamated into Tagish Lake Gold Corp.

In 2002, MineTech International Limited was commissioned to complete a resource estimate of the gold resources for the Skukum Property, including Goddell Gully. Details of this estimate are presented in Section 6.2.

In 2003, exploration at Goddell Gully consisted of:

- data compilation and integration to digital format of the Carbon Hill area;
- core relogging and sampling of historical drill core: 34 holes, 801 samples;
- line cutting: 2,985 metres of grid for an anticipated IP and magnetometer survey;
- surface diamond drilling: 3 drill holes, GG03-1, GG02-2, and GG03-2A (3 drill pads) totaling 974.74 metres, 368 samples; and,
- GPS surveying: sub-metre accuracy of roads, important monuments and exploration sites on Carbon Hill, and;

Core relogging of historical diamond drill core from the Goddell Gully Deposit was undertaken based on the observation of previously unsampled mineralized drill core in drill hole 97-56, an underground drill hole located to the west of the main PD Zone. Historical sampling had reported a single sample grading 3.57 g/t Au over 0.66 metres within the interpreted PD Zone. Sampling of the core below this intersection yielded a more significant gold mineralized zone returning of 8.49 g/t Au over 2.91 metres located within a larger lower grade zone that encompassed the historical intersection. Results of this infill sampling indicated that historical sampling had not identified all significant mineralization within the core. Prior to the relogging program, drill holes 97-31 and 97-42 had no sample data from the interpreted up-dip extension of the PD Zone. Likewise, drill hole 97-37 only had sporadic sampling with unbracketed significant results. These drill holes, on their respective sections, cross the PD Zone at its upper elevations. Sampling during 2003 was successful in locating significant gold occurrences in all three holes. In particular, drill hole 97-37, the original sample of 7.13 g/t Au over 2.17 metres (138.00-140.17m) has been extended to a wider intersection of 4.68 g/t Au over 8.11 metres (132.63-140.74m) including 8.20 g/t Au over 1.28 metres (Naas, 2004).

Diamond drilling was designed to test the area where resampled historical drill core had identified gold mineralization (Naas, 2004a). Selected significant intersections include:

- GG03-1: 2.09 g/t Au and 2.70 g/t Ag over 4.50 metres (2.09 metres true width);
- GG03-1: 9.87 g/t Au and 2.80 g/t Ag over 21.39 metres (9.87 metres true width), including 3.62 g/t Au and 5.32 g/t Ag over 7.85 metres (3.62 metres true width); and
- GG03-2: 1.20 g/t Au and 2.03 g/t Ag over 2.56 metres (1.20 metres true width).

In 2004, TLG completed two drill holes (GG04-3 and GG04-4) at the western strike extent of the Goddell shear zone. A total of 818.29 metres of NQ core was drilled with the collection of 144 samples. No significant gold mineralization was encountered other than two narrow intervals: 1.03 g/t Au over 1.21 metres and 0.99 g/t Au over 0.35 metres from GG04-3.

In 2009, rock sampling was carried out as part of a property-wide geochemical sampling program by Yukon-Nevada Gold Corp. From 21 samples collected from the Goddell to Becker Cochran area, one rock chip samples taken from Goddell Gully returned 7.49 g/t Au and 49.2 g/t Ag over 0.60 metres.

#### **6.1.4 Other Areas**

##### **Chieftain Hill and Raca Zone**

Some of the earliest claims in the Wheaton River area were reportedly staked on Chieftain Hill. Several were reportedly surveyed and taken to lease but no records are available. The earliest work is reported to be trenching undertaken between 1906 and 1910 on the Morning and Evening Veins (Naas, 2003).

The Raca Zone occurrence occurs on the south-facing cliffs of Chieftain Hill, directly across from the Skukum Creek Deposit. The Raca Zone is sometimes associated with exploration associated with the Skukum Creek Deposit although there should be a distinction made between the Raca copper occurrence higher up on the cliffs with the gold-silver vein occurrences identified by drilling at lower elevations. The latter area has also been termed “Rainbow East” in some reports to make the distinction.

In 1964, Yukon Antimony acquired or staked claims over much of Chieftain Hill (including the Raca showing). Yukon Antimony constructed a tote trail and conducted bulldozer trenching in 1964-1965. Exploration at the Raca copper showing consisted of mapping, rock chip sampling and an IP survey followed by three diamond drill holes from 1967-1968. Rock sampling returned 0.05% to 1.12% Cu with an average of 0.42%. The IP survey indicated a large strong anomaly approximately 730 metres by 1220 metres. Diamond drilling above the main showing intersected pyritic volcanics and granodiorite with a maximum of 0.07% Cu. Drilling at the showing intersected 0.35% Cu over 1.52 metres near the top of hole. The third hole was abandoned in alluvium (Freeze, 1986).

The Raca Showing was restaked by Secord Investments Ltd. and Laura Developments Ltd. in 1971 with further rock sampling carried out in 1972 that returned an average of 0.11% Cu and

24 g/t Ag (Minfile 105D023). It was sold to Chatham Resources Ltd. (later Westmount Resources Ltd.) in 1973. Rock sampling during this period returned up to 4.88% Cu with a bulk sample of similar material returned an average grade of 0.11% Cu and 24 g/t Ag (Freeze, 1986).

During 1985, Westmount conducted further soil and rock chip sampling over the RACA claims, focusing in on the precious metal potential of the area. Silver values of up to 52.8 g/t Ag were reported associated with the copper mineralization. One rock sample returned 4.46 g/t Au and 21.9 g/t Ag (Freeze, 1986).

Also in 1985, Omni drilled a single reverse circulation drill hole near Skukum Creek below the Raca occurrence to test the strike extension of the newly discovered gold-silver bearing Rainbow-Road Zone (Forster *et al*, 1986). The following year this hole was extended by diamond drilling and encountered 0.41 g/t Au and 2,407.5 g/t Ag over 0.19 metres (Omni corporate files, 1986). The work by Omni focused on the structurally controlled gold-silver mineralization found at lower elevations than the surface exposures of copper mineralization (Naas, 2002).

In 1986, Agip/Total Energold relocated the Morning and Evening Veins to an area with anomalous contour soil samples. The area was referred to as the Morning Gulch (Naas, 2002).

In 1987, the Evening Grid was surveyed to cover the area of the Morning and Evening Veins after prospecting led to the discovery of the Johnny B. Vein in Morning Gulch. Subsequent geological mapping at 1:1,000 scale on the grid lead to discovery of many quartz-calcite veins including the Ocean, Better B., and Pristine Veins. Soil geochemistry, prospecting, trenching, detailed mapping and ground geophysics were conducted over the grid area. Seven diamond drill holes totaling 894.18 metres were drilled to test the Evening, Pristine, Better B., Johnny B. and Ocean Veins. Maximum drill assay results of 1.37 g/t Au and 116.91 g/t Ag over 0.15 metres in the Evening Vein and 9.43 g/t Au and 87.77 g/t Ag over 1.42 metres in the Ocean Vein were obtained (Reddy and McDonald, 1989).

Exploration in 1988 included 901.92 metres of diamond drilling in eight holes, trenching, rock sampling and an HLEM geophysical survey. Holes 88-398, -399, -407 and -412 were drilled to test the Ocean Vein and holes 88-408, and -411 were drilled to test the Morning Vein. The HLEM survey indicated a continuation of the Ocean structure 300 metres to the east of the outcrop exposure. One bulldozer trench was excavated on the HLEM trace of the Ocean Vein and a 0.7 metre wide fault zone oriented at 076/84NW with anomalous gold and silver values was revealed. The Ocean Vein remained open in all directions in 1988 (Naas and Rodger, 1999).

Exploration in 1989 included grid establishment, HLEM and ground magnetic surveys, limited prospecting and diamond drilling totaling 1,803.97 metres in seven holes. With this drilling, the Ocean Vein had been tested along a strike length of 580 metres with a dip extent from 1,250 metre to 900 metre elevation. Results included 1.44 g/t Au and 173.14 g/t Ag over 0.96 metres from drill hole 89-550. Intersections were found to decrease in width to the

east. The most easterly intersection, drill hole 89-561, returned 0.48 g/t Au and 97.37 g/t Ag over 0.2 metres (Reddy and McDonald, 1989).

Wheaton tested the Ocean Vein in 1991 with three diamond drill holes totaling 1,033.5 metres. Results included 0.96 g/t Au and 317.1 g/t Ag over 3.86 metres (Doherty, 1992).

In 1997, Omni undertook a five drill hole, 608 metre diamond drill program to test the eastward extension of the Ocean Vein. Intersections averaged 40 to 50 metres vertically from surface. The best result was from drill hole OC97-2 which returned 1.30 g/t Au over 1.53 metres. The vein remains open to the east as the most easterly drill hole (OC97-5) intersected 0.72 g/t Au over 1.25 metres (Elliott, 1997).

A drill program was also completed at the Raca Zone by Omni, with three drill holes totaling 847.65 metres (RACA97-1 to RACA97-3). Drilling intersected 2.66 g/t Au and 561.37 g/t Au over 3.61 metres and 3.05 g/t Au and 205.72 g/t Ag over 1.29 metres (Omni corporate files, 1997).

As part of TLG's exploration program in 2001, the Raca Zone was investigated through a one-day traverse in the Raca copper occurrence (6 rock samples) and infill sampling of the Omni drill holes (RACA97-1 to RACA97-3). Rock sampling returned up to 5,652 ppm Cu (Naas, 2003).

As part of TLG's 2002 exploration program, Chieftain Hill was included as part of the structural and alteration study of the Property, by D. Rhys and Dr. J. Lang.

In 2009, rock sampling was carried out as part of a Property wide geochemical sampling program by Yukon-Nevada Gold Corp. and NWME personnel. From 18 samples collected from the Chieftain Hill area, significant sample results include 1.06 g/t Au and 149 g/t Ag over 1.50 metres (Ocean Vein) and 1.92 g/t Au and 291 g/t Ag over 0.20 metres (Evening Vein) (Johnson and Jinsheng, 2009).

### **Charleston Trend**

Prior to 1907, C. Weik staked the Charleston Vein area. To the west, a group of 12 claims was also staked, but no records are available. The Charleston claim was purchased by M. Watson from J. Hume in 1912, and was optioned to Slate Creek Mining Company in 1921 that carried out the development of the two adits (61 metres and 30 metres). Surface sampling at the time reported assays of 11.31 g/t Au, 291.4 g/t Ag over an average of 1.05 metres along a strike length of 250 metres. The claim was surveyed and taken to lease in the 1950's (Naas, 2003).

From 1964-1967, while Yukon Antimony was active in the Wheaton River area, they staked several claims immediately south of the Charleston mining lease (Naas, 2003).

Immediately north of the Charleston Mining Lease to the west of Skukum Creek, in the Twist-Watusi area, the NAT Joint Venture (Armco Mining Exploration and Chevron Canada Ltd.) staked ground in 1979, but allowed their claims to lapse by 1980. Rock sampling on the

claims returned highs of 1,640 ppb Au and 100 ppm Ag from quartz veins on a ridge (probably the Twist Zone) (Naas, 2003).

From 1981 to 1984, Agip continued to add to their Mt. Skukum land package by staking north of the Charleston area, covering the Twist and Watusi Showings. Preliminary surface exploration over the entire Charleston trend was carried out during this time (Naas, 2003).

In 1984, the Charleston Mining Lease was optioned to Shakwak Exploration Co. who also staked claims surrounding the Lease. Shakwak rehabilitated old trenches at the Charleston Vein as well as excavated several new ones. A new zone was located 105 metres south where results included 14.40 g/t Au, 672.0 g/t Ag over 1.89 metres (McDonald, 1985).

Mapping, sampling and further trenching was carried out from 1985-1989 by Shakwak with joint venture partners Island Mining and Exploration Co. Ltd. (1987-88) and Total Energold (1988-89) (Naas, 2003). Trenching by Island Mining in 1986 extended the Charleston Vein 430 metres to the south, and also located several other veins (Naas, 2003). Grab samples from the trenches to the south included 24.56 g/t Au, 34.6 g/t Ag from a quartz vein boulder (Garagan, 1986). Total Energold sampled the Charleston Vein on surface over its exposed strike length in 1988 and rehabilitated the adits in 1989 (Borntraeger, 1990). Several extremely high values were encountered including 205.75 g/t Au, 213.4 g/t Ag over 2.05 metres.

Kerr-Addison performed grid-controlled geochemical surveys, contour sampling and trenching at the Twist Zone north of the Charleston Vein in 1985-1986. Sampling of the veins here returned up to 5.76 g/t Au and 1763.0 g/t Ag. In 1987 and 1988, Pacific Trans-Ocean mapped, trenched, sampled and carried out ground geophysical surveys. Rock sampling during this period produced results of up to 6.34 g/t Au and 3,531.4 g/t Ag. Northern Minerals Ltd. continued exploration of the Twist Zone with further trenching and VLF surveying in 1989. Chip sampling in the trenches returned a high of 2,558 ppb Au and 193.9 ppm Ag over 0.5 metres (Naas, 2003).

No further work was carried out until 1997 when Omni Resources staked the DUKE claims over the Twist Zone, over which limited rock sampling was carried out (Omni, corporate files, 1997).

In 2000, the Charleston mining lease and the Shakwak claims lapsed and TLG (then Trumpeter Yukon Gold Inc.) restaked the area as the current CHAR claims, consolidating what has historically been a complex land position for the first time (Naas, 2003).

Exploration in 2001 by TLG included prospecting of the Charleston trend. Work included the collection of 50 rock samples and 1 stream sediment sample.

The reconnaissance-sampling program over the Charleston trend resulted in the confirmation of historic grades. The Charleston Vein returned the highest precious metal grades in the area with up to 222.07 g/t Au and 6,135.5 g/t Ag. Other significant results from along the trend include 3.80 g/t Au from the Twist Zone, and 6.50 g/t Au, 190.8 g/t Ag from the Watusi Vein.

The Rumba Zone, which lies off the main Charleston trend, returned 5.78 g/t Au and 190.8 g/t Ag (Naas, 2003).

In 2009, rock sampling was carried out as part of a Property wide geochemical sampling program by Yukon-Nevada Gold Corp. and NWME personnel. From 14 samples collected from the Charleston area, significant sample results include 10.10 g/t Au and 18.45 g/t Ag over 0.30 metres and 5.14 g/t Au and 17.2 g/t Ag over 0.72 metres (Johnson and Jinsheng, 2009).

### **Berney Creek**

The Berney Creek Lineament has been interpreted as the western extension of the fault system, which hosts the Rainbow and Kuhn Zones (Dussell, 1987). The fault marks the southern fault boundary of the Mt. Skukum Complex and places Cretaceous granitic basement rocks to the south in fault contact with Skukum Group volcanics to the north (Naas and Rodger, 1999).

In 1983, the area was geologically mapped and sampled. Nineteen chip and 94 talus fines were analyzed for gold, silver, copper and mercury with generally poor results (Dussell, 1987). Most prospecting and sampling was carried out in the vicinity of the Berney Creek Lineament.

In 1986 a program consisting of geological mapping, soil and rock sampling and general prospecting carried out within the Berney Creek area. Weak and discontinuous quartz veining containing base metal sulphides were located in three zones along the lineament. Quartz veining in one zone assayed 8.91 g/t Au and in a second zone further west, assayed 4.80 g/t Au. A third zone of quartz veining contained galena, chalcopyrite, malachite and azurite assayed 202.29 g/t Au and 274.29 g/t Ag (Dussell, 1987). All of these showings are weak, discontinuous and localized within granodiorite in the vicinity of the Berney Creek Lineament (Naas and Rodger, 1999).

In 2009, rock sampling was carried out as part of a property-wide geochemical sampling program by Yukon-Nevada Gold Corp. and NWME personnel. From 18 samples collected from the Chieftain Hill area, significant sample results include 1.06 g/t Au and 149 g/t Ag over 1.50 metres (Ocean Vein) and 1.92 g/t Au and 291 g/t Ag over 0.20 metres (Evening Vein) (Johnson and Jinsheng, 2009).

## 6.2 HISTORICAL MINERAL RESOURCE ESTIMATES

There are numerous historical estimates of resources and reserves of the deposits on the Property that have been completed by in-house professionals of numerous companies as well as third-party consultants since the late 1980's. The most recent estimates were made by Minetech International Limited in 2003 on the Skukum Creek deposit and Goddell Gully deposit and a 2007 resource update on the Skukum Creek deposit.

The 2003 resource estimates for Skukum Creek and Goddell Gully were prepared by D. Roy and P. Hannon of Minetech International Limited and documented in the Technical Report entitled "*Resource Report, Tagish Lake Gold Corporation., Skukum Creek and Goddell Gully Deposits*" and dated June 9, 2003.

The 2007 resource estimate update for Skukum Creek was also prepared by D. Roy and P. Hannon of Minetech International Limited and documented in the Technical Report entitled "*Tagish Lake Gold Corp, Resource Report Update, for the Skukum Property, Wheaton River, Yukon, Canada*" and dated August 27, 2007.

A summary of the key assumptions, parameters and methods used to prepare the historical estimates at Skukum Creek (2003, and 2007 update) and Goddell Gully (2003) are presented in Sections 6.2.1 and 6.2.2. The historical estimates in this section use the categories set out in sections 1.2 of the NI 43-101 Standards of Disclosure for Mineral Projects.

**The historical resource estimates in this section have been upgraded and replaced with a current mineral resource estimate prepared by a Qualified Person. These historical estimates are not to be relied upon.**

**Since the completion of the historical estimates, additional work has been carried out at Skukum Creek (diamond drilling and underground development) and Goddell Gully (diamond drilling) by a previous operator and New Pacific.**

**Current resource estimates for Skukum Creek and Goddell Gully have been prepared by a Qualified Person using all available data, updated models and run at current metal prices. The current resource estimates are presented in Section 14.0 of this report.**

### 6.2.1 2003 Historical Resource Estimate: Skukum Creek and Goddell Gully

For Skukum Creek, all sample data were collected as of the end of 2002, totaling 5,135 gold samples and 4,885 silver samples. For Goddell Gully, there were 3,949 core samples in total. At Skukum Creek, specific gravity was estimated using inverse distance weighting. At Goddell, an average specific gravity value of 2.7 t/m<sup>3</sup> was used as no specific gravity sampling had been carried out.

Drilling and channel samples were downhole composited or regularized over one metre intervals. Equivalent gold grades were calculated for each composited silver sample;

however, gold and silver grades were calculated separately for each block. At this time, metal prices were assumed as US\$300 per troy ounce gold and \$4.50 per troy ounce silver. The equivalent grade was equal to the silver grade multiplied by the ratio \$4.50/\$300 or 0.015. . Top-cuts of 32 g/t Au and 1,300 g/t Ag were applied to Skukum Creek blocks. A top-cut of 45 g/t Au was applied to Goddell Gully blocks.

Cross sections were created to show geology and the equivalent gold grades at 25 metres apart in the Rainbow and Kuhn Zones, and 50 metres apart in the Ridge Zone. Shear zone geology and an outline of "higher grade" material (greater than 5 g/t Au equivalent) within the shear zone were created to develop the wireframe model. The high grade outline model was used to construct a block model with dimension of 2m<sup>3</sup>, sub-blocked five times across strike and twice down-dip. Concurrently, a polygonal resource estimate was carried out, consisting of calculating the average grade of all samples within each section that were within the outline. Calculating the area of each section and multiplying that by the section width and average specific gravity gave the mass of each section. Measured resources were identified as blocks that were within 15 metres from two underground channel samples, Indicated resources were identified as blocks that were within the outline and were less than 25 metres away from at least two samples and Inferred resources were within the outline and within 40 metres of channel or core results.

At Goddell Gully, the same procedure for outlining geology was used as for outlining geology at Skukum Creek. An outline value was created using 5 g/t Au as a guide for the outline's outer limits. East-west sections were created at section spacing of 50 metres, except for a 100 metre portion over which a 25 metre spacing was used. Two zones were outlined and a specific gravity of 2.7 t/m<sup>3</sup> was used. A block model was constructed with block dimensions of 2 m<sup>3</sup>. Each block was subdivided five times across the strike dimension and twice in the vertical dimension to allow finer geological resolution. A polygonal method was used to estimate resources. Indicated resource was defined as within 15 metres of sampling and Inferred resources within 25 metres of sampling.

A summary of the total Skukum Creek and Goddell Gully resources are presented in Table 3 and Table 4 at various grade sensitivities, respectively. **These historical estimates have been upgraded and replaced with current mineral resource estimates prepared by a Qualified Person. These historical estimates are not to be relied upon.**

Table 3: 2003 Historical Resource Estimate, Skukum Creek Deposit (*after Roy and Hannon, 2003*)

Cut-off Grade (Au Eq g/t)	Measured Resources:			Indicated Resources:			Inferred Resources		
	Tonnage (t)	Au Grade (g/t)	Ag Grade (g/t)	Tonnage (t)	Au Grade (g/t)	Ag Grade (g/t)	Tonnage (t)	Au Grade (g/t)	Ag Grade (g/t)
3	220000	5.46	226	870,000	5.73	173	150,000	5.15	169
4	190000	5.81	240	770,000	6.18	185	130,000	5.69	187
5	160000	6.52	257	640,000	6.84	203	90,000	6.53	225
6	130000	7.39	279	510,000	7.61	226	70,000	7.14	260
7	110000	8.14	296	410,000	8.33	247	60,000	7.83	289
8	92000	8.91	309	340,000	9.06	268	51,000	8.34	307
9	78000	9.68	319	280,000	9.65	287	45,000	8.76	325
10	65000	10.52	325	240,000	10.21	305	40,000	8.99	338

Table 4: 2003 Historical Resource Estimate, Goddell Gully Deposit (*after Roy and Hannon, 2003*)

Cut-off Grade (Au g/t)	Indicated Resources:		Inferred Resources:	
	Tonnage (t)	Au Grade (g/t)	Tonnage (t)	Au Grade (g/t)
3	400,000	9.55	350,000	8.11
4	360,000	10.26	310,000	8.75
5	320,000	11.02	280,000	9.21
6	260,000	12.25	210,000	10.28
7	220,000	13.44	170,000	11.16
8	180,000	14.56	150,000	11.86
9	150,000	16.05	113,000	12.81
10	110,000	18.24	82,000	14.15

### 6.2.2 2007 Historical Resource Estimate: Skukum Creek

A summary of the procedure and details of the 2007 Skukum Creek resource estimate prepared by Roy and Hannon (2007) of Minetech is presented below. The resource estimate focused on the Rainbow 2 and Berg Zones that were discovered after the 2003 resource estimate.

The resource estimate was based upon all sample data collected as of the end of 2006. At this time, gold equivalent was calculated based on metal prices of gold at US\$650 and silver at US\$13 per troy ounce to establish cut-off grade for the purpose of outlining mineralized zones and reporting resources, but block value was estimated separately for gold and silver. Top-cut values were set at 35 g/t for gold and 350 g/t for silver. An average specific gravity of 2.83 was used. Mineralized zones were interpreted on paper and then digitized in computer. A cut-off grade of 2 g/tonne of gold-equivalent over a minimum horizontal width of 1.2 metres was used. Separate two-dimensional block models were created for each zone. Block dimensions were 5 metres by 5 metres (in the East and Elevation directions). Block thickness values (North direction) were calculated during the estimation process. The geometry of each zone was constrained by the geological outlines. Grade estimation was carried out using inverse distance weighting with a power of two. Horizontal thickness

values were calculated for each drilling intercept and inverse distance weighting with a power of three was used to estimate block thickness values. Block specific gravity values were also estimated using inverse distance weighting with a power of two.

Indicated resource was defined as within the outlined geology and within 20 metres of at least two drilling intercepts, and Inferred resource as within the outlined geology but within 40 metres of at least one drilling intercept. There was no Measured resource category as there was no supporting drifting/raising and underground sampling.

A summary of the total Skukum Creek resources are presented in Table 5 at various grade sensitivities. **These historical estimates have been upgraded and replaced with current mineral resource estimates prepared by a Qualified Person. These historical estimates are not to be relied upon.**

Table 5: 2007 Historical Resource Estimate, Skukum Creek Deposit (*after Roy and Hannon, 2007*)

Cut-off Grade (Au Eq g/t)	Measured Resources:			Indicated Resources:			Inferred Resources		
	Tonnage (t)	Au Grade (g/t)	Ag Grade (g/t)	Tonnage (t)	Au Grade (g/t)	Ag Grade (g/t)	Tonnage (t)	Au Grade (g/t)	Ag Grade (g/t)
0	260,000	4.7	193	1,170,000	5.3	145	303,000	5.1	124
1	250,000	4.9	200	1,140,000	5.4	149	299,000	5.3	126
2	230,000	5.2	215	1,100,000	5.6	154	288,000	5.5	132
3	220,000	5.3	221	1,000,000	6	164	251,000	6.1	145
4	195,000	5.8	240	880,000	6.5	174	206,000	6.8	155
5	160,000	6.6	261	740,000	7.2	191	160,000	8.2	189

Roy and Hannon (2007) noted that the Rainbow 2 zone appears to be related to the Rainbow Zone. The Rainbow 2 zone tapers out toward the east end of the zone. The Rainbow 2 and the Ridge Zone may either be contiguous or closely related. They also note that the Rainbow 2 is more extensive than the Berg Zone.

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

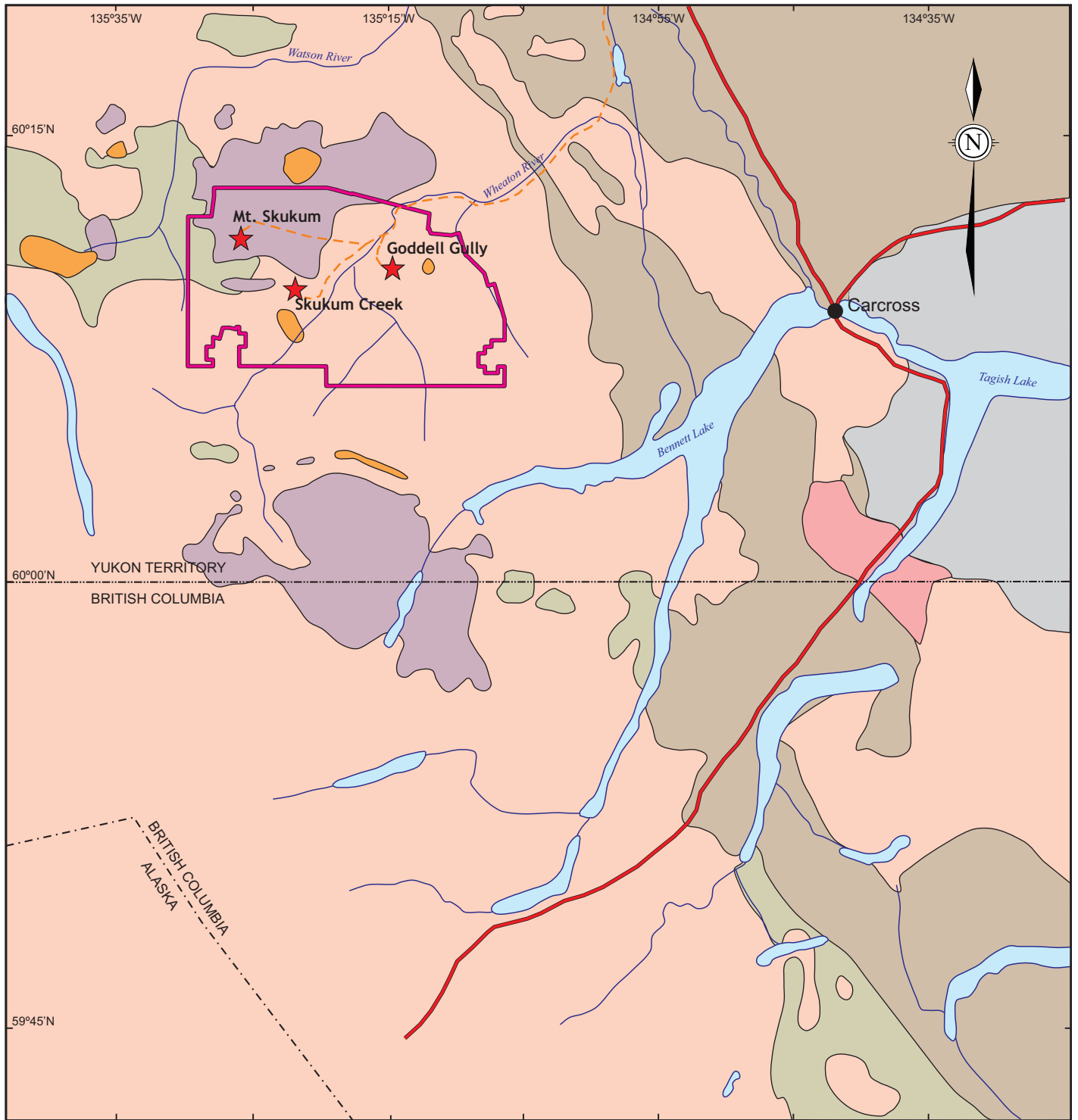
### 7.1 REGIONAL GEOLOGICAL SETTING

The Skukum property area is situated within the Wheaton River/Bennett Lake map sheet (Hart and Radloff, 1990). The district covers the boundary between the Stikine and Nisling Terranes, of the Intermontane Superterrane (or Intermontane Belt) of the Canadian Cordillera (Naas, 2007).

The regional geological setting of the Skukum project area is described in Hart and Radloff (1990), from which the following information is summarized. The project area is located within the Intermontane belt of the Canadian Cordillera. Oldest rocks in the area comprise domains and screens of probable Paleozoic gneiss, assigned to the Nisling Terrane by Hart and Radloff (1990), and Jurassic andesitic volcanic and siliciclastic sedimentary rocks of the Stikine Terrane and Whitehorse Trough overlap assemblage (Figure 4) (Naas, 2007).

Stratigraphic and contact relationships are commonly obscured by the many intrusions associated with the Coast Plutonic Complex. Strata of the Jurassic Whitehorse trough are affected by a series of open to tight, northwest trending folds that probably formed in Upper Jurassic to Lower Cretaceous time, approximately coeval with activity of the Skeena Fold Belt to the south in British Columbia. The folds are superimposed on earlier, probably pre-Triassic, metamorphic fabrics and the northwest trending Tally-Ho shear zone, a major Late Triassic shear zone that is developed approximately 15 kilometres to the northeast of the project area and which forms the easternmost limit of exposures of the Nisling Terrane (Naas, 2007).

Mesozoic plutonic rocks, which underlie much of the project area, separate the Jurassic units and Nisling Assemblage into isolated domains and screens. Major intrusions include the Alligator Quartz Monzonite and the late Triassic or early Jurassic K-feldspar megacrystic Bennett Granite that are widespread east of the Wheaton River in the Skukum project area (Figure 5). The most abundant rock types in the region comprise metaluminous Cretaceous intrusions of the Coast Plutonic Complex, which are subdivided into several plutonic suites by Hart and Radloff (1990). The dominant Cretaceous suites in the project area include the Mt. McIntyre plutonic suite (96 to 119 Ma), comprising the Mt. Ward granite and Carbon Hill quartz monzonite (Figure 5), and the Whitehorse plutonic suite (116 to 119 Ma), locally represented by the Mt. McNeil granodiorite pluton (Figure 5). Isolated accumulations of mid- to late-Cretaceous volcanic rocks of intermediate composition of the Mt. Nansen Group are present regionally and are approximately coeval with the Coast Plutonic Complex. In the Skukum project area, these rock types occur on the eastern flanks of Carbon Hill and southeast of Goddell Gully near the Becker-Cochran deposit (Figure 5), where they comprise green tuff and tuff breccia that unconformably overlie the Bennett Granite and Jurassic strata (Figure 5) (Naas, 2007).



**LEGEND**

**GEOLOGY**

**Eocene**

- Skukum Group volcanics
- Skukum Group rhyolite

**Cretaceous**

- Coast Plutonic Complex
- Mount Nansen Group

**Triassic to Jurassic**

- Whitehorse Trough Overlap Assemblage
- Laberge and Lewes River Groups

**Permian**

- Taku Group  
(Northern Cache Creek Terrane)

**Paleozoic or Older**

- Nisling Assemblage

**SYMBOLS**

- Geological contact
- Skukum Property boundary
- Deposit location
- Town
- Road
- River and lake
- International border
- Provincial/territorial border

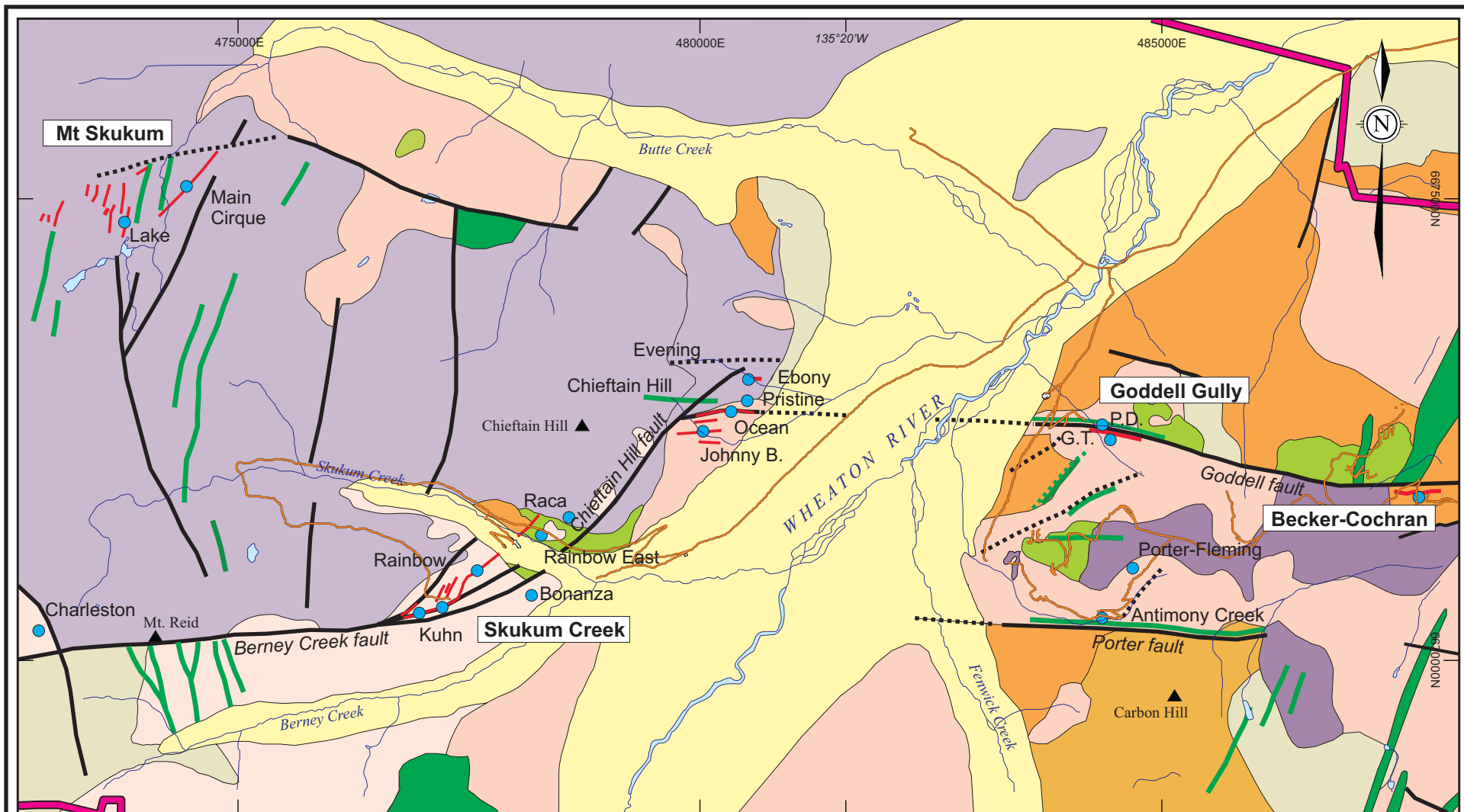


**NEW PACIFIC METALS CORP.**

**REGIONAL GEOLOGY  
Skukum Property**

Skukum Project  
Whitehorse Mining District, Yukon, Canada

Project No:	P68	By:	GD
Scale:	1:400,000	Drawn:	CK, TV
Figure:	4	Date:	July 2012



**LEGEND**  
**GEOLOGY**

- Recent**  
 Alluvium, colluvium
- Tertiary**  
 Skukum Group volcanics  
 Rhyolite to andesite dykes, stocks
- Cretaceous**  
 Mt. Nansen Group volcanics
- Upper Jurassic**  
 Clastic sediments, andesitic volcanics

- Mid-Cretaceous Intrusions**  
 Mt. McNeil pluton: granodiorite  
 Mt. McIntyre Plutonic Suite: quartz monzonite, granite
- Late Triassic to Early Jurassic Intrusions**  
 Bennett Granite: K-feldspar megacrystic granite  
 Alligator quartz monzonite
- Paleozoic**  
 Nisling Assemblage metamorphic rocks

**SYMBOLS**

- Selected deposit or showing
- Skukum Creek Deposit name
- Fault
- ..... Fault, inferred
- Au ± Ag ± Sb or Sb mineralized vein or fault
- Property boundary



UTM Zone 8 North  
NTS 105D/3,4,5,6

**NEW PACIFIC METALS CORP.**

**PROPERTY GEOLOGY**  
**Skukum Property**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	LM, TV
Scale:	1:62,500	Drawn:	TV
Figure:	5	Date:	July 2012

Late Cretaceous and Early Paleocene brittle dextral displacement associated with widespread dextral displacement throughout the Cordillera is related to reactivation of the Triassic Tally-Ho shear zone. This phase of displacement formed a brittle fault system, termed the Llewellyn fault by Hart and Radloff (1990), which exploited parts of the earlier Tally-Ho structure. Subsidiary faults generated during this tectonic episode may subsequently have been remobilized during Eocene volcanic activity to locally form caldera-bounding structures; these may also have acted as permeable structural sites for the formation of the late-volcanic vein deposits hosted by faults and shear zones in the Skukum project area (Naas, 2007).

Pre-Tertiary rock types in the region are unconformably overlain by at least four Late Paleocene to Early Eocene volcanic complexes that form the Skukum Group, and are intruded by numerous associated rhyolite and andesite dykes. In the project area, these are the youngest exposed rocks and are represented by the Early Eocene Mount Skukum volcanic complex, a caldera sequence that underlies western portions of the project area (Figure 5). The complex comprises a bimodal sequence of subaerial volcanic and volcanoclastic rocks with a total thickness that locally exceeds 800 metres, and an areal extent of approximately 200 km<sup>2</sup>. Exposures of the complex adjacent to the study area near the Skukum Creek deposits and in the Chieftain Hill area (Figure 5) are composed mainly of massive to poorly bedded, plagioclase porphyritic andesitic flows and tuff (McDonald *et al*, 1990, Naas, 2007).

Rocks of the Mt. Skukum Volcanic Complex rocks are locally separated from pre-Tertiary rock types by east- to northeast-trending, curved faults such as the Berney Creek fault and Wheaton lineament that may have been active synchronously with volcanism and which potentially form caldera-bounding structures (Figure 5) (Hart and Radloff, 1990). These structures, which locally may represent reactivated older faults, and parallel faults within the volcanic complex are host to or control probable synvolcanic vein and shear zone hosted Au-Ag mineralization in the district (Naas, 2007).

### **7.1.1 Some Aspects of Regional Metallogeny**

Regionally, most of the tectonic and magmatic events have or may have been accompanied by respective metallogenic assemblages (Mihalynuk *et al*, 1997). In particular, Upper Triassic arc rocks of the Whitehorse Trough are lithologically and temporally equivalent to those hosting important copper-molybdenum-gold porphyry deposits in southern British Columbia. Early Jurassic intrusive rocks are also known to host copper-gold mineralization in the central-western Yukon (Minto and Williams Creek deposits; Tafti and Mortensen, 2004). Cretaceous plutons produce copper skarns where they cut Upper Triassic carbonates in the Whitehorse copper belt (Mihalynuk *et al*, 1997), as well as copper-gold porphyry mineralization. The southern end of this belt may extend into the Skukum area. Epithermal gold-silver mineralization related to volcanic rocks forms a distinct belt extending from north to south across southern Yukon; this incorporates the Mount Nansen cluster of epithermal gold deposits and occurrences related to 100 Ma Mount Nansen volcanics, the Laforma epithermal gold deposit related to the Carmacks Group volcanics (75 Ma), and finally the Mt. Skukum gold prospect, further south, related to Tertiary volcanic rocks (55 Ma). The emplacement of some of these volcanic rocks are responsible for both epithermal and possibly

related copper-porphyry deposits (i.e., the Laforma gold veins and the Casino copper-molybdenum-gold deposit), suggesting the respective epithermal-porphyry transitions (Naas, 2007).

## **7.2 LOCAL GEOLOGICAL SETTING**

The local geology was described in a number of papers (Wheeler, 1961; Doherty and Hart, 1988; Hart and Radloff, 1990) and summarized by Lang *et al.* (2003). The Wheaton River area covers the boundary between the Stikine and Nisling Terranes, of the Intermontane Superterrane (or Intermontane Belt) of the Canadian Cordillera. The rocks consist of Paleozoic(?) gneiss assigned to the Nisling Terrane, and Jurassic andesite and siliciclastic rocks of the Stikine Terrane and Whitehorse Trough overlap assemblage, respectively.

The older rocks were intruded by late Triassic or early Jurassic K-feldspar megacrystic Bennett Granite (175 Ma), and then by metaluminous Cretaceous intrusions of the Coast Plutonic Complex including the most abundant Whitehorse Plutonic Suite (116-119 Ma), locally represented by the Mt. McNeil granodiorite pluton and associated rocks, and the Mt. McIntyre plutonic suite (96-119 Ma); the latter includes the Mt. Ward granite and Carbon Hill quartz monzonite. Intermediate Cretaceous volcanic rocks of the Mt. Nansen Group, thought to be approximately coeval with the Coast Plutonic Complex, are present regionally, and in the property area occur east of the Wheaton River (Lang *et al.*, 2003).

As noted by Lang *et al.* (2003), the early Eocene Mount Skukum volcanic complex, part of the widespread late Paleocene to early Eocene felsic to intermediate volcanism of the Skukum Group (Smith, 1982 and 1983; Pride, 1986), is a caldera sequence that underlies the western portion of the district. The Mount Skukum complex consists of up to 800 metres of mainly porphyritic andesitic flows and tuff exposed over an area of approximately 200 km<sup>2</sup>. These volcanic rocks are locally separated from pre-Tertiary rocks by curved, east- to northeast-trending structures such as Berney Creek fault and Wheaton lineament (coincident with the Wheaton River valley on Figure 5) that have been inferred to be syn-volcanic, caldera-bounding faults (Hart and Radloff, 1990). These and parallel structures host gold-silver mineralization in the district (Naas, 2007).

### **7.2.1 Stratigraphy**

#### **Proterozoic to Paleozoic Metamorphic Formations**

Metamorphic rocks of the Nisling Terrane underlie the western extent of the property (Charleston area), and occur as isolated roof pendants in the Chieftain Hill and Goddell areas of the property. These metamorphics are comprised of three units, the Nisling and Nasina assemblages as well as undifferentiated gneiss (Naas, 2007).

#### ***Nisling Assemblage***

This assemblage is comprised of rusty-brown weathering, competent, non-fissile biotite-muscovite-quartz-feldspar schist, quartzite and marble. A planar foliation is well developed parallel to compositional layering. Compositional layering is observed in the schists and

quartzites from 1-2 centimetres wide and from 1 to 100 metres wide in the marbles (Naas, 2007).

### ***Nasina Assemblage***

These rocks are very similar to the Nisling Assemblage in composition but distinguishable by graphitic, commonly garnet-bearing quartz schists and lesser marble. The best exposures are seen to the west of Mt. Skukum. The rocks are also well foliated but fissile due to partings on the graphitic layers. The typical lithology is garnet-muscovite, garnet-graphite schists and carbonaceous quartzite (Naas, 2007).

### ***Undifferentiated Gneiss***

Feldspar-hornblende orthogneiss with minor biotite, epidote, and chlorite are found on Chieftain and Carbon Hills in the Wheaton River area. This unit is not in actual contact with the other two but has been included in the Nisling Terrane based on descriptions and other relationships determined by other workers (Naas, 2007).

### **Jurassic volcanic and siliciclastic rocks**

Pebble conglomerate is present in several drill holes completed historically at the eastern end of the Rainbow Zone, immediately southwest of Skukum Creek. The unit is composed of clast-supported conglomerate with rounded clasts of chert and quartzite in a pale green sericitic matrix. This unit probably belongs to the Jurassic Tantalus Formation (cf., Hart and Radloff 1990). It is present in an area of no outcrop and core is incomplete and partially lost for the holes containing this unit, so its contact relationships and orientation could not be assessed. Conglomerate that has been mapped along the southeastern flanks of Chieftain Hill by Mt. Skukum Mines (unpublished mine maps; Hart and Radloff 1990), and which is intercalated with Jurassic volcanic rocks, may also correlate with this unit (Naas, 2007).

Diamond drill holes drilled in the Rainbow East Zone (RACA97-1 to RACA97-3) first pass through thick, recent talus of fresh Tertiary volcanic rocks, and then intersect pale grey, sericite-pyrite  $\pm$  magnetite altered, locally plagioclase  $\pm$  pyroxene porphyritic volcanic rocks of probable intermediate composition. Main rock types include massive, grey lapilli to block tuff and tuff breccia, and massive porphyritic flows or subvolcanic intrusive rocks. These units are distinct from the fresh Tertiary volcanic units present in talus higher on the slope. Their altered state, close spatial association with Jurassic conglomerate of the Tantalus Formation that is present immediately across Skukum Creek, and occurrence of Cretaceous intrusive rocks within them suggest that they may correlate with Jurassic pyritic andesitic volcanic rocks present on the eastern flank of Chieftain Hill two kilometres to the northeast (Figure 5). Since these volcanic units are present in an area of poor exposure under talus, their contact relationships with adjacent rock types are not well defined but recent surface mapping by New Pacific in 2011 indicates has identified a thrust contact between the volcanic units.

## 7.2.2 Tectonic Structures

Rocks at the Skukum Creek deposit have been affected by several phases of faulting, and Jurassic and older rocks have also been subjected to regional penetrative strain manifested by one or more phases of foliation development and, locally, by folding (Lang and Rhys, 2002). In particular, foliation is developed in K-feldspar granite on the north-east side of the Skukum Creek, which is assigned to the Bennett Granite (Naas, 2007).

Faults and shear zones developed in the Skukum property area comprise predominantly east- and north-east trending structures in all rock types, and additional significant north trending faults developed in the Mt. Skukum Volcanic Complex. Major north-west trending, Cordillera-parallel faults and shear zones are not well represented in the area, apart from some north-west trending lineaments defined by valleys and drainages, which do not accommodate regionally significant displacements but which may have local significance (Lang and Rhys, 2002) (Naas, 2007).

Major faults in the property area probably form part of a single, anastomosing and bifurcating fault system. These structures include the Berney Creek and Chieftain Hill faults developed on the west side of the Wheaton River valley, and the Porter and Goddell faults developed to the east. All of these structures are spatially associated with rhyolite and andesite dykes, and with Au-Ag<sub>+</sub>Sb and Sb mineralization (Naas, 2007).

Lang and Rhys (2002) assign the local shear zones occurred in the Skukum Creek deposit area to the Berney Creek fault system. The Berney Creek fault occurs on surface as a rusty, east-northeast trending lineament running along the southern, upper part of Mt. Reid ridge for up to 5 kilometres southwest of the Skukum Creek deposit. It dips vertically or steeply to the southeast. The fault locally defines, or occurs near, the contact between rocks of Mt. Skukum volcanic complex to the north and Cretaceous granodiorite to the south. Multiple fault strands over a width of several hundred metres contain slivers of Tertiary volcanic rocks and conglomerate and Cretaceous granodiorite. Rapid thickening of the Skukum Creek volcanic rocks to the north of the fault, their dip away from this structure, and the occurrence of several rhyolite and andesite dykes within the fault zone that may in part represent feeders to the volcanic rocks suggest that this structure may have been active synchronously with volcanism and may therefore form a caldera bounding fault (McDonald *et al*, 1990; Hart, 1992). Between several hundred metres and 1 kilometre of north side down displacement are estimated by McDonald *et al* (1990), based on the thickness of the Mt. Skukum volcanic rocks to the north (Naas, 2007).

The Berney Creek fault curves to more northeasterly trends at the Skukum Creek deposit, and may be continuous with the Chieftain Hill fault system on the northeast side of the Skukum Creek. Northeast trending splays and fault steps off the north side of the Berney Creek fault at its northeastern, bending end may include the Kuhn and Rainbow (and possibly other) faults, which are host to mineralization at the Skukum Creek deposit (Naas, 2007).

Other significant faults within the property area include the Chieftain Hill fault system and Wheaton lineament, Goddell fault, Porter fault. In particular, the Chieftain Hill fault system

is defined by a set of northeast trending, vertical to steeply southeast dipping faults developed along the eastern and southeastern flanks of the Chieftain Hill, possibly as the northern continuation of the Berney Creek fault. The Chieftain Hill fault system is parallel and developed approximately 400 metres southeast of the Wheaton lineament, a linear, northeast trending, 30 kilometres long feature defined by Hart and Radloff (1990) based on air photo enhanced Landsat TM imagery. Its southwestern end is interpreted to pass through the eastern flanks of the Chieftain Hill (Naas, 2007).

The Goddell fault is a steeply dipping, east-southeast trending fault system that is developed in pre-Tertiary rocks over a minimum 5 kilometre strike length east of the Wheaton River valley. Like other east trending faults in the area, the structure is intruded by rhyolite and andesite dykes along its length and has associated Au-Sb and Sb mineralization occurred as the Goddell Gully and Becker-Cochran prospects, respectively. The Porter fault is parallel to and developed 2 kilometres south of the Goddell fault and also controls andesite and rhyolite dykes (Naas, 2007).

### **7.2.3 Igneous Rocks**

Numerous types of intrusive rock of widely variable composition and texture are identified on the Property. In general, three igneous complexes can be conditionally distinguished within the property, namely, (1) Triassic-Jurassic Bennett Granite Stock, (2) Cretaceous multiphase intrusions of the Coast plutonic complex (gabbro, monzonite/diorite, granodiorite, quartz monzonite, monzonite-porphry, and various granites), and (3) Tertiary volcanics and related subvolcanic dykes and stocks of the Mt. Skukum Volcanic Complex (Naas, 2007).

#### **Triassic-Jurassic Bennett Granite Stock (K-Feldspar megacrystic biotite-hornblende granite)**

Diamond drill holes completed in the Rainbow East Zone on the northeast side of Skukum Creek (holes RACA97-1 to 3) intersected a foliated K-feldspar megacrystic granite, which based on textural and mineralogical similarity, is interpreted to be the Bennett granite which is widespread in the region. Doherty and Hart (1988) report a U-Pb zircon age for the Bennett granite of about 220 Ma, although other U-Pb dates in the region return approximately 175 Ma (J. K. Mortensen, *pers. comm.* 2002, in Lang and Rhys, 2002). This unit is easily distinguishable by the presence of pink euhedral K-feldspar megacrysts up to several centimetres across in greenish-gray medium- to coarse-grained, equigranular groundmass (Naas, 2007).

#### **Cretaceous Coast Plutonic Complex**

As noted above, multiphase intrusions of the Coast Plutonic Complex in the property area are subdivided into several plutonic suites (Hart and Radloff, 1990). The dominant Cretaceous suites include the Mt. McIntyre plutonic suite (96 to 119 Ma), comprising the Mt. Ward granite and Carbon Hill quartz monzonite, and the Whitehorse plutonic suite (116 to 119 Ma), locally represented by the Mt. McNeil granodiorite pluton. Isolated accumulations of mid- to late-Cretaceous volcanic rocks of intermediate composition of the Mt. Nansen Group are present regionally and are approximately coeval with the Coast Plutonic Complex. On the

Property, these rock types occur on the eastern flanks of Carbon Hill and southeast of Goddell Gully near the Becker-Cochran deposit, where they comprise green tuff and tuff breccia that unconformably overlie the Bennett Granite and Jurassic strata (Figure 5) (Naas, 2007).

**The Mt. McIntyre plutonic suite** (96 to 119 Ma) comprises the Mt. Ward granite and Carbon Hill quartz monzonite intrusives (Naas, 2007).

***Hornblende-biotite quartz monzonite (Carbon Hill pluton of Mt. McIntyre Plutonic Suite)***

This is the main host rock to the Goddell Gully and Porter fault zones on the east side of the Wheaton River valley. Hart and Radloff (1990) report a poorly constrained K-Ar date of  $96 \pm 15$  Ma for this intrusion, which is broadly consistent with 107 to 110 Ma U-Pb zircon results obtained from other plutons of the same plutonic suite in the area. It is a medium-grained, equigranular reddish-pink rock with subequal K-feldspar and plagioclase and about 20% combined hornblende and biotite. It is moderately magnetic, but less so than the Mt McNeil stock. It has invariably been affected by strong alteration where close to the Goddell Gully and Porter fault zones. No temporal relationships were observed with other intrusions except for cross-cutting Tertiary rhyolite and andesite dykes (Naas, 2007).

**The Whitehorse plutonic suite** (116 to 119 Ma) forms the Mt. McNeil pluton and is represented by gabbro, monzonite/diorite, granodiorite (major intrusive phase), quartz monzonite, monzonite-porphyry, and various granites (Naas, 2007).

***Gabbro***

Gabbro was for the first time encountered during the 2006 drilling program, in drill hole SC06-52 (interval 138-145 metres) drilled to explore the area south of the Rainbow 2 and Kuhn mineralized zones. This is a medium-grained, equigranular meso- to melanocratic dark-gray rock, with nearly equal amounts of clinopyroxene and amphibole (mafic index is about 60%); the presence and abundance of amphibole reveals possibly transalkalic composition of the rock. This rock is found in contact with the McNeil granodiorite and is apparently crosscut by the latter (Naas, 2007).

***Biotite-pyroxene monzonite/diorite***

This rock type was observed in the Skukum Creek area, in vicinity to and especially immediately north of the Rainbow and Rainbow 2 mineralized zones. The rocks are dark-gray, fine- to medium-grained, and equigranular. Mafic minerals (clinopyroxene, amphibole, and biotite) together make up 30 to 35% of the rock. Quartz is locally present in minor (<5%) concentrations. The rock exhibits very irregular textures, with coarser- and finer-grained, more or less meso- and melanocratic sectors, locally – with clots of mafic minerals, variously sized mafic enclaves and xenoliths – possibly indicating a processes of hybridism, magma mingling/mixing. The rocks are crosscut by McNeil granodiorite, quartz monzonite, monzonite-porphyry, and younger Tertiary dykes (andesites to rhyolites) (Naas, 2007).

***Biotite-hornblende granodiorite (Cretaceous Mt McNeil pluton)***

Within the Skukum project area, the Mt. McNeil pluton underlies the valley of Berney Creek, Mt. Reid and the south side of Skukum Creek, immediately to the south of the Mt. Skukum volcanic complex. Hart and Radloff (1990) report a 111 Ma U-Pb zircon age from the pluton

in the Skukum project area. The rocks are gray in color (from dark-gray to light-gray), mesocratic, medium- to coarse-grained, equigranular to seriate, and are characterized by large, euhedral amphibole grains that are mostly 3 to 6 millimetres (up to 1 centimetre) long. They typically contain approximately 10% hornblende, 5% biotite, 25 to 30% quartz, 30 to 35% plagioclase, and 20% K-feldspar, providing an IUGS classification as biotite-hornblende granodiorite. Fresh rock contains abundant magnetite. Partially disaggregated cognate xenoliths of fine-grained monzonite/diorite are common. Hornblende and biotite have been at least partially replaced by greenish chlorite in even the freshest samples. Granodiorite is crosscut by quartz monzonite, monzonite-porphyry, and younger Tertiary dykes (andesites to rhyolites). Alteration is pervasive and much stronger close to major shear zones (Naas, 2007).

#### ***Weakly porphyritic quartz monzonite***

This rock type forms small dykes up to several metres thick and traceable for many tens of metres, crosscutting the Mt. McNeil granodiorite. It has characteristic pale-pink color, meso- to leucocratic appearance, fine-to-medium-grained weakly porphyritic texture, with plagioclase phenocrysts. Mafic minerals (20-30%) include both amphibole and biotite. Several northeast trending dykes of quartz monzonite have been mapped in the western part of the Rainbow 2 and Kuhn Zones. Contacts between the quartz monzonite and the granodiorite are distinct. The quartz monzonite is crosscut by monzonite-porphyry, andesite and rhyolite dykes (Naas, 2007).

Despite of the similarity in rock names, the weakly porphyritic quartz monzonite and the Carbon Hill pluton hornblende-biotite quartz monzonite are easily distinguishable by their color, equigranular versus porphyritic texture, and general appearance (Naas, 2007).

#### ***Porphyritic hornblende monzonite to quartz monzonite (“monzonite-porphyry”)***

This unit is present as irregular bodies and dark dykes within the Mt. McNeil pluton in the vicinity of the Skukum Creek deposits. The rock is gray to dark-gray in color and typically has a salt and pepper texture that reflects subequal concentrations of euhedral hornblende prisms and equant, white plagioclase phenocrysts. The groundmass is dark and fine-grained. Some variations on this rock type contain minor quartz. Plagioclase phenocrysts form approximately 40% of the rock, and locally exceed 50%. The moderate response to K-feldspar staining is consistent with monzonite. This rock type is common in the Skukum Creek area, but it was not observed at Goddell Gully or Chieftain Hill. The rock locally contains minor cognate diorite xenoliths, but their concentration is markedly less than in the Mt. McNeil granodiorite. It commonly contains inclusions of the Mt. McNeil granodiorite and weakly porphyritic quartz monzonite (the latter are more frequent), but is cut by andesite and rhyolite dykes (Naas, 2007).

#### ***Biotite granite***

This rock was observed by Lang and Rhys (2002) and described as a medium-grained, equigranular intrusive rock that occurs locally in the Taxi Zone and in drill holes south of the Kuhn Fault. No significant alteration or distinctive fabric has been noted in this unit. Dykes of this rock type crosscut the Mt. McNeil granodiorite, but were not observed in contact with other intrusions. The rock is moderately magnetic and the only mafic phase is biotite. It is cut locally by chlorite or sericite veinlets (Naas, 2007).

### ***Aplites and Pegmatites***

Small dykes and dykelets of fine-grained equigranular aplites and coarse-crystalline pegmatites are widespread cutting through the Mt. McNeil granodiorite in the Skukum Creek area. According to Lang and Rhys (2002), these dykes are most abundant in areas that are also cut by biotite granite dykes, to which they might be related. They are late magmatic features that are cut by minor shear zones and altered. Sometimes small aplite dykes grade to a core of pure quartz, a pattern common to aplites in many systems (Naas, 2007).

Considering a geological history of emplacement of the rocks allocated to the Coast Plutonic Complex in the Skukum Creek area, a missed member is apparent, namely, late mafic dykes that are very common in many multiphase intrusive suites following the youngest granites. In this regard, it will not be surprising, if a follow-up study reveals some andesite dykes currently considered to represent the Tertiary subvolcanic formations are in fact late mafic dykes accompanying the Cretaceous intrusives (Naas, 2007).

## **7.2.4 Tertiary Volcanic and Subvolcanic Rocks**

### **Tertiary Volcanics (Mt. Skukum Volcanic Complex)**

The complex is an early Eocene, bimodal sequence of sub-aerial volcanic and volcanoclastic rocks that have been deposited over approximately 140 square kilometres. The complex trends northeast in a 20 by 11 kilometre ellipsoid, bounded by faults to the south and east, and divided into two parts by two north-south trending faults. The eastern part has been down-dropped by as much as 300 metres relative to the western block (Pride, 1986). The eastern portion of the complex is comprised of mainly felsic pyroclastic rocks intercalated with brecciated flow-banded and spherulitic rhyolite lava flows. These felsic units are particularly thick in the northeastern and southeastern parts of the complex where prominent large-scale arcuate fracture systems, large slump blocks, vent facies pyroclastic rocks and other features indicate centres of volcanism and associated margins of nested caldera subsidence. The western block is underlain by at least 850 metres of andesite, which host the Mt. Skukum gold prospect. The andesite unconformably overlies the basement of metamorphic Nisling Terrane and intrusive Coast Plutonic Complex on a highly irregular erosion surface (Jago, 1991) (Naas, 2007).

The following terminology regarding the stratigraphy of the Mt. Skukum Volcanic Complex is based on the work of Hart and Radloff (1990):

*Ibex Formation:* dark, vitreous, flow-banded rhyodacite flows with sparse feldspar phenocrysts and welded tuff and common granitic fragments. This unit may or may not be part of the Skukum Group but is found overlain by Butte Creek Formation.

*Mount Reid Formation:* Massive, hematitic, clast-supported, cobble and boulder conglomerate with locally derived basement fragments.

*Butte Creek Formation:* consists of three sub-units of well-bedded, pastel coloured felsic and altered felsic pyroclastic rocks with interbeds of grey, green and purple interbeds, interlayered epiclastic sediments and tuffs, and undivided tuff and epiclastics.

*Watson River Formation*: massive to poorly-bedded, dark-brown and purple to pale green columnar-jointed andesite and andesite porphyry flows, as well as pale green dacitic to andesitic lithic tuff.

*Vesuvius Formation*: consists of a variety of rhyolite tuffs and flows, lithic tuffs, and a collapse breccia of large blocks of flow-banded rhyolite. The various sub-units range in color from dark reddish-brown to green to tan to grey.

## **Tertiary Subvolcanic Dykes and Stocks**

### ***Andesite dykes***

These intrusions are widespread throughout the project area, but are generally most common within or adjacent to major fault zones (cf. rhyolite dykes below). The most common types are either dark grey aphyric, or have a porphyritic texture defined by hornblende and plagioclase. Both types of dyke may be altered and locally mineralized. The andesites were observed to cut most of the pre-Tertiary phaneritic intrusive rocks, but with respect to rhyolites it can only be said that some andesite dykes are older than some rhyolite dykes. Several types of andesite dykes are probably present in the area, but work was inadequate for full delineation. Andesite dykes that intrude pre-Tertiary rocks in the area may represent subvolcanic feeders to the Mt. Skukum volcanic complex (Naas, 2007).

### ***Dacite dykes***

Dacite dykes are also widespread in the area; in particular, dacite forms the large Portal Dyke striking roughly north (north-east) and found just east of the Rainbow mineralized zone. Dacite is a brown to brick-brown aphanitic rock, with small plagioclase phenocrysts and quite common small vugs filled in by chlorite and epidote (Naas, 2007).

### ***Rhyolite dykes***

These subvolcanic intrusions comprise a diverse group of felsic dykes that are variable in mineralogy, texture, and their spatial and temporal relationships to hydrothermal alteration and mineralization. Rhyolite dykes were observed to cut most intrusions on the property, but have variable timing relative to andesites as noted above, suggesting multiple pulses of both intrusive types. Like the andesite dykes, rhyolite dykes commonly have a spatial association with, or are developed within, major east- and northeast-trending fault systems. In the Skukum Creek area and at Chieftain Hill, the most typical appearance of the includes a light beige to light grayish-green color, and a aphanitic texture with up to 10% clear, rounded to square and locally resorbed quartz phenocrysts mostly <3 to 4 millimetres in size. Prominent flow banding is well developed near the contacts of many of the larger dykes (Naas, 2007).

Three distinctive quartz  $\pm$  K-feldspar porphyritic dykes that are present in the Goddell Gully area along the Goddell fault belong to the rhyolite dyke group. These have been termed the North, Central and South marker dykes in old drill logs, based on a consistent and predictable distribution along strike. The North and South Marker dykes lack flow banding and have a higher concentration of K-feldspar phenocrysts and more variable concentrations of quartz phenocrysts than the Central Marker dyke. The Central Marker dyke has well-developed flow banding, overall texture, equant quartz phenocrysts, and alteration and disseminated pyrite that makes it much more similar to the mineralized rhyolite dykes at Skukum Creek. The relative age of the three rhyolite dykes at Goddell was not established (Naas, 2007).

A single, narrow spherulitic rhyolite dyke was observed in the Ridge Zone. It is characterized by spherules <4 millimetres in size and several percent disseminated pyrite; the age of this intrusion relative to other types of rhyolite dyke is unknown but similar intrusions at Mount Skukum were considered by McDonald *et al* (1990) to be among the youngest rock types in the area (Naas, 2007).

#### ***Zoned Andesite-Dacite dykes***

Zoned andesite-dacite dykes were apparently firstly observed during the 2006 Phase V drilling program in the western parts of the Rainbow 2 and Kuhn mineralized zones (DDH SC06-48, SC06-53 to SC06-55). In most cases, dacite occupies central (“core”) position in the zoned dykes and exhibit quite sharp (less often gradual) contacts to the “rimming” andesites. These relationships can be considered as revealing intra-chamber magmatic differentiation rather than successive emplacement of various rock types. Visually, the andesites and dacites found in the zoned dykes are indistinguishable from those forming “regular” dykes composed of one rock type. The only difference is that the zoned dykes are much thicker than the “regular” ones. Furthermore, the zoned dykes apparently evolve into the less thick “regular” ones along strike and down-dip (Naas, 2007).

#### ***Composite Andesite-Rhyolite and Andesite-Dacite-Rhyolite dykes***

Composite andesite-rhyolite and andesite-dacite-rhyolite dykes represent something different from the zoned andesite-dacite dykes mentioned above. The difference is that these rock types are found in crosscutting relationships rather than in gradual transitions. In other words, these complex dykes were likely formed by subsequent intrusion of portions of magma with different composition; these intrusions were controlled by multiple re-activation of the same controlling tectonic structures. In all cases, rhyolite appears to be younger than other rock types (dykes). It is important that the largest dykes identified on the prospect (namely, the Rainbow 2, Kuhn, and possibly Rainbow dykes) represent this type of composite dykes, with perhaps earlier zoned andesite-dacite and/or unzoned andesite dykes intruded by rhyolite dykes (Naas, 2007).

#### ***Post-hydrothermal amygdaloidal andesite dykes***

These occur in several places at Skukum Creek; one of them was intersected by SC06-52 (interval 110 to 125 metres) south of the Kuhn Zone. They tend to be fresh and undeformed, even where located close to known mineralization, and are consequently interpreted as post-hydrothermal. These dykes range up to several metres in width. They have a fine-grained to aphanitic, dark-coloured groundmass, and are distinguished by white to clear amygdules infilled by quartz and/or calcite. Similar dykes were interpreted to be the latest stage of intrusive activity in the vicinity of the Mount Skukum mine (McDonald *et al*, 1990) (Naas, 2007).

## 7.3 MINERALIZATION

### 7.3.1 Mt. Skukum

Mineralization within the Mt. Skukum area is restricted to gold veins that occur in shear and fault zones located on the caldera margin, along major cross-cutting faults and in local, complex faults zones associated with collapse of the nested calderas. Productive veins in the Mt. Skukum area consists of electrum-bearing quartz-calcite-sericite veins (Naas, 2004).

#### **Main Cirque Zone**

The mined-out Main Cirque Vein is hosted within porphyritic andesite cut by various andesite dykes (Figure 6), and in particular a 2 to 60 metre wide steeply dipping rhyolite dyke along the north south trending Main Cirque Fault Zone. The ore zone was approximately 200 metres long, 80 metres in depth and on average 5 metres wide. Mineralization consisted of multiple emplacement electrum- and native silver-bearing quartz-calcite-sericite veins with marginal stockwork and gouge zones. The stockwork veins locally coalesced to form near vertical shoots of massive quartz-carbonate veins. Veins typically occur as 0.5 to 25 metre wide zones of stockwork veinlets 5 millimetres to 2 metres wide, which crosscut rhyolite and porphyritic andesite dykes and hydrothermal breccias. All massive veins narrow at depth and bottom out in quartz-carbonate stockworks (McDonald *et al*, 1989).

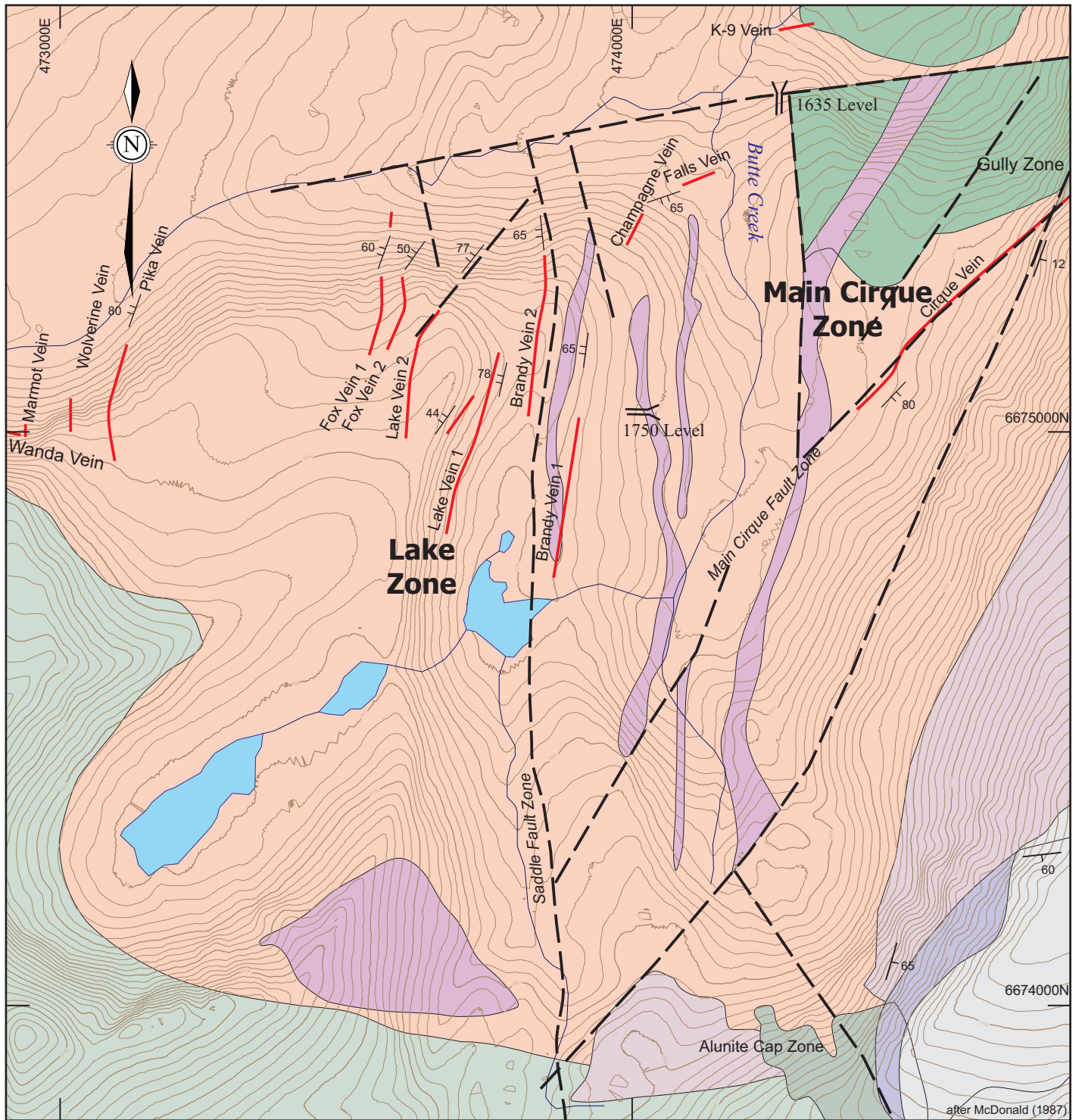
#### **Lake Zone**

The Lake Zone consists of two interconnected veins of different orientations hosted in gently west-dipping propylitically altered porphyritic andesite and pyroclastic andesite rocks. The veins occur as massive, fine to coarse grained quartz-calcite-sericite veins, re-cemented vein breccias, vein-wallrock breccias, hydrothermal breccias and stockwork. Accessory minerals include generally <1% combined pyrite, pyrrotite, sphalerite, galena, rhodochrosite, rhodonite and visible electrum (Naas, 2004).

Drilling and underground development indicates a 50° dipping, 020° trending vein (and associated secondary subparallel veins and splays) interconnects with a vertical 012° vein. The former has a drill indicated strike length of 650 metres, and 230 metre vertical extent. Thickness of the vein varies widely from 0.1 to 10.1 metres, averaging 0.6 metres. The southerly portions of the vein average about 2.5 metres. The latter vein (012° trend) originates to the south as vertical splay. Moving along strike to the north, the vein is generally narrow and discontinuous for 125 metres, until it diverges and becomes thicker and more continuous for the next 250 metres until it intersects the surface. This vein is 0.1 to 7 metres thick, averaging 0.45 metres (McDonald *et al*, 1989).

#### **Brandy Zone**

The Brandy Zone comprises a series of up to six subparallel gold-bearing quartz-calcite veins striking 014° and dipping 55-70° west. The veins occur over 150 metres width and a 650 metre strike length. Veins are hosted in flat-lying porphyritic andesite flows and tuffs, which are crosscut by numerous steeply dipping rhyolite and andesite dykes and form part of the Brandy Zone structure. The veins consist of quartz, calcite, sericite and visible electrum.



**LEGEND**  
**GEOLOGY**

**Skukum Group**

- Alunite-pyrophyllite clay altered zone
- Rhyolite breccia, dykes and stocks
- Monolithic andesite breccia
- Densely welded felsic tuff
- Felsic megabreccia
- Flowbanded rhyolite
- Interbedded andesite pyroclastic and porphyritic andesite flow rocks
- Interbedded andesite epiclastic and porphyritic andesite flow rocks
- Interbedded andesite flows, epiclastic rocks and basal conglomerate

**SYMBOLS**

- Contact
- Fault
- Quartz-carbonate vein and stockwork
- Vein orientation, strike and dip
- Bedding, strike and dip
- Portal
- Contours (10 m interval)

0 250m

UTM Zone 8 North, NAD83  
105D03,04

**NEW PACIFIC METALS CORP.**

**GEOLOGY PLAN MAP**  
**Mt. Skukum Area**

Skukum Project  
Whitehorse M.D., Yukon Territory, Canada

Project No:	P68	By:	BM, CK
Scale:	1:10,000	Drawn:	TV
Figure:	6	Date:	July 2012

after McDonald (1987)

Epidote and chlorite are common as alteration in the wallrock or in vein breccias where the vein material forms the matrix for altered wallrock fragments. The veins range from 0.08 to 2 metres thick and average 0.2 metres (McDonald *et al*, 1989).

### **Other Zones**

The numerous other veins occurring in the Mt. Skukum area show similar characteristics to the primary veins. All veins are typically quartz-calcite-sericite veins and stockworks with very fine-grained electrum and sulphides. Grades in several of the veins (e.g. Wolverine, Marmot) may contain economic gold (+silver) grades but often show a very erratic distribution of grade. Gold-silver ratios are typically 1:1 to 1:3 (Naas, 2004).

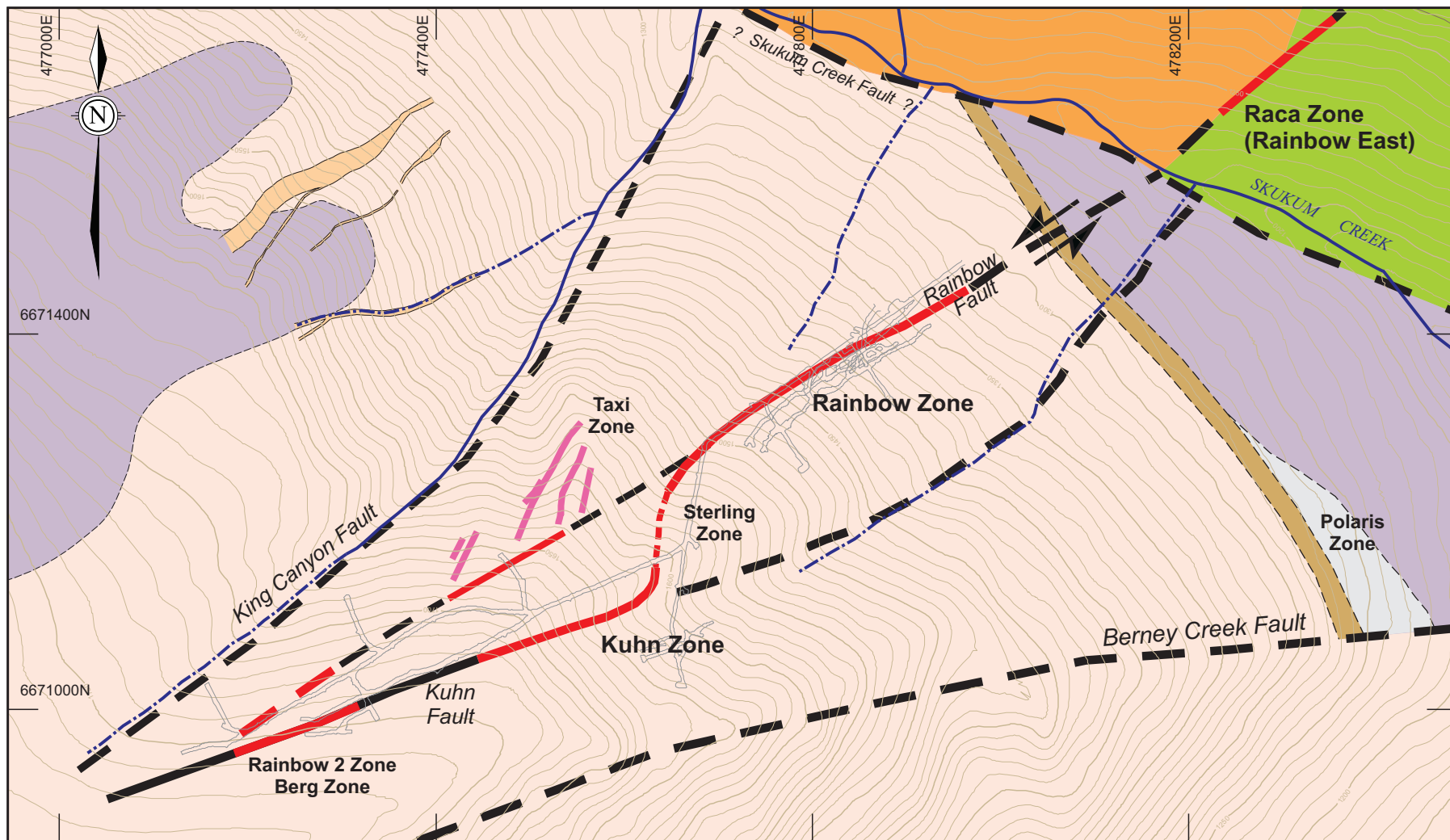
### **7.3.2 Skukum Creek**

In the Skukum Creek area, zones of mineralization are hosted primarily by a series of linked, northeast-trending faults that may represent splays off the Berney Creek fault system (Figure 7). The Rainbow and Kuhn zones occur along parallel, northeast-trending faults of the same name that are defined by intermixed andesite and rhyolite dykes, monolithic and polyolithic phreatomagmatic breccias, semi-brittle shear zones and quartz-sulphide veins. These two zones are linked by the north-trending Sterling Zone, a dilational step-over that connects the eastern end of the Kuhn Zone with the western end of the Rainbow Zone (Naas, 2007).

Within the Rainbow and Kuhn Zones, mineralization occurs in quartz-sulphide veins that are intimately associated with an anastomosing network of shear zones that cross and/or are developed along dyke contacts. Multiple generations of veins are present including early veins incorporated as fragments into cataclasites and younger veins that overprint cataclastic breccias (Naas, 2007).

Mineralization in the Ridge and Ridge 2 Zones may occur at or near the junction of the Kuhn and King Canyon faults. This may be a zone of dilation and splays that links the two structures. Rainbow 2 may represent an extension of the Rainbow Zone. North-northeast trending, steeply dipping quartz-sulphide extension veins in the Taxi zone, and similar veins developed throughout the underground workings, have orientations consistent with formation during sinistral displacement along the Rainbow and Kuhn faults (Naas, 2007).

Sulphide mineralization occurs primarily as pyrite, arsenopyrite, galena, sphalerite, and chalcopyrite. There is commonly an early stage of pyrite-arsenopyrite without associated precious metals. Gold at Skukum Creek occurs mostly as electrum and minor to trace native gold and is directly related to a late stage of galena-stibnite mineralization that replaces earlier arsenopyrite-pyrite-sphalerite. Silver is hosted predominantly in freibergite, with trace to minor native silver and argentite with trace amounts occurring within galena, chalcopyrite, stibnite and sphalerite (Naas, 2005, 2007).



**LEGEND**

**GEOLOGY**

- Mt. Skukum Volcanic Complex
- Rhyolite-rhyodacite dyke
- Rhyolite dykes
- Andesite, rhyolite tuffs and flows

**Upper Jurassic units**

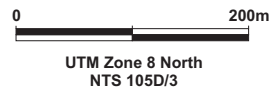
- Conglomerate
- Andesitic volcanics

**Mesozoic Intrusions**

- Mt McNeil Pluton: Granodiorite, syenite, monzonite
- Bennett Granite: K-spar megacrystic granite

**SYMBOLS**

- Quartz-sulphide vein (surface projection)
- Fault (surface projection): defined, inferred
- Mineralized shear zone (surface projection): defined, inferred
- Watercourse: permanent, intermittent
- Contours (10 m interval)



**NEW PACIFIC METALS CORP.**

**GEOLOGY PLAN MAP  
Skukum Creek Deposit**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	DR, CN
Scale:	1:6,500	Drawn:	TV
Figure:	7	Date:	July 2012

### **7.3.3 Goddell Gully**

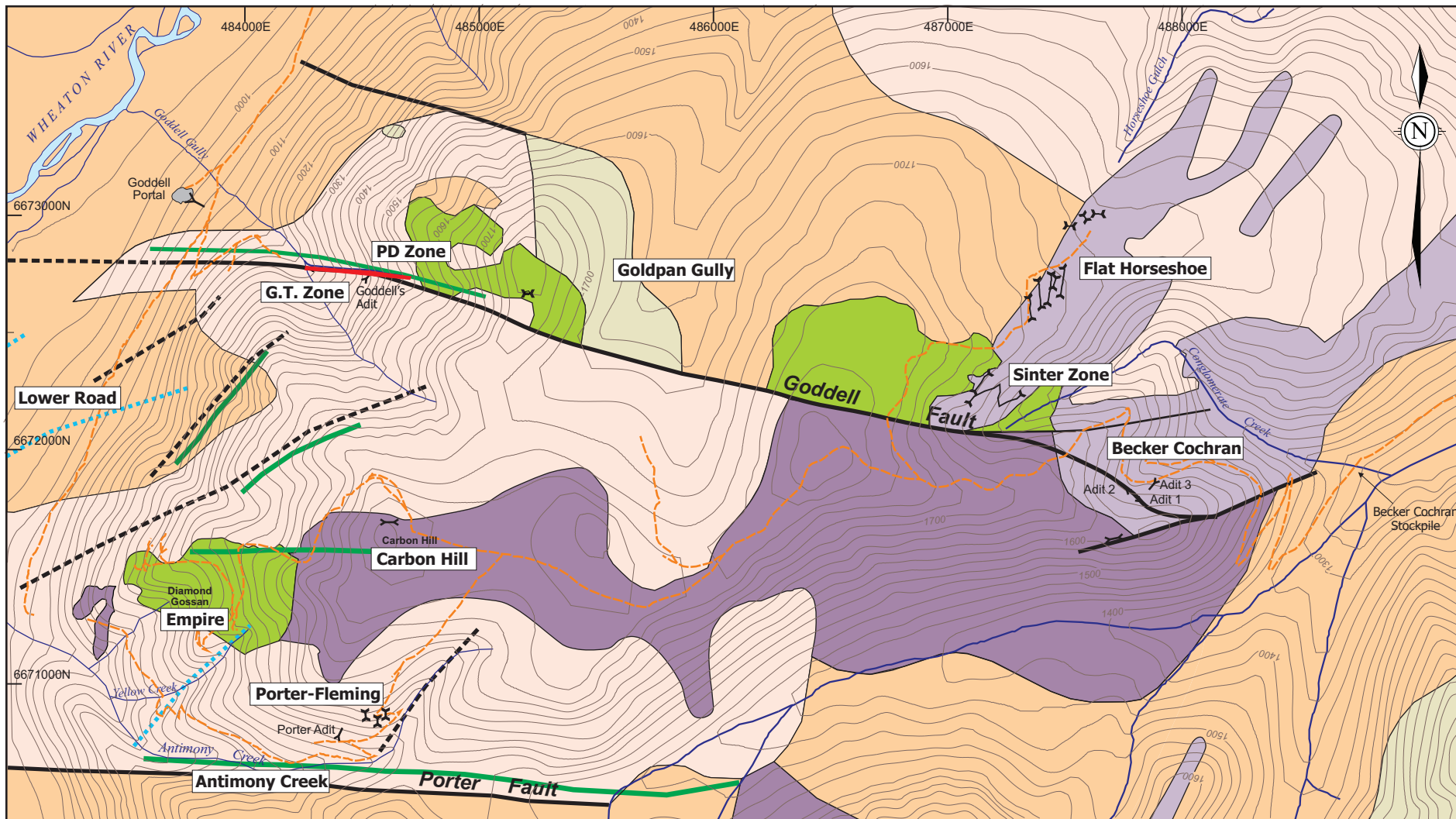
#### **Golden Tusk - PD Zone**

Gold mineralization in the Goddell Gully area occurs within and south of the main strands of the Goddell fault. Different parts of this area have been assigned various names; exposures of mineralization at surface south of the main fault have been termed the GT (Golden Tusk) Zone, whereas deeper, higher grade intersections at depths of 300 to 700 metres below surface and drilled from the underground workings have been called the PD Zone (Figure 8). The two areas are separated by a gap in drilling and may be continuous. Both are of similar style. Mineralization is open in the PD Zone on several sections, and potential exists for the identification of further mineralization of similar style (Naas, 2004).

Gold mineralization in the PD Zone that has been intersected from underground drilling occurs principally to the south of the rhyolite dykes and main cataclastic strands of the Goddell fault system, along the southern margin of the fault. Gold mineralization in this area is associated with:

- a) disseminated, fine-grained acicular arsenopyrite-arsenian pyrite that are pervasively disseminated, primarily in andesite dykes and locally in cataclastic shear zones; and,
- b) quartz-sphalerite-stibnite extension and shear veins, which commonly have a spatial relationship to the disseminated mineralization (Naas, 2004).

Mineralization is principally associated with the disseminated arsenopyrite style which occurs as pervasive disseminations that are often localized in dykes adjacent to shear zones, or are spatially associated with widely spaced quartz-sphalerite-stibnite extension veins of the second mineralization style. Where the extension veins are developed, envelopes of abundant dark grey disseminated arsenopyrite commonly surround them and extend from 0.5 to 4 centimetres outward from the veins, indicating a genetic link and contemporaneity between the two mineralization styles. Mineralization in cataclastic breccias also locally occurs where andesite fragments contain disseminated acicular arsenopyrite (Naas, 2004).



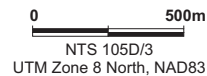
**LEGEND**

**GEOLOGY**

- Tertiary**
- Skukum Group volcanics
- Cretaceous**
- Mt. Nansen Group volcanics
- Coast Plutonic Complex intrusives
- Jurassic**
- Sediments
- Coast Plutonic Complex intrusives
- Proterozoic-Paleozoic(?)**
- Nisling Assemblage metamorphics: (mica schist, marble)

**SYMBOLS**

- Geologic contact
- Fault: defined; inferred
- Potential for mineralized structures
- Vein
- Andesite dyke
- Trench
- Adit
- Access road
- Contours (10 m interval)



**NEW PACIFIC METALS CORP.**

**GEOLOGY PLAN MAP  
Goddell Gully-Becker Cochran**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No: P68	By: LM, TV
Scale: 1:20,000	Drawn: TV
Figure: 8	Date: July 2012

### **7.3.4 Other Areas**

#### **Charleston**

The Charleston Vein is hosted by Cretaceous granodiorite cut by Tertiary rhyolite and andesite dykes. The vein is from 0.15 to 2 metres thick, strikes 135° to 160°, dips 30° to 45° NE and has been traced for 900 metres (Minfile 105D-020). The vein is vuggy with thick chlorite seams and up to 5% galena, pyrite and minor sphalerite and chalcopryrite. The host rock is sericitized for up to 1.5 metres from the vein boundary and chlorite alteration occurs up to 25 metres from the vein. The vein has been traced north to the Twist Zone, where it is hosted in a graphitic shear, and along strike to the south for a total strike length of 1.7 kilometres (Naas, 2001).

#### **Chieftain Hill**

The Better B. Vein, Evening Vein, Johnny B. Vein and Ocean Vein are situated in Cretaceous quartz monzonite to granodiorite intrusives (Figure 5). All trend approximately east-west and have a near vertical dip. These veins lie topographically below, and to the southeast of a large fault (approximately 60° trend). Across the fault and to the northwest lies the Morning Vein, which trends 90° and dips steeply to the north. This vein is topographically higher than the previously mentioned veins and emplaced for the most part in porphyritic andesite of the Eocene Mt. Skukum Volcanic Complex (Naas, 2001).

The Ocean Vein is a quartz-sulphide vein within a sheared envelope of intensely altered granodiorite intruded by several andesite and rhyolite dykes and cross cut by faulted zones. Intersections are characterized by a hanging wall fault gouge or breccia and some intersections have a rhyolite dyke along the footwall contact. The vein has an intense silicic, argillic and phyllically altered envelope of granodiorite. The vein is typically comprised of 60 to 80% quartz or brecciated quartz fragments with sulphide filling fractures or forming a sulphide and chlorite-rich matrix. Sulphide minerals include pyrite, galena, sphalerite, arsenopyrite and chalcopryrite (Reddy and McDonald, 1989).

#### **Porter-Fleming**

Mineralization at the Porter showing is found in many veins. The veins are hosted in faults and tensional openings that locally parallel fine-grained dykes including rhyolite dykes (Figure 5). The largest surface vein is traced for 40 metres before disappearing under the talus cover. Vein widths varies from 0.05 to 0.9 metres and have principal orientations of 100° and 130° with dips of 10° to 60° to the north. Mineralogy of the vein consists of quartz-stibnite-sphalerite and malachite-staining, probably due to the presence of tetrahedrite. Barite occurs in some veinlets. A small surface vein is found 30 metres uphill from the adit portal and exposed over 7 metres, of which 3 metres are mineralized with quartz-barite(?) -hematite-stibnite-sphalerite-galena-tetrahedrite. Vein attitude is 105°/90°; width is 10 to 20 centimetres. A vein is found in the underground drift, consisting of two 3 metre segments. One segment parallels the tunnel and is 7-10 centimetres thick. The second vein strikes at a high angle to the tunnel and is 10 to 15 centimetres thick, comprised of mainly quartz-stibnite-sphalerite and minor tetrahedrite (malachite-stained). Other minerals reported from here include galena, zinkerite, chalcostilbite, plagionite, and covellite (Minfile 105D026). Outcrop is sparse and additional veins are probably present. The 100° orientation mentioned

above parallels the Porter Shear lying 200 metres to the south. A similar shearing direction was mapped as three separate shears 26 metres apart in the underground cross-cut (Naas, 2004).

### **Becker-Cochran**

Mineralization occurs in lenses of quartz and barite within a broad shear zone cutting a rhyolite plug, argillite, conglomerate and quartz monzonite (Figure 5). The shear zone trends  $120^\circ$  and is characterized by black, fine-grained pyrite, massive stibnite, along with sphalerite and traces of realgar, orpiment, galena and tetrahedrite in a quartz-barite gangue. On surface the zone has been traced for 30 metres with an attitude of  $120^\circ/75^\circ\text{SW}$ , and is identified by a weathered grey gangue with red and yellow streaks and massive sulphide boulders. The shear zone is described as 70% clay-like gouge and 30% hard, siliceous, antimony-bearing rocks (CME, 2000). Trenching to the northwest has identified stibnite in primarily quartz type veins. Drifting underground traverses this same area (Naas, 2004).

### **Carbon Hill**

This showing is reported to lie approximately 1 kilometre north-northeast of the Porter-Fleming showing on the crest of Carbon Hill (Figure 5). The vein is described as being 0.61 metres in width in a small open cut. The texture is described as banded with barite, some quartz, blades and masses of stibnite, minor sphalerite and jamesonite. Host rocks are andesite and rhyolite. The vein material was traced southeast with float for about 150 metres indicating a strike direction of  $115^\circ$ . Fawley (1964) sampled the exposure with the following result: Sb 8.1%, Ag 0.5 oz/T, trace Pb, Zn 0.7%, and trace Au (Naas, 2004).

### **Empire Showing**

Several veins of up to 0.75 metres thickness are reported to occur. No structural data or historical assays are available (Naas, 2004).

The showing occurs in granitic rocks intruded frequently by intermediate dykes. Fault structures are also common (Con-Am, 1977). The showing lies adjacent the area known as the Diamond Gossan and above Antimony Creek (Figure 5). A prospector, K. Lumsden, communicated in 1964 (Fawley, 1964) that old cuts are sloughed but that blocks of almost massive stibnite up to 40 pounds in weight were beside some of the pits and that there were many small dumps of stibnite. The area was diamond drilled during 1977 with one intercept returning 8.23% Sb and 1.96% Zn across 0.46 metres (Naas, 2004).

A block resembling the above description was found during 2003 on the road paralleling Antimony Creek where it meets Yellow Creek. This material, 0.3 metres thick and measuring about 0.4 metres by 0.4 metres, returned 0.95 g/t Au, 620 g/t Ag 1.47% Pb, 2.06% Zn and 3.02% Sb (Naas, 2004).

## **8.0 DEPOSIT TYPES**

Deposit types on the Skukum Property are typically structurally controlled (fault/shear/joint) gold ± silver ± base metal (± lead ± zinc ± copper ± antimony) bearing veins, vein breccias or mylonites.

Exploration to date has outlined three principle precious metal deposits:

- a) Mt. Skukum: gold ± silver deposit (includes the past producing Main Cirque vein as well as the Lake and Brandy zones);
- b) Skukum Creek: gold-silver deposit; and,
- c) Goddell Gully: gold deposit.

This mineralization includes:

- a) epithermal vein systems at the Mt. Skukum mine; and,
- b) probable intrusion-related, Au-Ag-Sb-As mineralization that formed principally within pre-Tertiary igneous rocks to the southeast of the volcanic complex and which include the Skukum Creek, Chieftain Hill and Goddell areas.

### **8.1 MT. SKUKUM**

The Mt. Skukum deposit is located 2.5 kilometres north-northwest of Mt. Skukum within the Mt. Skukum Volcanic Complex. The deposit is a structurally controlled epithermal gold deposit hosted in Eocene volcanics. Low temperature auriferous quartz-calcite-adularia veins occur along brittle fractures and faults with little shearing, and appear to be formed at shallow levels. Both gold grade and zone thickness change dramatically along strike and down-dip with frequent swelling and pinch-out. The deposit currently consists of the Lake Zone and Brandy Zone. The Main Cirque Vein was mined out in 1988 (Naas, 2004 and Zhang, 2012).

### **8.2 SKUKUM CREEK**

The Skukum Creek deposit is located outside the Mt. Skukum Volcanic Complex, 5.25 kilometres southeast of the Lake Zone, on the south side of Skukum Creek. It is a structurally controlled, polymetallic gold-silver, deep epithermal vein deposit hosted in Mid-Cretaceous Mt. McNeil granodiorite. In the Skukum Creek area, zones of mineralization are hosted primarily by a series of linked, northeast-trending faults that may represent splays off the Berney Creek fault system. The Rainbow and Kuhn zones occur along parallel, northeast-trending faults of the same name that are defined by intermixed andesite and rhyolite dykes, monolithic and poly lithic phreatomagmatic breccias, semi-brittle shear zones and quartz-sulphide veins. These two zones are linked by the north-trending Sterling zone, a dilational step-over that connects the eastern end of the Kuhn zone with the western end of the Rainbow zone (Naas, 2007).

Within the Rainbow and Kuhn zones, mineralization occurs in quartz-sulphide veins that are intimately associated with an anastomosing network of shear zones that cross and/or are developed along dyke contacts. Multiple generations of veins are present including early veins incorporated as fragments into cataclasites and younger veins that overprint cataclastic breccias (Naas, 2007).

Mineralization in the Ridge and Ridge 2 zones may occur at or near the junction of the Kuhn and King Canyon faults. This may be a zone of dilation and splays that links the two structures. Rainbow 2 may represent an extension of the Rainbow zone. North-northeast trending, steeply dipping quartz-sulphide extension veins in the Taxi zone, and similar veins developed throughout the underground workings, have orientations consistent with formation during sinistral displacement along the Rainbow and Kuhn faults (Naas, 2007).

Sulphide mineralization occurs primarily as pyrite, arsenopyrite, galena, sphalerite, and chalcopyrite. There is commonly an early stage of pyrite-arsenopyrite without associated precious metals. Gold at Skukum Creek occurs mostly as electrum and minor to trace native gold and is directly related to a late stage of galena-stibnite mineralization that replaces earlier arsenopyrite-pyrite-sphalerite. Silver is hosted predominantly in freibergite, with trace to minor native silver and argentite with trace amounts occurring within galena, chalcopyrite, stibnite and sphalerite (Naas, 2005).

### **8.3 GODDELL GULLY**

The Goddell deposit is located outside the Mt. Skukum Volcanic Complex, 10.5 kilometres to the east of Mt. Skukum and 7 kilometres east-northeast of the Skukum Creek deposit. It is a structurally controlled shear-hosted gold deposit. Mineralization is associated with altered andesite dykes within the shear zone. The shear zone is located within Mid-Cretaceous Carbon Hill granodiorites. The main gold bearing zone, which does not outcrop at surface, is referred to as the PD Zone (Naas, 2004).

The mineralization is more strictly associated with structural controls as the gold mineralization is found to occur in a variety of lithologies. Sulphides associated with the deposit include pyrite, stibnite, sphalerite, arsenopyrite and jamesonite. Mineralization is principally located within fine acicular arsenopyrite-pyrite-lithic-quartz-sericite-carbonate breccias and stockwork veinlets. The presence of acicular arsenopyrite crystals within sulphide breccias is an indication of gold mineralization.

The main deposit is located quite deep and appears to thicken with depth as compared to the sulphide breccia intersections found closer to surface. Also, gold grades tend to increase at depth whereas the mineralization nearer surface is found more as stibnite-rich pods within the fault zone (Rodger, 1996).

## **9.0 EXPLORATION**

New Pacific undertook an exploration program on the Property during 2011 which consisted of:

- data compilation;
- rock sampling;
- soil sampling;
- geological mapping;
- additional sampling of historical drill core;
- surface and underground diamond drilling;
- metallurgical testing; and,
- refurbishment of underground workings;
- camp upgrades.

Details and results of the exploration program presented in this section are summarized from the report “Exploration Report for 2011” by A. Zhang (2012). Field camp upgrades have been discussed in Section 5.4. Diamond drilling and metallurgical testing undertaken by New Pacific are reported in Sections 10.0 and 13.0, respectively.

Exploration completed prior to 2011 was undertaken by previous owners and is discussed in Section 6.0.

### **9.1 DATA COMPILATION**

#### **9.1.1 Mt Skukum**

New Pacific reviewed all the available historical drill data including drill plans, sections, drill logs and assays results, and compiled all available drill data into digital format (access database or excel spreadsheet). The objective was to establish adequate data storage to facilitate further activities of exploration and potential development of the Mt Skukum gold deposit. The compilation work comprised of digitizing geology plans to GIS format files and entering non-digital drill data (collar, survey, geology and assay) into digital format.

#### **Procedure**

Historical maps, drill logs and assay results were collected from the storage of TLG in North Vancouver, BC and the Tagish Lake camp site data storage room. Prior to digitizing, the source maps were examined to establish their respective datum and coordinate system. For most maps, the datum and coordinate system were NAD27 and UTM Zone 8, respectively. For some historic maps without labeled UTM grid, reference points were used by selecting topographic and other known monuments (surveyed pins, adit collars, etc.).

All maps were digitized in original coordinate system NAD27 UTM 8 North, then transformed to NAD83 UTM 8 North. Both geology and topography contours were digitized from separate map units, and integrated to single digital files of different geology features

(contacts, faults, rock or strata units, vein outcrops, rock sample locations, drill collars, trenches, underground development and roads, etc.). For the area west of the Wheaton River valley, digital topo maps of 10 metre contour interval were set up by digitizing all topography maps of scales from one to one thousand and ten thousand.

## **Results**

In addition to the 158 holes of the Lake Vein completed from 1986 to 1988 and compiled by CME in 2003, drill holes completed from 1982 to 1985 and after 1988 for both the Lake Zone and other zones were compiled by New Pacific into an Access database, bringing the total number of holes captured to 363 holes. The database comprises four tables: collar, survey, geology and assay. It was observed that acid-etch test was used to test the dip of drillhole path in therefore no azimuth measurements apart from the collar azimuth were recorded. The collar azimuths were assumed to be constant down hole.

For the area immediately around the Mt Skukum gold deposit, geology plan maps of one to one thousand scale were available with elevation contours at 5 metre interval. This area is about 5.2 square kilometres. Geology features, roads and contours were digitized to create an integrated topographic and geology plan map.

The area to the west of the Wheaton River valley is approximately 164 square kilometres. One to ten thousand scale topo maps with elevation interval of ten metres were digitized and a 3D DTM file is created using Surpac mining software.

The 1750 metre level drift of the Lake Zone and the 1635 metre level drift of the Main Cirque Zone were digitized and 3D solids were created using Surpac mining software.

## **9.2 ROCK SAMPLING**

Surface rock sampling was carried out at the Raca Zone-Chieftain Hill, Goddell Gully, Antimony Creek, Charleston-Tango, and Mt McNeil with the aim to confirm historical exploration results and evaluate the mineralization potential. A total of 319 rock samples were taken with the majority from the Raca-Chieftain Hill area. Details and results of the sampling are reported in Zhang (2012) and summarized below.

### **9.2.1 Raca Zone-Chieftain Hill**

Surface prospecting was aimed to confirm historical exploration results and assess the economic potential of the area. Five traverses of Raca-Chieftain Hill area were completed that were approximately 1.0 kilometre long each(Zhang, 2012).

Rock chip samples were typically collected over lengths of 10 metres each. Grab samples were taken where there was insufficient outcrop for a chip sample. Chip samples typically weighed approximately five kilograms each while grab samples were about 3 kilograms.

During sampling, geology along each traverse was observed and information of rock type, contacts, alteration, mineralization and structure features was recorded.

A total of 258 rock chip samples and 17 grab samples were collected from the 5 traverses. Anomalous values returned from this area include:

- 1,462 ppm Cu (chip sample R1-055)
- 2,660 ppm Cu (chip sample R1-056)
- 1,378 ppm Zn (sample R2-017)
- 1,050 ppm As (chip sample R2-062)

### **9.2.2 Goddell Gully**

Five rock chip samples were taken from the dykes and fractures, and one sample (GD-003) from an andesite dyke with quartz veining returned anomalous values of silver (67 ppm Ag), lead (9316 ppm Pb) and zinc (1,848 ppm Zn). It is speculated that these dykes and altered fractures in monzonite are the splay structures from the major Goddell Gully shear zone. The PD Zone could be where the splays merge into the major shear zone.

### **9.2.3 Antimony Creek**

Eleven (11) samples were collected from a road cut in the Antimony Creek area. Two samples returned anomalous precious metal values of 51 ppb Au and 3.4 ppm Ag (sample 8R292234) and 285 ppb Au and 3.0 ppm Ag (sample 8R292235)

### **9.2.4 Charleston Trend**

New Pacific conducted a short field visit of the Charleston and Tango Veins. The program was designed to follow up on gold-silver mineralization reported in historical exploration results and to evaluate the mineralization potential of economic importance. Twelve chip samples were collected from this Charleston Vein and one chip sample from across the Tango Vein. Chip samples of the Charleston Vein returned precious metal grades of up to 7.45 g/t Au and 49.1 g/t Ag over 0.70 metres. The sample of the Tango Vein yielded no anomalous results.

### **9.3.5 Mt McNeil**

A helicopter aided fieldtrip was made to the top of the peak and five rock chip samples were taken from the rhyolite with weathered brownish colour. Five rock samples were collected but did not return any anomalous values.

## **9.3 SOIL SAMPLING**

Soil sampling was undertaken at Carbon Hill and the Raca Zone.

### **9.3.1 Raca Zone-Chieftain Hill**

Soil sampling was carried out in the Raca Zone-Chieftain Hill area in areas of little to no outcrop. Soil samples were normally collected from 20 to 30 centimetres below surface from the C horizon and contained in-situ rock debris (*writ comm* A Zhang, 2013). A total of 25 soil samples and 2 talus samples were collected from this area, 22 of which were from a single traverse to confirm an historical gold-in-soil anomaly reported by MSGM in 1986. Four consecutive anomalous gold values from 165 to 310 ppb Au collected from traverse 3 confirmed the gold-in-soil anomaly.

### **9.3.2 Carbon Hill**

Sampling at Carbon Hill was carried out testing for the the presence of anomalous base and precious metals associated with the Porter Shear structure. A total of 155 soil samples were taken over a 100 metre by 40 metre grid area on the flatter terrain. Where the terrain became steep, soil samples were taken from two traverses along contour at a sample spacing of 40 metres. Sample collection was the same described above. No anomalous values were reported from these samples.

## **9.4 GEOLOGICAL MAPPING**

Geological mapping was undertaken with surface rock and soil sampling. The main focus of mapping was in the Raca Zone-Chieftain Hill area, although additional geological observations were made at the Goddell Gully and Porter areas.

### **9.4.1 Raca Zone-Chieftain Hill**

Geological observations in the Raca area have provided clues to dating the mineralization of the Raca Zone and the Rainbow Zone. The unconformity between the Tertiary pyroclastic flows and the underlying Jurassic megacrystic feldspar intrusion and andesitic volcanic rocks truncated the Raca Zone and associated rhyolite dyke. No similar mineralization was found in the pyroclastic flows to the north, but the extension of the Raca Zone is very likely buried under the thrust plane above which are the Chieftain Hill Tertiary volcanic flows. The rhyolite dyke in the Raca Zone is well cleaved and fractured, whereas the dykes in the Tertiary volcanics are fresh and solid. The felsic and intermediate dykes in the Rainbow Zone were also altered and contain narrow crackled sulphide veinlets.

## **9.4.2 Goddell Gully**

Surface prospecting consisted of a one-day traverse in Goddell Gully and its south side area with the objective to locate the potential surface outcrop of the projected PD Zone. No significant altered shear zone was discovered on the south side of the gully. Instead a few rhyolite and andesite dykes were discovered but the attitude and width of dykes are uncertain because of poor outcrop. A few narrow fractures in monzonite were spotted. These fractures are generally east-west trending, about 0.2 to 0.5 metres wide and contain narrow quartz veins with minor sulphide mineralization. On either side of the veins are half to one metre wide alteration halo.

## **9.4.3 Porter Shear**

The Porter shear structure underlies most of the Antimony Creek area. The structure trends about  $110^{\circ}$  and parallels the Goddell shear structure approximately two kilometers north. The structure is intensely altered with a width about one hundred metres. Alteration includes argillic and sericitic phases. Monzonite appears apple green when the feldspar grains were altered to sericite. Brown appearance is common when mafic minerals were converted to hematite which is then weathered to limonite. Within the structure hosted swarms of andesite and quartz feldspar porphyry dykes. A quartz vein is present which measures at least 200 metres in length and is in excess of 9 metres in width. A zone of about twenty metres wide with patchy malachite stains was located on the south side of the creek. This zone seems controlled by a nearly NE trending crosscutting fault. Historical chip sampling from this outcrop returned anomalous values of 18.4 ppm Ag, 317 ppm As, 1,060 ppm Cu, 104.5 ppm Mo, 425 ppm Pb and 115 ppm Zn and elevated 25 ppb Au. However, historically reported float of azurite and chalcopyrite were not located at the bottom of the creek. A pyritic halo with dimension of two hundred metres across was confirmed at the south slope. Historical contour soil sampling also indicated polymetallic anomalies of copper, molybdenum, lead and zinc in the altered shear zone on the south slope of the creek. Based on the historical prospecting results and the field observations three drill sites were selected to test the depth mineralization potential of the structure (Zhang, 2012).

## **9.5 SUPPLEMENTARY CORE SAMPLING**

### **9.5.1 Goddell Gully**

#### **Procedure**

Supplementary core sampling on historical drill core from Goddell Gully was initiated following a review of the historical drill database of Goddell.

All historical drill cores with samples of gold value greater than 1.0 g/t at the beginning or end of sample sequence were located at the site core yard, and one or more new samples of about one metre long each were marked immediately next to the historical sample intervals

A total of 171 samples were collected from 49 drill holes

## **Results**

Four additional samples returned gold grades greater than 1 g/t Au, and 18 samples returned gold grades between 0.1 g/t and 1 g/t Au. Overall, the results of the supplementary sampling program indicated that the main mineralized intervals had been adequately sampled during previous exploration programs (Zhang, 2012).

### **9.5.2 Raca Zone**

#### **Procedure**

Initially, additional samples were collected from three historical drill holes based on the observation of strong alteration and mineralization in drill core that had not been sampled. Historical core sampling only occurred at the sheared quartz sulphide veins immediately at both the footwall and the hanging wall of the rhyolite dyke. The megacrystic K-feldspar Bennett Granite from the footwall of the rhyolite dyke to the end of hole is extensively altered by various levels of sericitization, silicification and chloritization and shows associated disseminated pyrite.

A total of 27 samples of the altered granite were collected from the three historical holes.

During drilling at the Raca Zone in 2011 by New Pacific, a new zone (Zone 1) was encountered in the hanging wall of the Mesozoic (probably Jurassic) tuffaceous andesite sequence. The andesite bears strong pyrite-sericite alteration, and locally silicification and high concentrations of hydrothermal magnetite bands. This presence of this new zone led to a re-examination of historical drill holes RACA97-1 and RACA97-3. A total of 84 samples were collected from the projected area of the new zone (43 samples from RACA97-1 and 41 samples from RACA97-3).

#### **Results**

Samples from the initial sampling returned no significant results other than one anomalous gold value of 240 ppb Au (sample 7559 from the hole RACA97-2).

Samples subsequently collected from the projected areas of Zone 1 drilled in 2011 returned for the most part, very low gold and silver values. One sample did return 1.41 g/t Au from an interval containing little quartz veining. This suggests Zone 1 may not extend down-dip from the discovery hole RACA11-01, or its orientation may be very different from the other mineralized structures.

## **9.6 UNDERGROUND REFURBISHMENT**

### **9.6.1 Skukum Creek**

Refurbishment included de-icing, mucking, bolting and screening the drill sites and small portion at the intersection of the drift with the No.3 crosscut, and installation of ventilation and power cable.

### **9.6.2 Goddell Gully**

During the rehabilitation of the decline, poor ground conditions were encountered at a distance of 130 metres from the portal. Soft, broken rock due to a series of crosscutting faults resulted in significant rock fall from the back as the water pressure was reduced. Due to the probability of more fault zones further down the decline, New Pacific deemed that refurbishment of the decline would not be “*an effective and efficient consideration in terms of both monetary expenses and time consumption*”. The refurbishment work was halted in early August 2011 (Zhang, 2012).

## 10.0 DRILLING

New Pacific undertook diamond drilling on the Property during 2011. Details and results of the drilling program presented in this section are summarized from the report “Exploration Report for 2011” by A. Zhang (2012). Work consisted of:

- diamond drilling: 51 drill holes totalling 12,487.77 metres;
- geological core logging of all drill holes; and,
- submission of 3,220 drill core samples for analysis excluding control samples.

Drilling completed prior to 2011 was undertaken by previous owners and is discussed in Section 6.0.

### 10.1 OVERVIEW OF 2011 DRILLING

Drilling was performed by four drilling contractors: Earth Tek Drilling Ltd. and New Age Drilling Solutions Inc. both of Whitehorse, YT; G4 Drilling Ltd from Val-D’or, QC; and, Swick Mining Services Inc. of Sudbury, ON. Swick Mining Services was responsible for all underground drilling. A total of four rigs were used, one from each contractor. Drill core size was mainly NQ (47.6 mm diameter), except for some HQ (63.5 mm diameter) core which was drilled at the start of several of the deep drill holes.

A breakdown of the drilling totals by deposit or prospect is presenting in Table 6. A tabulation of drilling specifications is presented in Table 7. Coordinates are reported in UTM Zone 8 North (NAD83 datum).

Table 6: Summary of drilling

Deposit/Prospect	Location	Completed		Abandoned		Total	
		Quantity	Metres	Quantity	Metres	Quantity	Metres
Skukum Creek	Surface	6	3,169.51			6	3,169.5
	Underground	13	1,703.70	1	5.60	14	1,709.30
Raca	Surface	2	566.96	3	684.49	5	1,251.45
Chieftain Hill	Surface	1	346.83			1	346.83
Goddell	Surface	3	1,951.86	5	1,235.16	8	3,187.02
Mt Skukum	Surface	16	2,482.66			16	2,482.66
Antimony Creek	Surface			1	341.00	1	341.00
<b>Total</b>		41	10,221.52	10	2,266.25	51	12,487.77

Table 7: Drill hole specifications

Hole	Location (NAD 83 UTM Zone 8 North)			Orientation (°)		Length (m)	Status
	Easting	Northing	Elevation (m)	Dip	Azimuth		
<b>Mt Skukum (Lake Zone)</b>							
MS11-01	473575.29	6674704.00	1905.27	106.0	-50.0	81.00	completed
MS11-02	473574.99	6674704.00	1905.26	106.0	-66.0	100.53	completed
MS11-02A	473573.82	6674701.20	1905.27	106.0	-60.0	90.00	completed
MS11-03	473573.95	6674701.80	1905.32	96.0	-61.0	100.45	completed
MS11-04	473573.64	6674700.50	1905.24	117.0	-61.0	102.00	completed
MS11-05	473423.92	6674731.10	1926.42	106.0	54.0	345.00	completed
MS11-06	473423.92	6674731.10	1926.42	128.0	-51.0	206.00	completed
MS11-07	473423.92	6674731.10	1926.42	117.0	-55.0	210.00	completed
MS11-08	473440.64	6674747.70	1925.78	107.0	-56.0	243.00	completed
MS11-09	473433.41	6674768.30	1926.09	106.0	-59.0	200.10	completed
MS11-10	473506.88	6674864.50	1916.97	108.0	-55.0	189.00	completed
MS11-11	473529.07	6675110.90	1863.42	115.0	-53.0	111.00	completed
MS11-12	473667.89	6675073.10	1889.54	109.0	-50.0	138.00	completed
MS11-13	473578.03	6675141.70	1860.77	84.0	-62.0	106.58	completed
MS11-14	473575.70	6675142.00	1860.77	108.0	-58.0	90.00	completed
MS11-15	473506.47	6674864.60	1917.02	108.0	-64.0	170.00	completed
<b>Skukum Creek Underground</b>							
SC11-01-UG	477795.24	6671262.20	1302.92	11.4	-56.5	140.90	completed
SC11-02A-UG	477795.24	6671262.20	1302.92	14.0	-60.6	140.10	completed
SC11-03-UG	477795.06	6671262.50	1303.11	4.5	-55.5	110.50	completed
SC11-04-UG	477795.04	6671262.40	1303.04	8.4	-63.0	130.00	completed
SC11-05-UG	477794.98	6671262.40	1303.01	12.6	-69.0	134.50	completed
SC11-06-UG	477795.52	6671261.80	1302.99	19.0	-73.4	161.40	completed
SC11-07-UG	477793.43	6671261.50	1302.86	359.6	-70.3	131.40	completed
SC11-08-UG	477793.37	6671261.70	1302.86	358.3	-65.2	122.30	completed
SC11-09-UG	477792.87	6671260.10	1302.86	335.4	-76.5	134.40	completed
SC11-10-UG	477792.87	6671260.10	1302.86	332.0	-68.2	116.10	completed
SC11-11-UG	477793.20	6671260.50	1302.85	348.5	-62.5	101.10	completed
SC11-13-UG	477795.56	6671262.00	1303.22	22.5	-54.0	140.00	completed
SC11-14-UG	477793.80	6671263.00	1302.00	16.0	-51.0	5.60	abandoned
SC11-15-UG	477795.56	6671262.00	1303.22	17.5	-57.0	141.00	completed
<b>Skukum Creek Surface</b>							
SC11-01	477945.46	6671171.40	1444.59	327.0	-63.5	412.83	completed
SC11-02	477945.45	6671171.20	1444.47	315.0	-74.0	551.44	completed
SC11-03	477945.49	6671171.50	1444.73	290.0	-65.0	449.55	completed
SC11-04	477945.88	6671172.00	1444.58	291.0	-70.0	617.50	completed
SC11-05	477945.95	6671172.10	1444.61	299.0	-75.0	632.12	completed
SC11-06	478102.30	6671140.60	1368.33	331.0	-60.0	506.07	completed

Table 7: Drill hole specifications (*cont'd*)

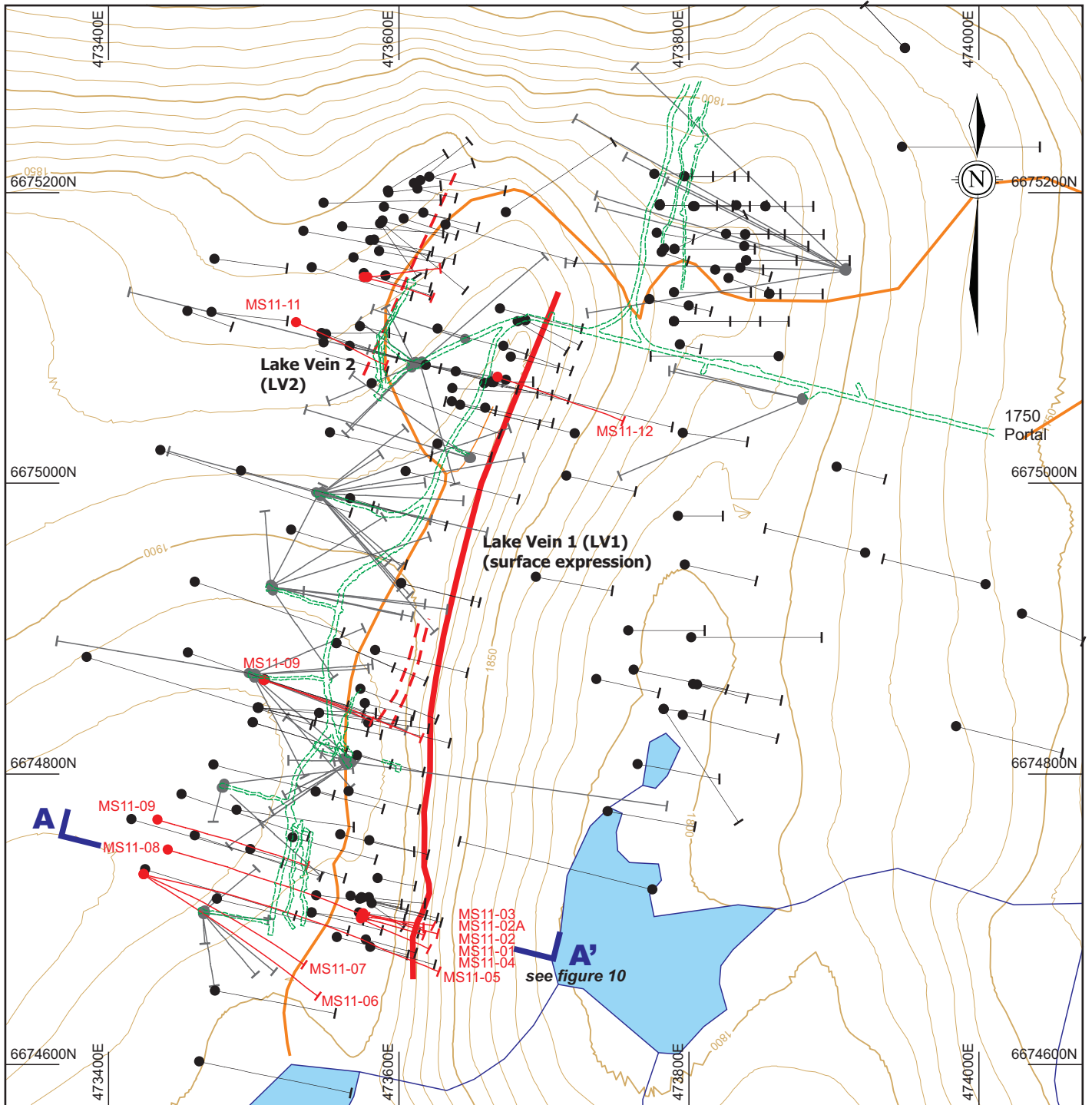
Hole	Location (NAD 83 UTM Zone 8 North)			Orientation (°)		Length (m)	Status
	Easting	Northing	Elevation (m)	Dip	Azimuth		
<b>Goddell Gully</b>							
GG11-01	484094.00	6672880.00	1188.27	110.5	-47.3	369.11	abandoned
GG11-02	484051.50	6672905.00	1176.31	110.0	-45.0	633.44	completed
GG11-03	484051.60	6672905.00	1176.32	107.0	-45.0	325.18	abandoned
GG11-04	484051.20	6672905.00	1176.24	110.5	-50.0	638.10	completed
GG11-05	483729.80	6673089.00	1017.31	180.0	-62.0	24.90	abandoned
GG11-06	484045.10	6672906.00	1175.95	143.0	-67.0	680.32	completed
GG11-09	484045.20	6672906.00	1175.66	108.0	-72.0	160.58	abandoned
GG11-10	484045.20	6672906.00	1175.94	108.0	-66.0	355.39	abandoned
<b>Raca Zone</b>							
RACA11-01	478317.68	6671615.20	1232.57	325.0	-61.0	350.55	completed
RACA11-02	478317.35	6671615.70	1232.57	325.0	-45.0	216.41	completed
RACA11-03	478498.32	6671509.10	1215.20	308.0	-56.0	170.14	abandoned
RACA11-04	478500.30	6671507.20	1215.06	308.0	-60.0	310.14	abandoned
RACA11-05	478394.39	6671572.40	1225.53	310.0	-68.0	204.21	abandoned
<b>Chieftain Hill</b>							
CFT11-01	478904.49	6672506.60	1791.92	120.0	-60.0	346.83	completed
<b>Antimony Creek</b>							
ATM11-01	483653.45	6670862.60	1350.08	167.5	-64.0	341.00	abandoned

Surface drill hole collars were surveyed using a dual frequency Trimble GNSS R8 RTK Base Station and receiver. Survey accuracy of this instrument configuration is expected to be less than 5 centimeters, according to the manufacture specifications. Existing control points were used where available. New control points were also established elsewhere on the Property to aid in future exploration. Underground drill holes were surveyed using a Nikon DTM522 Total Station. The surveying of underground holes is referenced to the control points 2389 (at 1300 level portal) and Omni 9 as back sights for the traverse. In addition, two temporary control points 1668 and 1669 (No.3 Crosscut) were set up by Underhill Geomatics of Whitehorse Surveyors in July, 2011.

Downhole surveys were carried out by drillers using electronic single shot Reflex EZ-SHOT™ instrument. Surface drill holes were surveyed at 50 metre intervals and the end of hole. Underground drill holes were surveyed at 30 metre intervals and at end of hole.

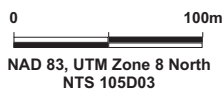
## 10.2 MT SKUKUM

The objective of drilling at the Lake Zone of Mt Skukum was to confirm the high-grade nature of the mineralization of the Lake Zone, to infill drill the gap areas of historical data, and to define potential step-outs of the high grade pockets demonstrated by historical drilling. Sixteen (16) drill holes were completed totalling 2,482.66 metres. A total of 782 drill core samples were collected excluding control samples. A drill hole plan map of the area is presented in Figure 9 and a representative cross section is presented in Figure 10. Silver grades shown on the cross section have been rounded to the nearest whole number.

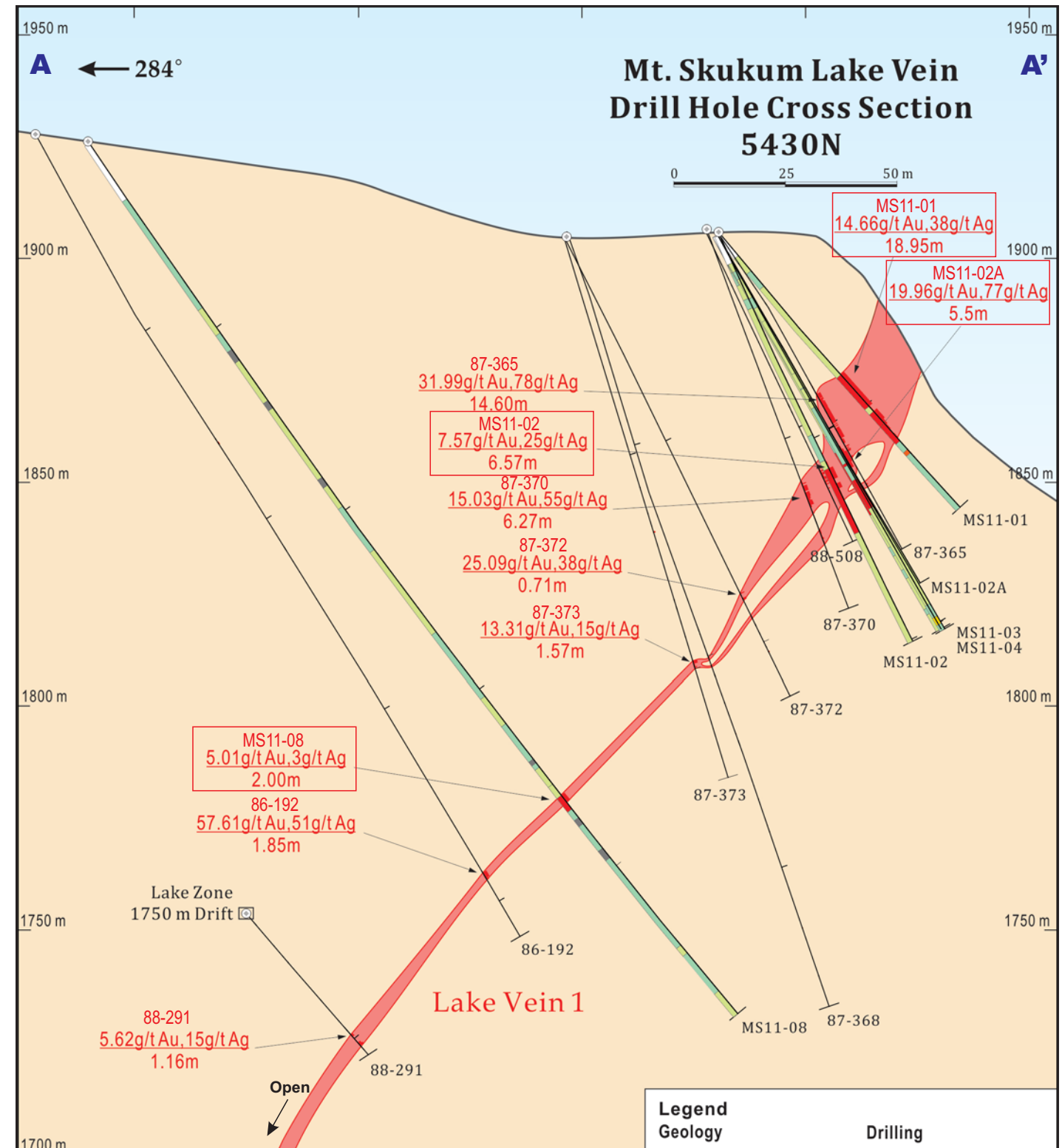


**LEGEND**

- New Pacific drilling (2011)
  - Surface drill hole
  - Underground drill hole
- Historical drill holes (1985-2008)
  - Surface drill hole
  - Underground drill hole
- Mineralization (at surface)
- - - Underground workings
- Road
- Contour (10 metre interval)
- Watercourse
- Waterbody



<b>NEW PACIFIC METALS CORP.</b>			
<b>DRILL HOLE PLAN MAP</b>			
<b>LAKE ZONE</b>			
<b>Mt. Skukum Deposit</b>			
Skukum Project			
Whitehorse M.D., Yukon Territory, Canada			
Project No:	P68	By:	AZ
Scale:	1:4,000	Drawn:	TV
Figure:	9	Date:	July 2012



<b>NEW PACIFIC METALS CORP.</b>	
<b>DRILL HOLE CROSS SECTION SECTION 5430N (LV1)</b>	
<b>Lake Zone</b>	
Skukum Project	
Whitehorse M.D., Yukon Territory, Canada	
Project No: P68	By: RS
Scale: ~1:1,250	Drawn: TV
Figure: 10	Date: July 2013

Figure modified from Zhang (2012) 2300 mE

<b>Legend</b>	
<b>Geology</b>	
	Andesite
	Andesitic Lapilli Tuff
	Breccia
	Quartz Vein
	Overburden
	Rhyolite and Rhyolitic Tuff
	Quartz-Calcite Stockwork
	Mineralized zone
<b>Drilling</b>	
	Drill hole collar
	Drill hole trace projection and EOH location
<b>Infrastructure</b>	
	Lake zone 1750 m drift
<b>Significant intersections</b>	
	MS11-08 5.01g/t Au, 3g/t Ag 2.00m New Pacific drilling
	86-192 57.61g/t Au, 51g/t Ag 1.85m Historical drilling

## Geology

The dominant rock type cored is the porphyritic andesite flows and andesitic pyroclastic rocks of Tertiary age. The rocks are gently west dipping, propylitically altered along fractures and slight sericite alteration observed locally. Away from fractures are fresh andesite rocks with phenocrysts of plagioclase and hornblende in millimeters size. The rocks unanimously contain disseminated pyrrhotite and pyrite, locally the content of sulphide more than 10%. The Lake Zone consists of two separate subparallel quartz- calcite-sericite veins, breccias and stockworks. Drilling indicated two subparallel veins, LV1 and LV2, striking 014° and dipping west at 45 to 75° with strike extent more than 600 metres.

## Mineralization and Results

The vein minerals consist of quartz, calcite, sericite and adularia and have features of high-level emplacement such as crustification, chalcedonic quartz, brecciation textures with well-formed cockscomb quartz, and calcite crystals. Large drusy cavities are common in framework supported breccias containing wall rock fragments and colloform layers of quartz. Veins can be divided into two types: early, blue-grey, pyrite-bearing chalcedonic quartz veins, and later gold-bearing coarser grained quartz-carbonate veins (McDonald, 1990). The early barren chalcedonic quartz occurs primarily as veinlets with minor pyritic selvages and envelopes and associated pervasive wall-rock alteration. The later, coarser grained, quartz-carbonate veins constitute most vein material in gold-bearing zones, cross cutting earlier chalcedonic veinlets, and form a final filling in fractures already partially filled by chalcedonic material. Ore minerals are electrum and native silver (McDonald, 1990).

The width of the mineralized veins average approximately 2 metres. However the veins may rapidly swell laterally to more than ten metres wide or pinch out as narrow veinlets or small stockworks with a sharp drop of gold grades (Figure 10). However, on strike or down dip the vein zones can easily be correlated based on the presence of quartz-calcite veins and stockworks. Because of the nature of the mineralization, more drilling is required to define the resource with better confidence and facilitate mining planning.

Significant intersections (>1.0 g/t Au) of the Lake Zone in are presented in Table 8. All intersection widths are core lengths, which is close to true width as the drill hole is almost normal to the dip and strike of the vein (Zhang, 2011)

Table 8: Significant intersections, Lake Zone

Hole	Interval (m)			Results	
	From	To	Length	Au (g/t)	Ag (g/t)
MS11-01	41.15	60.10	18.95	14.66	37.9
<i>including</i>	41.15	53.40	12.25	21.13	50.0
MS11-02	56.00	62.57	6.57	7.57	24.8
<i>including</i>	57.58	59.00	1.42	21.80	70.5
MS11-02A	54.50	60.00	5.50	19.96	76.9
<i>including</i>	56.10	58.70	2.60	39.75	152.8
MS11-03	55.50	61.50	6.00	8.67	32.1
<i>including</i>	55.50	57.00	1.50	29.60	113.0
MS11-04	<i>no significant results</i>				

Table 8: Significant intersection, Lake Zone (*cont'd*)

Hole	Interval (m)			Results	
	From	To	Length	Au (g/t)	Ag (g/t)
MS11-05	232.00	234.00	2.00	1.65	1.6
MS11-06	<i>no significant results</i>				
MS11-07	95.00	97.00	2.00	1.48	12.5
MS11-08	180.00	182.00	2.00	5.01	3.4
MS11-09	189.12	190.52	1.40	26.60	17.0
MS11-10	<i>no significant results</i>				
MS11-11	<i>no significant results</i>				
MS11-12	<i>no significant results</i>				
MS11-13	63.00	66.50	3.50	30.25	29.53
MS11-14	<i>no significant results</i>				
MS11-15	<i>no significant results</i>				

### 10.3 SKUKUM CREEK

The objective of the underground drilling program is to confirm and infill drill the high grade pocket of the Rainbow Zone near the bottom of the 1225 metre level ramp. The pocket was intended to be the target of the planned bulk metallurgy sampling. The drill rig was set up at the south end of the No.3 crosscut at the 1300 metre level drift. A total of 1,709 metres were drilled in 14 holes. The objective of the surface drilling was to test the down dip extension of the Rainbow Zone. A total of 3,169.50 metres were drilled in six drill holes. A total of 600 drill core samples were collected; 184 samples from surface drill holes and 416 samples from underground drill holes.

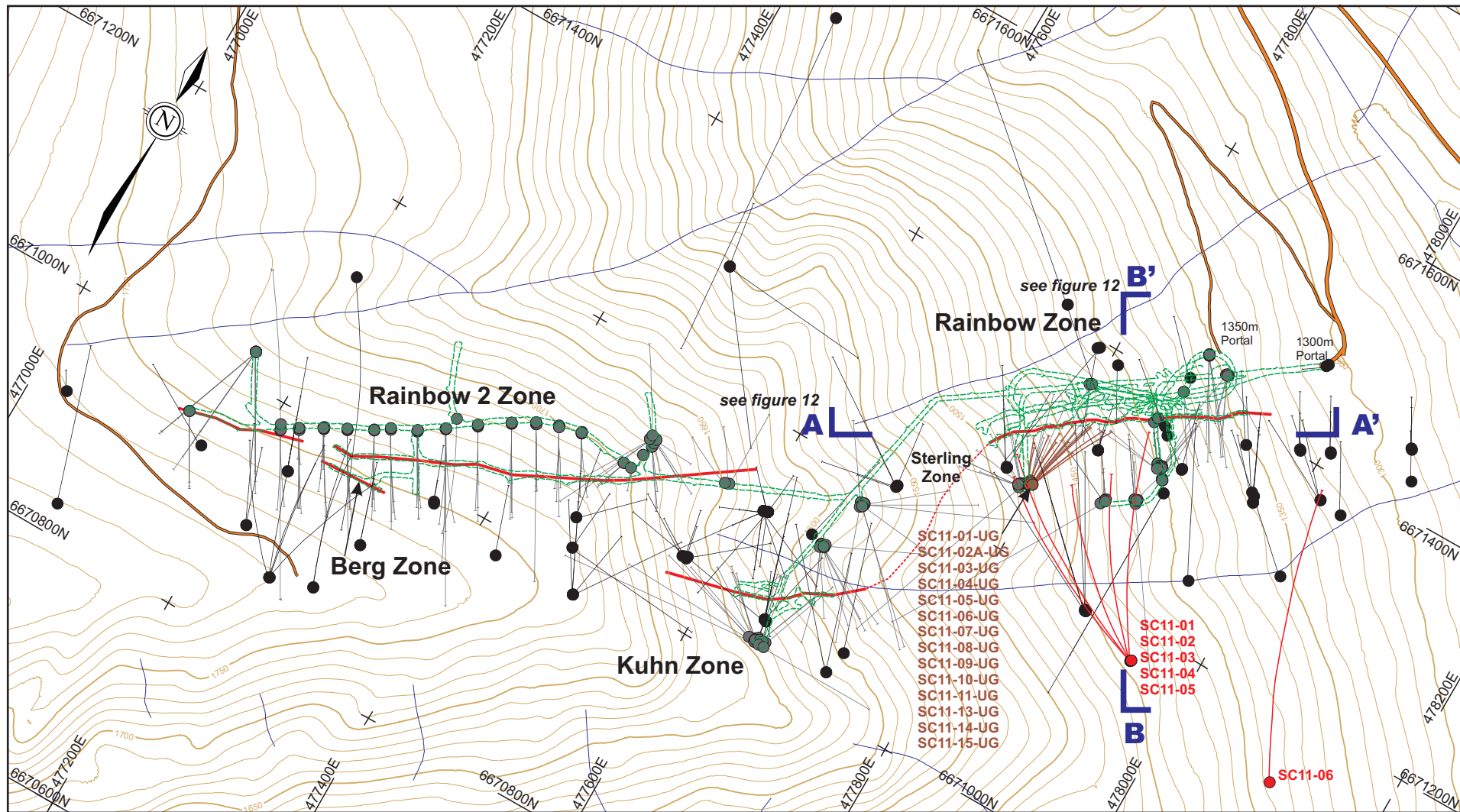
A drill hole plan map is presented in Figure 11 and a representative cross section and longitudinal section is presented in Figure 12. Silver grades reported on the cross section have been rounded off to the nearest whole number.

#### Geology

The dominant lithology cored at Skukum Creek is coarse-grained and equigranular biotite-hornblende granodiorite of middle Cretaceous. Fresh granodiorite is very magnetic whereas close to and within the shear zones, alteration of sericite and chlorite is pervasive, and the rock is weakly magnetic to non-magnetic.

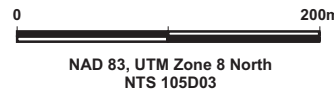
Dykes of andesite and rhyolite are very common within the shear zones. The dykes commonly experienced alterations of chlorite and sericite. Strong shear fabrics to brecciation are common in these dykes. Dykes are in lenticular shape on strike and downdip, with width normally in the range of a few metres and occasionally more than ten metres. Associated with the dykes are mineralized quartz sulphide veins and breccias.

The most important structure is the altered shear zones which hosts mineralization. The width of the hosting structure of the Rainbow Zone is normally about 10 to 30 metres wide, consisting of cleaved and altered rocks of granodiorite, andesite and rhyolite dykes, breccia zones and quartz sulphide veins. The overall strike of the shear structure is about 60 degrees and dipping southeast at 80 degrees.



**LEGEND**

- New Pacific drilling (2011)
  - Surface drill hole
  - Underground drill hole
- Historical drill holes (1985-2008)
  - Surface drill hole
  - Underground drill hole
- Mineralization (at 1300 metre elevation)
- - - Underground workings
- Road
- Contour (10 metre interval)
- Watercourse
- Waterbody



**NEW PACIFIC METALS CORP.**

**DRILL HOLE PLAN MAP  
Skukum Creek Deposit**

Skukum Project  
Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	CN, TV
Scale:	1:5,000	Drawn:	TV
Figure:	11	Date:	July 2012



Drill hole SC11-06 successfully penetrated through the Portal Dyke (dacite) with a core length of about 146 metres. The Rainbow Zone does not appear to continue on the east of the dyke as fresh and non-fractured granodiorite was encountered in the projected location of the Rainbow Zone. Another explanation is that the Rainbow Zone extension on the east side of the Portal Dyke might be offset from the projected position by faulting along the dyke, but testing this hypothesis requires further drilling (Zhang, 2012).

Both SC11-04 and SC11-05 encountered thick dacite dyke beneath the Rainbow mineralized zone in the depth range of 537.17 to 617.5 metres (end of hole) and 588.35-to 632.12 metres (end of hole), respectively. The dyke is very similar to the Portal Dyke in terms of composition, texture and appearance. The relationship of the dacite dyke exposed in SC11-04 and SC11-05 with the Portal Dyke is unknown.

### **Mineralization and Results**

The mineralization style at the Rainbow Zone and other zones at Skukum Creek is quartz sulphide veins with width from less than one metre to a few metres. Within the rhyolite dykes, narrow and braided quartz sulphide veinlets are common. The veins contain high grade of gold and silver as well as minor amount of base metals.

Sulphide minerals in the quartz sulphide vein include arsenopyrite, pyrite, and lesser amounts of sphalerite, galena, chalcopyrite, stibnite and tetrahedrite. The total content of sulphide is about 10 to 20%.

Underground holes targeted the high grade pocket of Rainbow Zone near the bottom of the 1225 metre level ramp, represented by historical drill holes 86-R8 and 87-UG17R which yielded significant intersections of 30.01 g/t Au and 603.6 g/t Ag over 2.95 metres and 11.24 g/t Au and 291.8 g/t Ag over 25.60 metres, respectively.

Intersections from the new underground drill holes show good continuity of mineralization with considerable variation of both grade and width. This demonstrates the spotty nature of the quartz-sulphide vein mineralization.

Mineralization remains open at depth of the Rainbow Zone. Drill hole SC11-02 returned an intersection (core length) of 8.10 g/t Au and 75.3 g/t Ag over 14.22m (including 15.19 g/t Au and 162.8 g/t Ag over 5.00 metres). This intersection is about 100 metres below the historical drill limit. The assay results also show a general trend of increasing gold grades and decreasing silver grades with increasing depth (Zhang, 2012).

Significant intersections are presented in Table 9. Intersection grades are based on a cut-off grade of 1 g/t Au and widths are reported as core lengths. Intersection true widths range from 50 to 80% of the core length, depending on the angle of the drill hole (Zhang, 2012).

Table 9: Significant intersections, Skukum Creek.

Hole	Interval (m)			Results			
	From	To	Length	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)
SC11-01-UG	85.76	90.00	4.24	3.23	135.6	0.59	0.65
SC11-02A-UG	88.90	91.17	2.27	3.30	93.6	0.58	0.54
SC11-03-UG	76.65	78.54	1.89	3.44	95.7	0.30	0.47
	81.51	82.55	1.04	1.93	90.4	0.68	0.72
SC11-04-UG	81.35	85.76	4.41	3.02	122.1	0.52	0.73
	87.65	89.21	1.56	4.99	126.7	0.28	0.43
	92.30	94.62	2.32	4.90	55.0	0.30	0.54
SC11-05-UG <i>including</i>	89.08	97.31	8.23	6.52	321.8	1.10	1.52
	90.48	93.10	2.62	16.63	853.3	2.51	2.94
	103.80	105.90	2.10	1.61	43.9	0.57	0.28
	109.00	110.00	1.00	5.10	27.0	0.13	0.18
SC11-06-UG	123.00	124.11	1.11	4.28	378.0	0.74	0.50
	142.08	143.08	1.00	1.18	3.2	0.01	0.18
SC11-07-UG <i>including</i>	81.83	91.48	9.65	8.43	322.3	1.18	1.63
	81.83	88.09	6.26	11.34	434.2	1.48	1.79
	101.72	103.96	2.24	16.00	406.9	1.54	2.66
SC11-08-UG	74.80	83.00	8.20	2.20	53.3	0.24	0.47
	86.60	89.00	2.40	2.63	11.1	0.07	0.20
SC11-09-UG	78.00	79.70	1.70	4.14	119.8	0.22	0.23
	83.90	91.25	7.35	2.34	22.4	0.14	0.19
	93.40	96.42	3.02	2.09	34.0	0.24	0.29
SC11-10-UG <i>including</i>	61.00	63.00	2.00	1.82	44.1	0.21	0.36
	65.00	71.10	6.10	2.75	34.1	0.16	0.43
	65.00	67.05	2.05	5.30	61.4	0.29	0.73
SC11-11-UG	68.82	73.48	4.66	2.04	174.4	0.56	0.83
	75.48	77.48	2.00	1.27	28.0	0.21	0.40
SC11-13-UG <i>including</i>	103.00	123.15	20.15	7.08	144.0	0.71	0.99
	113.70	120.50	6.80	12.94	225.3	1.23	1.12
SC11-15-UG <i>including</i>	94.42	95.00	0.58	5.85	198.0	0.86	1.41
	97.85	113.65	15.80	2.58	70.1	0.29	0.45
	105.52	107.58	2.06	5.67	53.4	0.23	0.52
SC11-01 <i>including</i>	368.30	380.40	12.10	8.42	82.6	0.47	1.72
	376.00	379.30	3.30	22.75	169.9	1.08	5.42
SC11-02 <i>including</i>	496.78	511.00	14.22	8.10	75.3	0.80	1.30
	504.00	509.00	5.00	15.19	162.8	1.81	2.56
SC11-03	384.69	385.69	1.00	2.03	59.0	2.35	1.72
SC11-04 <i>including</i>	437.50	439.82	2.32	11.11	83.9	0.14	0.74
	438.70	439.82	1.12	21.20	158.0	0.21	1.38
	465.73	466.94	1.21	1.70	36.9	0.20	1.62
SC11-05 <i>including</i>	516.40	523.54	7.14	4.85	65.2	0.54	1.11
	516.40	518.40	2.00	10.03	147.5	1.28	2.14
SC11-06	<i>no significant results</i>						

## 10.4 GODDELL GULLY

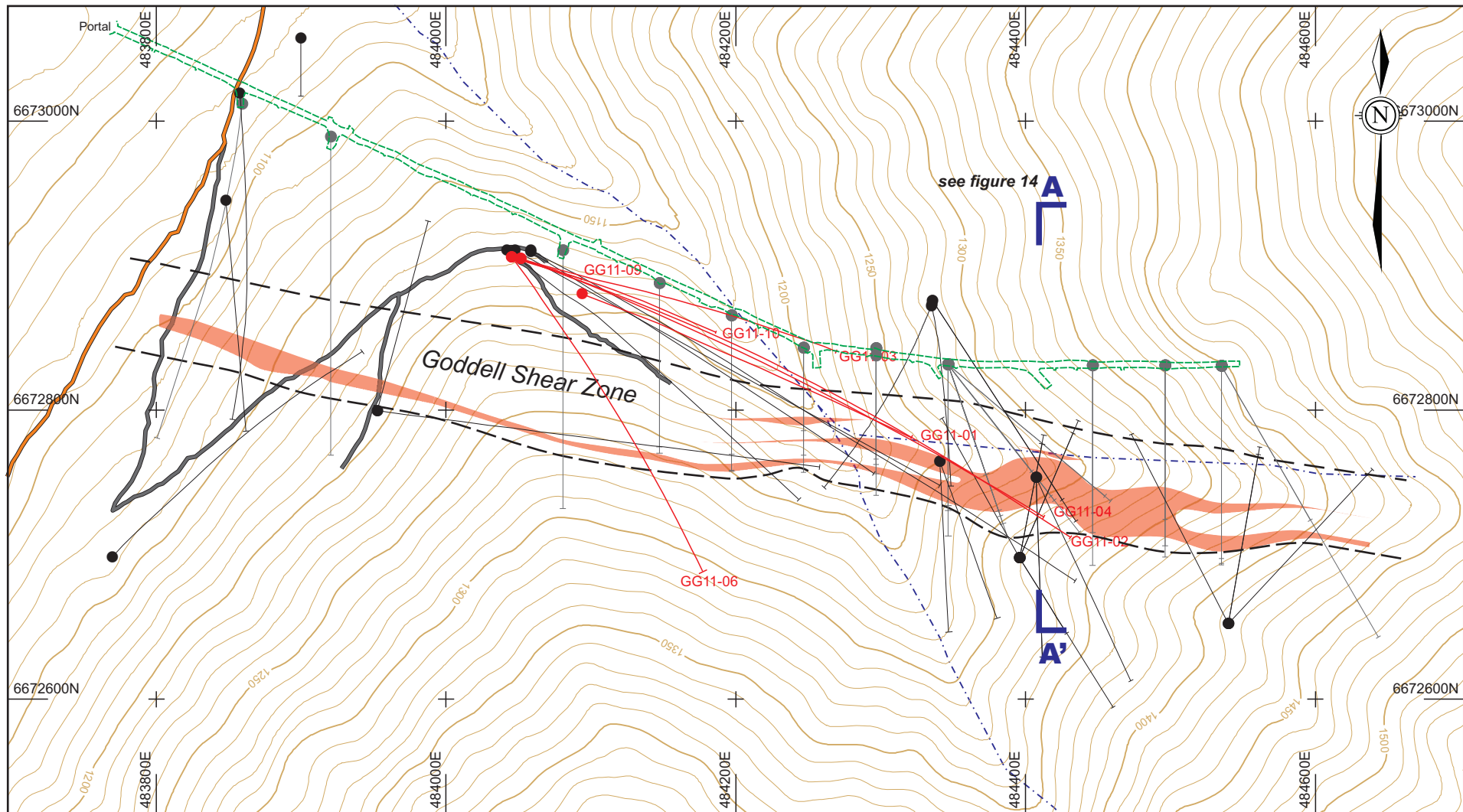
Diamond drilling at Goddell was designed to confirm the wide gold mineralization at the PD Zone and test the potential up and down dip as well as along strike. Eight (8) holes totalling 3187.02 metres were drilled with three completed to their planned depth; the others were abandoned due to various technical difficulties. A total of 913 core samples were collected excluding control samples.

A drill hole plan map is presented in Figure 13 and a representative cross section and longitudinal section is presented in Figure 14.

### Geology

The leucocratic quartz monzonite is the dominant rock type encountered in drilling of the Goddell Gully area. Dykes of porphyritic rhyolite and andesite are also quite common especially within the major shear zone. Fresh monzonite is medium-grained and equigranular with sharp boundary of mineral grains. Close to the shear zone, sericite alteration is common and the mineral grains became blurred. Within the shear zone, monzonite is strongly fractured and altered with most feldspar grains altered to sericite and carbonate, giving an apple green appearance. Biotite in monzonite was completely altered to carbonate and lesser sericite. Petrography study and SEM results (Lang and Rhys, 2002) indicated that the apple green colour is caused by massive sericite-muscovite clots with no green colour activators such as V, U or Cr. Dark ferromagnesian mineral grains in andesite dykes were altered to clots of chlorite, and rhyolite dykes also experienced more or less sericite alteration and silicification.

Three rhyolite dykes were identified and used as markers to help sectional interpretation in historical exploration documents. All these rhyolite dykes displays porphyritic texture, and were referred to as quartz feldspar porphyry (QFP) in logging. During drilling in 2011, drill hole GG11-02 penetrated all the three porphyritic rhyolite markers. The north strand (“North Marker”), from 360.95 metres to 371.92 metres, contains grains of feldspar and quartz as well as clasts of earlier rhyolite xenolith of similar composition and texture. It seems that some xenolith clasts experienced stronger alteration and display apple green color, but in drill hole GG11-04, the xenolith clasts display a grey color. The “Central Marker” rhyolite dyke, from 386.35 metres to 393.14 metres, in drill hole GG11-02, contains lesser disseminated sulphides and displays flow-banding structure. The “South Marker” dyke, from 460.27 metres to 503.5 metres, did not exhibit sulphides, banding structures or xenolith clasts. The thickness and position of the rhyolite marker dykes can vary dramatically on different sections along strike and make it difficult to ascertain which dyke is which. As a package, the of rhyolite dykes are emplaced within the Goddell Gully shear zone, are consistently present on surface and at depth, and act as a good guide to exploration drilling.



**LEGEND**

- New Pacific drilling (2011)
  - Surface drill hole
  - Underground drill hole
- Historical drill holes (1985-2008)
  - Surface drill hole
  - Underground drill hole
- Underground workings
- Road
- Contour (10 metre interval)
- Watercourse
- Waterbody
- Mineralized zones (at 800 metre elevation)
- - - Shear zone boundary

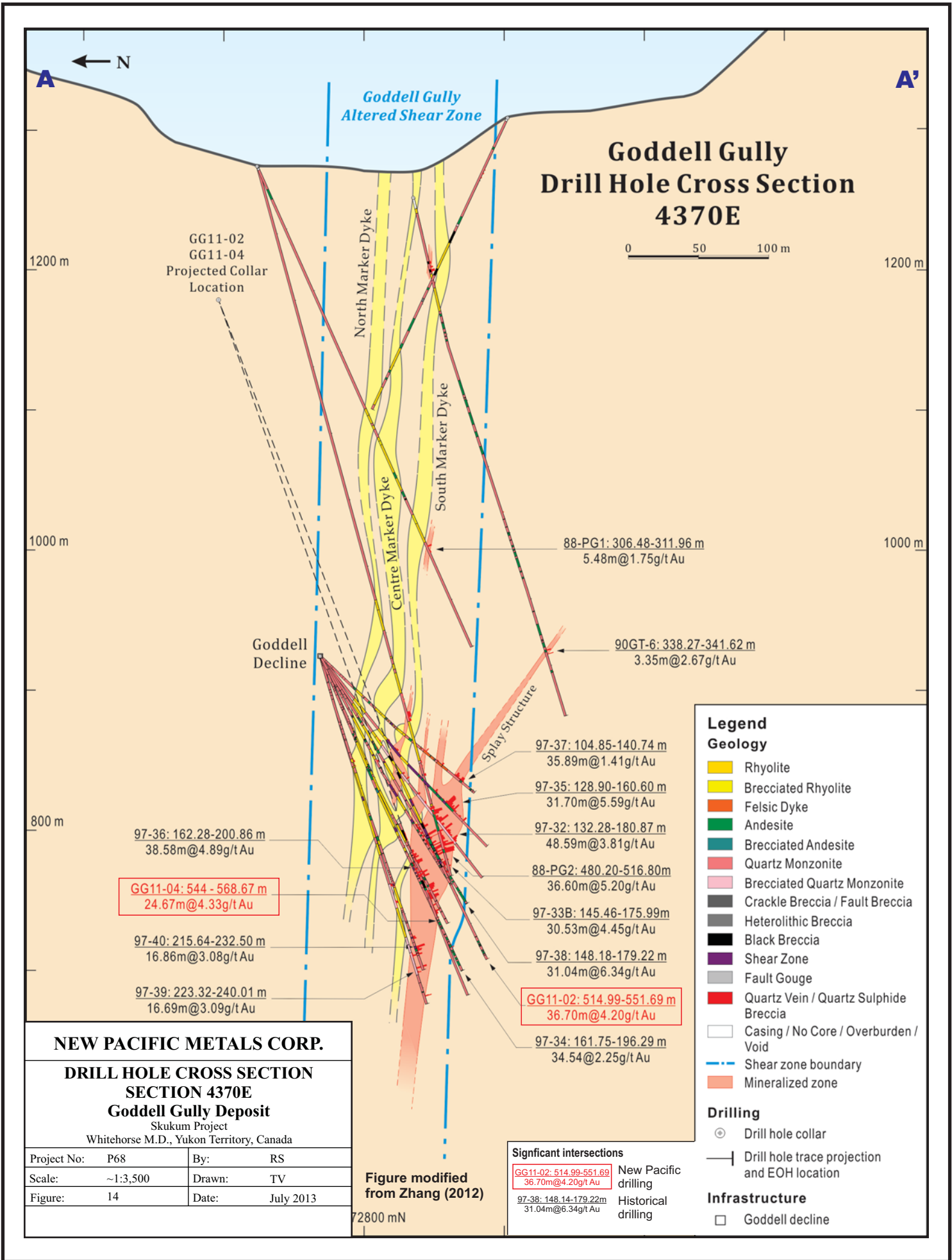
0 100m  
 NAD 83, UTM Zone 8 North  
 NTS 105D03

**NEW PACIFIC METALS CORP.**

**DRILL HOLE PLAN MAP  
 Goddell Gully Deposit**

Skukum Project  
 Whitehorse Mining District, Yukon Territory, Canada

Project No:	P68	By:	CN, TV
Scale:	1:4,000	Drawn:	TV
Figure:	13	Date:	July 2012



# Goddell Gully Drill Hole Cross Section 4370E

0 50 100 m

1200 m

1200 m

1000 m

1000 m

800 m

GG11-02  
GG11-04  
Projected Collar  
Location

North Marker Dyke

Centre Marker Dyke

South Marker Dyke

Goddell Decline

Splay Structure

88-PG1: 306.48-311.96 m  
5.48m@1.75g/t Au

90GT-6: 338.27-341.62 m  
3.35m@2.67g/t Au

97-37: 104.85-140.74 m  
35.89m@1.41g/t Au

97-35: 128.90-160.60 m  
31.70m@5.59g/t Au

97-32: 132.28-180.87 m  
48.59m@3.81g/t Au

88-PG2: 480.20-516.80m  
36.60m@5.20g/t Au

97-33B: 145.46-175.99m  
30.53m@4.45g/t Au

97-38: 148.18-179.22 m  
31.04m@6.34g/t Au

GG11-02: 514.99-551.69 m  
36.70m@4.20g/t Au

97-34: 161.75-196.29 m  
34.54@2.25g/t Au

97-36: 162.28-200.86 m  
38.58m@4.89g/t Au

GG11-04: 544 - 568.67 m  
24.67m@4.33g/t Au

97-40: 215.64-232.50 m  
16.86m@3.08g/t Au

97-39: 223.32-240.01 m  
16.69m@3.09g/t Au

### Legend

#### Geology

- Rhyolite
- Brecciated Rhyolite
- Felsic Dyke
- Andesite
- Brecciated Andesite
- Quartz Monzonite
- Brecciated Quartz Monzonite
- Crackle Breccia / Fault Breccia
- Heterolithic Breccia
- Black Breccia
- Shear Zone
- Fault Gouge
- Quartz Vein / Quartz Sulphide Breccia
- Casing / No Core / Overburden / Void
- Shear zone boundary
- Mineralized zone

#### Drilling

- Drill hole collar
- Drill hole trace projection and EOH location

#### Infrastructure

- Goddell decline

**NEW PACIFIC METALS CORP.**

**DRILL HOLE CROSS SECTION  
SECTION 4370E**

**Goddell Gully Deposit**

Skukum Project  
Whitehorse M.D., Yukon Territory, Canada

Project No:	P68	By:	RS
Scale:	~1:3,500	Drawn:	TV
Figure:	14	Date:	July 2013

Figure modified from Zhang (2012)

#### Significant intersections

- GG11-02: 514.99-551.69 m  
36.70m@4.20g/t Au New Pacific drilling
- 97-38: 148.14-179.22m  
31.04m@6.34g/t Au Historical drilling

72800 mN

A black graphitic breccia zone, referred to as “Black Breccia”, was encountered in the Goddell Gully shear zone. It may represent the most intensely ductile deformed rock of the shear zone and there are multiple such zones of various widths in the Goddell Gully shear structure. The mineral composition of the breccia is unknown as no petrology study has been done on it. However, the graphite is believed to be sourced from hydrothermal activities (Zhang, 2012).

### **Mineralization and Results**

Gold mineralization at Goddell is mainly characterized by abundant disseminated sulphides contained in intermediate to felsic dykes, breccias and cataclastic quartz monzonite within the Goddell shear zone. Rich, fine acicular arsenopyrite is the indication of high grade of gold. Other sulphides include pyrite and stibnite as well as minor sphalerite. When strongly altered and mineralized, andesite dykes contains abundant acicular arsenopyrite and the dyke shows a dark grey appearance with the original grain texture of dark minerals completely disappeared. A piece of such core (sample 8R292955) from the depth of 525.07 metres to 525.80 metres (0.83 metres) in drill hole GG11-02 returned a value of 90 g/t Au. Gold grades in breccia and cataclastic monzonite are relatively lower, likely determined by the amount of disseminated sulphides. When quartz monzonite is strongly altered and mineralized, grains of both plagioclase and K-feldspar were sericite altered, and featured by abundant disseminated acicular arsenopyrite which is enriched as dark 0.5cm dots. No fractures or shear fabrics were observed. The parent mineral of the arsenopyrite dots could be ferromagnesian bearing minerals such as hornblende and biotite.

Structural control played a key role in gold mineralization. Within the Goddell Gully shear zone, low grade gold mineralization is associated with breccia zones and on the contact of dykes with monzonite wall rock. Andesite and rhyolite dykes can be mineralized with minor disseminated arsenopyrite, but gold grade is generally low. Goddell Gully zone is also referred to as “GG Zone”. The most important deposition sites for gold are the intersection area of the major Goddell shear structure and its splays in the footwall to the south. Gold mineralization in the structural intersection area was referred to as “PD Zone” in historical documents, and “Merge Zone” recently. The PD or Merge Zone is located to the south of the rhyolite dykes, characterized by a wide zone of mineralization (Figure 14). The longest intersection to date is from historical hole 97-41 grading 5.75 g/t Au over a core length of 64.69 metres. Significant intersections from the current drilling include 4.20 g/t Au over a core length of 36.70 metres (GG11-02) and 4.33 g/t Au over a core length of 24.67 metres (GG11-04).

Based on available drill data, the vertical extent of the Merge Zone is 100 to 150 metres, with a lateral extent of 300 to 400 metres. Further away from the structural intersection area, both width and grade of gold mineralization drop dramatically. Away from the major shear zone, the splays cut through quartz monzonite and present as a mineralized fracture from one to a few metres wide. The Golden Tusk Zone to the south of the major Goddell Gully shear zone could be the surface presence of the PD Zone. A few mineralized splay fractures were also encountered outside the major shear structure (i.e. GG11-06).

Significant intersections are presented in Table 10. Intersection grades are based on a cut-off grade of 1 g/t Au and widths are reported as core lengths. True widths were not reported by New Pacific but are estimated by the author to be 50% to 65% of the core length depending on the angle of the drill hole.

Table 10: Significant intersections; Goddell Gully

Hole	Interval (m)			Results
	From	To	Length	Au (g/t)
GG11-01	327.42	328.43	1.01	4.05
	366.72	367.72	1.00	2.38
GG11-02  <i>including</i>	440.44	441.60	1.16	1.26
	447.60	448.80	1.20	1.54
	454.80	456.00	1.20	2.56
	482.17	483.35	1.18	1.10
	503.50	506.13	2.63	1.41
	507.68	508.75	1.07	1.01
	514.99	551.69	36.70	4.20
	514.99	532.33	17.34	7.20
	557.13	557.70	0.57	1.06
GG11-04  <i>including</i>	378.33	378.91	0.58	1.18
	416.05	417.30	1.25	4.46
	466.37	467.50	1.13	1.08
	509.10	512.33	3.23	2.02
	516.79	517.79	1.00	7.50
	530.00	531.00	1.00	7.60
	534.43	535.16	0.73	1.78
	536.06	536.62	0.56	4.35
	540.69	541.34	0.65	4.00
	544.00	568.67	24.67	4.33
	544.00	552.00	8.00	10.58
	579.00	580.00	1.00	1.35
GG11-06	273.00	274.00	1.00	1.03
	275.00	276.65	1.65	5.04
	502.10	503.10	1.00	2.65

## 10.5 RACA ZONE

Drilling at the Raca Zone was designed to test the down-dip and on-strike continuity of the high grade mineralization reported by diamond drilling in 1997. A total of 1,251 metres were drilled in five holes of which only two holes reached the planned depth due to drilling technical difficulties. A total of 727 samples were collected excluding control samples.

### Geology

The dominant lithology encountered at Raca is the andesitic tuff and cherty conglomerate (Tantalus Formation) of late Jurassic as well as the early Jurassic mega crystal K-feldspar granite (Bennett Granite). The andesitic tuff shows porphyritic texture. It contains lots of

disseminated pyrite and experienced more or less alteration of sericite. Magnetite bandings and clots of possible hydrothermal origin were noticed locally. The pebble of conglomerate is well rounded chert and quartz of centimeters in size. Groundmass is strongly silicified and sericitized. The size of the K-feldspar grains in the Bennett Granite varies from less than one centimeter up to ten centimeters. The granite is highly fractured and bleached, unanimously experienced strong alteration of sericitation and silicification, and contains more or less disseminated sulphides. A rhyolite dyke about 10 metres wide emplaced along the contact between the andesitic tuff and the granite units. On both the hanging and foot walls of the rhyolite dyke are shear structures.

### Mineralization and Results

Quartz sulphide vein mineralization is hosted along the contact shear zones on hanging and footwalls of the rhyolite dyke, referred to as Zone 2 and Zone 3 respectively. Andesite dykes of various widths are also noticed along the shear zones. The mineralized veins are mostly brecciated. Sulphide minerals include pyrite, arsenopyrite, sphalerite and galena. In many ways the Raca Zone is very similar to the Rainbow Zone of the Skukum Creek gold-silver deposit, such as the hosting shear structure, association with felsic and intermediate dykes, and similar sulphide minerals. Historical documents suggest that the Raca Zone is the eastern extension of the Rainbow Zone, although this hypothesis has not been proven by sufficient drilling. The silver grades are higher and gold grades are much lower in the Raca Zone than those of the Rainbow Zone suggesting the two zones may be distinct.

A separate and new mineralized zone was recorded from the depth 115.20 metres to 116.78 metres (referred to as Zone 1) in the hole RACA11-01. Mineralization is characterized by stockwork veining of sulphides comprising pyrite, arsenopyrite, galena, sphalerite and minor chalcopyrite hosted in altered andesite. This interval returns a high silver grade of 1,280 g/t Ag over 1.58 metres (core length).

Significant intersections are presented in Table 11. Intersection grades are based on a cut-off grade of 50 g/t Ag and widths are reported as core lengths. True widths are estimated to be approximately 75% of the core length (Zhang, 2012).

Table 11: Significant intersections, Raca Zone

Hole	Interval (m)			Results	
	From	To	Length	Au (g/t)	Ag (g/t)
RACA11-01	115.20	116.78	1.58	1.91	1,280
	169.22	172.22	3.00	1.92	347
	193.42	194.08	0.66	1.06	248
RACA11-02	134.21	135.40	1.19	0.75	300
	183.58	184.46	0.88	0.19	190

## **10.6 CHIEFTAIN HILL**

A single drill hole (CFT11-01) was completed at Chieftain Hill with a total depth of 346.83 metres. The purpose of this drilling was to locate the source of the strong surface soil anomaly of gold. A total of 157 core samples were collected excluding control samples.

### **Geology**

The most common rock types encountered in the hole are Tertiary volcanic flows of andesitic pyroclastics and rhyolite. The composition of clasts in the pyroclastic flows is very complex, ranging from various small mineral and rock debris to large pyroclasts of diameters more than ten centimeters. Flow banding is obvious near the contact of rhyolite with pyroclastics. Alteration is generally weak except some oxidation and weathering along fractures. A few narrow fracture zones occurred along the contacts of different rock types.

### **Mineralization and Results**

A zone with disseminated pyrite was identified in the pyroclastic flows from the down hole depth of 60 metres to 83.8 metres. The amount of pyrite seems increasing to the lower part up to 5% with moderate sericitic alteration. However, analytical results did not return any anomalous values of metals from this mineralized interval.

No mineralized zone was identified by visual observation in the rhyolite flow. Geochemical analyses indicated anomalous values of gold, silver, lead and zinc from 199.39 metres to 242.00 metres (42.61 metres). Within the zone, is an intersection grading 0.27 g/t Au, 8.1 g/t Ag, 0.14% Pb and 0.24% Zn over a core length 14.12 metres (199.39-213.51m) including a single sample grading 1.98 g/t Au and 4.8 g/t Ag over 1.00 metres (200.39-201.39m). Metal values diminish sharply either way from this zone. This anomalous zone is very similar to the surface soil geochemical anomaly right above the hole, and is likely the contributing source. The nature of this mineralization is still unknown.

## **10.7 ANTIMONY CREEK**

A single drill hole at Antimony Creek (ATM11-01) was designed to test the depth potential of the strongly altered Porter shear structure. The drill hole was terminated at a depth of 341 metres, approximately 200 metres short of the planned depth, due to technical difficulties. A total of 41 core samples were collected, excluding control samples.

### **Geology**

The dominant rock type encountered in the hole is monzonite of probably the mid-Cretaceous Mount McIntyre Plutonic Suite of the Coast Plutonic Complex. A few small dykes of andesite and rhyolite were also noticed. The dykes emplaced along fracture and shear zones. Reddish mega-crystals of K-feldspar are observed frequently. The size of some K-feldspar grains is up to more than 10 centimeters across the core and giving it appearance of “dyke”. Fractured or sheared zones of various sizes are common all the way through the hole with the most intensely sheared section at the depth from 230 metres to

305 metres. The shear and fracture zones are part of the Porter structure. Alteration is pervasive with intensity increased near fractures and shear zones. Common altered minerals are chlorite from Fe-Mg bearing minerals such as biotite and hornblende. Plagioclase is mostly altered to sericite but K-feldspar grains remain fresh or experienced little alteration. In the strongly altered section around the depth 250 metres, both plagioclase and K-feldspar were altered to sericite and carbonate.

### **Mineralization and Results**

Up to 1 to 3% disseminated sulphides were observed in association with the strongly sheared section from 250 metres to 305 metres down hole. Sulphide minerals are mostly pyrite with minor chalcopyrite. Analytical results from this section returned anomalous values of copper in the range of hundreds of ppm associated with slightly elevated gold values up to 14 ppb. Silver, lead and zinc are low, in the range of background values. The results of this drill hole do not explain the Ag-As-Cu-Mo-Pb-Zn anomaly at surface. As the drill hole was terminated early due to drilling difficulties, the potential of the Porter Shear structure remains untested at depth.

## **10.8 CORE ANALYSIS**

Core recovery, rock quality and specific gravity measurements were routinely undertaken on drill core. A summary of the procedures and results as reported by Zhang (2012) are presented below.

### **10.8.1 Core Recovery and Rock Quality Designation**

#### **Procedure**

Diamond drill crews recorded imperial depth numbers determined from 10 foot drill rods and then converted to metric number. Both imperial and metric numbers as well as run numbers were recorded on a wooden core block at the end of each run. New Pacific personnel verified the depth numbers, cleaned cores with fresh water and re-aligned broken cores (Zhang, 2012)

Recovery is a measure of actual length against the interval drilled, and calculated by dividing the measured sum of all pieces by the length of the interval of every run. It is reported as percent of the drilled interval.

Rock Quality Designation (RQD) is the measured sum of all pieces of core exceeding 10 centimetres over an interval divided by the calculated length of the interval, and reported as a decimal. The artificial breaks made by drillers are discounted.

#### **Results**

Overall the core recovery is excellent in all holes. Rock mass quality is generally good in intrusive and volcanic rocks with RQD higher than 0.75. However, the weak andesitic tuff with frequent fractures in the hanging wall of Raca zone resulted in poor rock mass quality with RQD lower than 0.5.

## 10.8.2 Specific Gravity

### Procedure

Specific gravity (SG) testing was performed on drill core at a frequency of one test for every box of mineralized intervals, and one test of every three boxes of unmineralized intervals. An Aquatronic™ Salter electronic digital balance was used for the testing. The capacity of the balance is five kilograms and accuracy one gram. Prior to everyday testing work, the balance is calibrated using a one kilogram standard weight. The wire hanger was then hung and tared off.

At each testing, one piece of core with length about ten to twenty centimeters was weighed in air and in water separately. The depth numbers of the weighed interval, weight numbers, date and names of operators were recorded on a record sheet. The raw data was then entered into a spreadsheet for calculation of specific gravity using the following formula assuming the density of water is one gram per cubic centimeter:

$$\text{S.G.} = (\text{Dry Weight}) / [(\text{Dry Weight}) - (\text{Wet Weight})]$$

### Results

Summary of the testing results are given in Table 12, broken down to individual deposits, mineralized intervals and rock types.

Table 12: Specific Gravity Test Results

Deposit	Interval	Rock Type	No. Tests	Minimum	Maximum	Average
				(g/cm <sup>3</sup> )	(g/cm <sup>3</sup> )	(g/cm <sup>3</sup> )
Mt. Skukum	Mineralized Zone	Quartz-Calcite Stockwork	11	2.60	2.79	2.68
	Unmineralized Zone	Andesitic rocks	159	2.18	3.16	2.68
Skukum Creek	Mineralized Zone	Quartz-Sulphide Veins and Breccia	30	2.15	3.35	2.87
	Unmineralized Zone	Granodiorite/andesite/rhyolite	312	2.26	3.07	2.67
Goddell	Mineralized Zone	Altered/Sheared QZMZ/dykes	22	2.66	2.93	2.77
	Unmineralized Zone	Quartz Monzonite/andesite	350	2.36	2.93	2.69

## **11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY**

This section includes information on sample preparation, analyses (including quality control) and security related to New Pacific's 2011 exploration program. Information is summarized from "Exploration Report for 2011" by A. Zhang (2012).

### **11.1 FIELD PREPARATION**

Drill core was delivered to the camp geology building by the drilling contractors each day. Geology staff cleaned and re-aligned the cores prior to core logging. Core recovery and rock quality designation (RQD) were measured before geological logging. After logging, geologists marked sample intervals in the mineralized zones. Sample length ranged from one to two metres but was sensitive to changes in rock type, structure, alteration and mineralization. One to two additional samples were marked in the immediate hanging and footwall to bracket potential mineralized zones. Photos of both dry and wet core were taken after logging and sample marking.

All core samples were sawn into two equal halves, one half for submission for analysis and the other for storage at the on-site core yard. Samples for analysis were bagged in pre-numbered plastic bags with one pre-numbered tag in the bag. Standard reference material and blank samples were inserted into the normal sample sequence at frequency of one standard and one blank every thirty routine samples. The sample bags were then sealed securely with staples and delivered to the sample preparation lab of Eco-Tech Laboratories Ltd. (a part of the Stewart Group) in Whitehorse, YT by New Pacific personnel. Each sample delivery batch normally contained approximately one hundred samples.

Due to the acquisition of Stewart Group by ALS Group in July 2011, subsequent sample batches were delivered to the ALS Minerals preparation facility in Whitehorse, YT.

### **11.2 SAMPLE PREPARATION**

Preparation of soil, rock and core samples were performed by Eco-Tech Laboratories Ltd. (Eco-Tech) and ALS Minerals (ALS). Both laboratories are ISO 9001:2008 accredited providers of geochemical and environmental analytical services.

Soils were prepared by drying and sieving through an -80 mesh screen to obtain a -80 mesh fraction. Samples unable to produce adequate -80 mesh material are screened at a coarser fraction. A 250 gram sub sample of the minus fraction is pulverized on a ring mill pulveriser until 95% passes a -140 mesh screen. The pulverized sub sample is rolled, homogenized and bagged in a pre-numbered bag for analysis. A "barren" gravel blank is prepared before each job as a "sample prep". This "blank" is analyzed for trace contaminants with the job samples.

Drill core and rock samples are dried and crushed such that at least 70% crushed material must pass through a -10 mesh screen. A 250 gram sub sample of the crushed sample is then

pulverized so that 80% can pass through a -200 mesh screen. A barren gravel blank was prepared before each job in the sample prep to monitor for possible contamination along with the processed samples. The pulverized samples were then delivered to the analyzing laboratory, either Eco-Tech or ALS (Zhang, 2012).

### 11.3 SAMPLE ANALYSES

Analyses of soil, rock and core samples were performed by Eco-Tech of Kamloops, BC and ALS Minerals of North Vancouver, BC. Sample analyses are summarized from Zhang (2012)

#### **Gold Fire Assay**

##### ***Eco-Tech***

All surface rock samples, soil samples and drill core samples were analysed using method Au2-30 method. A 30 gram sample is used with detection limits of 5 to 1,000 ppb Au. Overlimit samples were re-analyzed using method Au3-30 with detection limits of 0.03 to 100 ppm Au.

##### ***ALS Minerals***

A 30 gram sample of pulp sample is used (lab code Au-AA23). Detection limits for this method is 0.005 to 10.0 ppm Au. Overlimit samples were analyzed by gravimetric method (Au-GRA21) with detection limits of 0.05 to 1,000 ppm Au.

#### **Aqua Regia Digestion**

##### ***Eco-Tech***

Thirty-three (33) elements are analysed using aqua regia digestion (code AR/ES). Any base metal elements (Cu, Pb, Zn) that are overlimit (>1.0% or 10,000 ppm) and silver (>50 ppm) were immediately run as an ore grade assay (code BM2/A).

##### ***ALS Minerals***

Aqua regia ICP-AES (lab code ME-ICP41) was used for multi-element analyses. This method analyses a package of 35 elements. Any overlimit results for the elements listed below would re rerun by assay:

- If Ag $\geq$ 50 ppm, then run method Ag-OG46 (detection limit 1-1,500 ppm)
- If Cu $\geq$ 10,000 ppm, then run method Cu-OG46, (detection limit 0.001-40% )
- If Mo $\geq$ 10,000 ppm, then run method Mo-OG46, (detection limit 0.001-10% )
- If Pb $\geq$ 10,000 ppm, then run method Pb-OG46, (detection limit 0.001-20%)
- If Zn $\geq$ 10,000 ppm, then run method Zn-OG46, (detection limit 0.001-60%)

## 11.4 QUALITY CONTROL

New Pacific employed a quality control system to monitor the integrity of the database and to provide a measure of accuracy and confidence. The system consisted of reference materials, blanks and check samples and is summarized from Zhang (2012).

New Pacific prepared custom reference materials to be used during the exploration of the Property. The following description of the procedure for creating the reference materials was taken from Zhang (2012), however certificates of analyses and details of the statistical calculations were not available to the author.

Seven (7) pails of mineralized material, approximately 40 kg in weight, were taken from the Skukum Creek stockpile and sent to Eco-Tech for preparation and analysis. Each pail represented a different sample/reference material. The sample material was prepared to 85% passing through -200 mesh. Each sample was the split to 10 sub-samples which were analysed for gold, silver, copper, lead and zinc. The mean and standard deviation of each sample were calculated by omitting the maximum and the minimum of each element, i.e., eight values were used for the calculation. The ten sub-samples were again mixed and homogenized (Zhang, 2012).

One New Pacific-prepared reference material (“Standard 1”) was used during the 2011 exploration which had nominal values of:

- gold: 6.31 ppm Au ( $1\sigma = 0.57$  ppm Au);
- silver: 46.58 ppm Ag, ( $1\sigma = 1.33$  ppm Ag);

The blank material was provided by Eco Tech’s preparation facility in Whitehorse, YT. It consists of fresh unmineralized granite crushed to 0.5 centimeter size and packed in plastic rice bags (Zhang, 2012).

One reference sample of approximately 100 grams was inserted into the sample sequence every 30 samples prior to shipment to laboratory for analysis. A total of 110 reference samples and 126 blank samples were inserted into the sample sequences.

Upon receipt of assay results from labs, inserted reference samples were checked against expected value for any significant discrepancies (more than two standard deviations above or below the expected value). Results for gold analyses of the reference material from Eco-Tech included all values within two standard deviations from the expected value with the majority within one standard deviation (Zhang, 2012). Discrepancies appear to be present in gold analyses of the reference material from ALS with six results greater than two standard deviations from the nominal value. Most of the silver analyses of the standard reference material from both Eco-Tech and ALS returned values consistently lower and greater than 2 standard deviations from the nominal value. It is unclear what, if any, measures were taken by New Pacific to address the reference samples returning values greater than 2 standard deviations.

Results for blank reference material show no evidence of contamination during sample preparation (Zhang, 2012).

Check samples were taken as sub-samples of the pulps sent to the analytical labs. Details on procedures are presented in Zhang (2012) along with analytical results of standards, blanks, and checks.

One check sample of 50 to 100 grams in weight was taken approximately every 20 samples. To better monitor the reproducibility, more samples were taken in the well mineralized intervals than in the weakly mineralized part as identified by visual examination. A total of 168 check samples were selected. The check samples were numbered as a separate sequence and submitted to Inspectorate of Richmond, BC, an ISO 9001:2008 accredited facility. To monitor the accuracy and precision of analysis of the check lab, 7 references and 7 blanks were included with the check samples.

According to Zhang (2012), the check samples analyses for gold and silver demonstrated very good reproducibility with check gold results averaging approximately 4.4% lower than the original value and silver check results averaging 5.3% lower than the original value. Two silver analyses returned a significant variation between the original and check analysis. Excluding these outliers the silver check results averaged 1.5% lower than the original value. (Zhang, 2012).

## **11.5 SECURITY**

For security, the geology building and core processing area were restricted to New Pacific geology personnel only. At the core cutting facility the samples were sealed by triple folding the top of plastic sample bag and then closed with staples. When no authorized personnel were present, samples were stored in the locked geology building. Bagged samples were placed in rice bags and transported by staff to the preparation labs in Whitehorse, YT where custody of the samples was transferred from New Pacific to Eco-Tech or ALS Minerals.

## **11.6 CONCLUSIONS**

The author is of the opinion that sample preparation, analyses and security measures undertaken were adequate.

## 12.0 DATA VERIFICATION

### 12.1 SITE VISIT VERIFICATION

The author visited the site on July 16 and 17, 2013. The purpose of the visit was to review the drilling, sampling, and quality assurance/quality control procedures. The geology and mineralization encountered in the drill holes completed to date were also reviewed. Underground workings were not accessible at the time of the visit.

Data verification included:

- Verification sampling of drill core;
- Verification of selected drill hole collars by hand-held GPS,
- Verification of the Lake Zone, Skukum Creek and Goddell Gully geodatabases.

Four samples of drill core from various deposits were collected by the author and submitted to Acme Analytical Laboratories Ltd. (Acme) of Vancouver, BC (an ISO 9001:2008 accredited laboratory). Results confirmed the presence of significant grades of gold and silver in the sampled intervals. Two samples were considerably lower in grade and two returned higher grades than the complete interval assays but these samples only represented 10 to 20 cm of material within the corresponding intervals.

Table 13: Verification samples from site visit

Sample	Hole No.	Depth (m)	Au g/t	Ag g/t	Original Assay Interval (m)				
					From	To	Width	Au g/t	Ag g/t
GSM01	SC11-02	507	60.3	274	506.00	507.00	1.00	19.90	226.0
GSM02	MS11-01	46	9.916	30	45.30	46.40	1.10	6.90	19.5
GSM03	GG11-04	549.5	0.622	<2	549.00	550.00	1.00	17.50	3.4
GSM04	SC11-04UG	88	0.497	47	87.65	88.30	0.65	10.70	264.0

Eight drill hole collars were checked by hand-held GPS and locations confirmed.

The drill databases were audited for internal consistency including checks for overlapping and missing intervals. Drill hole collars were confirmed to correspond to topographics surfaces or underground workings. Underground samples were also confirmed to correspond to underground development.

### 12.2 DRILL CORE

In February 2012, CME Consultants Inc. (CME) collected core samples of historical Lake Zone drilling for data verification. Pulps and rejects for core from New Pacific's 2011 drilling at Goddell Gully, Skukum Creek and Lake Zone were also requested which were retrieved by New Pacific personnel.

The verification samples were delivered to Acme of Vancouver, BC (an ISO 9001:2008 accredited laboratory). Acme carried out all sample preparation and analyses of the samples.

Gold and silver analyses (Acme method codes G603 and 7AR, respectively) were undertaken on all submitted samples. Any overlimit samples (>10 g/t Au, 300 g/t Ag) were subsequently assayed with a gravimetric finish (Acme method code G6Gr).

Quality control protocol was implemented for geochemical samples submitted as part of the data verification work. This consisted of one blank inserted with each batch of core samples and one standard reference material sample inserted with two of the three batches of samples submitted to the laboratory. In addition to inserted control samples, the analytical laboratory routinely inserted their own control samples, which consisted of standards, blanks and sample repeats. The certified reference material and blank material were obtained from CDN Resource Labs of Langley, BC. The CRM employed was CDN-GS-2B with a recommended value of  $2.03 \pm 0.12$  g/t Au. The blank material used was CDN-BL-10 with a recommended gold value of <0.01 g/t Au. Analysis of the CRM returned a value within 2 standard deviations of the recommended value. Analyses of the blank indicated no contamination during sample preparation.

Data verification, including both drill core verification sampling and underground verification sampling, as well as geodatabase validation, was undertaken as part of the historical resource estimates on Skukum Creek and Goddell Gully by Minetech International in 2003 and 2007 and reported in Roy and Hannon (2003, 2007).

#### **12.2.1 Historical Core – Lake Zone**

Several high-grade intervals from historical Lake Zone drilling (1980's) were located for confirmation sampling in 2012 by CME. Samples were selected to cover a variety of mineralization styles, including quartz-carbonate veins, host-rock (porphyritic andesite) and quartz-carbonate stringers and stockwork.

A direct sample to sample comparison of the historical grades is not possible but Table 14 does present the results in a reasonably comparative manner. Results of the core resampling demonstrates that the quartz-carbonate veins do carry significant gold grades, whereas the host andesites return very low gold grades to essentially barren. This is consistent with historical reports of the Mt Skukum veins.

#### **12.2.2 New Pacific Rejects and Pulp – Lake Zone, Skukum Creek and Goddell Gully**

Pulp and reject material of selected samples containing appreciable gold and/or silver grades reported from New Pacific's 2011 drilling were obtained and submitted for analysis by CME in 2012.

Results are presented in Table 15. Verification samples confirm the presence of precious metals in the samples with some variation. The variation is considered acceptable for the purposes of this program.

Table 14: Verification Samples, Historical Lake Zone Drill Core

Hole	Sample No.	Check Interval (m)			Lithology	Analysis (Acme)		Original Sample No.	Original Interval (m)			Original Analysis	
		From	To	Length		Au (g/t)	Ag (g/t)		From	To	Length	Au (g/t)	Ag (g/t)
87-365	87-365-A	42.63	42.71	0.08	Porphyritic andesite	0.071	<2	7777	42.29	42.79	0.50	0.274	0.3
87-365	87-365-B	48.50	48.69	0.19	Porphyritic andesite with quartz-carbonate veins	87.600	182.0	6545	48.31	48.56	0.25	41.486	66.9
		6510	48.56					48.91	0.35	139.543	293.1		
87-365	87-365-C	49.43	49.50	0.07	Porphyritic andesite	0.165	<2	6546	48.91	49.56	0.65	6.514	12.7
87-365	87-365-D	51.10	51.16	0.06	Porphyritic andesite with quartz-carbonate veins	85.300	458.0	6513	51.00	51.16	0.16	73.714	239.3
87-277	88-277-A	91.14	91.22	0.08	Porphyritic andesite	0.248	3.0	13363	91.30	92.00	0.70	0.343	2.4
	88-277-B	91.49	91.58	0.09	Porphyritic andesite	0.101	<2						
87-277	88-277-C	92.15	92.24	0.09	Porphyritic andesite	1.035	2.0	13352	92.00	92.96	0.96	9.257	7.5
87-277	88-277-D	94.12	94.24	0.12	Quartz-carbonate vein	3.842	<2	13354	93.88	94.88	1.00	1.371	6.2
	88-277-E	94.55	94.64	0.09	Quartz-carbonate vein	0.122	<2						
87-277	88-277-F	95.27	95.34	0.07	Quartz-carbonate vein	0.042	<2	13355	94.88	95.81	0.93	0.034	1.0
87-277	88-277-G	95.91	95.97	0.06	Andesite	0.023	3.0	13356	95.81	96.01	0.20	0.034	1.4
87-277	88-277-H	97.05	97.13	0.08	Quartz-carbonate vein	0.099	<2	13358	97.01	97.71	0.70	9.257	12.0

Table 15: Verification Samples, New Pacific Drill Core

Hole	Sample No.	Interval (m)			Original Analysis	Analysis (ACME Labs)		Original Analysis	Analysis (ACME Labs)	
		From	To	Length	Au (g/t)	Au (g/t) REJECT	Au (g/t) PULP	Ag (g/t)	Ag (g/t) REJECT	Ag (g/t) PULP
<b>Lake Zone Drill Core</b>										
MS11-01	8R289652	41.15	42.20	1.05	41.200	42.400	45.90	96.0	96.0	104.0
MS11-01	8R289653	42.20	43.20	1.00	40.300	38.900	40.00	80.7	76.0	79.0
MS11-01	8R289654	43.20	44.20	1.00	23.500	23.200	25.00	43.3	40.0	44.0
MS11-01	8R289655	44.20	45.30	1.10	30.200	29.800	31.80	69.6	65.0	68.0
MS11-01	8R289656	45.30	46.40	1.10	6.900	7.612	8.13	19.5	17.0	20.0
MS11-01	8R289657	46.40	47.40	1.00	17.800	18.100	16.80	45.8	42.0	41.0
MS11-01	8R289658	47.40	48.40	1.00	>10.000	<b>IS</b>	25.10	64.2	59.0	57.0
MS11-01	8R289659	48.40	49.40	1.00	18.300	18.000	21.00	45.8	41.0	49.0
MS11-01	8R289660	49.40	50.60	1.20	26.500	27.000	25.40	63.1	60.0	60.0
MS11-01	8R289661	50.60	52.12	1.52	0.883	0.907	0.82	4.0	3.0	3.0
MS11-01	8R289662	52.12	53.40	1.28	13.350	14.000	13.40	40.5	39.0	39.0
MS11-01	8R289663	53.40	54.80	1.40	7.740	8.810	8.31	32.3	30.0	30.0
<b>Skukum Creek Drill Core</b>										
SC11-07-UG	8R291974	81.83	83.11	1.28	6.550	6.864	6.581	166.0	162.0	165.0
SC11-07-UG	8R291976	83.11	83.57	0.46	20.100	19.600	19.900	594.0	558.0	575.0
SC11-07-UG	8R291977	83.57	84.25	0.68	14.600	15.700	15.700	318.0	293.0	284.0
SC11-07-UG	8R291978	84.25	86.43	2.18	15.000	14.700	14.600	780.0	718.0	714.0
SC11-07-UG	8R291979	86.43	88.09	1.66	6.450	6.634	6.688	190.0	205.0	190.0
SC11-07-UG	8R291990	101.72	102.77	1.05	25.300	23.100	24.900	426.0	417.0	406.0
SC11-07-UG	8R291992	102.77	103.96	1.19	7.800	6.900	7.600	390.0	332.0	371.0
<b>Goddell Gully Drill Core</b>										
GG11-02	8R292955	525.07	525.80	0.73	90.000	66.500	73.300	4.0	8.0	5.0
GG11-02	8R292961	528.90	529.55	0.65	30.500	30.900	26.200	0.8	2.0	<2
GG11-02	8R292964	531.33	531.62	0.29	6.500	9.073	6.208	0.2	<2	<2
GG11-02	8R292965	531.62	532.33	0.71	19.900	13.000	17.300	2.6	2.0	3.0
GG11-02	8R292980	542.33	542.83	0.50	6.500	6.462	6.289	0.6	<2	<2
GG11-02	8R292984	545.04	545.49	0.45	5.600	4.943	5.213	2.4	3.0	3.0

IS: Insufficient sample to complete gravimetric assay

## **12.3 GEODATABASE**

### **12.3.1 First Stage**

As part of the data preparation and validation prior to resource estimation of the various deposits, New Pacific supplied all available digital data from their 2011 exploration program (including drill logs, quality control data, core recovery, core photos, laboratory certificates.) along with hardcopy plans and cross sections, and a report on the 2011 exploration program.

Additional digital data of historical work conducted prior to New Pacific included assay and geology plans for underground sampling of both Lake Zone and Skukum Creek (Rainbow 2 and Berg Zones). This data was captured and incorporated into their respective datasets (discussed below). No assay certificates were available to confirm the Lake Zone underground sample results. Digital certificates of analyses were available for the Rainbow 2 and Berg Zone samples.

Drill hole databases of the Skukum Creek, Goddell Gully and the Lake Zone (Mt. Skukum) were supplied in MS Access format. Each Access file consisted of a collar, survey, assay and geology table. Two other tables, translation and styles, were included but did not contain any exploration data.

Digital data was imported into Micromine software (v.12.5) for verification and validation of the various deposit datasets prior to resource estimation.

Various false or mine grid orientations have been historically used to generate cross sections for the various deposits. For the purposes of the data preparation, coordinate space was limited to UTM Zone 8 North, NAD 83 datum. Data from the Lake Zone (and elsewhere in the Mt Skukum area) were originally recorded in the older NAD27 datum of the UTM projection. A simple arithmetic translation was used to convert between the NAD27 and NAD83 coordinate space. The translation amounts are (from NAD27 to NAD83): -103.450 metres in Easting and 171.279 metres in Northing.

#### **Drill Hole Collar and Downhole Survey**

Collar data for each deposit was presented in UTM Zone 8 North coordinates (NAD83 datum). Total drill hole depth was recorded in metres. Downhole survey data consisted of starting azimuths and downhole survey readings, if any. Downhole survey methods, where employed, included acid-etch, Sperry-Sun, Icefield and Reflex digital survey tools. Much of the historical drilling (prior to TLG) has limited downhole survey information, especially with respect to azimuth deviations. This has led to difficulty in establishing confident section to section interpretations of the veins and shear structures.

During the drilling campaign at Skukum Creek in 1987 a series of 12 short ‘test holes’ (87-TH1 to 87-TH12) were completed in the Rainbow Zone. Collar coordinates are only reported for four of these drill holes (87-TH1 to 87-TH4). The remaining drill holes (87-TH5 to 87-TH12) have been excluded from the drill hole database and will remain so unless their collar coordinates can be located.

At Goddell Gully, the two drill holes completed by TLG in 2004 were neither surface surveyed nor downhole surveyed (TLG internal memo, 2004). The written descriptions of the drill hole locations were insufficient to make a reasonable estimate of the collar locations. These drill holes have therefore been excluded from the Goddell Gully drill hole database until the collars can be properly located.

### **Drill Hole Assay**

Upon review of the supplied assay tables for Skukum Creek and Goddell Gully received from New Pacific, it was noted that while the assay interval file contained an Au and Ag column, no reference to the original sample gold and/or silver analyses was retained. ICP multi-element data (where available), was only included for drilling completed by New Pacific in 2011. The historical CME assay data files for Skukum Creek and Goddell deposits, (complete up to and including the 2006 exploration program), maintained the original reporting as well as laboratory certificate references and multielement results (e.g. oz/T as common for drill results in 1980's). Therefore, the CME databases were used as the starting point for a new drill hole assay database with all post-2006 drilling data appended to it.

For the Lake Zone, New Pacific drill hole sample numbers and intervals were verified against the supplied drill logs. Upon verification, these intervals were appended to the assay file. Original ASCII format certificates of analysis were used to merge into the assay database to eliminate transcription errors.

For Skukum Creek and Goddell Gully, the same method was applied for the New Pacific drilling results. Additionally, sample numbers and intervals from the TLG drilling in 2007 and 2008 (Skukum Creek) were incorporated after verification against the original drill logs. Original ASCII format certificates of analysis were also obtained from the analytical laboratory for these samples and merged into the assay file. Drill hole results from the two surface drill holes completed at Goddell Gully in 2004 have not been included in the database. As previously mentioned, collar positions for these holes are not known at this time.

In all drill hole assay files, two new assay columns were created, "Au\_GPT\_Clean" and "Ag\_GPT\_Clean", which would hold the final Au and Ag results used for the resource estimation. The columns were populated based on the highest confidence analysis (i.e. Fire Assay Au > Geochem/ICP Au). Sample analyses originally reported in ounces per ton were converted into grams per tonne. Samples reporting as below detection limit for gold and/or silver were assigned 0.001 g/t Au and 0.0 g/t Ag, respectively. Unsampled intervals were incorporated into the assay database with a sample number noted as "NS" and values of "-1" entered into the respective Au and Ag columns.

Sample intervals were then validated to check for discrepancies or overlapping intervals with corrections made as required. Several infill core samples collected from Goddell Gully core by New Pacific reported intervals that did not exactly adjoin historical samples, leaving small (30 cm or less) gaps of unsampled material (e.g. drill hole 97-40, 232.50 to 232.54 metres).

### **Drill Hole Geology**

Geology interval data supplied by New Pacific used the historical drill hole geology database as its starting point with additions made for any drilling post-2006. New Pacific geological coding

included a mixture of earlier lithology codes as well as some newer codes. For each deposit, these codes were checked against the original New Pacific logs to ascertain their definition and a consistent numeric coding was generated for all drilling to date.

### **Underground Sampling – Lake Zone**

Underground sampling of the Lake Zone drifts was carried out by MSGM during the development of the various levels and sub-levels. This data has never been included into any digital exploration database.

Assay plans of the underground sampling of the Lake Zone drifts supplied by New Pacific were scanned and vectorized to incorporate these results into a new underground sampling database. A series of 17 assay plans at a scale of 1:200 by MSGM showed the drift and other underground working outlines with rock chip/channel lines marked and labeled with gold grade in ounces per ton and sample length in metres. Sampling methodology is unknown. Also, percussion/blast holes drilled from the drift walls are shown and these have been included as well. These holes are labeled with the gold grade in ounces per ton and sample lengths in feet (five feet is the typical length). It is not known exactly what the sample medium consisted of, but are interpreted as sludge samples. MSGM assay plans were originally drafted in NAD27 datum, UTM coordinate space. Coordinates were transformed to NAD83 datum as discussed previously.

Chip/channel samples and percussion/blast holes and samples were all treated as short drill holes. Collar points were digitized along with the string demarcating the channel, with nodes marked at changes in sampling direction (if any). Gold grades and sample widths were manually entered into MS Excel. Sample lengths were used to determine the sample interval start and ends depths. Sample azimuths were calculated from the digitized strings. Channel elevation was assumed as the drift elevation. The assay file was then populated by merging the gold grades to the appropriate channel name. Sample data was then verified against the original assay plans.

A very simple trace of the vein or vein structure was plotted on the several assay plan maps. This was captured as simple string feature to assist with interpretation.

### **Underground Sampling – Skukum Creek**

Underground sampling data supplied by New Pacific consisted of the historical underground chip/channel sampling data from the Rainbow 1300 and 1350 metre Levels and the Kuhn 1300 metre Level. This sample data was handled by treating each chip/channel line as a short horizontal drill hole. Collar, survey and assay data for this data were included in the supplied drill hole database. Gold and silver values are the only reported values for these samples.

As part of the data validation, the New Pacific data was plotted in Micromine and compared against the digitized data captured from historical assay plans. Comparison of the data showed that the collar and survey data did not generate a trace that accurately represented the historical assay plan maps. Discrepancies were found in both the given collar coordinates and the azimuths. It is unclear why these discrepancies occurred as New Pacific's data capture methodology was not documented.

Therefore this data was reacquired by redigitizing the sample line "collar" as a starting point and the sample line trace as a string, with nodes placed at sample interval boundaries. Collars were assigned an alpha-numeric name based on the drift level and sample line position, increasing from west to

east. Channel azimuth and interval length were calculated from the digitized strings. The assay data (gold and silver only) were merged to the sample number and corresponding interval. Sampling was assumed to be horizontal across the face (dip = 0°) and the elevation was assumed the same as the drift level (i.e. 1300 metres or 1350 metres). Regeneration of this data in Micromine resulted in a much more accurate representation of the original assay plans. Sampling of the raises in the Rainbow and Kuhn zones was not made available to the author and has not been included into the database.

The underground data was also split out from the drill hole data files and a new set of files were created to represent only the underground sampling.

The underground sampling carried out in 2007 in the Rainbow 2 and Berg Zones had not been incorporated into the supplied New Pacific database, however New Pacific did supply assay and geology plans of this work. Original certificates of analysis from Eco-Tech Laboratories Ltd. (now ALS Minerals Ltd.) of Kamloops, BC, were also made available for this work.

The assay and geology plans were scanned, imported and georeferenced in Micromine. The original assay plan included the underground survey station locations. However, upon georeferencing there appears to be an error in the plotting of certain survey station points, or else there is a warping inherent in the original source document. Several different common points were used to attempt to georeference the image against the known survey points. It was possible to georeference the map by breaking it into three smaller maps. There is still some error (< 1 metre) evident near the margins of the maps. There is also a probable issue with respect to underground survey point 07-57, which currently plots outside of the Rainbow 2 drift. It is not known whether this represents an error in the calculated survey point or an error in the drafting of the assay plan map. Other survey points do plot very close to their reported positions which suggest a greater possibility of the position of 07-57 being incorrectly reported. Future work should reacquire this survey point and ascertain the correct location of the point and/or workings.

Digitizing this data followed the same procedure as for other zones. As there was better elevation survey control, elevations of the samples were calculated from the underground survey points. Each chip sample line was assigned a unique identifying name. Chip sample lengths were used to determine the start and end depths of the sample. Sample numbers and sample widths were manually entered from the assay plan into MS Excel. As original ASCII format certificates of analysis were available from the analyzing laboratory these were used for the source of assay data and merged to the corresponding sample number. At this time, only the gold and silver results have been incorporated into the underground assay database.

Validation of the digital data against the original assay plans revealed plotting errors on the maps (e.g. duplication of channels, wrong or missing assay values or sample numbers). These were verified and corrected as necessary. Any data that could not be confidently verified were eliminated from the database. Notes are included in the assay and collar files where changes were made or uncertainties exist.

There are several other areas of underground sampling that have not been included in the current resource database. These include samples collected in the 1225 drill drift and the 1300 access drift connecting the Rainbow Zone to the Kuhn Zone (see Naas, 2003). These samples should be captured for completeness of the database.

### **12.3.2 Second Stage**

As part of the resource estimation process, GeoSim carried out additional validation of the respective geodatabases. Information and results of this validation stage are presented in Section 14.0, under the respective sections for each deposit (14.1 Lake Zone, 14.2 Skukum Creek, 14.3 Goddell Gully) and under the heading of “Available Data”.

## **12.4 CONCLUSIONS**

The author is of the opinion that the data is adequate to support a mineral resource estimate as defined under NI 43-101.

## **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

Between 1988 and 2011, various types of mineral processing and metallurgical test work have been completed on the mineralized material of the Skukum Creek gold-silver deposit. Testwork completed prior to 2011 are included in Section 6.0. Details of the 2011 testwork by New Pacific are presented below with information and results taken from Zhang (2012). Certificates of analysis corresponding to the assay work were not available to the author.

During 2011, New Pacific sent two batches of metallurgical samples to the Hunan Nonferrous Research Institute of Metallurgy based in Changsha City, Hunan Province, PR China for flotation recovery tests. Each batch weighed about 450 to 500 kilograms, taken from the mineralization stockpile, a product of historical drift development along the Rainbow Zone at Skukum Creek.

The first batch was sampled and delivered to the Institute in July 2011. Sampling method was by hand-picking quartz sulphide vein material from the stockpile. This sample is referred to as “High Grade”.

Assay results of the sample are presented in Table 16. The flotation test results (Table 17) indicated the recovery of both gold and silver of the high grade sample is more than 90%.

Table 16: Assay Results of Samples for Flotation Tests

Item	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	S (%)	As (%)
“High-Grade”	49	419	1.04	1.1	3.49	11.56	3.05
“Low-Grade”	6.57	93.12	0.12	0.36	0.93	2.42	1.07

Table 17: Closed-Circuit Flotation Recovery of “High Grade” at Skukum Creek

Item	Production (%)	Grade (g/t)		Recovery (%)		Frother
		Au	Ag	Au	Ag	
Concentrate	30.31	162.5	1311.67	99.24	96.63	sodium carbonate
Tailings	69.69	0.54	19.89	0.76	3.37	
Primary	100	49.63	411.43	100	100	
Concentrate	18.07	258.3	2070.7	94.5	89.47	lime
Tailings	81.93	3.31	53.77	5.5	10.53	
Primary	100	49.39	418.23	100	100	

With consideration that the high grade sample is not properly representative of the average grade of the deposit, a second batch was taken and delivered to the Institute in September 2011. This sample was referred to as “Low Grade” and is a better reflection of average grade of the Skukum Creek Deposit. The assays are presented in Table 15. The recovery of the initial open circuit test for gold and silver is 88.26% and 86.03%, respectively (Table 18).

Table 18: Open-Circuit Flotation Recovery of “Low Grade” at Skukum Creek

Item	Production (%)	Grade (g/t)		Recovery (%)		Frother
		Au	Ag	Au	Ag	
Concentrate	7.52	79.1	1022.66	88.26	86.03	sodium carbonate
	3.27	5.1	47.52	2.47	1.74	
	3.53	10.4	109.21	5.45	4.31	
Tailings	85.68	0.3	8.26	3.82	7.92	
Primary	100	6.74	89.39	100	100	lime
Concentrate	6.25	94	1019.89	87.89	83.44	
	1.99	4.75	100.41	1.41	2.62	
	2.51	10.7	146.45	4.02	4.81	
Tailings	89.25	0.5	7.82	6.68	9.13	
Primary	100	6.68	76.4	100	100	

Zhang (2012) did not include any discussion of processing factors or deleterious elements that could have an impact on potential economic extraction. With the information at hand, the author cannot present an opinion on the results of the metallurgical testing.

## **14.0 MINERAL RESOURCE ESTIMATES**

Mineral resource estimates were undertaken on three of the targets within the Project area:

- 1) Mt. Skukum (Lake Zone)
- 2) Skukum Creek
  - a) Rainbow Zone
  - b) Kuhn Zone
  - c) Berg Zone
  - d) Rainbow2 Zone
- 3) Goddell Gully

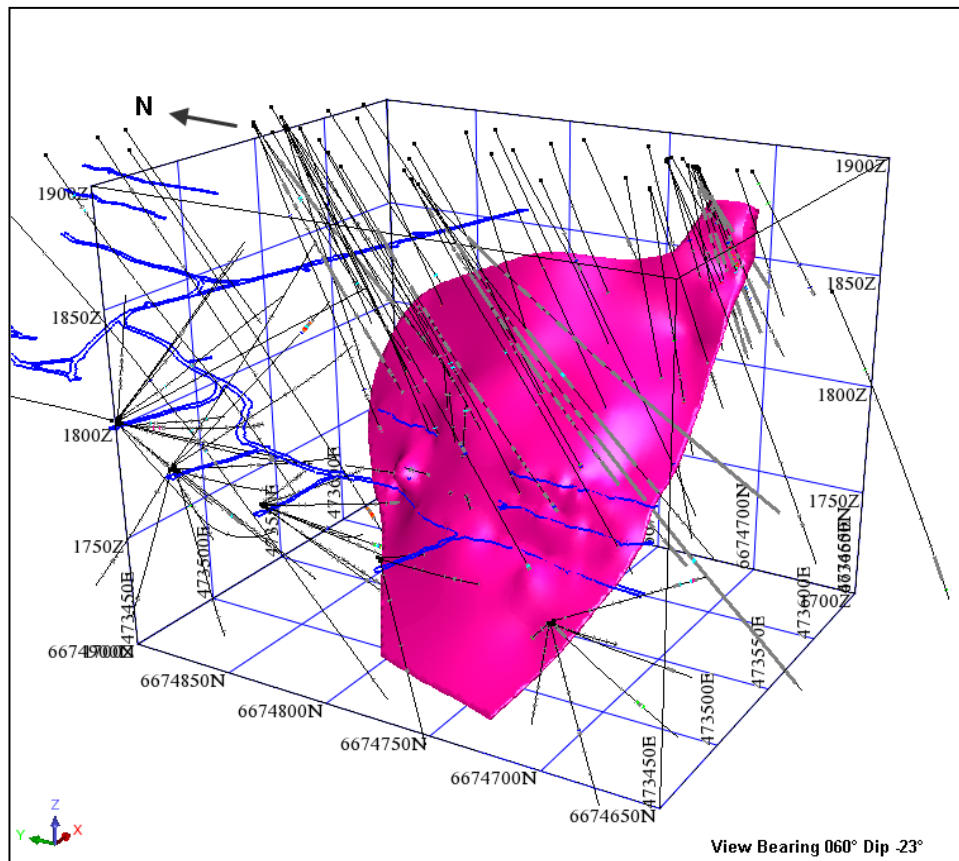
### **14.1 MT. SKUKUM (LAKE ZONE)**

#### **Geologic Model, Domains and Coding**

Drilling and sampling has outlined a single continuous vein extending up to 176 metres along strike to the NNW and up to 233 metres down dip to the WNW. The zone has a moderate dip of 52° towards an azimuth of 284°.

The zone was modeled in Leapfrog3d software using a minimum horizontal width of 1.5 metres. The Lake Zone vein model is illustrated in Figure 15.

Figure 15: Lake Zone Vein Model



### Available Data

The database for the Mt. Skukum area contains 363 diamond drill core holes totaling 42,914 metres. Total drilling on the Lake Zone amounted to 184 diamond drill core holes for 21,390 metres as summarized in Tables 19 and 20. The 1984 to 1988 drill programs used a nominal sample length of 0.5 metres and averaged 0.43 metres overall. The 2011 drill program used a 2 metre nominal sample length and averaged 1.76 metres overall.

Table 19: Lake Zone Database - Surface Drilling Summary

Series	Year Completed	Company	Holes Drilled	Total metres	Intervals Assayed	Metres Assayed
84-082 to 118	1984	Agip	10	1,157.31	12	4.20
86-143 to 192	1986	MSGM	32	5,481.96	436	230.83
87-322 to 382	1987	MSGM	43	3,997.25	669	264.09
88-500 to 519	1988	MSGM	15	1,847.48	249	100.55
MS11-01 to 15	2003	NUX	16	2,483.67	782	1,377.89
<b>Total</b>			<b>116</b>	<b>14,967.67</b>	<b>2,148</b>	<b>1,977.56</b>

Table 20: Lake Zone Database - Underground Drilling Summary

Series	Year Completed	Company	Holes Drilled	Total metres	Intervals Assayed	Metres Assayed
87-221 to 259	1987	MSGM	39	3,861.03	499	210.01
88-260 to 294	1988	MSGM	29	2,561.04	439	184.61
<b>Total</b>			<b>68</b>	<b>6,422.07</b>	<b>938</b>	<b>394.62</b>

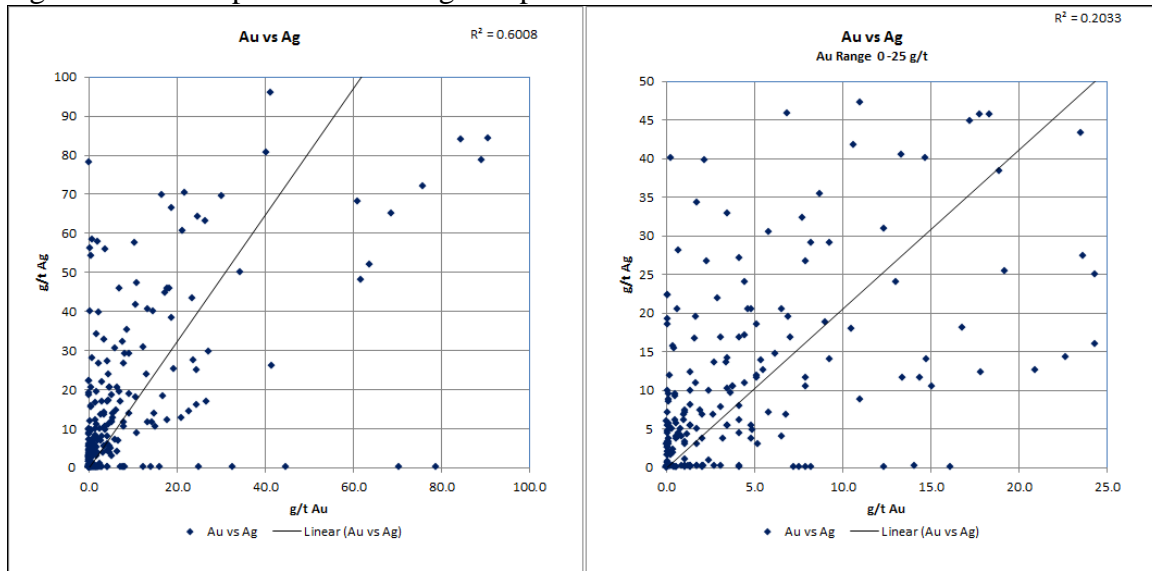
The database also contains 951 underground samples assayed only for Au from 3 main levels with an average length of 1.18 metres. These are labelled as channel samples but the sample methodology is not documented. They correspond reasonably well with nearby drill intercepts and are believed to be of sufficient reliability to support an inferred resource.

A total of 551 assays labeled 'BH' are believed to be taken from sludge samples and were not used in the resource estimation.

### Exploratory Data Analysis

Within the vein model, Au and Ag show a moderate positive correlation (correlation coefficient = 0.78) and a linear regression yields an  $R^2$  value of 0.6. At lower levels of Au content the correlation drops significantly to 0.54 with an  $R^2$  value of 0.2 (Figure 16).

Figure 16: Scatterplot of Au vs. Ag Sample Data - Lake Zone



Cumulative frequency distributions for the Au and Ag samples within the vein model are illustrated in Figures 17 and 18. Sample populations are highly skewed approaching log normal distribution.

Basic statistics for Au and Ag in their corresponding grade domains are shown in Table 21.

Figure 17: Frequency Distribution of Au - Lake Zone

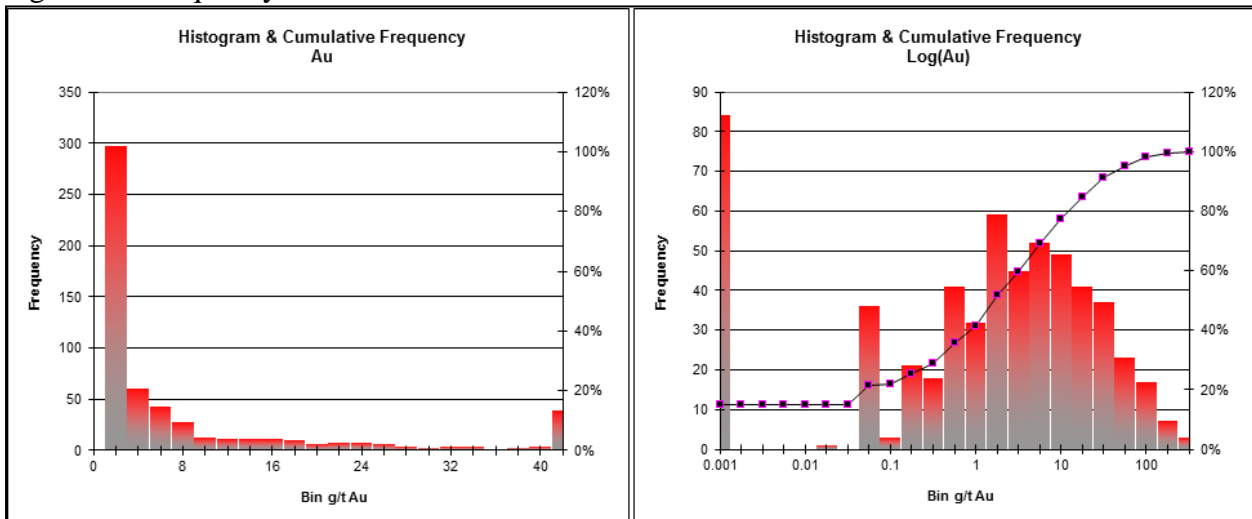


Figure 18: Frequency Distribution of Ag - Lake Zone

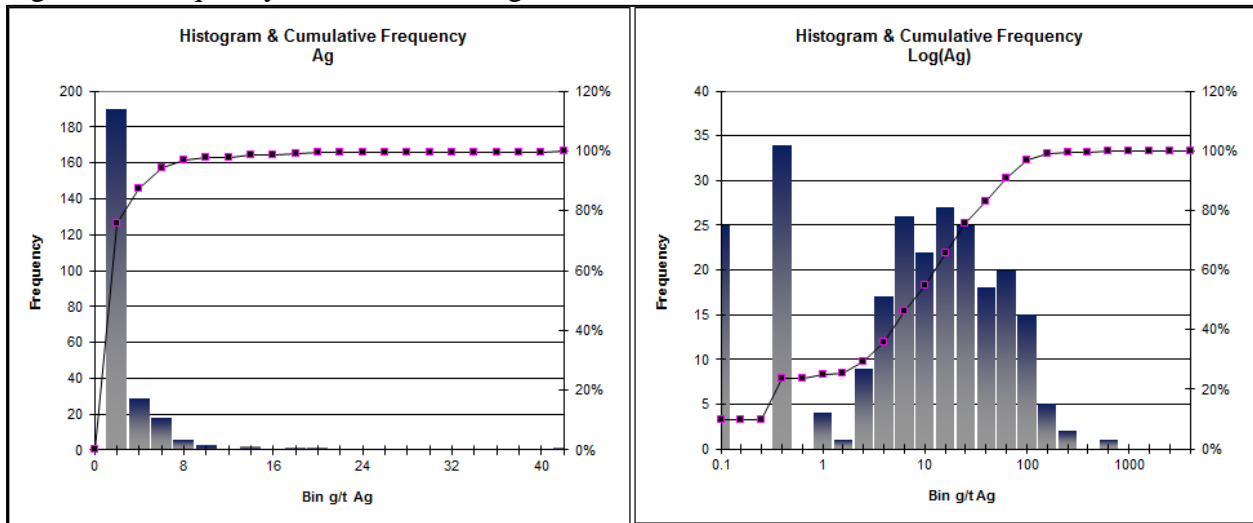


Table 21: Sample Statistics

	Au g/t		Ag g/t	
	Undiluted	Diluted	Undiluted	Diluted
n	529	536	236	243
Min	0.001	0.001	0.1	0.1
Max	389.143	389.143	505.4	505.4
Median	2.297	2.143	9.6	8.2
Mean	11.830	11.676	22.9	22.2
Wt Avg	13.536	13.473	22.5	22.2
Variance	897.30	887.36	2056	2011
Std Dev	29.95	29.79	45.3	44.8
CV	2.53	2.55	1.98	2.02

### Evaluation of Outlier Grades

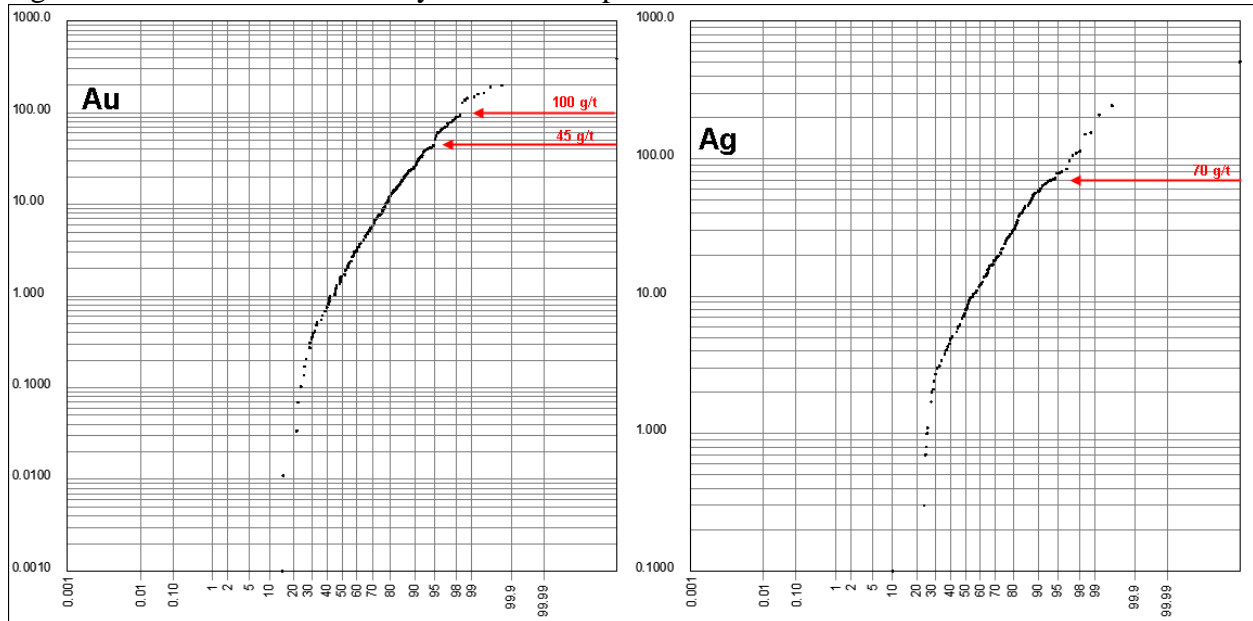
Before compositing of sample assays, grade distribution in the raw sample data was examined to determine if grade capping or special treatment of high outliers was warranted. Cumulative log probability plots were examined for outlier populations, and decile analyses were performed for Au within the zone domains. As a general rule, the cutting of high grades is warranted if:

- the last decile (upper 10% of samples) contains more than 40% of the metal; or
- the last decile contains more than 2.3 times the metal of the previous decile; or
- the last centile (upper 1%) contains more than 10% of the metal; or
- the last centile contains more than 1.75 times the next highest centile.

In the case of the Lake Zone sample population, the last decile contains 72% of the metal for Au or 5.7 times the metal of the previous decile. For Ag the last decile contains 56% of the contained metal which is 3.3 times the metal of the previous decile. There were too few samples in the upper decile to give reliable results for the upper centiles so cumulative probability plots were used to determine appropriate capping and outlier restriction (Figure 19). Top-cuts of 100 g/t for Au and 70 g/t for Ag were selected and samples between 45 and 100 g/t Au were identified as requiring a limited range of influence. Sample grades capped at 100 g/t Au were allowed a limited range of 20

metres parallel to the vein direction; beyond 20 metres, sample grades were capped at 45 g/t Au. The top-cuts affected 10 Au intervals and 16 Ag intervals. An additional 19 Au intervals between 45 and 100 g/t were given a limited range of influence.

Figure 19: Lake Zone Probability Plots and Cap Levels



### Compositing

Best fit downhole sample assay composites of Au and Ag were generated using a nominal 1 metre interval within the zone domain. There were fewer Ag composites as the underground samples did not have Ag assays. Samples were capped prior to compositing at the levels established in the previous section.

Statistics for composites are summarized in Table 22. Grade capping reduced the coefficient of variation (“CV”) for Au from 2.83 in the uncapped composites to 1.52 in the capped data population. Although this is still considered quite high, it is not unusual for precious metal deposits and is a considerable improvement over the CV of the initial sample intervals. GeoSim is of the opinion that the CV is low enough to support a mineral resource estimate.

Table 22: Composite Statistics

	Au g/t			Ag g/t	
	Uncapped	Cap 45 g/t	Cap 100 g/t	Uncapped	Cap 70 g/t
n	562	562	562	149	149
Mean	0.00	0.00	0.00	0.00	0.00
Mean	389.14	45.00	100.00	155.00	70.00
Mean	13.31	8.17	10.48	20.58	17.02
Median	2.73	2.73	2.73	9.97	9.97
Var	1417.38	153.34	410.53	790.56	373.59
Std Dev	37.65	12.38	20.26	28.12	19.33
COV	2.83	1.52	1.93	1.37	1.14

### Bulk Density Data

A total of 171 density measurements were made on core sampled in 2011. After removing 5 outliers the average density was 2.68 g/cm<sup>3</sup>. A comparison of measurements between mineralized and unmineralized core showed no significant difference and this value was used to determine reported tonnes of mineralized material in the resource estimate.

### Variography

Directional variograms in the plane of the mineralized zone showed no significant trends or anisotropy. The maximum model range was 20 metres and the nugget value was 53% of the total sill using a maximum grade of 45 g/t.

### Model Setup and Limits

A rotated block model was created in Gemcom-Surpac Vision© software using a block size 5 x 5 x 3 m with sub-blocking enabled to 2.5 x 2.5 x 1.5 metres. Block model extents and orientation are summarized in Table 23.

Table 23: Block Model Parameters

	East	North	Elevation
Origin	473480	6674680	1650
Extent	300	220	75
Rotation		-52°	14°
Block Size	5	5	3
Sub-block	2.5	2.5	1.5

### Interpolation Parameters

Au and Ag grades within the vein domain were estimated in three passes using the inverse distance weighting method to the third power (ID<sup>3</sup>). A single pass nearest neighbour estimate was also carried out for use in model validation. Search parameters are outlined in Table 24. Grade distribution is illustrated in Figures 20 and 21.

Table 24: Grade Model Search Parameters

Item/Zone	Pass	Max Search Dist (m)		Min # Composites	Max # Composites	Max per Hole	Topcut g/t Au / Ag
		Parallel to structure	Across Structure				
Au	1	20	4	3	16	2	100
	2	40	8	3	16	2	45
	3	80	16	3	20	-	45
Ag	1	20	4	3	16	2	70
	2	40	8	3	16	2	70
	3	80	16	3	20	-	70

Figure 20: Perspective View of Block Model - Au Grades

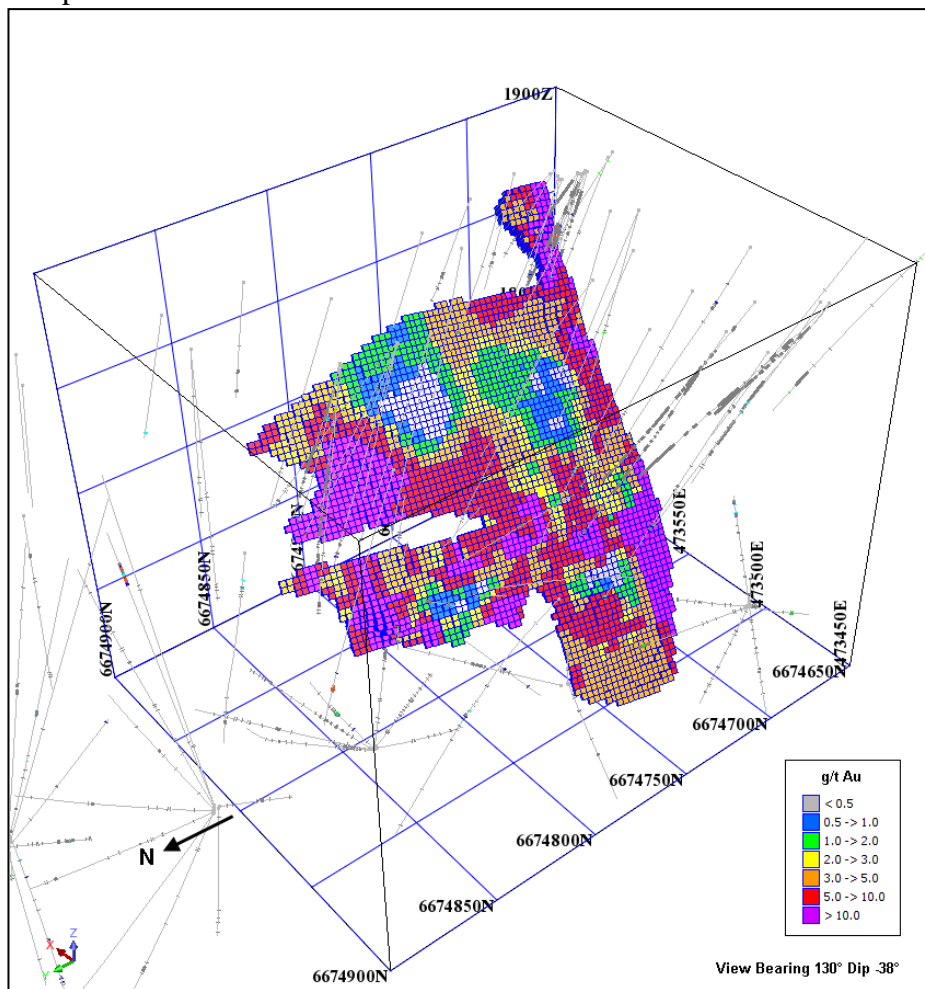
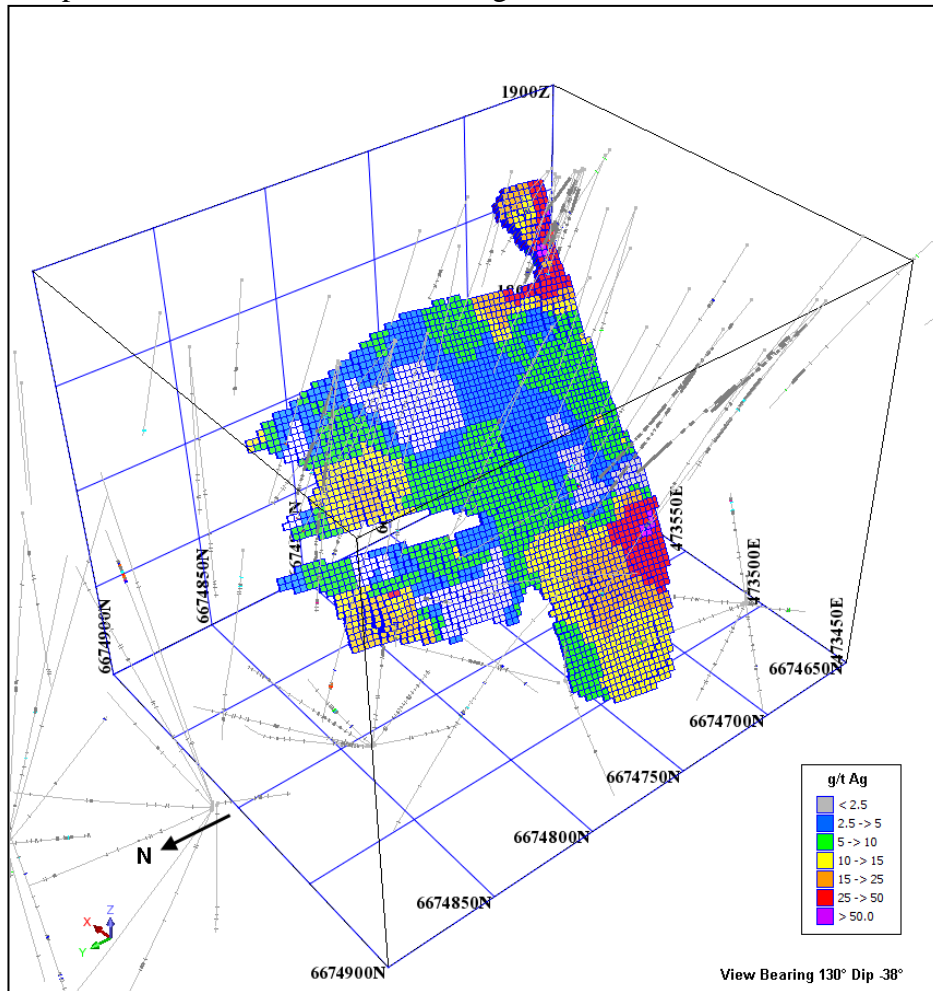


Figure 21: Perspective View of Block Model - Ag Grades



## Validation

### *Visual Inspection*

Model verification was initially carried out by visual comparison of blocks and sample grades in plan and section views. The estimated block grades showed reasonable correlation with adjacent composite grades.

The frequency distributions of block grades within the blocks estimated for Au and Ag are shown Figures 22 and 23.

Figure 22: Frequency Distribution of Au Grades in Block Model

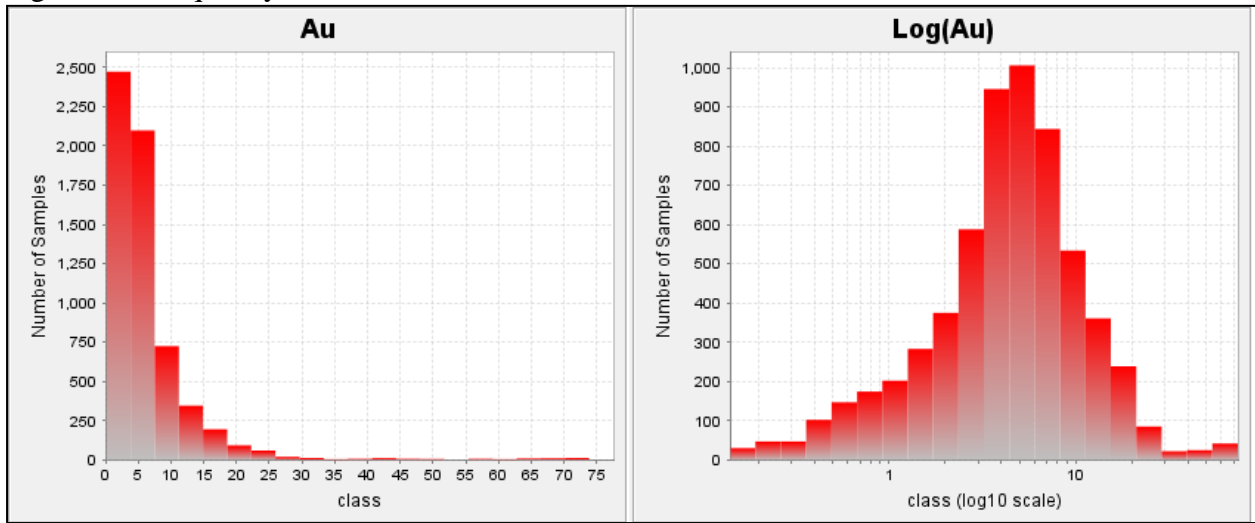
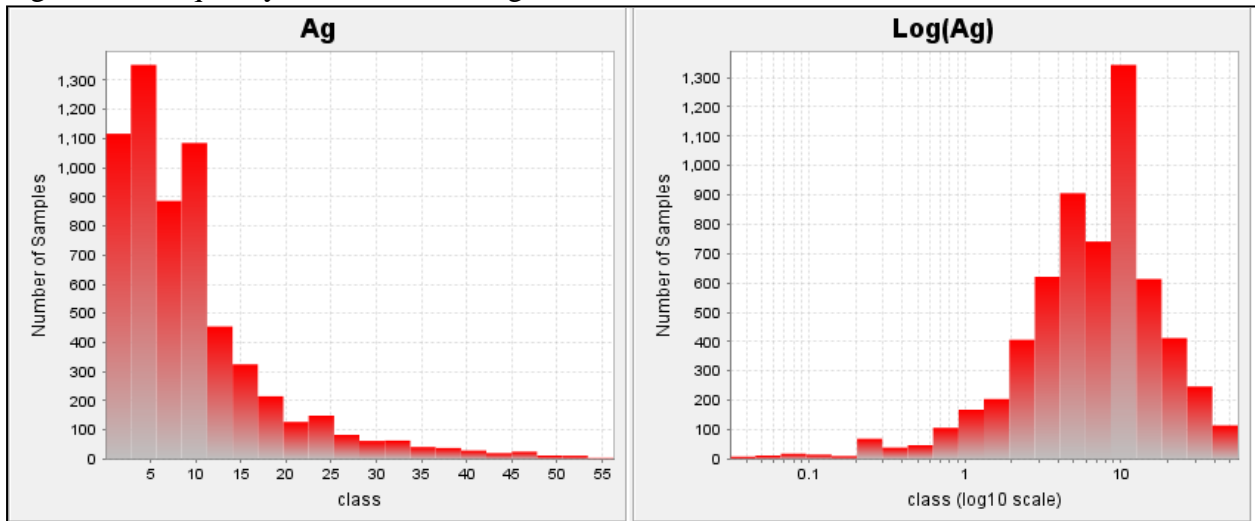


Figure 23: Frequency Distribution of Ag Grades in Block Model



**Global Bias Check**

Block grades were estimated using the inverse distance ( $ID^3$ ) and the nearest neighbour ('NN') methods. A comparison of global mean values within the vein domain shows a reasonably close relationship with samples, composites and block model values at a '0' cut-off grade (Table 25).

Table 25: Global Mean Grade Comparison

Source	Au	Ag
Samples	13.54	23
Samples (Capped)	10.89	19
Composites	13.31	21
Capped Composites	8.17	17
IDW Grade	7.35	11
NN Grade	7.74	13

## Resource Classification

Resource classifications used in this study conform to the following definition from NI43-101:

### **Mineral Resource**

*A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.*

### **Measured Mineral Resource**

*A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.*

### **Indicated Mineral Resource**

*An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.*

### **Inferred Mineral Resource**

*An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.*

The Mt. Skukum resource is classified as 'Inferred' as grade estimation is largely based on limited sampling and grade continuity has not been verified between widely spaced drill intercepts.

## Mineral Resources

The following table presents the mineral resource estimate for the Mt. Skukum Deposit at a range of cut-off grades with the base case highlighted. The selected base case cut-off grade of 3.0 g/t gold is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location (US\$1,300 per ounce Au and US\$26 per ounce Ag). The gold equivalent formula used was  $AuEQ = Au + Ag * 0.02$ . The effective date of the estimate is July 16, 2012.

Table 26: Inferred Mineral Resource - Lake Zone

Cutoff g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	Contained oz Au	Contained oz Ag
1.0	111,900	7.83	12	8.07	28,200	43,200
1.5	105,400	8.24	12	8.48	27,900	40,700
2.0	100,000	8.60	12	8.84	27,600	38,600
2.5	95,800	8.88	13	9.14	27,400	40,000
3.0	90,500	9.25	13	9.51	26,900	37,800
3.5	84,500	9.69	13	9.95	26,300	35,300
4.0	76,700	10.31	14	10.59	25,400	34,500
4.5	69,100	11.00	14	11.28	24,400	31,100
5.0	61,200	11.83	15	12.13	23,300	29,500

The mineral resource estimate is quite sensitive to metal prices. There are no other known factors or issues that materially affect the estimate other than normal risks faced by mining projects in the territory in terms of environmental, permitting, taxation, socio-economic, marketing and political factors. There are no known legal or title issues that would materially affect the mineral resource estimate.

## 14.2 SKUKUM CREEK

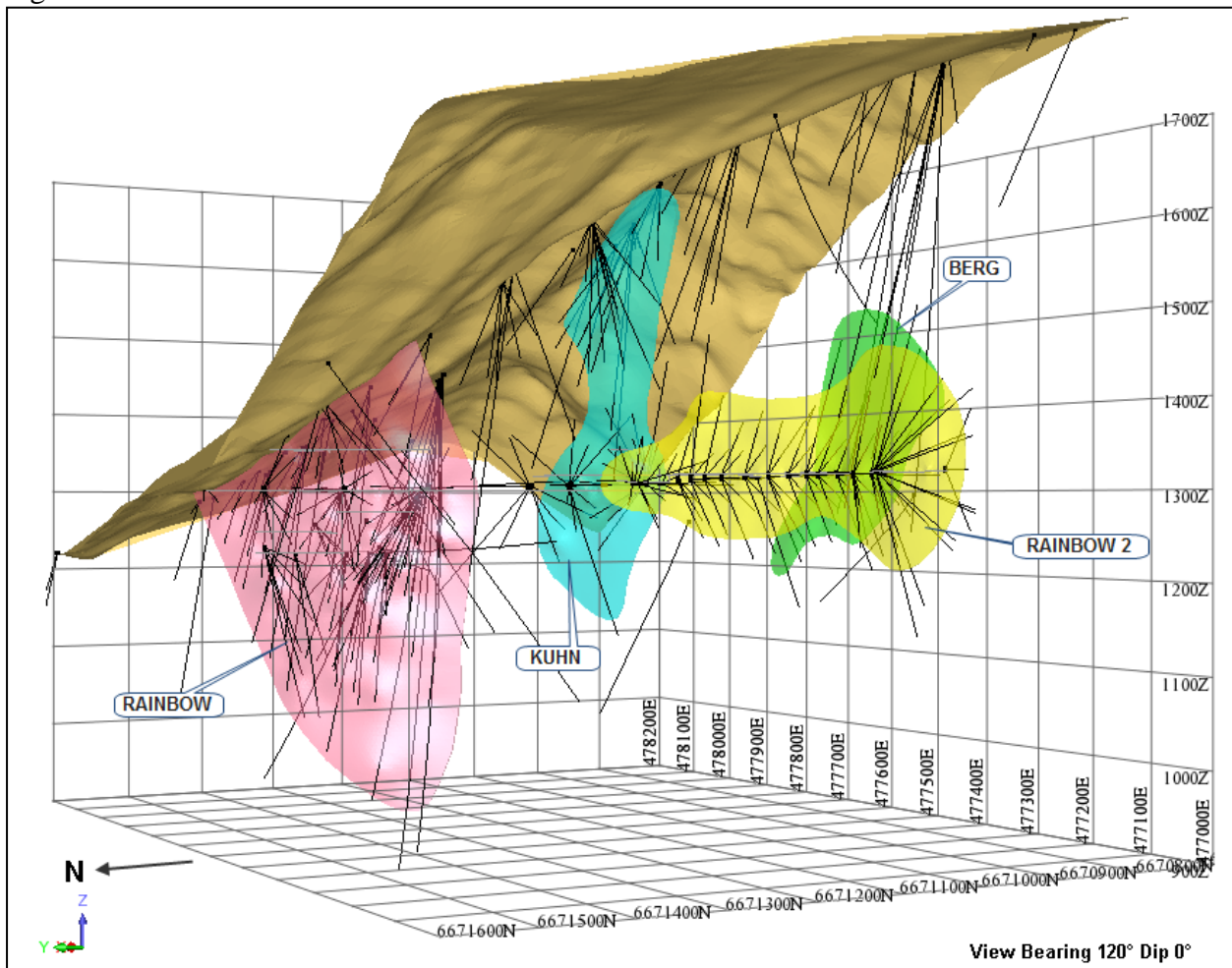
### Geologic Model, Domains and Coding

Four separate vein zones were modeled in Leapfrog3d software using a minimum horizontal width of 1.5 metres. The vein domains were assigned integer codes as displayed in Table 27. The Skukum Creek vein models are illustrated in Figure 24.

Table 27: Skukum Creek Vein Model Codes

Vein	Code
Rainbow 2	101
Berg	102
Kuhn	201
Rainbow	301

Figure 24: Skukum Creek Vein Models



## Available Data

The drilling database summary for the Skukum Creek area is presented in Table 28 and Table 29. A total of 10,723 samples were assayed for Au and 10,484 for Ag (22 holes from the 1986 surface drill program were missing Ag assays).

Table 28: Skukum Creek Database - Surface Drilling Summary

Series	Year Completed	Company	Holes Drilled	Total metres	Intervals Assayed	Metres Assayed
85-1 to 85-23, RDH85	1985	Omni	27	2,883.43	558	582.42
86-	1986	Omni	55	8,301.47	1,086	1,297.90
87-	1987	Omni	11	2,624.03	212	241.61
88-E1 to WC1	1988	Omni	24	5,165.18	388	490.26
RACA97, RG97	1997	Omni	7	2,739.47	639	800.79
98-	1998	Omni	5	1,321.90	48	37.22
SC01-1 to 4	2001	TLG	4	1,502.35	895	1,174.57
CFT11, Raca11, SC11	2011	NUX	12	4,767.44	910	1,033.58
<b>Total</b>			<b>145</b>	<b>29,305.27</b>	<b>4,736</b>	<b>5,658.35</b>

Table 29: Skukum Creek Database - Underground Drilling Summary

Series	Year Completed	Company	Holes Drilled	Total metres	Intervals Assayed	Metres Assayed
87-UG1R to 17R, 87-UG18K to 21K	1987	Omni	21	1,741.90	350	438.12
87-UG-TH1 to TH4	1987	MSGM	4	41.46	25	26.10
87-UG22K to UG57K	1987	Omni	36	2,896.51	600	669.45
88-UG1 to UG12	1988	Omni	13	1,416.06	224	199.67
R96-200 to 214	1996	Omni	15	1,646.84	241	324.67
SC02-5 to 19	2002	TLG	15	2,502.52	788	923.89
SC03-20 to 24	2003	TLG	5	284.08	117	143.57
SC05-25 to 38	2005	TLG	14	913.40	283	271.64
SC06-39 to 110	2006	TLG	72	6,445.44	2,384	2,364.43
SC07-111 to 126	2007-8	TLG	16	2,125.98	559	437.47
SC11-(UG)	2011	NUX	14	1,706.60	416	413.89
<b>Total</b>			<b>225</b>	<b>21,720.79</b>	<b>5,987</b>	<b>6,212.90</b>

Two drill holes were excluded from the resource estimate. Hole 87-UG17R was twinned by a more recent hole and hole 85-18 appeared to have incorrect orientation data as the zone intercept was significantly offset from the nearby underground development. The mean width of all the Skukum Creek drill sample intervals was 1.11 metres, with the most common interval set at 1 metre.

The database also contains Au and Ag assay results from 1,974 underground samples. The average sample length is 0.93 metres and the median is 0.90 metres. Most of the underground sampling was carried out along drifts in the Rainbow Zone developed on the 1300 and 1350 levels. The 1300 level drifts on the Berg, Kuhn and Rainbow 2 Zones were also sampled. These samples correspond reasonably well with nearby drill intercepts and give a better picture of the grade distribution and continuity along strike of the shear and vein structures. Due to the lack of QA/QC information, the data was not used to support resources in the Measured category.

## Exploratory Data Analysis

Au and Ag show moderate positive correlations in the Rainbow 2 and Berg Zones with correlation coefficients of 0.6 and 0.66 respectively. The Kuhn zone shows a weaker correlation of 0.37 and the Rainbow zone is very weak (0.24). Scatterplots of Au vs. Ag for the individual zones are displayed in Figures 25 and 26.

Figure 25: Scatterplot of Au vs. Ag Sample Data - Rainbow 2 and Berg Zones

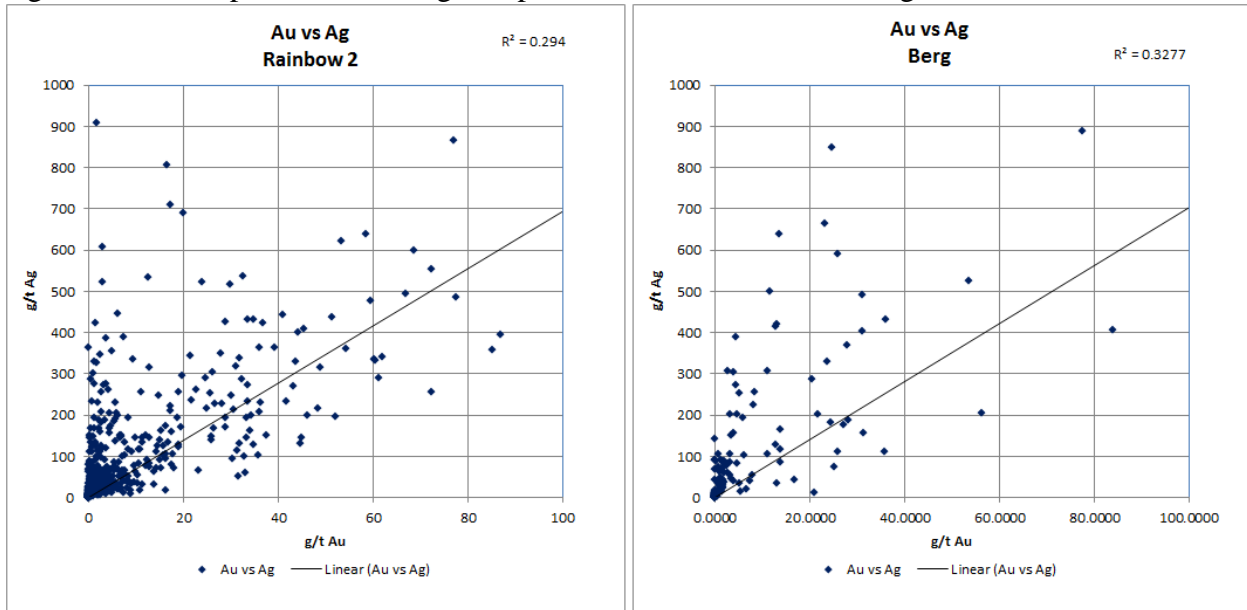
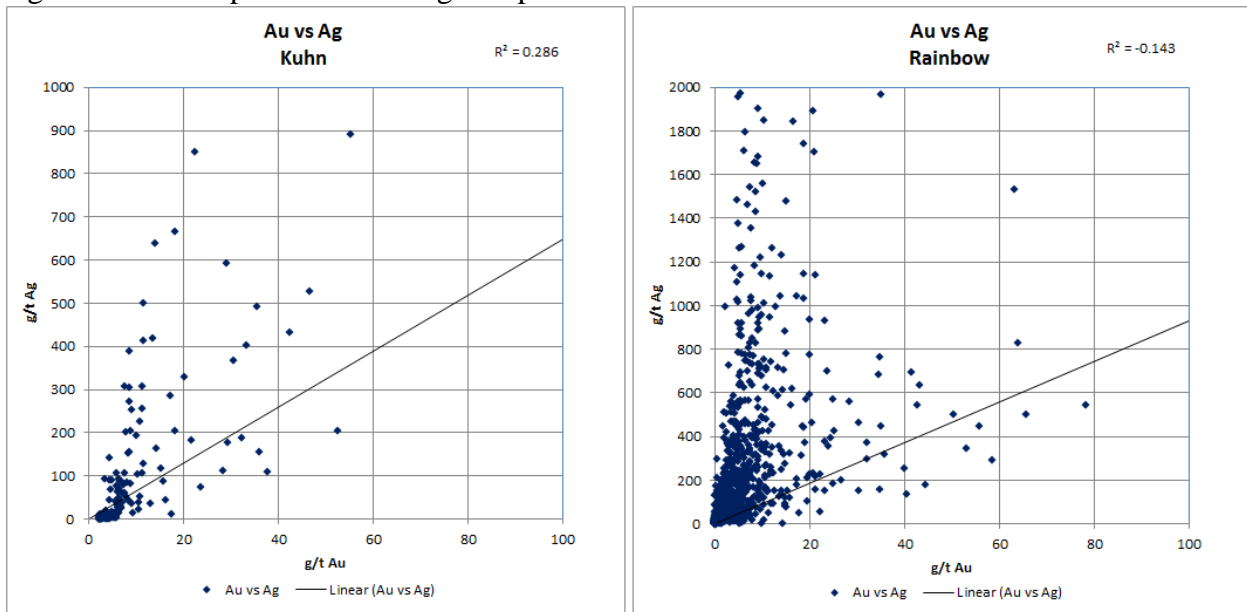


Figure 26: Scatterplot of Au vs. Ag Sample Data - Kuhn and Rainbow Zones



Cumulative frequency distributions for the Au and Ag samples within the vein models are illustrated in Figures 27 and 28. Sample populations are highly skewed approaching log normal distribution.

Basic statistics for Au and Ag in their corresponding grade domains are shown in Tables 30 and 31.

Table 30: Sample Statistics - Au

	Rainbow 2	Berg	Kuhn	Rainbow	All DH	All Channel	Combined
n	713	159	325	1325	1588	934	2522
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max	144.00	215.00	198.86	412.80	412.80	215.00	412.80
Median	0.89	1.10	2.06	1.95	1.58	2.03	1.75
Mean	7.09	8.29	6.00	5.04	5.48	6.75	5.95
Wt Avg	6.46	6.91	5.20	4.99	5.00	6.42	5.47
Variance	225.34	450.10	244.90	223.30	226.82	266.38	241.75
Std Dev	15.01	21.22	15.65	14.94	15.06	16.32	15.55
CV	2.12	2.56	2.61	2.96	2.75	2.42	2.61

Table 31: Sample Statistics - Ag

	Rainbow 2	Berg	Kuhn	Rainbow	All DH	All Channel	Combined
n	713	159	325	1325	1588	934	2522
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	1400.0	1010.4	3306.9	3516.0	3516.0	2990.7	3516.0
Median	21.6	35.0	37.0	59.3	38.1	52.7	42.7
Mean	83.6	116.6	100.7	199.6	130.1	180.8	148.8
Wt Avg	75.9	109.3	75.7	188.7	115.8	190.4	141.2
Variance	21378	36699	58687	128710	73993	105972	86399
Std Dev	146.2	191.6	242.3	358.8	272.0	325.5	293.9
CV	1.75	1.64	2.40	1.80	2.09	1.80	1.97

Figure 27: Frequency Distribution of Au - Skukum Creek

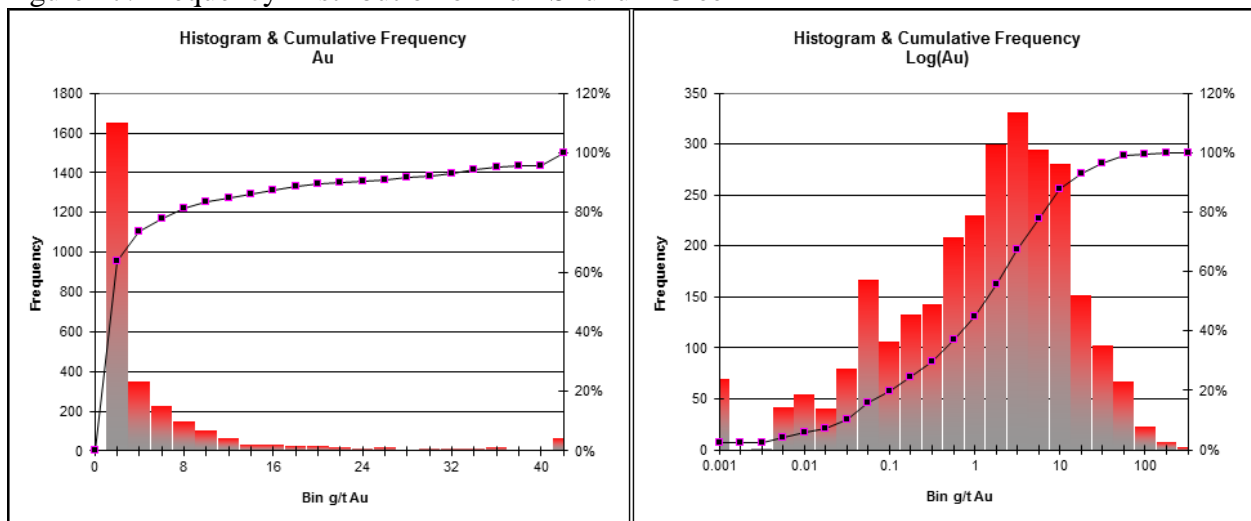
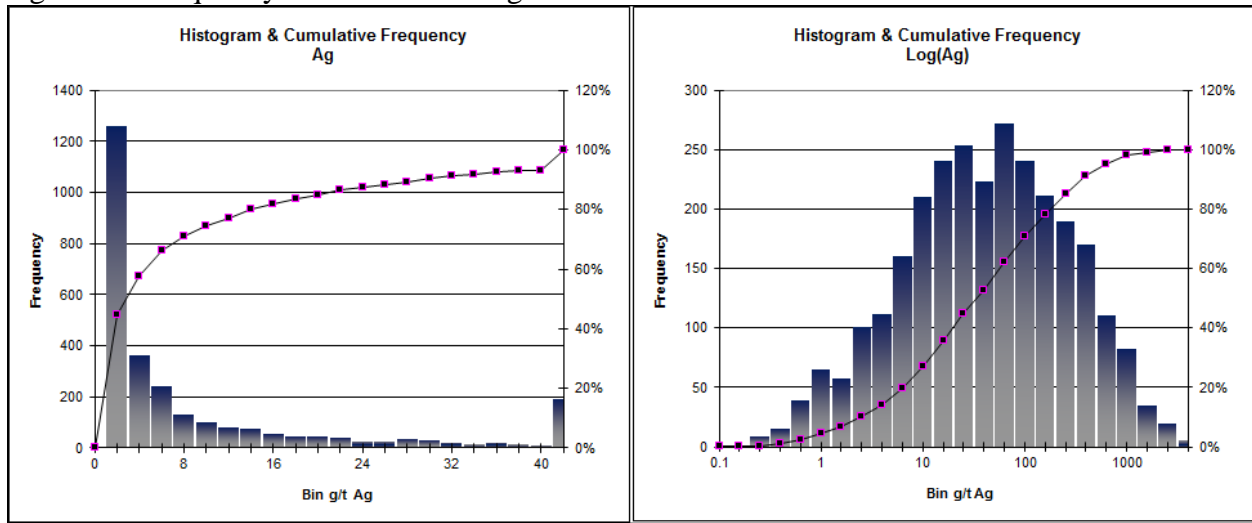


Figure 28: Frequency Distribution of Ag - Skukum Creek



### Evaluation of Outlier Grades

Before compositing, grade distribution in the raw sample data was examined to determine if grade capping or special treatment of high outliers was warranted. Cumulative log probability plots were examined for outlier populations and decile analyses was performed for Au and Ag within the zone domains.

The upper decile for all zones exceeded the 40% threshold and the upper centiles all exceeded a level of 10% of the contained metal for both Au and Ag (Table 32).

Table 32: Decile Analysis - Skukum Creek Zones

Zone	% Contained Metal			
	Au		Ag	
	Upper Decile	Upper Centile	Upper Decile	Upper Centile
Rainbow 2	59.7	15.8	46.4	11.0
Berg	51.0	20.8	43.8	14.3
Kuhn	57.2	23.2	43.0	10.1
Skukum	53.6	24.1	51.6	10.2

To establish suitable capping levels, cumulative probability plots (CPP) were examined for any clear break points. Selected upper top-cut levels varied between the 95<sup>th</sup> and 99<sup>th</sup> percentile levels (Figures 29 to 32). For the Rainbow 2 Zone the 60 g/t top-cut was restricted to a maximum distance of 24 metres and beyond this range a 30 g/t outlier restrictions was imposed.

The number of samples capped and impact on average grade in each zone are summarized in Tables 33 and 34. The most dramatic apparent impact on average grade is on the Berg zone which dropped from 6.9 g/t to 4.7 g/t. However, most of this drop was due to the influence of one high grade outlier grading 215 g/t which exceeded the next highest grade by over 250%. If this single outlier is excluded the average grade drops from 6.9 to 5.9 g/t. Similarly, in the Kuhn zone, two high grade outliers are over 250% higher than the next highest value and if they are excluded the average grade drops from 5.2 to 4.3 g/t.

Figure 29: CPP Au and Cap Levels - Rainbow2 Zone

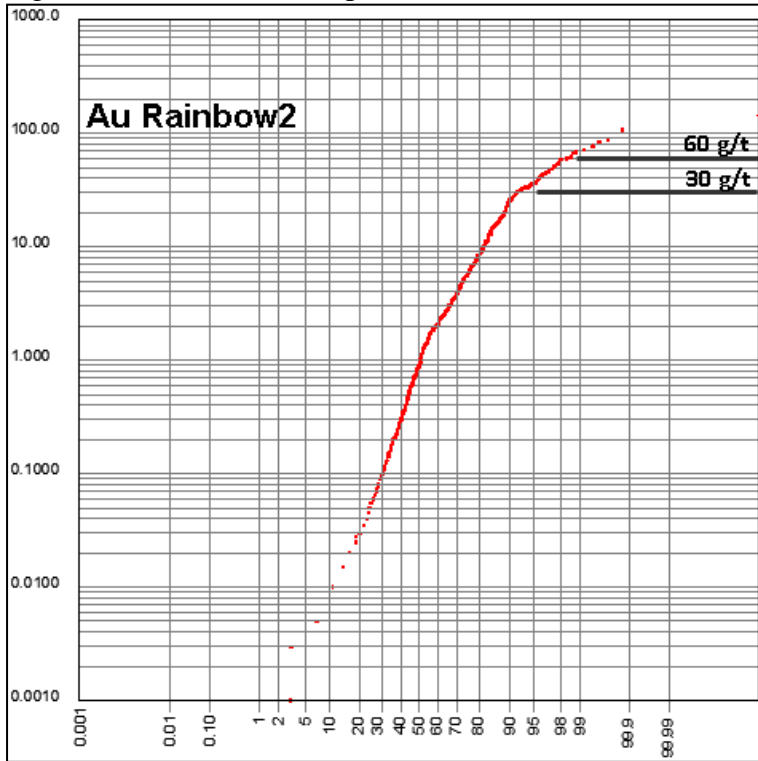


Figure 30: CPP Au and Cap Levels - Berg Zone

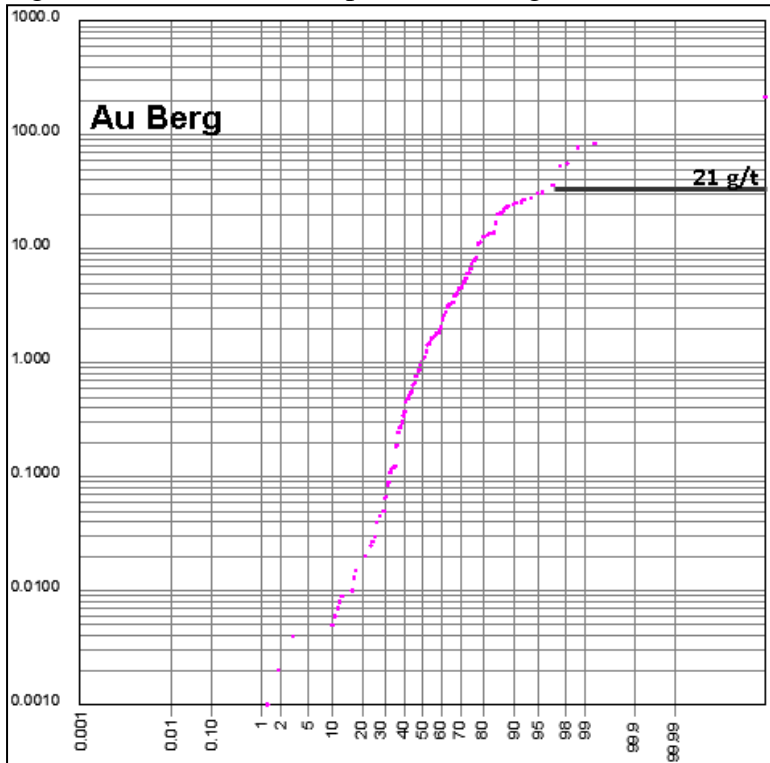


Figure 31: CPP Au and Cap Levels - Kuhn Zone

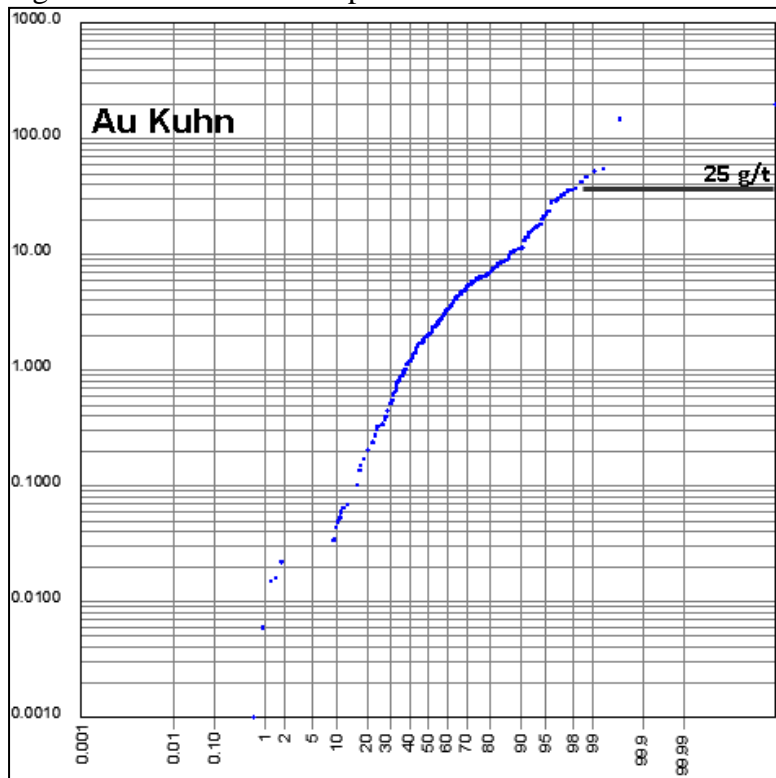


Figure 32: CPP Au and Cap Levels - Rainbow Zone

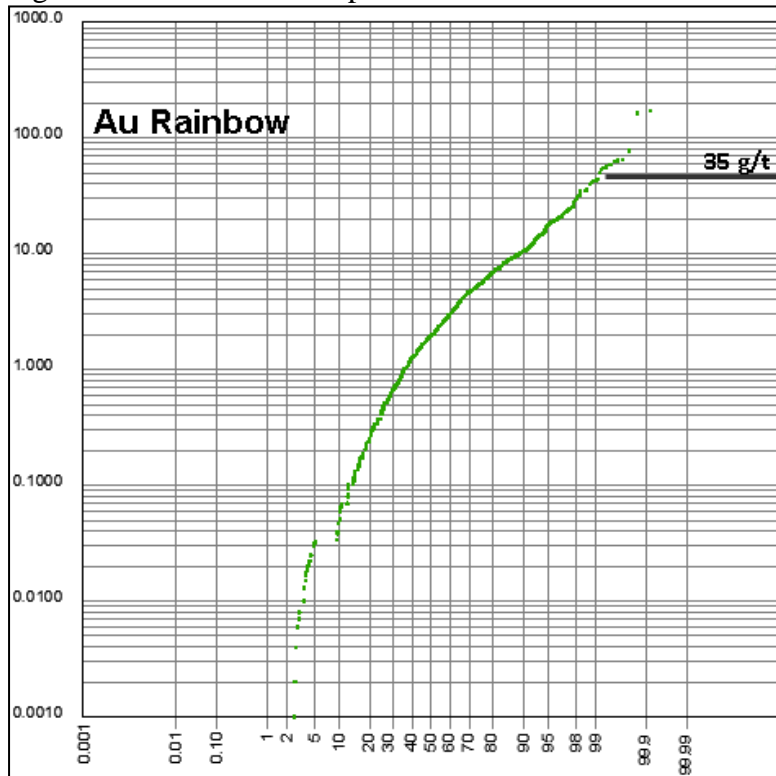


Table 33: Capping Summary by Zone - Au

Zone	Rainbow2	Berg	Kuhn	Rainbow	Combined
Cap Level	60	21	25	35	
Total Samples	713	159	325	1325	2522
Maximum Value	144	215	199	413	413
Wt Avg Uncapped	6.46	6.91	5.20	4.99	5.47
Wt Avg Capped	6.07	4.70	4.04	4.15	4.60
Number Capped	14	21	15	20	70
% Capped	2.0%	13.2%	4.6%	1.5%	2.8%

Table 34: Capping Summary by Zone - Ag

Zone	Rainbow2	Berg	Kuhn	Rainbow	Combined
Cap Level	650	400	400	1000	
Total Samples	713	159	325	1325	2522
Maximum Value	1400	1010	3307	3516	3516
Wt Avg Uncapped	75.89	109.29	75.69	188.69	141.15
Wt Avg Capped	72.97	91.04	64.92	180.37	133.08
Number Capped	7	15	13	26	61
% Capped	1.0%	9.4%	4.0%	2.0%	2.4%

### Compositing

Best fit downhole sample assay composites of Au and Ag were generated using a nominal 1 metre interval within the zone domains. Samples were capped prior to compositing at the levels established in the previous section.

Statistics for composites are summarized in Tables 35 and 36. Compositing and grade capping reduced the coefficient of variation (“CV”) for Au from 2.61 in the uncapped raw sample data to 1.47 in the capped composite population. Although this is still considered quite high, it is not unusual for precious metal deposits and is a considerable improvement over the CV of the initial sample intervals. GeoSim is of the opinion that the CV is low enough to support a mineral resource estimate.

Table 35: Composite Statistics - Au

Zone	101	102	201	301	Combined
n	605	166	408	1365	2544
Min	0.000	0.000	0.000	0.000	0.000
Max	60.000	21.000	25.000	35.000	35.000
Q1	0.105	0.027	0.198	0.680	0.334
Median	1.427	0.785	1.630	2.176	1.851
Q3	6.133	5.799	4.814	5.200	5.284
90th %ile	18.190	15.008	9.191	9.388	10.700
99th %ile	53.316	21.000	25.000	32.797	30.000
Mean	5.725	4.274	3.632	4.067	4.172
Variance	109.225	42.743	28.140	31.984	37.812
Std Dev	10.451	6.538	5.305	5.655	6.149
CV	1.83	1.53	1.46	1.39	1.47

Table 36: Composite Statistics - Ag

Zone	101	102	201	301	Combined
n	605	166	408	1365	2544
Min	0.0	0.0	0.0	0.0	0.0
Max	650.0	400.0	391.3	1500.0	1500.0
Q1	5.8	5.7	7.4	18.4	11.4
Median	28.3	25.4	30.1	68.6	45.6
Q3	82.0	97.8	74.8	215.7	142.6
90th %ile	192.0	303.9	161.0	480.4	347.5
99th %ile	521.2	400.0	353.2	1474.4	1151.7
Mean	69.4	82.1	58.6	177.2	126.3
Variance	11064.1	14192.1	5954.4	72269.0	46287.1
Std Dev	105.2	119.1	77.2	268.8	215.1
CV	1.515	1.452	1.318	1.517	1.703

### Bulk Density Data

A total of 32 samples of vein material from the Skukum Creek zones were measured for bulk density in 2011. After removing two outliers, the average value of 2.87 g/cm<sup>3</sup> was used for converting volume to tonnes in the resource estimate.

### Variography

Directional variograms in the plane of the mineralized zone showed no significant trends or anisotropy. The maximum model range was 24 metres and the nugget value was 39% of the total sill for Au and 33% for Ag.

## Model Setup and Limits

A rotated block model was created in Gemcom-Surpac Vision© software using a block size 5 x 1.5 x 5 metres with sub-blocking enabled to 2.5 x 0.75 x 2.5 metres. Block model extents and orientation are summarized in Table 37.

Table 37: Block Model Parameters - Skukum Creek

	East	North	Elev
Origin	477000	6671000	900
Extent	350	1200	800
Rotation			60°
Block Size	5	1.5	5
Sub-block	2.5	0.75	2.5
Blocks	70	800	160

## Interpolation Parameters

Au and Ag grades within the vein domains were estimated in three passes using the inverse distance weighting method to the third power ( $ID^3$ ). Search parameters are presented in Table 38. Grade distribution is illustrated in Figures 33 and 34.

Table 38: Search Parameters - Skukum Creek Grade Estimation

Item/Zone	Pass	Maximum Search Dist (m)			Min # Composites	Max # Composites	Max per Hole	Topcut g/t Au
		Major Axis	Semi-Major Axis	Minor Axis				
Au Rainbow 2	1	24	24	4.8	5	24	4	60
	2	48	48	9.6	4	24	3	30
	3	72	72	14.4	3	20	-	30
Au Berg	1	24	24	4.8	5	24	4	21
	2	48	48	9.6	4	24	3	21
	3	72	72	14.4	3	20	-	21
Au Kuhn	1	24	24	4.8	5	24	4	25
	2	48	48	9.6	4	24	3	25
	3	72	72	14.4	3	20	-	25
Au Rainbow	1	24	24	4.8	5	24	4	35
	2	48	48	9.6	4	24	3	35
	3	72	72	14.4	3	20	-	35
Ag Rainbow 2	1	20	20	4	5	24	2	650
	2	40	40	8	4	24	2	650
	3	80	80	16	3	20	-	650
Ag Berg	1	24	24	4.8	5	24	4	400
	2	48	48	9.6	4	24	3	400
	3	72	72	14.4	3	20	-	400
Ag Kuhn	1	24	24	4.8	5	24	4	400
	2	48	48	9.6	4	24	3	400
	3	72	72	14.4	3	20	-	400
Ag Rainbow	1	24	24	4.8	5	24	4	1500
	2	48	48	9.6	4	24	3	1500
	3	72	72	14.4	3	20	-	1500

Figure 33: Au Block Grade Distribution - Skukum Creek

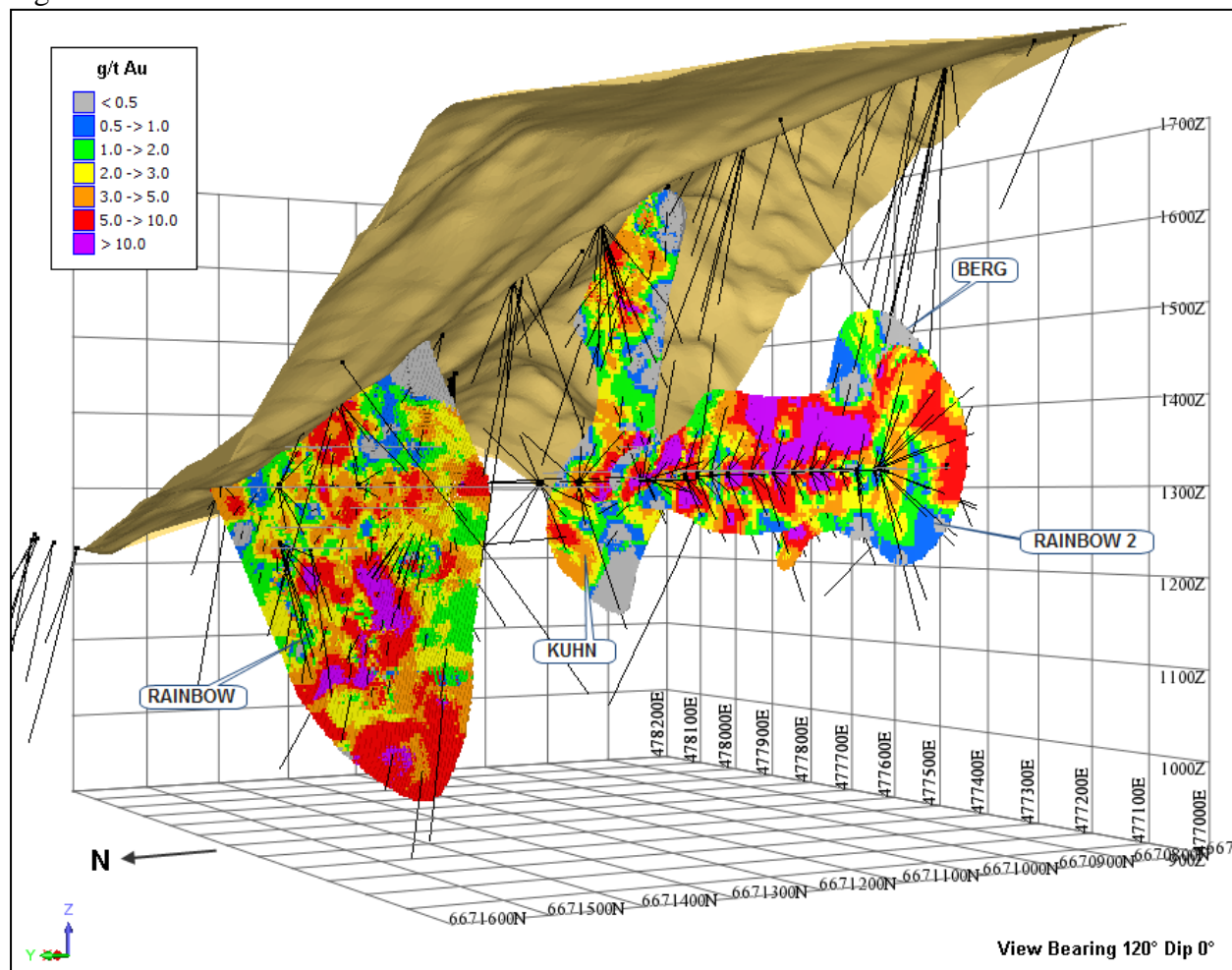
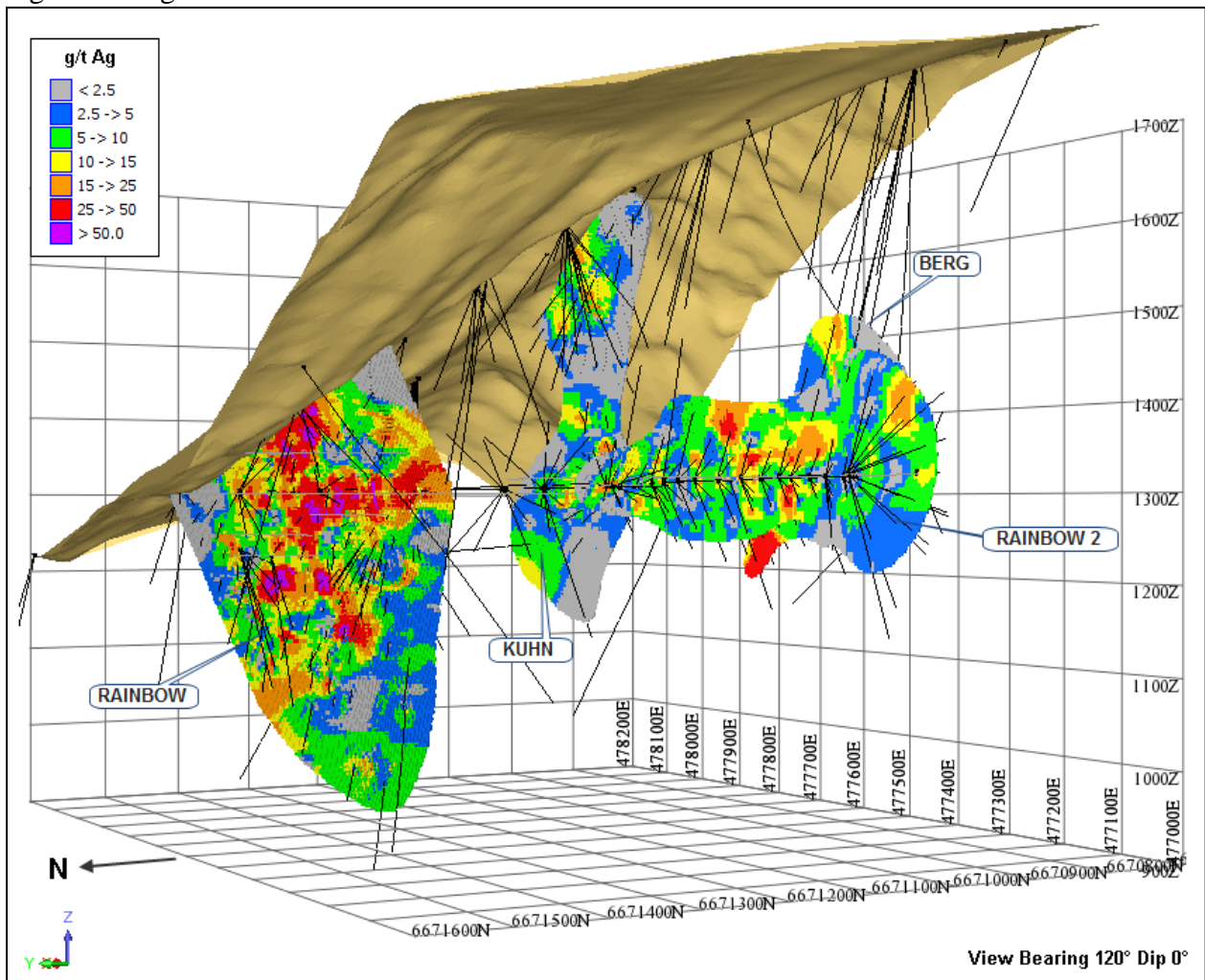


Figure 34: Ag Block Grade Distribution - Skukum Creek



## Validation

### *Visual Inspection*

Model verification was initially carried out by visual comparison of blocks and sample grades in plan and section views. The estimated block grades showed reasonable correlation with adjacent composite grades. The frequency distributions of block grades within the blocks estimated for Au and Ag are shown in Figure 35 and Figure 36.

Figure 35 Frequency Distribution of Au Grades in Block Model

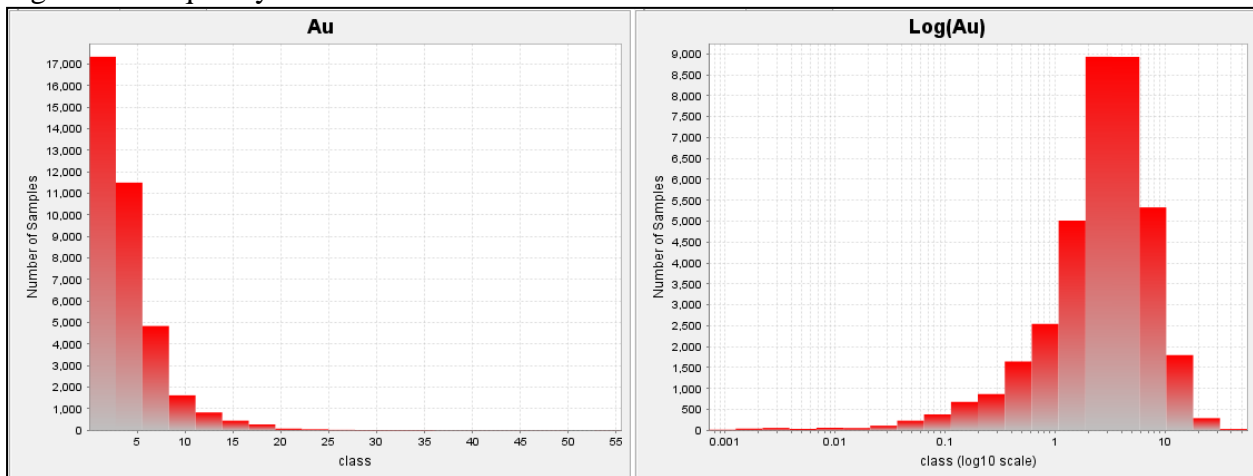
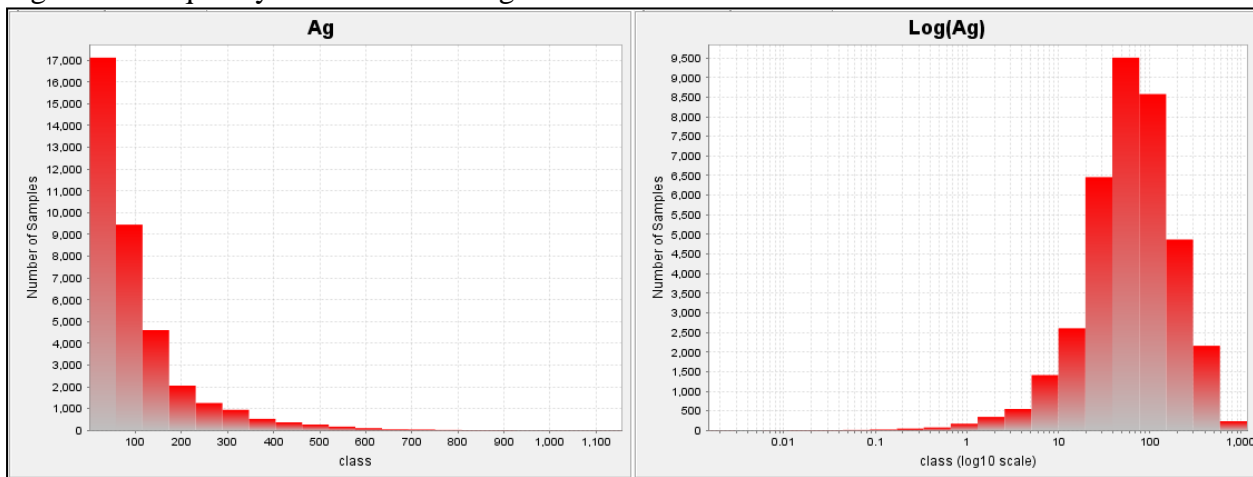


Figure 36 Frequency Distribution of Ag Grades in Block Model



**Global Bias Check**

Block grades were estimated using the inverse distance ( $ID^3$ ) and the nearest neighbour ('NN') methods. A comparison of global mean values within the vein domains shows a reasonably close relationship with samples, composites and block model values at a '0' cut-off grade (Table 39).

Table 39: Global Mean Grade Comparison

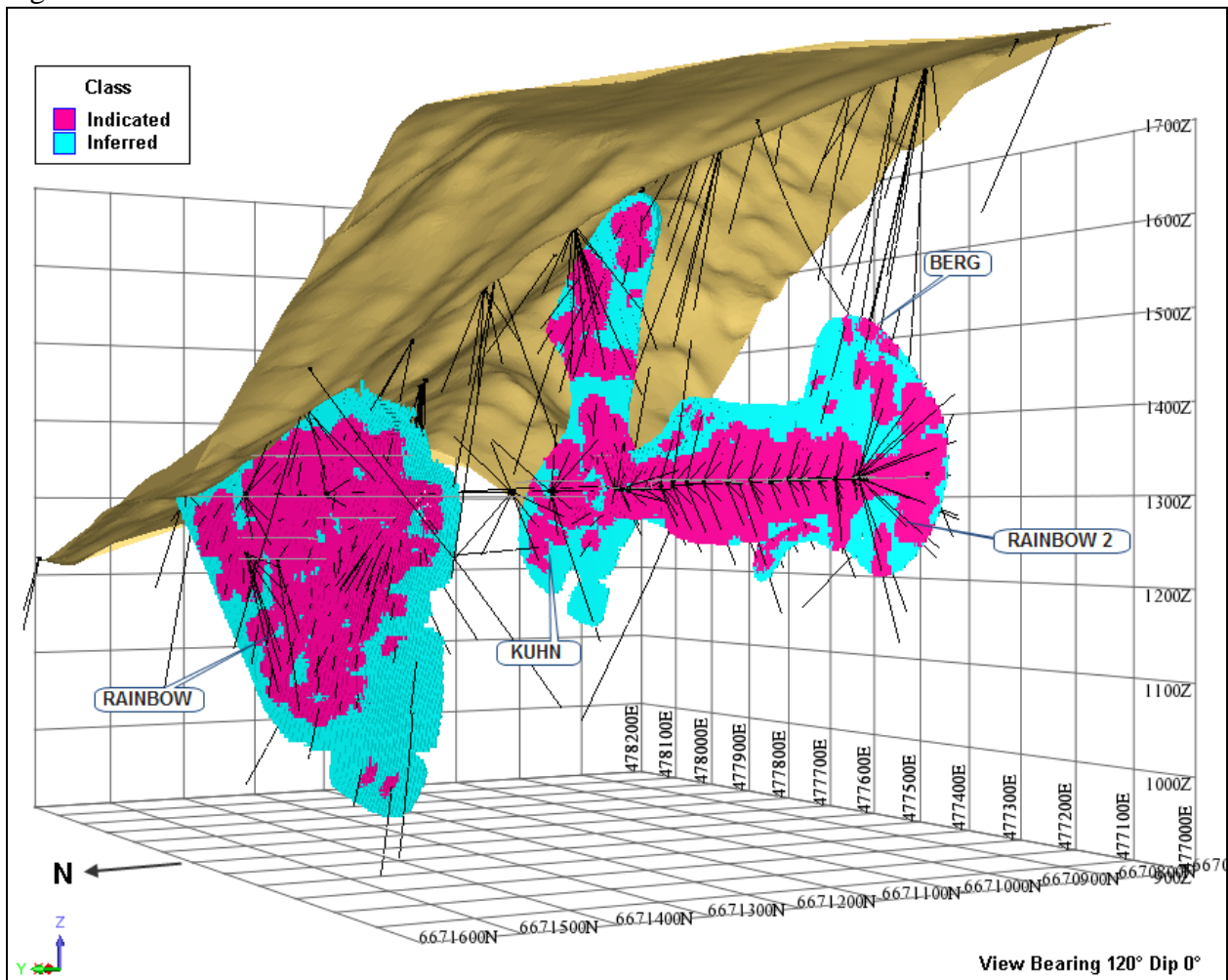
	Au g/t					Ag g/t				
	Rainbow2	Berg	Kuhn	Rainbow	All	Rainbow2	Berg	Kuhn	Rainbow	All
Samples (Wt Avg)	6.46	6.91	5.20	4.99	5.47	76	109	76	189	141
Samples Capped	6.07	4.70	4.04	4.15	4.60	73	91	65	180	133
Composites	6.09	5.59	4.74	4.89	5.26	72	98	68	186	134
Composites Capped	5.73	4.27	3.63	4.07	4.17	69	82	59	177	126
ID <sup>3</sup> Model	5.24	3.16	2.98	4.25	4.06	74	79	56	141	97
Nearest Neighbour	5.71	2.91	2.82	4.17	4.03	75	77	54	145	110

### Resource Classification

Resource classifications used in this study conform to the definition from NI43-101 quoted in Section 14.2.1, Resource Classification.

Blocks were assigned to the ‘Indicated’ category if they were estimated in the first or second pass using composites from at least 2 drill holes or sample lines and were within 18 metres of the closest composite. All other estimated blocks were assigned to the ‘Inferred’ category. The distribution of Indicated and Inferred blocks is illustrated in Figure 37.

Figure 37: Block Classification - Skukum Creek



### Mineral Resources

The following tables present the mineral resource estimate for the Skukum Creek Deposit at a range of cut-off grades with the base case highlighted. The selected base case cut-off grade of 3.0 g/t gold equivalent is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location (US\$1,300 per ounce Au and US\$26 per ounce Ag). The gold equivalent formula used was  $AuEQ = Au + Ag * 0.02$ . The effective date of the estimate is July 16, 2012.

The mineral resource estimate is quite sensitive to metal prices. There are no other known factors or issues that materially affect the estimate other than normal risks faced by mining projects in the territory in terms of environmental, permitting, taxation, socio-economic, marketing and political factors. There are no known legal or title issues that would materially affect the mineral resource estimate.

Table 40: Indicated Mineral Resource – Skukum Creek

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	1,416,600	4.55	130.0	7.16	207,300	5,929,100	325,900
1.5	1,339,100	4.77	136.0	7.50	205,400	5,867,300	322,800
2.0	1,252,600	5.02	143.0	7.89	202,300	5,777,300	317,900
2.5	1,167,800	5.28	151.0	8.30	198,300	5,671,500	311,800
3.0	1,086,800	5.54	159.0	8.72	193,700	5,547,600	304,600
3.5	1,008,900	5.81	167.0	9.14	188,400	5,407,500	296,500
4.0	930,900	6.09	175.0	9.59	182,200	5,246,400	287,100
4.5	858,200	6.37	184.0	10.05	175,700	5,074,400	277,200
5.0	793,000	6.63	192.0	10.48	169,100	4,905,800	267,200

Table 41: Inferred Mineral Resource – Skukum Creek

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	758,800	3.97	89.0	5.74	96,900	2,161,600	140,100
1.5	723,700	4.13	92.0	5.96	96,000	2,135,000	138,700
2.0	679,900	4.32	96.0	6.23	94,300	2,095,100	136,200
2.5	633,500	4.52	100.0	6.52	92,100	2,037,800	132,900
3.0	586,000	4.74	105.0	6.83	89,200	1,972,700	128,700
3.5	533,900	4.98	110.0	7.18	85,400	1,890,800	123,300
4.0	474,200	5.26	117.0	7.61	80,200	1,791,400	116,100
4.5	417,400	5.58	124.0	8.07	74,900	1,668,300	108,300
5.0	365,300	5.93	131.0	8.54	69,600	1,536,400	100,400

A breakdown of the mineral resource by zone is presented in the following tables:

Table 42: Indicated Mineral Resource - Rainbow 2 Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	248,600	5.78	76.0	7.30	46,200	609,300	58,400
1.5	230,300	6.17	80.0	7.78	45,700	595,600	57,600
2.0	215,300	6.52	84.0	8.20	45,200	581,400	56,800
2.5	200,200	6.90	88.0	8.65	44,400	563,900	55,700
3.0	184,100	7.33	92.0	9.17	43,400	544,000	54,300
3.5	170,900	7.71	96.0	9.63	42,400	525,900	52,900
4.0	154,100	8.25	101.0	10.27	40,800	501,200	50,900
4.5	142,200	8.67	105.0	10.78	39,600	481,200	49,300
5.0	132,100	9.06	109.0	11.23	38,500	462,600	47,700

Table 43: Inferred Mineral Resource - Rainbow 2 Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	101,400	4.70	74.0	6.18	15,300	240,500	20,100
1.5	95,100	4.96	77.0	6.50	15,200	235,100	19,900
2.0	85,200	5.41	82.0	7.05	14,800	225,100	19,300
2.5	79,200	5.71	85.0	7.42	14,500	217,600	18,900
3.0	74,200	5.97	88.0	7.74	14,200	210,400	18,500
3.5	69,000	6.24	91.0	8.07	13,900	202,600	17,900
4.0	62,400	6.63	95.0	8.53	13,300	190,800	17,100
4.5	55,600	7.09	98.0	9.05	12,700	175,600	16,200
5.0	47,400	7.75	103.0	9.80	11,800	156,600	14,900

Table 44: Indicated Mineral Resource - Berg Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	68,600	4.20	102.0	6.23	9,300	224,300	13,700
1.5	61,300	4.62	110.0	6.83	9,100	217,600	13,500
2.0	51,600	5.29	124.0	7.77	8,800	206,400	12,900
2.5	46,500	5.70	134.0	8.39	8,500	200,500	12,500
3.0	42,500	6.08	142.0	8.92	8,300	194,300	12,200
3.5	40,200	6.31	147.0	9.25	8,100	190,100	11,900
4.0	37,300	6.60	154.0	9.67	7,900	184,500	11,600
4.5	35,400	6.80	158.0	9.97	7,700	180,300	11,300
5.0	33,300	7.01	165.0	10.30	7,500	176,000	11,000

Table 45: Inferred Mineral Resource - Berg Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	66,800	3.23	84.0	4.92	6,900	181,300	10,600
1.5	57,100	3.67	94.0	5.54	6,700	172,100	10,200
2.0	51,200	3.97	100.0	5.98	6,500	165,100	9,800
2.5	46,900	4.21	106.0	6.32	6,300	159,400	9,500
3.0	42,200	4.48	112.0	6.72	6,100	151,800	9,100
3.5	37,100	4.82	119.0	7.20	5,700	141,900	8,600
4.0	34,000	5.05	123.0	7.51	5,500	134,500	8,200
4.5	28,300	5.61	128.0	8.16	5,100	116,300	7,400
5.0	24,200	6.09	133.0	8.75	4,700	103,400	6,800

Table 46: Indicated Mineral Resource - Kuhn Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	257,900	3.87	69.0	5.26	32,100	574,700	43,600
1.5	236,900	4.14	73.0	5.61	31,600	558,500	42,700
2.0	218,400	4.40	77.0	5.94	30,900	540,800	41,700
2.5	199,100	4.67	81.0	6.30	29,900	518,800	40,300
3.0	177,800	5.00	86.0	6.72	28,600	490,900	38,400
3.5	156,300	5.38	91.0	7.20	27,000	458,200	36,200
4.0	138,600	5.73	96.0	7.64	25,500	426,400	34,100
4.5	121,700	6.12	100.0	8.12	23,900	391,300	31,700
5.0	108,000	6.47	104.0	8.54	22,500	360,200	29,700

Table 47: Inferred Mineral Resource - Kuhn Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	147,000	3.16	67.0	4.49	14,900	313,700	21,200
1.5	135,000	3.37	71.0	4.78	14,600	306,300	20,700
2.0	124,000	3.55	75.0	5.05	14,100	296,900	20,100
2.5	109,000	3.82	81.0	5.43	13,400	281,300	19,000
3.0	97,000	4.04	86.0	5.76	12,600	267,300	17,900
3.5	86,000	4.26	91.0	6.08	11,800	251,900	16,800
4.0	74,000	4.51	98.0	6.47	10,700	231,300	15,300
4.5	62,000	4.82	104.0	6.91	9,500	206,700	13,700
5.0	53,000	5.07	108.0	7.24	8,700	186,300	12,400

Table 48: Indicated Mineral Resource - Rainbow Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	841,600	4.43	167.0	7.77	119,800	4,520,800	210,200
1.5	810,600	4.57	172.0	8.02	119,000	4,495,600	208,900
2.0	767,300	4.76	180.0	8.37	117,500	4,448,800	206,500
2.5	722,000	4.97	189.0	8.75	115,500	4,388,300	203,200
3.0	682,400	5.17	197.0	9.10	113,300	4,318,400	199,700
3.5	641,500	5.37	205.0	9.48	110,800	4,233,300	195,500
4.0	600,900	5.58	214.0	9.86	107,900	4,134,200	190,600
4.5	559,000	5.81	224.0	10.28	104,400	4,021,700	184,800
5.0	519,600	6.03	234.0	10.70	100,700	3,907,000	178,800

Table 49: Inferred Mineral Resource - Rainbow Zone

COG g/t AuEQ	Tonnes	Au g/t	Ag g/t	AuEQ g/t	oz Au	oz Ag	oz AuEQ
1.0	444,000	4.18	100.0	6.18	59,700	1,426,100	88,300
1.5	437,000	4.24	101.0	6.26	59,500	1,421,500	88,000
2.0	419,800	4.36	104.0	6.45	58,800	1,407,900	87,000
2.5	398,700	4.52	108.0	6.67	57,900	1,379,500	85,500
3.0	372,700	4.70	112.0	6.94	56,300	1,343,100	83,200
3.5	341,800	4.92	118.0	7.28	54,100	1,294,400	80,000
4.0	304,100	5.19	126.0	7.71	50,700	1,234,800	75,400
4.5	271,900	5.45	134.0	8.12	47,600	1,169,600	71,000
5.0	240,400	5.75	141.0	8.57	44,400	1,090,100	66,200

## 14.3 GODDELL GULLY

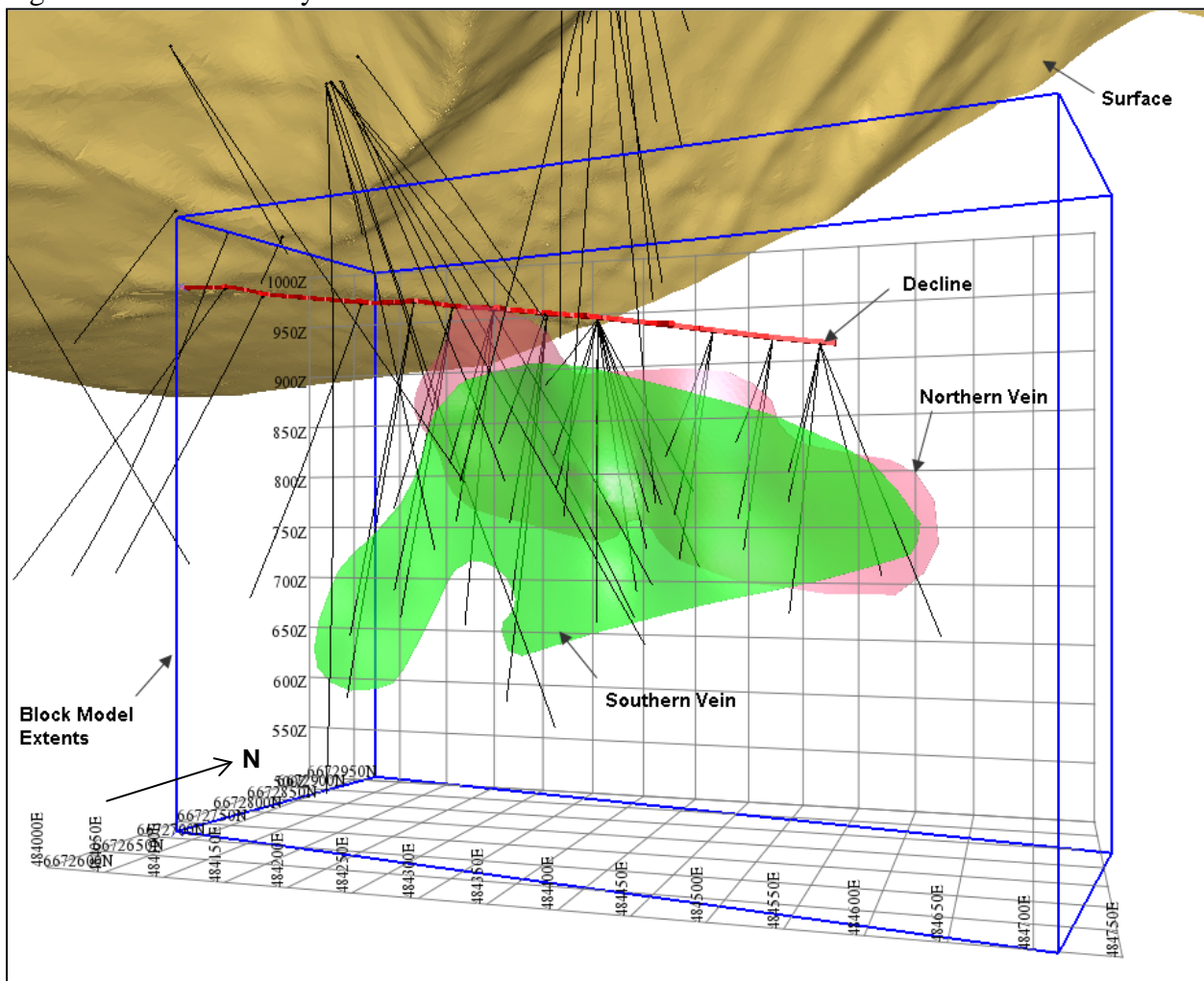
### Geologic Model, Domains and Coding

Drilling and sampling at Goddell Gully has outlined two sub-parallel vein structures extending up to 500 metres along strike towards an azimuth of 100° and dipping vertical to sub-vertical, ranging in elevation from 612 to 938 metres.

Silver content was not used in the Goddell Gully resource model as the grades were insignificant with samples averaging less than 5 g/t Ag and silver assays were incomplete.

The two sub-parallel vein zones were modeled in Leapfrog3d software using a minimum horizontal width of 1.5 metres. The model is illustrated in Figure 38.

Figure 38: Goddell Gully Vein Model



### Available Data

The drilling database summary for the Goddell Gully area is presented in Tables 50 and 51. A total of 5,824 samples were assayed for Au and 4,909 for Ag. About 15% of the 1998 sampled intervals were assayed for Ag. The 1990 drill results did not include Ag assays.

Table 50: Goddell Gully Database - Surface Drilling Summary

Series	Year Completed	Company	Holes Drilled	Total metres	Intervals Assayed	Metres Assayed
87-PG/PGE	1987	Skukum Gold	11	2,857.21	952	1,088.76
88-PG	1988	Skukum Gold	4	1,976.33	310	370.48
90-GT	1990	Skukum Gold	7	1,573.08	601	1,016.51
95-	1995	Omni	5	2,855.40	470	440.68
GG03	2003	TLG	3	974.74	368	495.78
GG11-01 to 10	2011	NUX	7	3,162.12	928	897.61
Total			37	13,398.88	3,629	4,309.82

Table 51: Goddell Gully Database - Underground Drilling Summary

Series	Year Completed	Company	Holes Drilled	Total metres	Intervals Assayed	Metres Assayed
96-28 to 30	1996	Omni	3	721.77	212	283.51
97-31 to 67	1997	Omni	37	8,519.41	1,983	2,495.51
Total			40	9,241.18	2,195	2,779.02

The mean width of all the Goddell Gully drill sample intervals was 1.27 metres with the most common interval set at 1.0 metres.

A decline was driven in 1996 for drill access but underground development did not intersect the zones.

### Exploratory Data Analysis

Basic statistics for Au are shown in Table 52. Silver grades within the Goddell Gully vein models averaged 3 g/t Ag and are not considered economically significant.

Table 52: Sample Statistics - Au

	Vein 1	Vein 2	Combined
n	296	221	517
Min	0.001	0.001	0.001
Max	74.709	59.623	74.709
Mean	7.243	5.157	6.352
Wt Avg	6.753	5.127	6.048
Median	3.266	1.303	2.434
Var	144.929	88.954	121.850
Std Dev	12.039	9.432	11.039
CV	1.66	1.83	1.74

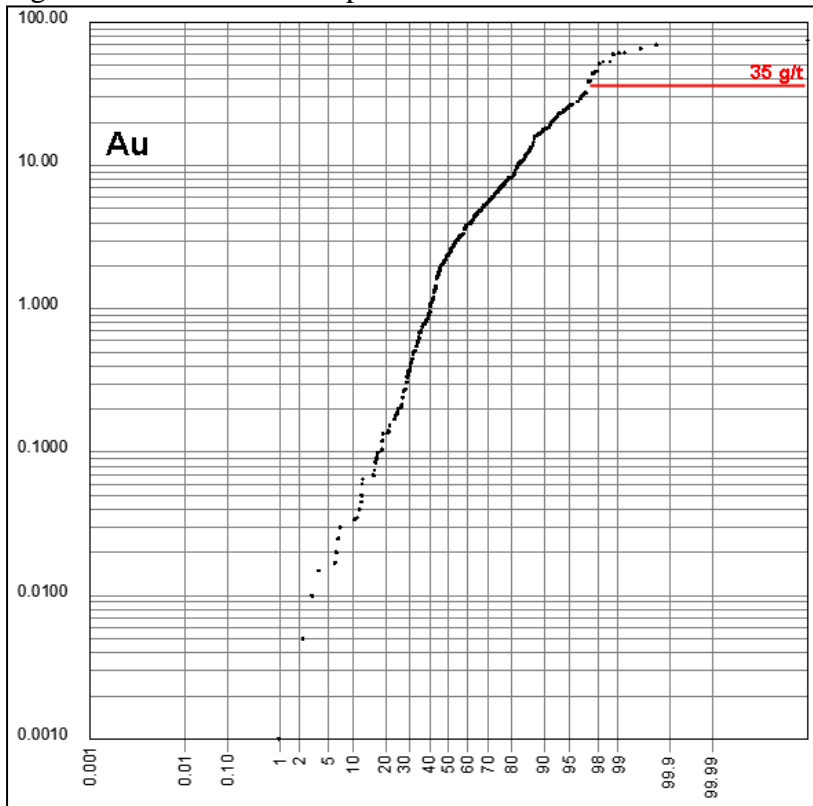
### Evaluation of Outlier Grades

Before compositing, grade distribution in the raw sample data was examined to determine if grade capping or special treatment of high outliers was warranted. Cumulative log probability plots were examined for outlier populations and decile analyses was performed for Au within the vein domains.

The upper decile for Au contained 47% of the contained metal and the upper two centiles were both close to the 10% level.

The CPP plot showed a marked break point around 35 g/t Au and this level was selected as a top-cut (Figure 39). Sixteen out of 517 samples within the vein domains were capped.

Figure 39: CPP Au and Cap Level



### Compositing

Best fit downhole sample assay composites of Au were generated using a nominal 1 metre interval within the zone domains. Samples were capped prior to compositing at 35 g/t Au. Statistics for composites are summarized in Table 53. Compositing and grade capping reduced the coefficient of variation (“CV”) for Au from 1.74 in the uncapped raw sample data to 1.48 in the capped composite population. Although this is still considered quite high, it is not unusual for precious metal deposits and is a considerable improvement over the CV of the initial sample intervals. GeoSim is of the opinion that the CV is low enough to support a mineral resource estimate.

Table 53: Composite Statistics

	South Vein	North Vein	Combined
n	324	268	592
Min	0.000	0.000	0.000
Max	35.000	35.000	35.000
Mean	6.095	4.476	5.362
Median	3.869	1.997	3.046
Var	52.679	45.862	50.160
Std Dev	7.258	6.772	7.082
CV	1.19	1.51	1.32

### Bulk Density Data

A total of 22 samples of vein material from the Goddell Gully mineralized zones were measured for bulk density in 2011. The average value of 2.77 g/cm<sup>3</sup> was used for converting volume to tonnes in the resource estimate.

### Variography

Directional variograms in the plane of the mineralized zone showed no significant trends or anisotropy. The maximum model range was 24 metres and the nugget value was 39% of the total sill for Au.

### Model Setup and Limits

A rotated block model was created in Gemcom-Surpac Vision© software using a block size 5 x 1.5 x 5 metres with sub-blocking enabled to 2.5 x 0.75 x 2.5 metres. Block model extents and orientation are summarized in Table 54.

Table 54: Block Model Parameters - Goddell Gully

	East	North	Elev
Origin	484020	6672720	500
Extent	705	252	505
Rotation			10°
Block Size	5	1.5	5
Sub-block	2.5	0.75	0.25
Blocks	141	168	101

### Interpolation Parameters

Au grades within the vein domains were estimated in three passes using the inverse distance weighting method to the third power (ID<sup>3</sup>). Search parameters are presented in Table 55. Grade distribution is illustrated in Figures 40 and 41.

Table 55: Search Parameters - Goddell Gully Grade Estimation

Pass	Search Dist (m)			Min # Composites	Max # Composites	Max per Hole	Topcut g/t Au
	Major Axis	Semi-Major Axis	Minors Axis				
1	25	25	5	5	12	4	35
2	50	50	10	4	16	3	35
3	62.5	63	13	3	16	-	35

Figure 40: Block Grade Distribution - Southern Vein

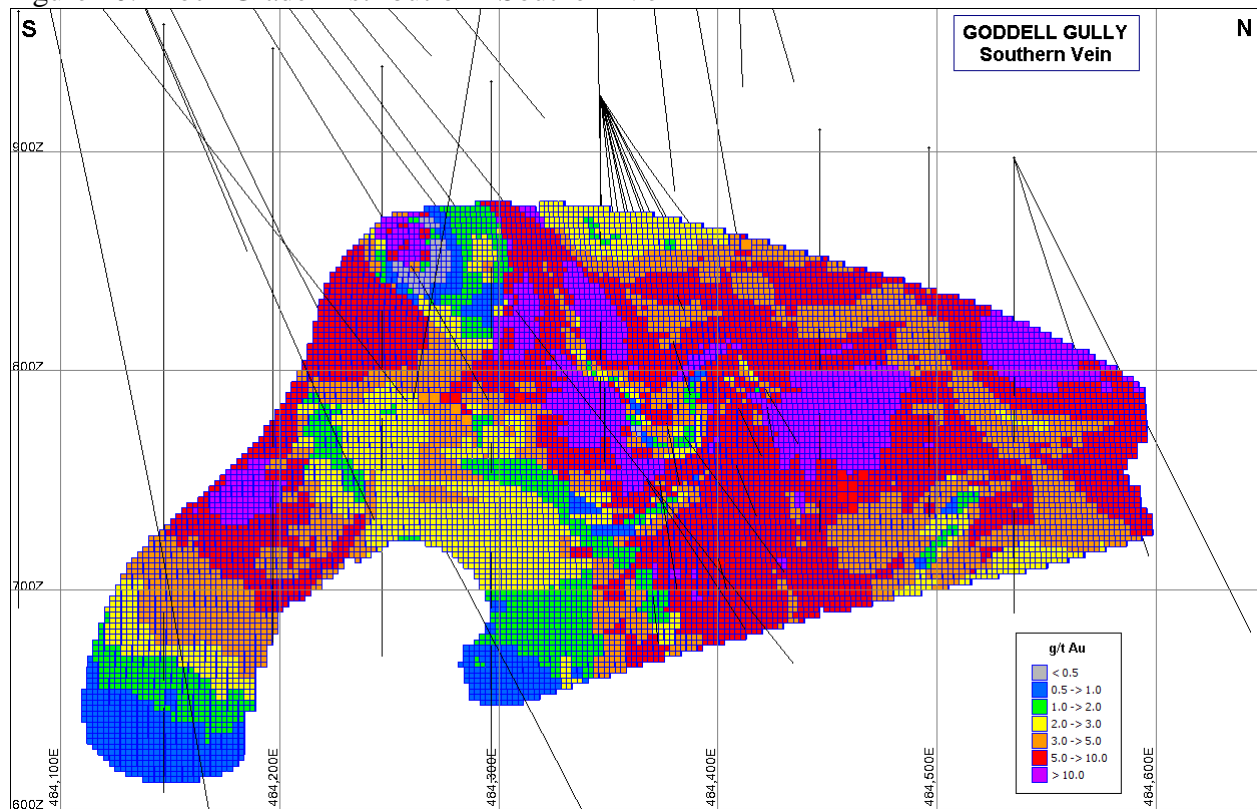
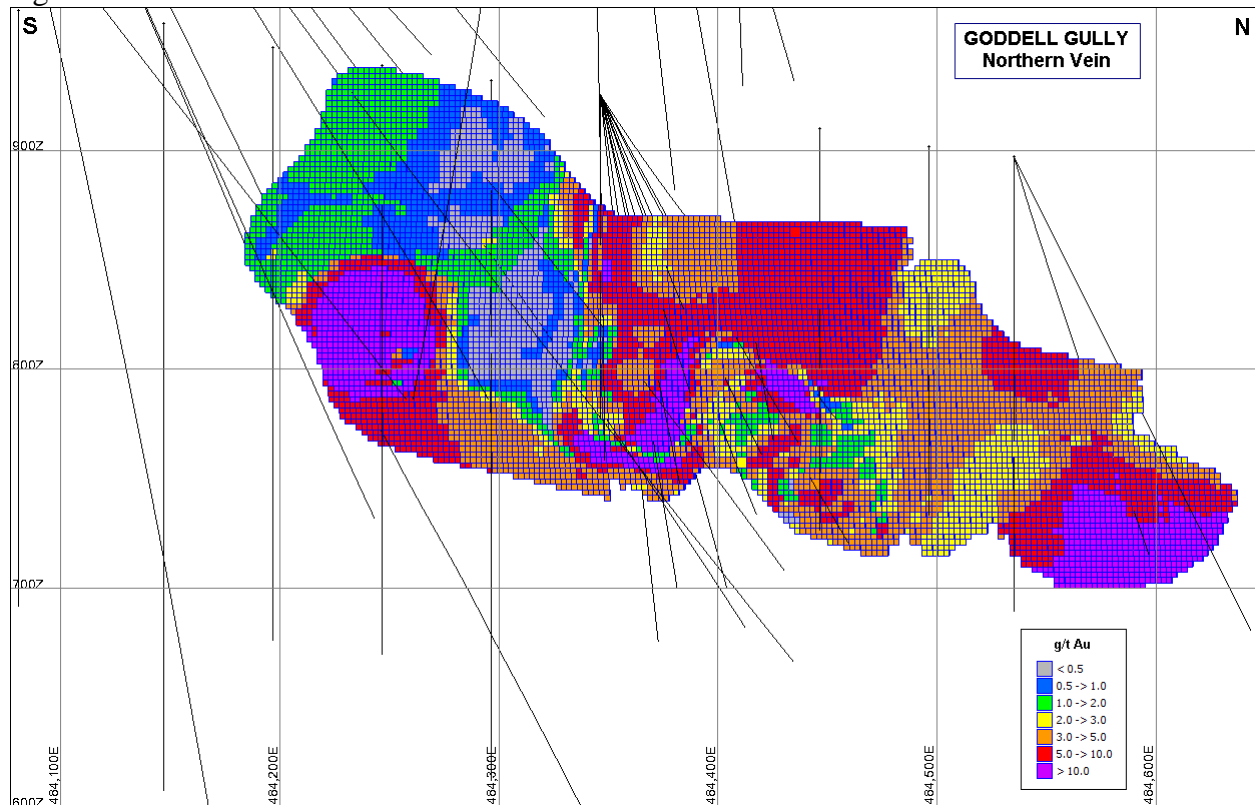


Figure 41: Block Grade Distribution - Northern Vein



## Validation

### *Visual Inspection*

Model verification was initially carried out by visual comparison of blocks and sample grades in plan and section views. The estimated block grades showed reasonable correlation with adjacent composite grades.

### *Global Bias Check*

Block grades were estimated using the inverse distance ( $ID^3$ ) and the nearest neighbour ('NN') methods. A comparison of global mean values within the vein domains shows a reasonably close relationship with samples, composites and block model values at a '0' cut-off grade (Table 56).

Table 56: Global Mean Grade Comparison

Source	Au g/t
Samples (Wt Avg)	6.35
Samples Capped	5.69
Composites	5.90
Composites Capped	5.36
ID <sup>3</sup> (Indicated Blocks)	6.42
NN (Indicated Blocks)	7.33
ID <sup>3</sup> (All Blocks)	6.02
NN (All Blocks)	6.87

**Resource Classification**

Resource classifications used in this study conform to the definition from NI43-101, as quoted in Section 14.2.1, Resource Classification.

Blocks were assigned to the ‘Indicated’ category if they were estimated in the first or second pass using composites from at least 2 drill holes or sample lines and were within 18.75 metres of the closest composite (3/4 of the maximum variogram range). All other estimated blocks were assigned to the ‘Inferred’ category. The distribution of Indicated and Inferred blocks is illustrated in Figures 42 and 43.

Figure 42: Block Classification - Southern Vein

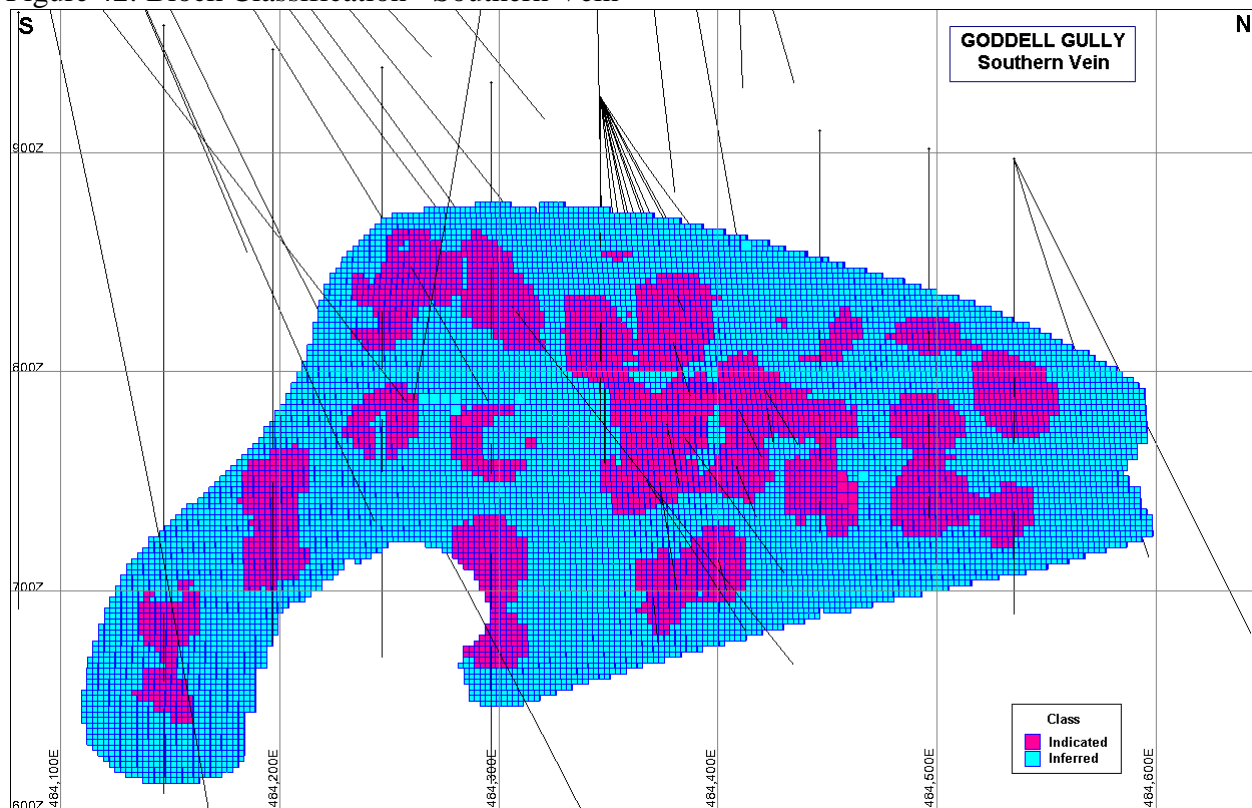
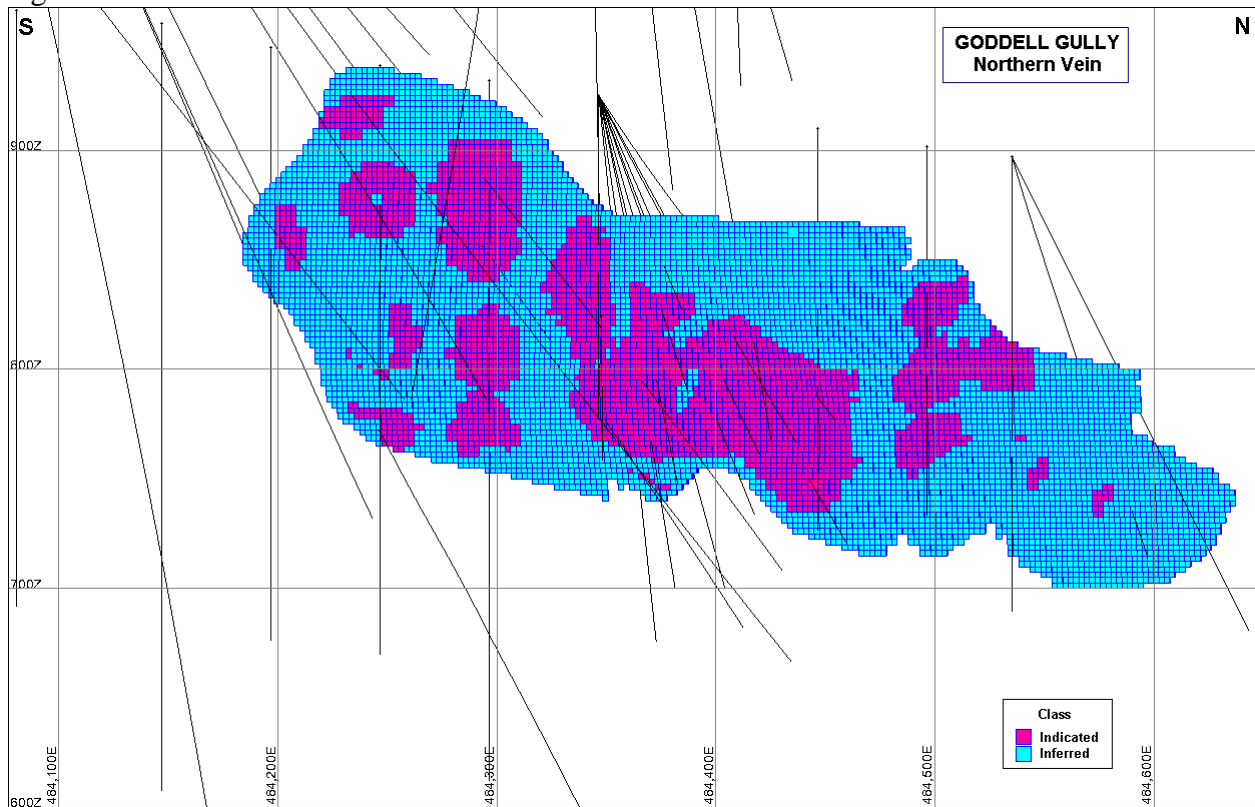


Figure 43: Block Classification - Northern Vein



### Mineral Resources

The following tables present the mineral resource estimate for the Goddell Gully deposit at a range of cut-off grades with the base case highlighted. The selected base case cut-off grade of 3.0 g/t gold is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location (US\$1,300 per ounce Au). The effective date of the estimate is July 16, 2012.

Table 57: Indicated Mineral Resource – Goddell Gully

COG g/t Au	Indicated		
	Tonnes	Au g/t	oz Au
1.0	415,200	6.92	92,337
1.5	399,800	7.13	91,703
2.0	379,200	7.40	90,218
2.5	354,800	7.75	88,448
3.0	329,700	8.13	86,210
3.5	299,900	8.62	83,126
4.0	277,000	9.02	80,355
4.5	254,500	9.44	77,274
5.0	227,200	10.01	73,105

Table 58: Inferred Mineral Resource – Goddell Gully

COG g/t Au	Inferred		
	Tonnes	Au g/t	oz Au
1.0	616,600	6.07	120,362
1.5	588,200	6.29	118,918
2.0	565,400	6.46	117,486
2.5	529,700	6.75	114,915
3.0	483,900	7.13	110,867
3.5	441,000	7.50	106,385
4.0	401,400	7.87	101,604
4.5	365,400	8.23	96,681
5.0	328,000	8.62	90,933

## **15.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

New Pacific received a five year exploration permit valid from February 23, 2012 to February 22, 2017 known as a “Mining Land Use Approval,” under the *Quartz Mining Act*, Yukon, Canada. The approval is subject to adhering to Mining Land Use Operational Guidelines, *Quartz Mining Act* Operating Conditions, as well as the determination and account of security for reclamation (New Pacific news release, February 27, 2012).

The exploration permits allows the following activities:

- up to 60,000 metres of surface and underground drilling;
- up to 9,600 m<sup>3</sup> of sampling and trenching;
- up to the 200,000 tonnes of rock excavation during the period, of which 100,000 tonnes may be mined in any single year;
- construction of 10 kilometres of new single lane surface roads and an additional nine kilometres of drill trails; and,
- up to a 50 person camp operating year round.

## **16.0 ADJACENT PROPERTIES**

On the eastern boundary of the Property are claims held by Gold World Resources as part of their Mt. Anderson Yukon gold-silver project. These claims cover a series of geochemical anomalies and several historically known gold-bearing skarns. A 436 kilogram bulk sample was collected from a trench and submitted for analysis. The average grade returned is reported as 14.3 g/t Au, 860 g/t Ag, 21.2% Pb, 8.42% Zn, 0.50% Cu and 16.4% S (Lahti, 2012).

The author has not verified this information. The style of mineralization on this property differs from the style of mineralization found at Mt. Skukum (Lake Zone), Skukum Creek and Goddell Gully.

## **17.0 OTHER RELEVANT DATA AND INFORMATION**

The author is unaware of any other relevant data and information.

## **18.0 INTERPRETATION AND CONCLUSIONS**

The 254.8 km<sup>2</sup> Skukum property, located approximately 55 kilometres south of Whitehorse, Yukon Territory on NTS map sheet 105D03, encompasses three known gold deposits including the past-producing Mt. Skukum gold mine, the Skukum Creek gold-silver deposit, and the Goddell Gully gold deposit.

The Skukum property area is situated in the Intermontane Superterrane (or Intermontane Belt) of the Canadian Cordillera, with the oldest rocks represented by Paleozoic gneiss, assigned to the Nisling Terrane, and Jurassic andesitic volcanic and siliciclastic sedimentary rocks of the Stikine Terrane and Whitehorse Trough overlap assemblage. The older rocks were intruded by late Triassic or early Jurassic K-feldspar megacrystic Bennett Granite, and then by Cretaceous intrusions of the Coast Plutonic Complex including the most abundant Whitehorse plutonic suite (116 to 119 Ma), locally represented by the Mt. McNeil granodiorite pluton and associated rocks. The final igneous episode is represented by Tertiary volcanic and subvolcanic rocks.

A considerable amount of historical exploration, including diamond drilling and underground exploration, has been undertaken on the Property. Production mining was carried out between February 1986 and August 1988 on the Main Cirque Vein at Mt Skukum.

In 2011, New Pacific undertook an exploration program consisting of digital data compilation; surface geochemical sampling, surface geological mapping, supplementary core sampling of historical drill holes, surface and underground diamond drilling, metallurgical testwork, rehabilitation of underground workings and camp upgrades. A total of 51 diamond drill holes totalling 12,487.77 metres were completed at various deposits and prospects on the Property, including Mt Skukum (Lake Zone), Skukum Creek and Goddell Gully.

As part of the preparation for a current resource estimate of the Lake Zone, Skukum Creek and Goddell Gully, drill core verification samples confirmed the presence of gold and silver mineralization with comparable grades to those reported historically for the Lake Zone, and for samples collected by New Pacific during the 2011 diamond drilling exploration. Validation and verification of the geodatabases of these deposits were also undertaken

Current resource estimates for the Mt Skukum (Lake Zone), Skukum Creek and Goddell Gully have been prepared by GeoSim using all available exploration data, up to and including the results of New Pacific's 2011 exploration program.

### **18.1.1 Mt. Skukum (Lake Zone)**

The Mt. Skukum gold-silver deposit is estimated to contain an Inferred Mineral Resources of 90,500 tonnes at 9.51 g/t Au equivalent. The selected base case cut-off grade of 3.0 g/t gold equivalent is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location. The effective date of the estimate is July 16, 2012.

### **18.1.2 Skukum Creek**

The 2012 GeoSim resource estimate for Skukum Creek, at a 3 g/t Au equivalent cut-off grade, includes Indicated Mineral Resource of 1,086,800 tonnes at 8.72 g/t Au equivalent and Inferred Mineral Resource of 586,000 tonnes at 6.83 g/t Au equivalent. The selected base case cut-off grade of 3.0 g/t gold equivalent is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location. The effective date of the estimate is July 16, 2012.

### **18.1.3 Goddell Gully**

The 2012 GeoSim resource estimate for Goddell Gully, at a 3 g/t Au cut-off grade, includes Indicated Mineral Resource of 329,700 tonnes at 8.13 g/t Au and Inferred Mineral Resource of 483,900 tonnes at 7.13 g/t Au. The selected base case cut-off grade of 3.0 g/t gold is considered to be generally consistent with the economic cut-off for other mineral deposits of similar characteristics, scale and location. The effective date of the estimate is July 16, 2012.

## 19.0 RECOMMENDATIONS

Recommendations presented below are limited to the three deposits which were the subject of the current resource estimates. The Property does host numerous other prospects and showings as discussed in Section 6.4 that do warrant additional exploration.

### 19.1 MT. SKUKUM (LAKE ZONE)

Recommendations based upon data review for the resource estimate of Lake Zone, and the resource estimate itself, include:

1. Surface diamond drilling of the high-grade, near-surface ore shoot along strike as well as infilling of gaps in the down-dip direction of the vein. For this vein system, drill sections should be spaced on the order of 10 metres in order to reliably demonstrate continuity along section. An estimated 2,500 metres of drilling in 20 holes would be required to better assess the strike and dip continuity of the Lake Zone in this area. Sampling should be completed through the expected vein zone. Further infill holes will be required to test the down-dip expression of the host structure to increase confidence in the continuity of both structure and grades at depth.
2. Further infill sampling of key drill holes of the Lake Zone. While it is apparent that the key mineralization has been identified and sampled by previous operators, there are examples of unbracketed mineralized zones that should be addressed.
3. Completion of data entry of the historical drilling (geological and geochemical).
4. If possible, gain access to the underground workings to investigate the vein and selectively chip sample for confirmation of the higher grades.

Table 59: Proposed Exploration Budget, Mt Skukum

Activity	Estimated Cost
Diamond drilling (2,500 metres)	625,000
Core Relogging/Infill Sampling	25,000
Surveying	5,000
Rock sampling (100 samples)	5,000
Contingency	40,000
<b>TOTAL</b>	<b>CDN\$ 700,000</b>

## 19.2 SKUKUM CREEK

Recommendations based upon data review for the resource estimate of Skukum Creek and the resource estimate itself include:

1. Drill holes from 2007 and 2008 (SC07-series) should be surveyed at collar, and, at minimum, an initial azimuth and dip measurement of the drill hole should be determined. The latter can be completed by inserting a down-hole survey instrument in the drill hole, provided the hole can be identified and remains open.
2. Re-survey of the workings in the Rainbow 2 and Berg Zones should be carried out to determine the source of the apparent error in underground survey point 07-57. If the reported coordinate for that station is in fact correct, the location and dimensions of the underground workings in this drift may need to be recaptured.
3. Complete the inclusion of any remaining underground chip or channel sampling into the database (e.g. in the 1225 drill drift, 1300 access drift between the Rainbow Zone and Kuhn Zone). This is a matter of completeness of the underground sampling database as results for these areas were not significant and would be unlikely to impact future resource modeling.
4. Current resource modeling of the Kuhn Zone excluded the mineralized splay near surface which was included in previous modelling. Downhole survey control of the historical drilling was limited to non-existent. Several drill holes with accurate surface and down-hole survey control should be planned to twin historical drill holes in this area which and would increase confidence in the nature and continuity of the structures and grades. Drilling would be from surface and would require a helicopter moveable drill and rehabilitation of the historical drill pads. An estimated 1,000 metres of drilling is proposed from two drill pads.
5. The Rainbow Zone remains open at depth and diamond drilling is recommended to test the down-dip potential. Coupled with this, infill drilling will be required to increase confidence of the current resource estimate and strengthen the interpretation of the mineralized zones. At least 4,000 metres of diamond drilling is recommended.

The existing underground workings are very limited as a useful base to undertake this drilling. The existing decline could be extended to the 1,150 metre level where diamond drilling stations can be established in a footwall drift. These drill stations should be at least fifty metres into the footwall rocks to ensure a higher incidence angle between the drill holes and the shear zone.

Alternatively, a new portal and ramp could be driven to the 1,100 metre elevation from the Wheaton River valley near the confluence of Skukum Creek. This would afford an excellent platform to test the lower reaches (below 1,100 metres) of the Rainbow Zone. This option also has an advantage in that it would be a necessary component of any future mining scenario. Studies have previously been carried out by TLG (e.g. Laxey Mining, 2004) with respect to this option as well. The following proposed budget covers drilling costs only.

Table 60: Proposed Exploration Budget, Skukum Creek

Activity	Estimated Cost
Kuhn Zone Surface Drilling 1,000 metres	250,000
Rainbow Zone Underground Drilling: 4,000 metres	1,000,000
Surveying	5,000
Contingency	75,000
<b>TOTAL</b>	<b>CDN \$1,330,000</b>

### 19.3 GODDELL GULLY

Recommendations based upon data review for the resource estimate of Goddell Gully and the resource estimate itself, include:

1. The remaining Goddell Gully drill core should be completely sampled through the shear zone as defined by the current resource model. Although no significant additional gold mineralization is expected, this will allow for more comprehensive modeling of the lower grade material within the Goddell shear zone.
2. Related to (1), infill core samples collected by New Pacific reported intervals that did not exactly adjoin historical samples, leaving small (30 cm or less) gaps of unsampled material. These infill sample intervals should be inspected to see whether they are actually continuous with historical samples, and if so, adjust the sample interval accordingly.
3. Drill holes GG04-3 and GG04-4 should be located and surveyed at collar, and if possible, down hole. These drill holes were excluded from the current resource database. This is a matter of completeness of the drill database as results for these drill holes were not significant and would be unlikely to impact future resource modeling.
4. The Goddell Gully deposit remains open at depth as well as along strike to the east. Further drilling is recommended to test these areas of the deposit. Furthermore, infill drilling will be required to increase confidence of the current resource estimate as well as strengthen the interpretation of the mineralized zones. However, this drilling would be contingent upon successful rehabilitation and extension of the existing Goddell decline, or possibly a new decline. Drilling from surface to the target depths requires long and tangentially oriented drill holes. New Pacific drilling during 2011 demonstrated that such surface drilling can be problematic from a technical standpoint, as only two of the seven drill holes successfully encountered the target mineralization.

If the existing decline can be rehabilitated, additional work should include surveying of all available underground drill holes at collar, as well as verifying the initial starting azimuth and dip. If the drill holes are still open at depth an attempt should be made to survey their down-hole extents.

The quantity of any new drilling would be dependant upon the extent of the available underground access. Therefore the proposed drill costs are not presented in the proposed exploration budget.

Table 61: Proposed Exploration Budget, Goddell Gully

Activity	Estimated Cost
Core Resampling (500 metres @ 1.5 metre per sample)	25,000
Surveying (surface and downhole)	2,500
<b>TOTAL</b>	CDN \$27,500

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**21.0 SIGNATURE PAGE AND CERTIFICATES**

The date of this Amended and Restated technical report entitled “Technical Report, Skukum Gold-Silver Project” is July 31, 2013 with an effective date of July 16, 2012. Signed by:

*Original signed and sealed by  
Ronald G. Simpson*

*July 31, 2013*

\_\_\_\_\_  
Ronald G. Simpson, *P. Geo.*  
GeoSim Services, Inc.

\_\_\_\_\_  
Date

## CERTIFICATE

I, Ronald G. Simpson, *P.Geo.*, of Vancouver, British Columbia, do hereby certify:

1. I am the President of GeoSim Services Inc., with a business address at 1975 Stephens St., Vancouver, British Columbia, V6K 4M7;
2. This certificate applies to the Amended and Restated technical report titled “Amended and Restated Technical Report, Skukum Gold-Silver Project, with effective date of July 16, 2012 and dated July 31, 2013 (the “Technical Report”);
3. I graduated with an Honours Degree of Bachelor of Science in Geology from the University of British Columbia in 1975;
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (License No. 19513);
5. My relevant experience includes 37 years’ experience in mining and mineral exploration and 25 years’ experience in mineral resource estimation;
6. I am responsible for the preparation of the Technical Report;
7. I am a “Qualified Person” for purposes of National Instrument 43-101 (the “Instrument”);
8. I visited the property on July 16 and 17, 2013.
9. I am independent of New Pacific Metals Corp. as defined by Section 1.5 of the Instrument;
10. I have no prior involvement with the Property that is the subject of the Technical Report;
11. I have read the Instrument and the sections of the Technical Report for which I am responsible have been prepared in compliance with the Instrument; and,
12. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible for preparing contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated at Vancouver, British Columbia, this 31st day of July, 2013

*Original signed and sealed by  
Ronald G. Simpson, P.Geo.*

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Ronald G. Simpson, *P.Geo.*  
President  
GeoSim Services, Inc.