EXHIBIT 99

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SUMMARY REPORT

describing the

EXPLORATION HISTORY, GEOLOGY AND

GOLD-SILVER MINERALIZATION

of the

MOUNT HINTON PROPERTY

located at

Latitude 62° 52'N and Longitude 135° 07'W On National Topographic System Map 105M/14

in

Mayo Mining District

Central Yukon Territory

Prepared for

YUKON GOLD CORPORATION INC.

by

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SUMMARY

The following report has been prepared at the request of the Board of Directors of Yukon Gold Corporation Inc regarding property held by its wholly owned subsidiary Yukon Gold Corp. (Yukon Gold). It is a summary of geological, geochemical, diamond drilling, excavator trenching and underground exploration data generated on an episodic basis for the Mount Hinton property since 1965. The area received no exploration between 1984 and 2002 when Yukon Gold acquired an option on a portion of the present claim group from the Hinton Syndicate. Yukon Gold must make scheduled cash payments and perform certain work commitments to earn a 75% interest subject to a 2% Net Smelter Return royalty in favor of the Hinton Syndicate. Shortly after the original agreement was entered into, claims covering the core area of the mineralization were allowed to lapse and they were immediately restaked by Yukon Gold. Yukon Gold carried out excavator trenching, road building and geological and geochemical surveys in 2002 and 2003 to fulfill the respective annual work commitments.

The Mount Hinton property is adjacent to the Keno Hill mining camp in central Yukon Territory. It consists of 186 claims staked under the Yukon Quartz Mining Act, covering approximately 9300 acres (3700 hectares). Access and infrastructure in the region are relatively good with connections to the Yukon Highway system and power grid available 6 miles (10 km) to the northwest at Keno City.

Bedrock geology of the Mount Hinton area is dominated by thin bedded to massive quartzite and phyllite of the Mississippian Keno Hill Quartzite or "Central Quartzite" Formation. Triassic metadiorite and metagabbro or "greenstone" sills intrude the layered strata. The west side of the property is bounded by the Robert Service Thrust Fault, which emplaces metamorphosed clastic sedimentary rocks of the Upper Proterozoic Hyland Group (locally called "Upper Schist") over the Keno Hill Quartzite. Both the Robert Service Thrust Fault and enclosing rocks are intruded by the Lower Cretaceous Roop Lakes Pluton, a Tombstone Plutonic Suite granodiorite stock that lies about 6 miles (10 km) east of the main area of vein mineralization on the Mount Hinton property. A single felsite dyke is the only igneous body on the property that is possibly related to the Roop Lakes Pluton.

The Mount Hinton property and the nearby Keno Hill mining camp are in the central part of the 350 mile (550 km) long Tombstone Gold Belt, a region of gold and silver mineralization related to Lower Cretaceous Tombstone Suite granitic plutonism that stretches across Yukon Territory. Between 1913 and 1989, at least 6 000 tons (6 600 tonnes) of silver, 32 000 tons (35 000 tonnes) of lead and 19 000 tons (21 000 tonnes) of zinc were extracted from extensive and numerous vein faults in the Keno Hill area. All creeks draining the Mount Hinton property contain anomalous placer gold concentrations and two of them have supported long term placer gold mining operations.

The Mount Hinton property has received relatively little physical work, mostly in the form of hand trenching, to delineate the numerous historical prospecting discoveries of gold-silver mineralization. Much of the exploration was by United Keno Hill Mines Ltd. in the 1960's and it was carried out under difficult conditions, requiring numerous fly camp moves in order to

maintain productivity in the rugged terrain. Road access was improved to the property in 2003, permitting the more efficient use of labour and machinery.

The primary exploration target on the Mount Hinton property is a 1000 foot (300 m) wide, 2 mile (3.4 km) long trend of more than 50 relatively well mineralized gold and silver bearing quartz vein bedrock or float occurrences that are hosted by dilatent fault zones. As many as 50 mineralized veins or discrete mineralized vein float trains have been discovered to date. Follow up hand trenching in the 1960's was directed toward uncovering the source of better mineralized quartz vein float but this was only partially successful because of coarse unstable talus, permafrost and steep terrain. Despite these obstacles, four of the prospecting targets were exposed well enough over limited strike lengths to permit detailed sampling.

- The **19 Vein** was exposed for 80 feet (24 m) and channel samples at 2 foot (61 cm) intervals returned an average value of 0.19 oz/ton (6.51 g/t) Au and 2.0 oz/ton (68.57 g/t) Ag over an average width of about 5.6 feet (170 cm). The host structure has been traced through mapping, hand trenching and air photo analysis for a distance of 1200 feet (370 m).
- The **21 Vein** was exposed for a total length of 72 feet (22 m) and channel sampled at 2 foot (61 cm) intervals. Weighted average grade was 1.24 oz/ton (42.5 g/t) Au and 19.3 oz/ton (319 g/t) Ag over an average width of 3.4 feet (105 cm).
- The **24 Vein** was channel sampled at 2 foot (61 cm) intervals, yielding an average assay of 0.51 oz/ton (17.5 g/t) Au and 45.1 oz/ton (1546 g/t) Ag over a 1.6 foot (49 cm) average width and an 80 foot (24 m) length.
- The **42 Vein** returned an average grade of 0.68 oz/ton (23.31 g/t) Au and 6.9 oz/ton (237 g/t) Ag for a 6 to 8 inch (15 to 20 cm) average width over a 40 foot (12 m) distance from channel samples spaced at 5 foot (152 cm) intervals.

These individual veins were only partially exposed through deep, frozen overburden under difficult circumstances so that the continuity and relationships between them remains to be fully defined. Sampling to date has nonetheless documented gold-silver mineralization over a vertical distance of approximately 820 feet (250 m).

Soil sampling and hand trenching conducted by United Keno Hill in 1966 appeared to delineate limits of the **1 Vein** but the source of very high grade (e.g. 899 oz/ton or 30 822 g/t and 424 oz/ton or 14 400 g/t Ag) silver bearing galena float boulders found the previous year was not discovered. Results of subsequent soil sampling suggest that the source actually lies to the northeast in an unexplored area but no additional work has been carried out to refine this target.

United Keno Hill focused their work at Mount Hinton on developing high grade gold-silver mineralization that could be trucked 12 miles (20 km) to their production facility at Elsa where flotation concentrates were produced from galena and tetrahedrite rich ores. Thus their primary interest was in galena and jamesonite rich quartz veins at Mount Hinton and not in the potentially well mineralized, oxidized, sheared and crushed zones that often flank them; nor in larger tonnage targets represented by mineralized breccia zones or veinlet swarms that are peripheral to a number of the veins.

Much of the Mount Hinton property was explored from 1965 to 1968 with close spaced soil geochemical sampling. The best correlation between the known mineralization and the geochemical data is with anomalous lead response although there are a number of areas with relatively strong and extensive lead anomalies that are not associated with any known vein zones and these provide a focus for immediate follow-up. Results of a 2003 orientation geochemical survey suggest that arsenic and antimony are also important pathfinders for gold-silver mineralization.

The Mount Hinton property has a strong potential to host economic gold and silver deposits and the author recommends further work based on the positive results of historical exploration. A two phase exploration program is proposed for 2004. The first phase should consist of prospecting, claim surveys, geological mapping, geochemical sampling, geophysical surveys, road building, excavator trenching and diamond drilling to evaluate the potential for additional mineralized zones on the property and to advance knowledge of geological controls on the known zones. Metallurgical testing of drill core coarse reject composites is also recommended for the first phase to determine the efficacy of conventional gold and silver extraction techniques.

The Keno Hill Quartzite host rock of the Mount Hinton veins is known to be very abrasive, causing abnormally high wear on drill rods and bits. In addition, the fault breccias and gouge zones adjacent to the more competent quartz veins may be well mineralized but this type of material will be difficult to recover. Because of the physical setting of the known vein targets, much of the drilling will have to be collared at relatively high elevations, requiring long water supply lines that are subject to freezing if the program extends beyond early September. Finally, the combination of deep oxidation, badly broken ground and rugged terrain will mean that much of the drilling will be conducted above the water table and maintaining down hole circulation, especially in frozen ground will prove difficult. It is for these reasons that driving a decline to stage a second phase diamond drilling exploration program may prove to be the most prudent and economical solution. Underground exploration should be preceded with a detailed control survey, surficial geology surveys and structural mapping. Permitting underground exploration will also require establishment of baseline water quality surveys and these should be carried out early in the first phase of exploration.

1.0 INTRODUCTION AND TERMS OF REFERENCE

The author was retained by Yukon Gold to supervise exploration work on the Mount Hinton property in central Yukon during August and September 2003, to examine the results of previous exploration and to propose an appropriate program for additional exploration.

The primary exploration target on the Mount Hinton property is a 1000 foot (300 m) wide, 2 mile (3.4 km) long trend of as many as 50 narrow and poorly exposed but relatively well mineralized gold and silver bearing quartz veins or talus float trains that have received limited exploration. This report is intended to provide Yukon Gold with sufficient technical data to mount a systematic geological, geochemical, geophysical and diamond drill evaluation of the property; to provide documentation for the necessary financing and to partially satisfy the terms of property acquisition through an option agreement with the property vendor.

2.0 DISCLAIMER

With respect to Section 3.0 of this report, the author relied upon information provided to him by the Mayo Mining Recorder in stating the particulars of the mineral claim tenure. No surveys have been carried out to verify the accuracy of claim locations as shown on government claim maps and as referenced on maps that accompany this report.

This report is a compilation of historical geological, geochemical, diamond drilling, percussion drilling and underground exploration data that largely results from exploration on the present Mount Hinton property by United Keno Hill Mines Ltd. (UKHM) between 1965 and 1984. Surface exploration data generated by Yukon Gold in 2002 and 2003 as well as peripheral work by other explorers has also been incorporated. This report also includes results of recent regional scale geological studies carried out in the area by government and academic geologists. These documents are referenced where appropriate and they are listed in the reference section.

The main area of exploration interest on the Mount Hinton property lies on a steep, north facing slope at high elevation. Over the past 38 years, effects of weathering and mass wasting have combined to almost completely obscure the hand trenches that once exposed the various vein zones sampled in rigorous detail by UHKM. The author was therefore unable to independently verify the results of that work.

3.0 PROPERTY DESCRIPTION AND LOCATION

The Mount Hinton property consists of 186 contiguous, unsurveyed mineral claims located in central Yukon Territory, immediately southeast of Keno City at latitude 62° 52'N and longitude 135° 07'W on National Topographic System map sheet 105M/14 (Figure 1). The claims were staked under the Yukon Quartz Mining Act and are registered in the Mayo Mining District in the name of Yukon Gold Corp. A full Yukon mineral claim is 51.7 acres (20.9 hectares) in size and, because of the complex staking history, many of the Mount Hinton claims are not full size and



the property covers an aggregate area of about 9300 acres or 3700 hectares (Figure 2). Claim tenure information is summarized in Appendix I.

Claims locations have not been surveyed and the author has not inspected the property with respect to the placement of claim posts, the position of location lines and the proper affixing of claim tags. The Mount Hinton property is not encumbered by First Nations Land Claims. Placer mining claims in upper Thunder Gulch may compromise surface rights on the Hinton II 1, 2, 4 and 6 claims.

The Mount Hinton property is operated by Yukon Gold Corp. subject to the terms of an option agreement with a private group, the Hinton Syndicate. Yukon Gold must make scheduled cash payments and perform certain work commitments to earn a 75% interest subject to a 2% Net Smelter Return royalty in favor of the property vendor. The Mount Hinton mining claims can be maintained in good standing beyond current expiry dates by performing approved exploration work to a dollar value of \$100 per claim per year.

Exploration work is subject to the Mining Land Use Regulations of the Yukon Quartz Mining Act, which require permits prior to performing significant exploration programs. Exploration is currently being conducted under Class III Permit LQ00106, which is valid until August 7, 2008 and the work proposed in this report could be conducted under an amended form of the permit. To the extent that the author can determine, the property has no known environmental liabilities. Streams draining the property make their way to the Mayo River, which does not support a migratory salmon population upstream of a hydroelectric dam near Mayo.

4.0 ACCESS, INFRASTRUCTURE, LOCAL RESOURCES, PHYSIOGRAPHY AND CLIMATE

The Mount Hinton property lies about 6 miles (10 km) southeast of Keno City, a largely abandoned mining town that is 37 miles (59 km) northeast of the village of Mayo and 233 miles (375 km) north of Whitehorse, the territorial capital. Mayo is accessible from Whitehorse by a chip sealed highway and an all season gravel road links Keno City with Mayo.

The Mount Hinton property is served by 6 miles (10 km) of good four-wheel drive road that extends from Keno City to an exploration camp located at the west end of the claim group in the Duncan Creek valley (Figure 3). A rough 4 mile (7 km) long four-wheel drive road accesses the north side of the property via Thunder Gulch. Five miles (8 km) of four-wheel drive road were constructed in 2003 to connect the north and south peaks of Mount Hinton with both the Duncan Creek and Thunder Gulch roads. A rough bulldozer trail along Keystone and Granite Creeks links the south part of the property to a government maintained road at the west end of Mayo Lake. The south and east parts of the property are best accessed by helicopter and a Whitehorse helicopter company normally has a Bell 206 Jet Ranger based in Mayo from early May to late September.





The Mount Hinton property is relatively well served by local infrastructure. Mayo, with a year round population of about 500, is the local supply and services centre. It was the transportation hub for the former UKHM silver-lead mining and milling operation and a number of residents in the area have surface and underground mining skills. An under utilized hydroelectric facility is located near Mayo and transmission lines extend to Elsa and Keno City.

The Mount Hinton property covers the headwaters of a number of drainages including Duncan Creek, Thunder Creek, McNeil Creek, Granite Creek and Keystone Creek. Elevations range from 3900 ft (1190 m) along stream valley floors to over 6500 feet (2000 m) at the peak of Mount Hinton. The main area of exploration interest lies along the rugged north facing wall of a cirque at the headwaters of McNeil Gulch. Heavy talus cover, steep cliff faces and permafrost have hampered past exploration activities.

The lower parts of the property are normally explorable from late May until early October although underground exploration could proceed year round. Higher elevations on the claim block are snow free from late June to late September. The area climate is typical of northern continental regions with long, cold winters and relatively temperate summers. Average temperatures in January are about $-4^{\circ}F$ ($-20^{\circ}C$) and in July about $50^{\circ}F$ ($10^{\circ}C$). Total annual precipitation is approximately 35 inches (90 cm), mostly occurring as rain in the summer months. Maximum snow pack averages less than 40 inches (100 cm). Although summers are temperate, arctic cold fronts often cover the area and snowfall can occur in any month on the upper slopes of Mount Hinton. Sunlight ranges from about 20 hours per day in late June to approximately 4 hours per day in late December.

5.0 **PROPERTY HISTORY**

Exploration history of the Mount Hinton property is compiled from the Indian and Northern Affairs (now Yukon Geological Survey) Minfile database (Minfile, 2002), from a report on 1968 exploration by Zimmer (1968), and from summary reports prepared by Oullette (1985), Smith (1998), Junior Mine Services Ltd. (2003) and Carne (2003).

Prior to 1963, numerous claims were held by individuals in the area now encompassed by the present Mount Hinton property. Sporadic prospecting, both for gold and silver, was carried out with the earliest recorded work dating back to the early 1920's. The most notable effort was a 120 foot (25 m) adit driven in the circue face of McNeil Gulch by Charles Brefalt in 1941. No shipments of ore have been reported.

All claims on the present property had been allowed to lapse by 1965 except for 14 held on the north peak of Mount Hinton by Mrs. C. Erickson. Following the release that year of regional scale reconnaissance stream sediment sampling results by the Geological Survey of Canada, UKHM staked 74 claims adjoining the Erickson property to the south and east. A prospecting and geochemical sampling program was carried out the same year and, with 3 new veins identified, UKHM enlarged the property to 276 claims in 1966. That summer an extensive geochemical sampling program was carried out over the entire claim group with about 12 000 soil samples collected at approximately 100 foot (30 m) by 300 foot (100 m) sample spacing.

Geological mapping and prospecting were also carried out over the property and surrounding areas, identifying an additional 20 veins. Limited hand trenching was conducted on a dozen or more of these vein targets. After the field season, UKHM allowed 138 claims to lapse and optioned the Erickson property. Exploration was focused on the head of McNeil Gulch in the 1967 field season where 22 new veins were discovered by detailed prospecting and hand trenching. In 1968 the McNeil Gulch area was mapped in detail with a plane table survey providing topographic control. All work was carefully tied in by triangulation and aerial photogrammetry. Prospecting identified 15 additional veins and hand trenching or stripping on the steep cliff face was carried out on some of these new discoveries. A prospecting shaft was sunk to a depth of 8 m (25 ft) on the 21 Vein.

A two week bulldozer trenching program was carried out in 1971 on the west side of the property in an attempt to expose strike extensions of the 5 Vein. This work was largely unsuccessful because of deep, frozen overburden cover.

The property lay dormant until 1980 when a 5 839 foot (1780 m) short hole percussion drilling program was completed on the 5 Vein. Of the 74 holes, only 24 apparently reached the intended target. In 1984 a helicopter supported underground exploration program was conceived to test characteristics of the 19, 21, 24 and 5 Veins. Due to delays in funding, the work did not commence until early July and the only significant effort was directed to the 19 Vein where a total of 322 feet (98 m) of drift and crosscut were completed before winter weather forced abandonment of the program. Some prospecting and limited hand trenching were also carried out in the 1984 field season, resulting in the discovery of a new vein.

Claims covering the 1 Vein area were allowed to lapse and the showing was restaked by local prospectors and optioned to Meldean Placers Ltd., which cleaned out the old hand trenches in 1981. 660250 Ontario Limited carried out soil sampling, VLF-EM geophysical surveys and further hand trenching in 1986. Orex Resources Limited completed two short diamond drill holes across the best area of mineralization in 1987.

Low silver prices and declining reserves forced the shutdown of UKHM's nearby silver-leadzinc mining operation in January 1989. The company has since undergone a number of changes in ownership and attempts at refinancing but none were successful and it was forced into receivership in March 2001. The Yukon Territorial Government currently oversees the surface and underground mines and the milling facility on a care and maintenance basis.

The Hinton Syndicate, a private group, staked claims peripheral to the main area of interest at Mount Hinton in 1998 and optioned them to Yukon Gold in 2002. Later in 2002 UKHM claims covering the core area of interest on Mount Hinton were allowed to lapse and Yukon Gold restaked the open ground. Yukon Gold completed additional staking in August 2003 and the property now consists of 186 full and fractional claims covering a total area of about 9300 acres (3700 hectares). All the significant UKHM discoveries in the area have now been consolidated into the present land holding.

Between August and October 2002, Yukon Gold carried out a preliminary evaluation of the Mount Hinton property with prospecting, limited hand trenching and resampling of old workings as well as minor excavator trenching and road building.

In August and September 2003 an excavator trenching program supervised by the author of this report was carried out on the ridge trending north from the north peak of Mount Hinton to test this area for the possible westerly extension of the McNeil Gulch veins. Excavator trenching was also performed on the 5 Vein and a total of 5 miles (8 km) of new road was constructed to enable vehicle access to previously inaccessible parts of the property. In addition, the Duncan Creek and Thunder Gulch access roads were upgraded to all weather four-wheel drive status. Upon completion of the program, reclamation was carried out as required by the Land Use Permit and all equipment was demobilized.

6.0 GEOLOGICAL SETTING

The Mount Hinton property lies along the southwest margin of Selwyn Basin, a region of deepwater offshelf sedimentation that persisted from late Precambrian to Middle Devonian time. The property is largely underlain by interbedded Mississippian phyllitic quartzite, chloritic and carbonaceous phyllite and massive to well foliated quartzite with lesser limestone (Figure 4) of the informally named Keno Hill Quartzite or "Central Quartzite" (Roots, 1997). An underlying carbonaceous phyllite sequence, informally called the "Lower Schist", is assigned to the Middle to Late Devonian Earn Group. Triassic amphibole-chlorite metadiorite and metagabbro sills locally termed "greenstone" intrude the layered strata. The west side of the property is bounded by the Robert Service Thrust Fault, which emplaces metamorphosed clastic sedimentary rocks of the Upper Proterozoic Hyland Group (locally called "Upper Schist") over the Keno Hill Quartzite.

Both the Robert Service Thrust Fault and enclosing rocks are intruded by the Roop Lakes Pluton, a 40 mi² (100 km²) elliptical stock that lies about 6 miles (10 km) east of the main area of vein mineralization on the Mount Hinton property. Igneous petrology is dominated by medium grained granodiorite with lesser quartz monzonite. A marginal phase composed of quartz diorite to quartz gabbro is present. A single felsite dyke is the only igneous body on the Mount Hinton property that is possibly related to the Roop Lakes Pluton.

The Mount Hinton area lies in the southeast part of the Keno Hill mining camp, part of the 350 mile (550 km) long Tombstone Gold Belt. Between 1913 and 1989, over 6 000 tons (6 600 tonnes) of silver, 32 000 tons (35 000 tonnes) of lead and 19 000 tons (21 000 tonnes) of zinc were extracted from the extensive and numerous vein faults in the Keno Hill area (Murphy, 1997).

The Tombstone Gold Belt is coincident with and genetically related to mid-Cretaceous plutonism of the 92 Ma Tombstone Plutonic Suite (Hart and Burke 2002). A 92.8 ± 0.5 Ma age for the Roop Lakes pluton has been determined by isotopic dating. This age as well as its petrology places the intrusion within the Tombstone Plutonic Suite.



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Tombstone Plutonic Suite proximal mineralization occurs within or adjacent to the mineralizing pluton as replacements, disseminations, stockworks, skarns and discrete veins with a gold-bismuth or tungsten-copper association (Hart and Burke 2002). Distal mineralization occurs at some distance from the associated pluton either as disseminations or veins that are dominated by a gold-arsenic-antimony-mercury association or a lead-zinc-silver association. Precious metal bearing veins on the Mount Hinton property probably belong to the distal suite.

7.0 DEPOSIT TYPES

The geological setting and style of mineralization defined to date on the Mount Hinton property are the same as those for the vein faults that supplied silver-lead zinc ore to a number of successful underground and surface mines in the nearby Keno Hill mining camp.

Two types of vein mineralization are represented in the district (Boyle, 1965). The earliest stage was characterized by deposition of hydrothermal silica, which precipitated as quartz lenses in dilatent zones within northeast trending faults. In addition to this constituent, considerable amounts of sulphur, arsenic, and iron with lesser antimony, lead, copper, gold and silver were introduced. This is the most common type of precious metal mineralization on the Mount Hinton property.

The second type of vein mineralization in the Keno Hill mining camp is a later stage of iron, manganese, sulphur, antimony, lead, zinc, silver and cadmium enrichment hosted by siderite rather than quartz gangue. This style of vein fault is responsible for the bulk of the historical silver-lead-zinc production from the Keno Hill area. Ore shoots comprise less than 2% of the vein faults but this density locally increases to 20% within productive areas. The 1 Vein is the only showing of this type that has been discovered to date at the Mount Hinton property.

Boyle (1965) notes that the most favourable host rocks for vein formation are thick bedded quartzites and greenstones. The principal economic lodes are located in three structural settings:

- at the junction of two or more vein faults,
- at the junction of a fault and subsidiary fracture, and
- in massive quartzites and greenstones at or near where the vein faults pass into phyllite or thin bedded quartzite.

8.0 MINERALIZATION

Descriptions of mineralization on the Mount Hinton property given in following sections of this report are based primarily on data generated through episodic exploration conducted by UKHM between 1965 and 1984. This work and the results obtained are summarized in a series of reports filed for claim assessment credit with the Mayo Mining Recorder and these are available for public view. All assays and analytical data resulting from to the early work are historical in nature. No rigorous or systematic metallurgical testing has been carried out on the Mount Hinton gold-silver mineralization and no resource estimates have been made that conform to the standards required by National Instrument 43-101.

8.1 Style of Vein Fault Mineralization on the Mount Hinton Property

According to Ouellette (1985) there are three types of faults in the Mount Hinton area that affect the distribution of gold and silver bearing quartz veins. **Transverse faults** are the main host for mineralized quartz veins on the property although some mineralization has been observed to extend into intersecting **bedding plane faults**. Transverse structures strike east-northeast and dip steeply to the southeast. Displacement is apparently dip-slip with little or no lateral movement. Zimmer (1967) observed that transverse faults are largely limited to competent units (quartzite) while the less well mineralized bedding plane faults are generally confined to intervening ductile phyllite members. Figure 5 demonstrates how transverse faults can grade into bedding plane faults across a lithological boundary. In most cases transverse faults that lie in underlying rocks. **Cross faults** appear to be younger than the mineralizing episode and offset the mineralized transverse or bedding plane faults in a left lateral sense.

Open space in quartzite caused by movement on the transverse/bedding plane fault systems provided corridors for incoming hydrothermal fluids and formed the locus for vein deposition. Precious metal mineralization on the Mount Hinton property typically occurs within a variably wide zone of milky white vein quartz flanked by brecciated wall rock in the hanging wall and/or footwall that may be partially or entirely cemented by quartz. This material is, in turn, is often re-brecciated or crushed by continued movement on the structure. The vein faults are often bordered (especially in quartzite) by parallel quartz stringer zones up to 15 feet (5 m) wide. One or both walls of the zones may be defined by an abrupt break and a mineralized quartz vein associated with the overall structure can occur on either or both walls.

Veins appear to pinch and swell both along the strike and dip of the fault structure. Width and continuity is largely controlled by host lithology. Where both walls of the vein fault are relatively ductile phyllite, a narrow zone of fault gouge may be the only expression of the structure. Widest and strongest quartz veins occur where one or both walls are brittle quartzite or greenstone.

Vein mineralogy is summarized by Oullette (1985), based primarily on work by Zimmer (1967). The Mount Hinton area veins consist of fractured milky white quartz hosting, in order of occurrence: arsenopyrite, galena, jamesonite, pyrite, sphalerite, siderite and gold as well as the weathering products scorodite (after arsenopyrite), limonite (after pyrite) and anglesite (after galena).

- Arsenopyrite is present in all mineralized veins as well developed crystals and fracture fillings.
- Galena is also present to some degree in all veins although in poorly mineralized structures it is sparse and erratic, occurring as irregular fracture fillings in yellowish quartz that may carry high silver values (up to 50 oz/ton or 1700 g/t in pure galena) and as small disseminations in white to yellow quartz that seldom carry more than 10 to 15 oz/ton (343 to 514 g/t) silver. In high grade quartz veins galena occurs as sheeted zones that parallel overall vein attitudes.
- Jamesonite is abundant only in the southwest part of the McNeil Gulch vein zone and in the 5 Vein on the south peak of Mount Hinton. In the 21 Vein, jamesonite is the primary



sulphide mineral and it occurs as finely fibrous, sheared masses that contain minor sphalerite and pyrite.

- Pyrite is present in nearly all veins and it is usually found as disseminated crystals as opposed to veinlets. Pyrite is particularly associated with arsenopyrite and nearly massive jamesonite in the 21 Vein.
- Sphalerite was observed in small quantities in the 5, 15, 21, 24, 31 and 35 Veins. It occurs as irregular masses without an apparent association with other metallic minerals.
- Oxidation affects all but the most massive metallic sulphide mineral mineralization. Murphy (1997) notes that oxidation can extend to depths up to 150 m in the Keno Hill area.
- In 1967 UKHM used a mortar, pestle and gold pan to visually test samples taken from gold veins as they were exposed by hand trenching. There was little correlation between the quantity of free gold particles liberated by the mortar and pestle and the assay grade, especially in samples that assayed less than 1 oz/ton (34.3 g/t) gold. Boyle (1965) suggests that metallic sulphide minerals carry the bulk of the gold in the Keno Hill mining camp as a lattice substitution, explaining the generally observed paucity of free gold. For example, a selected grab sample of massive jamesonite and scorodite collected from the 21 Vein in 2002 assayed 6.12 oz/ton (210.1 g/t) Au and 55.2 oz/ton (1754 g/t) Ag. Zimmer (1967) noted that at Mount Hinton:
 - o high gold values are always associated with metallic sulphide minerals,
 - o gold has a particular association with jamesonite, and
 - o gold and silver values usually parallel each other.

All creeks draining the property contain anomalous placer gold concentrations to some degree (D. Ewing, personal communication 2003). Duncan Creek and Thunder Gulch, in particular, have supported long term placer mining operations.

8.2 Vein Descriptions

As many as 50 mineralized veins or discrete mineralized vein float trains have been discovered to date on the Mount Hinton property. They are identified by a number that reflects their order of discovery.

UKHM typically followed up talus float prospecting discoveries with hand trenching. Hand trenching and mucking, occasionally assisted with blasting, were employed to remove loose talus and frozen overburden from the veins. Bedrock was not penetrated unless it was highly broken. Veins judged to be low grade because of a low sulphide mineral content were only exposed with randomly spaced foxholes. The more accessible well mineralized veins were continuously trenched until they pinched out or until overburden became excessively deep. The full width of solid vein quartz plus a foot (30 cm) or so of the footwall and hanging wall were typically exposed. Channel samples were normally taken on regularly spaced intervals of 2 feet (61 cm). No attempt was apparently made to expose or sample associated crushed quartz or gouge zones and adjacent weakly mineralized wall rock.

UKHM analyses for silver, lead, zinc and copper were carried out at the mine assay office and they were considered at the time to be accurate. The mine assayers, however, had little

experience with gold assay procedures and gold results were not considered by contemporary UKHM staff to be reliable. Consequently, splits of all samples taken from 1966 to 1968 were sent to Giant Yellowknife Mines Ltd. for gold assay.

The headwall of McNeil Gulch forms an east-west trending cliff face that contains most of the important vein occurrences discovered to date on the Mount Hinton property (Figure 6). Gold bearing vein faults are confined to a 1000 foot (300 m) wide, 2 mile (3.4 km) long belt that coincides with the arcuate trend of the cirque face. This distribution is probably largely a function of exposure rather than the primary distribution of mineralized quartz veins. Figure 7 illustrates two cross sections through the McNeil Gulch headwall constructed using available historical data. Although slopes on the cirque face are extremely steep, bedrock exposure is probably less than 10 or 15% due to a thick blanket of talus cemented with ice. The floor of McNeil Gulch is mantled with an uncertain thickness of glacial till that is also almost certainly frozen.

Unless otherwise indicated, the following vein descriptions were taken from Oullette (1985) who summarized exploration by UKHM between 1965 and 1984. They have been augmented with observations taken for some of the veins during the 2002 and 2003 field programs (Junior Mine Services, 2003 and Carne, 2003). The cirque face at the head of McNeil Gulch is divided into east and west halves for the purposes of vein description.

8.2.1 McNeil Gulch Veins: West of Saddle

33 Vein:

The 33 Vein is located near the cirque rim just west of the saddle. It is mineralized with randomly distributed scorodite, galena and anglesite along a 150 foot (46 m) length. Ten selected grab samples returned an average assay of 0.66 oz/ton (22.6 g/t) Au and 11.8 oz/ton (405 g/t) Ag.

19 Vein:

Traced for 1200 feet (370 m) by prospecting and hand trenching in 1967, the 19 Vein is the longest of the mineralized structures identified on the property. It lies within a well defined lineament that is evident on air photos and from the floor of McNeil Gulch. A total of 34 channel samples taken across the west end of vein at 2 foot (61 cm) intervals returned an average value of 0.19 oz/ton (6.51 g/t) Au, and 2.0 oz/ton (68.57 g/t) Ag over an average width of 67 inches (170 cm) and a length of 79 feet (24 m). A 51 inch (20 cm) channel sample taken across the vein in the same area by Yukon Gold in 2002 returned values of 1.32 oz/ton (45.3 g/t) Au and 7.73 oz/ton (264.9 g/t) Ag. Dendritic galena and jamesonite are the primary sulphide minerals. The eastern end of the vein was exposed in deep overburden that could not be stabilized safely for any length of time. The overall grade was estimated to be less than at the west end and only ten samples of better grade material were selected, averaging 0.38 oz/ton (13.03 g/t) Au and 47.5 oz/ton (1629 g/t) Ag. In 1984 the central part of the 19 Vein was explored with 322 feet (98 m) of drift and crosscut under difficult circumstances. This work failed to intersect the vein. Ten short holes drilled from ends of the crosscuts and the main drift also failed to intersect significant mineralization.





The 35 Vein was exposed by 1968 hand trenching that revealed a relatively wide structure comprised of two separate quartz veins separated by a band or horse of quartzite (Figure 7). The hanging wall vein is up to 8 feet (2.4 m) wide and it carries galena with minor admixed jamesonite. The footwall structure contains a chalky mixture of quartz with scorodite, arsenopyrite, jamesonite, pyrite and minor galena over widths up to 5 feet (1.5 m). The vein and the intervening horse of wall rock were channel sampled at 2 foot (61 cm) intervals. Weighted average assays were 0.49 oz/ton (16.80 g/t) Au and 17.9 oz/ton (614 g/t) Ag over an average width of 6.0 feet (183 cm) for the 20 foot (6.1 m) distance sampled.

21 Vein:

The 21 Vein was exposed by 1967 hand trenching for a total length of 72 feet (22 m) and channel sampled at 2 foot (61 cm) intervals (Figure 8). Weighted average grade was 1.24 oz/ton (42.5 g/t) Au and 19.3 oz/ton (319 g/t) Ag over an average width of 3.4 feet (105 cm). Mineralization consists of jamesonite, arsenopyrite, pyrite, sphalerite, galena and various oxides. In 1968 a 25 foot (7.6 m) deep prospect shaft was sunk at the northeast limit of the 1967 trench. Channel samples from the walls of the shaft averaged 1.02 oz/ton (35.0 g/t) Au and 12.5 oz/ton (429 g/t) Ag over an average vein width of 2.7 feet (82 cm). The 21 Vein may be the bedding plane fault offset of the 35 Vein.

24 Vein:

The 24 Vein has a potential length of 1200 feet (370 m) although isolated outcrops and discontinuous float trains indicate that the vein may not be well mineralized over much of its length. A better mineralized part of the vein at the northeast end was exposed by hand trenching. Channel samples taken at 2 foot (61 cm) intervals yielded an average assay of 0.51 oz/ton (17.5 g/t) Au and 45.1 oz/ton (1546 g/t) Ag over a 1.6 foot (49 cm) average width and an 84 foot (24 m) strike length.

44 Vein:

The 44 Vein does not outcrop. Float mineralization consists of jamesonite in limonitestained quartz with minor scorodite stain. A selected grab sample of float assayed 0.38 oz/ton (13.0 g/t) Au and 18.4 oz/ton (631 g/t) Ag.

37 Vein:

A float train of quartz mineralized with arsenopyrite, scorodite, sphalerite, minor galena and possibly minor jamesonite was traced to its surface termination but not explored further.

34 Vein:

The 34 Vein is located near the north peak of Mount Hinton. It is unique in its nearly northsouth strike with a shallow dip to the west and it is probably a mineralized bedding plane fault. Mineralization consists of randomly distributed arsenopyrite, scorodite, pyrite and galena in highly fractured quartz. Five selected grab samples averaged 0.26 oz/ton (8.91 g/t) Au and 7.1 oz/ton (243 g/t) Ag.

52 Vein:

The 52 Vein was discovered in 1984 and mineralized float was traced for about 280 feet (85 m). A vein at least 2 feet (60 cm) wide was partially exposed by hand trenching in highly unstable talus. The hanging wall portion consists of shattered bull quartz with galena filled fractures up to 1 inch (2.5 cm) wide. The footwall is a vuggy quartz breccia containing galena and limonite. Selected samples of the vein material assayed 4.77 oz/ton (163.5 g/t) Au with 16.08 (551 g/t) Ag and 1.23 oz/ton (42.2 g/t) Au with 29.23 oz/ton (1002 g/t) Ag. The surrounding quartzite was described as being very rusty in appearance,





containing a multitude of near vertical quartz stringers but neither these rocks nor the footwall quartz flooded breccia were apparently sampled by UKHM to determine if a larger area of lower grade mineralization is present.

22 Vein:

The 22 Vein does not outcrop although float has been traced to a recessive area with fairly restricted extent. A selected sample of better grade material mineralized with jamesonite, arsenopyrite and scorodite assayed 0.26 oz/ton (8.91 g/t) Au and 33.3 oz/ton (1142 g/t) Ag.

23 Vein:

The 23 Vein outcrops over limited distances in several places but its apparent 600 foot (180 m) strike length is largely indicated by the distribution of relatively poorly mineralized float. A selected sample of better mineralized float consisting of 40 to 60% jamesonite in quartz assayed 1.28 oz/ton (43.9 g/t) Au, 3.7 oz/ton (102.9 g/t) Ag and 21.67% Pb.

54 Vein:

The 54 Vein is a mass of milky white vein quartz exposed in an old UHKM hand trench on a small knoll between talus chutes about 330 feet (100 m) northwest of the plotted trace of the 23 Vein. The quartz vein and a small area of adjacent fault gouge and crushed wall rock was exposed and sampled in 2003 under the author's supervision (Figure 9). The quartz vein itself is 1.8 feet (0.55 m) wide and it is only very weakly mineralized with disseminated scorodite. Two chip samples taken across the quartz contained only 0.05 oz/ton (1.6 g/t) Au with Trace (0.2 g/t) Ag and Trace (0.04 g/t) Au with negligible (<0.2 g/t) Ag. This is probably why the quartz exposed in the old UKHM hand trench was not catalogued at that time as a "vein". The hanging wall was exposed by the 2003 hand trenching for a distance of 4.7 feet (143 cm) above the quartz. It consists of vari-coloured fault gouge and crushed wallrock with 2 inch (5 cm) or smaller fragments of broken quartz. This material is only weakly mineralized with chip sample values of Trace (approximately 1 g/t) Au with and Trace to 0.2 oz/ton (1 to 7 g/t) Ag. The footwall of the vein was exposed for a short distance below the vein exposure before talus became too deep and unstable to continue. A continuous 1 foot (30 cm) chip sample across light grey fault gouge with minor quartz and wallrock fragments returned values of 0.45 oz/ton (15.45 g/t) Au with 0.24 oz/ton (8.4 g/t) Ag. This type of recessive material is not naturally exposed on the steep talus covered slopes of Mount Hinton and so conventional prospecting techniques are ineffective. Furthermore, fault gouge zones exposed adjacent to solid quartz veins by UKHM hand trenching were apparently not routinely sampled. Thus gold and silver potential of the Mount Hinton property as a whole may be understated by the focus of previous work on solid quartz veins rather than the larger tonnage potential presented by mineralization that may also be present in adjacent gouge or breccia zones.

43 Vein:

Trenching attempted in 1968 to define the upper limit of a mineralized float train was frustrated by permafrost although a 2 foot (60 cm) thick horizon of scorodite stained vein quartz debris was intersected at the bottom of the hand pits. A bulk sample of this material assayed 0.12 oz/ton (4.1 g/t) Au and 0.2 oz/ton (6.87 g/t) Ag.

38 Vein:

1968 hand trenching exposed the 38 Vein over a strike length of about 40 feet (12 m). Assays of five float and two grab bedrock samples from the trenches ranged from 0.02 oz/ton (0.69 g/t) Au to 0.14 oz/ton (4.80 g/t) Au and 1.5 oz/ton (51.4 g/t) Ag to 30.5 oz/ton (1 046 g/t) Ag.



The 53 Vein was discovered in 2002 and it was further exposed by four excavator trenches over a 650 foot (200 m) strike length in 2003. The vein fault varies from small pods of quartz within a 2 inch (5 cm) wide gouge zone to a 5 foot (150 cm) wide massive quartz vein enclosed by a 15 foot (5 m) wide gouge and crush zone. The best value returned from chip sampling of the trench exposures was Trace (0.41 g/t) Au with Trace (0.7 g/t) Ag across a 5.6 foot (170 cm) wide mass of quartz. The 53 Vein consists of vitreous, limonite stained quartz that is quite distinct from the better mineralized milky white quartz veins to the east in the headwall of McNeil Gulch.

31 Vein:

The 31 Vein outcrops in an area of relatively light overburden cover along the banks of McNeil Creek. It occurs about one thousand feet (300 m) north of the main vein trend exposed in the cliffs forming the headwall of McNeil Gulch. Mineralization consists of galena, sphalerite, pyrite, scorodite and arsenopyrite in bull quartz. Selected samples of better mineralization returned an average assay of 0.20 oz/ton (6.86 g/t) Au and 22.4 oz/ton (768 g/t) Ag. Glacial till cover and talus is too deep between the 31 Vein and the main vein trend for an effective evaluation by conventional prospecting or geochemical surveys.

8.2.2 McNeil Gulch Veins: East of Saddle

36 Vein:

The 36 Vein is an occurrence of scorodite stained quartz in talus. It has never been followed up with sampling or trenching.

16, 16A, 17, 29 and 30 Veins:

These five veins are located in a structurally disturbed area and all appear to have limited length. They are sparsely mineralized with galena, scorodite, arsenopyrite and pyrite.

- The **16 Vein** was located on the cirque rim in 1966 where grab samples yielded only Trace Au and Ag. The **16A** and **17 Veins** were thought by UHKM to be the target of the adit driven in 1941 by Charles Brefalt (Costin and Zimmer, 1966). Grab samples collected from the adit dump and Brefalt's old camp in 1966 assayed from 0.02 oz/ton (0.69 g/t) Au to 1.56 oz/ton (53.5 g/t) Au and Trace to 22.5 oz/ton (771 g/t) Ag.
- The **29 Vein** consists of a limited exposure of quartz vein mineralized with dendritic galena. A grab sample collected in 1967 returned values of 0.03 oz/ton (1.03 g/t) Au and 47.6 oz/ton (1632 g/t) Ag.
- The **30 Vein** is an isolated exposure of vein material containing minor disseminated galena, scorodite, arsenopyrite and pyrite. One grab sample was collected in 1967 and it assayed 0.27 oz/ton (9.3 g/t) Au and 1.8 oz/ton (61.7 g/t) Ag.

28 Vein:

The 100 foot $(30 \text{ m}) \log 28$ Vein contains a 10 foot $(3 \text{ m}) \log_2 2$ foot (60 cm) wide better grade portion mineralized with two semi-parallel stringers of galena and anglesite. Thirty-two selected samples collected from hand trench exposures of the vein had an average assay of 0.21 oz/ton (7.2 g/t) Au and 59.3 oz/ton (2 033 g/t) Ag. A bedding plane fault displaces the southeast part of the vein about 5 feet (1.5 m) to 7 feet (2.1 m) in a right hand manner where it continues into an unexplored area of heavy talus cover.

An outcropping quartz vein carries stringers of galena. A grab sample assayed 0.06 oz/ton (2.06 g/t) Au and 35.5 oz/ton (1217 g/t) Ag.

26 Vein:

The 26 Vein outcrops in five places over a distance of approximately 600 feet (180 m). Mineralization is slight over most of the vein, consisting of minor arsenopyrite and scorodite. Best mineralization occurs in the southwest exposures where galena is present as 0.2 to 0.5 inch (0.6 to 1.3 cm) stringers over a 3 to 6 inch (8 to 15 cm) width in the hanging wall part of the vein. No samples were collected due to unstable talus but a sample of galena bearing material collected in 1984 from the northeast end of the vein assayed 0.01 oz/ton (0.34 g/t) Au, 20.44 oz/ton (701 g/t) Ag and 6.84% Pb.

15 Vein:

The 15 Vein mineralization consists of white quartz with dendritic galena. Scorodite, arsenopyrite and sphalerite are also present in minor quantities. Selected grab samples from the discovery area returned values as high as 0.20 oz/ton (6.86 g/t) Au, 136.1 oz/ton (4 666 g/t) Ag, 42.12% Pb, 20.32% Zn and 0.58% Sb. The 15 Vein was further exposed in 1984 within a greenstone sill earlier thought to terminate the vein system at its westerly end. Two close spaced veins are present here. The upper structure is composed of 1.5 inch (4 cm) of sheared quartz that is sparsely mineralized with galena. A rusty alteration zone on the hanging wall side of the vein contains a 1.5 foot (45 cm) wide zone of disseminated arsenopyrite and pyrite. The alteration carries for 2 feet (60 cm) into the footwall where another vein of intensely sheared quartz with abundant arsenopyrite and scorodite is present. A selected specimen of the hanging wall vein ran 0.30 oz/ton (10.29 g/t) Au and 0.55 oz/ton (18.89 g/t) Ag. The other vein was better mineralized with a selected sample assaying 1.15 oz/ton (39.43 g/t) Au and 1.58 oz/ton (54.17 g/t) Ag. The enclosing altered wall rocks were apparently not sampled by UKHM.

15A Vein:

The 15A Vein is probably the strike extension of the 15 Vein. It has the same attitude as the 15 Vein but it is apparently less well mineralized.

45 Vein:

The 45 Vein is postulated at the top of a very weak float train, although Zimmer (1968) suggests that the source could actually be an easterly continuation of the 15 Vein, which lies about 400 feet (120 m) upslope. The float consists of scorodite stained quartz in a quartzite breccia and the one sample collected assayed 0.16 oz/ton (5.49 g/t) Au and 0.3 oz/ton (10.29 g/t) Ag.

42 Vein:

Hand trenching on the upper limit of a float train revealed a 6 to 8 inch (15 to 20 cm) wide quartz vein. Mineralization consists of quartz with minor jamesonite, arsenopyrite and sphalerite. The weighted average grade of channel samples spaced at 5 foot (152 cm) intervals across the vein was 0.68 oz/ton (23.31 g/t) Au and 6.9 oz/ton (237 g/t) Ag over a 40 foot (12 m) distance and a 0.9 foot (27 cm) average width.

51 Vein:

Hand trenching was attempted on the upslope termination of a 300 foot (90 m) long float train of vein quartz but permafrost prevented exposure of the source.

This target is a relatively narrow 6 to 10 inch (7.5 to 25 cm) wide fault zone exposed in a rock face east of the 15 Vein. Very minor scorodite and arsenopyrite mineralization is present. A selected grab sample assayed 0.22 oz/ton (7.54 g/t) Au with Trace Ag.

41 Vein:

The 41 Vein was found by following a float train of limonite stained quartz that contains galena. This was traced to a bedding plane fault zone that is only sparsely and sporadically mineralized. In the nearby talus, a large block of scorodite stained quartz was found, which was assumed to have come from an unexposed transverse vein. A selected sample of the galena bearing float assayed 0.70 oz/ton (24.0 g/t) Au and 32.9 oz/ton (1 128 g/t) Ag with 7.48% Pb.

40 Vein:

The 40 Vein is a float train of arsenopyrite and scorodite in quartz with minor galena. It may possibly be an extension of the nearby 39 Vein (Zimmer, 1968). Four float samples were collected with grades ranging from Trace to 1.78 oz/ton (61.0 g/t) Au and 0.7 oz/ton (24.0 g/t) to 34.1 oz/ton (1169 g/t) Ag.

39 Vein:

The top of a float train consisting of strongly broken quartz cemented by scorodite, arsenopyrite and galena was trenched in an attempt to expose the source. The trench was not successful in exposing a vein but it did reveal fractured quartzite with scorodite stringers that was thought to possibly represent the hanging wall of a vein. Three grab samples of vein float graded from 0.16 oz/ton (5.49 g/t) Au to 0.54 oz/ton (18.5 g/t) Au and 1.1 oz/ton (37.7 g/t) to 3.9 oz/ton (133.7 g/t) Ag.

47 Vein:

A float train of mineralized quartz was traced too far up the slope to represent an extension of the nearby 39 Vein. Two large blocks of quartz with scorodite stain were found near the upslope termination of the float train but no attempt was made to expose the source due to heavy talus cover. A specimen of the quartz float assayed 0.44 oz/ton (15.08 g/t) Au and 0.4 oz/ton (13.71 g/t) Ag.

49 Vein:

This vein does not outcrop and its location is defined as the top of a float train of scorodite stained quartz with minor arsenopyrite. Two selected samples of float were collected, returning assays of 1.18 oz/ton (40.5 g/t) Au with 2.0 oz/ton (68.6 g/t) Ag and 1.78 oz/ton (61.0 g/t) Au with 2.5 oz/ton (85.7 g/t) Ag.

48 Vein:

The 48 Vein is defined by a train of mineralized float that terminates along a 300 foot (90 m) long front. Talus cover was too heavy to attempt trenching. Four selected samples of float were submitted for assay with average grades of 1.48 oz/ton (50.74 g/t) Au and 2.25 oz/ton (2.25 g/t) Ag.

46 Vein:

Trenching at the upper limit of a weak float train failed to locate the source. Float consists of scorodite, arsenopyrite and minor galena in quartz. The best mineralized of three samples assayed 0.30 oz/ton (10.29 g/t) Au and 0.1 oz/ton (3.43 g/t) Ag.

50 Vein:

The 50 Vein was not found in outcrop and its presence is only defined by widely dispersed float on the steep hillside. No hand trenching was attempted.

The trace of the 18 Vein is located on the east rim of the head of McNeil Gulch and extends some 200 feet (60 m) to the southwest where it is terminated by a bedding plane(?) fault. No assays of material from this vein are available.

8.2.3 Other Veins

Vein occurrences outside of the McNeil Gulch headwall area are described below. As for the McNeil Gulch veins, descriptions are from Oullette (1985) unless otherwise indicated.

1 Vein:

The 1 Vein was discovered in 1965 and explored with hand trenching in 1966 and close spaced soil geochemical sampling in 1967 by UHKM before claims enclosing the showing were allowed to lapse. The ground was restaked by local prospectors and optioned to Meldean Placers Ltd., which cleaned out the old hand trenches in 1981. 660250 Ontario Limited carried out soil sampling, VLF-EM geophysical surveys and further hand trenching of the target in 1986. Orex Resources Limited completed two diamond drill holes across the best area of mineralization in 1987.

- Character assays of relatively abundant galena float boulders that comprise the original discovery returned extremely high Ag values; e.g. 899 oz/ton (30 822 g/t) Ag with 72% Pb and 424 oz/ton (14 400 g/t) Ag with 75% Pb.
- The 1966 hand trenching outlined a 400 foot (120 m) long, southeasterly trending, bedding plane(?) vein fault mineralized with scorodite and short discontinuous veinlets of galena. The vein fault varies in width from 8 inches to 2 feet (20 cm to 60 cm) although it widens to greater than 6 feet (1.8 m) at a transverse(?) fault that terminates the northerly end of the structure. The southeast limit of the mineralization was not determined due to deep overburden. Channel sampling results were disappointing with typical assays of 6 to 8 oz/ton (206 to 274 g/t) Ag over 5 feet or 1.5 m (gold assays were less than 0.30 oz/ton or 10 g/t although they were considered at the time to be unreliable). The best assay of 18.8 oz/ton (645 g/t) Ag over 5 feet (1.5 m) was at the north end of the structure, adjacent to the transverse(?) fault.
- Results of close-spaced soil geochemical sampling carried out in 1967 reveal that a very strong lead anomaly extends east-northeast along the trend of the postulated transverse fault for a distance of about 650 feet (200 m) where it is open to extension beyond the limit of sampling. The 1986 and 1987 work did not have the benefit of this information since it was reported in assessment reports that were still confidential at the time and exploration continued to focus on the southeasterly trending bedding plane vein fault with results comparable to the earlier UHKM hand trench assays. The source of the very high grade galena float is probably the east-northeast trending transverse fault, which parallels the strongest lead soil geochemical anomaly. This trend also coincides with a VLF-EM geophysical anomaly. This target has not been adequately tested by any of the physical work carried out to date.

A number of very successful small scale, selective surface mining operations have produced direct shipping ore from silver rich veins in the Keno Hill camp over the past two decades. Silver assays of the 1 Vein discovery float boulders are unusually high, even for the richest

veins in the district, and further exploration is definitely warranted to establish whether the grade, tonnage and setting of the 1 Vein could support this type of operation.

2 Vein:

The 2 Vein outcrops on the cirque rim between the two forks of Granite Creek. The distribution of mineralized float and outcrop suggests that the source is a northwest trending bedding plane vein fault. Mineralization consists of a limonitic quartzite breccia with disseminated pea sized clots of galena as well as cerussite and jarosite. Character samples containing galena and cerussite returned an average assay of 62 oz/ton (2126 g/t) Ag and 17% Pb. Gold analyses were apparently not carried out.

5 Vein:

The 5 Vein is the strongest structure found to date in the Mount Hinton area. UKHM traced the structure through a combination of prospecting, hand trenching, bulldozer trenching, and percussion drilling for a distance of about 4500 feet (1300 m). It strikes east-west with a dip that varies from 40 to 80° south. Widths of vein material and enclosing fault gouge or breccia range up to 60 feet (20 m). Grab samples have assayed up to 0.33 oz/ton (11.3 g/t) Au although most returned values less than 0.15 oz/ton (5 g/t) Au. Excavator and bulldozer trenching in 2003 tested the 5 Vein at 80 to 130 foot (25 to 40 m) intervals over a 560 foot (170 m) distance down the west flank of the south peak of Mount Hinton. The best result of this work was a chip sample across a 14.8 foot (4.5 m) wide quartz vein exposed in Trench 03-05 that graded Trace (0.47 g/t) Au and 5.3 oz/ ton (183.0 g/t) Ag; and, 100 feet (33 m) to the west in Trench 03-06, a chip sample across a 13.8 foot (4.2 m) interval of vein quartz that graded 0.03 oz/ton (1.04 g/t) Au and 2.7 oz/ton (92.5 g/t) Ag.

6 Vein:

The 6 Vein is shown as a northeast trending structure about 1000 feet (300 m) south of the 2 Vein (Zimmer, 1968) but no description is given.

7 Vein:

An easterly-trending structure labeled the 7 Vein is shown in the headwaters area of the east fork of Granite Creek in Zimmer (1968) but no description is given.

12 and 13 Veins:

The 12 and 13 Veins lie in the southeast part of the property and they received only little attention by UHKM in 1966 before the exploration focus shifted to the McNeil Gulch area. Mineralization in the **12 Vein** consists of galena, arsenopyrite and scorodite in a fractured quartz "system" that varies in width from 2 to 8 feet (0.6 to 2.4 m). The trace of the fault that hosts the mineralization was followed for approximately 300 feet (90 m) to the northwest of the discovery point where it was lost in talus. Grades of three undescribed samples ranged from 0.06 oz/ton (2.06 g/t) Au to 0.32 oz/ton (10.97 g/t) Au, 2.14 oz/ton (73.37 g/t) Ag to 18.49 oz/ton (634 g/t) Ag, and 2.82% to 21.48% Pb. The 13 Vein is described as a steeply dipping "wide fractured quartz system" with sporadic mineralization consisting of arsenopyrite, scorodite, galena and stibnite. Mineralization was traced over widths ranging up to 35 feet (10.7 m). Eight undescribed samples collected from the 13 Vein in 1966 had highly variable grades that range from Trace Au, 0.82 oz/ton (28.11 g/t) Ag and 0.50% Pb to 0.48 oz/ton (16.46 g/t) Au and 92.50 oz/ton (3171 g/t) Ag with 18.64% Pb. There is apparently a correlation between better gold grades and higher values of lead (as galena) but some samples contained relatively high gold grades in the absence of appreciable lead; for example, one sample returned grades of 0.30 oz/ton (10.29 g/t) Au, 0.48 oz/ton (16.46 g/t) Ag with only 0.50% Pb.

8.3 Other Mineralization

Five boulders of brecciated quartzite with abundant small cross cutting quartz veins were sampled in the area of the 1 Vein in 1968 (Adams, 1986). Samples taken from all five boulders carried anomalous values of gold and silver with the best values of 0.07 oz/ton (2.4 g/t) Au and 8.26 oz/ton (283 g/t) Ag received from a sample containing 15 to 20% arsenopyrite.

9.0 EXPLORATION

This section describes methodology and the generalized results of exploration on the Mount Hinton property for the period 1965 to 2003. Earlier work had apparently been performed (Minfile, 2002) but no documentation is available although Oullette (1985) summarizes anecdotal references to early work that are contained in UKHM files. Work performed in 2002 and 2003 was carried out by Junior Mine Services Ltd. and Archer, Cathro & Associates (1981) Limited, respectively, on behalf of Yukon Gold and the 2003 work was carried out under the author's direct supervision. Exploration is described in assessment reports submitted to the Mayo Mining Recorder authored by Adams (1986), Carne (2003), Costin and Zimmer (1966), Junior Mine Services (2003), Oullette (1985), Van Tassel (1965), and Zimmer (1967 and 1968). These assessment reports were not prepared in accordance with the standards currently prescribed by National Instrument 43-101. Nonetheless, they were written to satisfy contemporary requirements of the Yukon Quartz Mining Act at a standard acceptable to the professional engineers or geoscientists who authored them.

9.1 Prospecting and Hand Trenching

The primary exploration tool employed by UKHM from 1965 to 1968 was prospecting for mineralized float in talus. This work was carried out during the course of geological mapping by exploration geologists, rather than by professional prospectors. Mineralized float was typically traced up slope to its apparent source and evaluated by small hand pits or foxholes at first and, when a bedrock source was located, the vein quartz was exposed along strike as far as it was safe and feasible. In the case where a vein crossed alternating talus filled gullies and ridges on the steep cliff face, the gullies were ignored and the tops of the ridges were trenched. Explosives were needed to penetrate permafrost and areas with very coarse talus. Because of limited bedrock exposure on the valley floors and walls, attention was focused on the steepest slopes. Early discoveries of gold rich float and bedrocks showings in the headwall of McNeil Gulch further limited the scope of the exploration program elsewhere on the property. Descriptions of vein float or bedrock samples from hand trenches are given for individual vein targets in Section 8 of this report.

9.2 Underground Exploration

Charles Brefalt drove a 120 foot (37 m) adit in the cirque face of McNeil Gulch in 1941 but little public record of this work remains. In 1968 an inclined prospect shaft was sunk to a depth of 25 feet (7.6 m) on the 21 Vein. A protective cover had to be built over the shaft for protection from

An adit was driven on the 19 Vein in early July 1984. The program was contracted out and supported with helicopter crew moves from a fly camp at the base of the cirque. After two weeks work the talus cover was cleared and the vein was exposed in a vertical face. However the structure was found to consist of shattered quartz and fault gouge and, to avoid continuous timbering, the decision was made to drift subparallel to the vein and crosscut into the vein on 40 foot (12 m) intervals. An attempt to drift on the 21 Vein was carried out at the same time but work was curtailed on October 7 after an avalanche of heavy snow narrowly missed sweeping the crew off the cliff. By October 30, when all work was stopped for the season due to extreme cold, a total of 162.5 feet (49.5 m) of drift and 159.4 feet (48.6 m) of crosscut were excavated on the 19 Vein. Neither the adit nor the crosscuts intersected well mineralized vein material.

9.3 Excavator Trenching

An excavator trenching program was started in 2002 and completed in 2003 to explore the northwest extension of the main vein trend along a northerly trending ridge that forms the north side of the north peak of Mount Hinton as well as testing the 5 Vein on the west side of the south peak of Mount Hinton. Numerous quartz veins and strong vein faults with an orientation similar to the well mineralized structures in the headwall of McNeil Gulch were exposed and sampled by the trenching on the north ridge. Although they are for the most part only weakly mineralized with gold and silver at this location, the veins exhibit good continuity and width.

The 5 Vein is by far the strongest structure found to date in the Mount Hinton area. Excavator and bulldozer trenching in 2003 tested the 5 Vein at 80 to 130 foot (25 to 40 m) intervals over a 560 foot (170 m) distance down the west flank of the south peak of Mount Hinton. Only low grade mineralization was encountered.

The 2002 and 2003 trenching programs were only partially successful at exposing quartz veins in the two target areas because the veins occur in recessive fault zones, which at the relatively high elevations of Mount Hinton are mantled with an almost impenetrable blanket of ice-cemented talus and soil. In addition, the highest priority target areas in the headwall area of McNeill Gulch are too steep to employ the use of heavy equipment and other methods will have to be employed to perform an effective evaluation of the economic potential of the property. Descriptions of mineralization encountered by recent trenching on the north ridge targets and on the 5 Vein are given elsewhere in this report.

9.4 Geochemical Surveys

UKHM carried out systematic soil sampling over much of the current Mount Hinton property in 1965, 1966 and 1968. B or C Horizon samples were generally taken at 100 foot (30 m) intervals on lines spaced 300 feet (91 m) apart. Colourmetric (dithizone) determinations of an aqua regia-hydrochloric acid extraction of a one gram sample were carried out for lead and zinc at the company's Elsa mine assay office. Lead, with its relative insolubility in surficial environments has been traditionally used as a discriminator for Keno Hill area silver-lead veins and UKHM

used a 24 ppm lead anomaly threshold. The Mount Hinton veins commonly contain lead minerals (either jamesonite or galena) although significant gold mineralization has also been discovered in the absence of appreciable lead minerals.

Yukon Gold carried out orientation geochemical sampling in 2003 along newly constructed bulldozer trails in the western part of the Mount Hinton property (Carne, 2003). A total of 98 B or C Horizon soil samples were collected at 164 foot (50 m) intervals along the road cuts. Analyses were carried out at the ALS Chemex laboratory in North Vancouver B.C. on an aqua regia digestion of a 50 gram, minus 180 micron sieved split using a Fire Assay-Atomic Absorption Spectroscopy procedure for gold and an ICP-AES procedure for 34 additional elements.

Results of the 1965-68 and 2003 geochemical surveys are summarized on Figure 10. Significant soil geochemical anomalies are described below.

Anomaly A:

This large continuous anomaly reflects downslope dispersion from numerous veins on the steep headwall slopes of McNeil Gulch. Most soil samples returned 25 to 100 ppm lead with isolated peak values greater than 250 ppm.

Anomaly B:

A moderate strength anomaly (25 to 200 ppm Pb) lies downslope of an area with no known veins.

Anomaly C:

Moderate to strong lead results (25 to 356 ppm) occur along a 4600 foot (1400 m) long, northeast linear trend that crosses the divide between McNeil and Erickson Creeks. There are no known vein occurrences that correspond to this feature although Costin and Zimmer (1966) note that old hand trenches with vein quartz float are associated with the strongest part of the anomaly.

Anomaly D:

Moderate to strong lead geochemical values occur at the head of the east fork of Granite Creek along the easterly strike extension of the main vein trend. Vein 7 is the only known showing in this area and it lies at the downslope edge of the east end of the anomaly.

Anomaly E:

Weak to moderate lead geochemical response lies along the south facing slope of the northeast branch of the west fork of Granite Creek. The 41 Vein occurs at the northeast end of this anomaly but a larger area of mineralization is probably present.

Anomaly F:

A moderate strength, northerly trending lead geochemical anomaly lies about 650 feet (200 m) north of the 1 Vein. Costin and Zimmer (1966) suggest that this anomaly could represent a mineralized bedding plane fault. Spot highs to the west and uphill of Anomaly F suggest that one or more parallel structures could be present.

Anomaly G:

Results of soil sampling conducted by UKHM in 1966 appeared to delineate limits of the 1 Vein as outlined by hand trenching (Costin and Zimmer, 1966) but the source of very high



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grade silver-bearing galena float found the previous year was not located. Detailed soil sampling carried out in 1968 extended the strongest part of the lead anomaly to the northeast, well beyond the apparent limits of the 1 Vein and at right angles to its southeast strike. The location of the 1968 soil geochemical anomaly, coupled with the discrepancy between assays of the argentiferous galena float and relatively low silver values of galena exposed by follow-up hand trenching, suggest that the weakly mineralized structure trenched in 1966 and drilled in 1987 is a bedding plane fault that intersects a potentially well mineralized, northeast trending transverse vein system (Zimmer, 1968). This target has never been fully explored.

Anomaly H:

Anomaly H lies about 3000 feet (1 km) southeast of the Mount Hinton property boundary. Isolated spot lead geochemical highs outline one or possibly two northeast-trending exploration targets. No mineralized vein occurrences have been located here but Costin and Zimmer (1966) note that an unmineralized transverse fault was mapped in the area.

Anomaly I:

A weak lead soil geochemical anomaly (25 to 100 ppm) lies downslope and along strike of the 5 Vein. Overburden depths here are likely to be excessive so that even a subtle anomaly could be significant. A 2003 soil sample collected in the same area returned strong gold (148 ppb), arsenic (804 ppm), and antimony (21 ppm) values along with relatively subdued lead (58 ppm) response.

Anomaly J:

Anomaly J is comprised of a 2003 soil sample line that returned moderate to strong gold response (24 to 95 ppb), erratic arsenic response (up to 518 ppm), weak antimony values (as high as 8 ppm) and only barely anomalous lead response (one sample with 26 ppm) over 150 m. The area of Anomaly J is largely outside the area of UKHM soil sampling although one of the old samples taken near the southeast end of the 2003 anomaly returned a moderately anomalous lead value of 64 ppm.

Anomaly K:

A string of nine soil samples collected at 164 foot (50 m) intervals along a bulldozer trail in 2003 returned weak to moderate gold (26 to 77 ppb), arsenic (up to 215 ppm), antimony (6 to 15 ppm) and lead (26 to 122 ppm) response. The anomaly lies downslope of the northwest strike extension of the main McNeil Gulch vein trend in an area that is apparently unexplored.

Anomaly L:

Seven soil samples collected at 164 foot (50 m) intervals along a bulldozer trail in 2003 returned weak gold (up to 38 ppb), arsenic (up to 214 ppm) and lead (31 to 58 ppm) response with moderate to strong antimony (6 to 13 ppm) values. This area has also apparently never been explored.

9.5 Geophysical Surveys

A VLF-EM geophysical survey was carried out by 660250 Ontario Limited over the 1 Vein area in 1986. Eight anomalous features were identified. Three of these correspond closely to areas of interest. The first is the southeast trend of the 1 Vein established by UKHM hand trenching in the 1960's and further explored by 660250 Ontario Limited and Orex Resources Ltd. in 1986 and 1987. The second corresponds with the northeast trending lead geochemical anomaly that possibly represents the vein fault source of the silver rich galena float found in 1965 (see Section

8.2.3). A third parallels the second anomalous trend about 200 m (650 ft) to the southeast where the 1986 soil geochemical survey returned high silver and lead response.

10.0 DRILLING

10.1 Percussion Drilling

A total of 5839 feet (1779.7 m) of air track percussion drilling was carried out in 1980 on the 5 Vein. Holes were drilled to the north across the projected trace of the 5 Vein at dips varying from vertical to -70° . Air track drilling for collection of overburden and shallow bedrock samples was the standard exploration technique utilized by UKHM in the Keno Hill camp. Sampling was routinely carried out at 5 foot (1.5 m) or 10 foot (3.0 m) intervals from material carried up by compressed air between the rod string and casing. The program was apparently not as successful on the 5 Vein as elsewhere in the Keno Hill mining camp because the machine was not powerful enough to drive casing through the deep, frozen overburden that was encountered. For this reason, there is a good possibility that there was significant dilution or contamination of the sample material. Of the 74 holes, 24 intersected vein material. Results of this work are summarized in the 5 Vein description included in Section 8 of this report.

10.2 Diamond Drilling

Two short diamond drill holes funded by Orex Resources Ltd. in 1987 tested the 1 Vein (Figure 4). The first hole was lost at 180 feet (55 m) due to caving ground. It was recollared at the same location and completed to a 266 foot (81 m) depth. Both holes were drilled to the north at -50° . No significant mineralization was intersected (Adams, 1988).

11.0 SAMPLING METHOD AND APPROACH

This report summarizes sampling carried out on the Mount Hinton property by a number of operators between 1965 and 2002. Results of the work are documented in assessment reports and copies are publicly available. Sample collection, handling and reporting during the previous exploration programs were carried out to standards specified at the time by the Yukon Quartz Mining Act Regulations and they differ from those currently prescribed by National Instrument 43-101.

Two types of rock samples were collected on the Mount Hinton property by Archer, Cathro & Associates (1981) Limited for Yukon Gold in 2003. Selected grab samples of limonite or scorodite stained vein float were collected wherever they were encountered during the course of geological reconnaissance. Bedrock exposures of veins and accompanying fault gouge zones were chip sampled once they were exposed by road building or excavator trenching. This section describes the sampling procedures based on individual sample descriptions given in Carne (2003). Analytical results are summarized in Section 8. It is the author's opinion, based on 30 years of exploration experience in the Yukon, that UKHM and the other Mount Hinton property operators carried out sampling programs using procedures similar or equivalent in effect

to those for the 2003 program. However, there is typically no documentation of sampling procedures in the relevant assessment reports.

Grab samples of apparently mineralized float and outcrop were collected as an integral part of all exploration programs on the property. Grab samples are not always representative of the average grade of a mineral occurrence but they serve to establish the presence of mineralization with grades of economic interest.

Chip sampling was conducted in 2003 across vein faults (quartz vein material and associated fault gouge) that were exposed by road building and excavator or hand trenching as follows:

- one rib or the floor of the trench was cleaned off by hand with a shovel and swept clean with a wisk broom if required;
- trenches were mapped and sample intervals marked at geologic breaks or, in homogeneous sections, at regular intervals not exceeding 9.8 feet (3m);
- continuous chip samples were broken from the faces using hammer and chisel or, in the case of fault gouge- a trowel, and collected in a large plastic sample bag. Sample sizes averaged about 3 lb per foot (4 kg per metre) of sample length;
- samples were double bagged, pre-numbered kraft soil sample bags were placed in the sample bags and the sample numbers on the kraft bags were marked on the outside of the bags with felt pen.

The significance of chip sampling results must be assessed in light of the material collected. For instance, it is relatively easy to obtain a continuous sample of even size across a zone of fault gouge but this is more difficult to do across a massive quartz vein exposure. While every effort is made to ensure that samples are representative, it is nonetheless possible that narrow more resistant intervals within a broader interval of fault gouge or crushed rock may be under represented in the sample.

True widths of mineralized intervals cannot be estimated accurately if the exposure in a trench is too restricted to permit a reliable measurement of orientation.

12.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

This section describes the sample handling and shipping procedures followed by Archer, Cathro & Associates (1981) Limited during the 2003 exploration program. After collection, rock samples collected from trenches were transported to Whitehorse by truck under escort by senior personnel. The samples were then shipped to the ALS Chemex laboratory in North Vancouver, B.C. by Greyhound Bus Lines. No part of the sample collection, preparation or transportation was conducted by an employee, officer, director or associate of Yukon Gold.

Analytical procedures are summarized below in metric units as reported by ALS Chemex. At the laboratory, the samples were weighed, dried and crushed to 70% minus 2 mm, before a 250 g split was taken and pulverized to better than 85% minus 75 microns. A 50g split of the pulverized fraction was analyzed for gold using Fire Assay with an Atomic Absorption Spectroscopy finish. Another split of the pulverized fraction was dissolved in aqua regia and

analyzed for 34 elements using ICP-AES. A separate 50 g split was taken for all samples that exceeded 10 ppm Au or 100 ppm Ag on the first analysis. A Fire Assay procedure with a Gravimetric determination was carried out for Au reanalysis and an Atomic Absorption Spectroscopy procedure on an aqua regia digestion was used for ultimate Ag content. ALS Chemex laboratories operate according to the guidelines set out in ISO/IEC Guide 25 "General requirements for the competence of calibration and testing laboratories" and the company is certified to ISO 9002 by KPMG in Canada and other countries.

Trench sampling does not generally provide the same level of confidence for estimation of deposit grade and characteristics as does analysis of diamond drill core. In the case of the 2003 exploration program at Mount Hinton, the near surface permafrost conditions contribute to poor sample quality and a greater risk of contamination. Results of the trench sample assays and geochemical analyses should therefore only be used as guidelines to focus further exploration. For this reason, it was not deemed necessary to perform check assays on the two 2003 trench samples that exceeded geochemical analytical detection limits for gold or silver.

13.0 DATA VERIFICATION

The bulk of the historical exploration data presented in this report was collected by United Keno Hill Mines Ltd. exploration staff and the results are recorded in reports submitted for assessment credit. These reports were prepared to standards specified at the time by the Yukon Quartz Mining Act Regulations and they differ from those currently prescribed by National Instrument 43-101. In addition, the UKHM assessment reports were submitted prior to the current requirement for complete data records, including assay certificates, geological observations and other primary documentation which would permit the author to verify the accuracy and internal consistency of the results presented. Despite the differences between the standard to which these reports were prepared and that required by National Instrument 43-101, the data contained in these reports appears to be valid and reliable. Sample collection, handling and reporting during UKHM exploration programs were apparently carried out under the same guidelines that were employed in their mining operations and those met or exceeded contemporary industry standards (A. Archer, J. McFaull, M. Phillips, personal communications 2003).

Sample and geological data resulting from the 2003 exploration program were summarized from observations taken by the author or by experienced personnel under the author's supervision and direction. The author has relied on his own field notes as well as those of M. Phillips B.Sc. to verify the reliability of the sample data. Mr. Phillips is a Whitehorse based geologist with over 40 years of precious metal exploration experience in the Yukon. He has particular expertise in the Keno Hill mining camp but he is not a Qualified Person as defined under National Instrument 43-101.

In examining and verifying the 2003 sample data documented in this report, the author performed the following the following tasks:

- original analytical certificates were obtained from ALS Chemex.
- trench sample results were compiled from original field notes and analytical certificates.

• the range of reported results and the distribution of these results were checked against the field description of material sampled.

The verification measures undertaken in connection with this assignment are intended to assess whether inadvertent errors may have occurred through sampling, sample handling and analytical procedures.

14.0 INTERPRETATION AND CONCLUSIONS

Despite its relatively long exploration history, the Mount Hinton property has received only minor physical work to delineate the numerous prospecting discoveries of precious metal mineralization. The bulk of the exploration occurred in the 1960's and this work was carried out under difficult conditions, requiring numerous fly camp set ups in order to keep crews close to their work. Trenching was all by hand, and mostly completed without the aid of explosives. Generally speaking, the fifty or more prospecting targets received only partially successful follow up because of coarse unstable talus, permafrost and steep terrain. Vehicle access has recently been extended to the north and west parts of the property, enabling the use of heavy equipment to more efficiently expose bedrock for mapping and sampling.

The Mount Hinton veins are hosted within fault or shear zones. It is apparent from records of historical work that transverse normal faults in brittle quartzite units are the preferred host in a setting similar to that of productive silver veins in the nearby Keno Hill mining camp. Transverse faults are offset or linked by less well mineralized bedding plane shears that are localized within relatively incompetent phyllite interbeds. In this manner, the "en echelon" vein distribution that is apparent in plan view may actually be a lesser number of more laterally or vertically continuous complex vein fault systems.

More than fifty mineralized veins or discrete mineralized vein float trains have been discovered to date. Follow up hand trenching was directed toward searching for the source of better mineralized float but this was only partially successful. Despite this, four of the prospecting targets were exposed well enough to permit detailed sampling of short segments.

- The **19 Vein** was exposed for 80 feet (24 m) and channel samples at 2 foot (61 cm) intervals returned an average value of 0.19 oz/ton (6.51 g/t) Au, and 2.0 oz/ton (68.57 g/t) Ag over an average width of about 5.6 feet (170 cm). The host structure has been traced through mapping, hand trenching and air photo analysis for a distance of approximately 1200 ft (370 m).
- The **21 Vein** was exposed for a total length of 72 feet (22 m) and channel sampled at 2 foot (61 cm) intervals. Weighted average grade was 1.24 oz/ton (42.5 g/t) Au and 19.3 oz/ton (319 g/t) Ag over an average width of 3.4 feet (105 cm).
- The **24 Vein** was channel sampled for 80 feet (24 m) at 2 foot (61 cm) intervals, yielding an average assay of 0.51 oz/ton (17.5 g/t) Au and 45.1 oz/ton (1546 g/t) Ag over a 1.6 foot (49 cm) average width.
- The **42 Vein** returned an average grade of 0.68 oz/ton (23.31 g/t) Au and 6.9 oz/ton (237 g/t) Ag for a 40 foot (12 m) distance and a 6 to 8 inch (2.4 cm to 3.1 cm) average width from channel samples spaced at 5 foot (152 cm) intervals.

Soil sampling and hand trenching conducted by UKHM in 1966 appeared to delineate limits of the **1 Vein** but the source of very high grade, silver rich (e.g. 899 oz/ton or 30 822 g/t Ag and 424 oz/ton or 14 400 g/t Ag) galena float boulders found the previous year was not discovered. Detailed soil sampling subsequently extended the strongest part of the lead anomaly to the northeast, well beyond the apparent limits of the 1 Vein and at right angles to its apparent southeast strike. This work suggested that the weakly mineralized structure exposed by trenching is actually a bedding plane fault that intersects a potentially well mineralized but unexplored northeast trending transverse vein system. This type of mineralization has been profitably exploited by small scale open pit mining of direct shipping ore from a number of locations in the Keno Hill camp over the past two decades.

United Keno Hill Mines Ltd. were primarily interested in mill feed for their nearby production facility in Elsa where silver-lead flotation concentrates were produced from galena and tetrahedrite rich ores. Thus, their primary interest was in the galena and jamesonite rich veins at Mount Hinton and not in the potentially well mineralized but oxidized, sheared and crushed zones that often accompany them. For example, 2003 sampling of the **54 Vein** returned grades of 0.45 oz/ton (15.45 g/t) Au and 0.25 oz/ton (8.4 g/t) Ag from 11.8 inches (30 cm) of grey fault gouge that forms the footwall to a massive quartz vein. The quartz was exposed in an old UKHM hand trench but, probably because it was not visibly mineralized, the target was not assigned a number designation and it was not included on their maps; nor was it apparently sampled. Furthermore, the 2003 hand trenching and sampling did not expose the entire width of the 54 Vein system because of thick, unstable talus cover so that the full potential of this style of mineralization in this location has not been evaluated and, by inference, neither have similar gouge and crush zones that may accompany many other quartz veins on the property.

Historical reports also document that swarms of narrow quartz veins or zones of quartz flooded breccia in adjacent wall rocks often accompany well mineralized quartz veins on Mount Hinton. For example, the **13 Vein** is described as a "wide fractured quartz system" sporadically mineralized with arsenopyrite, stibnite and galena. UKHM did not routinely sample this type of apparently lower grade mineralization so that there is no basis for an estimation of the bulk tonnage potential it may present.

Much of the Mount Hinton property was explored with close spaced soil geochemical sampling by UKHM from 1965 to 1968. Copper, zinc and lead values are documented on publicly available assessment report maps. The best correlation between the known vein zones is with the lead anomalies although there are a number of areas with relatively strong and extensive lead soil geochemical response that are not associated with any known mineralization and these provide a focus for immediate follow up. The historical reports of vein sampling on the Mount Hinton property document only gold, silver, lead and, occasionally zinc assays although the very strong association of antimony and arsenic minerals such as jamesonite, stibnite and arsenopyrite with better precious metal grades is noted. Results of 2003 multi-element analyses also document that strongly anomalous values of arsenic, antimony and lead often accompany elevated gold and silver response in quartz vein faults.

15.0 RECOMMENDATIONS

The Mount Hinton property covers an area of about 9300 acres (3700 hectares). It lies within the Tombstone Gold Belt of central Yukon and many other precious metal occurrences in the region have been the focus of advanced exploration over the past decade. The Mount Hinton property however has received very little modern exploration and the full economic potential remains largely untested. Historical work carried out in the 1960's was principally prospecting with follow up hand trenching, effectively limiting discovery to areas of relatively light overburden cover that occupy only about 10% of the claim group.

Three types of precious metal exploration target are present on the Mount Hinton property.

- Quartz veins hosted by east-northeast trending, steeply dipping transverse fault systems have been the focus of historical work and remain the principal target for further investigation. As many as fifty relatively well mineralized gold and silver bearing quartz vein bedrock or float occurrences have been found. A great majority of them are located on the steep, north facing slopes of the McNeil Gulch cirque headwall in a 1000 foot (300 m) wide, 2 mile (3.4 km) long trend over a vertical distance of 820 feet (250 m). Veins that have so far been exposed by hand trenching and evaluated with close spaced channel sampling demonstrate the potential for average grades in the 0.5 oz/ton (17.5 g/t) Au and 45.1 oz/ton (1546 g/t) Ag to 1.24 oz/ton (42.5 g/t) Au and 19.3 oz/ton (319 g/t) Ag range over average widths of 1.6 to 3.4 feet (49 to 105 cm), respectively. Past efforts to fully evaluate the various vein zones by hand trenching were frustrated by the steep terrain and difficult overburden conditions.
- Character assays of relatively abundant galena float boulders that comprise the 1 Vein discovery in 1965 returned extremely high silver values including one sample that carried 899 oz/ton (30 822 g/t) Ag with 72% Pb. Subsequent work outlined a southeasterly trending bedding plane fault mineralized with scorodite and short discontinuous veinlets of galena. Channel sampling results were disappointing with typical assays of 6 to 8 oz/ton (206 to 274 g/t) Ag over 5 feet (1.5 m). The best mineralization lies at the north end of the structure, adjacent to an intersecting east-northeast trending transverse fault that is accompanied by a strong lead-silver soil geochemical anomaly and a VLF-EM geophysical anomaly. This latter area is possibly the source of the silver rich galena boulders and further exploration is required to fully evaluate this hypothesis.
- The third style of mineralization on the Mount Hinton property has received very little attention from previous explorers and only anecdotal mention is made in reports of early work. A number of the known gold bearing veins have associated zones of quartz veinlets or quartz flooded breccias that contain arsenopyrite. The few samples of this type of material that have been assayed returned anomalous values of gold and silver. This may represent an unrecognized bulk tonnage gold target similar to others that have been successfully explored elsewhere in the Keno Hill district.

Historical exploration at Mount Hinton was limited in effect by logistical and technical problems as well as a relatively narrow scope based on contemporary knowledge about gold-silver deposit geology and metallurgy. In the author's opinion, the setting, style and grade of gold and silver mineralization discovered to date on the property are very encouraging and an aggressive program of further work is fully warranted. The best exploration targets appear, on the basis of present knowledge, to be in the north facing cirque wall of McNeil Gulch where a large number of relatively high grade auriferous quartz veins are present. Unfortunately, the extremely rugged local topography limits testing by surface diamond drilling to relatively long holes collared on the opposite side of the ridge. The first phase of additional work should therefore focus on improving the exploration database across the property as well as laying a geological, geochemical, and geophysical foundation for a second phase of underground development that will enable an evaluation of the McNeil Gulch veins by close spaced underground diamond drilling. A qualified mining consultant should perform a thorough review of the first phase surface exploration and geotechnical data before underground development is carried out. Permitting of this type of work will require that baseline environmental surveys are completed early in the first phase of exploration.

Results of soil geochemical sampling on the property demonstrate that gold-silver mineralization at Mount Hinton is reflected by anomalous lead, gold, arsenic and antimony response. Accordingly, exploration for new precious metal occurrences should be guided by relatively close spaced soil sampling in areas that remain untested by historical geochemical surveys. In addition, previously defined lead soil geochemical anomalies should be resampled on a detailed basis to provide definitive targets for follow up.

Because the mineralized vein faults often contain conductive graphitic gouge zones in addition to vein quartz, geophysical methods could be useful in tracing the host structures beneath overburden cover. Orientation surveys incorporating a number of geophysical techniques should be carried out on the advice of a qualified geophysical consultant. If this test work is successful, systematic geophysical exploration should be carried out over target areas that are identified by prospecting and geochemical surveys, especially where overburden cover is extensive.

Two small bulk samples of near surface gold mineralization collected in 1967 underwent preliminary metallurgical testing but the results were inconclusive. Sample material provided from drill core will be more representative than material collected from surface trenches and preliminary testing on composites of drill core coarse rejects should be carried out under the advice of a qualified metallurgical consultant as a part of the first phase work. If warranted, a larger bulk sample could be collected from underground exposures of vein material during the second phase of the program.

Respectfully submitted,

Archer, Cathro & Associates (1981) Limited

"ROBERT C. CARNE"

Robert C. Carne, M.Sc., P.Geo. Professional Geoscientist

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APPENDIX I.

CLAIM STATUS REPORT

MOUNT HINTON PROPERTY



Claim Status Report

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29 October 2003

	Claim Name and Nbr.	Grant No.	Expiry Date Registered Owner	% Owned	NTS #'s	
R	Hinton 1 - 2	YC00401 - YC00402	2011/11/01 Yukon Gold Corp	100.00	105M14	F
R	Hinton 3 - 30	YC00403 - YC00430	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton 31 - 32	YC00431 - YC00432	2007/11/01 Yukon Gold Corp	100.00	105M14	F
R	Hinton 33 - 34	YC00433 - YC00434	2007/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton 35	YC01091	2011/11/01 Yukon Gold Corp	100.00	105M14	Р
R	Hinton II 1 - 11	YC01126 - YC01136	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton II 12	YC01137	2010/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton II 13 - 22	YC01138 - YC01147	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton II 23	YC01148	2010/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton II 24 - 26	YC01149 - YC01151	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton III 1 - 7	YC01152 - YC01158	2008/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton III 8	YC01159	2007/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton III 9 - 14	YC01160 - YC01165	2008/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton IV 1	YC01424	2009/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton IV 2 - 6	YC01425 - YC01429	2008/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton V 1 - 4	YC01417 - YC01420	2008/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton V 5	YC01421	2008/11/01 Yukon Gold Corp	100.00	105M14	Ρ
R	Hinton V 6	YC01422	2008/11/01 Yukon Gold Corp	100.00	105M14	
R	Hinton V 7	YC01423	2007/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 1 - 10	YC10609 - YC10618	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 11 - 12	YC10619 - YC10620	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 13	YC10621	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 14	YC10622	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 15	YC10623	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 16	YC10624	2009/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 17	YC10625	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 18	YC10626	2009/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 27 - 28	YC10627 - YC10628	2009/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 29	YC10629	2010/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 30	YC10630	2009/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 31 - 34	YC10631 - YC10634	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 35 - 42	YC10635 - YC10642	2009/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 43	YC10643	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 44	YC10644	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 45	YC10645	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 46	YC10646	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 47	YC10647	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 48	YC10648	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 49 - 50	YC10649 - YC10650	2011/11/01 Yukon Gold Corp	100.00	105M14	
				Total claim	s selected · 186	i.

Left column indicator legend:

P - Indicates the claim is pending.

R - Indicates the claim is on one or more pending renewal(s).

Right column indicator legend: L - Indicates the Quartz Lease.

F - Indicates Full Quartz fraction (25+ acres)

P - Indicates Partial Quartz fraction (<25 acres)

D - Indicates Placer Discovery

C - Indicates Placer Codiscovery

B - Indicates Placer Fraction

Page 1 of 2



Claim Status Report

29 October 2003

	Claim Name and Nbr.	Grant No.	Expiry Date Registered Owner	% Owned	NTS #'s	
R	Key 57 - 62	YC10651 - YC10656	2011/11/01 Yukon Gold Corp	100.00	105M14	_
R	Key 63 - 82	YC10657 - YC10676	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 89	YC10677	2011/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 90 - 92	YC10678 - YC10680	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 100 - 101	YC10693 - YC10694	2012/11/01 Yukon Gold Corp	100.00	105M14	\mathbf{F}
R	Key 102 - 103	YC10695 - YC10696	2012/11/01 Yukon Gold Corp	100.00	105M14	
R	Key 104	YC10697	2012/11/01 Yukon Gold Corp	100.00	105M14	F
	Moon 1	YC10957	2004/09/09 Yukon Gold Corp	100.00	105M14	F
	Moon 2 - 12	YC10958 - YC10968	2004/09/09 Yukon Gold Corp	100.00	105M14	
	Red 1 - 9	YC10948 - YC10956	2004/09/09 Yukon Gold Corp	100.00	105M14	

Criteria(s) used for search:

CLAIM STATUS: ACTIVE & PENDING OWNER(S): YUKON GOLD CORP REGULATION TYPE: QUARTZ

Left column indicator legend:

R - Indicates the claim is on one or more pending renewal(s).

P - Indicates the claim is pending.

Right column indicator legend:

Page 2 of 2

L - Indicates the Quartz Lease.

F - Indicates Full Quartz fraction (25+ acres)

P - Indicates Partial Quartz fraction (<25 acres)

Total claims selected : 186

D - Indicates Placer Discovery

C - Indicates Placer Codiscovery

B - Indicates Placer Fraction

APPENDIX II.

CERTIFICATE

I, Robert Clifton Carne, M.Sc., P.Geo., with business address in Vancouver, British Columbia and residential address in Burnaby, British Columbia do hereby certify that:

- 1. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (Registration Number 19868).
- 2. I am a Graduate of the University of British Columbia with a B.Sc. (Honours) degree in Geology obtained in 1974 and a M.Sc. degree in Geology obtained in 1979.
- 3. I have been actively involved in mineral exploration in the northern Canadian Cordillera since 1974.
- 4. I have no interest, either direct or indirect, nor do I expect to receive any interest, direct or indirect, in Yukon Gold Corporation Inc. or any of its properties.
- 5. The foregoing report is based on publicly available data, reports and maps; on reports and maps supplied by Yukon Gold Corporation Inc.; and on field observations taken by the Author and senior employees of Archer, Cathro & Associates (1981) Limited under the Author's direct or indirect supervision at the Mount Hinton property in August and September, 2003.
- 6. Permission is hereby granted to Yukon Gold Corporation Inc. to use this report in support of any Prospectus or Filing Statement.

Dated this 30th day of November 2003 in Vancouver, British Columbia, Canada.

"ROBERT C. CARNE"

Robert C. Carne, M.Sc., P.Geo.

APPENDIX III.

GLOSSARY OF MINING AND GEOLOGICAL TERMS (as used in this report)

- **adit** A horizontal or nearly horizontal passage driven from the surface for the purpose of the exploration or mining of a mineralized zone or ore body.
- Ag Chemical symbol for silver.

air photo analysis Use of aerial photography to determine or estimate geological features.

- **alkali feldspar** Those feldspar minerals composed of mixtures of potassium feldspar (KalSi₃O₈) and sodium feldspar (NaAlSi₃O₈) with little or no calcium feldspar (CaAl₂Si₂O₈).
- alteration zone An area where bedrock has undergone mineralogical changes as a result of the action of hydrothermal fluids.
- **amphibole** A silicate mineral of the amphibole group, such as hornblende, anthophyllite, cummingtonite, tremolite and actinolite. They constitute an abundant and widely distributed constituent in igneous and metamorphic rocks.
- **anglesite** Lead sulphate (PbSO₄), a common secondary mineral formed by the oxidation of galena.
- **anomaly** Pertaining to the data set resulting from geochemical or geophysical surveys; a deviation from uniformity or regularity.
- **aqua regia** A very corrosive, fuming yellow liquid made by mixing nitric and hydrochloric acids, usually in the proportion of one part by volume of pure nitric acid with three parts by volume of pure hydrochloric acid.
- argentiferous Said of a substance that contains silver.

arsenopyrite A tin-white or silver-white to steel-grey mineral (FeAsS).

- As Chemical symbol for arsenic.
- **Assay** *v*. To analyse the proportions of metals in a specimen of rock or other geological material. *n*. Results of a test of the proportions of metals in a specimen of rock or other geological material.
- Atomic Absorption Spectroscopy Interpretation of chemical analytical data acquired through vaporizing in a flame a liquid derived by dissolving a sample of rock or other geological material, and measuring the absorbance of various narrow wavelengths of light which are characteristic of specific metals. The amount of metal present in the liquid and (by calculation) in the original sample is proportional to the amount of light absorption by the vapor.
- Au Chemical symbol for gold.
- **B Horizon** A general term for the near surface part of the soil profile which is commonly enriched in iron and other metals, often resulting in a brownish colour.
- **background** As pertains to geochemical data; the variation in natural abundance of a particular metal or other constituent within a specific geological setting.
- **bedding** The arrangement of a sedimentary or metamorphic rock in beds or layers of varying thickness and character.
- **bedding plane fault** A fault, the fault surface of which is parallel to the bedding plane of the host rocks.

- **bedrock** A general term for the rock, usually solid, that underlies soil or other unconsolidated superficial material.
- biotite A dark brown to dark green or black mica mineral.
- **break** A general term used in mining geology for any discontinuity in the rock, such as a fault or fracture.
- **breccia** A rock that is composed of larger than sand size angular fragments that are cemented together by a finer grained matrix; in this sense the fragmentation is usually a result of movement on nearby or adjoining fault or fracture zones.
- **broken ground** A general mining term referring to bedrock that has an abnormally high fracture density.
- **bull quartz** A miner's or prospector's term for white, glassy, massive quartz, essentially free of accessory or ore minerals.
- **bulldozer trenching** A method of exposing bedrock by use of a bulldozer.
- C Chemical symbol for carbon.
- **C Horizon** A general term for the lower part of the soil profile commonly dominated by rock and mineral particles.
- carbonaceous Said of a rock that is rich in carbon.
- **cerussite** A colourless, white, yellowish or grayish mineral (PbCO₃); a common weathering product of galena.
- **channel sample** A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about one inch deep and 4 inches wide.
- **chip sample** A sample of a vein or other mineralized structure that is collected by way of small pieces of rock taken at regular and frequent intervals on a transect across the structure; intended to be a relatively accurate representation of the tenor of mineralization.
- **chlorite** A group of platy, micaceous, usually greenish iron-magnesium alumino-silicates that occur in metamorphic rocks and as alteration products of ferromagnesium minerals in volcanic and igneous rocks.
- **cirque** A deep, steep walled, flat or gently floored, half bowl like recess, variously described as crescent shaped or semicircular in plan, typically situated high on the north side of a mountain and commonly at the head of a glacial valley, and produced by the erosive activity of mountain glaciers.
- **cirque rim** See also **headwall**; the upslope edge, often a cliff face that bounds the arcuate inner edge of a cirque.
- **claim post** In Yukon Territory, a 4 inch square, four foot long wooden post that establishes the legal location of a mineral claim. Two posts, an Initial Post and a Final Post are required.
- **claim tag** In Yukon Territory, a set of small metal tags are issued by the government, each pair with a unique grant number assigned for the claim after the location is recorded. The tags are legally required to be permanently affixed to the Initial and Final claim posts at the first reasonable opportunity after issue of the tags.
- **clastic** Pertaining to or being a rock or sediment composed principally of fragments that are derived from preexisting rocks or minerals and that have been transported individually some distance from their places of origin.
- **coarse reject** Pertaining to assay and geochemical analytical procedures where a rock sample is initially crushed before a subsample is separated for further analysis. The coarse reject may be retained for a check assay or for additional analysis.
- collar The start or beginning of a drill hole or the mouth of an underground working.

colourmetric Quantitative chemical analysis performed by adding a certain amount of a colour reactive substance to both a solution with an unknown content of the metal tested for and standard solution with a known metal content and then comparing colour intensities to derive a metal content for the sample.

competent Said of a rock unit with respect to its hardness or resistance to erosion processes.

- **concentrate** A product of ore treatment where by mechanical, chemical or other process the valuable ore mineral or metal constituents are separated from the raw material produced by a mine.
- **contact metamorphic deposit** A deposit formed in as a replacement or alteration of rocks at or near their contact with an igneous body.
- **crosscut** *n*. An underground passage excavated across an orebody to test its width and value. *v*. The act of excavating a crosscut.
- **Cu** Chemical symbol for copper.
- **crystal** A homogeneous, solid body of a chemical element, mineral, compound or isomorphous mixture having a regularly repeated internal structure that may be outwardly expressed by plane faces.
- decline A sloping underground opening for access from surface.

dendritic Said of a mineral that has crystallized in a branching pattern.

diamond drilling The act or process of drilling boreholes using bits inset with diamonds as the rock cutting tool. The bits are rotated by various types and sizes of mechanisms motivated by electric, compressed air or internal combustion engines or motors.

- dilatent With respect to a fault; movement along which causes open spaces to form.
- **dip** The angle at which a bed, stratum, vein or other structure is inclined from the horizontal, measured perpendicular to the strike and in the vertical plane.

dip-slip A fault on which the movement is parallel to the dip of the fault.

- **direct shipping ore** Raw mining product that is, by virtue of its high grade or by the selective process used to extract it, high enough value to sell directly to a smelter or other refining agency without the step of preparing a concentrate.
- **disseminated** Said of a mineral deposit in which the minerals occur as scattered particles in the rock.
- **distal** Refers in this context to the relative distance of mineralization from a pluton thought to be related to or responsible for the deposit. Distal deposits form at some distance from the mineralizing pluton.
- **drill core** A cylindrical or columnar piece of solid rock, usually 1 to 6 inches (2.5 cm to 40 cm) in diameter and less than 10 feet (3 m) in length, taken as a sample of an underground formation by a cylindrical drill bit, and brought to the surface for examination or analysis.
- **down hole circulation** With respect to diamond drilling; refers to the flushing and removal by water based drilling fluids to surface of sand size or smaller pieces of bedrock that have been ground by the drill bit.

dump The pile or heap of ore or waste at a mine.

- dyke A tabular igneous intrusion that cuts across the bedding or foliation of the country rock.
- **drift** *n*. A horizontal opening in or near a mineralized body and parallel to the long dimension of the vein or mineralized body. *v*. The act of excavating a drift.
- **ductile** Said of a rock that is able to sustain, under a given set of conditions, 5 to 10% deformation before fracturing or faulting.
- economic The portion of a mineralized body that can be profitably exploited.

excavator trenching A method of exposing bedrock by use of a hydraulic excavator.

- **fault** A fracture or fracture zone in rock along which there has been displacement of the two sides relative to each other and parallel to the fracture plane.
- **Fe** Chemical symbol for iron.
- Feldspar A group of alumino-silicate minerals that form 60% of the Earth's crust.
- felsite A general term for any light coloured, fine grained igneous or volcanic rock, with or without phenocrysts, and composed chiefly of quartz and feldspar.
- **fibrous** Said of the habit of a of a mineral that crystallizes in elongated thin, needle-like grains or fibres.
- **Fire Assay** (see **assay**) The assaying of metallic ores, usually gold and silver, by methods requiring melting of the rock to separate its various metallic constituents.
- **flotation** A process where finely ground ore is separated into its various constituents by addition of certain chemicals affecting the surface tension properties of specific mineral particles, enabling them to float in an agitated water based solution.
- **float** A general term for loose fragments of rock; especially on a hillside below an outcropping mineralized zone.
- float train A general term for the downslope distribution of float below a mineralized zone.
- **foliated** A general term for a planar arrangement of mineralogical, textural or structural features in a rock.
- **footwall** The underlying side of a fault, ore body, vein or mine working, especially the rock below an inclined vein or fault.
- foxhole A small pit excavated in overburden by hand to expose bedrock.
- fracture A general term for any break in a rock, whether or not it causes displacement.
- **fracture filling** A mineral that is deposited within the open space caused by dilation or by lateral movement along an uneven fracture.
- galena A bluish to lead grey mineral (PbS); the principal ore of lead and an important carrier of silver minerals.
- **gangue** The valueless part of an ore; that part of an ore that is not economically desirable but cannot be avoided in mining.
- **geochemical sampling** The collection of soil, silt, vegetation or rock samples for analysis as a guide to the presence of areas of anomalous mineral of metal content in bedrock.
- **geological mapping** In mineral exploration, the collection of geological data such as the description and orientation of various types of bedrock.
- **geophysical survey** In mineral exploration, the collection of seismic, gravitational, electrical, radiometric, density or magnetic data to aid in the evaluation of the mineral potential of a particular area.
- **glacial till** Dominantly unsorted and unstratified and generally unconsolidated material deposited directly by and underneath a glacier without subsequent reworking by water, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, and boulders ranging widely in size and shape.
- **gouge** A layer of soft, earthy or clayey, comminuted rock material along the wall of a fault or vein.

- **grab sample** A specimen of mineralized bedrock or float, usually about fist-sized, that may be collected as a representation of the mineralized zone as a whole. Because of bias, either unintended or otherwise, and because of the generally high natural variability typical of gold-silver vein mineralization, grades of grab samples should not be considered as a reliable estimation of a mineralized zone as a whole but they nonetheless serve to establish the presence of mineralization with grades of economic interest.
- **granite** A coarse grained plutonic igneous rock in which quartz constitutes 10 to 50% of the felsic components and which the alkali feldspar/total feldspar ratio is in the range 65 to 90%.
- **granodiorite** A coarse grained igneous plutonic rock intermediate in composition between quartz diorite and quartz monzonite; containing quartz, plagioclase, and potassium feldspar, with biotite and hornblende as the dominant mafic components.

graphitic Containing graphite.

- **Gravimetric** A method of determination of a particular metallic constituent (usually gold) of a larger sample by weighing the bead of metal separated by Fire Assay and comparing it against the weight of the original sample.
- **greenstone** A general term applied to any compact dark green, altered or metamorphosed mafic igneous rock (e.g. gabbro or diorite).
- g/t Abbreviation for gram per tonne; equivalent to one part per million (ppm).
- **H** Chemical symbol for hydrogen.
- hand trenching A method of exposing bedrock by hand excavation.
- **hanging wall** The overlying side of an ore body, vein, fault or mine working; especially the wall rock above an inclined vein or fault.

headwall A steep slope at the head of a valley, especially the rock cliff at the back of a cirque. **Hornblende** A silicate mineral of the amphibole group.

horse Pertaining to a vein; a mass of country rock lying within a vein.

- **hydrothermal** Of or pertaining to hot water, to the action of hot water, or to the products of this action, such as a mineral deposit precipitated from a hot aqueous solution, with or without demonstrable association with igneous processes.
- **igneous** Said of a rock or mineral that solidified from molten or partly molten material; also applied to processes leading to, or resulting from the formation of such rocks.

igneous petrology The occurrence, structure, composition and character of an igneous rock. **ICP-AES** Abbreviation for Inductively Coupled Plasma Emission Spectroscopy – Atomic

- Emission Spectroscopy; an analytical technique in which a sample solution is introduced into an argon plasma at very high temperature where individual elements emit light at specific wavelengths. The light is collected by the spectrometer and the wavelength is analyzed to yield individual elemental concentrations by comparison against standard solutions with calibrated elemental concentrations.
- **interbedded** Occurring between beds, or lying in a bed parallel to other beds of a different material.
- **isotopic dating** (also radiometric dating) A process of determining the age of an igneous rock mass by measuring the ratio of a long life radioactive element against its decay product for a mineral species determined to have formed at the same time as the host rock.
- **jamesonite** A metallic, grey to black lead-antimony sulphide mineral ($Pb_4FeSb_6S_{14}$), that often occurs in feathery or needle like masses.

- **K** Chemical symbol for potassium.
- Late Devonian The period of geologic time between about 370 and 384 million years before present.
- **limestone** A sedimentary rock consisting chiefly of calcium carbonate, primarily in the form of the mineral calcite.
- **limonite** A rock composed chiefly of cryptocrystalline and amorphous hydrated iron hydroxides; commonly formed in the weathered zone of iron rich mineral deposits.
- **lithology** The character of a rock described in terms of its structure, colour, mineral composition, grain size and arrangement of its component parts.
- **location line** With respect to mineral claim staking in Yukon Territory; the location line is the actual route traversed by the claim locater during the process of claim staking. There is a prescribed process for marking the location line that must be adhered to as part of the legal requirements of a properly staked claim.
- **Lower Cretaceous** The period of geologic time between about 145 and 99 million years before present.
- Ma Abbreviation for millions of years before present.
- **mafic** Pertaining to or composed dominantly of the ferromagnesian rock forming silicates; said of some igneous rocks and their constituent minerals.
- **mass wasting** A term which includes all processes by which soil and rock materials fail and are transported downslope, predominately en masse by gravitational forces.
- massive Said of a stratified rock that occurs in very thick, homogenous beds.
- metadiorite A general term for a metamorphosed diorite; also greenstone.
- metagabbro A general term for a metamorphosed gabbro; also greenstone.
- **metallic** A mineral chiefly composed of, or containing, one or more metals as a primary constituent.
- **metallurgical test** A general term for a number of mechanical or chemical processes that are employed to test the amenability of separating metals from their ores.
- **metamorphosed** Rock or mineral that has undergone mineralogical and/or structural change in response to elevated pressures, temperatures or changes in chemical conditions.
- Mid-Cretaceous The period of geologic time between about 90 and 99 million years before present.
- Middle Devonian The period of geologic time between about 400 and 384 million years before present.
- **mineralization** The process or processes by which a mineral or minerals are introduced into a rock, resulting in an enriched deposit; or the result of these processes.
- mineralized Rock that has undergone the process of mineralization.
- **mining camp** A term loosely applied to an area of relatively abundant mines that have some relationship to each other in terms of the type of deposit or the variety of ore produced.
- **Mississippian** The period of geologic time between about 384 and 330 million years before present.
- **mortar and pestle** A mortar is a vessel in which rock is crushed by hand with a pestle for sampling or assaying.
- **mucking** A mining term referring to the removal of loose or broken rock, or overburden ("muck") from a mine or mining exploration working.

- **Net Smelter Return royalty** A general term for a residual benefit that is a percentage of the value for which a smelter will reimburse the provider of ore to the smelter, after deduction for various smelting fees and penalties and, often after cost of transportation has been deducted.
- **O** Chemical symbol for oxygen.
- offshelf With respect to the location of the continental shelf, on the seaward side of the edge of the continental mass
- **ore** The naturally occurring material from which a mineral or minerals of economic value can be extracted profitably or to satisfy social or political objectives.
- **ore shoot** an elongate pipelike, ribbonlike, or chimneylike mass of ore within a deposit (usually a vein), representing the more valuable part of the deposit.
- orthoclase A member of the feldspar group of minerals (KAlSi₃O₈).
- **outcrop** The part of a rock formation that appears at the surface of the ground.
- oxidation The conversion of sulphide mineral (especially metallic mineral) species to oxide,
- sulphate or hydoxide minerals, typically by the processes of near surface weathering. **oxide mineral** A mineral formed by the union of an element with oxygen.
- **overburden** Loose soil, sand, gravel, broken rock, etc. that lies above the bedrock. **oz/ton** Abbreviation for troy ounce per ton.
- **pathfinder** In geochemical exploration, a relatively mobile element or gas that occurs in association with an element or commodity being sought, but can be more easily found because it forms a broader halo or because it can be detected more readily by analytical methods.
- **Pb** The chemical symbol for lead.
- **percussion drill** Drilling method by with the drill bit falls by force or is driven by force into the bedrock.
- **permafrost** A permanently frozen layer of soil or subsoil, or even bedrock, which occurs to variable depths below the Earth's surface in arctic or subarctic regions.
- pestle See mortar and pestle.
- petrology See igneous petrology.
- **phenocryst** A term for relatively large crystals or mineral grains floating in the matrix or groundmass of an otherwise fine grained igneous rock.
- **photogrammetry** The science of obtaining reliable measurements from photographic images, usually aerial photography.
- phyllite A metamorphosed sedimentary rock intermediate in rank between slate and mica schist.
- **placer gold** Gold occurring in more or less coarse grains or flakes and obtainable by washing the sand, gravel, etc. in which it is found. Also called alluvial gold.
- **placer mining** The extraction and concentration of heavy metals or minerals (usually gold) from alluvial deposits by various methods, generally using running water.
- **plagioclase** A member of the feldspar group of minerals ((Na,Ca)Al(Si,Al)₂O₆).
- **plane table** An instrument for plotting the lines of a survey directly from the observations; consisting of a drawing board mounted on a tripod and fitted with a ruler that is pointed at the object observed, usually with the aid of a sighting device such as a telescope.
- **pluton** A body of medium to coarse grained igneous rock that formed beneath the Earth's surface by crystallization of a magma.
- **plutonic suite** A group of igneous bodies that are linked by virtue of similarities in age, petrology, etc.

plutonism A general term for the phenomena associated with the formation of plutons. **potassium feldspar** See **orthoclase**.

- **ppb** Abbreviation for part per billion.
- **ppm** Abbreviation for part per million.

Precambrian A period of geologic time earlier than 544 million years before present.

prospecting Pertaining to the search for outcrops or surface exposures of mineral deposits, primarily by nonmechanical methods.

- **proximal mineralization** Refers to the relative distance of mineralization from a pluton thought to be related to or responsible for the deposit. Proximal deposits form near to the mineralizing pluton.
- **pyrite** A metallic pale yellow iron sulphide mineral (FeS₂).
- quartz A glassy silicate and common rock forming mineral (SiO₂).
- **quartz diorite** A group of plutonic rocks having the composition of diorite but with appreciable quartz and feldspar, i.e. between 5 and 20%.
- **quartz gabbro** A group of plutonic rocks having the composition of gabbro but with appreciable quartz.
- **quartz monzonite** A medium to coarse grained plutonic rock containing major plagioclase, orthoclase and quartz with minor biotite and hornblende.
- **quartzite** A metamorphosed sandstone or rock composed of quartz grains so completely cemented with secondary silica that the rock breaks across or through the grains rather than around them.
- **replacement** Pertaining to a type of mineral deposit that forms by partial or complete replacement of bedrock constituents by new minerals, generally by the action of hydrothermal fluids.
- **reserve** An estimate within specified accuracy limits of the valuable metal or mineral content of known deposit that may be produced under current economic conditions and with present technology.
- **resource** Pertaining to the quantity or bulk of mineralized material without reference to the economic viability of its extraction (see reserve).
- **rib** A wall of an underground mine working or a wall of a surface exploration trench.
- **right hand** Pertaining to displacement of a vein by a fault where the sense of movement is to the right when viewed from the opposite side.
- **S** Chemical symbol for sulphur.
- saddle A low point along the crestline of a ridge.
- **Sb** Chemical symbol for antimony.
- **sediment** Fragmental material that originates from weathering of rocks and that is transported by air, water, ice or other natural agents, and that forms in layers on the Earth's surface at ordinary temperatures in a loose, unconsolidated form; e.g. silt, sand, gravel, etc.
- sedimentary rock A rock resulting from the consolidation of loose sediment.
- **selected sample** A specimen of a mineralized zone that is not intended to be representative of the deposit as a whole.
- **schist** A strongly foliated rock, formed by dynamic metamorphism, that can be split into thin flakes or slabs due to well developed parallelism of more than 50% of the minerals.
- **scorodite** A colourless or pale green mineral (FeAsO₄.2H₂O); formed in oxidized or weathered zones of arsenic bearing deposits.
- shaft An approximately vertical mine working of limited area compared with its depth.

sheared A descriptive term for rock that is deformed as a result of stresses that cause or tend to cause parts of a body to slide relative to each other along their plane of contact.

- **sheeted** Pertaining to veins; a group of closely spaced, distinctly parallel fractures filled with mineral matter and separated by layers of barren rock.
- siderite A light or dark brown mineral of the calcite group (FeCO₃).
- silica A generic term for silicon dioxide (SiO_2) , the most common form of which is quartz.
- sill A concordant sheet of igneous rock lying parallel, or nearly so, to bedding or other planar fabric in the country rock.
- **skarn** A rock that has been derived from partial or complete replacement of limestone or other calcareous rocks by silicate minerals with the introduction of aluminum, iron and magnesium.

soil sampling (see geochemical sampling).

- **split** A portion of a rock or soil sample that is separated from the bulk of the original before the analytical process so as to provide material for re-analysis as a check of the accuracy of the original procedure should it be required.
- stain as in scorodite stain; a thin film of a mineral deposited as part of the weathering process.
- **stock** An igneous intrusion with less than 40 sq. mi. (100 sq. km.) in surface exposure, usually but not always discordant with respect to country rock.
- stockwork An intersecting three-dimensional network of veins or veinlets.
- sphalerite A varicoloured sulphide mineral (ZnS), the most important source of zinc.

stibuite A soft, metallic, silvery mineral (Sb_2S_3) , the chief source of antimony.

- strata Beds or layers of rock.
- **strike** The course or bearing of the outcrop of an inclined bed, vein or fault plane on a level surface; the direction of a horizontal line perpendicular to the dip.
- **stringer** A mineral veinlet or veinlets that occur in a discontinuous subparallel pattern in the host rock.
- **structural mapping** Geological mapping that focusses in collection of data pertaining to the orientation of beds, faults and fractures as well as other structures that modify the distribution of bedrock and mineralized zones.
- **sulphide mineral** A mineral compound characterized by the linkage of sulphur with a metal or semimetal.
- surficial geology The study or geological mapping of surficial, unconsolidated materials.
- **talus** Rock fragments of any size or shape (usually coarse and angular), derived from a steep rocky slope chiefly by gravitational falling, rolling or sliding.
- **tetrahedrite** A metallic mineral ((Cu,Ag,Fe) $_{12}$ Sb $_4$ S $_{13}$) that occurs in hydrothermal veins and in contact metamorphic deposits, an important source of silver.
- **threshold** The level, whether determined statistically or arbitrarily, at which a separation is made between anomalous and background geochemical values for a particular data set.
- **thrust fault** A fault with a dip of 45 degrees or less over much of its extent, on which the hanging wall appears to have moved upward relative to the footwall.
- **timbering, timbered** The process of using logs or squared wood timbers to construct a framework for the purpose of supporting underground workings from collapse or caving.
- **trace** Pertaining to assay values; as used in this report, this term refers to gold grades of less than 0.01 oz/ton (0.3 g/t).
- **transverse fault** A fault that strikes obliquely or perpendicular to the general structural trend of the region.

transverse vein A vein that strikes obliquely or perpendicular to the general structural trend of the region.

Triassic The period of geologic time between about 250 and 200 million years before present. **true width** The width of a vein or other structure measured orthogonal to its strike and dip.

- **underground exploration** The process of excavating underground workings and drilling from these excavations to establish the continuity, thickness and grade of a mineral deposit.
- **Upper Proterozoic** The period of geologic time between about 1000 and 544 million years before present.
- **vein** An epigenetic mineral filling of a fault or other fracture in a host rock, in tabular or sheetlike form, often as a precipitate from a hydrothermal fluid.
- **vein fault** A term used in the Keno Hill mining camp to describe quartz vein material and associated fault gouge that are contained within a fault zone.
- veinlet A small vein.
- vitreous As pertains to minerals, a glassy luster.
- **VLF-EM** An abbreviation for the Very Low Frequency-Electromagnetic geophysical survey technique.
- **wall rock** The rock adjacent to, enclosing, or including a vein, layer or dissemination of ore minerals.
- water table The surface between the zone of ground water saturation and the zone of aeration; that surface of unconfined ground water at which the pressure is equal to that of the atmosphere.
- weighted average Value calculated from a number of samples, each of which has been "weighted" by a factor of the individual sample width.
- **working** A general term for any type of excavation carried out during the course of mining or mining exploration.
- **Zn** The chemical symbol for zinc.