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**INDIAN AND NORTHERN AFFAIRS CANADA  
NORTHERN AFFAIRS: YUKON REGION**

**Open File 1995-9(G)**

**PLACER MINING AND EXPLORATION COMPILATION  
(NTS 105 E)**

**By**

**B. Kreft**

**This report is available from:  
Exploration and Geological Services Division,  
Indian and Northern Affairs Canada,  
300 Main Street, Yukon. Y1A 2B5**

**Watercourse Name:** Common: Yukon River

Other Lewes R.

**Location:** Lat. 61 51' Long. 134 57'

NTS 105 E 15

**History And Previous Work:**

In 1886, gold was discovered on the Yukon River at Cassiar Bar. It was reported to have yielded up to \$30/day/man. Many other gold bearing bars were found along the Yukon, all were within a 110 km. stretch of river below Hootalinqua. In 1900, an attempt was made to dredge Cassiar Bar. About 50,00 cubic yards of gravel were washed and the yield was reported to average 5.0 cents a cubic yard [approx. 140 oz.]. During 1939, a small dredge was built for A.H.McCurdy and H.Hays for use on the Yukon River. In 1940, a similar dredge was built for B.Gordon and L.Cyr. Both dredges were in operation during 1940 and it was planned to operate one in 1941. Gold production of 5.6 oz. was reported during 1948.

**Surficial Geology:**

The geology of the Yukon River in this area is varied enough as to preclude a description here.

**Bedrock Geology:**

Bedrock in the area of Cassiar Bar consists of lower and middle Pennsylvanian resistant, massive, dark green, altered basalt, volcanic breccia, tuff and greenstone.

**Mineralization:**

Gold characteristics are unknown, but should be similar to other river bar deposits, e.g. fine and flat.

**Comments:**

The best paying river bars are located in the path of the glacial ice that moved across the Livingstone placer gold camp.

**References:**

- G.S.C. Mem.217 P.22,23
- G.S.C. Mem.234 P.16
- G.S.C. Mem.284 P.47
- D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.59

**Watercourse Name:** Common: Walsh Creek

Other

**Location:** Lat. 61 56' Long. 134 52'

NTS 105 E 8

**History And Previous Work:**

H.S.Bostock reported that, prior to 1938 a little gold was found on Walsh Creek.

**Surficial Geology:**

Characteristics are unknown.

**Bedrock Geology:**

Bedrock consists of lower and middle Pennsylvanian resistant, massive, dark green, altered basalt, volcanic breccia, tuff and greenstone.

**Mineralization:**

Characteristics are unknown.

**Comments:**

It is unknown whether the gold present is coarse, and locally derived, or is fine and a result of reworked glacial till.

**References:**

G.S.C. Mem.217 P.26  
Open File 1101

**Watercourse Name:** Common: Illusion Creek

Other

**Location:** Lat. 61 51` Long. 134 33`

NTS 105 E 15

**History And Previous Work:**

In 1938, Bostock reported that; "Some years ago a little coarse gold was found on a northern creek, probably Illusion Creek".

**Surficial Geology:**

Characteristics are unknown.

**Bedrock Geology:**

Geology consists of Jurassic granodiorite in fault contact with Pliocene conglomerate.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Very little is known about this creek.

**References:**

G.S.C. Mem.217 P.26  
G.S.C. Open File 1101

Whitehorse Mining Recorders records

**Watercourse Name:** Common: D'Abbadie Creek Other

**Location:** Lat. 61 44` Long. 134 16` NTS 105 E 9

**History And Previous Work:**

The creek was discovered and prospected during the early 1930's, and some gold was recovered. During 1982, Triple E Mining worked on the creek approximately 9 kilometres from the mouth with a D-8 and a backhoe.

**Surficial Geology:**

Small exposures of rusty gravel, believed to be pre-glacial in age, occur along the upper portion of the creek.

**Bedrock Geology:**

The upper reaches are underlain by Ordovician to Devonian graphitic siltstone. The middle portion is underlain by Carboniferous and/or Permian amphibolite and amphibolitic greenstone. This unit is the same as that which underlies most of the gold bearing portions of the creeks in the Livingstone camp. Muscovite-quartz schist occurs along the lower reaches.

**Mineralization:**

Gold occurs, but its characteristics are unknown.

**Comments:**

The isolated nature of this creek makes exploration and development difficult.

**References:**

G.S.C. Mem.178 P.3  
G.S.C. Mem.217 P.21,26,27  
G.S.C. Open File 1101  
Y.P.M.I. 1978-1982 P.67

**Watercourse Name:** Common: Teslin River

Other

**Location:** Lat. 61 14' Long. 134 31'

NTS 105 E 2

**History And Previous Work:**

Gold was found on the gravel bars of the Teslin River prior to 1887. During 1946, W.McComb constructed a special river boat and portable concentrator for fine gold recovery, which he operated on the Teslin River. Gold production for 1948 was a reported 4.2 oz.

**Surficial Geology:**

The Teslin River averages 110 m. wide. It flows in a 1.6 to 3.2 km. wide valley, bordered by high lumpy hills and low mountain ranges. Between the river and the base of the hills, is a series of terraces, the highest of which have a remarkably uniform elevation of 100 m. Water levels reach a peak in early June and drop steadily thereafter. Gravel bars are numerous along its entire course.

**Bedrock Geology:**

The Teslin River has an approximate length of 160 km., and the geology is so varied as to preclude a description here.

**Mineralization:**

Small amounts of fine gold occur on the gravel bars and beaches, especially along the lower end of the river. Platinum reportedly occurs with the gold.

**Comments:**

The Teslin River was not as productive as the Stewart or Yukon Rivers.

**References:**

- G.S.C. Mem.217 P.22
- G.S.C. Mem.284 P.13,14
- G.S.C. Econ. Geol. P.108
- D.I.A.N.D. Yukon Min.Ind. P.45,59

**Watercourse Name:** Common: St.Germain Creek Other

**Location:** Lat. 61 19' Long. 134 25' NTS 105 E 8

**History And Previous Work:**

During 1901, some work was done at the mouth. In 1989, L.Cote prospected the creek.

**Surficial Geology:**

Large boulders occur in the gravels. Other characteristics are unknown.

**Bedrock Geology:**

Bedrock consists of lower to middle Pennsylvanian slate, phyllite, greywacke, chert conglomerate and breccia, volcanic breccia, greenstone and limestone.

**Mineralization:**

L.Cote reportedly found some fine gold colours. Other characteristics are unknown.

**Comments:**

St.Germain creek is located in the path of the glacier that moved north-westerly across the Livingstone area.

**References:**

G.S.C. Mem.217 P.23,27  
G.S.C. Mem.284 P.41  
P.A.P. 89-023  
G.S.C. Open File 1101

**Watercourse Name:** Common: Mendocina Creek Other

**Location:** Lat. 61 26` Long. 134 19` NTS 105 E 8

**History And Previous Work:**

Good prospects were reportedly found on Mendocina prior to 1901. Much staking and prospecting was done between 1945 and 1955. Prospectors active were: L.Engle, C.Cote and I.Foster. Most of the work was done between 5.5 and 9.6 km. from the mouth.

During August and September 1985, Montgomery Consultants Ltd. conducted a program of hand pitting and panning at the confluence of Mendocina and Dycer Creeks.

**Surficial Geology:**

Test-pits by Montgomery Consultants were up to 3.1 m. deep, but no bedrock was reached. A thin layer of overburden, covering bouldery gravel was encountered in all holes.

**Bedrock Geology:**

Bedrock along the lower reaches [where most testing was done] consists of fine-grained amphibolite to amphibolitic greenstone.

**Mineralization:**

The 1985 test work found 10 colours in seven pans.

**Comments:**

Mendocina creek valley is large enough that a valley glacier may have occupied it, or a tongue of ice from the main river valley glacier may have invaded it, and disrupted, or destroyed, any auriferous gravels.

**References:**

G.S.C. Mem.284 P.41  
A.R.#120070  
Whitehorse Mining Recorder records



**Watercourse Name:** Common: Dycer Creek

Other

**Location:** Lat. 61 27' Long. 134 13'

NTS 105 E 8

**History And Previous Work:**

In 1948, W.Desrosiers staked a five mile lease, from the mouth upstream for T.E.Noon. In 1985, Montgomery Consultants did test work near the mouth. During 1990, Trinity Gold/W.Tatman trenched on the left limit of Dycer Creek about 2.7 km. upstream from the mouth.

**Surficial Geology:**

Total deposit depth is unknown, a typical section consists of up to 0.9 m. of overburden overlying up to 3.1 m. of boulders, gravel, sand and clay layers.

**Bedrock Geology:**

Geology is mapped as graphitic siltstone and muscovite-quartz schist.

**Mineralization:**

Montgomery Consultants found four small colours in a pan of material from a 2.1 m. deep hole near the mouth.

**References:**

Water License PM90-010  
Y.P.M.I. 1989-1990 P.3  
A.R.#120070

**Watercourse Name:** Common: Little Violet Creek Other

**Location:** Lat. 61 25' Long. 134 20' NTS 105 E 8

**History And Previous Work:**

This creek was probably discovered in 1898 or 1899 at the same time as the nearby creeks. A small amount of mining was done at this time. Small scale hydraulic mining was done on the creek during the 1930's.

G.Hudson/Golden Violet Mining Ltd. has mined on the creek since the early 1980's.

**Surficial Geology:**

Little Violet creek flows in a narrow valley [15 to 27 m.] with gently sloping walls and a steep gradient, which increases toward the edge of the South Big Salmon River valley. Deposits above the steepest part are 10 to 36 m. deep. They consist of 3.1 to 6.5 m. of glacial till; up to 18 m. of gravel, sand and silt which overlies a maximum of 12 m. of [probably] pre-glacial gravels. These gravels contain boulders and are iron-stained in part. Most gravel is thawed, except for sections adjacent to the north facing slope.

**Bedrock Geology:**

The upper reaches are underlain by diorite to quartz dioritic augen amphibole gneiss. The lower reaches are underlain by fine-grained amphibolite and amphibolitic greenstone. These rocks are likely Carboniferous and/or Permian in age. The non-fissile nature of bedrock, unlike that of nearby creeks, provides a poor surface for gold retention. Between this creek and Cottoneva a number of quartz veins outcrop along the foot of the valley.

**Mineralization:**

Gold is mostly coarse, with 90% plus 20 mesh in size. It has a purity of 866. The pay gravels occur in a narrow and interrupted streak either on the right limit of the valley floor, or on a left limit bench. The largest nugget recovered by G.Hudson weighed 9 oz. 7 dwt [291 gm.].

**Comments:**

The small flow of water and numerous boulders hindered early attempts at mining.

**References:**

G.S.C. Sum.Rept.1931 Part A P.6A  
 G.S.C. Mem.193 P.4  
 G.S.C. Mem.217 P.26  
 G.S.C. Mem.284 P.41,625,647  
 D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.8  
 Water License PM92-041  
 Open File 1101

**Watercourse Name:** Common: Cottoneva Creek Other

**Location:** Lat. 61 24' Long. 134 20' NTS 105 E 8

**History And Previous Work:**

The initial gold discovery in the Livingstone Mining Camp was on Cottoneva Creek in 1898. Gravels were reportedly difficult to work, so very little was accomplished, and by 1902 the claims on the creek were abandoned. During the early 1930's, there was an increase in activity in the Livingstone area. At that time there were a few miners on Cottoneva Creek reportedly doing very well. One of these early miners was Louis Engle, who worked on the creek until 1953.

During 1985 and 1986, P.Robinette, L.Barteaux and A.Serafinchon worked along the lower reaches. During 1991, W.Terice mined on a small-scale on the upper end.

**Surficial Geology:**

Cottoneva Creek is one of the larger creeks in the camp, and has a gentler gradient than the others. A canyon, 800 m. long, occurs about 1.5 km. from the edge of the South Big Salmon River valley. Above the canyon, the valley is wide with gently sloping banks. Between the mouth of the canyon and the edge of the river valley, the valley is from 30 to 60 m. wide with moderate to steep walls. Depths of gravel in this portion and above the canyon vary from 3.0 to 10 m., while depths of gravel in the canyon are generally less than 3.5 m. Deposits contain occasional frozen patches and consist of a thin layer of muck/overburden overlying large boulders, coarse gravel and sand. The gravels contain a conspicuous quantity of vein quartz.

**Bedrock Geology:**

The upper reaches are underlain by dioritic to quartz dioritic augen amphibole gneiss. The lower reaches are underlain by schist, quartzite and amphibolitic greenstone. These rocks are likely Carboniferous and/or Permian in age and have been assigned to the Yukon Group. Between this creek and Little Violet a number of quartz veins outcrop along the foot of the valley.

**Mineralization:**

Gold from this creek is coarse and round, or flat, with 66% plus 12 mesh in size.

**Comments:**

The large boulders and shallow gradient hindered early hydraulic and hand-mining attempts. Consequently, the creek was not worked to the same degree as the other creeks in the area and much of the gravels remained to be exploited by present day miners using heavy equipment.

**References:**

Water License PM89-056  
Water License PM93-081  
G.S.C. Open File 1101  
G.S.C. Sum.Rept. XIV P.30A  
G.S.C. Sum.Rept. 1907 P.14  
G.S.C. Sum.Rept. 1931A P.6A  
G.S.C. Sum.Rept. 1932A P.6  
G.S.C. Mem.193 P.4  
G.S.C. Mem.217 P.26  
G.S.C. Mem.220 P.10  
G.S.C. Mem.284 P.40,41,625,626,637  
D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.7,82,90,91  
Y.P.M.E. 1985-1988 P.16  
Y.P.M.I. 1991-1992 P.28  
Yukon Geology Vol.3 P.89  
Whitehorse Mining Recorder records

**Watercourse Name:** Common: Lake Creek

Other

**Location:** Lat. 61 22` Long. 134 20`

NTS 105 E 8

### **History And Previous Work:**

This creek was first prospected and staked during the 1898 rush to the new-found Livingstone placer gold camp. Some small-scale hand mining was done during the early 1900's. By 1915, the creek was deserted, and it was not until 1930 when T.Kerruish made a new discovery, that any work was done. That year, Mr.Kerruish installed a hydraulic plant and mined the creek nearly every year until his death in 1944. His claims were kept in good standing by Beada Louise Kerruish until 1954. In the spring of 1959, G.Murdoch and J.Ballentine staked ground on Lake Creek, which they worked on a small scale until 1961.

During 1973, two small operations were on the creek; G.Asuchak and T.Ames/E.Hill. Mr.Asuchak continued on a small scale until the 1982 season. During 1983, E.Kosmenko began work on Lake Creek. He has mined intermittently ever since. In 1992, W.Carrell and D.Gonder Jr. tested ground near the headwaters of the creek.

### **Surficial Geology:**

Lake Creek follows a broad rounded shallow depression. Its upper course flows westerly and, as it approaches the edge of the South Big Salmon River valley, its valley narrows, the gradient steepens and the creek enters a canyon which continues to the edge of the river valley. Once it reaches the main Big Salmon River valley it abruptly changes direction changes to north and the gradient moderates. This change in direction is common to most of the creeks in the Livingstone Camp, and is a result of lateral meltwater channels along the river valley glacier.

Deposits in the canyon are 0-3 m. deep and consist of large boulders and coarse gravel. Above the canyon they are 4.5 to 10 m. deep and consist of 2.5 to 7.3 m. of boulder till, poorly sorted gravel and clay overlying 1.8 to 3.6 m. of angular, locally derived, boulder free, rusty gravels, probably pre-glacial in age. Gravels are mostly unfrozen although patches of frozen ground occur near the edges of the valley.

### **Bedrock Geology:**

Lake Creek is underlain by late Palaeozoic amphibolite grading to amphibolitic granodiorite gneiss. Foliation in bedrock strikes across the course of the stream and forms natural riffles for the retention of gold. Most bedrock is competent, although there are areas where the upper 0.3 m. is decomposed.

### **Mineralization:**

The gold is mostly coarse, has a copperish tinge, occurs as flat flakes and nuggets with smooth surfaces and has a purity of 895 fine. Most of the gold recovered by early miners was found in a narrow [5 m.] pay channel on the right limit of the creek above the canyon. Pay is considered to be the rusty pre-glacial gravels, although small amounts of bright, fine-grained gold with occasional quartz attached are found in the glacial gravels.

### **Comments:**

Mr. Kerruish's discovery re-kindled interest in the area. He recovered approximately 127 ozs. from 546 cubic yards of pay gravels.

## References

G.S.C. Sum.Rept. XIII P.40A  
G.S.C. Sum.Rept. XIV P.30A  
G.S.C. Sum.Rept. 1930 Part A P.2A  
G.S.C. Sum.Rept. 1931 Part A P.5A,6A  
G.S.C. Mem.217 P.21,25,26  
G.S.C. Mem.234 P.16  
G.S.C. Mem.284 P.40,611,624,625,637,647  
D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.8,23,29  
G.S.C. Paper 61-23 P.20  
D.I.A.N.D. Yukon Min.Ind. 1973 P.149  
D.I.A.N.D. Yukon Min.Ind. 1976 P.239  
Y.P.M.I. 1978-1982 P.67  
Y.P.M.I. 1983-1984 P.52  
Y.P.M.E. 1985-1988 P.16  
Y.P.M.I. 1991-1992 P.30  
Water License PM91-121  
Water License PM92-099  
Whitehorse Mining Recorder records

[1]

**Watercourse Name:** Common: Summit Creek

Other

**Location:** Lat. 61 21' Long. 134 20'

NTS 105 E 8

**History And Previous Work:**

Although early staking records could not be located, Summit Creek was probably discovered in 1898 at the same time as the other area creeks. Approximately 60 oz. were produced in 1900. In August 1905, a nugget weighing approximately 39 oz. was reportedly found here. During the 1930's, a few men worked intermittently on the creek. Production to 1938, was estimated at 1500 oz. During the late 1940's and early 1950's, L.Engle and J.Geary worked on the creek. In 1960, G.Murdoch and J.Ballentine ground sluiced their claims. In 1973, G.Asuchak did small amounts of stripping. G.Asuchak or R.Asuchak have mined intermittently on a small scale ever since. R.Asuchak paid royalties on 43 oz. in 1993.

**Surficial Geology:**

Summit Creek heads in a broad rounded shallow depression. Downstream, the valley narrows and the gradient steepens, culminating in a narrow [20 to 30 m. wide] canyon which ends at the edge of the South Big Salmon River valley. Here the creek abruptly turns north. Summit Creek flows on bedrock for the first 800 m. from the edge of the river valley. Deposits on the valley bottom in this area are unfrozen, up to 2.5 m. thick and consist of coarse gravel with boulders to 1.2 m. A high [25 to 56 m.] gravel bank occurs on the left limit along the lower reaches of the east-west trending portion of the creek. This bank is similar in composition to the banks on nearby creeks. Pay gravels from 1.5 to 2.5 m. thick occur at the base of this bank. Deposit characteristics along the upper portion of the creek are unknown.

**Bedrock Geology:**

Bedrock consists of dark green, fine grained amphibolite and amphibolitic greenstone. These rocks belong to the Anvil Allochthonous assemblage and are associated with muscovite-quartz schist and muscovite quartzite of the Nisutlin assemblage [Tempelman-Kluit, 1984]. In 1992, geologists L.Stroink and G.Friedrich found quartz carbonate veins and veinlets cross-cutting sheared micaceous quartzite at the lower end of the east-west trending portion of Summit Creek. They are generally confined to NNW striking joints. Vein mineralization consists of pyrite, pyrrhotite and chalcopyrite with lesser amounts of galena, gold, bismuth tellurides and hematite.

**Mineralization:**

Gold from Summit Creek is mostly coarse. The largest nuggets found in 1986, weighed 6, 12 and 14 2/3 ozs. Purity is from 860 to 890 fine.

**Comments:**

Miners during the 1930's, reportedly found and worked a right limit channel.



## **References**

G.S.C. Sum.Rept. XIV P.29A  
G.S.C. Sum.Rept. 1931A P.1,6  
G.S.C. Sum.Rept. 1932A II P.6  
G.S.C. Sum.Rept. 1933A P.4  
G.S.C. Mem.193 P.4  
G.S.C. Mem.220 P.10  
G.S.C. Mem.284 P.40,620,625,647  
D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.8  
G.S.C. Paper 61-23 P.20  
D.I.A.N.D. Yukon Min.Ind. 1973 P.149  
Y.P.M.I. 1978-1982 P.67  
Y.P.M.I. 1983-1984 P.52  
Y.P.M.E. 1985-1988 P.17,18  
Yukon Geology Volume #3 P.87-97  
Yukon Places And Names P.255  
Water License PM92-039  
Whitehorse Mining Recorder records  
Whitehorse Mining Recorder royalty records

**Watercourse Name:** Common: Livingstone Creek Other

**Location:** Lat. 61 20' Long. 134 18' NTS 105 E 8

**History And Previous Work:**

Joseph E. Peters reportedly prospected here in 1894. He returned in 1898 with George Black and together, they discovered gold on the stream, naming it after Black's friend M. Livingstone. That year, in four weeks before freeze-up, they mined about 200 ozs. Early miners estimate that production to 1920 [when activity virtually ceased] may have exceeded \$1,000,000 [approx. 50,000 ozs.].

Interest in the area was revived by T. Kerruish's new discovery on Lake Creek in 1930. During the 1930's, there were 10 to 15 men on Livingstone Creek each year involved in mining a buried left limit channel and "sniping" on the worked over ground in the canyon. During the 1940's J. Stenbraten held much ground on Livingstone Creek, but most of his work was preparatory in nature and little gold was produced.

During the late 1950's and early 1960's, L. Engle and C. Emminger prospected on the discovery claim. In 1961, G. Murdock and J. Ballentine prospected on the creek. In 1967, M. Fuerstner and E. Kreft staked a one mile lease. M. Fuerstner still holds claims on the creek.

**Surficial Geology:**

Livingstone Creek flows into a deep rounded amphitheatre like depression which was modified by a valley glacier. Downstream, the valley forms a shallow U-shaped depression, bordered on the right limit by rock walls and, on the left limit, by a high gravel bank which ends at the head of the canyon. The canyon is approximately 15 to 30 m. wide and 1200 m. long, with a gradient of up to 500 feet a mile in some places. It ends abruptly at the edge of the South Big Salmon River valley and here the creek direction changes from west to north.

Deposits in the canyon are thawed, up to 2.5 m. deep, and consist of coarse gravel and boulders. Bedrock is occasionally exposed. Deposits above the canyon are occasionally frozen, ranging from 2.0 to 20 metres. [deeper farther upstream], and consist of coarse gravels, sand, silt, clay and boulders. The left limit bank is up to 36 m. deep and consists of frozen glacial sediments mixed with lacustrine material which overlies up to 4.5 m. of thawed, locally derived pre-glacial boulders and gravel which are occasionally rusty. The presence of lake sediments supports the theory that a glacier, flowing down the South Big Salmon River valley, blocked the tributaries and caused small ice-marginal lakes to form. The build up of sediments [glacial and lake] in the valleys, covered, and helped protect the gold-bearing gravels from erosion during glaciation.

**Bedrock Geology:**

Bedrock in the lower portion of the drainage basin consists of dark green, fine grained amphibolite and amphibolitic greenstone that grades into massive, melanocratic, dioritic to quartz dioritic hornblende augen gneiss near the headwaters. These rocks belong to the Anvil allochthonous assemblage and are associated with muscovite-quartz schist and muscovite quartzite of the Nisutlin assemblage [Tempelman-Kluit, 1984]. Quartz veins are numerous on Livingstone Creek and bedrock is occasionally strongly silicified and pyritized. Bedrock is well foliated and competent and forms a good surface for gold retention.

On the north slope of the valley, approximately 2.2 km. from the mouth of the canyon an adit was driven on a quartz vein [Horseshoe vein]. The average thickness of this vein is about 70 cm. wide. The mineral assemblage consists of gold, pyrite, galena, chalcopyrite, tennantite, Au-Ag tellurides, hessite/stuetzite, quartz and minor carbonate gangue. Individual gold grains reach 2.0 mm. in diameter. Selected samples of this material assay up to 1.58 oz/ton Au, 16.6 oz/ton Ag and 9.9% Pb. In 1992 L.Stroink and G.Friedrich compared gold and gold-silver tellurides from placer deposits and the Horseshoe vein, and suggested that most of the placer gold in Livingstone Creek is derived from gold-bearing quartz veins which crosscut the local metamorphic bedrock.

#### **Mineralization:**

Gold is mainly coarse and flat with rounded edges, although some pieces contain quartz. Oldtimers estimated that 1/3 of the gold recovered from discovery claim consisted of nuggets over an ounce in weight, with the largest up to 20 oz. Purity is 880 fine. Heavy minerals include: magnetite, garnet, galena, pyrite, hematite, cinnabar and cassiterite.

The historical left limit channel extends upstream, but its gradient is gentler than the current creek and about 800 m. upstream, the channel is 12 m. below and 300 m. to the south of the present channel, with a rim of bedrock between them. On the north side of the valley, opposite the highest early workings in the left limit channel, a second buried channel was reportedly discovered. An adit was driven into this channel, but results are unknown.

At the start of the north-trending portion of the creek [mouth of the canyon] rich ground was said to exist. Shafts up to 21 m. were sunk in this area, but all were abandoned before reaching bedrock because of ground water and large boulders. Work by V.Levson of the B.C.Geological Survey in 1992 suggested that these north trending channels were formed during de-glaciation, and that any pre-glacial gold bearing gravels would have been removed or disrupted prior to, or during, the formation of the channel.

#### **Comments:**

The valley glacier at the head of the creek probably destroyed any paystreak that may have existed. Early miners reported that the gravels became increasingly lower-grade upstream. Small scale trenching, magnetometer and seismic surveys have been done on the upper reaches and some tributaries, but little gold has been found to date.

**References:**

G.S.C. Sum.Rept. XIV P.25A,27A-29A  
G.S.C. Sum.Rept. 1907 P.10,14  
G.S.C. Mem.5 P.16  
G.S.C. Sum.Rept. 1930A P.2  
G.S.C. Sum.Rept. 1931A P.1-5  
G.S.C. Sum.Rept. 1932A II P.1,6  
G.S.C. Sum.Rept. 1933A P.4  
G.S.C. Mem.178 P.3  
G.S.C. Mem.193 P.4,5  
G.S.C. Mem.203 P.23,24  
G.S.C. Mem.209 P.5  
G.S.C. Mem.217 P.1,22-24  
G.S.C. Mem.234 P.16  
G.S.C. Paper 36-2 P.3  
G.S.C. Paper 50-14 P.11  
G.S.C. Mem.284 P.39,40,243,620-626,637,647  
D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.8,23,34,45,59,82  
G.S.C. Paper 61-23 P.20  
D.I.A.N.D. Yukon Min.Ind. 1975 P.187  
D.I.A.N.D. Yukon Min.Ind. 1976 P.239  
D.I.A.N.D. Yukon Min.Ind. 1977 P.108  
Y.P.M.I. 1978-1982 P.67  
Y.P.M.I. 1983-1984 P.52,53  
Y.P.M.E. 1985-1988 P.11,16  
Y.P.M.I. 1989-1990 P.2  
A.R.#091527  
A.R.#120030  
A.R.#120122  
Yukon Geology Volume #3 P.87-126  
E.I.P. #89-004  
Open File 1101  
Yukon Places And Names P.16

**Watercourse Name:** Common: Martin Creek

Other

**Location:** Lat. 61 18' Long. 134 17'

NTS 105 E 8

**History And Previous Work:**

Good prospects were reportedly found on the creek prior to 1901. During the mid 1930's, R.Churchill and M.Murphy drift mined and sank shafts on Martin Creek. One of their drifts was 135 metres. long. D.Gonder Sr., has mined or tested along the lower reaches nearly every year since acquiring claims on the creek in 1979.

**Surficial Geology:**

Martin Creek flows in a narrow [less than 65 m.] and steep valley. Deposits covering the valley bottom consist of between 2.5 and 6.5 m. of coarse gravel, boulders and sand. The left limit bank is mostly rock covered with colluvium. The right limit bank is from 20 to 53 m. in height, and consists of 15 to 43 m. of glacial and lake sediments overlying 5 to 10 m. of coarse [up to 1 m. in diameter], poorly sorted, locally derived, clast supported gravel.

The varying materials present support the theory that a glacier flowing down the South Big Salmon River valley blocked the tributaries and caused small lakes to form in each valley. These lakes were soon filled with fine silt and clay, along with glacial debris. This build-up covered the underlying pay gravels and helped protect them from erosion during glaciation.

**Bedrock Geology:**

Bedrock along the lower portion of the drainage consists of dark green, fine grained amphibolite and amphibolitic greenstone that grades into massive, melanocratic, dioritic to quartz- dioritic hornblende augen gneiss near the headwaters. These rocks belong to the Anvil Allochthonous assemblage and are associated with muscovite-quartz schist and muscovite quartzite of the Nisutlin assemblage [Tempelman-Kluit, 1984]. Bedrock along Martin Creek contains occasional strongly altered [kaolinitic?] and silicified zones with abundant quartz veins.

Float with peak values of 8.84 oz/ton Au, 80.4 oz/ton Ag, 6.3% Pb, 23.4% Sb and 30.4% As was found on the ridge between the headwaters of Martin and Sylvia Creeks.

**Mineralization:**

Gold from Martin Creek is mostly 4 mesh, with 10% fine-grained and a purity of 870 fine.

**Comments:**

Boulders up to two metres occur in the deposits.

**References:**

- G.S.C. Mem.193 P.5
- G.S.C. Mem.217 P.26
- G.S.C. Mem.284 P.41
- Y.P.M.I. 1978-1982 P.67
- Y.P.M.I. 1983-1984 P.53
- Y.P.M.E. 1985-1988 P.17
- Y.P.M.I. 1989-1990 P.2

Yukon Geology Volume #3 P.99-126  
Open File 1101  
Yukon Minfile 105-E, Occ.#53  
Water License PM93-109

**Watercourse Name:** Common: Sylvia Creek

Other

**Location:** Lat. 61 17' Long. 134 17'

NTS 105 E 8

**History And Previous Work:**

Good prospects were reportedly found prior to 1901. In Bostock's 1931 report on the Mining Industry of the Yukon, Sylvia Creek is mentioned as being gold-bearing. No recent references could be found.

**Surficial Geology:**

Characteristics are unknown, but should be similar to those on nearby creeks.

**Bedrock Geology:**

Bedrock consists of fine grained amphibolite and amphibolitic greenstone. Float with peak values of 8.84 oz/ton Au, 80.4 oz/ton Ag, 6.3% Pb, 23.4% Sb and 30.4% As was found on the ridge between the headwaters of Sylvia and Martin Creeks.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Little is known about this creek even though it is in a well known mining camp.

**References:**

G.S.C. Mem.217 P.26  
G.S.C. Mem.284 P.41  
Open File 1101  
Yukon Minfile 105-E, Occ.#53

**Watercourse Name:** Common: May Creek

Other

**Location:** Lat. 61 17' Long. 134 11'

NTS 105 E 8

**History And Previous Work:**

Historical records for this and most other creeks in the area are lacking. The creek was probably first prospected in 1899 or 1900, although no reference is made to this creek by R.G.McConnell in his 1901 report on the Livingstone placer camp. In Bostocks 1931 report on the Mining Industry Of the Yukon, May Creek is mentioned as being gold-bearing. When visited by Bostock in 1938, "old" sluice boxes were seen on May Creek. During 1987, D.Gonder Jr. tested the creek; this was followed by mining in 1992.

**Surficial Geology:**

The upper reaches of the creek flow in a wide valley which does not exhibit any signs of glaciation. Downstream, the valley narrows and its gradient steepens. A canyon occurs near the edge of the South Big Salmon River valley; its banks are composed of pre-glacial stream gravels covered by glacial and lake sediments. Deposits on the floor of the canyon are not frozen, up to 2.5 m. thick, and consist of boulders and gravel. Banks are from 17 to 24 m. high and consist of 15 to 21 m. of layered boulders, gravel, sand and silt covering 2.4 to 3 m. of pay gravel.

**Bedrock Geology:**

The upper 2/3 of the creek is underlain by dioritic to quartz dioritic hornblende augen gneiss, the lower end by fine grained amphibolite and amphibolitic greenstone. These rocks belong to the Anvil Allochthonous assemblage and are associated with muscovite-quartz schist and muscovite quartzite of the Nisutlin assemblage [Tempelman-Kluit, 1984]. Bedrock, where exposed by Mr.Gonder, was red and decomposed. Schistosity in the area strikes N.W. and dips steeply to the S.W.

DuPont found vuggy, limonitic quartz float containing minor galena and pyrite approximately 2.1 km. up May Creek in 1981.

**Mineralization:**

Gold recovered by Gonder consisted of both smooth and rough nuggets, up to 1/2 oz in size. Purity is 892 fine.

**Comments:**

Although surficial geology is similar to most other area creeks, May Creek has not yet been shown to contain a similar high-grade pay-streak. Drainage basin geology is predominantly unit CPag while most other area creeks are predominantly unit CPav [open file 1101].

**References:**

G.S.C. Mem.217 P.26  
 G.S.C. Mem.284 P.623  
 Y.P.M.E. 1985-1988 P.13  
 Y.P.M.I. 1991-1992 P.29  
 A.R.#091042



Water License PM91-078

**Watercourse Name:** Common: South Big Salmon River Other

**Location:** Lat. 61 18' Long. 134 07' NTS 105 E 8

**History And Previous Work:**

During the early years of the Livingstone placer camp, some attempts were made to trace the rich stream paystreaks out into the main river valley. Evidence of this work is present as numerous pits and shafts in the South Big Salmon River valley, especially between Martin and Livingstone Creeks.

During 1987, Canada Tungsten Mining Corp. Ltd. drilled two churn holes to test the placer gold potential of the river.

**Surficial Geology:**

The valley bottom consists of a wide, partly forested gravel plain, broken in places by low benches and terraced along the sides up to an elevation of about 150 m. It is a rapid flowing shallow stream seldom exceeding 27 m. in width.

The South Big Salmon River drainage has been subjected to several glacial advances in recent geological history, and surficial sediments reflect many episodes of scouring, deposition and redeposition.

**Bedrock Geology:**

Geology of the river valley in the vicinity of the Livingstone placer creeks consists of Carboniferous and/or Permian fine grained amphibolite and amphibolitic greenstone in fault contact with Lower and Middle Pennsylvanian slate, phyllite, greywacke, chert, chert conglomerate and breccia, volcanic breccia, greenstone and limestone.

**Mineralization:**

Small amounts of fine grained gold grading up to 0.0055 oz. per cubic yard were encountered by Cantung. Early prospectors in the area reported fine gold on the river bars.

**Comments:**

Gold in the river gravels is possibly due to the reconcentration of gold-bearing bench deposits.

**References:**

A.R.#120093  
G.S.C. Mem.217 P.22  
G.S.C. Mem.284 P.38  
Y.P.M.E. 1985-1988 P.13

**Watercourse Name:** Common: Moose Creek Other

**Location:** Lat. 61 17' Long. 134 20' NTS 105 E 8

**History And Previous Work:**

During 1975 and 1976, G.Asuchak, R.Asuchak and J.Nakamura tested ground near the mouth.

**Surficial Geology:**

The lower portion of the creek flows in a narrow canyon, which ends approximately 200 m. from the confluence with the South Big Salmon river. Deposits below the canyon are up to 6.0 m. deep, and consist of gravel with boulders up to 1.8 m. overlying an irregular bedrock surface.

**Bedrock Geology:**

Bedrock along the lower reaches consists of lower to middle Pennsylvanian recessive, weathering, slate, phyllite, greywacke, chert, chert conglomerate and breccia, volcanic breccia, greenstone and limestone.

Near the mouth, a showing consisting of traces of galena, sphalerite, and chalcopryrite occurs in quartz veins in a shear zone between quartzite and volcanic rocks. A selected specimen assayed 1.1% Pb, 1.5% Zn, 0.3% Cu, 0.2 oz/ton Ag and 0.01 oz/ton Au.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Most of the 1975-1976 work consisted of stripping and airstrip construction, with limited amounts of sluicing.

**References:**

D.I.A.N.D. Yukon Min.Ind. 1975 P.187  
D.I.A.N.D. Yukon Min.Ind. 1976 P.239  
Yukon Minfile 105-E occ.#20  
Open File 1101

**Watercourse Name:** Common: Bull Creek

Other

**Location:** Lat. 61 04' Long. 134 07'

NTS 105 E 1

**History And Previous Work:**

In 1935, E.J.Lee reported that Bull Creek gold bearing.

**Surficial Geology:**

Characteristics are unknown.

**Bedrock Geology:**

Bedrock consists of upper Cretaceous dacite flows and flow breccia.

**Mineralization:**

Characteristics are unknown.

**Comments:**

It is doubtful whether this creek has been recently tested.

**References:**

G.S.C. Mem.203 P.23  
Open File 1101

**Watercourse Name:** Common: Little Bear Creek

Other

**Location:** Lat. 61 04' Long. 134 03'

NTS 105 E 1

**History And Previous Work:**

The entire creek was staked in 1904 and reportedly \$3.50 a day per man [approx. 1/5 oz.] could be recovered. However, wages at Livingstone Camp were \$4.00/day and most miners soon abandoned Little Bear Creek. During the early 1930's, much staking and some small scale mining occurred along the lower part of the creek.

**Surficial Geology:**

Approximately 1.4 km. from the Boswell River, the creek forms a canyon. Above the canyon, the valley widens out for a short distance, then narrows and remains narrow to the headwaters. Bedrock was reportedly reached in only one place [probably in the canyon] where a gold bearing reef crossed the stream channel. Deposits are mostly glacial in origin, although patches of probable pre-glacial gravel have been found. These gravels are composed mostly of schistose argillite and water-worn granite pebbles partially cemented with iron-oxide. A similar patch of gravels, cemented to bedrock is exposed by placer workings on Iron Creek [NTS 105-C].

**Bedrock Geology:**

The lower reaches of the creek are underlain by Upper Cretaceous dacite flows and flow breccia. The upper reaches are underlain by Carboniferous and/or Permian fine grained amphibolite and amphibolitic greenstone; this is the same unit which underlies most of the productive Livingstone Camp creeks.

**Mineralization:**

Gold was found on this creek, but its characteristics are unknown.

**Comments:**

It is doubtful that this creek has ever been tested by mechanical means.

**References:**

G.S.C. Mem.203 P.21,24,25  
G.S.C. Mem.217 P.27  
Open File 1101  
Air Photo A11522 #282

**Watercourse Name:** Common: Laurier Creek

Other

**Location:** Lat. 61 04' Long. 134 49'

NTS 105 E 2

**History And Previous Work:**

Old rotten claim posts, more recent posts, and a well-cut baseline are found along the creek in the area tested by E.Kreft during the period 1987-1989.

**Surficial Geology:**

Laurier Creek flows west from Teslin Mt. for approximately 11 km., then flows in a NW direction for 14 km. and finally SW for 11 km. before emptying into Lake Laberge. Most work was done just upstream from the junction of the W/NW trending parts of the creek. The valley near the workings is narrow, with walls composed mostly of glacial outwash sand, gravel and boulders, reworked by recent stream action. A short rock-walled canyon occurs in this area. Deposits in the valley bottom are of an unknown depth and consist of coarse gravel with numerous large boulders. Trenching in the canyon exposed occasional sections with thick gumbo blue-grey clay of an unknown thickness.

**Bedrock Geology:**

Bedrock consists of volcanic greywacke, mudstone, sandstone and rare andesitic tuffs of the Triassic Lewes River Group.

**Mineralization:**

Gold recovered during E.Kreft's bulk sampling program was mostly flour sized, with the rare piece up to 30 mesh.

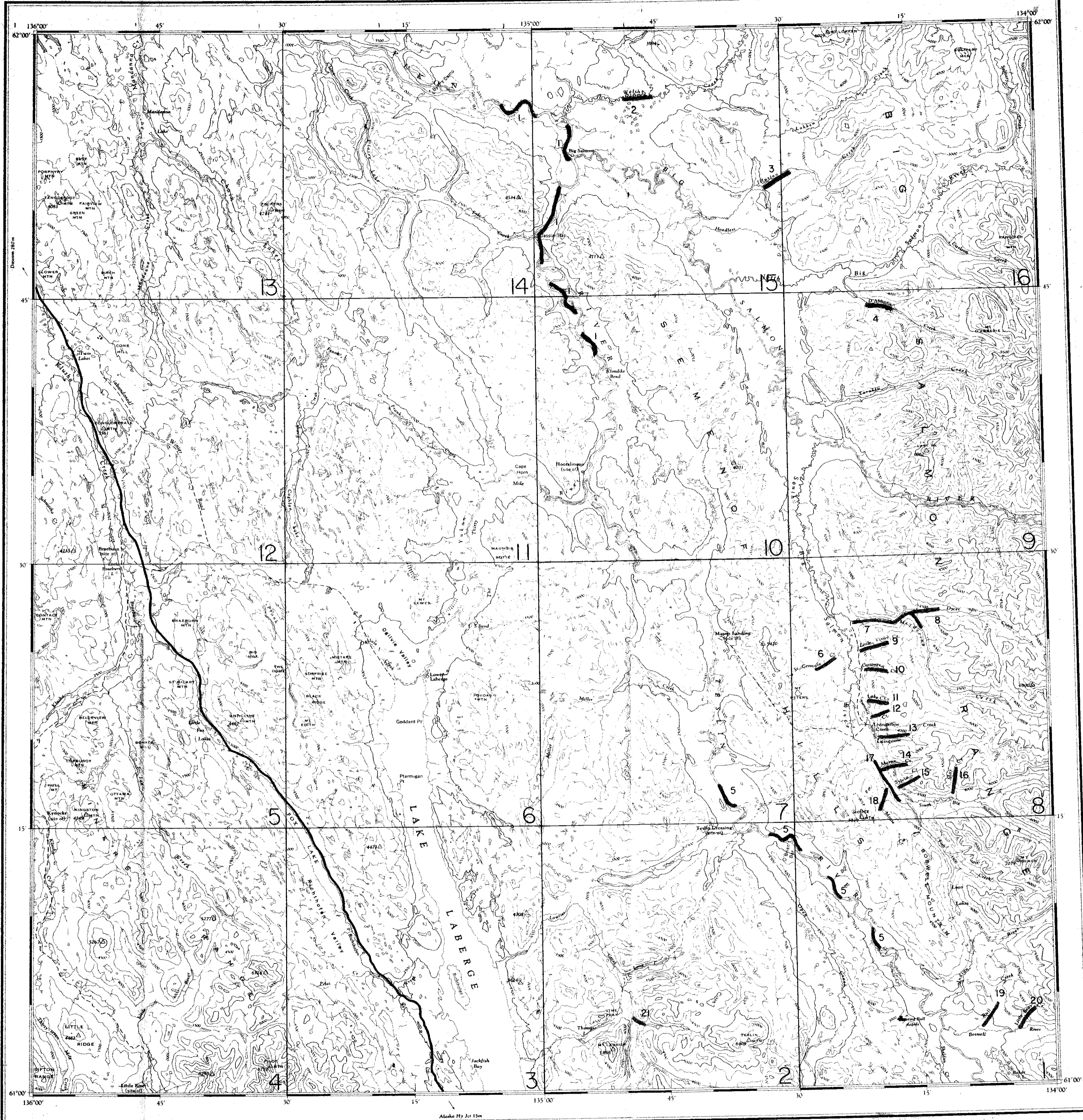
**Comments:**

Gravels are lower grade at depth than at surface, and any gold present is derived from the glacial gravels and is probably of no consequence.

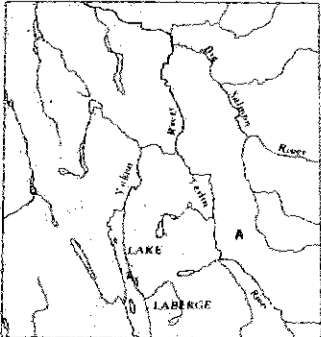
**References**

A.R.#120108

A.R.#120129



THE DECLINATION OF THE COMPASS NEEDLE 1957



The declination of the compass needle at any place along a red line in the declination given on that red line. At other places the declination is between those given on the neighboring red lines; thus at the place marked A, the declination is between 22° 30' E and 23° 00' E. The declination of the compass needle is decreasing 3.5 minutes annually.

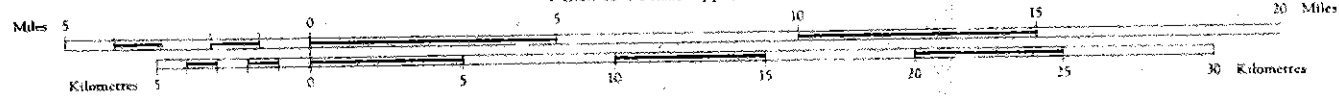
Produced and printed by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF MINES AND TECHNICAL SURVEYS, 1958. From air photographs taken in 1949 and 1952.

Universal Transverse Mercator Projection

Contour interval 500 Feet  
Elevations in Feet above Mean Sea Level  
North American Datum 1927

REFERENCE

|        |       |                          |
|--------|-------|--------------------------|
| Roads: | ..... | 2 lanes or more          |
| .....  | ..... | wagon, cart track        |
| .....  | ..... | Trail or portage         |
| .....  | ..... | Village or settlement    |
| .....  | ..... | Post office              |
| .....  | ..... | Building or cabin        |
| .....  | ..... | R.C.M.P. post            |
| .....  | ..... | Horizontal control point |
| .....  | ..... | Astronomical position    |
| .....  | ..... | Spot elevation (in feet) |



**LABERGE**  
YUKON TERRITORY  
**105E**  
Scale 1:250,000  
1 Inch to 4 Miles Approximately

TO ACCOMPANY PLACER REPORT  
B.KREFT - MAR. '95

**OPEN FILE 1995-9(G)**