A RE-INTERPRETATION OF THE GEOLOGY, GEOPHYSICS AND GEOCHEMISTRY OF THE LAST CHANCE 1-20 MINERAL CLAIMS AREA DAWSON MINING DISTRICT, YUKON TERRITORY, CANADA

AND

A PROPOSED GEOLOGICAL TARGET MODEL FOR THE LODE GOLD SOURCE OF THE KLONDIKE GOLDFIELDS

BY

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K. E. Berry

Mining Recorder
Dawson City Mining District

SUMMARY

The Klondike goldfield is one of the largest and most productive placer camps in the world, with a government recorded output of 13 million ounces of gold. The Klondike is also reputedly the highest-grade placer camp in the world. In the 107 years the camp has been in production, no lode gold source has ever been identified. The source of the Klondike gold has remained one of the great, unsolved geological mysteries of the exploration industry.

This writer carried out a re-evaluation of existing geological data and additional exploration of the area over a twenty-three year period. This led to the discovery of a credible geological target model for the lode source of the Klondike placer gold.

This model is the California Mother Lode gold-quartz vein type with "listwanite" alteration haloes around the veins. Exploration and research by this writer has located listwanite alteration on Hunker Creek in float rock, outcrop, rotary percussion and reverse circulation drill cuttings and diamond drill core. This data is supported by rock geochemistry and multiple parameter ground and airborne geophysical anomalies.

This data is coincident with one of the richest placer gold paystreaks in the world, the White Channel bench coarse gold pay streak on Dago, Preido, Savoy and Paradise Hills, along the left limit of Hunker Creek. The listwanite zone forms the bedrock for at least part of this pay streak. This is the first time a credible geological target model has been found in the Klondike in 107 years of continuous exploration. The fact that the geological target model is also physically coincident with a rich placer pay streak is probably more than just coincidence.

The central core of the listwanite zone, where the target model predicts the high-grade gold quartz vein should be located, has never been explored to date. If the Last Chance claims yield such a high-grade vein system, this will not just open up the Last Chance claims but also the entire Klondike goldfields to lode gold exploration. This is a camp-sized target covering 2000 sq.km. (800 sq.mi.). This target could conceivably yield tens of millions of ounces of gold.

The Last Chance claims are easily road accessible and drilling could be commenced in very short order. The target is already well explored and researched and drilling is recommended.

INTRODUCTION

The Last Chance 1-20 mineral claims were staked in July 2002, to cover a geologically, geophysically and rock geochemically anomalous area that appears to be caused by a listwanite altered zone in the bedrock.

The claims are located on the left limit bench of Hunker Creek, at its junction with Last Chance Creek, in the northeast corner of the historic Klondike goldfields.

The area has a 107 year history of significant placer gold production. A considerable amount of this gold was mined from the Hunker Creek-Last Chance Creek drainage basin.

Approximately 50% of the Hunker Creek gold was mined from the so-called "White Channel" bench gravels located on the left limit of Hunker Creek. This bench pay streak is approximately 30 meters (100 feet) above the present creek valley floor and runs across Dago, Preido, Savoy, Paradise and Nugget Hills.

No lode source for any of this gold has ever been located in the past 107 years. This, in spite of the fact that virtually all the geological reports on this area suggest the lode source must be of local origin.

Continuous lode gold prospecting over the last 107 years has located four different types of quartz veins in this district.

The first are mesothermal quartz veins in schistose metamorphic rocks. These are by far the most abundant and the most intensively explored veins in the Klondike. Although numerous showings have yielded small visible gold samples-none have ever produced an actual ore shoot in 107 years.

The second type of vein is a fluorite-chalcedony vein cutting igneous and sedimentary rocks of Eocene age. These veins have only been identified and reported in the geological literature in the last 20 years, since the early 1980s. They are occasionally weakly anomalous in gold, but have also failed to yield an actual ore shoot to date.

The third type of vein is a low temperature, epithermal chalcedony vein. These are also only recently discovered and are uneconomic to date.

The last type of vein is a quartz-carbonate vein cutting greenstones and ultramafic rocks. These occur within quartz-carbonate altered serpentinites (known as listwanite alteration) and are found in the vicinity of the Last Chance claims. Part of this vein system (known as the Ben Levy Vein) was discovered in the early 1900s. However, the use of the term listwanite has only been applied to the rocks in this area since the mid 1980s.

These listwanite veins have not been well explored to date and present an excellent exploration target for the lode source of the placer gold; not only along Hunker Creek, but throughout the Klondike gold fields. This is due to the listwanite alteration being the gangue rock for California Mother Lode type gold-quartz vein deposits.

This report will summarize the known exploration results around the listwanite vein system on the Last Chance claims and its potential for hosting economic lode gold exploration targets.

LOCATION AND ACCESS

The Klondike District is located in the west-central Yukon Territory, in northwestern Canada. It is bounded by latitudes 63 and 64 North and longitudes 138 30' to 140 00' West. It lies about 80 km (50 mi.) east of the Canada-U.S.A. border which follows longitude 141 00' West. The total area covered by the Klondike goldfield is approximately 2000 sq.km. (800 sq.mi.).

The Last Chance claims are located in the northeast corner of the Klondike on lower Hunker Creek at its junction with Last Chance Creek. This is approximately 5km (3mi) upstream from the mouth of Hunker Creek, at its junction with the Klondike River.

The closest inhabited centre is Dawson City, which is 14km (8.6mi) west of the mouth of Hunker Creek. Dawson is located at the junction of the Klondike River and the Yukon River. Dawson has a population of approximately 1,000 people and has basic amenities, including; police, fire, nursing station, groceries, fuel (including bulk fuel), and several hotels and restaurants. An all-weather, paved highway connects Dawson to the Yukon capital at Whitehorse, 500km (310mi) to the southeast of Dawson. The Dawson airstrip has year round scheduled flights from Whitehorse on a daily basis, by twin turbo-prop Hawker-Siddley aircraft. The airport and the highway are both located at the mouth of Hunker Creek, only 5km (3mi) from the Last Chance claims.

An all weather dirt road runs up Hunker Creek from the highway to the Last Chance claims and several cat roads built by the placer miners allow full access to the claim group. Minor repairs are needed on some of these roads.

A brand new 5-megawatt hydroelectric power line was built from the dam in Mayo to Dawson in 2002. The line runs 500 meters from the northeast corner of the Last Chance claims. The line is undergoing its final construction and should be energized shortly. This line was built to save Dawson money by shutting down the diesel generators Dawson relied on for power. There are no large industrial clients on this grid, at this time, as the Mayo dam was built to supply the silver mines at Keno Hill. Those mines have been shut down since 1990 and are currently in bankruptcy. They will probably not reopen any time soon, so the power supply of this dam is currently under-utilized.

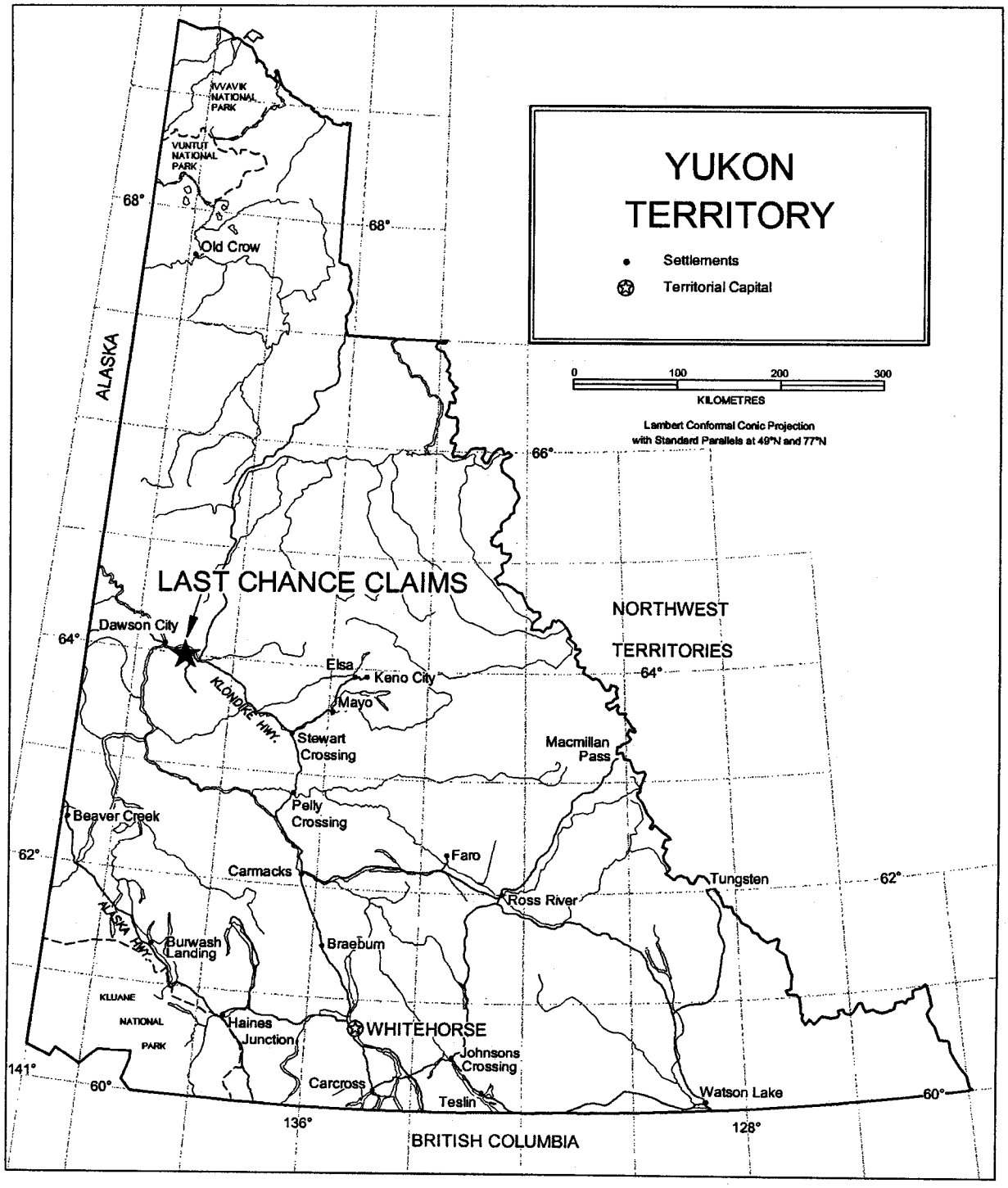
PHYSIOGRAPHY

Generally, the Klondike is a small, nearly isolated mountainous region to the east of the large valley of the Yukon River, to the south of the smaller Klondike River valley, and to the southwest of the Tintina Valley, the single largest topographic feature in the Yukon Territory. The southern boundary of the Klondike goldfields is the valley of the Indian River, which completely cuts the Klondike off from the mountains farther south.

The lowest point in the Klondike is the junction of the Yukon and Klondike Rivers at Dawson City, with an elevation of 330 meters asl (1050 ft.asl).

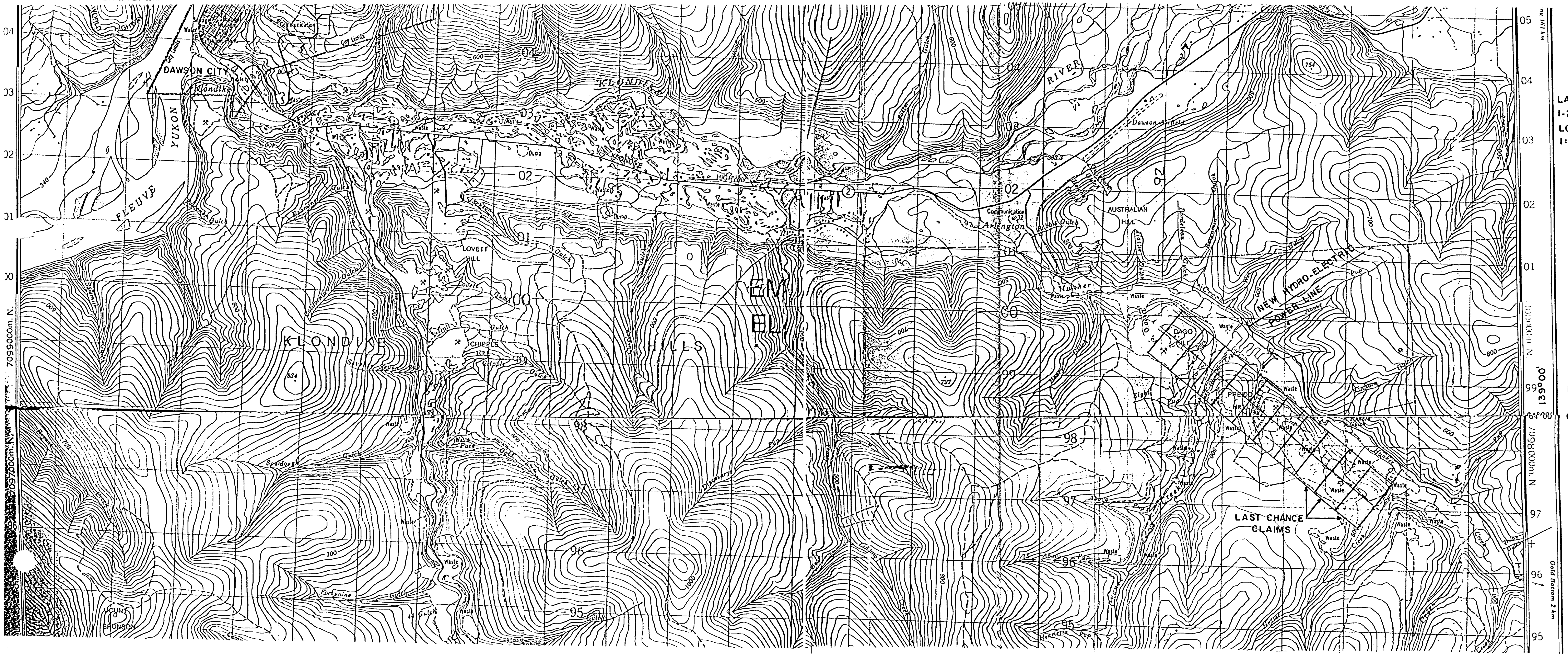
The highest point in the Klondike is the centrally located King Solomon Dome, 46km (28.5mi) southeast of Dawson, with an elevation of 1,233 meters asl (4,045ft.asl).

From the Dome, the country declines gently in all directions towards the main valleys noted above. The drainage of the Dome is a series of small streams radiating out in all directions from this central height of land into the larger rivers at the boundaries of the Klondike region.



LAST CHANCE CLAIMS
LOCATION MAP

SCALE: 1 : 6 000 000		DATE: 2003.06.28
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LAST CHANCE
1-20 CLAIMS
LOCATION MAP
1: 50,000

116-B-03

64°00'

115-0-14

The small streams are relatively mature in profile. Many begin with a cirque-like bowl in the vicinity of the Dome and continue outwards with a gradually decreasing gradient, without falls or other interruptions, to their mouths.

The streams are steep-walled and deeply incised, but are now small in size with a 7 meter (23 ft) width being average and less than 1.2 meters (4 ft.) in depth in most places.

The area is totally isolated from any outside drainages and there is no evidence of any outside drainages ever having crossed the Klondike in the past. Therefore, all the material weathered out of this area, including the placer gold, is thought to be completely derived from local sources. This is of major importance to gold exploration in this region.

The ridges are round-backed, branching elevations with slopes from ten to twenty degrees. The crest line usually follows a zigzag course along the head of the tributary valleys and is broken, at intervals, by rounded prominences and bare rocky points.

The valleys are flat and wide in their lower reaches and are marshier and partly wooded on the Indian River side of the Dome than on the Klondike River side. The flats bordering the lower parts of Dominion Creek have widths up to 0.8km (0.5mi.).

The Klondike district has not been glaciated; the rocks are therefore deeply weathered, and the surface is mantled by decomposed bedrock. Bedrock on the slopes of the hills is generally obscured by weathered rock and mixed slides of rock and moss. Solifluction and mass wasting of the entire soil profile of slopes is not uncommon. Outcrop is found intermittently on ridge tops and can be eroded into small castle-like shapes. Total outcrop exposure in this region is less than 1%. Aside from the ridge tops, the best bedrock exposures are in the floor of the placer mining cuts.

Permafrost is present throughout this area. It is of variable thickness; being thinner on the ridges and southern slopes than in the valley floors and north facing slopes. It has been observed in mine shafts as deep as 67 meters (220 ft.) from surface on Eldorado Creek (McConnell 1903).

The combination of deep weathering, little outcrop and permafrost has seriously hampered geological mapping, prospecting and soil geochemical sampling in this region.

CLIMATE AND VEGETATION

The climate of the Klondike area is typical continental interior sub-arctic; which is to say quite severe. The mean annual temperature is –5C. (22F.). Mid winter temperatures can occasionally fall to –57C (-70 F) or lower. The mean temperature in December through February is –26C (-15F.). Mid summer climate is beautifully clear and mild with the mean temperature from June to August of 14C (57 F.) and highs into the mid 30'sC (80'sF.) or warmer.

Precipitation is minimal as the area is semi-arid. Due to the low annual mean temperature the ground remains permanently frozen to depths in excess of 70m (200 ft.).

PROPERTY

The Last Chance 1-20 claims are staked under the Yukon Quartz Mining Act and registered in the Dawson Mining District office in Dawson City. The claims were granted as Grant Numbers YC21575-YC21594. The claims were located on July 10-13, 2002 and were recorded July 16, 2002. The claims are valid to July 16, 2004.05

The claims are currently 100% vested in Jim McFaull, 108 Gold Road, Whitehorse Y.T. Canada Y1A 2W3.

Each claim is 457m x 457m (1,500 ft. x 1,500 ft.) or 20.9 hectares (51.65 acres) totaling 418 h. (1,033 acres) for the 20 claims.

The claim area is also nearly completely staked by placer claims under the Yukon Placer Mining Act. Several active placer mines are currently operating in this area; particularly on Last Chance Creek, Hester Creek and Paradise Hill.

Yukon mining law allows both quartz and placer claims to coexist on the same ground provided both owners are agreeable and do no harm to the other's operations. Security bonding may be required for protection from damages to the other operator for any physical work undertaken. The Mining Recorder adjudicates disputes over damages, with recourse to the Yukon Surface Rights Board.

The boundary between the placer and quartz claims lies at the contact between transported material (sand, gravel etc.) and rock in situ (bedrock).

HISTORY

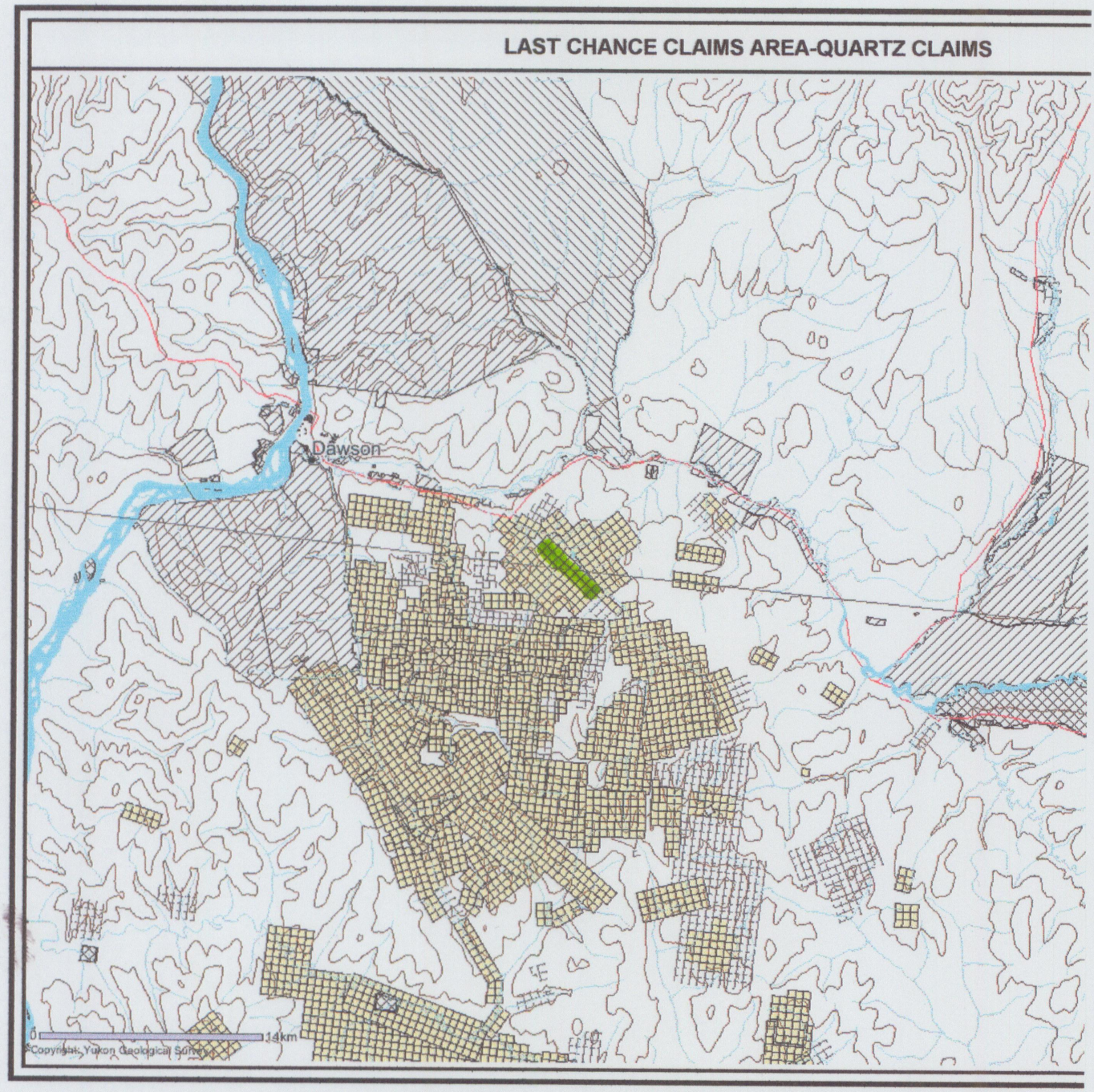
Prospecting for gold in the Yukon started in the early 1800s. The first major discoveries were made in the Fortymile and Sixtymile camps, not far from the Klondike, about ten to fifteen years before the Klondike was discovered.

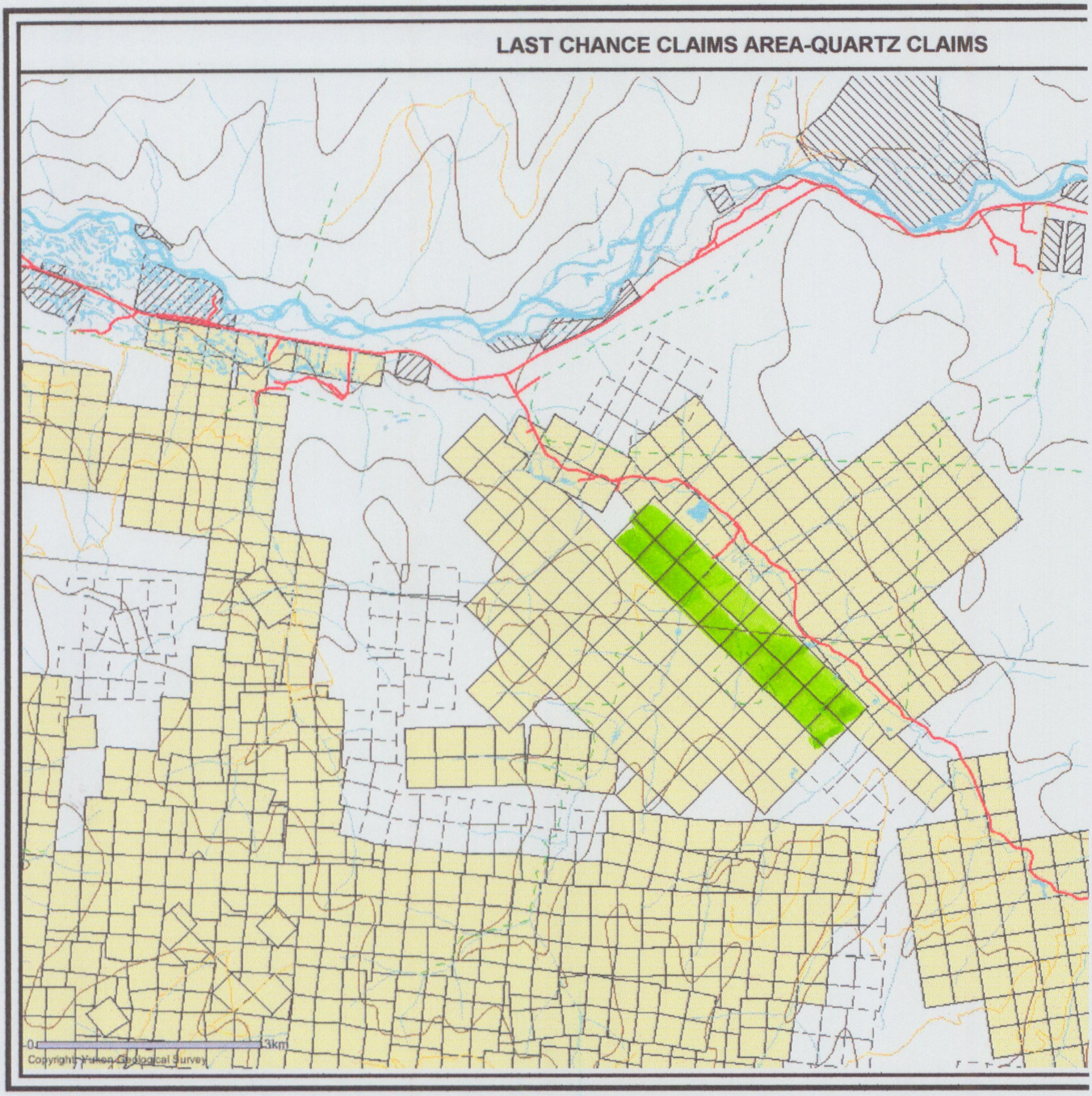
Prospecting in the Klondike began in 1894 in the Indian River and Quartz Creek areas and moved north over the Dome into Gold Bottom Creek, a tributary of Hunker Creek.

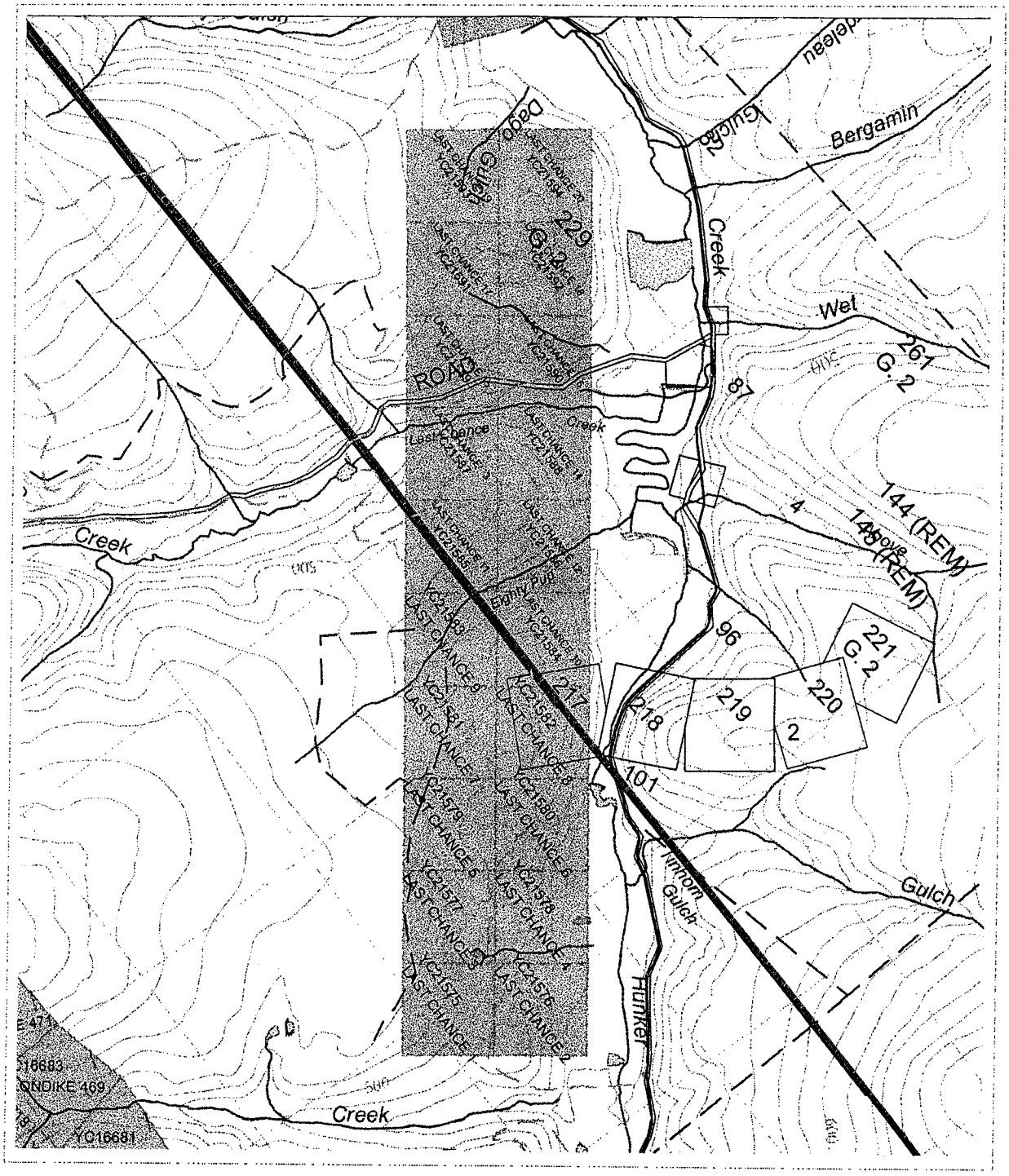
The main discovery of rich placer gold was made on Bonanza Creek on August 17,1896 and set off a staking rush in the area. Andrew Hunker discovered gold on Hunker Creek in September 1896.

By 1898, nearly 30,000 people had arrived in Dawson and the entire area was being prospected and mined for placer gold. Mining commenced with pick and shovel and progressed to hydraulic monitor mining, then large bucket-line dredging until 1966.This was followed by "cat mining" with bulldozers and other heavy equipment; which re-mined virtually the entire camp several times over. This mining continues to the present day. Some of this ground has been re-mined 7 or 8 times and is still producing gold.

Total government recorded production is over 13 million ounces of gold. This makes the Klondike the fourth largest placer gold camp in the world. Many observers of this camp estimate that as much as 50% more gold was removed from this area without government record to avoid paying royalties and taxes. Production is often estimated at 20 million ounces and some writers have pushed this estimate as high as 30 million ounces.


LAST CHANCE CLAIMS AREA-QUARTZ CLAIMS
Dawson
0
14km
Copyright, Yukon Geological Survey

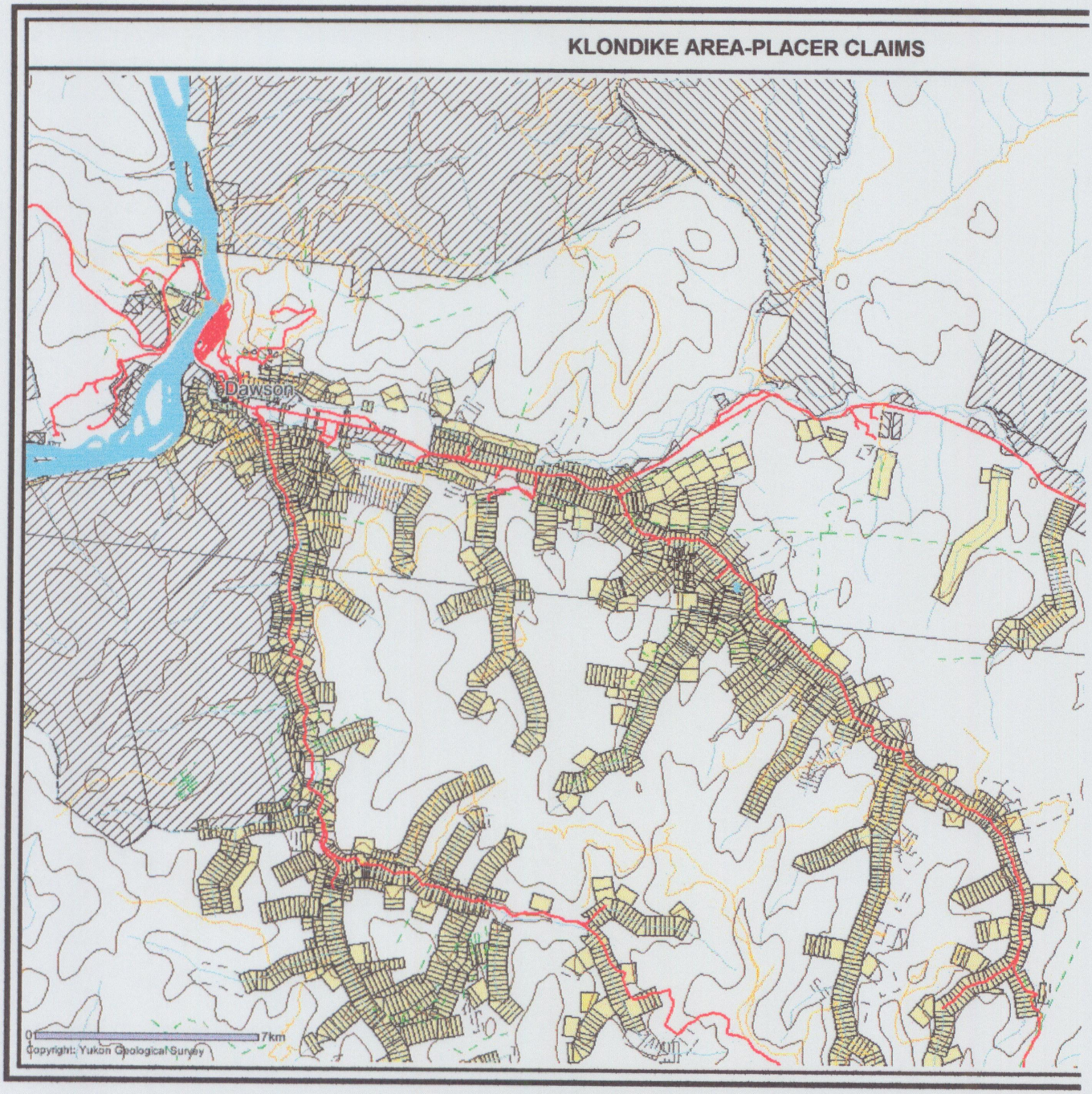

LAST CHANCE CLAIMS AREA-QUARTZ CLAIMS
3km
Copyright Yukon Geological Survey

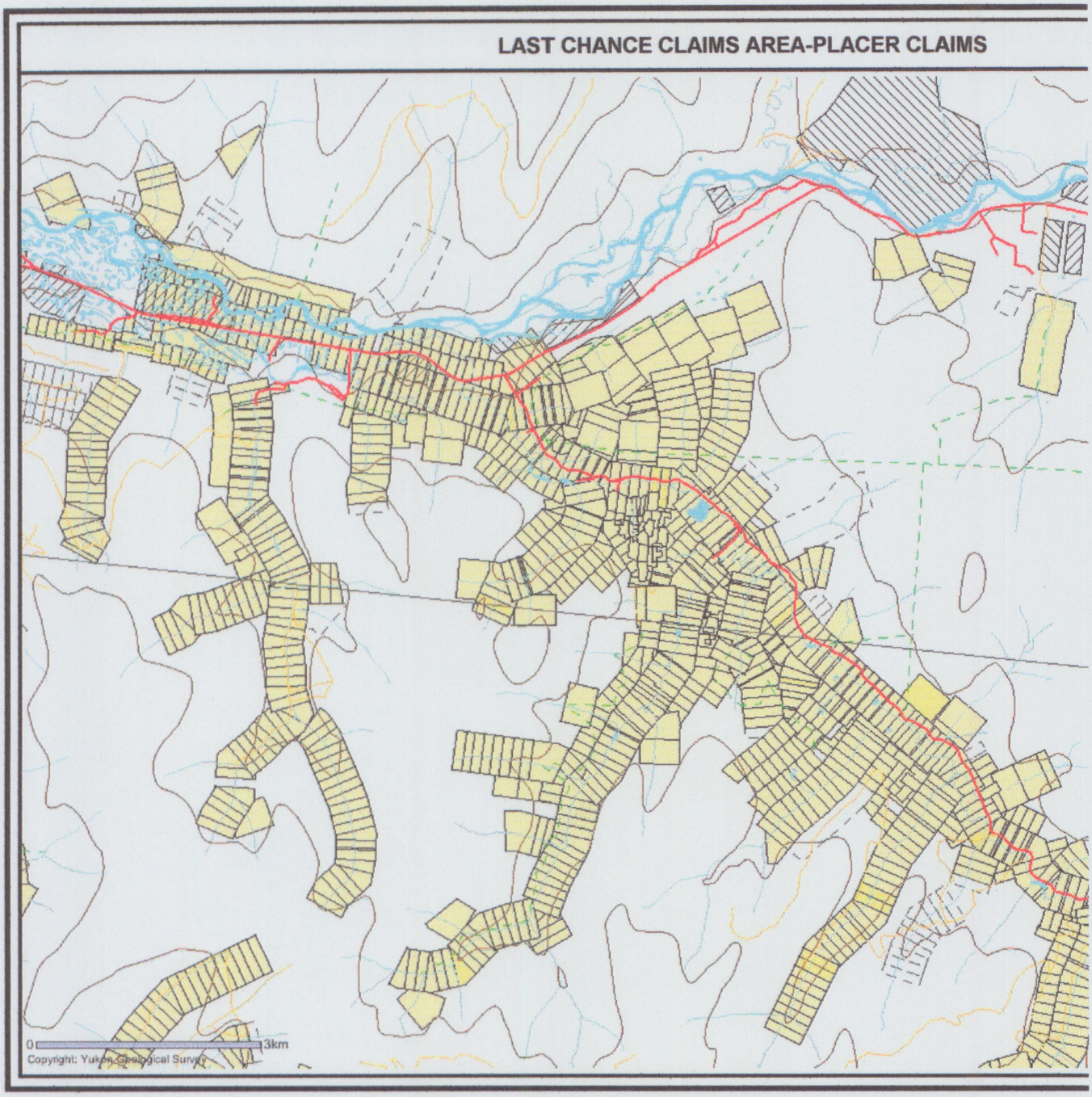


LAST CHANCE CLAIMS

CLAIM LOCATION MAP

SCALE: 1 : 30,000		DATE: 2003.06.30
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE


KLONDIKE AREA-PLACER CLAIMS
Dawson
0
7km
Copyright: Yukon Geological Survey


LAST CHANCE CLAIMS AREA-PLACER CLAIMS
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3km
Copyright: Yukon Geological Survey

Yukon
Energy, Mines and Resources

Renewal Certificate Number: QD00517

QUARTZ RENEWAL CERTIFICATE
Section 56 & 59
QUARTZ MINING ACT

Dawson Mining District

Payment In Lieu

Claim Name	Grant Number	Renewal Term	Expiry Date
Last Chance 1 - 20	YC21575 - YC21594	1	16 Jul 2005

This is to certify that payment in lieu of assessment work and renewal certificate fees in the amount of $2,100.00 was received and filed in my office on the 13 July 2004 with respect to the above claim(s); and in accordance with Section 59 of the Quartz Mining Act, I do now issue this certificate of renewal in respect of these claim(s) to:

Jim McFaull 100.00 %

This certificate entitles the owners to continue in possession of the said claims.

Receipt Number: MRDA023 Fees: $2,100.00 Filing Date: 13 July 2004	A. C ← for Kathryn Perry Dawson Mining Recorder

This is one of the highest-grade placer camps in history. It may even be the highest-grade camp. Reputable geologists reported phenomenal grades from these mining operations. The average placer mine in the Yukon grades about 0.06 ounces/cubic yard of gravel. In the early days of the Klondike entire claims were reported to be averaging 1.0 ounces/cu.yd. Individual sections of pay streak were reported to run as high as 15,000 ounces/cu.yd. The largest nugget recovered in the Klondike was 85 ounces (including some quartz). Many nuggets were recovered weighing over 1.0 ounce. In some places entire paystreaks over several miles in length were reported to average in excess of 1.0 ounce/cu.yd. No one has ever managed to credibly explain why these placers were so incredibly rich or how they might have been formed.

The first hillside or "bench" claims were staked on Eldorado Creek in August 1897. Subsequent exploration led to discoveries of abandoned, higher creek channels on several Klondike creeks including Bonanza, Hunker and Last Chance Creeks. These became known as the "White Channel Benches" because the gravels were bleached to a distinctive white colour. Some of the richest ground in the Klondike was found on these benches.

Placer mining of this camp has continued without pause (except for World War II) to the present day.

The history of lode prospecting in the Klondike has always been overshadowed by the much more prolific and publicized placer mining industry. However, there has been considerable "quartz" exploration from the very beginning of the Klondike gold rush. Many of the stampeders who climbed the Chilkoot trail in 1898 were experienced hard-rock miners from the southwest U.S.A., Australia and Europe.

From the earliest days of the Klondike, large corporate mining companies also expended considerable effort in searching for the lode gold source of the Klondike placer deposits. These include the Guggenheims from New York, the Bradley mining interests from San Francisco and several well-funded British companies in the early days of the camp. Subsequently, many of North America's largest mining companies have worked this area, including; Cominco, Noranda, Falconbridge/United Keno Hill Mines, Homestake, Placer Dome, Teck and Kennecott. A veritable host of junior mining companies have also tried their luck here, including; the Hughes-Lang Group (Arbor Resources, Gallant Gold Mines etc.), and Barramundi Gold/Klondike Search Ltd. from Australia.

These operators staked thousands of claims and spent millions of dollars in the Klondike area over a 107 year period. An enormous amount of work was carried out, including virtually every type of exploration program known. This included; pick and shovel prospecting, soil and silt geochemical sampling, ground and airborne geophysics, rotary percussion, reverse circulation and diamond drilling, cat and backhoe trenching and several underground mine workings. None of this work has ever located an identifiable ore shoot in the entire 107 year period. This is one of the greatest unsolved geological mysteries of the 19th, 20th and 21st centuries.

Some have speculated that the lode sources must have weathered away and no longer exist. This seems unlikely though, as the odds of eradicating every vestige of the source of the gold, including root zones and alteration haloes, seem somewhat improbable. It is more likely that a large part of the exploration effort to date was simply

misdirected to incorrect targets. A careful analysis of this historical work tends to confirm this supposition.

Early reports on this subject identified approximately 30 lode targets being prospected in the Klondike prior to 1914 (T.A. MacLean 1914). These followed the "received wisdom" of the day in that prospectors followed the placer paystreaks upstream to the headwaters of the creeks and then prospected the hillsides for quartz veins. They did actually locate numerous quartz veins and some of them do actually carry visible gold as small flakes or nuggets. However, none of these veins was ever able to develop anything remotely resembling an ore shoot from that day to this. These veins are unlikely to be the lode source of 20 million ounces of gold and have acted as a "red herring" to divert a hundred years of prospecting away from the real source of the Klondike gold. The true lode source must be elsewhere and of a different geological type.

A little known fact today is that there was a raging academic and practical debate over the lode source of the Klondike gold during the first twenty years of the camp's life. This debate is forgotten now and was never really resolved at the time but it raised interesting observations that led to questions that are still relevant today.

These included questions as to whether the Klondike was a "true" placer deposit (i.e. formed by erosion, transport and deposition of gold by water) or whether the gold was chemically "precipitated" on the bedrock- gravel contact from aqueous solution, as some evidence was seen which suggested such an event had occurred.

Furthermore, the morphology of the quartz found in the nuggets suggested to some early observers that the milky white "bull quartz" veins carrying small amounts of gold found on the hillsides were not the source of the bulk of the placer gold. This was because the bulk of the quartz-bearing placer nuggets showed a totally different type of quartz that bore no resemblance to the bull quartz.

This was best described by Angelo Heilprin in his "Alaska and the Klondike" (1899). Heilprin stated; "Most of the quartz that has so far been discovered in direct association with the gold-that is to say, wrapped up with or within itself, as in the case of the quartz-gold nuggets of French Hill- is of a gray-blue or pinkish tint and of a granular and non-spathic type, therefore differing materially in aspect and structure from the quartz of the hillsides and from the greater number of the quartz boulders that are contained in the dumps or have been removed from bed rock. Some of the boulders or rolled pebbles containing coarse gold are the same character of quartz as the quartz of the hillsides." (page 240). Heilprin states further; "The feeling has not escaped some who have given much attention to the character of the nuggets that in many instances they bear the impress of having undergone hard pressure. The perfectly flattened-out types of specimens...convey this impression most temptingly, as do likewise other nuggets very abundantly found, of which granular or saccharoid quartz constitutes a most integral part. In these the gold appears to be wrapped around the quartz particles in a way superficially suggesting that the whole had been pressed together; or, to use the more explicit language of the miner, the gold had been forced into the quartz and now holds it. It is a common saying with prospectors that it is not a case of quartz containing gold, but of gold containing quartz." (page 252).

This contrast between the milky white, spathic quartz veins of the hilltops and the granular/saccharoidal quartz in many of the placer nuggets is significant. Also significant is the very tiny amount of gold found in the milky bull quartz compared to the large

amount of gold found in the granular quartz (so much so that the gold content often exceeds the amount of quartz in the nugget). This led Heilprin to state; "The close admixture of quartz and gold as the 'make-up' of a large number of the Klondike nuggets is unmistakable; on the other hand, it is recognized by most miners and prospectors that the quartz of the nuggets is neither in colour nor in general aspect that of the quartz 'leads', veins, or dikes which appear on the surface. Most of these have thus far proved absolutely barren, and, while almost the only gangue that is visible, they may ultimately prove not to be the true mineral veins of the region." (page 264-5).

A hundred years of prospecting these milky white, bull quartz veins has proven Heilprin to be correct. These have turned out to be mostly barren and are not likely to be the lode source of the Klondike placer gold.

At the same time, a hundred years of prospecting have failed to locate a single outcrop of the bluish/pinkish grayish granular, saccharoidal, framboidal quartz with the large percentage of gold. To this day this material has escaped discovery and has also not been mentioned in the literature.

In the late 1980's this writer confirmed Heilprin's observations by studying numerous gold quartz nugget specimens from several placer mines in the Klondike with a binocular microscope. His observations as to colour, morphology and gold content were still correct. The observed differences between this quartz and the bull quartz veins with minor gold were also found to be correct.

This led the writer of this report to a 13-year search for the in situ location of this granular, saccharoidal, framboidal quartz. During the 2002 field season quartz of a somewhat similar nature was located on the Last Chance claims as angular float rock. It appears to be related to the intense quartz-carbonate vein stockwork, mariposite, and listwanite alteration zone found in the same area, from Paradise Hill to Dago Hill on the Hunker Creek White Channel bench.

Geologists from Arbor Resources first noted the presence of quartz carbonate veining in this area in the mid 1980's. They failed to recognize its significance. Additional work in this area by this writer for United Keno Hill Mines in 1988-9 led to the drill intersection of a strong vein-fault zone with listwanite alteration in the floor of Hunker Creek at the base of Paradise Hill, at the mouth of 70 Pup. This intersected zone was at least 20 meters (70 ft.) wide and its western edge was not intersected. UKHM was unable to follow up on this target as the company shut down a year later.

In the mid 1990's Kennecott also identified this listwanite zone in their drill holes on Paradise Hill. Hole 94-80-01 was collared about 400 meters (1300 ft) southwest of the Keno Hill holes and cut 226 meters (740 ft) of listwanite alteration in a strong quartz carbonate vein fault zone. Several of these quartz veins were logged as botryoidal, or colloform in texture.

This may indicate that the listwanite alteration zone here is over 400m (1300 ft) wide in this area. This is also the first in situ discovery of botryoidal or colloform quartz veins in the Klondike (to this writer's knowledge). It does appear to confirm that a large fault zone occurs in this area with quartz veining in it. Heilprin's granular or saccharoidal quartz would probably be formed in such a vein-fault zone.

Kennecott abandoned this target, as it did not fit the intrusive hosted bulk tonnage target they were searching for at the time. This drill hole is now located inside the Last Chance claims.

This would appear to start to resolve the historic debate over the different quartz morphologies that Heilprin noted in 1899. It remains to be seen whether the granular quartz leads to the lode source of the placer gold. It would appear to be highly promising if this granular quartz were to be discovered in a listwanite alteration zone- the classic textbook alteration zone for California Mother Lode type high-grade gold-quartz veins. The granular nature of the gold bearing quartz suggests these veins were formed in strongly faulted zones. The listwanite altered zones on the Last Chance claims are the strongest vein-fault zones ever identified in the Klondike.

For the first time in 107 years a credible geologic target model for lode gold has been located in outcrop and drill core in the Klondike goldfields. This is an exploration target of world class potential. It becomes an even better target when it is noted that the listwanite alteration zone is in the bedrock directly beneath the Paradise Hill White Channel bench placer pay streak-one of the richest placer paystreaks in the world.

REGIONAL GEOLOGY

The Klondike is located on the northeast edge of the Paleozoic Yukon-Tanana tectono-stratigraphic terrane (Mortensen 1990). This allochthonous terrane is separated, by the Tintina Fault Zone, from thrust-stacked para-autochthonous rocks of the North American miogeocline. The Tintina Fault Zone is a major suture that has accommodated relative movement between the two crustal blocks. Initial docking of the Yukon-Tanana terrane with the North American continental margin probably occurred in Early to Middle Jurassic times. Docking was accomplished by obduction of interposed oceanic lithosphere, now represented by ophiolitic rocks of the Slide Mountain terrane.

Major relative movement between the Yukon-Tanana terrane and the North American continental margin occurred in Late Paleogene and Neogene times. A net dextral strike-slip of 450 km (280 mi) was originally suggested by Templeman-Kluit (1974) and this estimate is still endorsed by most workers. Strike-slip movement along the Tintina Fault Zone appears to have been immediately preceded by an episode of bimodal basalt and topaz rhyolite volcanism. Products of this Paleocene-Eocene magmatic event are present in both the Klondike district and the Grew Creek area 400km (250mi) to the southeast.

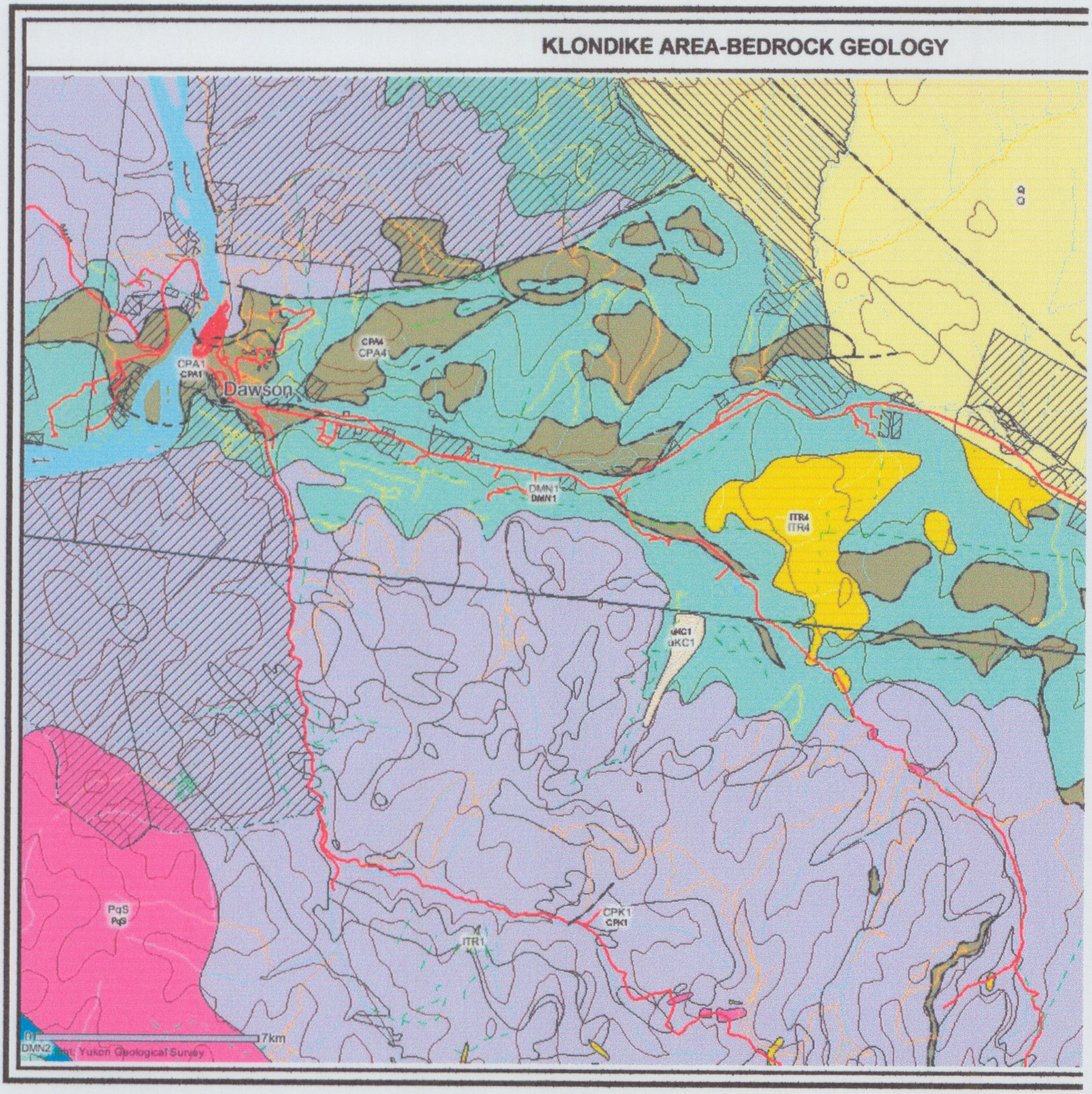
Brief descriptions of rock units found in the vicinity of the Last Chance claims follow, using the tectono-stratigraphic nomenclature of Mortensen (1990) and the original stratigraphic nomenclature of McConnell (1905). Units are grouped into the Yukon-Tanana terrane; Slide Mountain terrane and post-accretion overlap assemblage. Units within each group are described in order of diminishing age.

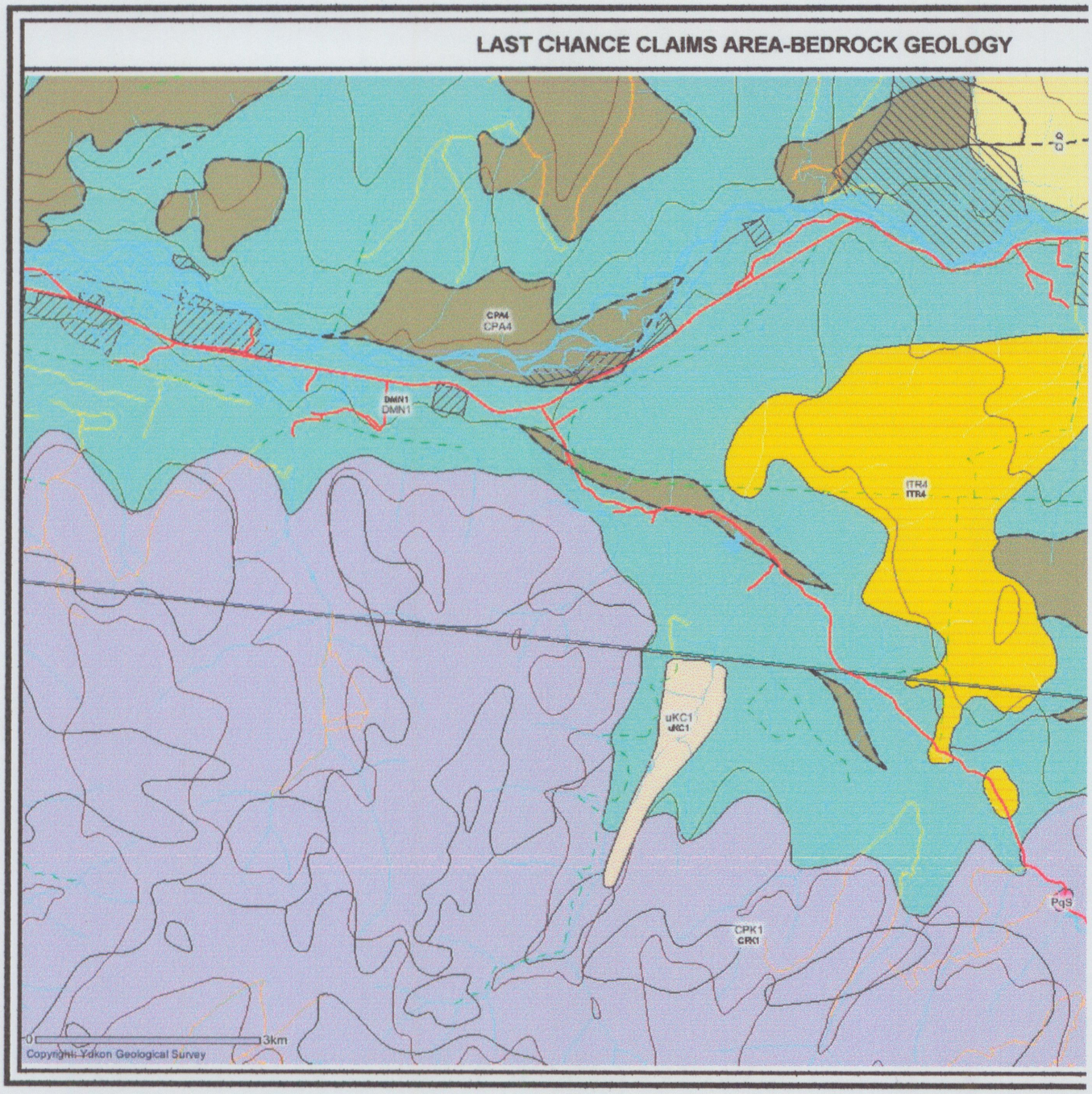
PROPERTY GEOLOGY

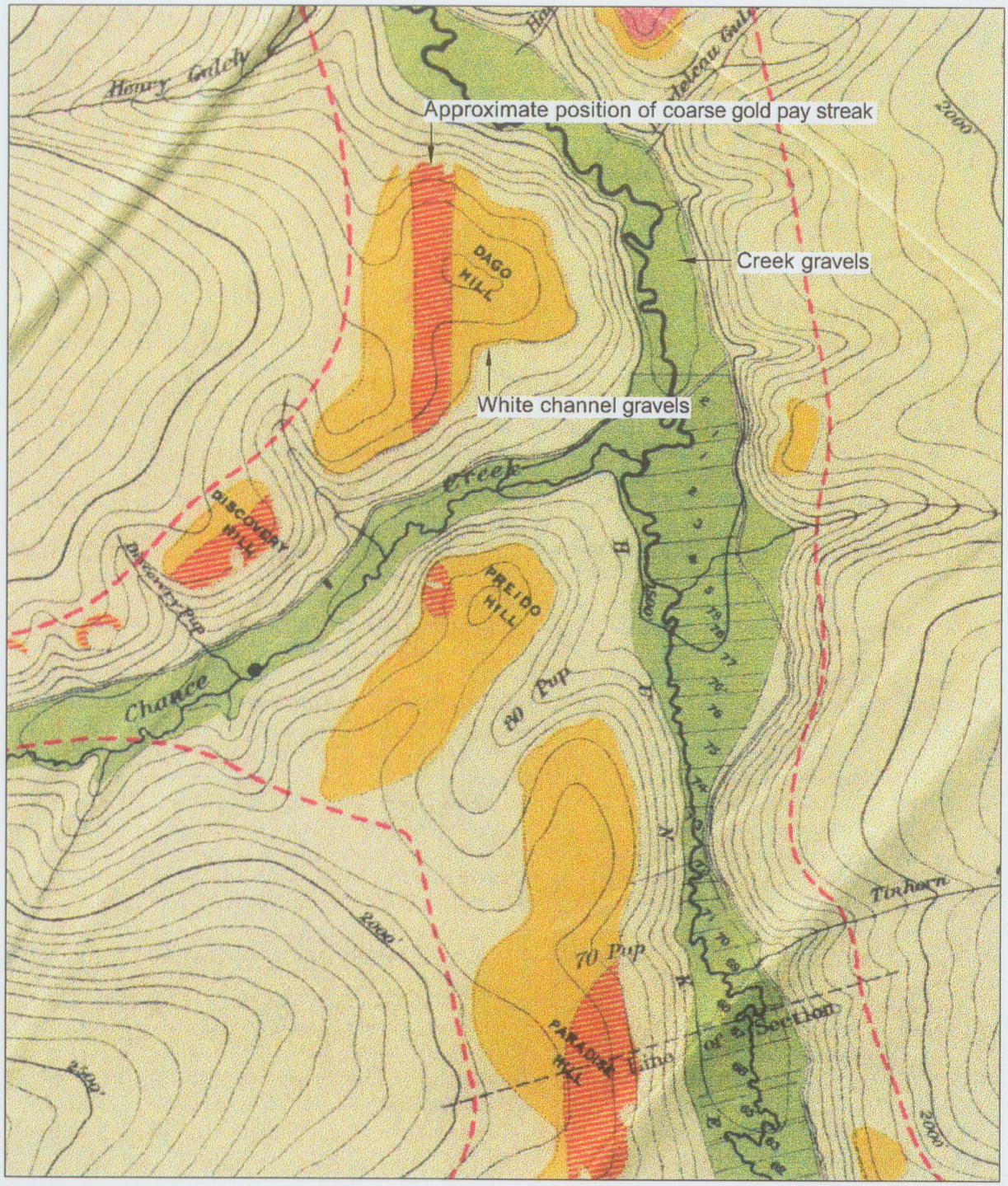
The Yukon Tanana terrane is an assemblage of tectonically interleaved Paleozoic rock units. Mortensen (1990) has outlined three thrust-stacked assemblages within the terrane, two of which occur in the vicinity of the Last Chance claims. One of these assemblages equates to the Nasina Series of McConnell (1905), the other to McConnell's Klondike Series.

BEDROCK GEOLOGY LEGEND

Q= Quaternary-unconsolidated glacial till
LTR4= lower Tertiary (Eocene) Ross Group-quartz feldspar porphyry rhyolite
uKCl= upper Cretaceous Carmacks Group-andesite
CPKl= Carboniferous-Permian Klondike Schist- quartz sericite/muscovite schists
CPA4= Carboniferous-Permian Moosehise Group- ultramafics (gabbros, serpentinites)
DMNl= Devono-Mississippian Nasina Series- graphitic schists
~~~~~= Tintina Fault Zone major plate tectonic suture zone with 450km dextral offset
~~~~~


KLONDIKE AREA-BEDROCK GEOLOGY
Dawson
CPA4
CPA1
DMN1
ITR4
CPK1
ITR1
PqS
7km
Yukon Geological Survey


LAST CHANCE CLAIMS AREA-BEDROCK GEOLOGY
CPA4
CPA4
DMN1
DMN1
ITR4
ITR4
uKC1
uKC1
CPK1
CPK1
PgS
0
3km
Copyright, Yukon Geological Survey



LEGEND

Map of the Auriferous Gravels on Bonanza and Hunker Creeks, Klondike Mining District, Y.T. To illustrate report by R.G. McConnell, B.A. 1906.

Map of the AURIFEROUS GRAVELS

HUNKER CREEK

SCALE: AS SHOWN		DATE: 2003.07.27
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE

of their location. The extremely linear nature of the paystreaks becomes very important as it would appear to indicate the gold may be under some sort of structural control in bedrock-rather than being controlled by mere stream deposition.

The Dago-Preido Hill pay streak, in particular, shows a pay streak with absolutely straight and totally parallel edges over a distance in excess of one mile. This is not what one would expect from a stream deposit but it would be typical of a vein deposit plotted on surface.

The northwest end of the Paradise Hill pay streak shows a very odd termination on McConnell's map, as if it were cut off by a north- striking fault. Interestingly, such a fault exists across Hunker Creek in the Ben Levy adit, where a strong carbonate vein-fault projects along strike southward directly to this odd termination of the pay streak. This may only be a coincidence, but it would appear more likely that a vein-fault junction occurs on Paradise Hill at the head of 70 Pup; between the Ben Levy Vein and the possible listwanite altered fault zone under the Paradise Hill pay streak.

This suggests that the "pay streak" is being influenced by bedrock structural controls. It may even suggest the pay streak itself is not really a pay streak at all but is possibly the top of a bedrock lode, a vein-fault the placer miners have been mining into, on the mistaken assumption it was a stream deposited placer.

This assumption is further supported by the very high grades obtained in much of the White Channel bench deposits. The Klondike has been famous for its astonishingly high grades, which often ran hundreds or even thousands of times higher than a normal placer grade. No credible explanations were ever forthcoming as to how these grades formed. The explanation would be simple though, if the pay streak was actually the top of a high-grade bedrock lode gold deposit. These sorts of grades are not at all uncommon in high-grade lodes.

This thesis is further supported by the fact that the placer mines on the Hunker Creek benches are actually mined well into bedrock and gold is still being recovered there. The deepest open cuts in this area are at least 7-10m (25-30ft) below the gravel bedrock contact. Considerable tonnages of bedrock, with virtually no gravel, have been mined here and gold recovered. The placer miners have been able to mine this bedrock as it is weathered or altered to clay and is easily "ripped" out by heavy equipment and sluiced without drilling, blasting or milling.

The accepted wisdom states that this gold is placer gold that has worked its way down into fractures in the bedrock and is therefore not lode gold in situ. The only problem with that thesis is that the clay does not appear to be fractured and is, in fact, very homogenous in appearance. This material should be very nearly impervious to penetration by placer gold, yet the gold is there nonetheless.

This area is also noted for fine specimens of crystalline gold, wire gold and dendritic leaf gold. None of these samples look as if they have traveled any distance at all from their lode source.

Most interesting perhaps, in support of the theory that the placers are actually the top of bedrock lodes, is the recent discovery that the Hunker Creek White Channel bench placer pay streak is sitting on top of a very large and very strong quartz-carbonate, mariposite, listwanite alteration zone in its bedrock. This is a textbook example of the alteration envelope found around California Mother Lode type gold-quartz veins. This is pushing the realm of mere coincidence to its limits.

CALIFORNIA MOTHER LODE-LISTWANITE TARGET MODEL

This target model is based on Californian, Saudi Arabian, Moroccan, British Columbian and Russian gold deposits.

Listwanite is a Russian term defining a mineralogical alteration assemblage that results from the carbonatization of serpentinized ultramafic rocks. It represents a distinct alteration suite that is commonly associated with quartz carbonate lode gold vein deposits hosted in ultramafic rocks.

A listwanite consists of an alteration suite with the individual units of the suite best described in terms of their mineralogy. In order of increasing intensity of alteration these units are; 1) talc altered serpentinite, 2) talc-carbonate, 3) quartz-talc-carbonate, 4) quartz-carbonate-mariposite, 5) quartz-carbonate-mariposite-sulphides + gold.

The listwanites form a light green-grey rock consisting mainly of Mg-Fe-Ca carbonates (ankerite-siderite-dolomite) with accessory quartz, talc, lizardite-serpentinite, chlorite, hematite, magnetite, pyrite and Cr-spinel (which is often replaced by Cr-muscovite known as fuchsite or mariposite).

The vein systems are tectonically and structurally controlled gold deposits. The gold-quartz veins are discontinuous, anastomosing and often en echelon. The vein zones are noted for their considerable persistence along strike, often running over 100-200km (60-120mi) and being up to 1-1.5km (0.6-1.0mi) wide and having been mined up to 1.8km (1.1mi) in depth.

These vein zones are typically found in immature oceanic volcanic arc and basin rocks formed during tectonic accretion. The resultant tectonic mélange is subsequently cut by brittle faults with strike displacement. These brittle faults are gold bearing, having acted as channel ways for the gold bearing fluids.

These vein zones are large and are derived from thoroughly CO2 altered serpentinite host rocks, which are common in the tectonic mélange zones. These vein zones will also form in adjacent black, shale dominated turbidites and/or volcaniclastic submarine fan deposits, typically found in the suture zones between allocthonous terranes, as tectonic mélanges comprised of dismembered and jostled pieces of ocean floor, volcanic arcs and arc basins.

These large, regional scale suture zones are subsequently cut by multiple brittle, steeply dipping faults shortly after ductile deformation ceased. These high angle brittle faults repeatedly channeled and localized the ore fluids. Both the fault zone and the ore bodies are discordant and crosscut stratigraphy.

There are two basic types of ore bodies in this target model; high-grade gold ore in quartz veins and low-grade gold-sulphide in carbonate-sericite (mariposite)-pyrite bearing altered wall rock.

The gold-quartz veins range from being massive veins, on the scale of greater than 15 m (50ft) thick and more than 2km (1.2mi) long, to thinner, finely laminated ribboned veins. These are typically ribboned on a 1mm to 10cm (0.003"-4.0") scale. Most of the quartz is milky or cloudy, and microscopically shows intense strain and partial recrystallization. These veins have an average 55 degree to vertical dip. Wall rock alteration (listwanite) generally forms an envelope around the veins. Most of the veins have a tendency to branch out and fray into zones of thin stockwork quartz veinlets.

Zones of intense carbonate alteration (listwanite) contain stockworks of quartz veinlets adjacent to the main vein.

In all the major California Mother Lode deposits, low-grade ore extends beyond sub-vertical higher-grade shoots within quartz veins and/or altered host rocks. The ore shoots have a pipe-like shape and pitch steeply within or parallel to the plane of the vein. Gold occurs both free and within and on sulphide grains, especially pyrite, both within veins and in altered wall rock. Gold is distributed erratically within the ore shoots.

The veins are often cut by several episodes of post-ore thrust faulting. The earliest post-ore thrusts in California are high-angle, and the latest are low-angle. They are characterized by wide gouge zones that present mining problems.

Gold is randomly distributed within the listwanite lenses and reports gold content between 200-1000ppbAu. This is 10 to 100 times greater gold content than found in associated ultramafic host rocks that report 5-100ppbAu. Listwanites appear to be anomalously gold rich rocks.

The highest-grade gold values 1000-10000ppbAu- of economic grade- are related to pyrite rich zones and especially (in Moroccan and Saudi Arabian deposits) to cobalt-arsenide mineralization.

Late quartz veins (carrying 2000-10000ppbAu) also have accessory pyrite and arsenopyrite, yet are still described in the literature as "low sulphide" gold-quartz veins.

Analysis of mineral separates indicate that pyrite (10-50ppmAu) and Co-arsenides (10-100ppmAu) are the main gold-bearing minerals in listwanites (aside from free gold itself).

Small gold inclusions (10-50 microns) are observed in these minerals or around limonitized pyrite grains.

Whole rock trace element analysis shows a strong positive correlation between Au-As and Au-As-K. Trace elements include; Ba, Sb, B, Bi and Ag. Therefore, gold in listwanites is related to gold rich sulphides, sulfoarsenides or arsenides. These elements should be useful as indicators of ore zones.

Potassium enrichment has been detected in fuchsite/mariposite rich listwanites.

Listwanites are also different from other carbonate rocks by being strongly anomalous in Cr (>500ppm), Ni (>500ppm) and Co (>50ppm).

Calcite rich listwanites can be nickel poor (<50ppm) and depletion haloes of Co have been detected around the Moroccan listwanites.

Vein mineralogy includes native gold and varying amounts of pyrite and other minor sulphides, including; galena, sphalerite, chalcopyrite, arsenopyrite, pyrrhotite and molybdenite. Coarse-grained scheelite is present in some veins. Considerable amounts of "specimen" or high grade gold have been found. Milling ore grades average 0.25-0.50 ozAu/ton or less. Most free gold occurs as small grains. Some high-grade pockets yield gold as coarse grains or plates and wires.

The Ag/Au ratio in the ore is generally low and the purity of the gold can exceed 800 fine.

Ore shoots are commonly said to be located preferentially in areas of intense and late fracturing near vein intersections, and along certain types of lithological boundaries. Cross cutting faults intersecting the veins often control emplacement of ore shoots.

The most reliable mineralogical guide to ore is the actual presence of free gold.

It is estimated that 80% of the production in the California Mother Lode district has been derived from those portions of the veins where serpentinite either formed one wall or was less than 100 feet from the ore. Additionally, crushing and brecciation of the quartz and the presence of mariposite, galena and arsenopyrite are indicators of proximity to ore shoots.

Serpentinite was the dominant control of bends in the vein and therefore of high grade. Furthermore, serpentinization reactions form magnetite in the ultramafic rocks, which could have subsequently reacted with aqueous gold in the veins to precipitate the gold.

Linears defined by aeromag lows in serpentinite may delineate zones of carbonatization. Magnetite formed during the serpentinization of ultrmafic rocks produces a strong high magnetic signature. Carbonatization results in the destruction of magnetite, creating zones of reduced magnetic susceptibility. The application of aeromag lows, as an exploration tool in delineating zones of carbonatization in ultramafics, has been discussed by Gresens et al (1982).

Other exploration criteria for listwanites include;

-the fundamental depositional control for this deposit type, which is the localization of hydrothermal alteration sites along major fault zones within, marginal to or containing ultramafics.

-the geochemical pathfinders associated with listwanite alteration systems and related gold mineralization, which are; As, Sb, Ba, K, B, and Li with a strong correlation with Au and also Ag, Cd, Pb, Cu, Zn, Na, Ba, Bi, (K,Sb,Bi) with a positive but sporadic correlation with Au.

-arsenic and antimony are the most correlative with Au.

-alkalis show a strong correlation with mineralization, potassium in particular often corresponds with the abundance of mariposite.

-lithium shows the widest and most regular dispersion halo within listwanite rocks-and also a tentative correlation with the highest lithium values to the highest gold values.

-both barium and potassium display a positive correlation with gold in carbonatized metabasaltic rocks.

-base metals, most commonly Cu, Pb, Zn are associated with listwanitic lode gold but tend to have an erratic distribution.

-systematic surface mapping that focuses on both the tectonic setting and the spatial distribution of the listwanitic alteration suite is extremely useful.

-the distinctive listwanitic alteration assemblage occurs in linear arrays reflecting the structural control on the mineralizing system.

-both alteration mineralogy and intensity vary systematically away from the controlling structure.

-the locus of significant mineralization is typically associated with silicified zones (veins or stockworks) at the core of the structural zone or its related splays.

GEOPHYSICS

Geophysical surveys have been carried out in the area of the Last Chance claims. These surveys were done by numerous operators, with a variety of systems, at various

times. All this data is publicly available as open assessment reports or government open files.

There are seven separate surveys in the Last Chance area over a 16 year period.

The first survey is a 1984 fixed wing INPUT EM and magnetic survey flown for Arbor Resources of the Hughes-Lang Group. This survey is referred to in Assessment Report #062213, by Gonzalez (1986) and in the History section of Assessment Report #093321, by Kennecott (1994). Those writers reported nothing noteworthy in their interpretation of this survey.

The second survey was a 1985 ground magnetometer and VLF-EM survey of a small area on Paradise Hill for Dawson Syndicate (Hughes-Lang Group). This survey is reported as Assessment Report #91807 by Troup and Grunenberg. Those writers reported nothing noteworthy in their interpretation.

The third survey was a large helicopter magnetometer and EM survey carried out by Geonex Aerodat Ltd. for Arbor Resources (Hughes-Lang Group) in 1987. This report is filed as Assessment Report #091981, by Dvorak. Survey parameters included; Total Field Magnetics, Vertical Gradient Magnetics, EM, VLF-EM and Apparent Resistivity. Results were briefly interpreted as showing major EM conductors in the floor of Hunker Creek and the south end of Paradise Hill as graphite schist units. Other numerous conductors were not explained. No interpretations of the other parameters were provided.

The fourth survey was a small IP resistivity survey grid of Paradise Hill, at the head of 70 Pup by Geotronics for Klondike Reef Mines et al (Hughes-Lang Group) in 1991.This report is filed as Assessment Report #092947 by D. Mark. This survey was conducted over a recently placer mined pit known as Frank Short's Pit. Results showed a very strong resistivity low across the pit caused by an alteration zone in bedrock. A second zone of alteration was interpreted nearby from a second resistivity low. The resistivity high between the two lows was interpreted as a highly altered diabase dike mapped in the pit floor.

The alteration may not be epithermal but could be deep surface weathering to clay. In some places on Paradise Hill the weathering has been noted to depths of 20m (65ft) or more. The alteration may also be caused by serpentinization of ultramafic rocks or the quartz carbonate mariposite listwanite alteration subsequently observed in the survey area. Clays from the alteration or weathering could yield a resistivity low.

The resistivity high could also be a silicified zone or quartz vein associated with the listwanite alteration.

The IP highs in this survey could be interpreted as areas of highly mineralized disseminated and banded magnetite that have been observed locally in the ultramafics and listwanites.

The fifth survey was a reprocessing of the 1987 helicopter survey by Arbor Resources (Hughes-Lang Group) and Kennecott in 1993. This report was filed as Assessment Report #093321. This data was re-examined by Kennecott in their search for an "intrusive hosted bulk tonnage gold deposit" of the Tintina Gold Belt type. Subsequent exploration for that target model failed to locate any such target and Kennecott abandoned the area.

The sixth survey was done by Kennecott, in 1995, as a follow up to the airborne geophysics. It involved a 62 line km grid on Paradise Hill of a ground magnetometer and E-SCAN tomographic resistivity survey. The object of this survey was to map intrusions

and alteration beneath the White Channel gravel. Results looked promising but subsequent diamond drilling results were considered very poor as none of the magnetic anomalies turned out to be intrusive. The option was dropped.

This was actually a very successful survey for this writer's listwanite model. The survey did locate the major magnetic units, which are the ultramafics and andesite volcanics. The E-SCAN resistivity survey shows high (>1000 ohm/m) units that are probably silicified listwanite units that narrow and break up at depth (>120-150m below surface) and are replaced by resistivity low units (<7 ohm/m), which are probably graphite schist units.

This interpretation is confirmed by diamond drilling in holes 87AOR TIB 1-3 and 94-80-01to 03. This may not fit Kennecott's target model but it certainly fits mine.

The seventh and last survey in the area of the Last Chance claims was a helicopter airborne VLF-EM, magnetometer and radiometric survey carried out by FUGRO for the Geological Survey of Canada, in 2000. This survey is available as GSC Open File #3992 or DIAND Open File #2001-8.

This survey covers a large area including almost all of the Klondike goldfields. Parameters include; 1) Uranium/Potassium (eU/K%). This parameter shows a very strong, linear low anomaly in the Last Chance claim area. This is interpreted as an alteration zone strong in potassium. Potassium alteration anomalies are often associated with gold mineralization. This anomaly is approximately 3.5km (2.1mi) long and 0.5km (0.3mi) wide. It is located parallel and coincident with the placer pay streak on Paradise, Savoy, Preido and Dago Hills. It is also coincident with the listwanite occurrences on these hills and on the floor of Hunker Creek. This anomaly is interpreted as an expression of a listwanite alteration system following a northwest trending vein fault along the western edge of Hunker Creek. Potassium anomalies have been noted to correspond with an abundance of mariposite in listwanitic systems.

2) Total Air Absorbed Dose Rate (nG/h). This parameter shows a low anomaly coincident with the previously described U/K low in the Last Chance claim area.

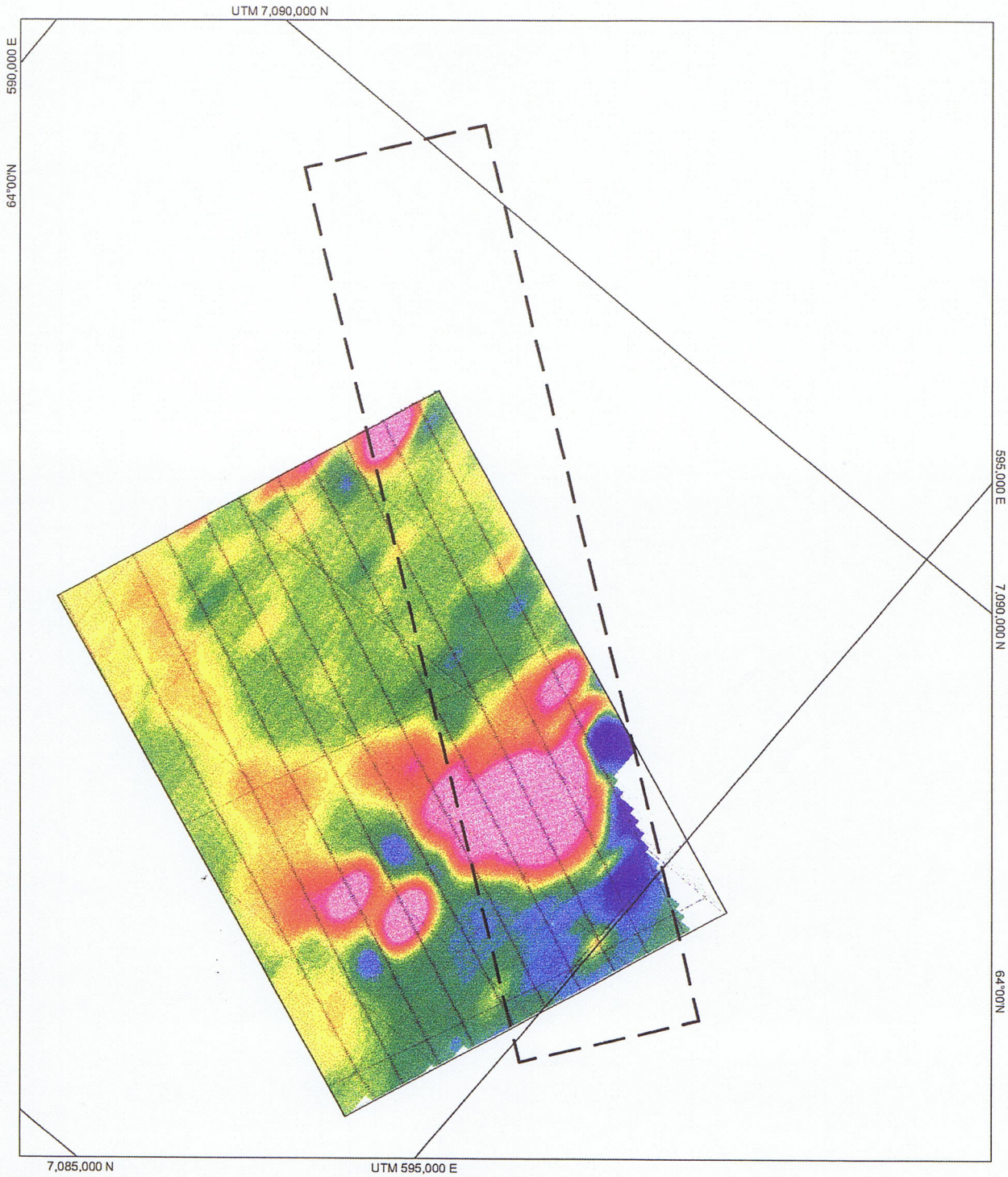
3) Uranium Map (eUppm). This parameter shows a very strong, linear low anomaly coincident with the anomalies described in 1&2.

4) Residual Total Field Magnetics (nT). This parameter shows a magnetic low coincident with the listwanite outcrop on Paradise Hill surrounded by magnetic highs which represent ultramafic rocks bearing considerable magnetite, formed during serpentinization reactions. This is a known exploration signature for listwanitic gold targets as described by Ash and Arksey in British Columbian listwanites.

5) Magnetic First Vertical Derivative (nT/m). This parameter shows a strong low coincident with the listwanitic zone on Paradise Hill. Adjacent high anomalies are interpreted as ultramafics/serpentinites and andesite volcanics. These anomalies have more discrete definition than the total field magnetics.

6) Ternary Radioelement Map (Relative concentration of Potassium (K), Uranium (U) and Thorium (Th) expressed as % Absorption Dose Rate or %ADR). This parameter shows a strong low (0-24.4 %ADR) that can be interpreted as a potassic alteration zone associated with abundant mariposite in the listwanite alteration zone on Paradise Hill.

7) Thorium/Potassium Map (eTh/K ppm/%). This parameter shows a strong linear low anomaly trending northwest along Hunker Creek, through Paradise, Savoy & Preido Hills to the southern end of Dago Hill. This is coincident with the listwanite zone on



0 250 500 750 1000

METRES

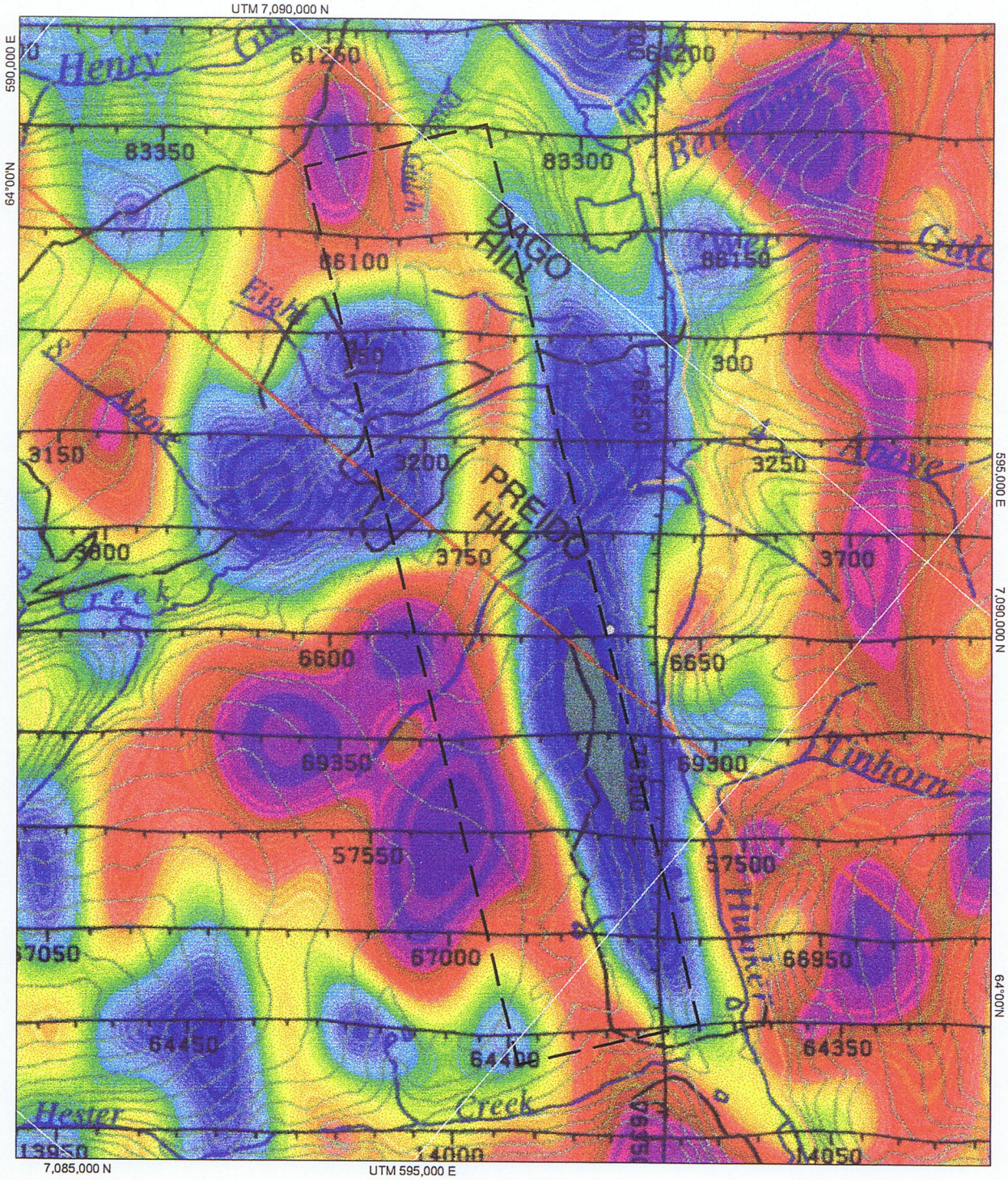
Transverse Mercator Projection
North American Datum 1983

LEGEND

Claim group boundary (approximate)

LAST CHANCE CLAIMS
GROUND MAGNETICS (2X Hanning Filter)
(Kennecott Canada Inc., 1993)

SCALE: 1 : 30,000		DATE: 2003.06.30
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



0 250 500 750 1000
METRES

Transverse Mercator Projection
North American Datum 1983

LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

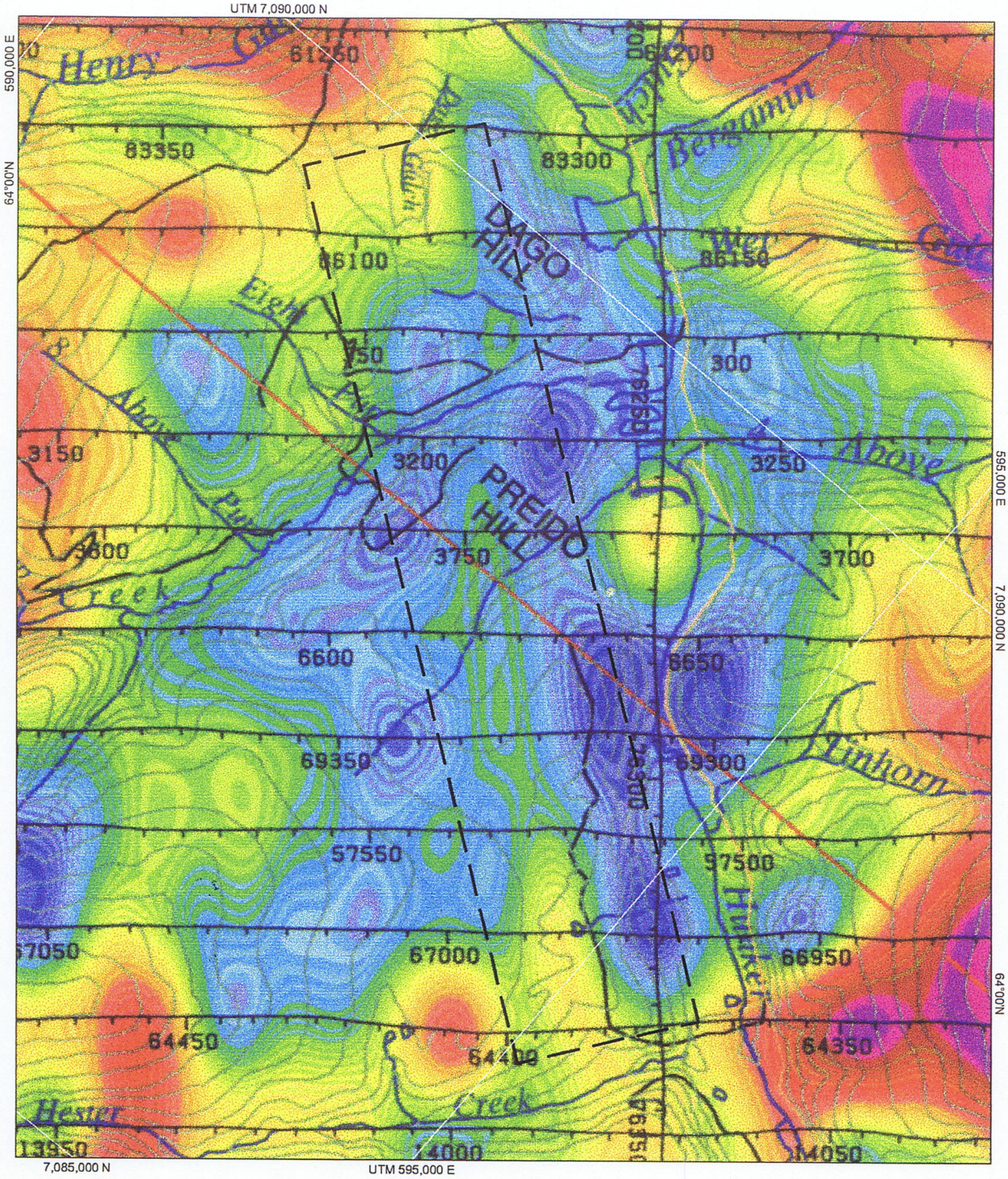
57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

URANIUM POTASSIUM MAP (eU/K)

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



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METRES

Transverse Mercator Projection
North American Datum 1983

LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

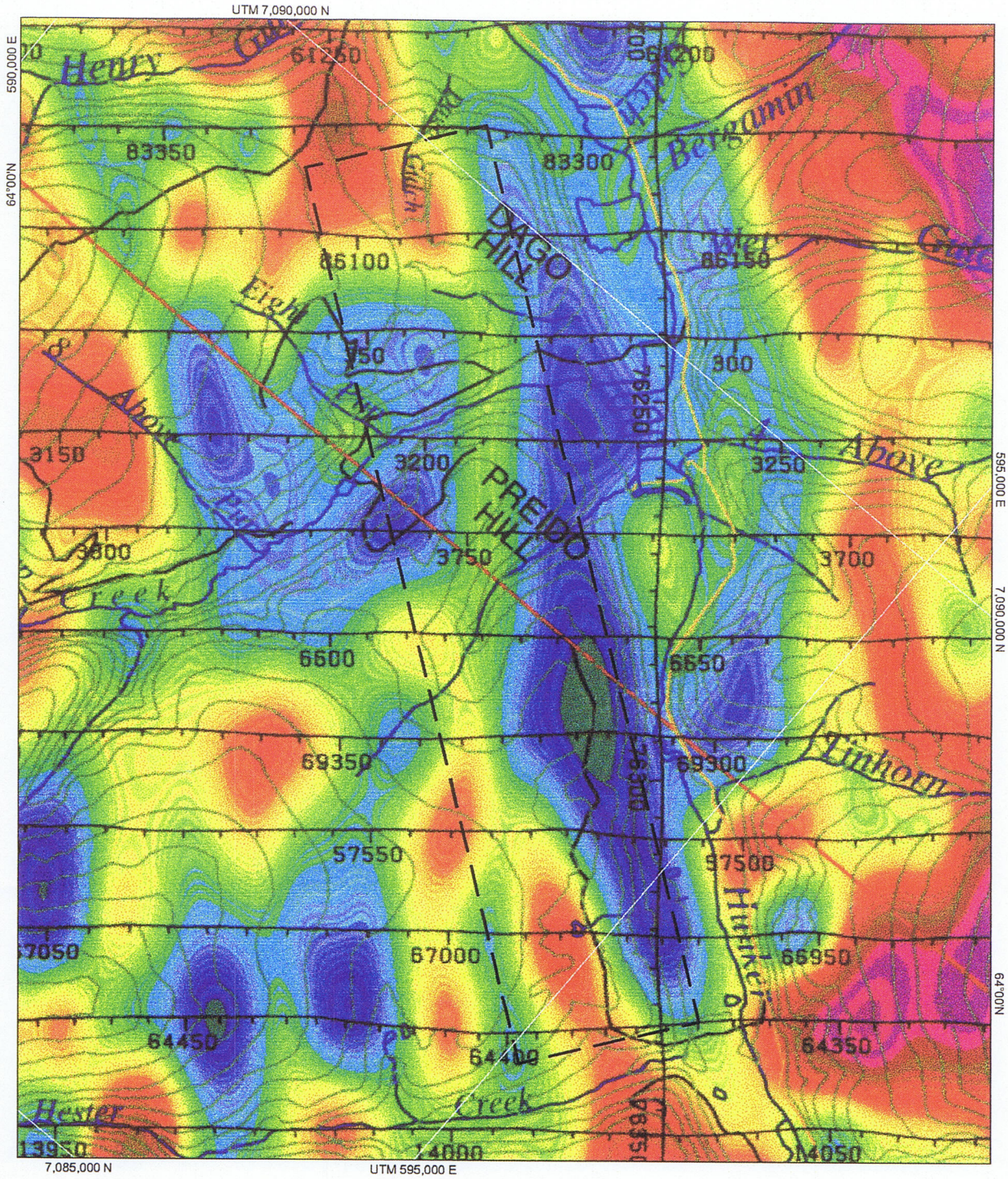
57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

TOTAL AIR ABSORBED DOSE RATE MAP

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

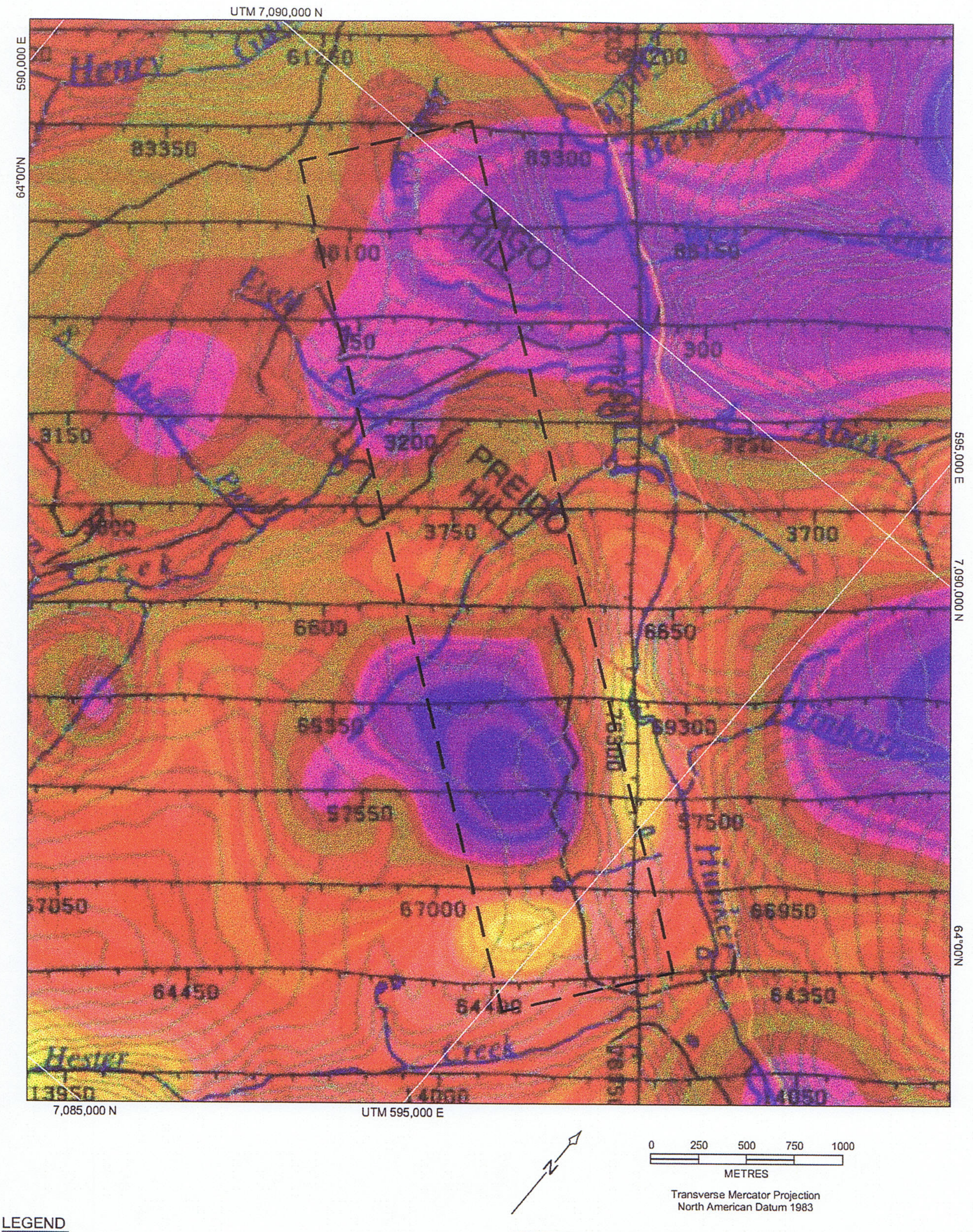
57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

URANIUM MAP (eU)

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LEGEND

Airborne geophysical data (aeromagnetic)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

57550 — Flight lines, fiducial

— — — Claim group boundary (approximate)

LAST CHANCE CLAIMS MAGNETIC ANOMALY MAP (TOTAL RESIDUAL FIELD)		
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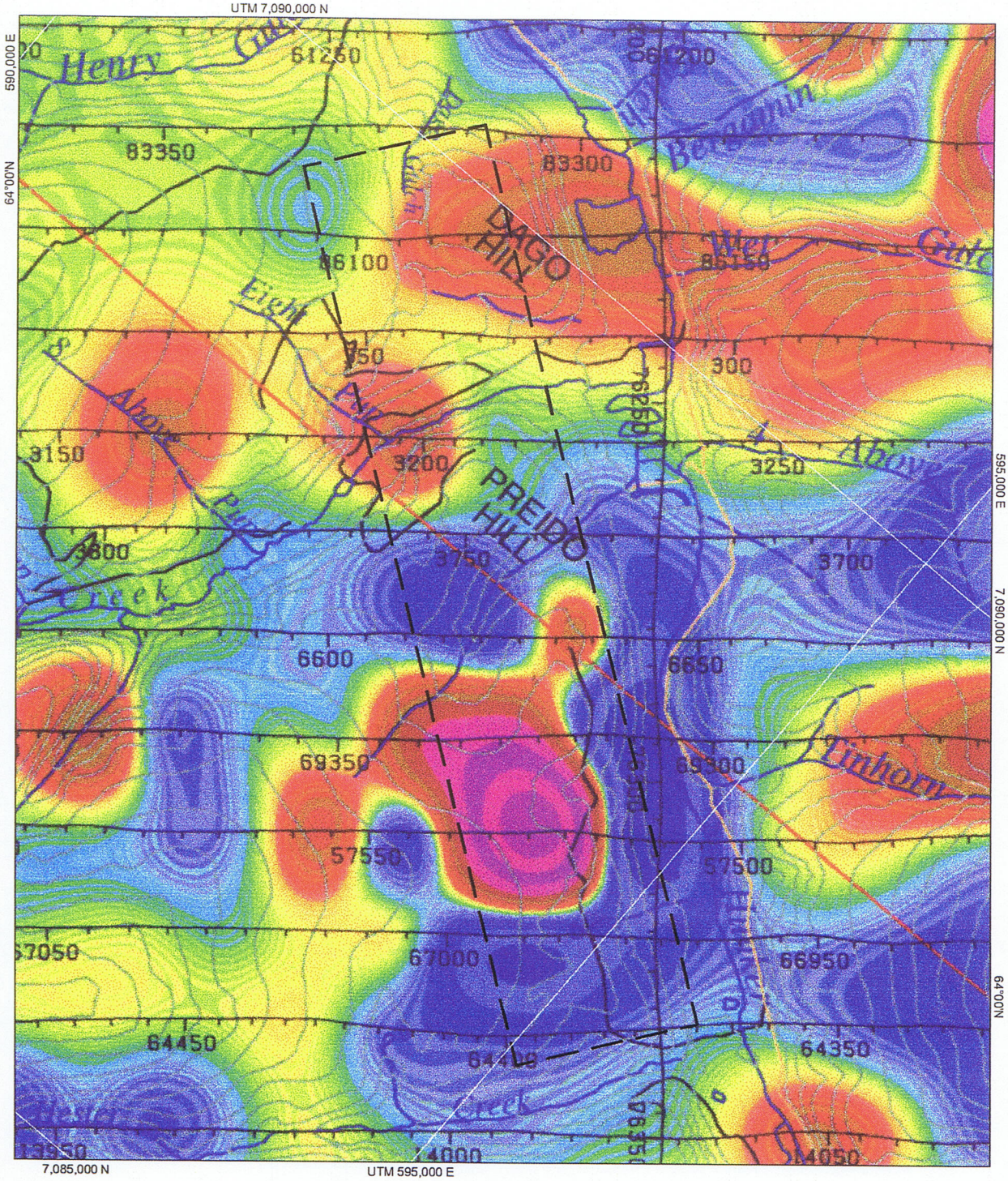
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LEGEND

Airborne geophysical data (aeromagnetic)

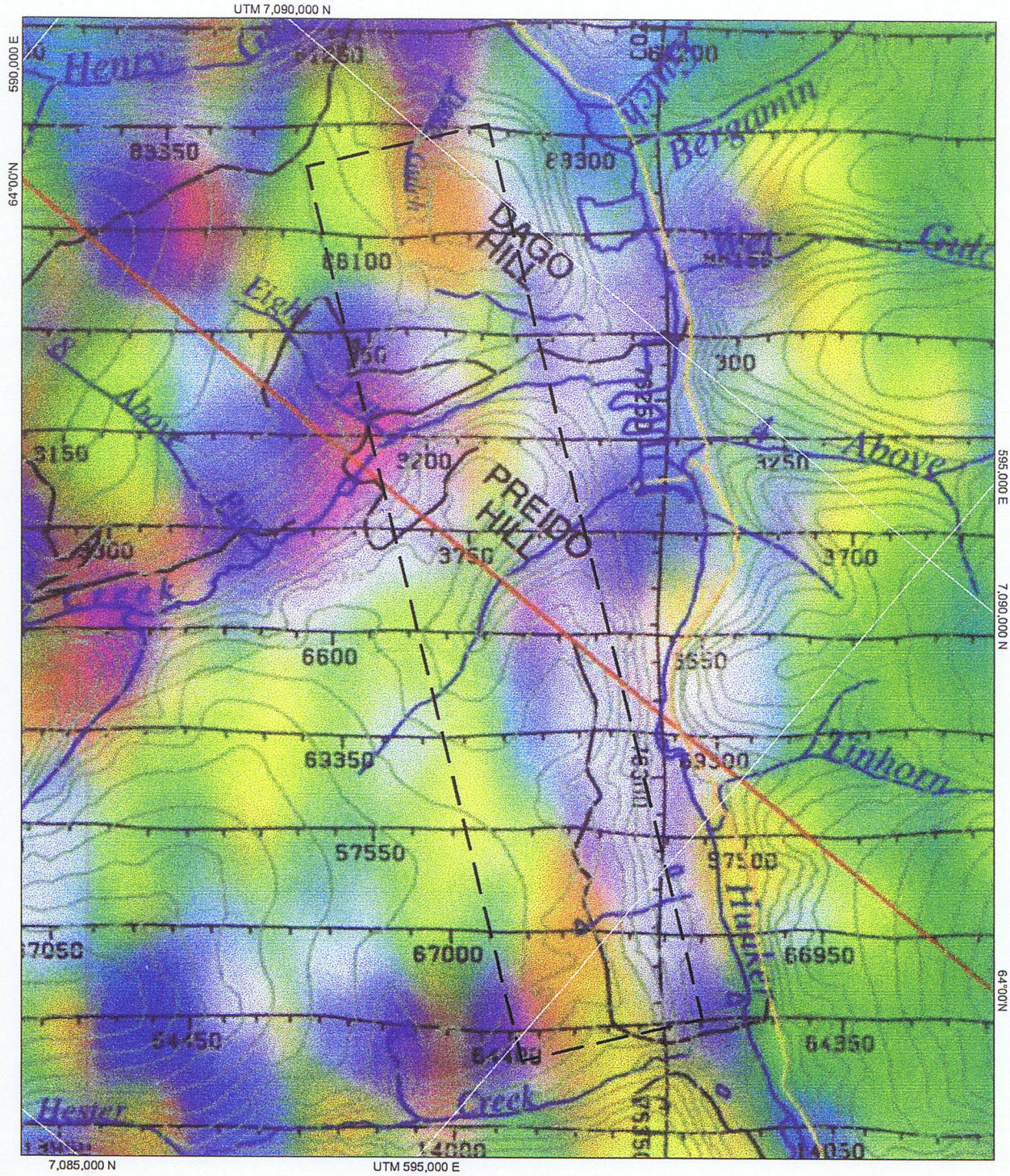
Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS
MAGNETIC FIRST VERTICAL DERIVTIVE MAP

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

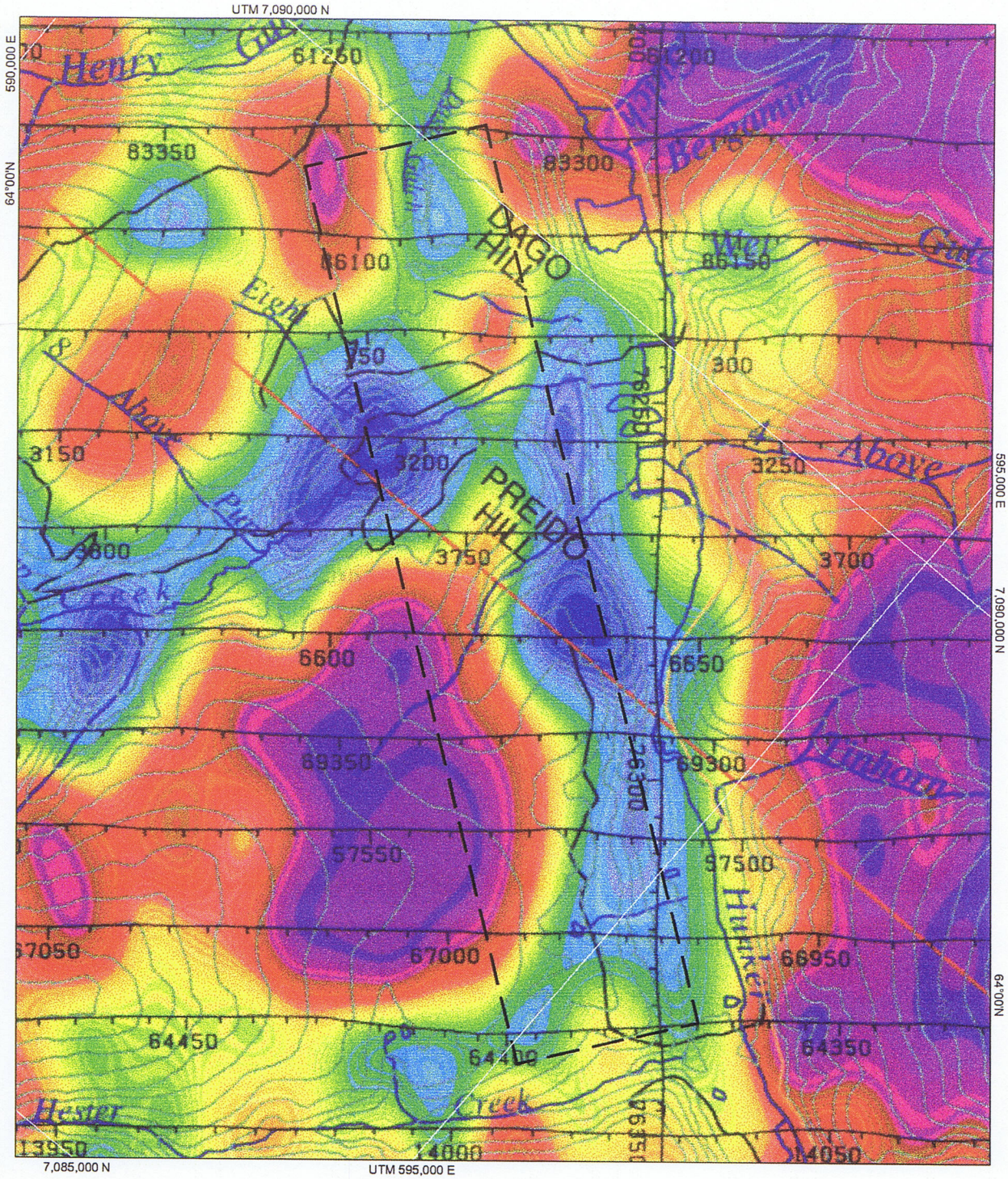
57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

TERNARY RADIOELEMENT MAP

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



0 250 500 750 1000
METRES

Transverse Mercator Projection
North American Datum 1983

LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

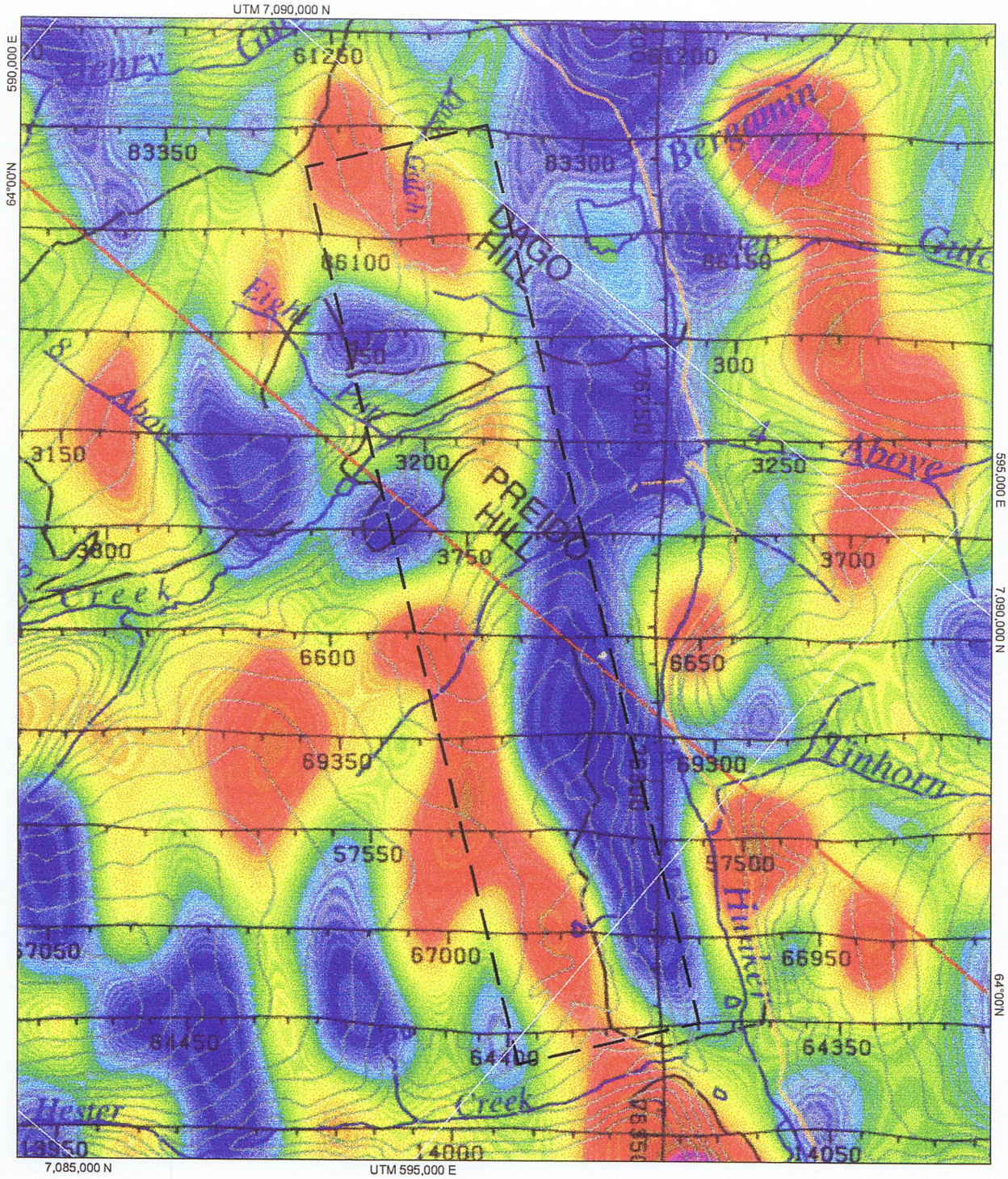
57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

THORIUM / POTASSIUM MAP (eTh/K)

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LEGEND

Airborne geophysical data (aeromagnetic)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

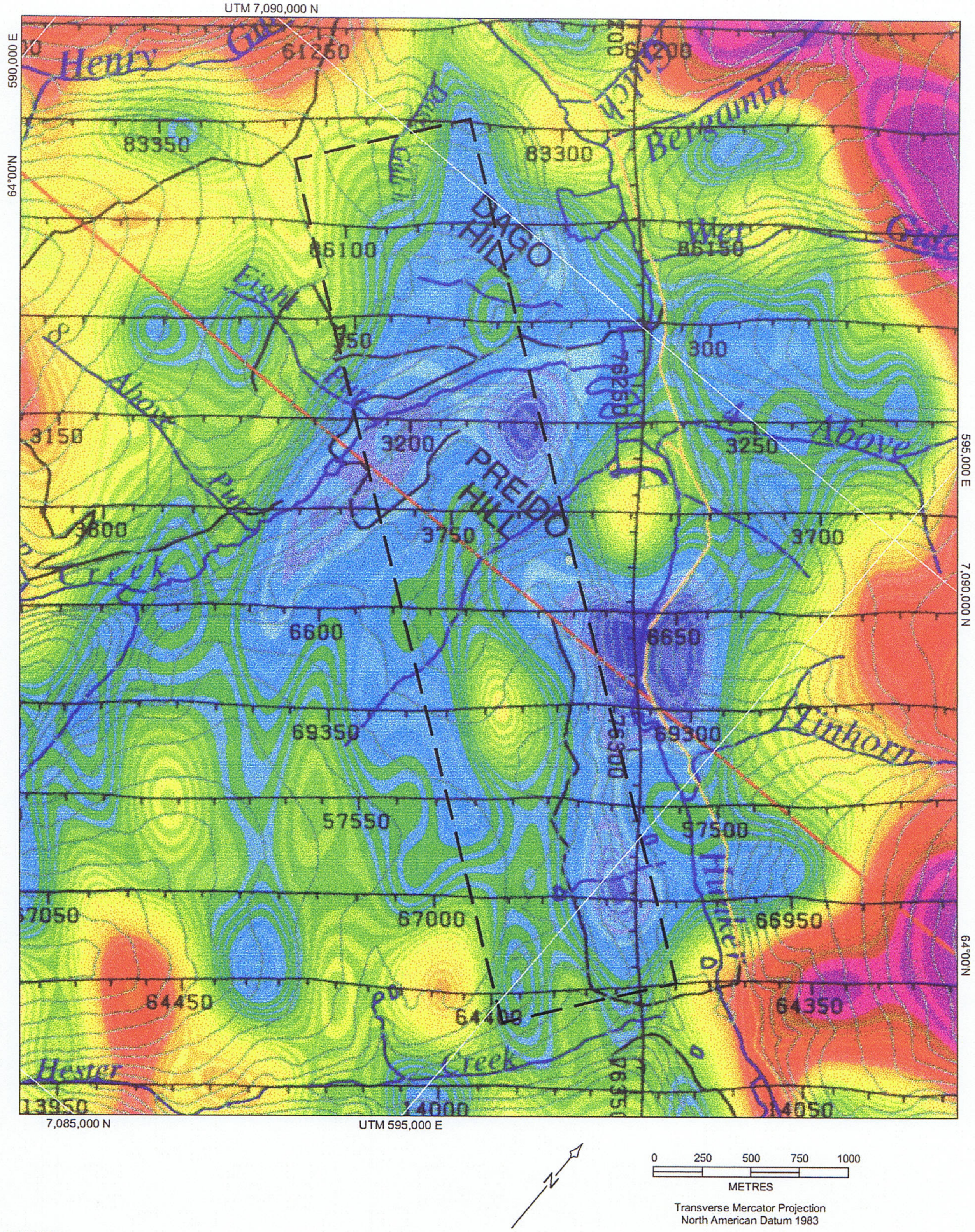
57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

URANIUM / THORIUM MAP (eU/eTh)

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

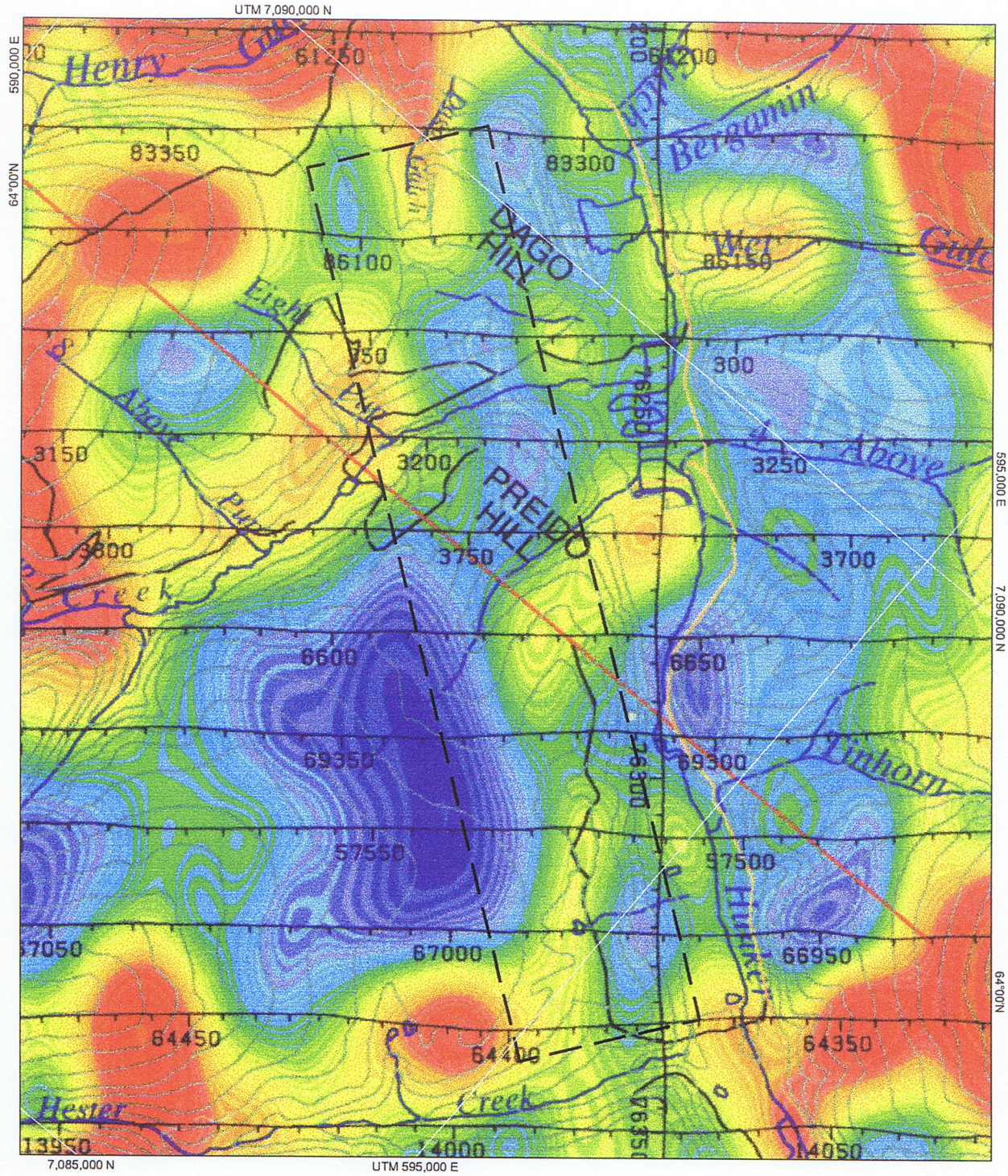
57550 — Flight lines, fiducial

— — — Claim group boundary (approximate)

LAST CHANCE CLAIMS

THORIUM MAP (eTh)

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE



0 250 500 750 1000
METRES

Transverse Mercator Projection
North American Datum 1983

LEGEND

Airborne geophysical data (gamma-ray spectrometry)

Shives, R.B.K., Carson, J.M., Holman, P.B., Gordey, S., Abbot, G., 2001
Geological Survey of Canada Open File 3992,
Exploration and Geological Services Division, Yukon, INAC Open File 2001-8,
Stewart River Area - 115 O/14

57550 Flight lines, fiducial

Claim group boundary (approximate)

LAST CHANCE CLAIMS

POTASSIUM MAP

SCALE: 1 : 30,000		DATE: 2003.06.26
NTS: 115 O/14, 116 B/3	DRAWN: GDS	FIGURE

Paradise Hill and is interpreted as a classic potassium enrichment zone associated with mariposite enrichment in the listwanite zone.

8) Uranium/Thorium Map (eU/eTh ppm/ppm). This parameter shows a very strong, linear low coincident with the listwanite zone on Paradise Hill and striking northwest along Hunker Creek to Dago Hill. This low is interpreted as a listwanitic alteration zone.

9) Thorium Map (eTh ppm). This parameter shows a low paralleling Hunker Creek from Paradise to Preido Hill and on through Dago Hill. As thorium enrichment generally does not accompany potassium during hydrothermal alteration processes the thorium low is interpreted as an alteration zone coincident with the listwanite zone on Paradise Hill. Surrounding thorium highs may be interpreted as rhyolitic volcanic rock units.

10) Potassium Map (%K). This parameter shows a narrow, linear high striking northwest across Paradise and Savoy Hills and a second high under Dago Gulch on Dago Hill. These are coincident with the White Channel coarse gold pay streak and could be interpreted as a potassic alteration zone of mariposite in listwanite along a northwest trending fault zone.

These multi-parameter, coincident anomalies appear to confirm the interpretation of a strong, northwest-trending, linear, mariposite-rich, listwanite alteration zone following the coincident White Channel coarse gold placer bench pay streak from Paradise Hill to Dago Hill.

DRILLING

The Last Chance claim area was drilled by several operators over a 15-year period.

In 1984, United Keno Hill Mines Ltd. drilled 4 reverse circulation holes totaling 480m (1575ft). These holes were collared on the east side of Hunker Creek opposite the mouth of 70 Pup, to explore the vein system found in the old Ben Levy adit (circa 1900). The holes were set up just uphill from the adit and drilled through the hangingwall side of the vein, passing beneath the adit workings.

All four holes intersected anomalous gold values. The highest (in Hole HUN 84-33) intersected 650ppbAu/10' @ 320'-330' and 200ppbAu/10' @ 310'-320', averaging 425ppbAu/20'. Results are interpreted as a series of parallel or en echelon, north striking, steeply dipping (70 degrees east) quartz-carbonate vein-faults carrying anomalous gold values. These vein-faults project on strike southwards across Hunker Creek to 70 Pup and onto Paradise Hill, where they perfectly intersect the north end mapped termination of the Paradise Hill coarse gold pay streak. These quartz-carbonate veins may be related to the listwanite alteration zone on Paradise Hill, and would therefore confirm it is anomalous in gold. These holes are approximately 300m (1000 ft) north of the mouth of 70 Pup, and the main listwanite zone on Hunker Creek.

In 1986, the Dawson Syndicate (Arbor Resources Ltd. et al) diamond drilled 7 holes in the vicinity of the Last Chance claims. These holes totaled 880m (2889ft). Three of these holes (86-SST-1to3) were drilled southwest of Dago Hill at the headwaters of Discovery Pup on Last Chance Creek. They intersected a highly silicified zone in quartz sericite schist and graphite schists cut by numerous parallel shear zones or vein-faults,

with a possible N25E strike. These holes were weakly anomalous in gold (best assay 0.014ozAu/ton). Rock units intersected were anomalous in; arsenic, barium, calcium, cobalt, chromium, copper, manganese, magnesium, nickel, phosphorous, lead, strontium, vanadium and zinc. Several airborne EM conductors appear to be coincident with drill intersected shear zones carrying graphite schist.

A fourth hole (86-SST-4) was drilled 151m (496ft) on the northeast side of Dago Hill to explore for a fault zone paralleling Hunker Creek. A strong fault zone was intersected in a graphitic schist unit that fault-contacted a quartz muscovite schist/quartzite unit near the bottom of the hole. Low gold values (up to 0.01ozAu/ton) were intersected and anomalous values in other elements were similar to holes 86-SST-1to3.

Holes 86-TIB-1to3 were drilled to a total depth of 362m (1185ft) on the southwest side of Paradise Hill. These holes intersected graphitic schist and sedimentary units in fault contact with an ultramafic body of peridotite/serpentinite with some listwanite alteration, including talc, quartz/carbonate vein stockworks and some possible mariposite. Gold values were at or below detection limit. Other elements showed typical narrow sporadic anomalies in arsenic and copper, probably related to vein-faults and strong barium, chromium, manganese, magnesium, nickel, phosphorous and zinc anomalies. These anomalies are related to the rock units, especially the ultramafics.

In November of 1988, United Keno Hill Mines Ltd. drilled 13 rotary percussion drill holes totaling 771m (2530ft), in the floor of Hunker Creek between the mouths of Tinhorn Gulch and 70 Pup. These holes intersected a black, graphitic schist unit at Tinhorn Gulch, which contacted with a light grey quartz porphyry rhyolite halfway to 70 Pup. Very little anomalous gold was intersected in these holes. An assay of 0.018ozAu/ton/10' @230'-240' was intersected in HUN 88-3. The remainder of the assays were detection limit or less for gold. In hole HUN 88-31 a single small piece of visible gold was panned from the drill cuttings at 90'-100' and 2 small pieces of visible gold were panned from 100'-110'. The gravel- bedrock contact was at 70' and these pieces of gold may be placer contamination that washed down the hole around the casing pipe. No assays for gold were detected in these samples. Several strong fault zones were intersected in this drilling program. Holes HUN 88-31A and 32 intersected a strong fault zone at the mouth of 70 Pup, carrying quartz-carbonate, mariposite mineralization. This is the eastern edge of the main Hunker Creek listwanite alteration zone, found beneath Paradise Hill. These intersections were followed up and confirmed by diamond drilling in holes HUN 89-1,4,5&6 in January of 1989.

These diamond drill holes were drilled in January & February 1989 by U.K.H.M. Ltd. to follow up on the percussion hole intersections described above. These holes totaled 569m (1866ft) in 7 holes at the mouth of 70 Pup and the base of Paradise Hill. These holes intersected a large rhyolite sill (?) in the floor of Hunker Creek, which is in fault (?) contact with a large, strong vein-fault zone at the base of the hill. This zone is carrying a strong quartz-carbonate vein stockwork that appears to be re-brecciated and re-silicified and is carrying bright green mariposite. This listwanite zone has been re-opened by faults that were subsequently filled with a younger, multi-lithic volcanic (?) breccia with coarse fragments of several lithologies. These lithologies include; listwanite, volcanics and various schists all supported in a fine-grained black matrix. Core assays taken by this writer in 2002 from Hole HUN 89-1 from 73'-123' in the listwanite zone

returned no results for gold and weak to strong anomalies in; copper (125ppmCu/5'), lead (16ppmPb/5'), zinc (15ppmZn/5'), arsenic (527ppmAs/5'), antimony (14ppmSb/5'), cobalt (96ppmCo/5'), nickel (1751ppmNi/5'), barium (38ppmBa/5'), chromium (923ppmCr/5'), manganese (1276ppmMn/5'), strontium (340ppmSr/5'), calcium (18%Ca/5'), iron (3.49%Fe/5') and magnesium (19%Mg/5'). This is typical of a listwanite alteration zone in serpentinized ultramafics.

This zone is characterized by a strongly silicified quartz-carbonate stockwork breccia with some mariposite. This zone is located at the mouth of 70 Pup where it meets the floor of Hunker Creek, at the base of Paradise Hill.

This listwanite zone is interpreted as the eastern edge of a wide listwanite alteration envelope around a postulated California Mother Lode type gold-quartz vein lying farther west beneath Paradise Hill and the coarse gold pay streak found on the bench there, up hill and west of these drill intersections.

Keno Hill was never able to follow up on these intersections as their Exploration Department went through several budget cuts and then a final staff lay-off in early 1990. The company never successfully reopened and this target was lost, until now.

In 1994, Kennecott Canada Inc. drilled 5 diamond drill holes totaling 1156m (3793ft) in the vicinity of the Last Chance claims. Only one narrow gold anomaly was intersected (0.86g/tAu/0.4m). Kennecott was prospecting for a target model of an intrusive hosted bulk tonnage gold deposit of the Tintina Gold Belt type. Since nothing matching this target model was intersected, Kennecott abandoned the property option.

However, these holes (and especially 94-80-01) confirm the presence of a strong listwanite alteration zone on Paradise Hill. Hole 94-80-01 was collared in strongly weathered schist to a depth of 77m (252ft). It then intersected 226m (741ft) of highly listwanite altered ultramafic rocks and marble (?). This section is characterized by abundant calcite veining, local quartz flooding and less frequent chalcedonic and drusy quartz veining. The hole is terminated in underlying graphitic schist at 323m (1060ft). Mariposite is found throughout the altered section.

This hole was interpreted as a sub-horizontal thrust stack of resistive marble, magnetic ultramafics and graphitic schists that clearly explained the coincident magnetic and resistivity high anomalies from the ground and airborne geophysical surveys in this area. What Kennecott logged as "marble" may also be quartz-carbonate altered listwanite that has been re-silicified in places. Similar material was logged in the UKHM holes HUN 89-1,4,5&6.

Kennecott reported "drill core from 94-80-01 shows abundant evidence of hydrothermal fluid flow, with widespread development of disseminated and veinlet specularite-mariposite (?) and vuggy calcite-quartz veinlets. Thin, dynamic, polymict, hydrothermal breccias cemented by quartz and calcite are found along the margins of the ultramafic thrust slices. An assay of 0.86 g/tAu was returned from a 0.4m (1.3ft) interval of brecciated, silicified and magnetite-hematite-mariposite (?) veined marble. Other gold intersections (<0.1g/tAu) are infrequent and occur only at lithological contacts. Wide intervals of mariposite (?) bearing marble are anomalous in arsenic but barren in gold."

Kennecott also reported "Magnetic anomalies on the 80 Pup property are attributable to serpentinized thrust slices of Slide Mountain terrane ultramafic rock. Thrust stacking appears to have been accompanied by hydrothermal activity which produced neomorphic mariposite (?) in marble (and occasionally in graphitic schist),

ankerite and quartz veins in both ultramafics and graphitic schist, and carbonate metasomatism of ultramafic rocks. All these rocks are barren of gold, though arsenic may have been mobile and locally concentrated by the fluid flow. Late vuggy calcite-quartz veins and hydrothermal breccias, which crosscut the metamorphic rocks, are of uncertain age. The single gold anomalous intercept returned from drilling may be related to this episode of veining."

This description certainly does not match the Tintina Gold Belt intrusive hosted, bulk tonnage, gold target that Kennecott was searching for. On the other hand, it is a textbook description of the listwanite alteration envelope of the type found surrounding California Mother Lode gold-quartz vein deposits.

The importance of this fact cannot be over-emphasized. This places a drill confirmed alteration halo found in major gold deposits, directly beneath one of the richest placer gold paystreaks in history. The odds of these two geological events not being directly related to each other must be considerable.

This appears to place a California Mother Lode type high-grade gold-quartz vein target directly beneath the White Channel bench coarse gold pay streak on Paradise Hill.

Hole 94-80-01 is located at the top of 70 Pup, approximately 400m (1300ft) southwest of holes HUN89-1, 4, 5&6 that were drilled at the bottom of 70 Pup by U.K.H.M. Ltd. This could be interpreted as indicating the listwanite alteration zone on Paradise Hill is at least 400m (1300ft) wide.

The primary target in a listwanite is the gold-quartz vein inside the alteration envelope. To date, this target has not been drilled within the Paradise Hill listwanite.

Hole 94-80-01 is anomalous in arsenic, barium, calcium, cobalt, chromium, copper, iron, potassium, magnesium, manganese, nickel, phosphorous, lead, strontium, vanadium and zinc. This is typical of listwanite assemblages.

Holes 94-80-02 & 03 were drilled approximately 1500m (4900ft) southwest of 94-80-01. Hole 94-80-02 intersected graphitic schists that were broken by faulting and silicified and cut by quartz-pyrite veins at depth. Anomalous gold was scarce-only one assay for gold was returned above detection limit (10ppbAu). A 1.1m (3.6ft) interval of brecciated graphite schist assayed 554ppmAs, 185ppmCu, 39ppmMo, 22ppmPb, and 1270ppmZn. This is a typical listwanite anomaly and suggests the alteration halo on Paradise Hill is very large and its width from Hunker Creek may exceed 2km (1.2mi). This hole is also coincident with airborne VLF-EM and EM conductors striking NW parallel to Hunker Creek.

Hole 94-80-03 was faulted and fractured throughout and intersected an iron-carbonate stockwork veined, listwanite altered, ultramafic unit interbedded with graphitic schist and muscovite/sericite schists. This hole returned spot anomalies in gold up to 75ppbAu and several assays over 1000ppmAs. One graphitic shear zone returned 70ppbAu and 3690ppmAs/1.4m. Kennecott could not explain why arsenic was found in the graphitic schists here-but a listwanite alteration event would explain it perfectly. The arsenic is traveling out of the listwanite altered ultramafic and penetrating the graphite schist through the numerous fault and shear zones.

Holes 94-80-04 &05 were drilled on the east flank of Last Chance Creek about 2400m (7900ft) upstream from Hunker Creek. Hole 04 was lost in broken ground and was re-drilled as hole 05. Kennecott reports "both holes intersected a hetrolithic diatreme breccia dominated by sericite-dolomite altered andesite rock fragments and carrying

accessory lithic fragments comprising chlorite schist, graphite schist, Cretaceous mudstone and rare granitic rock. Quartz vein fragments and broken pyrite crystals are also present. The breccia varies from clast to matrix supported, contains sub-angular to rounded fragments (indicative of particle milling) and has a black matrix suggestive of silica flooding and/or milled graphitic schist fragments. Pyrite abundance in both matrix and altered volcanic rock fragments is very low (<0.5%). Gold and arsenic assays for the diatreme breccia are uniformly low, indicating that the gold and arsenic anomalies reported from the other 80 Pup drill holes are confined to the older metamorphic rocks east of Last Chance Creek."

The description of this diatreme breccia is virtually identical to the multilithic breccia intersected in the U.K.H.M. Ltd. Holes HUN89-1, 4, 5&6. This would suggest the diatreme breccia is widespread as these sets of holes are 2300m (7500ft) apart. The diatreme breccias are following pre-existing fault zones, indicating widespread faulting in this area. The Hunker Creek breccias have penetrated the listwanite alteration zone. This suggests that even though the breccias are barren of gold-they may be followed along strike to lead into pre-existing gold mineralized areas.

In summary, drilling over a 4km x 2.3km area has intersected anomalous values in gold and other elements that are textbook indicators of a listwanite quartz-carbonate, mariposite alteration zone. This is confirmed by core intersections of strong listwanite alteration in strong fault zones throughout the area. The strongest of these zones appears to be over 400m (1300ft) in width and is coincident with and lies directly beneath one of the richest placer gold paystreaks in the world. This pay streak is the famous White Channel bench on Paradise Hill, which continues northwest across Savoy Hill, Preido Hill and Dago Hill, a distance of 4.5km (2.8mi). The primary target zone within the listwanite alteration envelope would be the postulated high-grade gold-quartz vein within the alteration envelope. This target remains undrilled to date.

ADDITIONAL SAMPLES

In 2002, this writer collected 18 rock samples from the Last Chance claim area. These were analyzed for gold plus 30 elements. Results gave 2 samples JM-1 and JM-18 that were anomalous in gold, assaying 53ppb and 9ppb respectively. The remainder of the samples were below detection limit for gold. Virtually all of these samples were weakly to strongly anomalous in the following elements; Cu, Pb, Zn, As, Sb, Mo, Cd, Co, Ni, Ba, W, Cr, V, Mn, La, Sr, Ca, Fe and Mg. These results are typical of a listwanite altered ultramafic zone. Seven of these samples were float and the remaining eleven were outcrop. All were typical of rock units found in listwanite alteration zones. Several were of quartz vein stockworks, quartz-carbonate vein stockworks with vuggy/drusy/framboidal texture and chalcedonic banding. Others were of listwanitized ultramafic rock with quartz-carbonate vein stockworks and mariposite. The rest were of various other lithologies, including; the coarsely fragmental heterolithic diatreme breccia, a black graphitic schist with a grey "ashy" alteration from a breccia zone and a dark green gabbro (?).

These results would suggest there is a strong listwanite alteration zone following the flank of Paradise Hill and up onto the White Channel bench, where it would form the bedrock for the placer pay streak located there. The listwanite zone appears to be within a

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08/05/2002

Certificate of Analysis

of pages (not including this page): 1

Jim McFaull

WO# 020017

Certified by _____
Justin Lemphers (Senior Assayer)

Date Received: 07/23/02

SAMPLE PREPARATION:

Code	# of Samples	Type	Preparation Description (All wet samples are dried first.)
r	18	rock	Crush to -10 mesh; riffle split 200g; pulverize to -100 mesh

ANALYTICAL METHODS SUMMARY:

Symbol	Units	Element	Method (A:assay) (G:geochem)	Fusion/Digestion	Lower Limit	Upper Limit
Au	ppb	Gold	G: FA/AAS	15g FA / aqua regia	5	7000

AAS = atomic absorption spectrophotometry
FA = fire assay

1 oz/ton = 34.286 g/mt
1000ppb = 1ppm = 1g/mt = 0.0001% = 0.029166oz/ton

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08/05/2002 Certificate of Analysis

Jim McFaull WO#020017

Certified by

Sample #	Au ppb
JM- 1	53
JM- 2	<5
JM- 3	<5
JM- 4	<5
JM- 5	<5
JM- 6	<5
JM- 7	<5
JM- 8	<5
JM- 9	<5
JM-10	<5
JM-11	<5
JM-12	<5
JM-13	<5
JM-14	<5
JM-15	<5
JM-16	<5
JM-17	<5
JM-18	9

ICP Certificate

05/08/02

W O# 020017

#	Sample #	Ag	Cu	Pb	Zn	As	Sb	Hg	Mo	Tl	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Sc	Ti	Al	Ca	Fe	Mg	K	Na	P
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%
1	JM- 1	0.2	23	3	30	15	<5	<3	4	<10	4	<0.1	5	64	23	40	257	7	69	<2	4	1	1	<0.01	0.03	0.03	0.78	0.04	0.02	0.03	<0.01
2	JM- 2	0.6	41	<2	5	<5	<5	<3	5	<10	4	<0.1	2	6	73	6	15	2	925	6	1175	<1	1	<0.01	0.21	35.66	0.93	0.2	0.02	0.03	<0.01
3	JM- 3	0.4	11	<2	10	16	<5	<3	6	<10	5	<0.1	3	24	25	11	65	4	323	4	189	1	1	<0.01	0.05	33.55	0.59	1.03	<0.01	0.03	0.16
4	JM- 4	0.6	13	<2	16	6	<5	<3	3	<10	<2	<0.1	2	20	31	6	43	3	191	5	231	1	<1	<0.01	0.07	31.88	0.33	0.35	0.03	0.03	0.26
5	JM- 5	0.4	12	<2	14	18	<5	<3	4	<10	<2	<0.1	2	11	25	8	32	3	254	13	214	3	1	<0.01	0.07	34.91	0.34	0.35	0.03	0.03	0.84
6	JM- 6	<0.1	9	2	26	<5	<5	<3	9	<10	<2	<0.1	3	20	94	8	56	6	391	3	231	2	1	<0.01	0.11	19.4	1.35	7.46	0.03	0.03	0.03
7	JM- 7	<0.1	9	<2	54	<5	<5	<3	3	<10	<2	<0.1	12	181	49	14	518	14	107	2	6	2	2	<0.01	0.04	0.14	1.74	0.08	0.03	0.03	0.02
8	JM- 8	<0.1	21	2	86	9	12	<3	8	<10	<2	<0.1	21	291	74	7	1137	25	272	2	12	3	3	<0.01	0.06	0.16	3.6	0.11	0.03	0.03	0.02
9	JM- 9	<0.1	11	6	6	<5	27	<3	11	<10	<2	<0.1	95	1893	22	10	1774	10	716	<2	11	1	2	<0.01	0.02	0.06	4.25	14.33	0.02	0.03	0.01
10	JM-10	<0.1	4	6	3	23	6	<3	7	<10	<2	<0.1	47	842	2	6	561	3	314	<2	18	<1	1	<0.01	0.05	0.18	1.22	11.19	0.01	0.03	<0.01
11	JM-11	<0.1	22	16	57	<5	<5	<3	5	<10	<2	<0.1	14	49	158	12	82	71	868	22	183	5	8	0.01	1.56	3.51	2.65	1.69	0.06	0.07	0.12
12	JM-12	0.2	32	11	86	<5	<5	<3	13	<10	<2	<0.1	11	44	223	<5	46	35	1234	7	390	18	6	<0.01	0.34	10.15	3.45	5.19	0.1	0.1	0.05
13	JM-13	0.2	51	17	22	176	7	<3	5	<10	<2	<0.1	43	649	262	11	371	10	417	3	191	1	4	<0.01	0.07	2.97	2.24	2.21	0.04	0.04	<0.01
14	JM-14	<0.1	22	17	62	<5	<5	<3	7	<10	3	<0.1	18	80	570	13	70	43	529	26	178	2	7	<0.01	1.96	2.19	2.86	2.5	0.19	0.05	0.12
15	JM-15	<0.1	14	16	37	<5	<5	<3	9	<10	<2	<0.1	45	835	423	7	200	18	1197	7	1409	2	2	<0.01	0.18	16.24	3.41	9.12	0.01	0.03	<0.01
16	JM-16	<0.1	28	9	15	19	10	<3	8	<10	<2	<0.1	38	753	105	9	639	11	186	<2	68	1	3	<0.01	0.15	1.85	1.87	6.66	0.02	0.03	<0.01
17	JM-17	<0.1	25	14	60	<5	<5	<3	8	<10	<2	<0.1	17	62	285	6	149	88	708	18	235	6	13	0.01	1.77	2.99	3.35	2.37	0.07	0.08	0.09
18	JM-18	0.4	42	22	113	<5	<5	<3	4	<10	<2	<0.1	9	70	137	17	113	33	205	8	24	4	2	<0.01	0.49	1.04	1.57	0.32	0.09	0.04	0.1
19																															
20																															
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28																															
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30																															
	Min Limit	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Max Reported	99.9	20000	20000	20000	9999	9999	9999	9999	999	999	99.9	999	999	9999	999	9999	999	9999	9999	9999	999	99	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00

--=No Test ins=Insufficient Sample m=Estimate/1000 %=Estimate Max=No Estimate

Sample No.	Easting	Northing	Type	Location
02JM1	595014E	7097232N	Float	Top of cat trail Paradise Hill
02JM2	594597E	7098089N	Float	Savoy Hill cat trail
02JM3	594630E	7098182N	Outcrop	Bottom of Savoy Hill 1989 DDH
02JM4	594630E	7098182N	Outcrop	same as 02JM3
02JM5				same as 02JM3
02JM6	594595E	7098221N	Outcrop	Savoy Hill cat trail
02JM7	595014E	7097232N	Float	Top of cat trail Paradise Hill
02JM8	595014E	7097232N	Float	same as 02JM7
02JM9	595010E	7098175N	Float	Top of tailings dam, Hunker Cr.
02JM10	595188E	7097629N	Float	Bottom cat trail Paradise Hill
02JM11	593700E	7098948N	Outcrop	Savoy Hill road
02JM12	592820E	7098460N	Outcrop	Preido Hill road
02JM13	592666E	7099353N	Outcrop	Dago Hill road
02JM14	592747E	7099563N	Outcrop	Dago Hill road
02JM15	592666E	7099353N	Outcrop	Dago Hill road
02JM16	592666E	7099353N	Outcrop	Dago Hill road
02JM17	592831E	7099619N	Outcrop	Dago Hill road
02JM18	594597E	7098089N	Outcrop	Savoy Hill cat trail

Description
Quartz vein stockwork, drusy, vuggy, framboidal, rusty, limonitic stained, minor ultramafic(?) fragments
Coarsely crystalline white calcite vein, minor buff slickensided wall rock= ultramafic (?)
Milky white quartz/carbonate, mariposite vein

pale orange wrx, buff ultramafic breccia cut by strong stockwork of white/cream veins+mariposite
rusty, grey quartz vein, very vuggy/drusy & framboidal+chalcedonic+ultramafic fragments

orange wrx. Ultramafic + white drusy quartz veins & dark blue chalcedony veins
Jade green siliceous ultramafic + white, intense stockwork quartz/carbonate micro-veinlets
white carbonate wrx on dark brown wrx black/dark grey fspar. porphyry andesite
creamy/buff wrx black coasely fragmental andesite breccia + multi-lithological fragments
orange wrx siliceous ultramafic + strong mariposite cut by white quartz/carbonate veinlets
white carbonate wrx on medium green ultramafic(?)
same as 02JM13
strongly wrxd buff/orange/red/green ultramafic(?) breccia + mariposite
buff wrx carbonate on dark green gabbro(?)
black graphite schist breccia + grey "ashy" wrx

strongly faulted, brecciated and re-cemented zone with evidence of open space deposition of vein material as chalcedonic banding, vugs, druses and framboidal/botryoidal and granular/saccharoidal textures that are common in the quartz found in this area. This is significant as this quartz appears similar to much of the type of quartz recovered from the placer mines with large quantities of gold attached. Similarities include the morphology and smokey blue/grey or pinkish colours. The listwanite zone carries mariposite throughout. The surrounding wall rock lithologies are cut by strong vein-faults carrying anomalous geochemical values of listwanite type over an area of several square kilometers.

Kennecott reported a sample (#VR00724A) of "a red, clay-rich seam with volcanic fragments" in a recent trench wall on the east end of Dago Hill. This was interpreted as a possible clay altered shear zone with volcanic fragments. This sample assayed 2460ppbAu, 5.4ppmAg, 112ppmPb, and 230ppmZn. This trench is located near the southeast end of the Dago Hill coarse gold pay streak and may represent a possible bedrock anomaly in the floor of the placer pay streak. This assay was not followed up as Kennecott dropped the property option.

WEATHERING OR BEDROCK ALTERATION

Geological mapping of bedrock in the Last Chance claim area where placer miners had stripped the gravels to bedrock, led government and industry geologists in the mid-1980s to theorize that the bedrock was intensely clay altered. They believed this alteration was a hydrothermal (epithermal) alteration event. However, subsequent diamond drilling would indicate that this clay is more likely a near surface, deep weathering phenomena and is probably related to the lack of glaciation in the Klondike, which has allowed very long-term surface weathering to occur.

Holes 87AOR TIB 1,2&3 show a uniform 25m (80ft) thick surface layer logged as "clay alteration". However, in cross-section this would appear to be more of a flat-lying surface weathering phenomena.

A similar, though thinner, zone appears in Holes 86SST1,2 &3.

Hole 94-80-01 shows approximately 20m (65ft) of surface weathering, with strong oxidation of iron (orange to brown rusty colouration) and the rock described as "gougy material- no primary textures preserved" and "incompetent-punky schist" and "friable phyllite".

This sort of deep intense weathering will have to be considered before surface geological mapping, soil geochemical sampling or trenching programs are considered for this area.

CONCLUSIONS

For 107 years the lode source of the Klondike placer goldfields has remained undiscovered. The search for the lode source has been hampered throughout this time by the lack of a workable geological target model that would guide exploration crews to the mineralized areas. The failure to discover a lode source for the Klondike gold has remained one of the greatest enigmas in the history of geological exploration-until now.

Now, float rock samples, outcrop, rotary percussion and reverse circulation cuttings and diamond drill core on the Last Chance claims and the surrounding area have exposed geological evidence, supported by rock geochemistry and ground and airborne geophysics, that a listwanite alteration zone exists along the southwest flank of Hunker Creek from Hester Creek to Henry Gulch. This listwanite alteration zone is related to strong, large fault zones possibly paralleling Hunker Creek. The alteration zone shows a potential width of at least 400m and a potential length of at least 4.5km.

The listwanite zone may actually extend outward to cover an area several times that in size, or perhaps additional zones are occurring in this area, following parallel fault zones.

The listwanite alteration zone is forming the bedrock of one of the world's richest placer gold paystreaks. This is the White Channel bench coarse gold pay streak on Paradise and Savoy Hills. It appears likely that the alteration zone continues northwest across Preido and Dago Hills.

This pay streak is still being placer mined after 107 years of continuous placer mining and is still producing gold. It is interesting to observe that a large amount of the so-called "placer gravel" currently being mined in these operations is, in fact, not gravel at all-but well weathered clay bedrock from depths of 5 to 7 m (15 to 20ft) below the gravel-bedrock contact. It has been an accepted industry practice to placer mine some bedrock in order to capture any placer gold that has gone down into fractures in the bedrock. However, it appears to be stretching the possibilities when these fractures are pursued to depths of 7m. It is even more difficult to accept this theory, when direct observation of the bedrock being mined shows little or no evidence of fractures at all. The weathered clays are homogenous and would appear to be more impenetrable than permeable to placer gold. The bedrock is also mariposite bearing in many places.

This pay streak is also famous, with mineral specimen collectors, for its beautiful samples of crystalline gold, wire gold and dendritic leaf gold. These samples appear to have been mined in situ, as they do not appear to have traveled any distance at all from their source.

The primary target zone at the centre of the listwanite alteration envelope, where the postulated high-grade gold-quartz veins should be located, has never been drilled to date. Surface exposures of the primary target zone are not well exposed along the bench due to most of the stripped areas being subsequently covered with placer tailings and pushed overburden, or it is obscured by deep surface weathering.

If the Last Chance claims prove to possess a high grade gold-quartz vein system within the listwanite zone this will not just open up these claims as an exploration target. The confirmation of the presence of California Mother Lode type gold-quartz veins on the Last Chance claims will provide a geological target model for prospecting the entire Klondike goldfields. This has the potential for the discovery of multi-million ounce lode gold targets.

RECOMMENDATIONS

The Paradise Hill listwanite alteration zone should be diamond drilled from hangingwall to footwall to explore for the presence of high-grade lode gold-quartz veins. If any such veins are located-they should then be drilled down dip and along strike to

DETAILED STATEMENT OF COSTS
LAST CHANCE REPORT
JULY 16, 2004 – JUNE 20, 2005

July 20, 2004 Property examination with J. Fraser and J.Lando, Dasher Exploration Ltd.
July 21, 2004 Property examination Last Chance claims
July 22, 2004 Property examination Last Chance claims
July 23, 2004 Read and interpret Assessment report 091634 by U.K.H.M. Ltd.
July 24, 2004 Re-interpret 091634
July 25, 2004 Re-interpret 091634
July 31, 2004 Read and interpret Assessment report 091807 Dawson Syndicate
Aug. 1, 2004 Re-interpret 091807
Aug. 2, 2004 Re-interpret 091807
Aug. 7, 2004 Read and interpret Assessment report 092591
Aug. 8, 2004 Re-interpret 092591
Aug.19, 2004 Re-interpret 092591
Aug.20, 2004 Read and interpret Assessment report 062213
Aug.21, 2004 Re-interpret 062213
Aug.22, 2004 Re-interpret 062213
Aug.23, 2004 Read and interpret Assessment report 091757
Aug.24, 2004 Re-interpret 091757
Aug.25, 2004 Re-interpret 091757
Aug.26, 2004 Read and interpret Assessment report 092994
Aug.27, 2004 Re-interpret 092994
Aug.28, 2004 Re-interpret 092994
Sep. 9, 2004 Read and interpret Assessment report 093183
Sep. 10, 2004 Re-interpret 093183
Sep. 11, 2004 Re-interpret 093183
Sep. 13, 2004 Read and interpret Assessment report 093211
Sep. 14, 2004 Re-interpret 093211
Sep. 15, 2004 Re-interpret 093211
Sep. 25, 2004 Read and interpret Assessment report 093321
Sep. 26, 2004 Re-interpret 093321
Sep. 27, 2004 Re-interpret 093321
Sep. 28, 2004 Read and interpret Assessment report 092974
Sep. 29, 2004 Re-interpret 092974
Sep. 30, 2004 Re-interpret 092974
Oct. 1, 2004 Read and interpret Assessment report 091981
Oct. 2, 2004 Re-interpret 091981
Oct. 3, 2004 Re-interpret 091981
Oct. 4, 2004 Read and interpret Assessment report 093319
Oct. 5, 2004 Re-interpret 093319
Oct. 6, 2004 Re-interpret 093319
Oct. 7, 2004 Read and interpret Ash & Arksey BCGS Paper 1990-1
Oct. 8, 2004 Re-interpret Ash & Arksey
Oct. 9, 2004 Re-interpret Ash & Arksey

Oct.10, 2004 Read and interpret Ash, Macdonald & Arksey BCGS Paper 1992-1
Oct.11, 2004 Re-interpret Ash, Macdonald & Arksey
Oct.12, 2004 Re-interpret Ash, Macdonald & Arksey
Oct.13, 2004 Read and interpret Ballantyne & Mackinnon
Oct.14, 2004 Read and interpret Bohlke GSA Special Paper 338
Oct.15, 2004 Re-interpret Bohlke
Oct.16, 2004 Re-interpret Bohlke
Oct.17, 2004 Re-interpret Bohlke
Oct.18, 2004 Re-interpret Bohlke
Oct.19, 2004 Read and interpret Bostock GSC Memoirs 284, 178, 193, 209
Oct.20, 2004 Read and interpret Bostock GSC Memoirs 218, 220, 234 & Map 711A
Oct.21, 2004 Read and interpret Bostock GSC Memoir 284 (additional)
Oct.22, 2004 Read and interpret Brock GSC Summary Report 1909
Oct.23, 2004 Read and interpret Buisson & Leblanc Economic Geology Vol. 80
Oct.24, 2004 Read and interpret Cairnes GSC Summary Report 1911
Oct.25, 2004 Re-interpret Cairnes 1911
Oct.26, 2004 Read and interpret Charbonneau 1997
Oct.27, 2004 Read and interpret Clark 1984
Oct.28, 2004 Read and interpret Clark 1987
Oct.29, 2004 Read and interpret Cockfield 1929 & 1930
Oct.30, 2004 Read and interpret Dawson Daily News 1901
Oct.31, 2004 Interpret Debicki 1984 Open File Map 1:50,000 Geology of the Klondike
Nov. 1, 2004 Interpret Debicki 1985 Open File Map 1:50,000 Geology of the Klondike
Nov. 2, 2004 Re-interpreting 1:50,000 maps
Nov. 3, 2004 Re-interpreting 1:50,000 maps
Nov. 4, 2004 Read and interpret Dept. of Interior Report 1902
Nov. 5, 2004 Read and interpret Dufresne 1987 Thesis
Nov. 6, 2004 Re-interpret Dufresne
Nov. 7, 2004 Re-interpret Dufresne
Nov. 8, 2004 Re-interpret Dufresne
Nov. 9, 2004 Read and interpret Everette 1907 & 1908
Nov.10,2004 Read and interpret Freidrich & Hoymann 1989
Nov.11,2004 Re-interpret Freidrich & Hoymann
Nov.14,2004 Re-interpret Freidrich & Hoymann
Nov.16,2004 Read and interpret Gleeson 1970
Nov.17,2004 Re-interpret Gleeson
Nov.18,2004 Read and interpret Hazlitt & Russell 1990
Nov.19,2004 Read and interpret Heilprin 1899
Nov.20,2004 Read and interpret Heilprin 1899
Nov.29,2004 Read and interpret Heilprin 1899
Nov.30,2004 Read and interpret Heilprin 1899
Dec. 1,2004 Re-interpret Heilprin
Dec. 2,2004 Re-interpret Heilprin
Dec. 3,2004 Re-interpret Heilprin

Dec. 4,2004 Read and interpret Landefield
Dec. 5,2004 Read and interpret Lindgren 1894
Dec. 6,2004 Re-interpret Lindgren
Dec. 7,2004 Read and interpret MacLean 1912
Dec. 8,2004 Re-interpret MacLean
Dec. 9,2004 Re-interpret MacLean
Dec.10,2004 Read and interpret MacLean 1914
Dec.11,2004 Read and interpret McConnell & Tyrell 1898 GSC Memoir 284
Dec.12,2004 Re-interpret McConnell & Tyrell
Dec.13,2004 Read and interpret McConnell 1903 GSC Memoir 284
Dec.14,2004 Re-interpret McConnell 1903
Dec.15,2004 Re-interpret McConnell 1903
Dec.16,2004 Read and interpret McConnell 1905 GSC Memoir 284
Dec.17,2004 Re-interpret McConnell 1905

Total July20 – Dec.17, 2004 = 100 mandays @ $400.00/day = $40,000.00

Jan. 30,2005 Read and interpret Milner 1976
Jan. 31,2005 Read and interpret Milner
Feb. 1,2005 Read and interpret Milner
Feb. 2,2005 Re-interpret Milner
Feb. 3,2005 Re-interpret Milner
Feb. 4,2005 Re-interpret Milner
Feb. 5,2005 Re-interpret Milner
Feb 6,2005 Read and interpret Morison & Hein 1987
Feb. 7,2005 Re-interpret Morison & Hein
Feb. 8,2005 Re-interpret Morison & Hein
Feb.14,2005 Read and interpret Mortenson 1990
Feb.15,2005 Re-interpret Mortenson
Feb.16,2005 Re-interpret Mortenson
Feb.17,2005 Re-interpret Mortenson
Feb.18,2005 Re-interpret Mortenson
Feb.19,2005 Read and interpret Mortenson, Nesbitt & Rushton
Feb.20,2005 Re-interpret Mortenson, Nesbitt & Rushton
Feb.25,2005 Re-interpret Mortenson, Nesbitt & Rushton
Feb.26,2005 Re-interpret Mortenson, Nesbitt & Rushton
Feb.27,2005 Read and interpret Naldrett 1981
Mar. 5,2005 Read and interpret Naldrett
Mar. 6,2005 Read and interpret Naldrett
Mar.12,2005 Re-interpret Naldrett
Mar.13,2005 Re-interpret Naldrett
Mar.19,2005 Re-interpret Naldrett
Mar.20,2005 Read and interpret Rushton 1991
Apr. 4,2005 Read and interpret Rushton

Apr. 5,2005 Re-interpret Rushton
Apr. 6,2005 Re-interpret Rushton
Apr. 7,2005 Read and interpret Tyrrell 1907
Apr. 8,2005 Re-interpret Tyrrell
Apr. 9,2005 Read and interpret Tyrrell 1912
Apr.10,2005 Re-interpret Tyrell 1912
Apr.12,2005 Read and interpret USGS Aeromag Background paper 2003
Apr.13,2005 Interpret Shives et al INAC Map O.F. 2001-8 Airborne Geophysics U/K
Apr.14,2005 Interpret Uranium/Potassium map
Apr.15,2005 Interpret Total Air Dose Rate map
Apr.16,2005 Interpret Total Air Dose Rate map
Apr.17,2005 Interpret airborne Uranium map
Apr.18,2005 Interpret airborne Uranium map
Apr.19,2005 Interpret airborne Total Field Magnetic map
Apr.20,2005 Interpret airborne Total Field Magnetic map
Apr.21,2005 Interpret airborne Vertical Derivative Magnetic map
Apr.22,2005 Interpret airborne Vertical Derivative Magnetic map
Apr.23,2005 Interpret airborne Ternary Radioelement map
Apr.24,2005 Interpret airborne Ternary Radioelement map
Apr.25,2005 Interpret airborne Thorium/Potassium map
Apr.26,2005 Interpret airborne Thorium/Potassium map
Apr.27,2005 Interpret airborne Uranium/Thorium map
Apr.28,2005 Interpret airborne Uranium/Thorium map
Apr.29,2005 Interpret airborne Thorium map
Apr.30,2005 Interpret airborne Thorium map
May 1,2005 Interpret airborne Potassium map
May 2,2005 Interpret airborne Potassium map
May 3,2005 Interpret above O.F.2001-8 airborne geophysical maps with geology maps
May 4,2005 Interpret Assessment report 091981 airborne total field magnetic map
May 5,2005 Re-interpret 091981 airborne total field magnetic map
May 6,2005 Interpret 091981 airborne Vertical Gradient Magnetic map
May 7,2005 Re-interpret 091981 airborne Vertical Gradient Magnetic map
May 8,2005 Interpret 091981 airborne EM (electro-magnetic) map
May 9,2005 Re-interpret 091981 airborne EM map
May10,2005 Interpret 091981 airborne VLF-EM (very low frequency-EM) map
May11,2005 Re-interpret 091981 airborne VLF-EM map
May12,2005 Interpret 091981 airborne Resistivity map
May13,2005 Re-interpret 091981 airborne Resistivity map
May14,2005 Interpret and compare 091981 airborne maps with O.F. 2001-8 maps
May15,2005 Interpret and compare 091981 airborne maps with O.F. 2001-8 maps
May17,2005 Synthesize data for report writing and target model development
May20,2005 Synthesize data
May21,2005 Synthesize data
May22,2005 Synthesize data
May23,2005 Synthesize data

May24,2005 Synthesize data
May25,2005 Synthesize data
May26,2005 Synthesize data
May27,2005 Briefing V.P.Exploration for Dasher Exploration Ltd. on geology of claims
May28,2005 Briefing V.P.Exploration for Dasher Exploration Ltd. on geology of claims
May29,2005 Property exam of Last Chance claims with Dasher Exploration Ltd.
May30,2005 Property exam of Last Chance claims with Dasher Exploration Ltd.
May31,2005 Property exam of Last Chance claims with Dasher Exploration Ltd.
June 1,2005 Discussion of geology of Last Chance claims with Dasher
June 2,2005 Discussion of geology of Last Chance claims with Dasher
June 3,2005 Synthesize data
June 4,2005 Synthesize data
June 5,2005 Synthesize data
June 6,2005 Synthesize data
June 7,2005 Synthesize data
June 8,2005 Synthesize data
June 9,2005 Synthesize data
June10,2005 Writing geological report on Last Chance claims
June11,2005 Writing geological report on Last Chance claims
June12,2005 Writing geological report on Last Chance claims
June13,2005 Writing geological report on Last Chance claims
June14,2005 Writing geological report on Last Chance claims
June15,2005 Writing geological report on Last Chance claims
June16,2005 Writing geological report on Last Chance claims
June17,2005 Writing geological report on Last Chance claims
June18,2005 Writing geological report on Last Chance claims
June19,2005 Writing geological report on Last Chance claims
June20,2005 Finished writing geological report on Last Chance claims

Total Jan.30 – June 20, 2005 = 100 mandays @ $400.00/manday = $40,000.00

+

Total July 20- Dec. 17, 2004 = 100 mandays @ $400.00/manday = $40,000.00

Grand Total July 20, 2004 – June 20, 2005
= 200 mandays @ $400.00/manday = $80,000.00

confirm strike and dip. The vein system could then be pursued for grade and the location of ore shoots. The holes should be drilled with HQ rods due to difficult ground conditions. The holes should be drilled as angle holes (say-55 degrees) to crosscut the steeply-dipping alteration zone. The holes should be drilled at azimuths of 045 and 225 until the dip of the veins is established.

If a gold-quartz vein system is confirmed, then this target model should be applied to the rest of the Klondike goldfields, to generate multiple targets.

Respectfully submitted;

Jim McFaull B.Sc.
Exploration Geologist

STATEMENT OF COSTS

From July 16, 2004 to June 20, 2005

200 mandays of geological work @ $400.00/day= $80,000.00

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092994, 1991, Noranda, Exploration on Australian Hill.
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PHOTOS

The following photographs were taken of nuggets mined in 1989 from the Teck Corp. placer mine at the mouth of Gold Run Creek and it's junction with lower Dominion Creek, on the south side of the Klondike goldfield. This is approximately 45km southeast of the Last Chance 1-20 quartz claims.

Note the morphology of the quartz within these nuggets. The quartz is generally granular or saccharoidal in nature. It is smokey grey, bluish grey or occasionally pinkish in colour. This matches perfectly with the description of the quartz in gold nuggets found throughout most of the Klondike, as described by Heilprin (1899) on pages 9 & 10 of this report.

Note the large percentage of gold compared to the amount of quartz in the nuggets, and how the gold appears to "hold" the quartz. This is also identical to Heilprin's description of the Klondike nuggets.

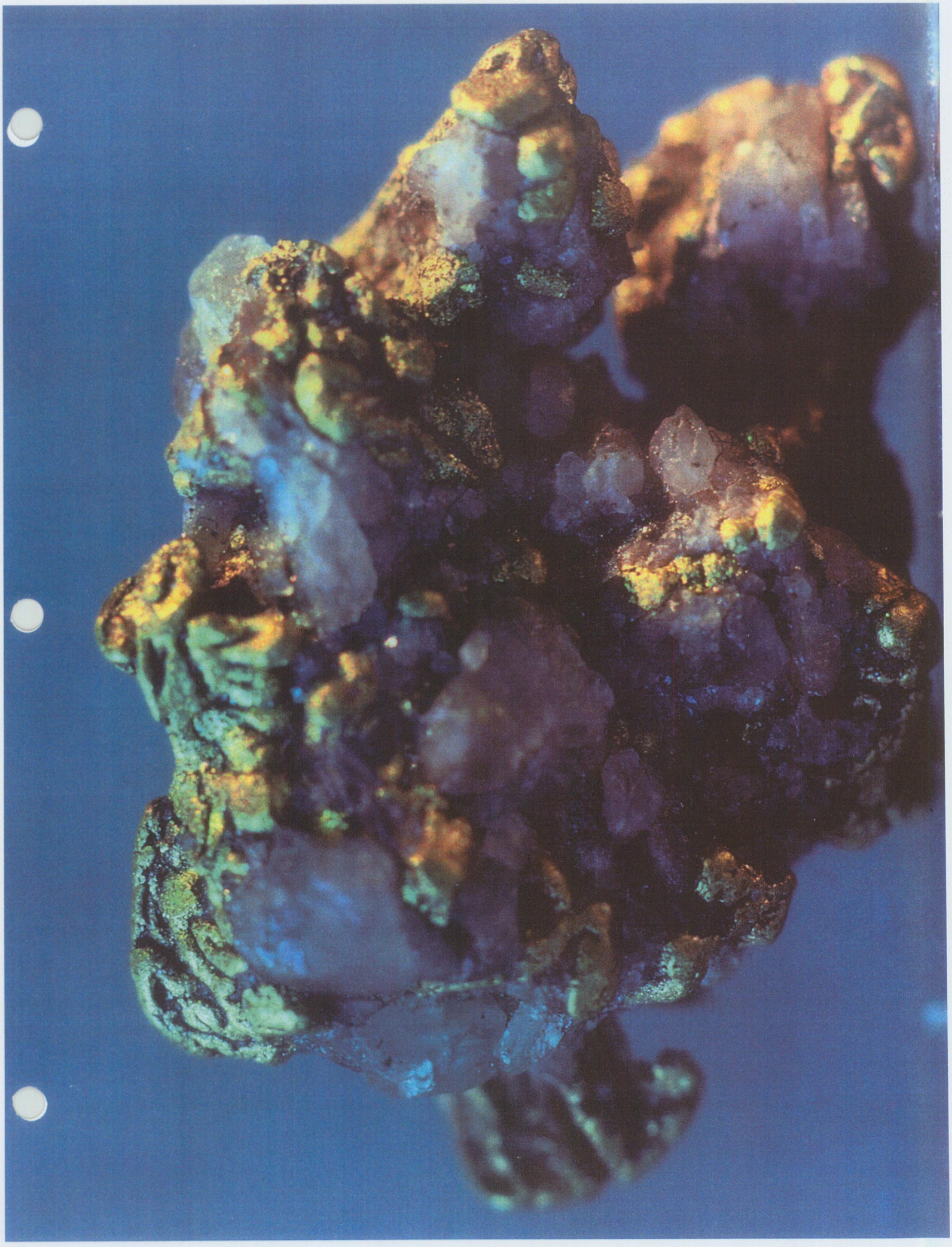
The occasional sample with a silvery grey or bluish grey metallic mineral may indicate the presence of tellurides in some of the nuggets.

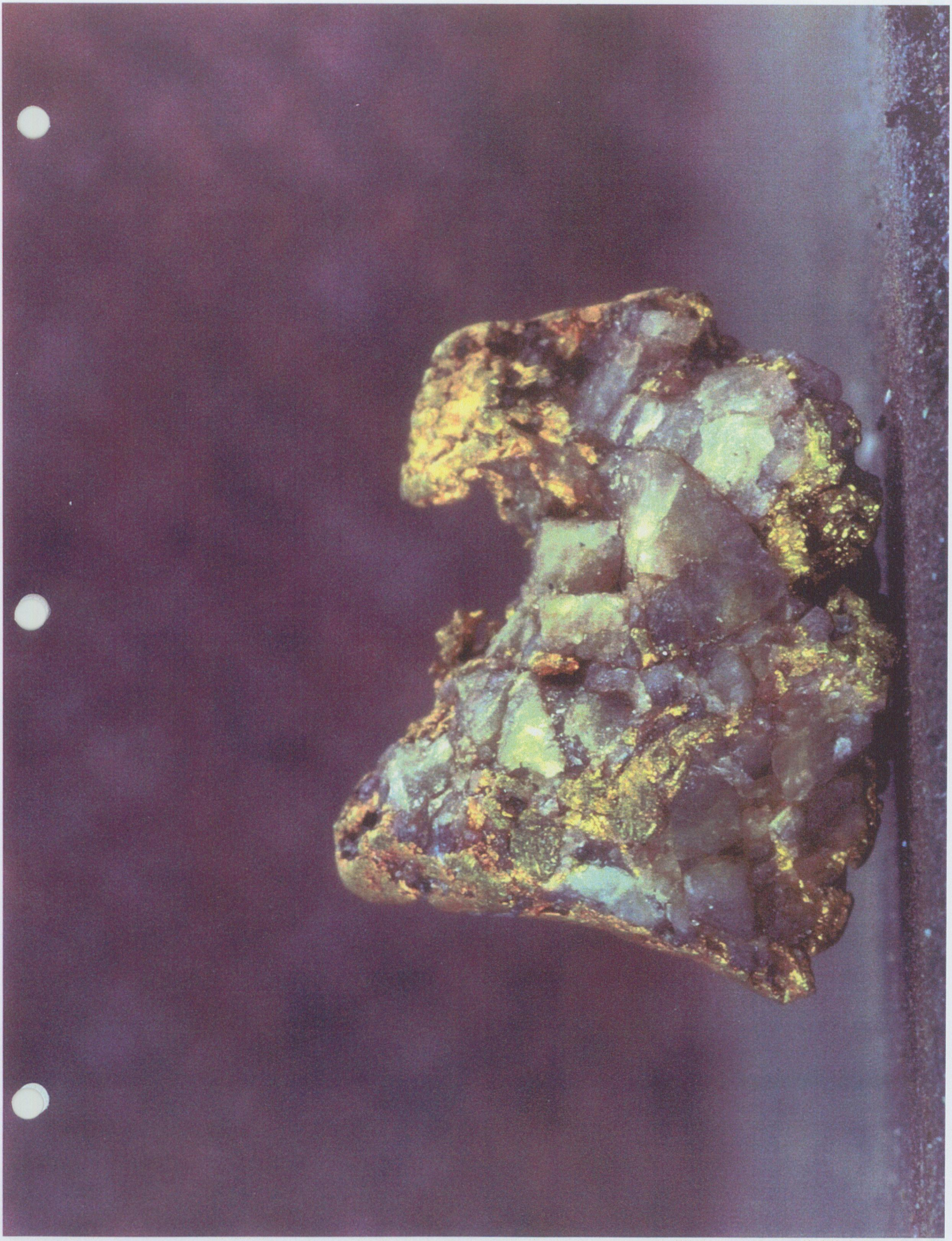
The lack of any other minerals, especially sulphides, in these samples is of note.

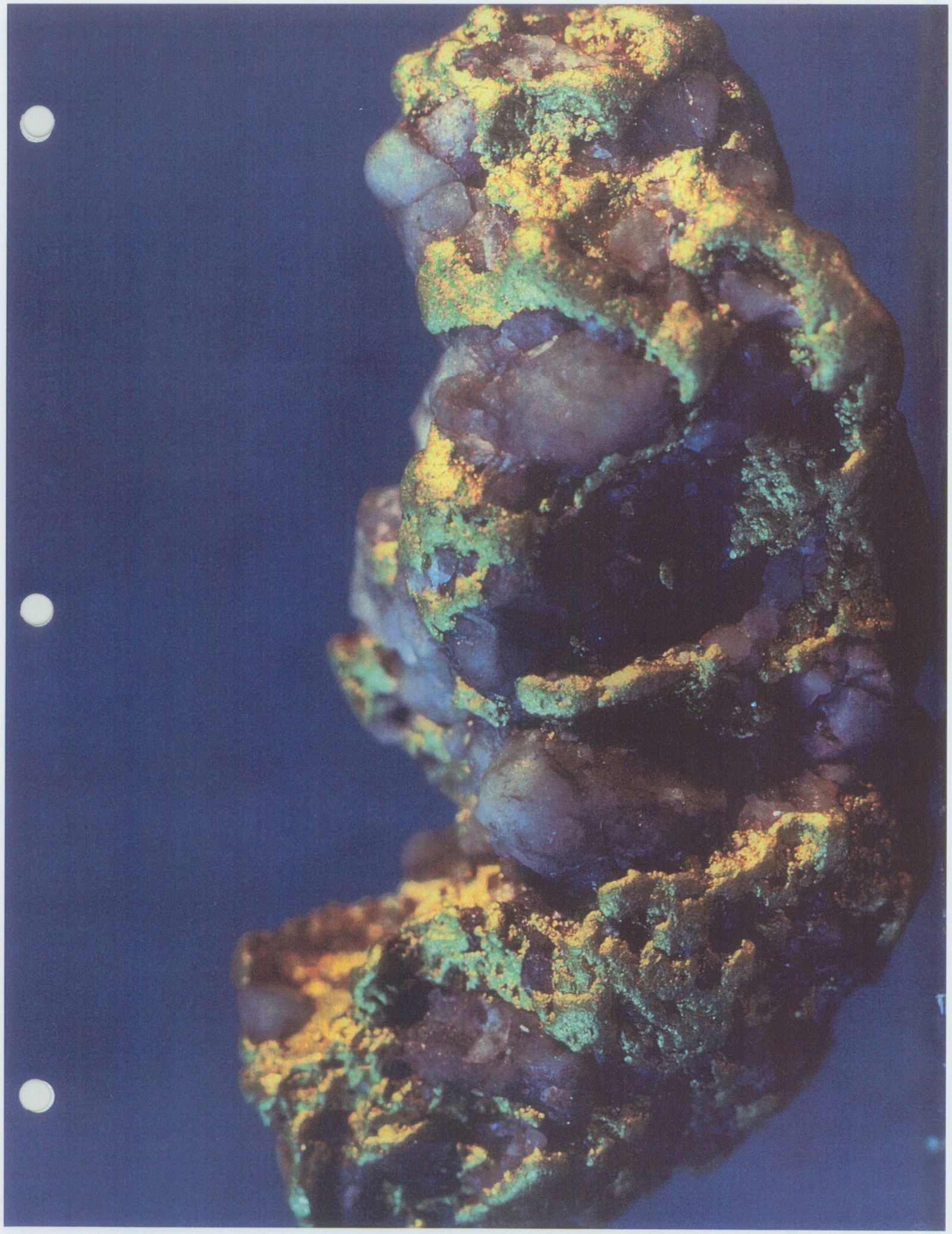
The presence of a buff to white coloured, clay like material on one of these nuggets may indicate the presence of fault gouge in the veins or strong clay alteration occurring with the gold and granular quartz.

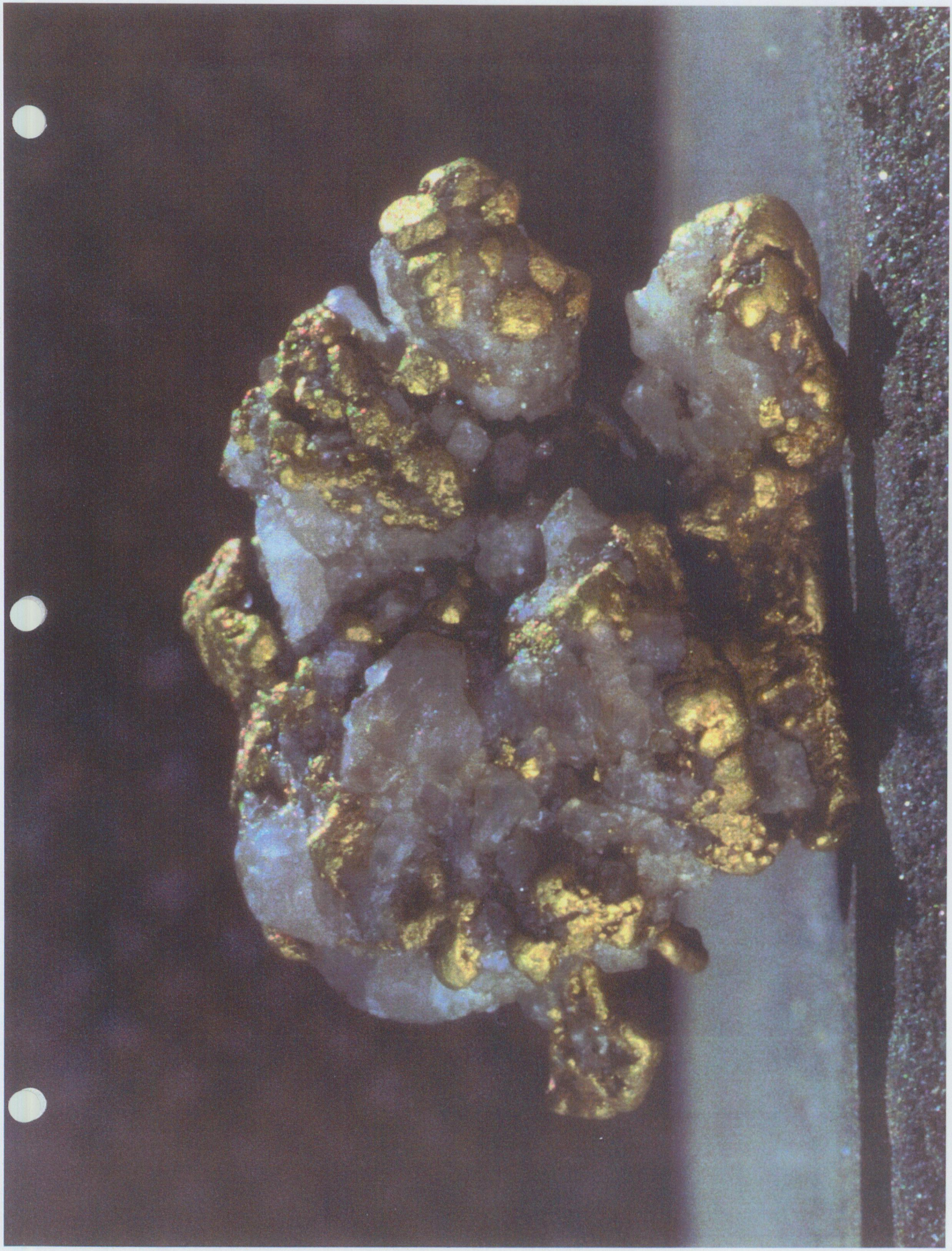
The appearance of open space filling features, vugs, cavities and the presence of crystal growths of gold on these samples would suggest a vein system with open spaces during deposition of the gold. This plus the granular nature of the quartz suggest the vein was faulted repeatedly during deposition, thus smashing the quartz and "rolling" it into granuals and then re-silicifying the grains together, while leaving open cavities in the quartz for the gold to flood into and crystallize on the quartz. This would account for the appearance of the gold "holding" the quartz.

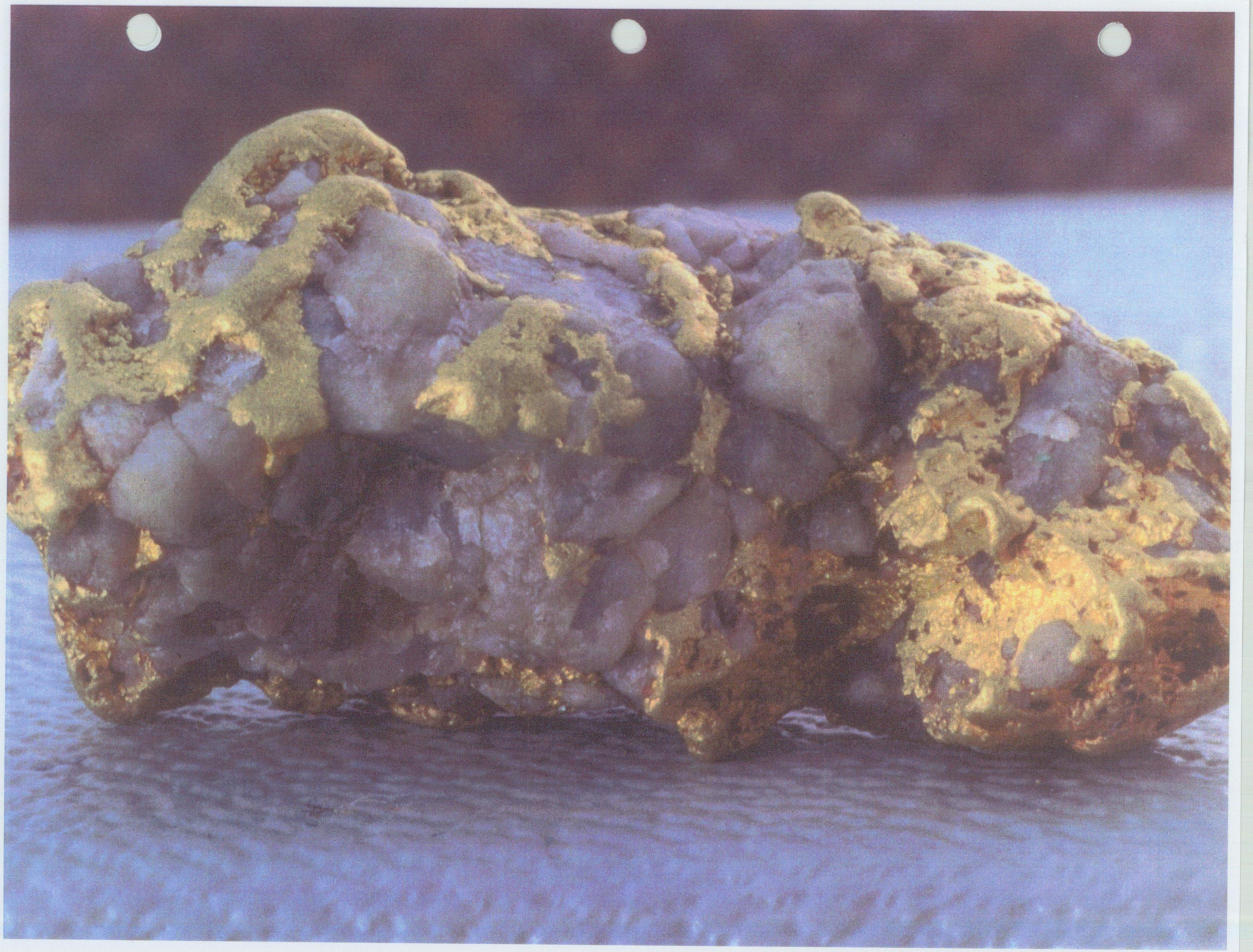
As Heilprin (1899) noted, this quartz and gold is of a completely different nature to the plain milky white "bull" quartz with very minor and tiny grains of gold found in most of the old surface prospect showings at the heads of the Klondike placer creeks. This indicates those showings were probably not the source of most of the Klondike placer gold. The source of this gold has never been located in the past 107 years.

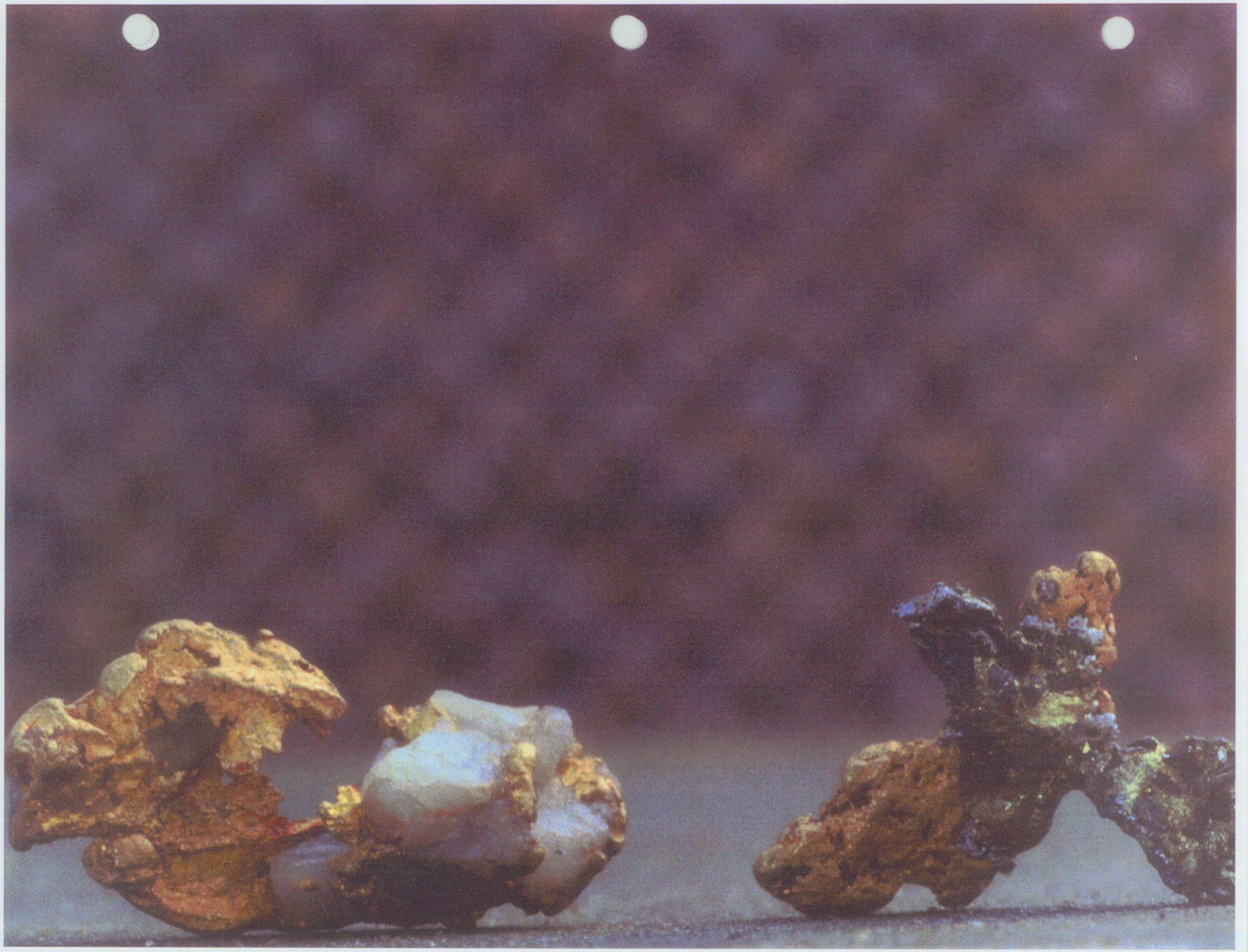












DAGO HILL
PREIDO HILL
SAVOY HILL
PARADISE HILL
NUGGET HILL
Hunker Creek
LAST CHANCE 1-20 CLAIMS
80 PUP BOUNDARY
ESCAN GRID
BEN LEVY ADIT
Eight Pup
8 Above Pup
5 Above Pup
Henrietta Pup
Last Chance Creek
Trilby Gulch
Much Gold Creek
LAST CHANCE CLAIM POST
LISTWANITE ALTERATION ZONE
vein or fault
outcrop
subcrop
bedding
foliation
VR01114 × rock sample – outcrop (KENNECOTT)
02 JM14 ⊙ rock sample - outcrop (McFAULL)
VR01112 △ rock sample – float (KENNECOTT)
02 JM1 △ rock sample - float (McFAULL)
trench
drill hole (angle, diamond)
drill hole (vertical, diamond)
drill hole (angle, percussion)
road
river
elevation contour
Note: Samples outside the 80–Pup Boundary are reported in Klondike Gold Report. (Kennecott Canada Inc., 1995)
093319
contour interval 20 meters
DWG ①
scale: 1:10,000
0 100 200 300 500
metres
AUREX EXPLORATION
WHITEHORSE, YUKON
LAST CHANCE 1-20 CLAIMS
KLONDIKE GOLDFIELDS
DAWSON MINING DISTRICT
PROPERTY GEOLOGY & DRILL HOLE & ROCK SAMPLE LOCATION
NTS: 115O/14,116B/3
Projection: UTM(NAD83)
Drawn by: JIM McFAULL
Date: 28/07/03
Author: J. McFAULL
File:
Scale: 1:10,000
Figure
Fri Jul 28 14:01:53 1995