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

**Open File 1995-8(G)**

**PLACER MINING AND EXPLORATION COMPILATION  
(NTS 115 F/G)**

**By**

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

**Watercourse Name:** Common: Pan Creek

Other: Frying Pan Cr.

**Location:** Lat. 62 00' Long. 140 52'

NTS 115 F 15

**History And Previous Work:**

During the winter of 1912-1913, Pan Creek was prospected by W.E.James, P.Nelson, and F.Best who reportedly found gold, but were forced to stop work by groundwater. This group went on to discover the Chisana Goldfield in Alaska in the spring of 1913. On August 23 1913, P.Jacob and H.Gordon staked a co-discovery claim approximately 1.6 km. from the mouth. Most of the creek was soon staked, but all claims lapsed the following year. Activity was reported for the following years: 1922, 1939-1943, 1947 [minor production] and 1962-1963. In 1989, R.Berdahl prospected this creek.

**Surficial Geology:**

Pan Creek is a deep, gorge-like, rock-walled incision, through which the stream, particularly along the lower portion of its course, rushes with great force, tumbling over a number of falls to reach Tchawsahmon valley. Deposits are unfrozen, 0.9 to 12 m. thick [average 1.3 m.] and consist of sandy gravel with boulders up to a metre in size. Bedrock is occasionally exposed in the vicinity of the falls.

**Bedrock Geology:**

Bedrock consists of Jurassic conglomerate, greywacke and minor volcanics, Permian greenstone and diorite and Cretaceous granodiorite. Bedrock is foliated and provides a good surface for gold retention.

Small amounts of realgar were reportedly found distributed through an andesite dyke cut by small quartz stringers. R.Berdahl noted bedrock contained disseminated sulphides and was iron stained.

**Mineralization:**

Minor amounts of gold up to 0.2 gm. in size, and small copper nuggets, were panned, by Berdahl from an orange clay layer resting on and within fractures of the bedrock.

**Comments:**

Of all the placer gold creeks in the area [Hidden, Bowen and Sanpete], Pan Creek has received the most attention.

**References:**

G.S.C. Mem.50 P.125  
 G.S.C. Mem.74 P.193  
 P.A.P. 89-005  
 Archives Creek Book #175  
 Whitehorse Mining Recorder records  
 Y.P.M.E. 1985-1988 P.40

**Watercourse Name:** Common: Bowen Creek

Other: Dominion Cr.

**Location:** Lat. 61 59' Long. 140 52'

NTS 115 F 15

**History And Previous Work:**

A co-discovery claim was staked on Bowen Creek by James Ryan and James Brewster on November 15th, 1913. Their claim was located approximately 600 metres from the mouth of the creek. By early 1914, most of the creek was staked. Even though gold was reportedly found, all claims soon lapsed as most of the prospectors left for the new-found goldfield at Chisana in Alaska. During 1989, R. Berdahl prospected this creek.

**Surficial Geology:**

Bowen Creek is steep and has a low water flow. Surficial deposits consist of sandy gravel with boulders up to a cubic metre in size.

**Bedrock Geology:**

Bedrock consists of limestone and calcareous volcanic rocks interbedded with Triassic Nikolai Greenstone in contact with a Cretaceous quartz monzonite - granodiorite stock. A copper-gold skarn occurs in the immediate vicinity of the creek.

**Mineralization:**

R. Berdahl reportedly found a few small [0.1-0.2 gram] nuggets while prospecting here.

**Comments:**

Mr. Berdahl noted the presence of scattered small-scale workings along the creek.

**References:**

Yukon Ex. And Geol. 1993 P.5  
P.A.P. 89-005  
Creek Book #175  
G.S.C. Mem.50 P.125  
G.S.C. Mem.284 P.376,377

**Watercourse Name:** Common: Hidden Creek

Other

**Location:** Lat. 61 58` Long. 140 53`

NTS 115 F 15]

**History And Previous Work:**

Gold was reportedly found in encouraging amounts during the winter of 1913-1914. During 1944 some prospecting and staking was done. During 1989 R.Berdahl prospected in this area.

**Surficial Geology:**

Characteristics are unknown, but should be similar to nearby creeks [see Bowen Creek].

**Bedrock Geology:**

Bedrock consists of limestone and calcareous volcanic rocks interbedded with Triassic Nikolai Greenstone in contact with a Cretaceous quartz monzonite to granodiorite stock. A copper-gold skarn occurs in the immediate vicinity of the creek.

**Mineralization:**

Gold characteristics are unknown.

**Comments:**

Little is known about this creek.

**References:**

D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.7  
G.S.C. Mem.50 P.125  
Yukon Ex. and Geol. 1993 P.5  
P.A.P. 89-005

**Watercourse Name:** Common: Koidern River

Other

**Location:** Lat. 61 45' Long. 140 14'

NTS 115 F 9,16

**History And Previous Work:**

Gold bearing gravels were reportedly discovered in 1914. In 1934, some staking was done on James Creek, a Koidern River tributary. During 1983 and 1984, G.Mogenson did test work on the river just below the mouth of Edith Creek.

**Surficial Geology:**

Most of the Koidern River flows in the Shakwak valley which was occupied by the Ruby Ice-Sheet. Other characteristics are unknown.

**Bedrock Geology:**

Geology underlying the portion of the creek where most of the test work occurred consists of Cretaceous migmatized volcanics, schist, gneiss and hornfels in thrust fault contact with Permian Cache Creek Group volcanics.

**Mineralization:**

Gold was reportedly found on the creek, but characteristics are unknown.

**Comments:**

Most of the testing was done at and above the mouth of Edith Creek.

**References:**

G.S.C. Mem.178 P.5  
G.S.C. Mem.284 P.357  
Water License PM84-249  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Edith Creek

Other

**Location:** Lat. 61 43' Lat. 140 07'

NTS 115 F 9

**History And Previous Work:**

During the 1940's, a few individuals worked on Edith Creek. On 29 July 1979 D.Schiller and M.Mogenson staked a co-discovery on the creek.

**Surficial Geology:**

Edith Creek occupies a wide U-shaped valley. The upper third of the valley is covered by glacial material deposited by the Nisling Ice-Sheet. The lower part was re-glaciated by the Ruby Ice-Sheet. Other valley characteristics are unknown.

**Bedrock Geology:**

Bedrock consists of Permian basic lavas, pyroclastics and minor intercalated cherty sediments. On the ridge which separates the upper forks the volcanic rocks are intruded by small gabbro plugs and dykes, a large diorite stock and a small quartz monzonite plug. In 1981, Archer Cathro, found up to 0.296 oz/ton Au in soils and up to 0.322 oz/ton Au in vein material from the ridge.

**Mineralization:**

Gold characteristics are unknown.

**Comments:**

Archer Cathro noted the presence of placer workings on Edith Creek approximately 6.5 km. from the mouth.

**References:**

A.R.#091433  
Minfile 115-F+G #34  
G.S.C. Mem.267 P.41  
Whitehorse Mining Recorder records  
G.S.C. Map 1178A

**Watercourse Name:** Common: Un-Named

Other: Jody Cr.

**Location:** Lat. 61 33` Long. 139 40`

NTS 115 G 12

**History And Previous Work:**

During 1982, G.Mogenson did test work on this creek. During the mid 1980's, K.Dye and V.Young of Mountainview Mining worked on the creek.

**Surficial Geology:**

Most of the work done has been at about 3800 ft. elevation. Deposits are unfrozen and consist of 3.5 to 5 m. of gravel and boulders. The valley is steep-walled and up to 80 m. wide in this area; upstream the gradient steepens and the valley narrows to approximately 30 m. This drainage was covered by the Ruby Ice-Sheet.

**Bedrock Geology:**

Bedrock consists of lower Permian and earlier Cache Creek group volcanics and minor sediments.

**Mineralization:**

Characteristics are unknown.

**References:**

G.S.C. Map 1177A  
G.S.C. Map 1178A  
Water License PM85-63  
Water License PM86-148

**Watercourse Name:** Common: Reed Creek

Other

**Location:** Lat. 61 33' Long. 139 38'

NTS 115 G 12

**History And Previous Work:**

Signs of exploration circa the 1930's occur on the creek. In 1951 W.J.Lavoie staked a discovery claim approximately 500 m. below the lower canyon. Between 1983 and 1988, D.Duensing and R.Holway mined; followed by L.Tremblay and L.Smith in 1989 and 1990.

**Surficial Geology:**

Most of the mining has been done between 6 and 7.5 km. from the confluence with the Donjek River. The valley in this area is between 17 and 35 m. wide. Deposits are from 2.1 to 3.6 m. thick and consist of sandy brown gravel with boulders up to several cubic yards in size. Much of the ground is frozen, although unfrozen areas occur. There is a canyon approximately 6.1 km. from the mouth.

**Bedrock Geology:**

Bedrock is mapped as Permian and earlier Cache Creek group prophyllitic basic lava, banded cherty tuff, volcanic breccia, chlorite schist plus minor greywacke, argillite and limestone. Near the mouth of the canyon a shear zone with black graphite-quartz-carbonate alteration and white clay alteration occurs associated with a large feldspar porphyry dyke. Grab samples of altered material have reportedly assayed up to 450.8 g/t Au. The dyke was age-dated at 23.5 +/- 0.9 m.y. which would correlate with the dykes/stocks on Arch and Burwash Creeks.

**Mineralization:**

The gold is mostly coarse, with a large proportion rough and angular. Many of the pieces found contain quartz and/or white and black quartz carbonate material, which suggests a local source. Nuggets up to 3/4 oz. have recently been found. Purity is from 889 to 896 fine.

**Comments:**

Native copper and "native silver" nuggets have been recovered. A specimen of the latter was identified by the G.S.C. via XRD as arquerite [Ag<sub>12</sub>Hg].

**References:**

D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.82  
 G.S.C. Map 1177A  
 YEX 1989 P.107,108  
 Y.P.M.I. 1983-1984 P.70  
 Y.P.M.E. 1985-1988 P.43  
 Y.P.M.I. 1989-1990 P.14,15  
 Whitehorse Mining Recorder records



**Watercourse Name:** Common: Un-Named

Other

**Location:** Lat. 61 32' Long. 139 35'

NTS 115 G 12

**History And Previous Work:**

During the late 1980`s and early 1990`s W.Allen did test work on this creek, which is the first Reed Creek tributary to the east of where D.Duensing and R.Holway mined.

**Surficial Geology:**

Deposits are unfrozen, average 3.7 m. deep and consist of gravel and boulders. The lower 1.2 m. of the section contains much clay. This drainage basin was affected by the Ruby Ice-Sheet.

**Bedrock Geology:**

Bedrock consists of Lower Permian and earlier Cache Creek Group propylitic basic lava, banded cherty tuff, volcanic breccia and chlorite schist.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Sudden flood events occur on this creek.

**References:**

Water License PM88-044  
Water License PM90-090  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Swede Johnson Creek Other

**Location:** Lat. 61 32' Long. 139 32' NTS 115 G 12

**History And Previous Work:**

Lorne Smith did intermittent test work and small scale mining between the mid 1980's and early 1990's. Production for 1987 was reportedly 54 oz.

**Surficial Geology:**

Most of the activity was around 3350 ft. elevation. The valley in this area is wide; upstream the valley narrows and has steep walls. Deposits are unfrozen and consist of coarse gravel with numerous large boulders and little silt. The valley was glaciated by the Ruby Ice Sheet.

**Bedrock Geology:**

Bedrock consists of Permian and earlier propylitic basic lava, banded cherty tuff, volcanic breccia, chlorite schist; minor greywacke, argillite and limestone. Gold values up to 8.6 g/t Au were obtained from specimens of quartz-carbonate altered volcanics found near the headwaters.

**Mineralization:**

Gold was said to occur in a winding paystreak. Other characteristics are unknown.

**Comments:**

Bedrock and surficial geology are similar to Reed Creek.

**References:**

Y.P.M.E. 1985-1988 P.VIII  
Water License PM85-67  
Water License PM93-105  
Yukon Minfile 115-F+G, Occ.#27  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Un-Named

Other

**Location:** Lat. 61 30` Long. 139 42`

NTS 115 G 12

**History And Previous Work:**

During the early 1980`s, T.M.Bradley did test work on the first right limit tributary to the Donjek River downstream from Arch Creek.

**Surficial Geology:**

Characteristics are unknown.

**Bedrock Geology:**

Bedrock consists of a varied succession of Lower Permian and earlier Cache Creek group sediments and volcanics.

**Mineralization:**

T.M.Bradley reportedly found gold colours during testing.

**Comments:**

Little is known about this creek.

**References:**

Water License PM84-232  
G.S.C. Map 1178A

**Watercourse Name:** Common: Arch Creek Other  
**Location:** Lat. 61 29' Long. 139 37' NTS 115 G 5

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

Arch Creek was discovered in May 1904 by H.Flaherty, M.Bones and F.Ater, who named the creek after a peculiar arch-like opening in the limestone rocks of the lower canyon. They mined intermittently until 1913. During 1914 R.W. and W.B.Lamb worked at the mouth of the lower canyon, but the many large boulders in the deposit hindered operations and the ground was abandoned. From 1939 to 1942, C.Bryden et. al. mined in the same area. In 1957 the creek was staked and prospected by R.O.Davis, A.H.Clark and W.L.Drury [P. and G. Placers Ltd.] who then conducted a bulldozer operation from 1959 to 1961; recovering 540 ounces of gold. Mr.Davis returned to mine in 1973.

From 1980 to 1982, R.Braun mined using a small backhoe 2.6 kilometres from the Donjek, while M. Melanson hand-mined 2.0 kilometres farther upstream. In 1984, H. and A.Fromme sluiced at the mouth of the lower canyon, while E.Green and R.Moore worked at the head of the upper canyon. During 1985 and 1986, F.Green did stripping and minor sluicing at the same location that E.Green and R.Moore worked. From 1988 to 1992, O.Leckie conducted a small-scale operation near the lower canyon. In 1992, M.Balcar leased his property and started mining.

### **Surficial Geology:**

Arch Creek valley is a deep steep-sided trough-like depression, in which thick glacial deposits of the Ruby Ice-Sheet have accumulated. Since the last glaciation, Arch Creek has been re-excavating its channel and in places [the canyons], it has cut into bedrock. The first canyon is located approximately 2.1 kilometres from the mouth and is about 1200 metres long. The second canyon is located about 900 metres farther upstream of the first canyon and it is approximately 200 metres long. The rest of the valley between the Donjek floodplain and the mouth of the upper canyon is between 30 and 65 metres wide and has moderate to steep walls covered with glacial and other detritus. The gradient of this portion of the creek is approximately 57 metres per kilometre. Above the upper canyon the valley widens and is bottomed with narrow flats bordered in places with terraced slopes. Deposits between the Donjek floodplain and the head of the upper canyon are generally 2 to 8 metres deep and consist of very little overburden overlying coarse gravel, with boulders up to 2.5m or more in diameter, sand and clay. In some places in the lower canyon the creek flows on bedrock. Deposits close to the creek are thawed, but bench gravels are frozen. Above the upper canyon, the gravels deepen and the few holes sunk by oldtimers all failed to reach bedrock. There is a year-round water supply which is subject to occasional flood events.

### **Bedrock Geology:**

Rocks exposed along Arch are prevailingly sedimentary in character and consist mainly of limestone, shale, chert, slate argillite and tuff of Carboniferous age. These rocks have been intruded by an extensive group of igneous rocks, similar to those occurring on Burwash Creek. They include mainly diorites, andesites, basalts and gabbro. A porphyry dyke, similar to those occurring on Reed Creek [T.Bremner pers.comm.], outcrops near the Airways [Ni,Cu,PGE] showing on Arch Creek. R. G. McConnell reported that quartz veins traversed the slates and tuffs and that the gold in the creek was probably derived from them.

**Mineralization:**

Gold is found on or near bedrock. Seventy percent consists of coarse grains and small nuggets with 30% fine-grained. The biggest piece recovered before the year 1905, was found in the lower canyon and weighed over 3 ounces. It contained considerable quartz and had a rough surface which showed that it had not travelled far. Fineness of the gold is reported to be 870 fine. Occasional grains and small rough nuggets of native silver and copper also occur.

**Comments:**

Cairnes noted that an old channel lay to the left of the lower canyon. He also noted that it is possible that any gold bearing gravel which may have existed in the channel may have been removed during the last glacial period.

**References:**

G.S.C. Sum.Rept. XVI P.1A  
G.S.C. Sum.Rept. 1906 P.23-26  
G.S.C. Sum.Rept. 1914 P.24  
G.S.C. Mem.234 P.18  
G.S.C. Mem.267 P.24,41  
G.S.C. Mem.284 P.114,149-151,360,369-371  
G.S.C. Mem.340 P.107  
DIAND Yukon Min.Ind. 1941-1959 P.123,136  
G.S.C. Paper 61-23 P.18  
G.S.C. Paper 62-27 P.21  
DIAND Yukon Min.Ind. 1973 P.143  
YPMI 1978-82 P.87  
YPMI 1983-84 P.70  
YPME 1985-88 P42,43  
YPMI 1989-90 P.13  
YPMI 1991-92 P.40  
A.R.#091763  
Water License PM90-034  
Whitehorse Mining Recorder records

**Watercourse Name:** Common: Porcupine Creek

Other

**Location:** Lat. 61 29` Long. 139 40`

NTS 115 G 5

**History And Previous Work:**

During the early 1980's, James And Marsha Flumerfelt did some small scale testing. In 1984, T.Bradley and B.Bjork mined near the mouth.

**Surficial Geology:**

Porcupine Creek flows in a narrow [approx. 25 m.] valley with a moderate gradient and steep walls. Deposits are frozen, average 3.6 m. thick and consist of gravel with layers of sticky clay. Most of the creek is covered by Ruby Ice Sheet materials, the lower 500 m. was re-glaciated by the St.Elias Glacial advance.

**Bedrock Geology:**

Bedrock consists of Permian and earlier Cache Creek Group argillite, sandstone, grit, conglomerate, limestone and chert.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Water shortages, and problems with clay, hindered the Bjork/Bradley operation.

**References:**

Y.P.M.I. 1983-1984 P.69  
Water License PM84-48  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Wade Creek

Other

**Location:** Lat. 61 25` Long. 139 35`

NTS 115 G 5

**History And Previous Work:**

During 1986 and 1987, Z.Bidman mined along the lower end of Wade Creek. During the period 1989-1991, F.Brown did stripping, testing and road-work on Wade Creek at and above the mouth of Maple Creek.

**Surficial Geology:**

Lower Wade Creek flows in a narrow [15 m. wide] valley with steep walls. Deposits are unfrozen; contain numerous large boulders and are from 1.2 to 2.1 m. deep. At and above the mouth of Maple Creek the valley characteristics are similar, while deposits are partially frozen, up to 3.6 m. thick and contain boulders up to 1.2 m. The portion above Maple Creek was covered by the Ruby Ice-Sheet; the portion below, was subjected to the more recent St.Elias Glacial Advance.

**Bedrock Geology:**

Most of lower Wade Creek is underlain by Cretaceous and Tertiary alaskite, granite, granodiorite and porphyritic rhyolite. Further upstream the creek is underlain by: Amphitheatre Formation conglomerate and sandstone; Upper Triassic greenstone, basalt and andesite; Permian-Triassic pyroxene gabbro. Amphitheatre Formation sediments underlie the headwaters.

During the period 1983-1985, Noranda explored the lode potential of upper Wade Creek. Gold values as high as 31,000 ppb Au were found in pan concentrate and silt samples from this area. Bulk soil samples taken from the Amphitheatre Formation also proved anomalous in gold. The Amphitheatre Formation was found to be the dominant gold source and may include several paleoplacer deposits. A deposit of gypsum occurs at the junction of Wade and Maple Creeks.

**Mineralization:**

Characteristics are unknown.

**Comments:**

The high gold values in pan concentrate samples may indicate the presence of placer deposits in the current drainage system. Gold was reportedly recovered from patches of old gravel [Tertiary ?] that lie on the high plateau between the heads of Wade and Burwash Creeks. In some Alaskan placer gold camps, gold has been derived from previous concentrations in Tertiary gravels/conglomerate.

**References:**

A.R.#091786  
 Water License PM91-114  
 Water License PM87-095  
 G.S.C. Mem.267 P.41  
 Y.P.M.E. 1985-1988 P.43,44  
 G.S.C. Paper 58-9

**Watercourse Name:** Common: Hoge Creek

Other

**Location:** Lat. 61 18' Long. 139 31'

NTS 115 G 5

**History And Previous Work:**

There are remains of an old camp, flumes and a shaft dating from the early 1920's on the north fork of Hoge Creek. During 1969 and 1970, Moraine Gold Mines Ltd. did small scale bulk sampling in this area. Follow up work of an unknown nature was done during 1973 by the same company.

**Surficial Geology:**

Most of the north fork flows in a deeply incised V-shaped valley that was glaciated by the Ruby Ice-Sheet. The lower part of the north fork and the main portion of Hoge Creek were affected by the more recent St.Elias Glacial Advance. This portion flows in a U-shaped valley bottomed with a gravel flat. Gravels are of an unknown depth and consist of a variety of material including quartz, conglomerate, jasper, limestone and serpentine. The gravels contain a minimum of silt and clay, are well rounded and contain few boulders. Patches of permafrost are found.

**Bedrock Geology:**

The gold-bearing portion of the creek is underlain by sediments of the Upper Triassic Mush Lake Group, consisting mainly of shaly limestone, calcareous shale and some gypsum. Near the head of the north fork is an occurrence of Amphitheatre Formation conglomerate.

**Mineralization:**

Gold encountered by Moraine Gold Mines Ltd. ranged from fine flour sized particles to coarse grains measuring one millimetre or more across. In 1969, a 10.5 cubic yard sample was processed and yielded 7.66 grams of gold. In 1970, a 50 cubic yard sample was processed and yielded 2.43 ounces of gold.

**Comments:**

The area tested is between 5,500 and 6,000 feet in elevation: the highest point from which placer gold has been recovered on the Kluane mapsheet, and quite probably in the entire Yukon.

**References:**

A.R.#120009  
D.I.A.N.D. Yukon Min.Ind. 1973 P.144  
G.S.C. Map 1177A  
G.S.C. Map 1178A  
Air Photo 115-F+G #A11383-173



**Watercourse Name:** Common: Quill Creek

Other

**Location:** Lat. 61 29' Long. 139 26'

NTS 115 G 6

**History And Previous Work:**

G.Mogenson and McCrory Holdings did a limited amount of work in 1980, 1981 and 1982. Mr.Mogenson continued until the end of the 1983 season; in 1984, J.Willey mined. During the late 1980's, W.Pfisterer began testing and small scale mining. He has mined intermittently since.

**Surficial Geology:**

Most of the work was done between five and seven km. from the highway. The valley in this area varies from 40 to 200 m. in width and has steep to moderately sloping walls. Deposits are unfrozen, up to six m. thick, and consist of up to 1.5 m. of muck overlying 4.5 m. of interbedded sand, gravel and clay. Most cobbles are less than 0.5 m. in size, although some large boulders occur. This area was most recently glaciated by the Ruby Ice Sheet.

**Bedrock Geology:**

Bedrock consists of Upper Triassic Mush Lake Group basalt and andesite, Permian and/or Triassic peridotite and gabbro, and Permian and earlier Cache Creek group argillite, sandstone, grit, limestone, conglomerate, propylitic basic lava, banded cherty tuff and volcanic breccia. The Denali fault intersects Quill Creek in the vicinity of the placer workings.

**Mineralization:**

Gold from Quill Creek is flat or round, and smooth, with occasional quartz attached. It ranges in size from 1/2 oz. to 40 mesh, with 40% less than 20 mesh. Copper nuggets are occasionally found.

**Comments:**

Magnetometer surveys, to locate concentrations of magnetite which are usually associated with placer gold, have failed due to extensive bedrock interference.

**References:**

A.R.#120109  
 Water License PM93-036  
 G.S.C. Map 1177A  
 G.S.C. Map 1178A  
 Y.P.M.I. 1978-1982 P.87  
 Y.P.M.I. 1983-1984 P.70  
 Y.P.M.E. 1985-1988 P.44  
 Y.P.M.I. 1989-1990 P.13,14  
 Y.P.M.I. 1991-1992 P.40,41

**Watercourse Name:** Common: Tatamagouche Creek Other

**Location:** Lat. 61 23` Long. 139 19` NTS 115 G 6

**History And Previous Work:**

Probably discovered in conjunction with Burwash Creek in May 1904; some prospecting was done in 1905. Production to 1914 was approximately 100 oz. Small scale activity occurred nearly every year between the late 1930's and early 1950's. Reported production for 1949 was 7.95 oz. During 1967, H.Besner sluiced at the junction of Tatamagouche and Burwash Creeks. During the period 1971-1974, Mr.Besner sluiced along the lower kilometre of the creek. Between 1973 and 1975, W.Rothbauer mined a one mile lease owned by R.Holway, located just above Besner's ground. During 1977 and 1978, W.Jones tested ground near the mouth. In September of 1978, Mr.Jones died after rolling his bulldozer. During 1992, S.Johnson tested ground on this creek.

**Surficial Geology:**

The upper reaches flow in a wide valley with gentle slopes. Downstream, the valley narrows to a rock walled canyon which is cleft-like in places. Deposits in the canyon are unfrozen, from 0.6 to 4.5 m. deep [average 1.8 m.] and consist of sand and gravel with numerous large boulders. Benches reportedly occur along lower Tatamagouche Creek.

**Bedrock Geology:**

The upper reaches are underlain by upper Jurassic to lower Cretaceous argillite, greywacke and conglomerate. The lower 2.5 km. are underlain by Permian and/or Triassic peridotite and gabbro, Permian and earlier Cache Creek group sediments and Paleocene and later porphyritic latite. Disseminated pyrite, pyrrhotite and silicification are common in the Cache Creek group sediments.

**Mineralization:**

Gold from this creek is flat and round and 860 fine. Its distribution is erratic, although H.Besner found that it paid at a similar rate as Burwash Creek. Native copper and platinum are also found in the gravels. Platinum values are approximately 1% of gold production.

**Comments:**

The narrow valley and numerous large boulders make mining difficult.

**References:**

G.S.C. Sum.Rept. 1916 P.23,25  
 G.S.C. Econ.Geol.13 P.109,110  
 G.S.C. Mem.284 P.368,369  
 D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.8,29,51,65  
 D.I.A.N.D. Yukon Min.Ind. 1971-1972 P.138  
 D.I.A.N.D. Yukon Min.Ind. 1973 P.143  
 D.I.A.N.D. Yukon Min.Ind. 1974 P.184  
 D.I.A.N.D. Yukon Min.Ind. 1975 P.188  
 D.I.A.N.D. Yukon Min.Ind. 1977 P.108  
 G.S.C. Paper 68-68 P.112  
 A.R.#017951

**Watercourse Name:** Common: Burwash Creek

Other

**Location:** Lat. 61 23' Long. 139 14'

NTS 115 G 6

**History and Previous Work:**

Discovered on 28 May 1904 by F.Altemose, J.W.Smith, F.Ater and M.Bones, who named the creek after L.T.Burwash, the mining recorder at Silver City. Prospectors and miners were active every year until at least 1918. Production to 1914 amounted to between \$30,000 and \$40,000 [gold at \$20.63/oz]. Intermittent work continued until the mid 1940's.

During 1945, H.Besner [Burwash Mining Company Limited] started production in the lower canyon approximately 5.5 km. from the highway. He mined continuously until 1977 when he was killed while operating his bulldozer. Cumulative production from 1945 to 1967 inclusive was about 23,515 ozs. of crude gold, but this figure does not include considerable jewellery grade gold. This production came from the area between the upper end of the lower-most canyon to slightly above the mouth of Tatamagouche Creek.

Other large-scale operators of note include Kluane Dredging Company and P+G Placers Limited. From 1946 to 1950, Kluane Dredging worked between the highway and the foot of the canyon with a floating trommel plant. They recovered about 3,500 crude ounces of gold. P+G Placers mined in the lower part of the 1st canyon from mid 1956 to mid 1958, recovering a few hundred ounces.

Between 1973 and 1984, there were 22 separate operations between the lower canyon and the headwaters, most of which were small-scale. Individuals recently active include A.Dendys, G.Johnson, D.R.Davis and A.Bouchet-Bert.

**Surficial Geology:**

The headwaters of Burwash Creek start in two small glaciers in the Donjek Range. Most of its course is bordered on the right-limit by a gently rolling upland plain covered with thick Ruby Ice-Sheet deposits, with mountains along the left-limit. Recent stream action has cut a deep [up to 100 m.] trough-like depression into the plain. This valley has a gradient for the most part of 24 m./km. [125 ft/mile] and carries a highly variable flow of water. It is generally from 30 to 130 m. wide except in the four canyons where it is as narrow as 9 m. The first canyon is approximately 5.5 km. from the highway; the second just upstream from Tatamagouche; the third in the vicinity of Cooper Creek and Johnson Gulch, and the last approximately 3 km. from the Kluane Park boundary. While deepening its channel, Burwash Creek has cut continually into the left limit bank, with the result that along the right limit there is a series of gravel-covered benches decreasing in height from 13 to 3 m. toward the current channel.

The left-limit is usually a steep rock wall. Bench deposits are occasionally frozen and consist of 1.3 to 4.5 m. of muck, slide-rock and till overlying 1.5 to 8.5 m. of coarse gravel, boulders and sand. Deposits present on the valley bottom are rarely frozen and contain larger boulders than the benches. They consist of an intermittent layer of muck up to 1.2 m. thick overlying 1.7 to 8.0 m. of boulders, gravel, sand and clay layers. Deposits in the vicinity of the upper-most canyon are thawed and from 2.1 to 18.2 m. deep. They are of similar composition to gravels lower down Burwash, except for a substantial increase in the clay content. Shallower gravels generally coincide with narrower portions of the valley.

### **Bedrock Geology:**

Most of the rocks exposed along Burwash Creek belong to an igneous, mainly mafic group including diorite, diabase, andesite, basalt, gabbro and dunite. Green and red amygdaloidal basalts are locally very prominent. Sedimentary rocks also occur. Most are shales, slates, argillites, cherts, limestones and cherty conglomerates, in which Triassic and Carboniferous fossils were found. These beds have been intensely invaded by the igneous members. A few granitic intrusions of Jurassic or Cretaceous age, along with white, grey or yellow rhyolitic dykes of Tertiary age intrude the above units. These dykes are of similar age and composition to those occurring on both Reed and Arch creeks.

In the lower-most canyon stringers of chalcopryite, bornite and chalcocite occur in Upper Triassic Nikolai Greenstone. On Burwash Creek, just above the mouth of Tatamagouche Creek, minor amounts of pyrrhotite, pentlandite and chalcopryite occur at the contact between Permo-Triassic gabbro and Paleocene latite porphyry.

### **Mineralization:**

Gold from this creek is generally flat and polished smooth, with a purity of 860 to 876 fineness. Nuggets are common, with some as large as 16 ozs. Other heavy minerals found include: hematite, magnetite, native copper, native silver and platinum. The largest copper nugget reported weighed 200 kg. and was found by H. Besner. The native silver usually has a pitted surface. The platinum generally occurs as fine grains but some pieces are the size of duck-shot. The platinum mineralization appears to be restricted to the central portion of the creek and is recovered at the rate of one oz. of platinum to every 66 ozs. of gold. The actual ratio may be higher as some Burwash platinum is magnetic and would probably be lost when cleaning magnetite from the sluice concentrate.

### **Comments:**

Most mining has been between the lower-most canyon and the mouth of Johnson Gulch, although gold has been found still farther upstream. A test sluicing program at the mouth of the upper-most canyon reportedly recovered 2.6 ozs. of gold from 154 cubic yards of gravel. Gold is more evenly distributed on the benches than on the valley bottom and is usually restricted to the bottom 4 feet of gravel. The historic grade averaged 0.019 ozs. gold per cubic yard. Gold is said to have been recovered from patches of Tertiary [?] gravels, occurring on the plateau between the heads of Burwash and Wade creeks. Burwash Creek production to date, exceeds the combined total of all the other Kluane area creeks.

**References:**

A.R.#120068  
A.R.#120083  
A.R.#017951  
Yukon Places And Names P.38  
Archives Map R34  
Open File 381 P.36  
G.S.C. Sum.Rept. XVI P.1A,6A-8A,15A-17A  
G.S.C. Sum.Rept. 1906 P.24,26  
G.S.C. Sum.Rept. 1914 P.15,22,23,32  
G.S.C. Sum.Rept. 1918g P.12,13  
G.S.C. Mem.193 P.6  
G.S.C. Mem.267 P.20,24,29,30,34,40-42  
G.S.C. Mem.284 P.114,123,125,147-150,360,367-369,377,461  
G.S.C. Mem.340 P.106,107  
G.S.C. Econ.Geol.13 P.108-111  
G.S.C. Paper 58-9 P.8,9  
D.I.A.N.D. Yukon Min.Ind.P.7,23,40,44,51,59,65,72,82,90,91,97, 105,111,117,123,124,130,136  
G.S.C. Paper 61-23 P.16,17  
G.S.C. Paper 62-27 P.20,21  
G.S.C. Paper 63-38 P.63,64  
G.S.C. Paper 64-36 P.82  
G.S.C. Paper 65-19 P.80  
G.S.C. Paper 66-31 P.120  
G.S.C. Paper 67-40 P.86  
G.S.C. Paper 68-68 P.112,113  
G.S.C. Paper 69-55 P.65  
D.I.A.N.D. Yukon Min.Ind. 1969-1970 P.146  
D.I.A.N.D. Yukon Min.Ind. 1973 P.143  
D.I.A.N.D. Yukon Min.Ind. 1974 P.184  
D.I.A.N.D. Yukon Min.Ind. 1975 P.188  
D.I.A.N.D. Yukon Min.Ind. 1976 P.238  
D.I.A.N.D. Yukon Min.Ind. 1977 P.108  
Y.P.M.I. 1978-1982 P.87-89  
Y.P.M.I. 1983-1984 P.66-69  
Y.P.M.E. 1985-1988 P.40  
Y.P.M.I. 1989-1990 P.13

**Watercourse Name:** Common: Johnson Gulch

Other: Johnson Cr.

**Location:** Lat. 61 22` Long. 139 26`

NTS 115 G 6

**History And Previous Work:**

Between 1943 and 1947, G.Loland mined on a small scale approximately 800 m. upstream from Burwash Creek.

**Surficial Geology:**

Johnson Gulch flows in a narrow and deeply incised valley. Small remnants of old bench gravels 3.0 to 5.0 metres above the floor occur along both sides of the valley.

**Bedrock Geology:**

Geology consists of Lower Permian sedimentary rocks of the Cache Creek Group in contact with Triassic volcanic rocks of the Mush Lake Group. An elliptical shaped porphyritic latite or feldspar porphyry stock intrudes both the above units approximately at their contact. Several outlying dykes of similar material also occur. These intrusive rocks are of a similar age and composition to the dykes occurring on Arch and Reed Creeks.

Copper/gold mineralization occurs in the porphyry with grades up to 0.5% Cu and 0.02 oz/ton Au. Skarn mineralization also occurs with grades up to 4.4% Cu and 0.04 oz/ton Au. Average values are much lower.

**Mineralization:**

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

**Comments:**

In 1918 W.E.Cockfield examined Burwash Creek. He mentioned that the gold obtained from Elevated Gulch, which enters Burwash about 120 A/D, differs from that recovered on Burwash as it is quite rough and unworn. He also noted the presence of native silver, argentite [acanthite], ruby silver, and pyrite, but no platinum. Estimates drawn from the Burwash Creek baseline survey put the location of Elevated Gulch in the immediate vicinity of Johnson Gulch, and either the two are the same or Elevated Gulch is the next left limit Burwash Creek tributary downstream from Johnson Gulch.

**References**

G.S.C. Econ.Geol.13 P.110  
A.R.#019088  
G.S.C. Mem.267 P.41  
Archives Map R34

**Watercourse Name:** Common: Un-named

Other: Mullere Cr.

**Location:** Lat. 61 17' Long. 139 17'

NTS 115 G 6

**History And Previous Work:**

The first documented exploration was by Halferdahl And Associates Ltd. in 1984, during a large program directed towards the lode potential of the area. During 1992 and 1993, D.R.Davis tested the creek.

**Surficial Geology:**

Mullere Creek is a small left limit tributary to Burwash Creek, approximately 1.6 km. downstream from the mouth of Tatamagouche Creek. It's flow varies from high in the spring to intermittent in the fall. Deposits present consist of Ruby Ice-Sheet till and recent stream gravels. Bedrock was exposed in one place at a depth of 4.4 m.; deposits were frozen and consisted of 0.9 m. of muck on 3.9 m. of boulders, gravel and sand.

**Bedrock Geology:**

Bedrock consists of Lower Permian and earlier Cache Creek Group argillite, sandstone, conglomerate, limestone and chert.

**Mineralization:**

Pan sampling by Halferdahl found one piece of gold weighing 2.23 mg. in a five gallon sample of gravel 65 m. from the mouth, and two pieces totalling 1.03 mg. in a similar sample 330 m. from the mouth.

**Comments:**

Neither Halferdahl nor Davis noted the presence of old workings on the creek.

**References:**

A.R.#091397  
Water License PM93-106  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Duke River

Other

**Location:** Lat. 61 21' Long. 139 10'

NTS 115 G 6

**History And Previous Work:**

During 1945, Numalake Mines Ltd./H.Fromme staked two five-mile leases on the Duke River. They did little work and let the leases expire in 1947. On October 26 1949, Albert Gay staked a lease, which was not renewed. On September 4, 1952, Carl Chambers staked a lease which also was not renewed. During 1964, Leo Proctor held a 10 mile dredging lease on the Duke River from the highway up. That year he drilled the lower 800 metres of the river. During 1989, Robert Bathues mined on a small-scale approximately 1.6 km. downstream from the mouth of Squirrel Creek.

**Surficial Geology:**

The Duke River flows through an area of wide flats in which the river is constantly changing course. Occasional rock-walled canyons occur. Deposits present are thawed and average 6.7 m. deep in the area drilled. They consist of small boulders, gravel, sand and clay [re-worked St.Elias Glacial Advance material].

**Bedrock Geology:**

Bedrock along the lower reaches, where most of the work was done, consists of basalt, andesite, peridotite, gabbro, argillite, sandstone, conglomerate, basic lava and cherty tuff They are Triassic or earlier in age.

**Mineralization:**

Gold exists but its characteristics are unknown.

**Comments:**

Proctor's drilling encountered some gold, but the ground was deemed un-economic. There is a high water-table, which may have adversely affected the gold recovery of the drill program.

**References:**

D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.40,44  
 G.S.C. Paper 65-19 P.81  
 G.S.C. Map 1177A  
 G.S.C. Map 1178A  
 Y.P.M.I. 1989-1990 P.14  
 A.R.#017462  
 Whitehorse Mining Recorder records



**Watercourse Name:** Common: Bea Creek

Other

**Location:** Lat. 61 21' Long. 139 11'

NTS 115 G 6

**History And Previous Work:**

First explored by Halferdahl And Associates Ltd. in 1984, during a large program directed towards the hard-rock potential of the area. Their work showed that pan concentrate samples from the lower portion of the creek were highly anomalous in gold.

During the early to mid 1980's, both Duke River Mines Ltd. and Owen Brown/Ed Tritscher tested the lower portion of the creek for its placer potential.

**Surficial Geology:**

Bea Creek is the 2nd left-limit tributary to the Duke River downstream from Squirrel Creek. The upper reaches are wide and swampy, the lower portion flows in a narrow valley. Deposits present are mostly glacial in origin or reconcentrated glacial deposits.

**Bedrock Geology:**

The upper reaches are underlain by interbedded black chert and white to grey limestone. The lower reaches of the creek are underlain by a thick unit of pyritic black tuff. These rocks have been assigned to the Hasen Creek Formation.

**Mineralization:**

Gold characteristics are unknown.

**Comments:**

Halferdahl's work showed that the first 700 metres of the creek was highly anomalous in gold, with values of greater than 10,000 ppb Au in pan concentrate samples.

**References:**

A.R.#091585  
Water License PM86-48  
Water License PM87-86

**Watercourse Name:** Common: Squirrel Creek

Other

**Location:** Lat. 61 19' Long. 139 09'

NTS 115 G 6

**History And Previous Work:**

Between 1948 and 1961, numerous individuals were active on the creek, including: A.H.Brandstrom, A.B.Coates, P.E.Plack, R.Dutter, and C.M.Boese. During 1973, J.LeMoignan did some test work. Between 1978 and 1983, considerable small scale mining and testing was done, with seven operations on the creek in 1982.

**Surficial Geology:**

Recent stream gravels consist of reworked Ruby Ice Sheet materials. Deposits in the centre of the valley are thawed and from 1.5 to 2.0 m. deep, while those near the edges of the valley are frozen and up to 3.0 m. thick. A thin discontinuous layer of muck covers the gravel.

**Bedrock Geology:**

Bedrock consists of Upper Jurassic and Lower Cretaceous argillite, greywacke and conglomerate.

**Mineralization:**

Gold occurs but its characteristics are unknown. Native copper nuggets were recovered.

**Comments:**

Most of the mining was done when gold prices were high, There has been little activity since.

**References:**

Whitehorse Mining Recorder records  
 D.I.A.N.D. Yukon Min.Ind. 1973 P.144  
 Y.P.M.I. 1978-1982 P.89  
 Y.P.M.I. 1983-1984 P.66  
 G.S.C. Map 1177A  
 G.S.C. Map 1178A

**Watercourse Name:** Common: Ptarmigan Creek

Other: Windgap Cr.

**Location:** Lat. 61 17' Long. 139 11'

NTS 115 G 6

**History And Previous Work:**

During 1981, F.Brown tested 1.3 km. from the Duke River. Also active that year and the next was Tic Construction who tested approximately 3.7 km. farther upstream.

**Surficial Geology:**

Ptarmigan Creek is underlain by sediments from the St.Elias glacial advance. This ground is reportedly frozen; other characteristics are unknown.

**Bedrock Geology:**

The upper reaches flow near the contact between Paleocene Amphitheatre Formation sandstone and conglomerate and Upper Triassic Mush Lake Group basalt and andesite. The lower end is underlain by Lower Permian and earlier Cache Creek Group propylitic basic lava, banded cherty tuff, volcanic breccia and minor sedimentary members.

An asbestos occurrence in peridotite was found at the mouth. Asbestos stringers up to 1/4 inch wide are scattered across a 9.1 m. zone.

**Mineralization:**

Characteristics are unknown.

**Comments:**

A.Ticiniski/Tic Construction did small scale mining/testing intermittently throughout the 1980's.

**References:**

A.R.#017462  
Water License PM84-182  
Y.P.M.I. 1978-1982 P.90  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Granite Creek

Other: Badlands Cr.

**Location:** Lat. 61 18' Long. 139 17'

NTS 115 G 6

**History And Previous Work:**

There is some confusion as to the name of this drainage and the next downstream left limit tributary to the Duke River. Before the 1980's, this creek was called "Badlands", and the parallel one was called "Granite". In the early 1980's, the name "Badlands Creek" was applied to a small creek which drains the south slope of Amphitheatre Mt. "Granite Creek" became what was formerly "Badlands". The original Granite Creek no longer has a name.

During 1981 and 1982, there were three separate operations on what is now called "Granite Creek": C.Eikland/C.Backstrom near the mouth, P.Temple approximately 600 m. from the Duke River and VanBibber Placer Development approximately 1500 m. upstream. During 1987 and 1988 J.Ralls and C.Eikland tested the creek.

**Surficial Geology:**

The lower portion of the valley is wide with gently sloping walls, farther upstream the valley narrows to 75 m. and the walls steeper. VanBibber found deposits to be unfrozen and to consist of 0.3 to 0.5 m. of muck overlying 1.2 to 2.0 m. of coarse gravel. C.Eikland reported frozen ground and up to 2.4 m. of overburden.

**Bedrock Geology:**

Most of the creek is underlain by Amphitheatre Formation sediments, the lower 1/3 is underlain by Cretaceous Kluane Range granodiorite. A thrust fault forms the boundary between these two units. Coal occurs near the head of Granite Creek tributary Badlands Creek.

**Mineralization:**

Gold characteristics are unknown.

**Comments:**

Most of the work done on the creek was when gold prices were high during the early 1980's.

**References:**

Water License PM87-107  
Water License PM88-053  
G.S.C. Map 1177A  
Minfile 115-F+G #12

**Watercourse Name:** Common: Mineral Creek

Other

**Location:** Lat. 61 35' Long. 138 53'

NTS 115 G 10

**History And Previous Work:**

In 1945 H.S.Bostock mapped geology in the area.

**Surficial Geology:**

Mineral Creek valley was glaciated by the Ruby Ice Sheet. Other characteristics are unknown.

**Bedrock Geology:**

Geology consists of two large roof pendants of Yukon Group metasediments, including marble bands, within the Ruby Range batholith. One pendant occurs along the lower reaches, and one near the headwaters. Small quantities of molybdenite have been reported from the head of the creek.

**Mineralization:**

Dr. Bostock panned a 3.0 cent [1/20 gm.] piece of gold from a bedrock crevice along the lower reaches.

**Comments:**

It is probable that this creek has never been properly tested.

**References:**

Pack Horse Tracks P.216  
Yukon Minfile 115-F+G Occ.#68  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Un-Named

Other: Striation Cr.

**Location:** Lat. 61 25` Long. 138 43`

NTS 115 G 7

**History And Previous Work:**

In 1945, H.S.Bostock mapped geology in the area.

**Surficial Geology:**

The headwaters of the creek were covered by the Nising Ice-Sheet; the lower two-thirds was further affected by the Ruby Ice-Sheet. Other deposit characteristics are unknown.

**Bedrock Geology:**

Bedrock consists of biotite-hornblende granodiorite, quartz monzonite and quartz diorite of the Ruby Range Batholith.

**Mineralization:**

Dr.Bostock reportedly found colours in every pan from this creek.

**Comments:**

No old workings were noted here.

**References:**

Pack Horse Tracks P.216  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Gladstone Creek Other

**Location:** Lat. 61 19' Long. 138 33' NTS 115 G 7

**History And Previous Work:**

Gold was discovered on Gladstone Creek and some tributaries in May 1904. When visited by the G.S.C. in 1914, T.T.Murray and A.Swanson were working just below Cyr Creek. Total production to that date was estimated to be 100 to 150 oz. During the late 1930's and early 1940's, some prospecting was done. During 1945, Numalake Mines Ltd. staked leases, but little was done and the leases lapsed by 1947. In the winter of 1951, H.Fromme and associates brought in equipment, but that spring, a violent flood buried their operation with gravel, and the venture was abandoned. In July 1952, Kluane Dredging Co. Ltd. began mining on the creek using a floating trommel plant. They worked between the mouth and Cyr Creek until the end of 1955, producing 6,822 oz. In 1973, four operations were active on Gladstone Creek; A.Zastre, P.Southwick, A.Dickson and W.Brewster. During 1979, Todilto, an American group, tested the creek, as did Catear Res. in 1984. In 1991, Sota Computing Systems Ltd. began mining with a floating trommel plant, and in 1992, A.Dendys began mining, using similar equipment. Reported production for 1992 was 578 oz.

**Surficial Geology:**

Gladstone Creek flows in a wide [200 m. to 450 m.] valley with a gentle gradient. The valley bottom is bordered by low level terraces ranging in height from 2 to 10 m. These terraces are surrounded by high [50 m. to 85 m.] banks composed of layered, but poorly sorted, coarse gravels with bands of clay and silt. The contrasting materials present, record the combined effect of fluctuating Kluane Lake levels and periods of vigorous stream activity which occurred following the retreat of the Ruby Ice-Sheet. The gravel deposits mined are from two to eight metres thick and consist of a thin layer of overburden overlying gravel, sand and clay with most clasts 20 cm. or less, although some extremely large boulders occur. These gravels are reworked till and overlie till and clay along the lower reaches: farther upstream the deposits lie on bedrock.

**Bedrock Geology:**

Bedrock along most of the creek has been mapped as quartz-sericite-chlorite schist of the Yukon Complex. The upper reaches are underlain by Ruby Range granodiorite intruded by Nisling Range alaskite.

**Mineralization:**

Gold on lower Gladstone Creek is concentrated on and above a clay layer which occurs at the recent stream gravel/glacial till interface. Farther upstream gold is on bedrock. Gold purity is between 767 and 820 fine; other characteristics are unknown.

**Comments:**

Test work in 1979 reportedly found good values in the high gravel bank opposite the mouth of Cyr Creek. Reportedly, small, rich pockets of gold occur in remnants of old bench channels at scattered localities for several km. above Cyr Creek.

**References**

A.R.#120054

G.S.C. Sum.Rept. XVI P.1A,13A

G.S.C. Sum.Rept. 1914 P.15,18,19

G.S.C. Mem.178 P.5

G.S.C. Mem.193 P.6

G.S.C. Mem.267 P.6,7,16,36,41

G.S.C. Mem.284 P.363,364

G.S.C. Paper 53-20 P.7

G.S.C. Paper 58-9 P.1,8

D.I.A.N.D. Yukon Min.Ind.1941-1959 P.7,40,82,90,91,97,105,111,117

D.I.A.N.D. Yukon Min.Ind.1974 P.184

G.S.C. Map 1177A

G.S.C. Map 1178A

Y.P.M.I. 1991-1992 P.41,42



**Watercourse Name:** Common: Cyr Creek

Other

**Location:** Lat. 61 18' Long. 138 33'

NTS 115 G 7

**History And Previous Work:**

Gold was discovered on Cyr Creek in May 1904. During 1913 and 1914, T.T.Murray and A.Swanson mined on Gladstone Creek at and below the mouth of Cyr Creek. During 1945, Cyr Creek Placers tested ground on the creek. A small amount of gold production was reported in 1947. During 1951-1953, H.Fromme et.al. staked and tested the creek.

During the early 1970's, D.Brannigan held ground on Cyr Creek. It was tested by D.Prinz in 1973 and by Mr.Zimmer and Mr.Deerdorf in 1974, who sluiced 10,000 square feet of gravel up to 10 feet deep, and recovered a negligible amount of gold. Recently, A.Dendys has tested this creek.

**Surficial Geology:**

Cyr Creek flows in a narrower valley and has a steeper gradient than Gladstone Creek. Gravels are glacial [Ruby Ice-Sheet] in origin, contain no permafrost and were found to be up to three metres deep on a right limit bench. A canyon occurs approximately 800 m. from its mouth. Near its junction with Gladstone Creek it has built up a broad steep alluvial fan.

**Bedrock Geology:**

Cyr Creek is underlain by quartz-sericite-chlorite schist of the Yukon Complex. Approximately two km. to the east of the creek, a gold soil anomaly of 845 ppb was found near a thin band of ultrabasic rocks occurring along a thrust fault within Jurassic-Cretaceous Klwane Schist.

**Mineralization:**

Gold characteristics are unknown.

**Comments:**

Most of the work done during the early years was in the canyon.

**References:**

G.S.C. Sum.Rept. 1914 P.18  
 G.S.C. Mem.267 P.41  
 G.S.C. Mem.284 P.123,364  
 D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.40,45,51,82  
 D.I.A.N.D. Yukon Min.Ind. 1973 P.144  
 D.I.A.N.D. Yukon Min.Ind. 1974 P.184  
 G.S.C. Map 1177A  
 Yukon Minfile 115 F+G Occ.#104  
 A.R.#120054  
 Whitehorse Mining Recorder records

**Watercourse Name:** Common: Swanson Creek

Other

**Location:** Lat. 61 18` Long. 138 19`

NTS 115 G 8

**History And Previous Work:**

The creek was named after A.Swanson, one of the discoverers of gold on Gladstone Creek. Gold was reportedly found at the same time as gold at Gladstone Creek was discovered. During the mid 1940's, H.Seaholm held placer leases on the creek.

**Surficial Geology:**

Swanson Creek flows through an area which was covered by the Ruby Ice Sheet. Other deposit characteristics are unknown.

**Bedrock Geology:**

Bedrock along the valley consists of Yukon Complex schist, gneiss and re-crystallised limestone.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Bedrock geology and glacial history is the same as nearby gold-bearing creeks.

**References:**

Yukon Places And Names P.256  
A.R.#120054

**Watercourse Name:** Common: Twelfth Of July Creek Other

**Location:** Lat. 61 11' Long. 138 02' NTS 115 G 1

**History And Previous Work:**

As the major tributary to Fourth Of July Creek, it was probably first prospected during 1903 at the same time as other area creeks were discovered. In 1914, several ounces of coarse gold were recovered from a small area near the mouth of Larose Creek. During the period 1935 to 1953, intermittent testing and small scale mining was done. Prospectors active included: M.Savtchouk, C.Emminger and D.Duensing. In the late 1970's, T.Churchill acquired claims on the creek. In 1989, Triple Gold Ltd. mined on his claims.

**Surficial Geology:**

Twelfth Of July Creek flows in a steep walled U-shaped depression. The valley walls were planated by glaciers associated with the Ruby Ice-Sheet. Deposits consist of a thin layer of muck covering 3 to 6 m. of unfrozen gravels on bedrock. A canyon reportedly occurs, but its exact location is unclear.

**Bedrock Geology:**

Bedrock consists of Yukon Complex quartz-sericite-chlorite schist.

**Mineralization:**

Gold purity is reportedly 810 fine. Other characteristics are unknown.

**References:**

G.S.C. Sum.Rept. 1914 P.18  
G.S.C. Mem.284 P.362  
D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.9,82  
Water License PM94-012  
Y.P.M.I. 1989-1990 P.12  
Whitehorse Mining Recorder records

**Watercourse Name:** Common: Fourth Of July Creek Other

**Location:** Lat. 61 11' Long. 138 04' NTS 115 G 1

**History And Previous Work:**

Discovered by Dawson Charlie on 4 July 1903, a small rush ensued and most of the creek was staked. Up until 1914, considerable prospecting had been done; production totalled between 300 and 500 oz. The creek was worked intermittently between 1934 and 1953, with reported production of 15.2 oz in 1949. In the mid 1970's, T.Churchill staked ground on this creek. He has mined or optioned the ground every year since; optionees include: DuPont Canada, Orion Gold and Sikanni Oilfield Construction. Production of 1,076 oz. was reported for 1988.

**Surficial Geology:**

Fourth Of July creek flows in a broad, U-shaped valley. From the mouth to the vicinity of Snyder Creek, the recent stream gravels overlie glacial deposits; upstream, the stream gravels lie on bedrock. The most productive portion of the creek has been between Snyder and Twelfth Of July. This section is underlain by deposits from the Ruby Ice-Sheet. Below Twelfth Of July the deposit is underlain by St.Elias glacial material. Deposits consist of approximately 0.3 m. of organics overlying 3 m to 6 m. of mostly unfrozen stream gravels. These are composed of round to angular schist clasts with some quartz, and the occasional granite boulder up to three metres in diameter. Near the edge of the Jarvis River Valley, the creek flows through a recently excavated canyon.

**Bedrock Geology:**

Bedrock consists of Yukon Complex quartz-sericite-chlorite schist and minor quartzite.

**Mineralization:**

Gold occurs as flat rough-edged pieces [95% smaller than 14 mesh] with occasional quartz attached. Purity is from 800 to 810 fine. Magnetite and abundant garnets are recovered in the concentrate.

**Comments:**

Gold is a result of reconcentrated glacial material.

**References:**

- G.S.C. Sum.Rept. XVI P.1A,10A,12A
- G.S.C. Sum.Rept. 1905 P.24
- G.S.C. Sum.Rept. 1914 P.14-18
- G.S.C. Mem.178 P.4
- G.S.C. Mem.267 P.40,41
- G.S.C. Mem.284 P.114,121,122,149,360,362,363
- G.S.C. Mem.340 P.107
- D.I.A.N.D. Yukon Min.Ind. 1941-1959 P.7,65,66
- D.I.A.N.D. Yukon Min.Ind. 1976 P.237
- Water License PM94-012
- A.R.#120008
- G.S.C. Map 1177A
- G.S.C. Map 1178A
- Y.P.M.I. 1978-1982 P.90
- Y.P.M.I. 1983-1984 P.66
- Y.P.M.E. 1985-1988 P.6,7
- Y.P.M.I. 1989-1990 P.12

**Watercourse Name:** Common: Cultus Creek

Other

**Location:** Lat. 138 20' Long. 61 09'

NTS 115 G 1

**History And Previous Work:**

The creek was first prospected in 1904 when most other area creeks were discovered. More prospecting was done in 1914, and although gold was reportedly found in encouraging amounts on an un-named left limit tributary, there was no mention of any mining being done. During August and September 1988, Lorne Smith tested John Creek, a right limit tributary to Cultus Creek.

**Surficial Geology:**

Cultus Creek has cut a wide valley with a gentle gradient into thick Ruby Ice-Sheet till. Deposits consist of till reworked by recent stream action, interbedded with silt and clay. The contrasting materials found are the result of fluctuating Kluane Lake levels and periods of vigorous stream activity.

**Bedrock Geology:**

Bedrock is mapped as Yukon Group quartz-sericite-chlorite schist.

**Mineralization:**

Coarse gold was reportedly found on Cultus and some tributaries.

**Comments:**

Surficial and bedrock geology are both similar to Gladstone Creek.

**References:**

G.S.C. Sum.Rept. 1914 P.16  
G.S.C. Mem.340 P.15  
G.S.C. Mem.284 P.123,361  
Water License PM87-125  
G.S.C. Map 1178A

**Watercourse Name:** Common: Printers Creek

Other: New Zealand Cr

**Location:** Lat. 61 11` Long. 138 22`

NTS 115 G 1

**History And Previous Work:**

R.G.McConnell's 1904 report on the Klwane Mining District mentions that coarse gold was found on this creek . The G.S.C. 1914 Summary Report mentions gold prospects on the creek. During the mid 1980's, E.Karman did test work.

**Surficial Geology:**

Printers Creek is a small, steep stream which flows in a 60 m. wide valley with moderately sloping walls. Deposits are thawed and reportedly shallow, although no exact depth was documented. The valley was covered by the Ruby Ice Sheet. The lower portion cuts through a high gravel bank.

**Bedrock Geology:**

Bedrock consists of quartz-sericite-chlorite schist and minor quartzite of the Yukon Complex.

**Mineralization:**

Characteristics are unknown.

**Comments:**

Gold production of 2 oz. was reported in 1985.

**References:**

G.S.C. Sum.Rept. 1914 P.16  
G.S.C. Mem.284 P123  
Water License PM86-81  
G.S.C. Map 1177A  
G.S.C. Map 1178A

**Watercourse Name:** Common: Congdon Creek

Other

**Location:** Lat. 61 07' Long. 138 40'

NTS 115 G 2

**History And Previous Work:**

Much staking was done on this creek in the period 1946-1962. Among the prospectors active were Pete and Harry Versluce and W.L.Drury.

**Surficial Geology:**

A canyon occurs approximately 4.5 km. upstream from the highway. Other characteristics are unknown, but should be similar to those on nearby creeks.

**Bedrock Geology:**

Bedrock is a highly varied succession of Upper Jurassic and Lower Cretaceous or older rocks; including argillite, greywacke, conglomerate, limestone, basalt, andesite, peridotite, gabbro and propylitic basic lava.

**Mineralization:**

Gold characteristics are unknown.

**Comments:**

Most staking was between 3.5 and 11 km. from the highway. The large amount of staking seems to indicate that some gold was found.

**References:**

Whitehorse Mining Recorder records  
G.S.C. Map 1177A

**Watercourse Name** Common: Sheep Creek

Other

**Location:** Lat. 61 00` Long. 138 35`

NTS 115 G 2

**History And Previous Work:**

Sheep Creek was discovered in October 1903 by the Altemose, Ater, Smith and Bones prospecting party [Bullion, Arch and Burwash Creeks discoverers]. Production to 1914 was an estimated 500 oz., 70% of which came from 1.5 claims. Activity ceased soon after 1914, and the next reference is to staking done in 1937. During 1945, N.Varger, H.Fromme and K.Strandberg mined the creek. Mr.Strandberg did small scale mining on either Bullion or Sheep Creek until 1961, producing less than 100 ounces a year from his Sheep Creek operations. During 1960, R.Chaykowsky mined 120 oz. A.Osborne and L.Bur were active in 1973. The creek is now within the confines of Klauane National Park reserve.

**Surficial Geology:**

The headwaters flow in a wide basin; downstream, the valley narrows into a canyon. Most of the narrow portion of the valley is cut into bedrock, but upstream deposits rest on boulder clay. Recent gravels consist of reworked Ruby Ice Sheet till with some locally derived material. Depth to bedrock is unknown.

**Bedrock Geology:**

Bedrock along the lower part of the creek consists of Lower Permian and earlier Cache Creek Group propylitic basic lava, banded cherty tuff, volcanic breccia and chlorite schist. The stream heads in Permian and/or Triassic peridotite and gabbro along with Paleocene or Eocene Amphitheatre Formation sedimentary rocks. Several seams of coal up to 1.8 m. in thickness occur in the sediments. Small lumps of resin are common in some of the seams.

**Mineralization:**

Gold characteristics are unknown. Copper nuggets were found.

**Comments:**

Most of the gold recovered was from areas opposite tributary streams.

**References:**

G.S.C. Mem.267 P.30,41  
 G.S.C. Mem.284 P.114,124,366,367  
 G.S.C. Mem.340 P.106  
 D.I.A.N.D. Yukon Min.Ind. P.8,51,59,72,82,97  
 G.S.C. Paper 61-23 P.18  
 D.I.A.N.D. Yukon Min.Ind. 1973 P.144  
 G.S.C. Map 1177A  
 G.S.C. Map 1178A



**Watercourse Name:** Common: Bullion Creek

Other

**Location:** Lat. 61 01' Long. 138 42'

NTS 115 G 2

**History And Previous Work:**

On 28 September, 1903, Frank Alternose, Joseph W. Smith, Fred Ater and Morley Bones staked a discovery claim 6.5 kilometres up the creek. They recovered about 40 ounces of coarse gold in a few hours but never again found such a rich pocket. From 1904 to 1906, the Bullion Hydraulic Company Ltd. did \$300,000 worth of work along the lower reaches, while recovering \$1,000 in gold. Numerous other prospectors were active between 1904 and 1906, but most soon left due to erratic gold distribution and high prices for supplies. By early 1914, the entire creek was abandoned, but that summer some prospecting and claim staking occurred. Production to 1914 was approximately 270 ounces.

The next reported activity was during 1934. Work continued on a small-scale until 1939 when Kluane Mining Company Limited took over five miles of leases along the lower end of the creek. They used equipment abandoned by Bullion Hydraulic Company to prepare ground and sluice 1,825 cubic yards of gravel which yielded 68 crude ounces. Work was to continue in 1940, but one of the chief financiers died and the operation was suspended. In 1945, J. Coglan, K. Strandberg, H. Thorsen and Bates Creek Placers Limited [B.C.P.L.] all prospected on Bullion Creek. Mr. Strandberg and Mr. Thorsen remained active on the creek until 1961 and 1972 respectively. In 1948, B.C.P.L. optioned Mr. Strandberg's ground. Using a D-7 bulldozer and a 3/4 yard shovel, they recovered 745.5 fine ounces before dropping their option at the end of the season. In 1959, Action Mining [J.P. LaCross and J. Kelly of Fairbanks, Alaska] purchased the Thorsen and Strandberg ground. From 1959 to 1961, they used a D-9 bulldozer to produce 6,140 crude ounces of gold. In 1962, Action Mining left and Mr. Thorsen regained his ground. During 1973, three operations were active; E. Cox, E. Smith and H. Fromme. The creek is now in Kluane National Park.

**Surficial Geology:**

Bullion Creek is about 16 km. long and heads in small glaciers in the mountains S.W. of Kluane Lake. It has a steep gradient and a highly variable flow of water. The creek runs in a narrow, deep [600 to 900 m. or more], steep-sided valley. During the last glacial period the valley was filled with boulder clay and other glacial deposits. Since the ice receded the stream has been re-excavating its channel through the tills and in places it has cut into bedrock.

Above Metalline Creek the valley walls are composed of glacial detritus and the recent stream gravels overlie boulder clay. Narrow flats marking the upper limit of the boulder clay occur in this area. Near Metalline Creek the stream has cut an extremely narrow, 400 m. long canyon into bedrock north of the original channel. Below the canyon, the stream flows in a 7.5 kilometre long rock-walled gorge which is bordered on both sides by glacial accumulations. The last 1.5 km. of the creek is a bare gravel flat which widens gradually to 200 m as the Slims River floodplain is reached.

Deposits present consist of bare flats composed of a variable thickness of coarse gravels containing numerous ice transported granite boulders to 3.0 m. in length. Both permafrost and overburden are rare. Depths to bedrock near the mouth are from 3 to 9 m. while depths along the rest of the creek average 2 to 3 m. except in the canyon where bedrock is occasionally exposed.

### **Bedrock Geology:**

The rocks exposed in the valley of Bullion Creek, include both sedimentary and igneous members from Pre-Cambrian to Tertiary in age. The dominant types of rock are phyllites and limestones, although shales, cherts, greenstones and rhyolitic intrusives occur. Between Bullion and the next creek to the east there is a large deposit of gypsum.

### **Mineralization:**

Above Metalline Creek gold rests on boulder clay, downstream it rests on and above bedrock. It consists of smooth, well-worn flattened pellets, about 65% of which are coarse-grained [10 cent sized grains and larger; gold at \$20.63/oz.] with nuggets up to 7.5 ozs. Purity is between 830 and 873 fine. Native copper, pyrite concretions, galena and reportedly some platinum are recovered with the gold.

### **Comments:**

There is evidence to suggest that during the St.Elias Glacial Period, the mouth of the creek was dammed by the advancing Kaskawulsh Glacier and that an ice-marginal lake formed in Bullion Creek valley at that time.

### **References:**

- G.S.C. Sum.Rept. XVI P.1A,13A
- G.S.C. Sum.Rept. 1906 P.24,25
- G.S.C. Sum.Rept. 1914 P.15-20
- G.S.C. Mem.178 P.4
- G.S.C. Mem.193 P.6
- G.S.C. Mem.209 P.5
- G.S.C. Mem.218 P.8
- G.S.C. Mem.234 P.17,18
- G.S.C. Mem.284 P.114,123,124,126,149,360,364-366
- G.S.C. Mem.340 P.15,105,106
- DIAND Yukon Min.Ind. 1941-1959 P.7,23,44,59,65,66,72,82,111,117, 130,136
- G.S.C. Paper 53-20 P.7,8
- G.S.C. Paper 58-9 P.3,4,7,9
- G.S.C. Paper 61-23 P.17,18
- G.S.C. Paper 62-27 P.21
- G.S.C. Paper 63-38 P.62,63
- G.S.C. Paper 67-40 P.87
- G.S.C. Paper 68-68 P.113
- G.S.C. Paper 69-55 P.65,66

**Watercourse Name:** Common: Kletsan Creek

Other

**Location:** Lat. 61 38' Long. 140 59'

NTS 115 F 10

**History And Previous Work:**

The first white people in the area were members of Lieutenant Schwatka's party in 1891. At the time, the creek was a well known source of copper for First Nations people who used it during trading, and for arrowheads, cooking utensils, bullets and ornaments.

During 1902, J.Lindsay tested the placer copper potential of the creek, with negative results. In 1949, two groups tested Kletsan Creek, the Pewabic Mining Syndicate of Juneau Alaska and N.Stines. Most recent work in the area has been directed towards the lode potential.

**Surficial Geology:**

Characteristics are unknown.

**Bedrock Geology:**

The area is drift covered, but is probably underlain by Paleocene basalt and andesite. The source of the native copper is probably the Triassic Mush Lake volcanics which outcrop near the headwaters of the creek.

**Mineralization:**

Placer copper is distributed among large boulders and on bedrock in crevices. Most pieces are a few ounces in weight although some up to 5 lbs. or more are occasionally found. If gold occurs, it has not been reported.

**Comments:**

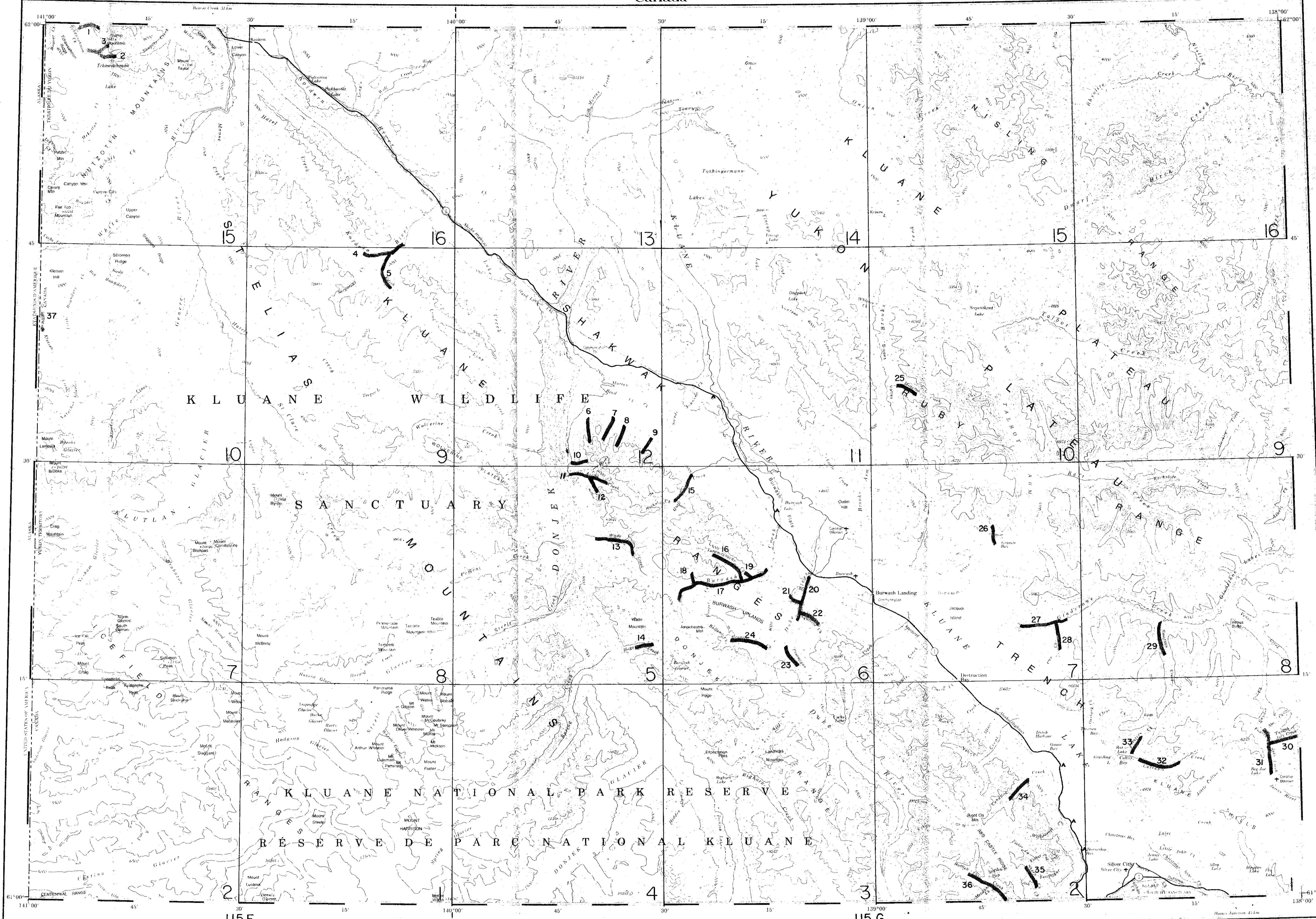
As this was a well known First Nations mining area for some time, the archaeological potential is intriguing.

**References:**

G.S.C. Mem.50 P.125,133-135

G.S.C. Mem.284 P.325

D.I.A.N.D. Yukon Min.Ind. 1941-1959



115 F

115 G

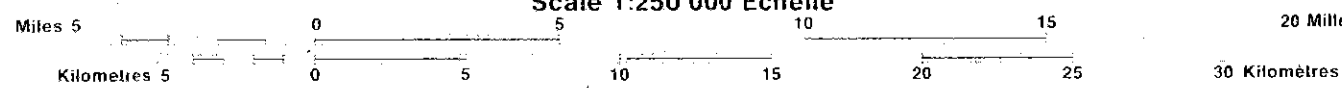
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 monuments can be obtained from Geomatics Survey Canada  
 Centre for Surveying Studies

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 YUKON TERRITORY TERRITOIRE DU YUKON

115 F / G

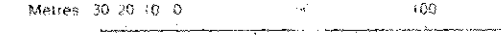
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Par les renseignements concernant les points de nivellement  
 et les bornes cadastrales, s'adresser à la Division  
 des levés géométriques, Centre canadien des levés, Ottawa

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CONVERSION SCALE FOR ELEVATIONS



CONTOUR INTÉRIEUR - 30 FEET  
 ÉLEVATIONS - 100 FEET  
 North American Datum 1983  
 Transverse Mercator Projection

TO ACCOMPANY PLACER REPORT  
 B. KREFT MAR. '95

**OPEN FILE**  
**1995-8(G)**

1977

1991

1979

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 Department of Energy, Mines and Resources

Magnetic declination 1990 varies from 2° 54' east of centre  
 of west edge to 2° 41' east of centre of east edge. Mean  
 annual change declination 11.7'

En 1990, la déclinaison magnétique varie de 2° 54' est au  
 centre de l'extrémité ouest à 2° 41' est au centre de l'extrémité  
 est. Le changement annuel moyen de la déclinaison est de 11,7'