



MINFILE Detail Report
BC Geological Survey
Ministry of Energy, Mines and Petroleum Resources

Location/Identification

MINFILE Number:	093N 009	National Mineral Inventory Number:	093N11 Ag1
Name(s):	<u>STARDUST</u> LUSTDUST, TAKLA SILVER, KAY, A.G., KENO, STARDUST (LUSTDUST)		
Status:	Developed Prospect	Mining Division:	Omineca
Mining Method	Underground	Electoral District:	Nechako Lakes
Regions:	British Columbia	Resource District:	Fort St. James Natural Resource District
BCGS Map:	093N053		
NTS Map:	093N11W	UTM Zone:	10 (NAD 83)
Latitude:	55 33 57 N	Northing:	6160406
Longitude:	125 24 52 W	Easting:	347749
Elevation:	1425 metres		
Location Accuracy:	Within 500M		
Comments:	Location is for an adit on a ridge between Silver and West Kwanika creeks, 1.5 kilometres west of the Bralorne Takla mercury mine (093N 008), about 35 kilometres east-northeast from Takla Landing (Assessment Report 7059, Figure 7).		

Mineral Occurrence

Commodities:	Copper, Silver, Gold, Zinc, Lead, Antimony		
Minerals	Significant:	Sphalerite, Stibnite, Jamesonite, Andorite, Tetrahedrite, Tennantite, Chalcopyrite, Miargyrite, Twinnite, Zinkenite, Galena, Realgar, Freibergite	
	Associated:	Quartz, Carbonate, Calcite, Dolomite, Garnet, Pyrite, Arsenopyrite, Beudantite	
	Alteration:	Limonite, Calc-Silicate, Covellite, Valentinite, Scorodite, Beudantite, Anglesite	
	Alteration Type:	Oxidation	
	Mineralization Age:	Unknown	
Deposit	Character:	Vein, Podiform, Shear	
	Classification:	Replacement, Hydrothermal, Epigenetic, Skarn	
	Type:	L04: Porphyry Cu +/- Mo +/- Au, K01: Cu skarn, J01: Polymetallic manto Ag-Pb-Zn, I05: Polymetallic veins Ag-Pb-Zn+/-Au	
	Shape:	Cylindrical	Modifier: Faulted, Sheared
	Dimension:	76x61x1 metres	
	Comments:	No. 1 zone orebody; 1.5 metres wide.	

Host Rock

Dominant Host Rock:	Metasedimentary		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Paleozoic-Mesozoic	Cache Creek Complex	-----	-----
Eocene	-----	-----	Glover Stock
Isotopic Age	Dating Method	Material Dated	
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Lithology:	Limestone, Marble, Phyllite, Argillite, Chert, Chloritic Schist, Feldspar Porphyry Dike, Greywacke, Mafic Tuff, Quartz Monzonite		
Comments:	Cache Creek Complex rocks are Carboniferous to Jurassic. Preliminary U-Pb dating of zircons yielded an Eocene age between 51-52 million years.		

Geological Setting

Tectonic Belt:	Intermontane	Physiographic Area:	Omineca Mountains
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Terrane: Cache Creek, Plutonic Rocks

Metamorphic Type: Regional

Grade: Greenschist

Inventory

Ore Zone: COPPER CREEK

Year: 2021

Category: Indicated

Report On: Y

Quantity: 1,963,000 tonnes

NI 43-101: Y

Commodity	Grade
Silver	27.1 grams per tonne
Gold	1.44 grams per tonne
Copper	1.31 per cent

Comments: Using a 65 dollar (U.S.) per tonne cut-off grade.

Reference: Geosim Services Inc. (2021-07-02): Stardust Project, Updated Mineral Resource Estimate, NI 43-101 Technical Report, Omineca Mining Division, British Columbia

Ore Zone: COPPER CREEK

Year: 2021

Category: Inferred

Report On: Y

Quantity: 5,843,000 tonnes

NI 43-101: Y

Commodity	Grade
Silver	20.0 grams per tonne
Gold	1.17 grams per tonne
Copper	0.86 per cent

Comments: Using a 65 dollar (U.S.) per tonne cut-off grade.

Reference: Geosim Services Inc. (2021-07-02): Stardust Project, Updated Mineral Resource Estimate, NI 43-101 Technical Report, Omineca Mining Division, British Columbia

Ore Zone: DRILLHOLE

Year: 2018

Category: Assay/analysis

Report On: N

NI 43-101: N

Sample Type: Drill Core

Commodity	Grade
Silver	29.1 grams per tonne
Gold	0.93 grams per tonne
Copper	1.72 per cent

Comments: Across 5 metres from 232 metres downhole.

Reference: Northern Miner - January 7-20, 2019.

Ore Zone: COPPER CREEK

Year: 2018

Category: Inferred

Report On: Y

Quantity: 1,985,000 tonnes

NI 43-101: Y

Commodity	Grade
Silver	30.5 grams per tonne
Gold	1.72 grams per tonne
Copper	1.24 per cent
Zinc	0.14 per cent

Comments: At a 1.5 per cent copper equivalent cut-off.

Reference: Simpson, R.G. (2018-01-08): NI 43-101 Technical Report - Stardust Project

Ore Zone: COPPER CREEK **Year:** 2018
Category: Indicated **Report On:** Y
Quantity: 985,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	36.8 grams per tonne
Gold	1.59 grams per tonne
Copper	1.34 per cent
Zinc	0.62 per cent

Comments: At a 1.5 per cent copper equivalent cut-off.

Reference: Simpson, R.G. (2018-01-08): NI 43-101 Technical Report - Stardust Project

Ore Zone: COPPER CREEK **Year:** 2010
Category: Indicated **Report On:** Y
Quantity: 910,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	39.3 grams per tonne
Gold	1.678 grams per tonne
Copper	1.56 per cent

Comments: Calculated using a cut-off grade of 1.5 per cent copper.

Reference: Stockwatch News Release June 23, 2010.

Ore Zone: COPPER CREEK **Year:** 2010
Category: Inferred **Report On:** Y
Quantity: 1,965,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	32.1 grams per tonne
Gold	1.716 grams per tonne
Copper	1.34 per cent

Comments: Calculated using a cut-off grade of 1.5 per cent copper.

Reference: Stockwatch News Release June 23, 2010.

Ore Zone: NO. 1 **Year:** 1968
Category: Indicated **Report On:** N
Quantity: 19,684 tonnes **NI 43-101:** N

Commodity	Grade
Gold	4.4500 grams per tonne

Comments: Indicated reserves for three combined ore shoots.

Reference: Property File - Campbell, 1968.

Ore Zone: NO. 3 **Year:** 1968
Category: Indicated **Report On:** N
Quantity: 233,124 tonnes **NI 43-101:** N

Commodity	Grade
Silver	63.1000 grams per tonne
Gold	2.4000 grams per tonne
Zinc	1.5000 per cent

Comments: Before dilution.

Reference: Northern Miner - February 12, 1970.

Ore Zone: NO. 4

Year: 1968

Category: Indicated

Report On: N

Quantity: 74,110 tonnes

NI 43-101: N

Commodity	Grade
Silver	27.7000 grams per tonne
Gold	3.2000 grams per tonne
Zinc	6.6000 per cent

Comments:

Reference: Northern Miner - February 12, 1970.

Capsule Geology

The Lustdust or Stardust occurrence is situated on a ridge west of the divide between Silver and West Kwanika creeks, approximately 35 kilometres east-northeast of Takla Landing. The Stardust (formerly Lustdust) property contains the Canyon Creek deposit which consists of copper, gold, and silver mineralization in a limestone, dolomite and dolomitized limestone skarn.

The area is underlain by the Carboniferous-Jurassic Cache Creek Complex comprised of an interbedded sequence of highly deformed chert, phyllite, argillite, local greywacke beds and discontinuous bodies of limestone and metavolcanic rock. These rocks have been intruded and altered by the Eocene Glover monzonite stock and a series of related feldspar megacrystic dikes and sills. To the east, the Pinchi fault zone separates Cache Creek rocks from the Late Triassic to Early Cretaceous Hogem Intrusive Complex.

In the immediate area of the developed prospect, Cache Creek Complex rocks consisting of massive limestone (marble) and interbedded argillite, phyllite, chert and several chloritic schist horizons predominate. The rocks are isoclinally folded, sheared and faulted, and are intruded by feldspar porphyry dikes striking subparallel to bedding. Irregular monzonitic plugs also occur locally. Foliation (and bedding, where observed) generally strikes north-northwest and dips moderately to steeply west. The foliation is interpreted to be an axial plane feature developed in relation to isoclinal folding overturned to the east. The dominant structural features are north-northwest striking faults and shear zones that are subparallel to foliation. Most of the known mineralization is on or closely related to fault and shear zones and in structures that branch off or trend parallel to the main fractures/shears. Feldspar porphyry dikes commonly occupy the faults and shears and are locally mineralized. A number of cross faults are evident and predominantly strike 050 to 060 degrees.

Several styles of mineralization that are zonally related to each other are present on the property. From most proximal to most distal from the Glover stock, they are:

1. Molybdenum-copper-gold porphyry consisting of quartz-K-spar, pyrite, molybdenite and/or chalcopyrite veinlets associated with potassic, sericitic, and propylitic alteration in intrusive rocks (Glover stock).
2. Multi-stage garnet-diopside skarn cut by copper-gold-silver-zinc-bearing structures with surrounding dispersed copper-gold mineralization (Canyon Creek skarn).
3. Structurally and stratigraphically controlled massive sulphide zinc, gold, lead, silver, copper replacement bodies (carbonate replacement deposits (CRD) (4b, 3, and 2 zones) and their oxidized equivalents.
4. Sulphosalt-rich veins (Zone 1) which follow faults and are strongly associated with fine grained, linear, felsic dikes containing high values of gold, silver, lead, zinc, antimony and manganese.
5. Mercury mineralization in limestone proximal to the Pinchi fault.
6. Sediment-hosted gold mineralization in limestone.

The porphyry-skarn replacement system is at least 3000 metres long and 1000 metres wide. The property is systematically zoned from a molybdenum-copper-gold porphyry system to copper skarn to zinc-replacement mantos to silver-lead-zinc replacement veins developed along an echelon mineralized zones extending away from the porphyry. The entire system, outboard of the porphyry, is auriferous (0.5 to greater than 1 gram per tonne gold values are common) and associated with a minimum of three mineralized skarn horizons.

Mineralization also occurs in quartz-carbonate veins in and along steeply dipping fault/shear zones which strike parallel, or at a very low angle to foliation (No. 1 and 2 zones). Sulphide mineralization also occurs in gossan zones adjacent to faults (No. 3 zone) and as massive lenses within an interbedded sequence of limestone and metasediments (No. 4 zone).

The No. 1 zone (Takla Silver Veins) located at the southern end of the property, was the site of the 1944 discovery of mineralization on the property. Here, the limestone and graphitic phyllites are cut by numerous monzonite and felsic dikes. Sulphosalt veins composed of nearly massive pyrite, sphalerite, galena, jamesonite, stibnite, arsenopyrite and freibergite with lesser open space-filling quartz and calcite occur both within the sedimentary rocks and along dike contacts. Three separate veins have been recognized, all of which appear to dip steeply west. Felsic dikes are closely related to all three veins, but the veins do extend beyond the dikes in many places. Argentiferous manganese oxide mineralization occurs throughout the No. 1 zone. The principal vein was explored by underground drifting and drilling in the 1945 and 1964-65 seasons. The three ore shoots have a minimum of two metre true widths. Surface sampling, drilling and underground development suggest that the dimensions of the No. 1 zone orebody are 76 by 61 by 1.5 metres. Indicated reserves for three combined ore shoots (Portal, Middle and North) are 19,684 tonnes grading 802.15 grams per tonne silver, 2 per cent lead and 4.45 grams per tonne gold (Property File - Campbell, 1968).

Zinc-gold-silver-lead carbonate replacement deposits (CRD) include zones 2, 3, 3 Extension, 4b and, tentatively, the East zone. Mineralization in these zones consists of roughly stratigraphically concordant massive sulphide bodies ("mantos") and their oxidized equivalents. The mantos are best developed along permeable and karsted(?) carbonate beds in close proximity to chlorite altered mafic tuff beds. The mantos occur through the No. 2 to No. 4b zones and appear to merge into the Canyon Creek skarn zone.

The No. 2 zone is a minor oxidized replacement zone similar to the No. 3 zone. The No. 2 zone is located very close to the crest of a regional antiform which lies just north of the No. 2 zone trenches. Surface sampling indicates an average of 2.3 grams per tonne gold, 109 grams per tonne silver, 2.16 per cent zinc and 2.09 per cent lead across an average of 5.3 metres true width (Assessment Report 29090). This zone has a strike length, based on surface oxidation, of approximately 200 metres.

Two extensive, complex fault/shear zones (No. 3 and 4 zones) lie 800 metres north-northwest of the No. 1 zone. The No. 3 zone contains the largest identified CRD resource identified to date at Lustdust. Both zones are expressed on the surface as dark maroon and orange earthy gossan (limonite). The No. 3 zone is 670 metres north-northwest of the No. 1 zone and is a lens-shaped area of gossan, 122 by 30 metres, which lies along the footwall side of a steeply west-dipping fault. Drilling has indicated that the primary sulphides are pyrite and arsenopyrite with minor sphalerite and galena. The zone appears to have developed on a limestone-chloritic schist contact. Drilling has indicated that the No. 3 zone extends at least 48 metres in depth and dips 60 degrees west. Sludge samples from drilling assayed 3.4 to 6.8 grams per tonne gold, 34.28 to 171.4 grams per tonne silver and up to 4 per cent zinc (Property File - Campbell, 1968, page 14). Drilling and trenching resulted in an inferred reserve of about 907,000 tonnes, mostly as oxide material. No overall grade was reported. It is thoroughly oxidized to depths of greater than 100 metres from the surface. The thickest portions of this manto zone occur in carbonates surrounding a mafic tuff bed along the crest of a regional-scale antiform. This zone, based on the trace of oxidation exposed in surface trenches, has a strike length exceeding 600 metres.

The No. 4B zone is 548 metres northwest of the No. 3 zone and consists of a wide zone of branching lenses of strongly oxidized sulphides. The No. 4B zone CRD manto is developed along the "4b antiform", a tight fold, with 60-degree west dips and a 10–15-degree plunge to the northwest. The trace of this fold lies some 300 metres to the west of the No. 3 zone antiform. The two zones are linked by a north-northwest plunging synform. Mineralization occurs as a series of aligned, discontinuous(?) massive sulphide pods (with sparse calc-silicate minerals) following the crest of the fold and also along the contact between limestone on the east and hornfelsed graphitic phyllites to the west. A mafic tuff horizon within the limestone appears to be a major conduit for fluid movement, as is seen in the No. 3 zone. The No. 4b zone is essentially unoxidized: sphalerite, arsenopyrite, coarse grained well-zoned pyrrhotite and pyrite are prominently displayed in surface trenches along the zone. Chalcopyrite has also been reported. Drilling indicates that the mineralization extends to a depth of at least 160 metres. The zone strikes 340 degrees and dips 75 degrees west and is 40 to 110 metres wide. Drill core samples across 1.51 metres assayed 0.12 per cent copper, 0.54 per cent lead, 5.62 per cent zinc, 9.94 grams per tonne silver and 0.2 gram per tonne gold (Assessment Report 7759).

The East zone was discovered in 2005 by drilling a coincident gold-arsenic soil geochemistry anomaly approximately 300 metres east of the Canyon Creek skarn. This gold-silver-copper-zinc massive sulphide zone is completely "blind" and has been intersected by five drill-holes over a strike length of 150 metres. It is open along strike to the north and in both dip directions. The massive sulphide mineralization consists of pyrite, sphalerite, arsenopyrite, and chalcopyrite.

The Canyon Creek skarn (CCS) or the No. 4 zone, is the skarn-replacement zone lying north of the No. 4b zone. At shallow levels, the skarn is composed of early coarse grained green-tan grossular-andradite garnet with minor fine grained greenish yellow diopside and rare vesuvianite or pyroxene. Specularite is locally very common as euhedral plates. At depth, a brown garnet stage crosscuts and overprints the green stage, and at even greater depths, a red-brown garnet stage appears. These minerals replace massive limestone and locally replace intrusive rocks (endoskarn). Drilling in 2001 showed that endoskarn increases with depth. Biotite-hornfelsed siliceous phyllite is also overprinted by skarn, especially on the north side of Canyon Creek. Mafic tuff units are altered to distinctive green, banded chlorite-garnet units with 5-15 per cent disseminated pyrite and trace chalcopyrite and sphalerite. Retrograde hydration of the garnet-diopside skarn also increases with depth. Mineralization in the skarn occurs as silver and gold-bearing chalcopyrite and bornite with abundant pyrite, variable sphalerite, and rare arsenopyrite and stibnite emplaced along and surrounding

structures that cut the skarn (Megaw, 1999). Much of the sulphide replaces skarn silicates. The skarn silicates tend to end abruptly and massive sphalerite-chalcopyrite-pyrite-pyrrhotite mineralization is locally well-developed along the contact of skarn with recrystallized limestone (marble front). Various stages of sulphide mineralization are discussed by Hansen (2007) (Assessment Report 29090).

Surface and underground samples from the property were sent for metallurgical testing in 1969. The underground sample (unaltered) consisted of massive aggregates and disseminations of sulphides and lead antimonides in a largely siliceous and carbonaceous rock. The surface trench sample was highly oxidized and contained more lead antimonides and secondary minerals. Microscopic examination of the underground sample indicated the major minerals present are arsenopyrite and pyrite, with lesser amounts of sphalerite and jamesonite, and minor amounts of andorite, argentiferous tetrahedrite, miargyrite, realgar, stibnite and chalcopyrite. The gangue minerals consist of quartz and calcite with minor amounts of dolomite (Property File - CANMET Investigation Report 70-64, pages 2-3). The trench sample contains principally pyrite and arsenopyrite with lesser amounts of jamesonite, sphalerite, twinnite and zinkenite. Argentiferous tetrahedrite, tennantite, andorite and chalcopyrite occurs in minor amounts. Secondary minerals include anglesite, covellite, valentinite, scorodite and beudantite(?). Other gangue minerals include quartz, traces of dolomite and an amorphous phase.

Head analyses of the underground sample yielded 623.89 grams per tonne silver, 2.35 per cent lead, 2.38 per cent zinc, 1.95 per cent antimony and 5.82 grams per tonne gold. Head analyses of the surface trench sample yielded 2207.63 grams per tonne silver, 10.37 per cent lead, 0.76 per cent zinc, 7.65 per cent antimony and 6.17 grams per tonne gold (Property File - CANMET Investigation Report 70-64).

The No. 1 zone has indicated reserves for three combined ore shoots of 19,684 tonnes grading 4.45 grams per tonne gold (Property File - Campbell, 1968). The No. 3 zone is reported to contain an indicated reserve of 233,124 tonnes, before dilution, grading 2.40 grams per tonne gold, 63.1 grams per tonne silver, and 1.5 per cent zinc (Northern Miner - February 12, 1970). The No. 4 zone contains an indicated 74,110 tonnes grading 3.2 grams per tonne gold, 27.7 grams per tonne silver and 6.6 per cent zinc (Northern Miner - February 12, 1970).

In 1944, the original showings were staked as the Kay group by R. McKee and optioned the following year to Leta Explorations Limited. Surface trenching was carried out along the shear zone and an adit at the 1310-metre level was driven 106 metres; the option was subsequently dropped.

In 1953, the Lustdust group of 15 claims, a re-staking of the Kay group, was optioned by Bralorne Mines, Limited. Exploration work on the showings included 5224 metres of trenching and 1428.8 metres of diamond drilling; work ceased in September 1954. The company name was changed in 1958 to Bralorne Pioneer Mines Limited. Further exploration of the Lustdust group was done in 1960 and included bulldozer trenching and drilling in short test holes. This work was carried out as a joint project by Bralorne Pioneer Mines, Noranda Exploration Company, Limited, and Canex Aerial Exploration Ltd.

The option held by Bralorne was transferred to Takla Silver Mines, Limited, which was organized in September 1964 to explore and develop the property. A new adit, bypassing the old one, was begun in 1964 and advanced to a total length of 228 metres in 1965. Diamond drilling during 1965-66 totalled 259 metres underground and more than 762 metres on surface. In July 1968, an agreement was reached with Anchor Mines Ltd. by which a new company, Anchor-Takla Mines Ltd., was incorporated for the purpose of performing joint venture work on the property. Additional ground was acquired in the A.G. 1-6, Ag 1-4, and Keno 1-8 claims. Diamond drilling during the fall of 1968 totalled 573 metres in 17 holes underground, and 1337 metres in 13 holes on surface. The underground work was confined to the No. 1 zone. The company (Anchor-Takla) was dissolved in 1977.

In 1978-79, Granby Mining Corporation held the property and adjacent claims. Work on the adjacent claims in search of repetitions of the mineralized zones included geophysical and geochemical surveys and 615 metres of diamond drilling in three holes. Pioneer Metals Corporation acquired 100 per cent interest in the property early in 1985 and followed with some geological work in 1986.

In 1991, Alpha Gold Corp. drilled 906.6 metres in 10 holes on No. 3 zone. They followed in 1992 with 30 diamond-drill holes totalling 1520 metres on No. 4b zone. In 1993, Alpha Gold completed a further 24 diamond-drill holes on No. 4b zone.

In 1997, Teck Exploration Ltd., under option from Alpha Gold Corp., drilled 16 holes totalling 3063 metres. Drilling targeted the manto and skarn styles of mineralization that were traced by trenching in 1996. Alpha Gold Corp. completed 1103 metres in a 14-hole diamond drilling program in 1998 that targeted Zones 1, 2 and 3. In 1999, Alpha Gold completed an 18-hole, 3045 metre drilling program that accomplished two objectives. It extended the strike length of the skarn zone 1000 metres further to the north (e.g., hole LD99-06 intersected 5.2 metres grading 8.3 per cent copper) and provided very encouraging information on a previously untested 400-metre gap between the most southerly skarn drillholes and most northerly exposures of manto mineralization. In 2000, Alpha Gold drilled 4680 metres of diamond drilling in 29 holes. Most of the drill holes targeted prospective skarn zones, although the company did test areas further west for potential porphyry mineralization. In 2001, Alpha drilled 2664 holes on the CCS and Mo zones.

Alpha Gold Corp. drilled 19 NQ bore holes totalling 7790 metres between July 8 and September 6, 2002 on the CCS. This work determined that gold-copper mineralization is associated with skarn developed in calcareous mafic tuffaceous rocks and limestone proximal to the Eocene Glover stock, and to high-sulphide replacement bodies forming at, or near, a limestone-siliceous phyllite contact. The skarn has a strike length exceeding 500 metres and has been drill tested to depths exceeding 400 metres subsurface. It varies in width from 3 metres to greater than 110 metres. Gold-copper

mineralized zones occur both along the limbs, and in the core, of a north-northwest plunging synform-antiform couple. This structure has been drill tested over a strike length exceeding 300 metres (Press Release - Alpha Gold Corp., September 6, 2002). Significant drill results from the first two drillholes of 2002 are reported. Drillhole DDH 2-01 intersected a 97-metre-wide andradite-chlorite skarn body containing several mineralized zones. The highest-grade mineralization is associated with a chalcopyrite-magnetite-chlorite retrograde skarn. Over a drill indicated width of 18.75 metres (531.25 metres to 550.0 metres), 0.95 gram per tonne gold, 17.1 grams per tonne silver and 1.62 per cent copper was cored. Drillhole DDH 2-02 intersected a 114-metre-wide skarn body containing a 1-metre (drill indicated width, 510.5 to 511.5 metres) massive sulphide replacement zone developed at the contact between a retrograde skarn zone and limestone and assayed 61.3 grams per tonne gold, 181 grams per tonne silver and 0.87 per cent copper (Press Release - Alpha Gold Corp., September 6, 2002). The ninth drillhole in the 2002 exploration program intersected 9.7 metres grading 36.7 grams per tonne gold, 182.64 grams per tonne silver and 2.89 per cent copper. The 2002 exploration program demonstrated that significant copper-gold mineralization zones occur within skarn assemblages and that grade increases with depth. Exceptional precious metal values are associated with massive sulphide replacement bodies near the footwall of the skarn front (Press Release - Alpha Gold Corp., October 22, 2002).

In 2003, Alpha Gold drilled 42 NQ holes totalling 7908 metres. The Canyon Creek zone was the focus of this recent drilling by Alpha. Hole LD03-35 intersected 3.7 metres averaging 3.6 grams per tonne gold, 64 grams per tonne silver and 5.2 per cent copper (Exploration and Mining in British Columbia 2003, page 23).

In 2004, Alpha Gold drilled 21 holes totaling 6010 metres. Most of the drilling focused on the Canyon Creek and Canyon Creek Extension polymetallic skarn zones. The Canyon Creek skarn zone was extended approximately 400 metres to the north. A 450-metre-long, gold-arsenic soil geochemistry anomaly was identified 300 metres east of and parallel to the Canyon Creek skarn zone. The No. 3 oxide zone was extended 50 metres north of drillhole LD03-27.

In 2005, Alpha Gold drilled 5153 metres in 16 diamond-drill holes. Drilling a coincident gold-arsenic soil geochemistry anomaly 300 metres east of the Canyon Creek skarn zone resulted in the discovery of the East zone. The anomaly was tested with nine holes over a length of 150 metres and remains open to the north. The preliminary interpretation is that the zone is a manto similar to the No. 3 and No. 4b zones, but it could also represent the thin end of skarn similar to the CCS zone. Drillhole LD05-02 yielded 1.705 grams per tonne gold, 24.9 grams per tonne silver and 10.35 per cent zinc over 1.1 metres from 93.7 to 94.8 metres (Press Release - Alpha Gold Corp., October 13, 2005). In 2005, Alpha Gold also conducted a broad, grid-based soil sampling and bedrock mapping program that covered not only the Dream Creek area north of the Canyon Creek skarn zone but also part of the Pinchi fault system at the former Bralorne Takla mercury mine.

In 2005, a resource estimate was prepared in conformance with the requirements set out in the standards defined by National Instrument (NI) 43-101. The resource estimate is based upon drill core results from 40,690 metres of drilling from 225 drillholes obtained by Alpha Gold during the period 1991-93 and 1998-2004, and results obtained from 3063 metres of drilling by Teck Exploration in 1997. Based on this new estimate, the mineralized zones contain an inferred resource of 2.45 million tonnes at a grade of 1.82 grams per tonne gold, 59 grams per tonne silver, 0.56 per cent copper, 0.10 per cent lead and 1.01 per cent zinc at a cut-off of 3 grams per tonne gold equivalent (Press Release - Alpha Gold Corp., April 11, 2005). The mineral resource estimate is a summation of five geologically distinct mineralized zones on the property. These include No. 1 zone, No. 3 zone, No. 4b zone, Canyon Creek skarn zone, and Canyon Creek Extension zone. The specific breakdown of inferred mineral resources above varying cut-off grades is available in the given reference.

In 2006, diamond drilling extended the sinuous geometry of the Canyon Creek copper skarn system both downdip and to the south. Alpha Gold drilled 6855 metres in 31 NQ diamond-drill holes and 3054 metres in 24 rotary holes. One highlight of the program was a 13.8-metre intersection in hole LD06-18 that graded 1.98 grams per tonne gold, 46.9 grams per tonne silver and 2.17 per cent copper (Exploration in British Columbia, page 55). Trenching of a gold soil anomaly southeast of the Canyon Creek zone discovered the GD zone, a hematite-rich band with remnant sulphides that is similar in character to manto mineralization identified elsewhere on the property. A 10.3-metre chip sample across the zone graded 2.5 grams per tonne gold, 26.4 grams per tonne silver and 2.11 per cent zinc. The company completed the reverse circulation drilling program in an area surrounding the historic Bralorne-Takla mercury mine (093N 008) to evaluate gold soil anomalies outlined in 2005.

In 2007, Alpha Gold completed about 50-line kilometres of soil geochemistry and induced polarization (IP), mapping, and 11 boreholes totalling about 2757 metres were drilled. A NI 43-101 resource estimate is expected early in 2008.

In 2008, Alpha Gold Corp completed about 2400 metres of drilling on untested targets within its Lustdust property, about 5 kilometres north of Serengeti's Kwanika deposit (093N 073). The program was aimed at testing for continuity of gold-copper mineralization from Kwanika. Alpha Gold is still awaiting a NI 43-101 report on the Canyon Creek skarn and Canyon Creek skarn extension zones, which were explored in 2006 and 2007.

During 2009 through 2012, Alpha Gold Corporation conducted drilling (31 holes totalling 10,353.6 metres), geophysical surveying (330 kilometres of magnetics and VLF-EM), and soil (297) and rock (28) sampling on its Lustdust property. In June 2010, Alpha Gold released a NI 43-101 compliant resource estimate on the Copper Creek skarn zone. Reported were 910,000 tonnes indicated resources grading 1.56 per cent copper, 1.678 grams per tonne gold, and 39.3 grams per tonne silver, and 1,965,000 tonnes inferred resources grading 1.34 per cent copper, 1.716 grams per tonne gold, and 32.1 grams per tonne silver (Stockwatch News Release - June 23, 2010).

A NI 43-101 compliant report, completed in 2010, stated an Indicated resource of 1.253 million tonnes grading 1.33 per cent copper, 1.426 grams per

tonne gold and 33.0 grams per tonne silver. An additional 3.124 million tonnes grading 1.12 per cent copper, 1.366 grams per tonne gold, and 25.4 grams per tonne silver was classified as Inferred.

In 2016, Lorraine Copper Corp. acquired the claims from ALQ Gold Corp. In June 2017, Lorraine Copper optioned the property to 1124245 B.C. Ltd.; with the numbered company to purchase 100 per cent of its interest by the end of 2017 for cash and \$500,000 property expenditure, and to continue \$6 million in expenditures by the end of 2021. In November 2017, the property was acquired by Sun Metals Corp. In 2017, Lorraine Copper collected 744 soil samples to extend existing grids, ran 28 line kilometres of IP and magnetic surveys, reinterpreted a 2011 ZTEM survey, and completed a three-borehole drilling program to complete existing holes and to verify the continuity of three known mineralized zones (Information Circular 2018-1, page 52).

In January 2018, the Canyon Creek deposit was reported to contain an indicated mineral resource of 985,000 tonnes grading 1.34 per cent copper, 0.62 per cent zinc, 36.8 grams per tonne silver and 1.59 grams per tonne gold with an additional inferred resource of 1,985,000 tonnes grading 1.24 per cent copper, 0.14 per cent zinc, 30.5 grams per tonne silver and 1.72 grams per tonne gold at a 1.5 per cent copper equivalent cut-off (Simpson, R.G. (2018-01-08): NI 43-101 Technical Report - Stardust Project). The mineralized zone, as defined by diamond drilling, extends for approximately 600 metres along strike and down dip.

In 2018, the property was under option by Sun Metals from Lorraine Copper Corp. Sun Metals announced the final results from its 15,000-metre, 2018 drill program. Notable intercepts from the drill program include: 1.72 per cent copper, 0.93 gram per tonne gold and 29.1 grams per tonne silver over 5 metres from 232 metres downhole, 1 metre grading 0.59 gram per tonne gold, 382.8 grams per tonne silver and 21.22 per cent zinc from 63 metres downhole, and 4.6 metres grading 4.17 grams per tonne gold, 34.5 grams per tonne silver and 1.6 per cent zinc from 56 metres downhole (Northern Miner - January 7-20, 2019).

In 2019 and 2020, Sun Metals Corp. completed 44 diamond drill holes, totalling 25 999.6 metres, on the area as the Stardust project. Drilling highlights included 1.22 and 3.13 per cent copper, 12.28 and 4.85 grams per tonne gold, 21.8 and 93.5 grams per tonne silver with 0.41 and 0.28 per cent zinc over 142.35 and 24.85 metres in holes 19-SD-428D and -436D, respectively (Geosim Services Inc. [2021-07-02]: Stardust Project, Updated Mineral Resource Estimate, NI 43-101 Technical Report, Omineca Mining Division, British Columbia).

In March 2021, Sun Metals Corp. and Serengeti Resources Inc. completed a merger and name change, becoming Northwest Copper Corp. In May of the same year, an updated mineral resource for the Canyon Creek Skarn zone was reported at 1 963 000 tonnes indicated grading 1.31 per cent copper, 27.1 grams per tonne silver and 1.44 grams per tonne gold with an additional 5 843 000 tonnes inferred grading 0.86 per cent copper, 20.0 grams per tonne silver and 1.17 grams per tonne gold using a 65 US dollar per tonne cut-off grade (Geosim Services Inc. [2021-07-02]: Stardust Project, Updated Mineral Resource Estimate, NI 43-101 Technical Report, Omineca Mining Division, British Columbia).

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Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	2022/04/04	Revised By:	Karl A. Flower (KAF)	Field Check:	N